

Forest-In Office

Amada Green Action

AMADA Group
Environmental and Social Report



2016

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AMADA Group Environmental Declaration

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

“Linkage through Eco-conscious Manufacturing”

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

Producing eco-friendly machine at eco-friendly business establishment

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

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

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

Creating eco-friendly environment at customers' plants

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

Environmental Policy

◇AMADA Group's environmental principles

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

◇AMADA Group's environmental policies

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

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

2. Reduction of environmental load in business activities

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

■Editorial policy

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

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

■Referenced guidelines

Environmental Reporting Guidelines 2012 of the Japanese Ministry of Environment

■Issues

2016 edition	Published	Nov. 2016
2017 edition	Scheduled	Sept. 2017
2015 edition	Published	Sept. 2015

■Scope of the content

Reporting period: Fiscal 2015 (April 2015 to March 2016)

However, some content from fiscal 2016 is also covered.

Relevant organizations: 18 domestic and 46 overseas companies

■About the name “Forest-In Office”

“Forest-in” is a neologism created by AMADA.

The AMADA Group 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.

3. Biodiversity activities

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

4. Compliance with environment-related laws

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

5. Continuous improvement of environment management system

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

6. Enhancement of education about environment

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

AMADA Group's Management Philosophy

1. Growing together with our customers

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

2. Contribute to the international community through our business

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

3. Develop human resources who pursue creative and challenging activities

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

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

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

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

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

Top Message

We are contributing to the global manufacturing and a better future of human being.



Chairman and CEO
Mitsuo Okamoto

I would like to take this opportunity to express my deepest condolences for those who were lost in the series of earthquakes that took place in Kumamoto and Oita Prefectures, and my heartfelt sympathies to the people in the region who have suffered the effects of the disaster.

AMADA Group celebrated its 70th anniversary in September of this year. Since our founding in 1946, we have conducted our corporate activities on the principles of transformation and challenge while upholding, as the origin of our business, the ideology of “growing together with our customers” and the mission to contribute to society through manufacturing / monozukuri.

In 2010, we formulated the AMADA

Group Environmental Declaration to proclaim our intention to strive to be a company that, through eco-conscious manufacturing, promotes linkage with customers, society, and the world.

Based on this, we formulated a set of long-term goals to be reached by 2020 entitled AMADA GREEN ACTION and made a commitment on three key issues.



■We will reduce our CO₂ emissions of all products by average of 25%

The AMADA Group's products are industrial goods. When we look at the life cycles of our products, we see that most of the CO₂ emissions occur when our customers use the products. Therefore, as a manufacturer, we deem the development of products with high environmental performance to be of highest importance.

In February 2015, at the 36th Energy-Efficient Machinery Awards sponsored by the Japan Machinery Federation, our ENSIS-AJ Series Fiber Laser Machine won the Agency of Natural Resources and Energy Director's Award. Thanks to our original beam control technology, the ENSIS-AJ Series can cut with a 2kW

oscillator in thick sheet processing that formerly required a 4kW oscillator. It also avoids creating waste of power-receiving facilities. The series was highly evaluated for these aspects that contribute to energy conservation.

The ENSIS-AJ Series is a ground-breaking machine that is superior not only to CO₂ laser machines, but also to the conventional power-saving fiber laser machines.

With collective effort, the AMADA Group will continue to develop environmental technology aimed at improving energy efficiency and saving energy and resources, and work to reduce CO₂ emissions in the manufacturing of all of our products.

■We will cut CO₂ emission of our works and plants by 25% in intensity target value by 2020.

In December 2015, our Fukushima Plant newly acquired the ISO14001 group certification. It was the seventh of our domestic sites to do so, after Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Miki Plant, and Noda Works.

The Fukushima Plant, built in 2014, manufactures automation equipment for sheet metal processing. It is a facility that pursues low environmental footprint and energy conservation by such means as using solar power generation.

We believe that our eco-friendly products with high environmental performance are made possible through eco-friendly plants and offices with high production efficiency that saves energy and resources, as well as employees with high level of environmental awareness. As we go forward, the works in our group will continue to further promote operation process efficiency and energy/resource-saving strategies.

■In order that we may pass on our nature's bounty-rich land to our future generations in the best shape possible, we will pour our efforts into biodiversity preservation and regeneration.

We interact with a wide range of organisms in a variety of ways not only in our everyday lives, but also in our business activities through the lifecycles of our products and services. In order to promote sustainable land use, each of our works has been carrying out various activities in ways that align with the characteristics of its local region. Such activities include monitoring surveys of plants and animals, tree thinning and other forms of forest maintenance, and protection of endangered organisms.

However, we realized that it would be important to visually present the results of such activities, as well as to work to systematize our activities while considering business characteristics and long-term goals. As such, in addition to the activities we had already been carrying out, we conducted in FY2015 a quantitative evaluation of Isehara Works using the biodiversity evaluation tool provided by the Japan Business Initiative for Biodiversity (JBIB).

As a result, we discovered that while we do well in such areas as the quality of green spaces that contribute to biodiversity and creating ecosystem networks, we were weak in some endeavors such as responding to alien species, employee involvement, and promoting educational programs.

As we head to the future, we will actively pour efforts into the aspects that need improvement and, at the same time, conduct additional quantitative evaluations of other works, formulate an action plan that systematically recognizes the importance of biodiversity, and further

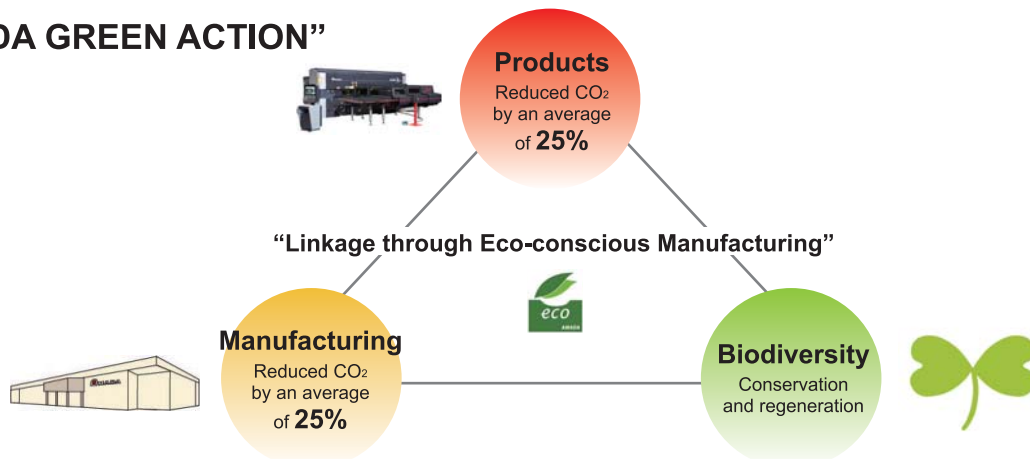
carry out our efforts.

In December 2015, the Paris Agreement was adopted at the 21st Session of the Conference of the Parties to the United Nations (UN) Framework Convention on Climate Change (COP21). The agreement stipulated a worldwide framework for countermeasures against global warming for 2020 and beyond. A noteworthy feature of this agreement is that it not only requires for goals to be reached by a determined time, but also for progress to be reviewed every five years and for higher goals to be set.

Corporations feel that they, too, are expected to take the initiative and set higher goals for themselves to promote energy saving efforts. The AMADA GREEN ACTION, which lays out our long-term plan till FY2020, has largely been proceeding smoothly. In the future, we intend to further accelerate our efforts in order to reach our goals ahead of schedule and to promptly formulate a plan that takes the Paris Agreement into consideration.

As a global company, the AMADA Group will continue to deepen our awareness of the responsibilities and roles we must fulfill towards resolving the issues faced by society that includes the global environment. By positioning environmental conservation as one of the top priority issues for our business, we will contribute to its resolution through our strength, which is the manufacturing of eco-friendly products.

“AMADA GREEN ACTION”



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)

The Isehara Works are in Isehara City, which is almost in the center of Kanagawa Prefecture, and this is where the AMADA headquarters and AMADA Solution Center are located.

The AMADA Solution Center is a place for providing “improvement suggestions” to our customers for solving their manufacturing issues. It features an “Exhibition Hall” where people can get acquainted with our products, and serves the function of “demonstration processing” in which AMADA uncovers customers’ issues and proposes solutions. Our manufacturing proposals can be tested here with our equipment as well.



Isehara Works

◆Tooling Manufacturing Plant (AMADA TOOL PRECISION)

AMADA TOOL PRECISION deals with the manufacture and sales of dies/toolings, and die peripheral processing devices, which are expendable parts of AMADA’s punching and bending machines.

The company has three separate manufacturing plants. One is the seamless and automated “876 Plant” that covers processes ranging from the procurement of raw materials, rough processing, and heat treatment, to grinding processing. Second is the “Resizing Plant” that accommodates quick-delivery orders, and third is the “Special Tooling Plant” that manufactures non standard tools made-to-order.



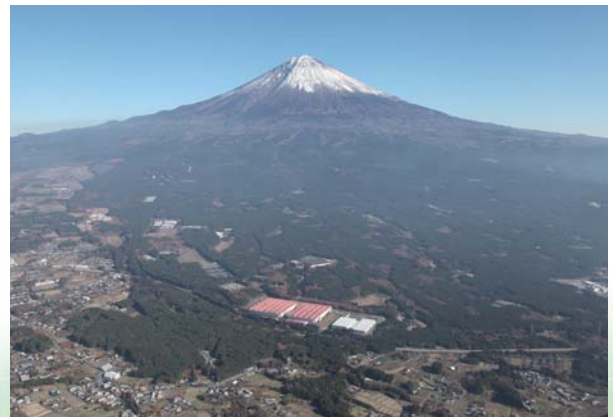
Tooling Manufacturing Plant (inside Isehara Works)

◆Fujinomiya Works (AMADA ENGINEERING)

The Fujinomiya Works (Fujinomiya City, Shizuoka Pref.) is in a scenic location on the south-west side of Mt. Fuji. With responsibility for development and manufacture, this site is a source of innovation.

The Third Factory of Fujinomiya is the world’s largest laser factory that manufactures our latest laser machines, and it has the manufacturing capacity of 140 units per month. The factory’s concurrent design system with the Development Center has made our front loading development*1 and manufacturing system possible.

There are 4 Innovation Rooms at the Development Center, and with the aid of the latest design systems and video equipment, these rooms can be used by customers and development staff as creation spaces for cutting-edge development. As a result of the module design, created with 3-dimensional CAD, product manufacture can be tested from the design stage, thus allowing for modularization to a high degree of quality.



Fujinomiya Works

*1 Front loading development:
an effective development method where relevant divisions gather from the planning stage to study the products from multiple angles concurrently, and reduce the problems during the latter half of development.

◆Toki Works (AMADA MACHINE TOOLS)

Toki Works (Toki City, Gifu Pref.) is responsible for the development and manufacture of metal cutting machines, structural steel machines and machine tools. In the cutting and structural business, we provide a total solution approach to cutting that maximizes machining performance with machines and blades. We also provide shaped steel processing systems to the steel-frame industry, which is seeing an increase in the size of components in cutting and hole-punching processes, along with a move towards high speed processing and automatization.

Its machine tool segment offers systems that generate precision and value-added products with automation. The company's well-known creative product developments include profile grinding machines and combination lathe.



