

CEO message



大塚浩史

Hiroshi Otsuka
President & CEO
Musashi Seimitsu Industry Co., Ltd.

Creating a Sustainable Society through “Monozukuri”

The Challenge and Passion of “Monozukuri”

The Musashi Group was established in 1938 as a precision component manufacturer initially for the aircraft industry and then following the ending of World War II, for the sewing machine industry. In 1956 Musashi started producing parts for motorcycles, and a few years later for automobiles in anticipation of the future market direction. In order to meet the demanding requirements of this new industry, Musashi established an original “Monozukuri” system, integrating precision forging technology with a global production and sales system and an extensive R&D capability, thereby developing unique products such as maintenance free ball joints and the “MS-Diff”. It is the strength of this Monozukuri system that allowed us to celebrate 80 years of business in 2018.

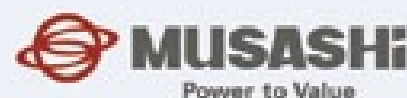
Throughout our history, we have been passionate about using our Monozukuri to develop human resources and to help to improve the lives of both individuals and to benefit the wider society.

▲A lightweight differential assembly with bevel gears developed by Musashi.

Creating Values through Sustainability Initiatives

In recent years, there has been an increasing expectation for private companies to use their technology and resources to ensure a sustainable society and to help to solve social problems. This is now an essential requirement for companies that want to prosper and grow. We must do this in every aspect of our business: throughout the product supply chain and throughout the product life cycle.

In order to formalize Musashi's response to this expectation, in 2018 the Board of Directors resolved to adopt the “Musashi Group Basic Policy for the Realization of Sustainable Global Society”. Consequently our corporate mission now incorporates the requirement for us to promote activities which will “create shared values”, and for us to “act in a socially responsible way as a global company”



①One Musashi Festa (80th anniversary festival)

Stronger “Product Liability,” “Human Rights,” “Labor Practice,” and “Environment”

“Creating shared values” requires us to support the automotive industry by producing and supplying parts which contribute to the improvement of functions such as fuel efficiency and safety through improved design and process development. Last year, we started a research project for applying rapidly advancing AI and deep learning technologies in our daily operations to pursue the innovative advancement of manufacturing.

Furthermore we recognize the need to work together with our global stakeholders, such as employees, customers, business partners and local communities in order to create a better society. There are a number of social issues related to our business such as product liability, human rights, labor practice, and environment, but we are steadily tackling each

of them by adopting the United Nations Development Program Sustainable Development Goals.

We are undertaking a variety of activities in order to contribute to the sustainable development of our global society and to be trusted by stakeholders throughout the world. This report, has been issued to inform our global stakeholders about these activities and to give the reader a fuller understanding of the Musashi Group's activities in this regard.

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■ Period Covered

This report mainly covers the activities in FY2017.

■ Organization

Information in this report refers to all consolidated organizations.

Report on activities in Japan refers preliminary to Musashi Seimitsu Industry Co., Ltd.

■ Referred Guidelines

GRI: GRI Sustainability Reporting Standards (GRI Standards)

ISO: ISO26000 :2010 Guidelines on Social Responsibilities

Ministry of Environment, Government of Japan: Guidelines on Environmental Report

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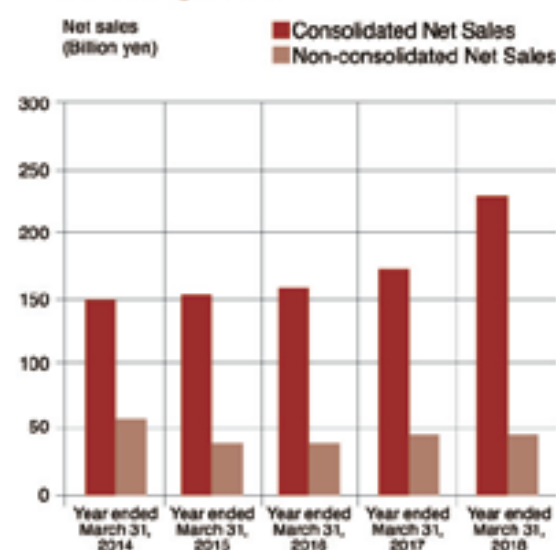
Company Profile

| | |
|--------------|---|
| Company Name | Musashi Seimitsu Industry Co., Ltd. |
| Head Office | 39-5, Daizen, Ueta-Cho, Toyohashi, Aichi |
| Founded | April, 1938 |
| Company Name | January 22, 1944 |
| Company Name | 3,060 million yen (As of April 27, 2018) |
| Company Name | Group: 16,385 (As of March 2018) |
| Company Name | Japan: 1,336 (As of March 2018) |
| Company Name | Manufacturing and sales of transportation equipment |
| Company Name | Head Office / Ueta Plant (Toyohashi, Aichi) Akemi Plant #1 (Toyohashi, Aichi) Akemi Plant #2 (Toyohashi, Aichi) Machinery & Tools Business Unit (Toyohashi, Aichi) Horal Plant (Shinshiro, Aichi) Suzuka Plant (Suzuka, Mie) |

[FY2017 Financial Result]

| | (Million yen) | |
|-----------------|---------------|------------------|
| | Consolidated | Non-consolidated |
| Net sales | 237,910 | 48,394 |
| Ordinary income | 15,929 | 6,577 |
| Net income | 10,351 | 5,412 |

[Closing date]



[Location of Musashi Seimitsu Industry Co., Ltd.]

- Ⓐ Head Office / Ueta Plant
- Ⓑ Akemi Plant #1
- Ⓒ Akemi Plant #2
- Ⓓ Machinery & Tools Business Unit
- Ⓔ Horal Plant
- Ⓕ Suzuka Plant



Head Office / Ueta Plant, Musashi Seimitsu Industry Co., Ltd.