Toki Works

◆Ono Plant (AMADA MACHINE TOOLS)

Ono Plant is located in Ono City, Hyogo Prefecture, at the center of Higashi-Harima region, and this area is known for its metal industry from the old days as the manufacturer of blades.

Today, Ono Plant serves the functions of development and manufacturing of band saw blades as the backbone factory of the AMADA Group's consumable business.

With our unique technology and daily pursuit of "QCD"+ "I" (for "innovation"), we have acquired the number one share of the world band saw blade market.

Our plant in Japan works together with our affiliated factories in Austria and China to develop products incorporating the latest technologies in response to the needs of our customers worldwide.



Ono Plant

◆Fukushima Plant (AMADA AUTOMATION SYSTEMS)

Since it began operations, AMADA AUTOMATION SYSTEMS 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.

This company has accumulated various manufacturing technologies and knowhow over the years. It plays an important role as a member of the AMADA Group, and serves as a well-trusted engineering partner of global sheet metal factories, based on providing total solutions for customers' issues.



Fukushima Plant

◆Miki Plant (NICOTEC)

NICOTEC manufactures and sells cutting tools, cutting machines, and cutting lubricants. Its headquarters is located inside the Isehara Works, and its manufacturing facilities are located in Hyogo Prefecture.

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 band saw blades, hole saws, and coils. The hole saws, in particular, are developed as NICOTEC's original products.



Miki Plant

◆ **Noda Works (AMADA MIYACHI)**

AMADA MIYACHI offers jointing and processing solutions in minute and precision fields to the global market. It manufactures, distributes, and maintains laser welding and processing machines and fine spot welders.

It is an “only one” company that possesses both laser and fine spot welding technologies. With offices in 16 countries, it aims to expand its distribution and services.

We contribute to the world’s manufacturing industry and at the same time tackle the challenge of developing and creating innovative technologies and products. Through superior services, we provide each customer with the ability to reduce their environmental load and with maximum economic rationality.



Noda Works



◆ **AMADA MAQUINARIA IBERICA (Spain)**
Grand opening of a new technical center

AMADA Group is building technical centers and satellite centers to provide community-based services and to resolve, together with our customers, issues related to sheet metal processing.

On April 8, 2015, we celebrated the grand opening of AMADA MAQUINARIA IBERICA’s new technical center.



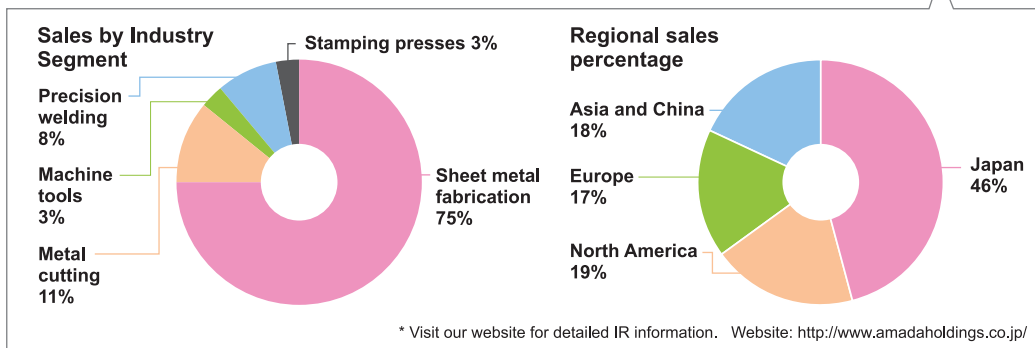
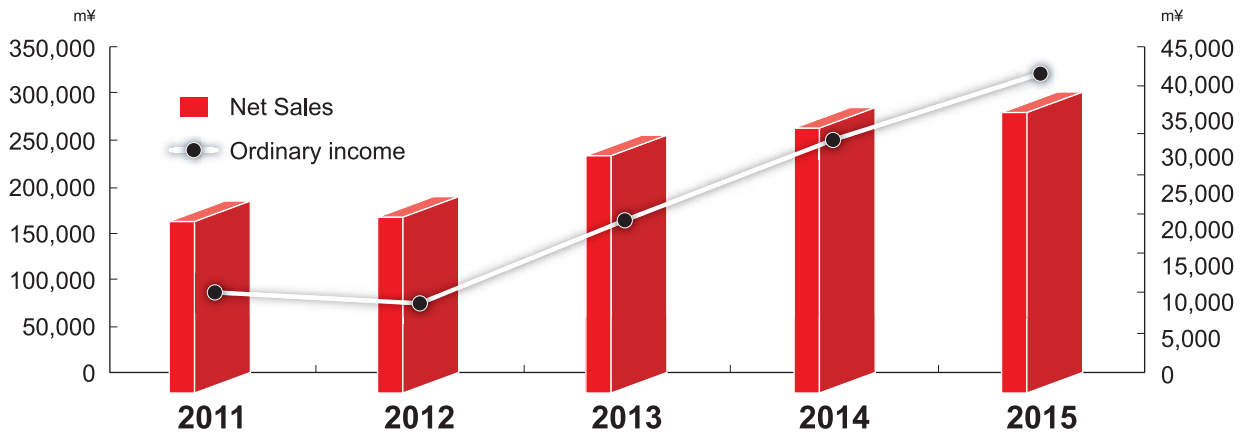
AMADA MAQUINARIA IBERICA's new technical center

Domestic Network and Major Business Sites

■ Distribution network	AMADA CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	AMADA MACHINE TOOLS CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	AMADA MIYACHI CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	AMADA TECHNICAL SERVICE CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
■ Other affiliate companies	AMADA LEASE CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	AMADA BUTSURYU CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	AMADA AI-LINK SERVICE CO., LTD.	(Head Office) Inside FORUM 246, 350 Ishida, Isehara-shi, Kanagawa
	AMADA DOCUMECH CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	AMADA PLANTECH CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	NICOTEC CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
	FUJINO CLUB CO., LTD.	(Head Office) 200, Ishida, Isehara-shi, Kanagawa
■ Manufacturing network	AMADA ENGINEERING CO., LTD. (Fujinomiya Works)	Works: 7020 Kitayama, Fujinomiya-shi, Shizuoka
	AMADA AUTOMATION SYSTEMS CO., LTD. (Fukushima Plant)	Plant: 113-1, Hara, Ozawa, Nihonmatsu-shi, Fukushima
	AMADA MACHINE TOOLS CO., LTD. (Toki Works)	Works: 1431-37 Kitayama, Kujiri, Izumi-cho, Toki-shi, Gifu
	AMADA MACHINE TOOLS CO., LTD. (Ono Plant)	Plant: 56 Hata-cho, Ono-shi, Hyogo
	AMADA MIYACHI CO., LTD. (Noda Works)	Works: 95-3 Futatsuka, Noda-shi, Chiba
	NICOTEC CO., LTD. (Miki Plant)	Plant: 45 Tomoe, Bessho-cho, Miki-shi, Hyogo
	AMADA TOOL PRECISION CO., LTD.	Head Office / Plant: 200, Ishida, Isehara-shi, Kanagawa

Business Outline

Evolution of results



Employee Data

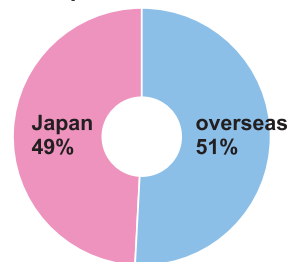
Number of employees (Global)	NUMBER OF PEOPLE				
	2011	2012	2013	2014	2015
	7,956	7,678	7,956	8,083	7,955

Japan and overseas Number of employees

(Breakdown of Japan and overseas employees)

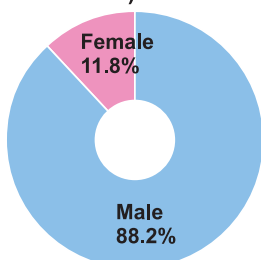
Overseas Group companies Employees 4,027
 Domestic Group companies Employees 3,928

Data : Relevant consolidated subsidiaries

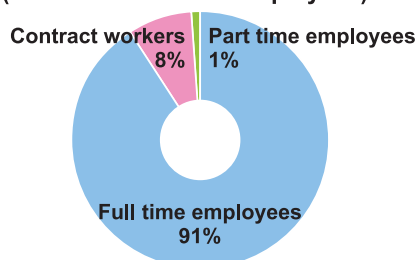


Domestic Group companies

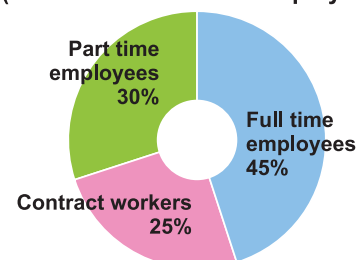
(Male/female ratio)



(Breakdown of male employees)



(Breakdown of female employees)



Businesses of AMADA Group

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

As comprehensive manufacturer of metalworking machinery, the AMADA Group is mainly operating in the sheet metal fabrication machine business, metal cutting machine and structural steel fabrication machine business, machine tool business, stamping press business, and precision welding machine business.

On April 1, 2015, we restructured the group's business. By further consolidating our operations, we will develop differentiated products and provide services from the perspective of our customers that will contribute to the future of our customers with aspirations in the manufacturing industry.

AMADA HOLDINGS CO., LTD.

AMADA HOLDINGS CO., LTD.

(Group strategy, management planning, etc.)

Sheet metal fabrication machine business

AMADA CO., LTD.

(Sale and service of sheet metal fabrication machines)

AMADA ENGINEERING CO., LTD.

(Development and manufacture of sheet metal fabrication machines)

AMADA TECHNICAL SERVICE CO., LTD.

(Service of sheet metal fabrication machines)

AMADA AUTOMATION SYSTEMS CO., LTD.

(Manufacture the automation equipments for sheet metal fabrication machines)

Metal cutting, machine tool business, and stamping press business

AMADA MACHINE TOOLS CO., LTD.

Precision welding machine business

AMADA MIYACHI CO., LTD.

Overseas AMADA Group companies

- North American sales companies
- European sales companies
- Other overseas companies

AMADA Group companies in Japan

AMADA ENGINEERING CO., LTD.

AMADA CO., LTD.

AMADA

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, and 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



Sheet metal fabrication machine business

Laser machine

FOL 3015 AJ
Fiber Laser



Machines to open holes and cut or weld thin sheets of metal (sheet metal) using a laser beam. Carbon dioxide lasers are often used for opening holes and cutting. A full line of oscillators is available for both fiber lasers (made in-house) and CO₂.

Punch and laser combination machines

ACIES AJ SERIES



The machine is capable not only for cutting and piercing of sheet metal but also, the forming such as extrusion and tapping that were done by other machineries.

Bending robot system

HG 1003 ARS



Machines for bending thin sheets of metal (sheet metal) between an upper and lower tooling. Also referred to as press brakes.

Welder

FLW 4000 M3



Welding is the process of joining metals. The three major types of welding are fusing, crimping, and brazing.

TECHNICAL SERVICE CO., LTD.

AMADA AUTOMATION
SYSTEMS CO., LTD.

切る
あける

Metal cutting machine business

- Band saw machines
- Structural steel fabrication machines



The machines of AMADA MACHINE TOOLS 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.

曲げる
あける
付ける

成形する

AMADA MACHINE TOOLS
CO., LTD.

Stamping press business

- Stamping press machines



Machine tool business

- Multiprocess center
- Grinding machines
- Electrical discharge machines



AMADA MIYACHI CO., LTD.

描く
付ける

Precision welding machine business

AMADA MIYACHI 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
- Resistance welders
- Laser markers
- Systems



Metal cutting machine, machine tool & stamping press business

Band saw machines

HPSAW 310



The metal cutting machine cut metal round bars and structural steel with band saw blade or circular saw blade.

Grinding machines

DV1



The grinding machine is a machine tool that rotates the grinding wheel in the high speed, and finishes up the structure precisely.

Stamping press machines

SDEW 3025



Machines for processing thin metal plates with toolings. Used in processes for manufacturing electronic components such as terminals, and products such as automotive parts that require drawing processing.

Precision welding machine business

Fiber laser welders

ML-6810B



These devices are used for fine welding of various metals using laser beams.

* Visit our website for detailed information about the AMADA Group's products. Website: www.amadaholdings.co.jp/

About the ENSIS-AJ series

A fiber laser machine that only needs 2kW to cut sheet metals, Energy-saving and capable of v-mix v-lot production. Introducing the new-generation laser machine

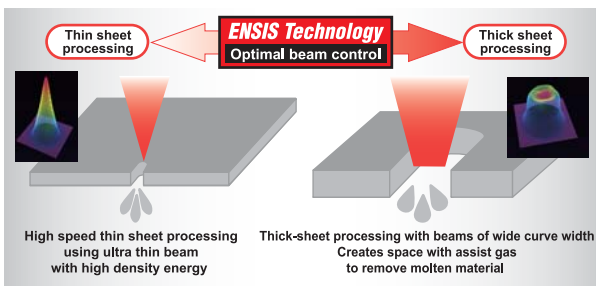


■ New Technology

A single machine can cut sheets of wide range of thicknesses.

◆ “Optimal beam control”

The beam control technology controls the shape of the laser beam, freely creating the best suitable beam shape according to the sheet thickness.



◆ AMADA’s original fiber laser oscillator

ENSIS-2000 (oscillator for the ENSIS-AJ Series) is a further evolved version of AMADA’s fiber laser oscillator AJ-2000. It is a new system that has been integrated as a total control system of the “variable beam control unit” which is AMADA’s original technology.

- High beam quality specifically for sheet metal processing
- Extended maximum processing size (ability to process mild steel sheets at 2kW)
- Ability to cut across a wide range of material thicknesses without having to switch lenses
- Improved energy efficiency (reduced power consumption during processing and standby) thanks to the characteristic of fiber laser



Built-in oscillator



Laser module

◆ Flexible continuous automated operation (saves man power)

“System upgrade”

Accommodates a wide variety of manufacturing systems for automatic continuous operation.



Shuttle table



Manipulator



Pallet changer

◆ Easy operation

Comes with the AMNC 3i, the latest NC device. Now with a large screen for high visibility and a multi-touch system that allows for fast, smartphone-like operation, it offers dramatically improved operability.



AMNC 3i

from thin to thick sheets.

now with even further extended maximum processing size!

◆ **Integration of mechanical and electrical components into a single unit by reducing the size of the oscillator by 50%**

- Full partition to the top of the machine, preventing external leakage of laser from the machine to ensure safety for the operator. It is also designed to save space as the oscillator is built into the machine.

- The direction in which the materials are carried in (i.e., right unloading or left unloading) can be selected according to the plant layout.

- The slide partition allows for improved material access and can meet various needs, from v-mix v-lot production to large-volume production.



ENSIS-AJ Series Wins the Agency of Natural Resources and Energy Director's Award The 36th Energy-Efficient Machinery Awards Ceremony

On Thursday, February 4, 2016, the 36th Energy-Efficient Machinery Awards ceremony (hosted by Japan Machinery Federation) was held at the Keidanren Kaikan (Chiyoda Ward, Tokyo), and AMADA's ENSIS-AJ series Fiber Laser Machine, which supports v-mix v-lot production and a wide processing range, won the Agency of Natural Resources and Energy Director's Award.

The Energy-Efficient Machinery Awards is an institution for recognizing companies and organizations that develop superior energy-saving equipment and contribute to the promotion of efficient energy use.

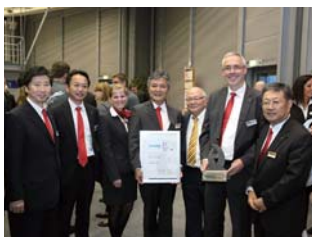
The award ceremony has been held since 1980 with goals of disseminating the use of, and promoting the development of superior energy-saving equipment.

The ENSIS-AJ series can cut with a 2kW oscillator in

thick sheet processing that formerly required a 4kW oscillator, thanks to our original beam control technology. This contributed to eliminating unnecessary use of facility and conserving energy, and these aspects were valued highly.

ENSIS-AJ series won the Main Award of the 57th Top Ten New Product Award in 2014, and the Nippon Brand Prize in the 45th Machine Design Award in 2015. This was the third award received, further heightening the level of recognition of this machine.

Furthermore, the ENSIS-AJ series has also been highly regarded not only in Japan, but also internationally. At EuroBLECH2014 (23rd International Sheet Metal Working Technology Exhibition) held in Hannover, Germany in 2014, the product won the MM Award, the winner of which is evaluated and selected from products exhibited by over 1,500 participating companies.



2014: Won the MM Award in Germany (October 2014)



2014: Won the Main Award of the 57th Top Ten New Product Award (January 2015)



2015: Won the Nippon Brand Prize of the 45th Machine Design Award (July 2015)



2016: Won the Agency of Natural Resources and Energy Director's Award in the 36th Energy-Efficient Machinery Awards (February 2016)

The MM Award: Awards given to innovative products by *Maschinen Markt (MM)*, Germany's most authoritative machine industry magazine. At every EuroBLECH, the winner is evaluated and selected from among the machines exhibited.

Newly ISO14001-Certified Plants and Works

AMADA AUTOMATION SYSTEMS Fukushima Plant

Completed in November 2014

The construction of the Fukushima Plant was completed in November 2014. This manufacturing plant, which adopts the manufacturing practices carried out by AMADA ENGINEERING at the Fujinomiya Works, can manufacture product a single unit at a time to cater to each customer according to their individual order.

The products manufactured here are “automated peripheral devices” that, in combination with the sheet metal fabrication machines made at Fujinomiya Works, are used for supplying materials, arranging and storing completed products, and ensuring continuous automatic operation.

The plant’s functions are welding, machining, coating, and assembling. Products related to automatizing and systematizing are manufactured here through an integrated process.

Acquired ISO14001 Group Certification in November 2015

In November 2015, the AMADA Group’s routine as well as integrated and expanded evaluations for ISO14001 environmental management system were conducted. Starting with this round of evaluation, AMADA AUTOMATION SYSTEMS Fukushima Plant was newly added to the scope of AMADA Group’s integrated EMS, and acquired the certification.

Having held a kickoff meeting in June in preparation for the certification, the AMADA Group promoted activities that aimed toward the goals of AMADA Group’s integrated EMS, which included setting common goals and awarenesses regarding environmental issues.

As a result, the AMADA Group obtained the ISO14001 group certification at the seven locations of Isehara Works, Fujinomiya Works, Ono Plant, Toki Works, Miki Plant, Noda Works, and Fukushima Plant.



Kickoff meeting held at the Fukushima Plant

Environmental Initiatives

The Fukushima Plant strives to be a high environmental performance plant by installing low environmental impact, energy-saving equipment such as solar power generators.

Additionally, the plant has installed the newest equipment including the “low-sputtering welding and fume removal system” and the “semi-dry method machining.”

With the use of the “semi-dry method machining,” the amount of cutting fluid used per day was cut from 20 liters to 0.1 liter.

In 2015, a system to automate pipe processing was installed in order to shorten the copper tube cutting and hole drilling processes and to cut man hours. As a result, energy consumption for this process was reduced by 30%. As such, we are contributing to saving energy and resources by boosting yield and eliminating unnecessary waste of materials.



Pipe processing automation system



AMADA AUTOMATION SYSTEMS CO., LTD. Fukushima Plant

CEO	Kazuo Nakamura
Founded	March 1989
Location	Fukushima Plant: 113-1 Hara, Ozawa, Nihonmatsu-shi, Fukushima Head Office: 200 Ishida, Isehara-shi, Kanagawa
No. of employees	133 (as of March 2016)
Business	Manufacturing, distribution, and services of carrier devices, power transmission devices, and automatic controllers

AMADA SHANGHAI MACHINE TECH CO., LTD.

New plant built in May 2013

AMADA SHANGHAI MACHINE TECH CO., LTD. was established in March 1996. It manufactures, distributes, and services metalworking machinery and its parts and supplies for the Chinese market. A new plant was completed in May 2013, making the company a state-of-the-art manufacturer with monthly production capacity of 120 units of machinery, including laser machines and vending machines.

The company mainly manufactures standard models that belong to the volume zone within the Chinese market. Since the running of its new plant, the company's supply capability, which had formerly been about 20% of the volume sold in China, rose to 60%. Add to this the high-end machines exported from Japan, and we have a lineup for the Chinese market that can respond to a wide range of needs.

Acquired ISO14001 Certification in November 2015

In 2014, an ISO environmental management office was set up within the company to begin preparations toward acquiring the certification.

This office took on the central role first in collecting information needed to get certified, then in holding internal auditing study groups (to which instructors were hired from consulting firms) and study sessions and tests on the required items regarding environmental management. Subsequently, employees certified as internal auditors led in the organization of issues regarding both the "soft" (abstract) and "hard" (physical) matters.

After educating the employees on environmental issues and ensuring that the entire company understood the significance of obtaining an environmental management system, the company made clear the importance of sorting waste materials and provided visual information using photographs on how to dispose of waste. This created the common understanding and decipherment shared among all employees. Furthermore, through regulations on environmental conservation, standardization was put in place for facilities within the plant that have relevance to important environmental matters.



Members of the Environmental ISO Office

Environmental Initiatives

During the process of working toward the ISO14001 certification, personal trash cans were removed from all areas within the plant and communal waste and recycling bins were installed.

In the hazardous material warehouse, areas were demarcated with clear labeling according to the types of hazardous material, and trays were placed under containers of liquids to prevent leakage. The space inside the waste material depository is also similarly sectionalized by type and clearly marked and managed.

Emissions, waste water, noise, and waste products that affect the environment are detected, analyzed, monitored, and controlled. Particularly in the painting booth, which is an area that is managed intensively, waste water and emissions are routinely examined. Mechanisms have been set up to prevent environmental pollution accidents.

Moreover, by regularly holding such activities as fire and disaster prevention drills and lectures and on-site training provided by the fire department, efforts are being made to heighten employees' ability to respond in times of disaster.



Waste and recycling bins at the manufacturing plant



AMADA SHANGHAI MACHINE TECH CO., LTD.

President	Shinya Sasaki
Founded	March 1996
Location	No.89 Zhuoqing Road, Qingpu District, Shanghai, China
No. of employees	96 (as of September 2016)
Business	Manufacturing, distribution, and services of metalworking machinery and their parts and supplies (consumables), tooling manufacturing, etc.

Mid-term environmental plan

Themes of activities		Medium term goals (FY 2018)	Goals for FY 2015
Preventing global warming	[Product Development] Contribute to the prevention of global warming by reducing CO ₂ emissions*1 throughout the entire lifecycle of a product	-Reduce average CO ₂ emissions of all products sold annually by 25% by 2020 (Benchmark year: 2009) -Goal for 2018: 22% reduction	-Reduction in CO ₂ emissions thanks to the launch of Eco Products (Entire AMADA Group: -17.3%) -Rate of implementing new product assessment: 100% (all AMADA Group products)
	[Business Activities] Reduce CO ₂ emissions by reducing consumption of energy and resources	-“Intensity against benchmark year*2: 25.0% reduction” to cut average CO ₂ emissions of plants and offices by 25% by 2020 -Compliance with the Revised Energy Conservation Act: 1% reduction/year (5%/5 years) (designated plants and offices) -Goal for 2018: 25% reduction	-Reduction of AMADA Group’s CO ₂ emissions by 2.6% from previous year (CO ₂ intensity target 0.801) -Compliance with the Revised Energy Conservation Act: 1% reduction/year requirement -Responding to holdings system transition -Continuing operation management and submitting regular briefings and mid-to-long-term plan in line with the new management system and standard
Effective utilization of resources	Contribute to our recycle-base society by promoting the efficient use of limited resources	Achievement of zero emissions at plants “Achievement of zero-emission ratio of 1% or less for the entire group by 2020” (1% or less of annual landfilled waste, by waste material weight) -Goal for FY2018: zero-emission ratio of 1% or less across the entire AMADA Group	-Maintain zero emissions at 3 plants (Fujinomiya, Isehara, Toki) -Initiatives aimed at achieving zero emissions at 4 plants (Ono, Miki, Noda, Fukushima) -Improvement of AMADA Group’s zero emission ratio (annual goal: 1.132%)
		Initiatives aimed at creating a clean factory -Reduction of waste materials generated during the manufacturing process	Initiatives aimed at creating a clean factory (Fujinomiya, Isehara, Toki) -Continuous improvement of IN-OUT measures -Changing over product packaging to recycled or bioplastic material -Reduction of waste liquid (cutting oil, grinding oil) (Isehara, Toki) -Reduction of waste based on the resource-saving road map (Fujinomiya, Isehara, Toki)
Regulated chemicals control	Bolster initiatives regarding management of regulated substances	Product development with green procurement (Reduce the use of RoHS directive chemicals) -RoHS compliance rate of 98% or higher in all models of new products -Completion of compliance with category 11 (RoHS compliance of electrical and electronic components)	Initiatives aimed at complete elimination of RoHS directive chemicals -RoHS compliance of all models of new products (green procurement ratio of 92% or higher) -Zero unsurveyed commercial products
		Reduce the use of regulated chemicals “Appropriately control chemical substances, and reduce their use within the manufacturing process” (PRTR*4, VOC*5)	Initiatives towards reducing PRTR substances in paints -Expanded use of TX-free paints (Toki, Fukushima) -Reduction of solvent consumption (Fujinomiya, Toki)
Biodiversity	Preserve and regenerate biodiversity to pass on this country, which is rich in the blessings of nature, in good shape to future generations.	Initiatives that contribute to biodiversity conservation “Maintenance and protection for richer biodiversity than current state by 2020” -Quantitative evaluation of each site	-Activities based on the activity plan for AMADA Group biodiversity (Quantitative evaluation, AMADA forest, rare species, guidance map) -Biodiversity Conservation Plan activities at each site
Environmental Management	Respond faithfully to voices of stakeholders, particularly customers, to fulfill social responsibility as a company	Enhancing group environmental administration -ISO14001: 2015 group certification Promoting CSR initiatives -Active fulfillment of accountability -Enhancement of communication with stakeholders	-Promotion of group-wide activities by environmental ecology committee -ISO14001 consolidation (Fukushima) -Preparation to comply with revised ISO14001
			Reduced environmental impact at AMADA stakeholders
			-Enhancing waste compliance (manifesto management, application at Toki Works) -Assistance in issuing the FY2015 CSR report (section on environment) -CSR activities at each site
			Assistance in issuing the FY2015 CSR report (section on environment)
			CSR activities at each site

FY 2015 Results	Goals for FY 2016
CO ₂ reductions due to release of eco products (Overall: -16.6%)	Reduction of CO ₂ through the release and sales promotion of eco-friendly products (overall: -18.1%)
-CO ₂ intensity 0.822 (-17.8% against the benchmark year)	-Reduce AMADA Group's CO ₂ by 1.8% from previous year (CO ₂ intensity target value: 0.802) -Comply with the Revised Energy Conservation Law (reduce intensity by 1%/year)
-Zero emissions maintained at 3 plants (Isehara: 0.012%, Fujinomiya: 0.190%, Toki: 0.077%) -AMADA Group's zero-emission ratio 1.126% (-38.0% from FY2014)	-Maintaining of zero emission plants (Fujinomiya, Isehara, Toki) -Initiatives towards achieving zero emission plants (Ono, Miki, Noda, Fukushima) -Zero emission rate in the AMADA Group's plants: 1.3%
-Roadmap and intensity indicators revised in line with the HD system transition (Fujinomiya) -Reuse of cutting oil, extending longevity of cutting water by using alkaline water, 41.1% reduction of flammable waste liquid by using solvent recycling equipment [25.1kg/¥1 million] (Toki) -To improve grinding liquid longevity, installed 2 grinding liquid cleaning devices, achievement rate 116% (0.224t/1000 units) (Isehara)	-Continuous improvement of IN-OUT measures
-RoHS compliance rate in new products: 96.0% -Proportion of unsurveyed on-the-market products: 1.9%	Initiative toward eliminating RoHS directive materials -RoHS compliance rate in all new product types: 94% or more -Zero unsurveyed commercial products from newly developed machines (Fujinomiya, Toki, Noda) -Compliance with category 9 (compliance with RoHS of general replacement electric and electronic parts)
-Reduced paint by 18380kg by introducing high coating efficiency spray guns (Fujinomiya) -Considered using TX-free paint, operated solvent (paint thinner) recycling equipment [77.6% reduction of intensity for FY2007] (Toki) -Reduced amount of paint thinner used for cleaning by 2560 liters (-20%) from previous fiscal year by introducing powder coating equipment and by drawing up diagram of efficient positioning of cleaning water draining holes and suspension holes. (Fukushima)	Initiatives towards reducing PRTR substances in plants -TX-free paints use spreading across the group (Toki, Fukushima) -Reduction of solvent consumption (Fujinomiya, Toki)
-Implemented quantitative evaluation in line with JBIB's Ikimono Symbiosis Office guidelines -Cooperated with Kanagawa Environmental Conservation Association to hold the "Second Workshop on the Relationship Between Biodiversity and Corporations" on Isehara Works premises -Held an employee-participated tree-thinning event coordinated along with family visitation at the AMADA's Forest in Fujinomiya	-Formulation of a biodiversity conservation plan -Quantitative evaluation by site
-Integrated EMS certification acquired by AMADA AUTOMATION SYSTEMS Fukushima Plant -EMS certification support and acquisition by AMADA SHANGHAI MACHINE TECH CO., LTD. -Held group environmental eco-friendly TV meeting -For overseas subsidiaries, provided feedback of the 5th environmental burden evaluation results and conducted the 6th evaluation	-Environmental management system ISO14001: complete transition to 2015
-Extracted CO ₂ emissions of categories in SCOPE 3 for which calculations are possible	
-Contracts for all works were renewed using an outsourcing contract template related to waste materials -A manifesto-related management system was set up and its operation was commenced	
-Issue the environmental and social report "Forest-In Office 2015" (Japanese, English and Chinese)	-Promotion of group-wide activities by environmental-friendliness promotion committee -Maintaining of ISO14001 group certification -Issue the FY 2016 environmental and social report
-The Isehara Clean Campaign won the Minister of Land, Infrastructure and Transport and Tourism Award -Cleaning activities were held at each site as a way to contribute to the local community	-CSR activities at each site

*1: CO₂ emissions data is calculated based on the calculation manual for the "Act on Promotion of Global Warming Countermeasures" *2: Benchmark year: FY2007

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

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

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

Reducing CO₂ emissions associated with our products

AMADA Group supplies its customers with products (industrial goods) including metalworking machines, consumables and software together with maintenance services.

Believing that the most effective strategy to control our products' lifecycle contribution to global warming is to limit CO₂ emissions (by reducing power consumption) in the customer use stage, we offer low carbon emission products.

Product environmental assessment system and AMADA ECO PRODUCTS certification system

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

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

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

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

Certified products are granted the AMADA ECO PRODUCTS mark.

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.

*Design Review: In order to develop products that satisfy our customers, all the relevant business divisions assess the design plans created by our design teams from various perspectives and request improvements as necessary.

Introducing AMADA ECO PRODUCTS

■ LCG-3015AJ

The LCG-3015AJ is a global standard fiber laser machine that adopts the AMADA-made fiber laser oscillator and the latest drive mechanism, and one that pursues both energy-saving and high speed processing.

(1) High speed, high precision processing by adopting a low center-of-gravity carriage, high rigidity drive mechanism, and reduced-weight Y carriage

(2) Reduced energy consumption, expanded processing size, and nonusage of laser gas, as a result of adopting the AMADA-made fiber laser oscillator

(3) The latest flash-cut processing technology allows for high speed processing and other effects, resulting in reduced energy consumption rate by 87% and production cost by 43%.



LCG-3015AJ

■ ACIES-AJ series

The ACIES-AJ series is a machine in which fiber laser has been installed in an integrated blanking process solution ACIES for v-mix v-lot production and high quality processing.

The high production rate and low-running cost (high speed processing within the thin sheet processing size) of the fiber laser processing result in:

(1) power consumption reduced by 79%

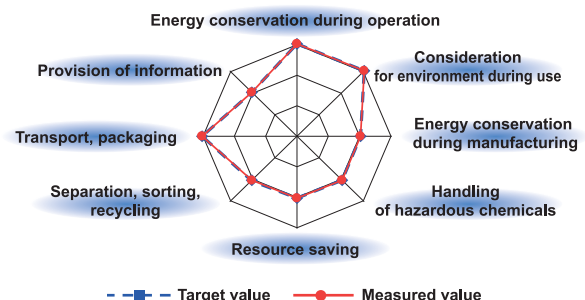
(2) productivity cost reduced by 17%

Furthermore, the series has adopted a table cabin structure (enclosed processing area) to shut out laser light, AMNC 3i for easy operation, and vertical mechanism die to prevent backside abrasion.



ACIES-2512AJ

The eight evaluation perspectives in product assessment



Reducing CO₂ emissions associated with our business activities

Achieving environmentally responsible workplaces (FY2015 initiative)

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.

Toki Works (AMADA MACHINE TOOLS)

The Toki Works is an all-electric facility, including the factory. 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 (Received the Energy-Efficient Lighting Design Awards 2012 "Awards for excellence")

Fujinomiya Works (AMADA ENGINEERING)

The compressors at all of the plants at Fujinomiya Works formerly had the same discharge pressure. However, having confirmed that no problems would arise by adjusting the pressure of some of the plant compressors to a lower level than that of other plants, the discharge pressure was lowered, thereby reducing CO₂ emissions.

Moreover, routine air leak patrol is conducted on the plant's production line, conducting audible (with a stethoscope), visual, and tactile inspections.



Air leak patrol (Fujinomiya Works)

Ono Plant (AMADA MACHINE TOOLS)

When replacing equipment, environmental performance is always checked before installing. Three of our compressors were replaced by energy-saving models, and as a result, we were able to cut CO₂ by 8.5t per year.



Energy saving compressors (Ono Plant)

Miki Plant (NICOTEC)

We worked toward insulating the heat of the tempering furnace to reduce heat loss from the oil surface and heater's energy consumption (18,500 kWh/year)



Promoted heat insulation for the tempering furnace (Miki Plant)

Eco Products at our customers

Ing Co., Ltd.



Promoting automation of manufacturing process while reducing environmental burden Installing the FOL-AJ reduced power consumption and improved productivity

“Sheetmetal Machine & Soft”
December 2015 Machinist Publishing



President Shuichi Fukumoto

Ing Co., Ltd. was the NC machine division of FUKUMOTO BODY (a manufacturer of special cars established in 1963) which was launched as an independent company.

It originally began as a manufacturer of sheet metal parts used for special cars by FUKUMOTO BODY. However, as it expanded its sales to external customers, the ratio of work done for FUKUMOTO BODY dropped to less than 5% of its total sales, and majority of its jobs are now accepted from outside sources. About 70-80% of contracted orders for processing are for parts related to cranes of construction machinery. President Fukumoto says, “I thought that when I turned 50 and we installed the FOL-NT (CO₂ laser machine), that would be the last during my time at the company. But I wanted us to become a JIT-compliant sheet metal plant that can quickly provide the amount that is needed when it is needed, and an eco-friendly sheet metal plant that can contribute to a low-carbon society. So this year, when I turned 58, I took the plunge and installed the FOL-AJ. Going forward, I’d like to further enhance production management and advance manufacturing process automation while contributing to reducing our environmental load.”



Headquarters plant

Company profile Name: Ing Co., Ltd.
President: Shuichi Fukumoto
Address: 1064-1 Shimoasa, Takase-cho, Mitoyo-shi, Kagawa
Phone: 0875-74-6831 (Head Office), 0875-74-8051 (Nishioka Plant)
Established in 1995
No. of employees: 50
Core business: precision sheet metal processing,
mainly in blank and bending processing
URL <http://www.ing-kk.co.jp/>

Main equipment

- Fiber laser machine: FOL-3015AJ+MPL-3015L+MARS
- Laser machines: FOL-3015NT+LSC-3015FOLST-3015FOL+MARS, LC-2415αIIIINT
- Punching machines: PEGA-357II+NCMP-1224+MARS, COMA-567×2
- Bending machines: HDS-2203NT/8025NT×2, FBDIII-1503NT/8025NT, RG-80/35S
- Automated Warehouse: MARS
- 3D solid sheet metal CAD: SheetWorks×2
- 2D CAD/CAM: Dr.ABE_Bend
- Production control system: APC21
- Electrostatic coating line (Okashige Plant)

Introduction of FOL-AJ enhanced facilities

"From the beginning, we were considering installing the fiber laser machine with expectations of shortened machining time and a great reduction in costs. With the FOL-NT that we were using until then there was a bit of a time lag before we were able to cut, but the fiber laser starts with a single push. We value the quick startup response. Also, the processing is faster than the FOL-NT for sheets up to a thickness of 4.5mm. There is an issue of the burrs that typically appear when cutting stainless steel 3mm or thicker with fiber laser processing, but considering the excellent response, processing speed, and great reduction of running cost, it's worth the trouble of deburring.

Reduced power consumption for materials used

"We began to use it immediately after its installation in January 2015 and after the May holidays we switched to automated operation linked with the manipulator. Because our company has ISO14001 certification, our monthly power consumption in relation to materials used is investigated. Even though the amount of materials used since March has increased, power consumption

has remained the same." (Senior Managing Director Shirokawa)

He says that there has actually been considerable improvement in processing time, compared with the FOL-NT. Not needing to warm-up the machine raises the operation ratio. Since MPL+MARS linkage only began after the May holidays there are apparently some difficulties with the MARS connection and removal using a fork unit.

"After setting the packaging materials at night before leaving the company, I always look forward to seeing how far they have been processed when I come to work the next morning."

No setup processing with the nozzle changer

Comparing it with the FOL-NT, Manufacturing Department Manager Keiichi Kawada said, "Until now, because the nozzle had to be set up on the FOL-NT, we were not able to process plates that were both thicker and thinner than 3.2mm on the same day. This made it extremely difficult on days when express or interrupted processing orders on plates with unexpected thickness came in. The FOL-AJ on the other hand can respond immediately, which gives us flexibility. It has resolved our issues of

wanting to cut at high speed, wanting to reduce power costs during processing, wanting to reduce standby and idle time power costs, and wanting to reduce regular maintenance costs."



Modeling of products with the 3D solid sheet metal CAD system SheetWorks



Left: A total of 3 machines, 2 laser machines and 1 punching machine, are linked in the Automated Warehouse MARS
Right: Laser machines FOL-3015NT + LSC-3015FOL + LST-3015FOL

[ECO PRODUCTS in use]



FOL-3015J Fiber Laser Machine

FOL-3015AJ

AMADA was the first laser machine manufacturer in the world to develop its own fiber laser oscillator that is ecological and broadens processing boundaries, and mounted it on the FOL-3015AJ.

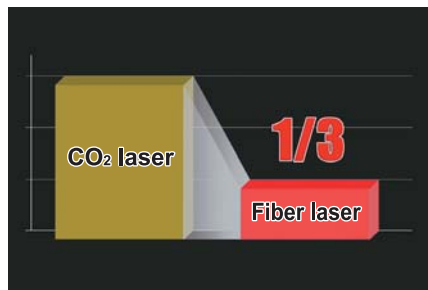
AMADA's fiber laser machines have resolved issues of wanting to cut at high speed, wanting to decrease power costs during cutting, wanting to decrease idling time power costs, wanting to broaden the range of processing materials, wanting to reduce regular maintenance costs, and more. We will greatly contribute to broadening our customers' processing boundaries.

*In the "Development of Eco-products (industrial metalworking machines) Excellent in Energy Saving and Production" category, the FOL-3015AJ was awarded the "2013 Environment Minister's Award for Global Warming Prevention Activity (Technological Development and Commercialization category)" sponsored by the Ministry of Environment.

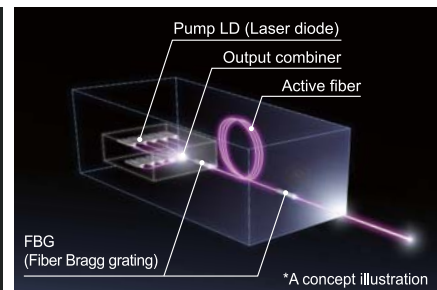
Low-cost processing through energy conservation and high speed cutting with AMADA's in-house built fiber laser oscillator

1: The fiber laser is simpler in construction and beam delivery than the CO₂ laser. This means that the maintenance cost of its oscillator and optical parts is much lower.

2: The fiber laser is capable of high energy conversion. It is three times higher in energy efficiency than the CO₂ laser. The power consumption is sharply cut. No need for warm-up operation and laser gas has resulted in a running cost reduction of more than 70%.



Electric Consumption



Laser Module

Chemical substances control

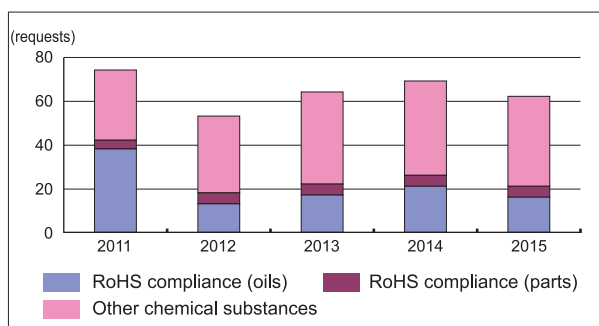
**We promote initiatives in controlling regulated chemical substances.
We are committed to providing safe machines made of safe materials.**

Green Procurement

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

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

Number of chemical substances user survey requests



■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.

■Lead-free solder circuit boards

For the electric circuit boards used in the control section of AMADA machines we developed lead-free circuit boards and are sequentially mounting them on our new products such as the FLC-AJ series and LCG-AJ series.

■Oils

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

■RoHS Compliance

In response to the European Directive RoHS I (Directive 2002/95/EU), which restricts the use of specified hazardous substances in electrical and electronic equipment, the AMADA Group has carefully selected and procured RoHS I compliant products since April 2004. We are continuing to comply with the European Directive RoHS II (Directive 2011/65/EU) that was set in place of RoHS I after it was abolished on January 2, 2013.

Prioritizing correspondence to RoHS II Category 9 (Monitoring and Control Instruments) to be included within the scope of the RoHS as of July 22, 2017, as the first step, with the cooperation of our suppliers, we are investigating RoHS II compliance of general-purpose maintenance electrical and electronic parts that can be diverted and are switching to RoHS II compliant products.

■Reduction of use of chemical substances and emission control in the manufacturing process

In addition to products supplied to customers, all of the AMADA Group's manufacturing plants are working to reduce the amount of regulated chemical substances during the manufacturing process, based on the company-wide medium term AMADA GREEN ACTION 2015.2017.

2015 Performance

-Fujinomiya Works

Thanks to the introduction of the high coating efficiency spray gun, the amount of paint was reduced by 18,380kg (toluene, xylene, thinner).

-Toki Works

Introducing toluene / xylene free paint and solvent (thinner) recycling and recovery equipment resulted in a reduction per unit of 77.7% compared with FY 2007.

-Fukushima Plant

Thanks to the introduction of power coating equipment, the amount of cleaning thinner was reduced by 2,560 liters (20%) over the previous year.

^{*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.

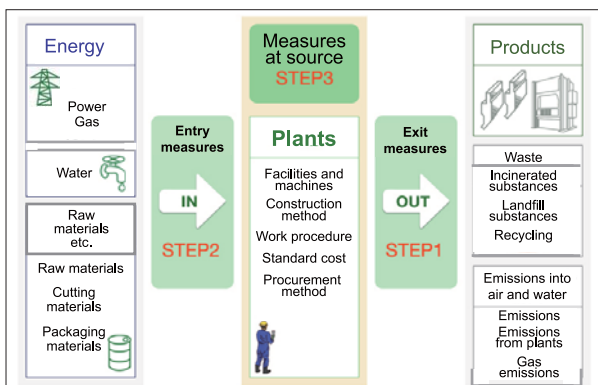
Effective use of resources

Efforts to effectively use resources in business activities

■Zero-emission factories

Zero emissions is a philosophy that aims for a society free of waste by reusing waste discharged from particular industries. The criteria for this is established and defined by each corporation individually. The AMADA Group zero emission factory standard states, "The amount of waste ultimately used as landfill (zero emissions rate) must be less than 1% of the entire amount of waste and that condition must continue for more than one year.

Of the AMADA Group's manufacturing bases, three tooling factories have achieved zero-emission: AMADA TOOL PRECISION Isehara Works, AMADA ENGINEERING Fujinomiya Works, and AMADA MACHINE TOOLS Toki Works. Aiming to be zero emission factories, operation sites that have not reached zero emissions are promoting sorting at the disposal stage, recycling, and efforts not to bring in trash, in accordance to the activity procedures.



Steps towards achieving zero emissions at our plants

■Initiatives of zero emission factories with returnable containers

When delivering parts to factories, packaging materials such as wood pallets, plastic wrapping to prevent scratches from logistics, and cardboard are used and they become waste in the factory.

At the AMADA Group manufacturing base, we proactively promote the use of returnable containers in order to reduce the amount of waste.



Waste reduction with returnable containers

■Noda Works (AMADA MIYACHI)

At Noda Works, used work clothes, polo shirts, and business shirts are collected by local collectors and donated to people in Southeast Asia in need. By effectively using the resources, we are also helping to reduce waste. So far we have donated 128 work clothes, 141 polo shirts, and 149 business shirts amounting to a waste reduction effect of 150kg.



Donated work clothes

Biodiversity

Fujinomiya / 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.

Fujinomiya Works / Planting shiitake spores on thinned wood



To make the best use of resources, we planted shiitake spores on pin oak thinnings and later harvested them. The cypress and cedar that are not fit for shiitake mushroom cultivation are used as wood chips.



Isehara Works / Quantitative Evaluation of Biodiversity

Isehara Works conducts quantitative evaluation to grasp the progress of biodiversity initiatives in detail and to clarify what types of potential can be found on the premises or where the burden factors are, aiming for systematic improvements. 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. These will not be limited to Isehara Works, but plan to be conducted at other operation sites as well.



At Isehara Works, we have devised measures such as making the environment easier for spot-billed ducks to live by placing habitat islands in the pond.

Isehara Works / Workshop on Connections between Biodiversity and Corporations

In October 2015, a Workshop on Connections between Biodiversity and Corporations sponsored by the Kanagawa Prefecture Environment Conservation Council was held at Isehara Works. Approximately 40 people representing general affairs and environment from major corporations within the prefecture came, where we gave a presentation on the corporate activities of AMADA HOLDINGS and one other company, in addition to biodiversity. As for the initiatives of Isehara Works, we first introduced the natural environment around the establishment and the land formation. Then we explained various activities currently underway such as biological monitoring and the earthworm farm. After discussing our future plans and prospects, we lead the workshop members on a tour of the interior of the operation. Information regarding the initiatives of the various companies was exchanged, making it a very meaningful workshop.



Members of the Workshop on Connections between Biodiversity and Corporations touring Isehara Works

Environmental accounting

AMADA Group has adopted environmental accounting to use for reasonable decision making by understanding the costs and benefits related to environmental preservation activities.

The adoption of environmental accounting

AMADA Group has adopted environmental accounting since FY2005 for the purpose of understanding the costs and the economic impact associated with environmental preservation measures, and providing information useful for decision making by stakeholders.

We made consecutive expansions of scope with the Ono Plant in 2008, Fujinomiya Works in 2009, Toki Works (AMADA MACHINE TOOLS) in 2011, and the Miki Plant (NICOTEC) in 2013.

To summarize the cost and economic impact (profit of actual results) associated with the environmental preservation measures, an "environmental accounting" item was added to the monthly accounting system for automatic calculation.

■ Environmental preservation cost

R&D costs are calculated on the basis of the total cost, within the research and development theme, of developed product types that are newly certified as eco products in addition to models currently certified as eco products. The main content is the cost of test material and jig production, and does not include expenses for experimental research or employee man-hours needed for development.

In terms of cost ratio, R&D costs are the highest, followed by global environmental conservation costs to promote global warming prevention and energy conservation, and pollution preventions costs to prevent air pollution and water pollution.

■ Economic impact associated with environmental preservation measures

The main economic impacts for fiscal 2015 were business income, including income from recycling waste products of business activities, and capital investment.

The main sources of recycling income are metals such as iron, aluminum and stainless steel.

Unit: 1000 yen

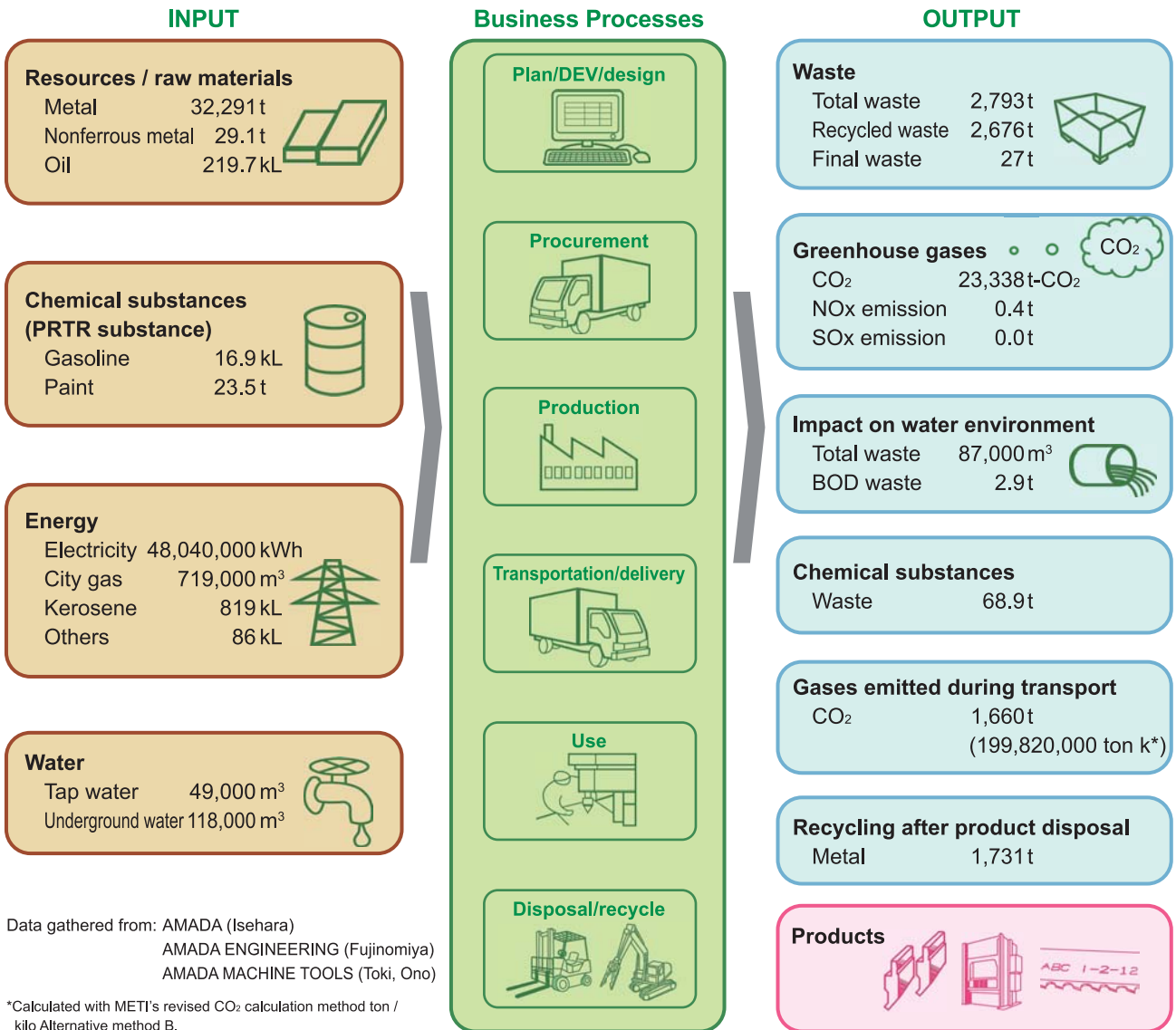
Environmental accounting items		2011	2012	2013	2014	2015
Environmental preservation cost	Cost	850,541	540,557	1,257,432	891,509	382,331
	Investment	263,759	8,207	1,233	36	53
	Total	1,114,300	548,764	1,258,665	891,545	382,385
Economic impact accompanying environmental preservation measures		35,479	23,403	32,640	26,485	17,581

Environmental accounting items		Unit	2012	2013	2014	2015
The material effects related to the environmental conservation policy	CO ₂	Tonnes of CO ₂ per year	645.26	957.0	790.3	969.6
	Waste	Tonnes per year	22.84	57.5	16.0	18.9

Data

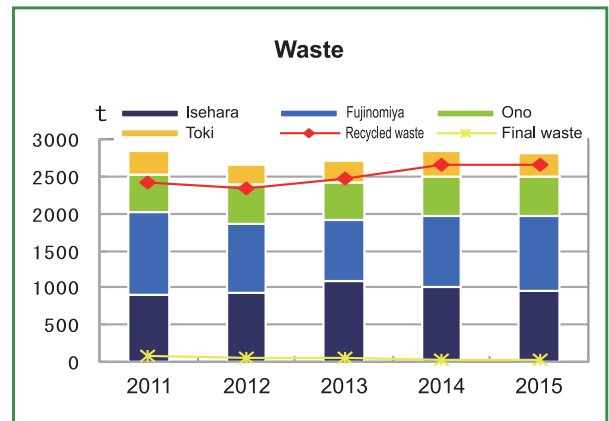
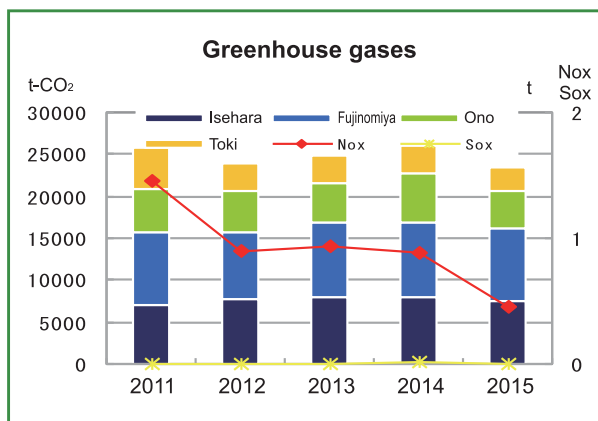
Material balance

<Domestic>



Data gathered from: AMADA (Isehara)
 AMADA ENGINEERING (Fujinomiya)
 AMADA MACHINE TOOLS (Toki, Ono)

*Calculated with METI's revised CO₂ calculation method ton / kilo Alternative method B.



<Detailed Data>

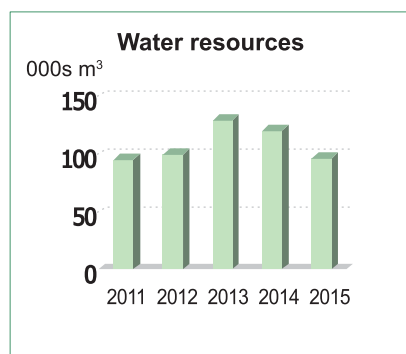
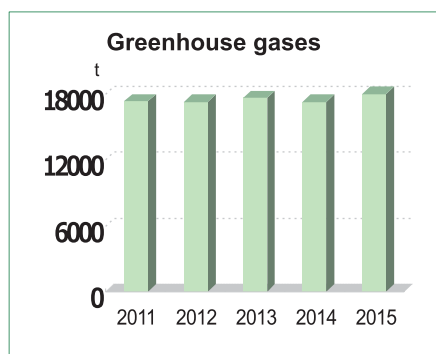
		2011	2012	2013	2014	2015
CO ₂ intensity	Isehara Works	0.0340	0.0375	0.0384	0.0356	0.0362
	Fujinomiya Works	0.1645	0.1776	0.1709	0.1421	0.1512
	Ono Plant	1.4831	1.8145	1.6142	1.6490	1.7168
	Toki Works	0.4183	0.3480	0.2639	0.2114	0.2112

		2011	2012	2013	2014	2015
PRTR-reportable chemical substances in tons	Isehara Works	0.0011	0.0048	0.0049	0.0049	0.00252
	Fujinomiya Works	70	50	44	52	52
	Ono Plant	0	0	0	0	0
	Toki Works	31	24	26	33	14

		2011	2012	2013	2014	2015
Amount of water resources used in 000s m ³	Isehara Works	62	65	70	76	84
	Fujinomiya Works	63	73	77	65	64
	Ono Plant	9	9	8	7	8
	Toki Works	59	13	17	11	10

		2011	2012	2013	2014	2015
Impact on the aquatic environment (waste) in 000s m ³	Isehara Works	36	43	44	44	50
	Fujinomiya Works	26	30	27	27	26
	Ono Plant	8	7	4	6	6
	Toki Works	54	8	7	8	5

<Overseas>



Scope of coverage: Greenhouse gases and water resources Overseas 46 companies
Waste Overseas Main production centers

Communication

Social contribution of AMADA Group

Europe



Acceptance of community middle school factory tour
AMADA GmbH (Germany)



Cooperation in Japanese garden landscaping
at Domaine de la Celle Saint-Cloud
AMADA EUROPE S.A. (France)



Acceptance of student factory tour
AMADA EUROPE S.A. (France)



Students from Europe visit the Isehara
Head Office AMADA SOLUTION CENTER
AMADA (Japan)

With our customers

AMADA SCHOOL

The AMADA SCHOOL was established in 1978 as Japan's first private 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 including Junior Management College (JMC) courses, for managerial successors.



Subsidized JMC educational course for managerial successors (JMC)

Support for Sheet Metal Industry Associations

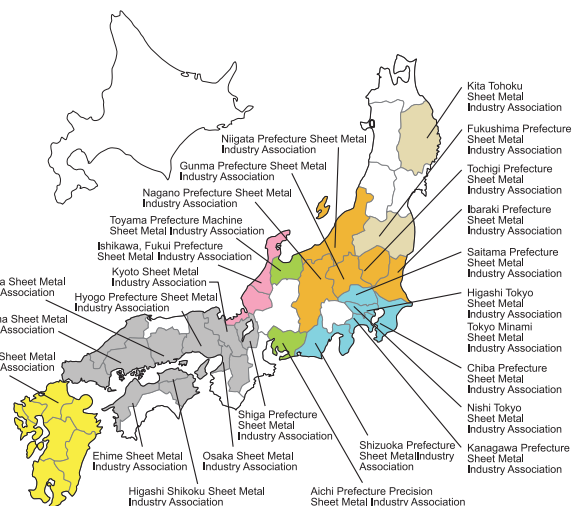
Sheet metal industry associations are established in each region of Japan by companies involved in the sheet metal processing industry to promote the planning, proposal, implementation, and research of activities for the prosperity and global expansion of member companies. To date, 26 such industry associations 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.



Seminar



Skill Examination



Asia America



Laser processing instruction at elementary schools near the Isehara Head Office AMADA HOLDINGS (Japan)



Cooperation with the Children's World Summit for the Environment that introduces environmental activities to elementary school students in the community AMADA HOLDINGS (Japan)



Acceptance of community high school for a tour of the company AMADA AMERICA, INC.



Tour of the facilities by educators AMADA TOOL AMERICA, INC.

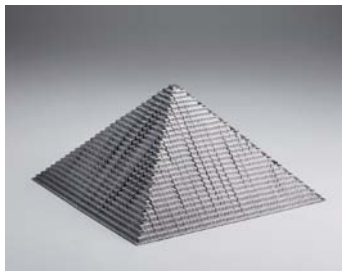
The Precision Sheet Metal Technology Fair

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 28th Precision Sheet Metal Technology Fair awards ceremony was held in March 2016. 254 entries were submitted, of which 87 were submissions from overseas, with 28 submissions from students - the largest number of submissions from students in the fair's history. In addition to the Minister of Labour, Health and Welfare Award, the Minister of Economy, Trade and Industry Award, the Japan Vocational Ability Development Association Chairman's Award, the Nikkan Kogyo Shimbun Award, the Judging Committee's Special Award, the AMADA Award the Sheet Metal Expertise Prize, gold, silver, bronze and other special encouragement awards were granted to outstanding submissions in the sheet metal parts, sheet metal assemble parts, welding fabrication, formative arts fabrication, and student's fabrication categories.



The 28th Precision Sheet Metal Technology Fair awards ceremony

The Main Award Winners



Winner of the Minister of Labour, Health and Welfare Award



Winner of the Minister of Economy, Trade and Industry Award

With our employees

AMADA Group's Human Resource Strategy

The AMADA Group management philosophy, "Develop human resources who pursue creative and challenging activities" says that "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." We build our human resource strategy based on this philosophy, the basis of which is for employees to grow by gaining extensive experience through OJT education and overseas rotations within the organization to which he or she belongs.

In addition, we work to raise the morale and motivation of new employees toward the Company by implementing in-depth educational activities in a friendly manner. In this way, we support the active role of young employees from the early stages. Furthermore, we are also focusing our efforts on educating employees in managerial positions, as this type of education is necessary to lead young employees in the right direction.

Another AMADA Group management philosophy is "Conduct sound corporate activities based on high ethics and fairness," meaning "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." To put this philosophy into practice, we conduct compliance education for all employees once a year.

Developing global human resources

In order to actively recruit human resources in the global market, the AMADA Group firmly communicates that we are a global company at the recruiting stage and actively hire people with a wealth of skills and knowledge regardless of nationality.

Furthermore, we actively dispatch young employees working in areas such as sales, services, CE, development, and production technology abroad, because we believe that the fastest way to acquire a sense of globalism is to gain experience overseas.

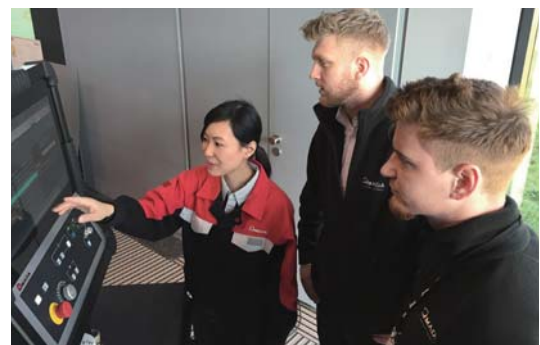


New employee training before assignment

Woman's career support

We are aware of the fact that there are few female employees currently taking roles of leadership in Japan. As a place of activity for women, we are promoting their appointment to core positions (Development, CE, Sales) within the AMADA Group. Each year, a number of new female employees join the company and are working in jobs related to development and CE.

In addition, many female employees who have studied the humanities are proficient in linguistics and demonstrate their expertise through presentations at exhibitions and communication with foreigners. I intend to offer them various experiences, including overseas assignments. In addition, we will continue to provide an environment that enables women to carry on working through life events like marriage and childbirth, fostering a corporate culture that allows motivated employees to play an active role as a matter of course.



First Japanese female employee to be stationed abroad
Providing laser processing training to application engineers
at AMADA GmbH in Germany

Promoting Support for Childcare

The AMADA Group is encouraging male employees to take child care leave by establishing an independent childcare 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. Moreover, to encourage employees to take paid leave, in addition to systematic paid holidays and recommended days to redeem paid holidays, we have also established leave for special events, such as school-related events, which are separate from normal paid holidays. We also implement "Bring Your Family to Work days" at each of our work sites. Through initiatives such as these, we are working to encourage employees with children to play an active role in raising their children.

Employee Interview

Mika Maehama,
Blank Development Department, AMADA ENGINEERING CO., LTD.

In April this year, I returned from maternity and childcare leave. Before going on leave, I was anxious about my very first childbirth and when I returned to work someday, whether or not I would be able to do it successfully. However, when I went around to greet everyone on my way out, someone said, "Giving birth and childrearing are big jobs. Do your best." I remember feeling somewhat relieved about taking a leave, with the notion that I wasn't taking time off from work but that I needed to give my all to a job of giving birth and raising a child. Now I am grateful for being able to come back with the support of my colleagues, my family, and the surrounding environment. From now on, if I can make myself useful with my experience, I would like to help other employees who might be in a similar situation.

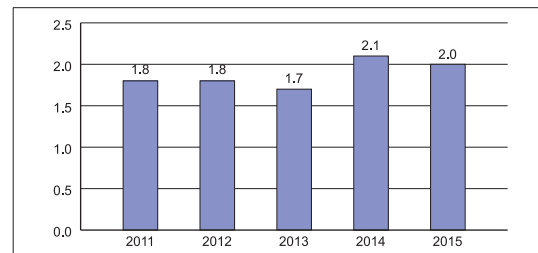


A Workplace Where People with Disabilities Play a More Active Role

AMADA Group employs people with disabilities, to assist them to be autonomous and participate in the social community.

We accept workers with intellectual challenges on a trial basis and offer workplace experience training for students attending special needs schools to prepare them for future employment. In June 2015 we established a special subsidiary for the employment of people with disabilities within the Group, the first of its kind in the machine tool industry.

Employment rate for people with disabilities



Safety Management

The AMADA Group strives to prevent the recurrence of labor accidents that occur within the group by sharing causes and recurrence prevention strategies, and involving peer groups. In 2015 we prioritized safety education to prevent occupational and traffic accidents.

In addition to education by lectures, our curriculum includes a variety of practical training as we aim for zero occupational accidents.

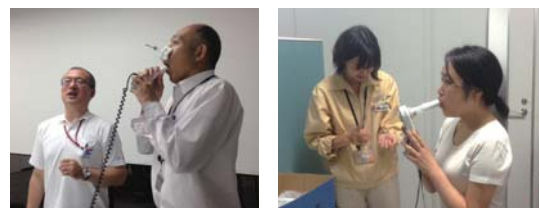


Safety education for new service agents

Health Management

Through early detection and following up on those who don't feel well both mentally and physically, we strive to increase the health age of our employees. We have an industrial health and hygiene system in place and put great effort into mental healthcare and various types of physical healthcare through collaboration with the health insurance union.

In FY 2015 we held various events to promote employee health such as brain exercises, a seminar on moderate drinking, core muscle training, and a pulmonary function test.



Pulmonary Function Test

With our local community

Isehara Works receives Minister of Land, Infrastructure, Transport and Tourism Award for cleanup activities.

In August 2015, AMADA HOLDINGS was appraised for cleanup activities around Isehara Works as part of its community contribution activities and received the Minister of Land, Infrastructure, Transport and Tourism Award that is given to groups performing outstanding activities on road protection during “Road Interaction Month” conducted by the Ministry.



Isehara Works Cleanup Campaign

Holding community cleanup activities at the Ono Plant and the Miki Plant

Not only at Isehara Works, but all of the plants conduct regional cleanup activities. In FY2015, the Ono Plant (Hyogo Prefecture) also held a Clean Campaign, with local cleanup activities. The Miki Plant (Hyogo Prefecture) registered with the Miki City Green Volunteer Organization and participated in community cleanup activities, conducting cleanup activities around the factory several times.



Cleanup activity at the Miki Plant

Co-sponsoring regional sports events

The AMADA Group actively co-sponsors regional sports events as well. We have co-sponsored the Yokohama Marathon from when it was first held in 2015. Many of our employees support the tournament by participating as operational volunteers.



YOKOHAMA MARATHON 2016

Co-sponsoring various regional events

We also actively participate in and sponsor events held in regions across Japan where our operation sites are located. In Isehara City, home to our head office (Kanagawa Prefecture), we co-sponsor the Dokan Festival held in October. In Nihonmatsu, where Fukushima Plant is, we co-sponsor the Nihonmatsu Chrysanthemum Festival. In Ono City, Hyogo Prefecture, where our Ono Plant is, we hold an event called “Hanami-cation” for flower viewing and fellowship with the locals.



The Nihonmatsu Chrysanthemum Festival

Collaborating with the local government assuming an earthquake disaster

In 2013, the AMADA Group signed an “Agreement on temporary emergency housing in the event of a disaster” with the cities of Isehara and Atsugi, Kanagawa Prefecture. This agreement promises to open up some of the facilities on the premises when a large-scale disaster such as an earthquake or storm and flooding occurs, as temporary refuge for stranded commuters who cannot return to their homes. In addition to the Evacuation Area Agreement with Isehara City, we also conduct drills for stranded commuters measures training in cooperation with the local community.



Stranded commuters measures training in cooperation with the local municipality





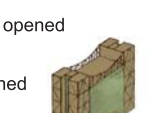






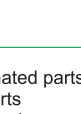
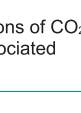

Our history of environmental activities










AMADA Group has always deployed advanced environmental activities as a leading manufacturer of metalworking machines.

AMADA Group and the environment

AMADA Group has addressed the environment from the very early days of the machine industry, and it's been 18 years since the Isehara Works (where the headquarters is located) acquired the ISO14001.

We will introduce our history since the company was established, and our 18 years of environmental activities.

1948	JUN	AMADA SEISAKUSHO (limited company) founded	
1955	JAN	First contour machine born	
1961	AUG	Built factory in Isehara Town, Kanagawa Prefecture (now Isehara City)	
1964	JAN	Company name changed to AMADA CO., LTD.	
1969	APR	Headquarters relocated from Nakano, Tokyo to Isehara, Kanagawa	
	AUG	Joined the first section of Tokyo and Osaka stock exchange markets	
1978	MAY	AMADA Machine Tool Plaza built as 30th anniversary event	
1979	APR	Headquarter building built	
1987	SEP	Fujinomiya Plant (currently Fujinomiya Works) established in Fujinomiya, Shizuoka	
1991	JUL	Clean Campaign activities started	
1992	APR	New AMADA Machine Tool Plaza opened as 45th anniversary event FORUM246 (training center) opened Software Center Building built	
1994	FEB	AMADA SFERA, symbol of AMADA's environmental activities created	
1996	SEP	ISO14001 certification started	
1998	SEP	Product assessment manual established (assessment of products' environmental impact)	
	DEC	Isehara Works ISO14001 certified	
2000	JAN	AMADA AUSTRIA GmbH ISO14001 certified	
2001	OCT	AMADA ECO PRODUCTS certification system started	
2002	SEP	Fujinomiya Works ISO14001 certified	
2003	SEP	Press announcement for "AMADA designated parts for recovery system" (recovering used parts that include regulated chemical substances)	
	DEC	Press announcement regarding 10,000 tons of CO ₂ reduction in 10 years (CO ₂ reduction associated with our operation sites and products)	

2004	MAR	Wind power plant installed (for generating power for foot lights)	
2005	JAN	Kyoto Protocol put into effect	
2006	APR	Press announcement regarding response to RoHS directive (EU's regulation on restricting the use of Hazardous Substances)	
	JUL	RoHS directive applied	
2007	MAR	Development Center and Laser Factory completed at Fujinomiya Works	
	JUL	AMADA Eco Information Mark established (environmental information on products for stakeholders)	
	SEP	Japan Forming Machinery Association joins Eco Machine Project	
2008	DEC	Ono Plant ISO14001 certified	
	DEC	AMADA LIANYUNGANG MACHINE TOOL CO., LTD. ISO14001 certified	
2009	JUN	Environmental report "Forest-In Office" first issue posted on website	
	OCT	Parts Center at Fujinomiya Works opened	
2010	APR	AMADA Group Environmental Declaration	
	SEP	ISO14001 group certification for Isehara Works, Fujinomiya Works, and Ono Plant	
2011	NOV	Opening of Toki Works in Toki-shi, Gifu Prefecture Conversion of Technical Center into a zero-carbon facility	
2012	NOV	ISO14001 group certification for Kansai Technical Center	
2013	NOV	ISO14001 group certification for NICOTEC Miki Plant	
2014	NOV	ISO14001 group certification for AMADA MIYACHI Noda Works	
	NOV	AMADA EUROPE S.A. ISO14001 certified	
2015	APR	Established AMADA HOLDINGS CO., LTD.	
	NOV	AMADA SHANGHAI MACHINE TECH CO., LTD. ISO14001 certified	
	DEC	ISO14001 group certification for AMADA AUTOMATION SYSTEMS Fukushima Plant	

(green letters: global movement on the environment)

Third party opinion



AMITA CORPORATION
Senior Consultant

Yoichi Inomata
(Specialty: Environment /
CSR Strategy, CSR Communication)

Tokyo Chamber of Commerce and
Industry Eco Test Award Jury Member
Publication: Introduction to CSR Digital
Communication. Impress R&D. Co-authored.

This is the first time for me to offer a third party opinion in the Environmental and Social Report by the AMADA Group. As a consultant, I often have the opportunity to look at Environmental and Social Reports, but what first caught my eye with this report was the title Forest-In Office on the cover page. I have actually visited Isehara Works and I remember the illusion of being in a forest park the moment I walked in. The greenery was not limited to the outdoor premises, as plants filled the office interior. I understood what the company meant by its declaration that “the AMADA Groups seeks to be an office for the forest, rather than an office in the forest.” The explanation about why this very unique title was chosen is written in small letters, but since it is a strong feature of your company, I think you should communicate it more actively.

I thoroughly read the report and as with the cover page, found that you do not let the readers down. Your company's initiatives towards the environment at the workplace are carefully reported. I was able to comprehend the serious involvement of the company as a whole. Not only that, as a member of the machine industry, you were very quick to start working on environmental activities. Beginning with the acquisition of ISO14001 certification in 1998, you formulated the AMADA Group Environmental Declaration. Then set up the AMADA GREEN ACTION. I think that it is quite remarkable that the top is committed to these three important issues and continually working on them. As they say, “Continuous practice makes perfect.”

In the three key issues, you have declared as an environmental initiative through your operations, that you will reduce CO₂ emissions from all products by 25%, reduce CO₂ emissions intensity at operation sites by 25%, and conserve and regenerate biodiversity. Last year you successfully acquired your final ISO14001 certification in Japan at the Fukushima Plant (completing certification at all seven sites nationwide). I look forward to the implementation of environmental management at your overseas operation sites.



Indoor Greening at AMADA SOLUTION CENTER (Isehara Works)

Regarding AMADA's target of “Reducing CO₂ emissions associated with our products”, the fiber laser machine ENSIS-AJ series, which I have also seen, received the Agency of Natural Resources and Energy Director's Award that is given to companies who develop excellent energy-saving equipment and promote the efficient use of energy. (p.12) This is indeed the result of environmental activities in your operations. You have contributed to energy saving by making it possible to cut plates using a 2kW oscillator with your exclusive beam control technology, when thick sheet processing previously required a 4kW oscillator. This is due to accumulated on-site efforts. Similarly, your original product assessment system and the AMADA ECO PRODUCTS certification system (p.17) are environmental activities in your operations. The product assessment system evaluates products from eight viewpoints, starting at the design review stage, practicing our rule that items that do not pass the standards are unfit to sell as products. Furthermore, the AMADA ECO PRODUCTS certification system has been duly referenced by industry standards. Its unique ECO PRODUCTS mark is used only on products recognized as resource saving, low-noise, energy saving machines. This is also an indication of environmentally conscious manufacturing.

Regarding AMADA's target of “Reducing CO₂ emissions associated with our business activities”, the AMADA AUTOMATION SYSTEMS Fukushima Plant reduced the amount of cutting oil from 20 liters to 0.1 liters per day by installing the latest semi-dry type machining equipment. This is the result of daily efforts on site. (p.13)

Once again, this means that the policy of one of the company's management philosophies, “Take good care of people and the



Fukushima Plant (AMADA AUTOMATION SYSTEMS)

earth's environment" is rooted in the organization.

In addition, I understand that you started using the Japan Business Initiative for Biodiversity (JBIB) biodiversity assessment tools for quantitative evaluation of Isehara Works as an effort to conserve and generate biodiversity. I look forward to this continuing to spread out through each operation site. (p.23)

In the top message (p.3,4) that summarizes the environmental activities that we have just looked at, we see a strong declaration of determination upon reaching September's 70th anniversary of AMADA's founding in 1946, to "enrich the future through manufacturing (*monozukuri*)", going back to the true meaning of the management philosophy, "Growing together with our customers". It is a strong resolve, aiming for a 100-year company.

As such, the Report is full of environmentally focused contents. However, as the next step, I suggest broadening the scope of your reporting to include more activities such as AMADA's approach to social issues suited to your global business development and organizational governance, in addition to the current environmental reporting.

The world has many social issues that need to be solved, such as poverty, gender discrimination, water shortage, and child labor. In Japan, the aging society, declining birthrate, decreasing work force, medical care, and food disposal are problems that will likely affect our company, too. As stated on the top page, "We are contributing to global manufacturing and a better future of human beings." it is fair to say that using your core technology of metal processing to realize projects that simultaneously satisfy social problems and economic value is the CSV (Creating Shared Value) that

corresponds to your management philosophy "2. Contribute to the international community through our business".

In particular, looking at the number of male and female AMADA employees (p.8), I felt that female ratio was low, as 90% are male. Perhaps because there is a shortage of manpower nowadays, there are more and more opportunities to actively employ women in the steel and construction industries, which once had a large concentration of male employees. When there is an obvious difference in physical strength for the work performed, it is a corporate social responsibility (CSR) to adjust the working environment specifically for women. One of AMADA's management philosophies is to "3. Develop human resources who pursue creative and challenging activities". Is this not indeed, "developing human resources"?

At the 21st Session of the Conference of the Parties to the United Nations (UN) Framework Convention on Climate Change (COP21) held in December 2015, the domestic target for global warming countermeasures to reduce the amount of gas emissions was set at 26% below FY2013 levels by FY2030. In the future, companies are increasingly likely to be required to reduce CO₂. Lately the phrase "ESG Investment" is making a stir in society. Environmental and social initiatives are also important material for investors when judging the sustainability of companies. Already, AMADA's overseas market accounts for more than half of both sales and the number of employees. With the globalization of operations, expectations of your company are surely rising not only domestically but also from abroad. With this in mind, it will be necessary to gradually change the Report to one that is conscious of international standards. From next fiscal year, I recommend that you review corporate activities by referring to the ISO26000 guidelines, which are the international standard.

Finally, what kind of a world will we be living in, in 2046 when AMADA turns 100? As a company who "links monozukuri manufacturing to the future", how about setting up a long-term vision that assumes environmental constraints that are bound to occur, and recreate your operational framework by backcasting from there? Your present target is set by backcasting from 2020. When you think about what lifestyles are going to be like when the company celebrates its 100th anniversary however, you should be able to envision operations that link monozukuri manufacturing to the future. I sincerely look forward to your vigorous advancement toward becoming a 100-year company.



AMADA HOLDINGS CO., LTD.
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