Product Lineup

Our “unique technology development” and “integrated production system” provide high-quality and low-cost products trusted by customers in the world.

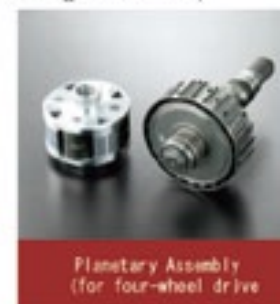
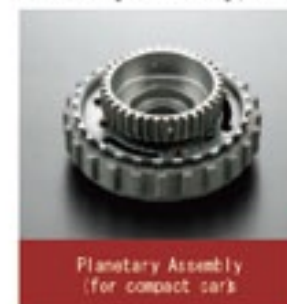
Parts for Automobiles

Differential Assembly/Differential mechanism



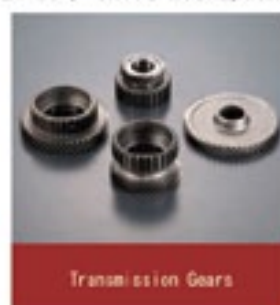
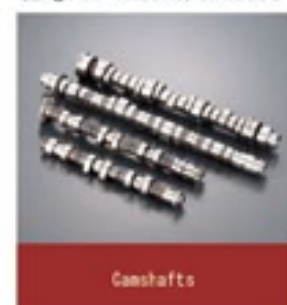
The differential mechanism distributes engine torque on the input shaft to 2 output shafts (left and right wheels) adequately. The torque motorizes a vehicle over 1t put on palm-sized gears which require high strength and wear resistance.

Planetary Assembly(Decelerating mechanism)



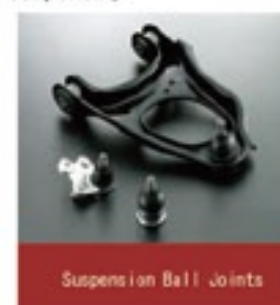
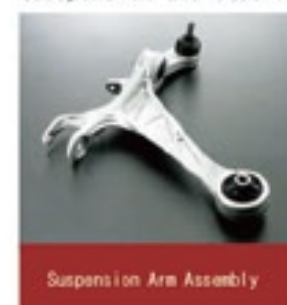
This mechanism converts engine high-speed revolution into the revolution adequate for driving. The difference in speed reduction determines a vehicle's acceleration performance, fuel efficiency and quality of ride. To attain lighter gears with less noise, we strive round-the-clock for technology improvement.

Camshaft / Transmission Gear (Engine intake/exhaust valves / Shift mechanism)



Camshafts, the heart of a car, control engine intake/exhaust valves. Transmission gears transmit the engine revolution to the rpm adequate for driving.

Ball Joint Assembly (Suspension and steering component)



Not only connecting the body, handle and tyres, this also plays a critical role of absorbing vibration and impact from road and stabilizing while steering. Wear resistance and high-durability as well as lightweight need to be pursued.

Parts for Motorcycles

Gear Assembly (Shift gear mechanism)



The transmission mechanism converts the engine output to the optimal rpm and transmits it to rear wheels. This requires high-precision to achieve a better fuel efficiency and lower noise and vibration.

Camshaft / Other (Engine intake/exhaust valve / other)



Along with a better fuel efficiency, high-precision and durability need to be achieved to withstand 10,000 rpm.

Musashi Group

We have established a global production and supply system which meets customer needs in the world.

Musashi Group Global Network



| Region | No. of companies | Major group companies | | | No. of production units | No. of employees | Sales volume (mil. yen) |
|---------------|------------------|--|--------------------|--------------|-------------------------|------------------|-------------------------|
| | | Company name | Location | Abbreviation | | | |
| Japan | 3 | Musashi Seimitsu Industry Co., Ltd. (this company) | Aichi, Japan | MSI | 7 | 2,044 | 28,778 |
| | | Kyushu Musashi Seimitsu Co., Ltd. | Kumamoto, Japan | KMS | 2 | - | - |
| | | Asadokatan Chutetsusho Co., Ltd. | Kyoto, Japan | - | - | - | - |
| Asia | 6 | Musashi Auto Parts (Zhongshan) Co., Ltd. | Guangdong, China | MAP-CH | 10 | 8,647 | 79,120 |
| | | Musashi Auto Parts (Nantong) Co., Ltd. | Jiangsu, China | MAP-NT | | | |
| | | Musashi Auto Parts Co., Ltd. | Thailand | MAP-TH | | | |
| | | P.T. Musashi Auto Parts Indonesia | Indonesia | MAP-IN | | | |
| | | Musashi Auto Parts Vietnam Co., Ltd. | Vietnam | MAP-VN | | | |
| | | Musashi Auto Parts India Pvt. Ltd. | India | MAP-ID | | | |
| North America | 3 | Musashi Auto Parts Michigan Inc. | USA | MAP-MI | 3 | 1,316 | 43,753 |
| | | Musashi Auto Parts Canada Inc. | Canada | MAP-CA | | | |
| | | Musashi Auto Parts Mexico, S.A. de C.V. | Mexico | MAP-MX | | | |
| South America | 2 | Musashi do Brasil Ltda. | Pernambuco, Brazil | MSB | 2 | 1,076 | 8,357 |
| | | Musashi da Amazonia Ltda. | Amazonia, Brazil | MDA | | | |
| Europe | 2 | Musashi Hungary Manufacturing Ltd. | Hungary | MHM | 9 | 3,302 | 77,900 |
| | | Hay Holding GmbH | Germany | HAY Group | | | |
| Total | 16 | | | | 33 | 16,385 | 237,109 |

※The number of employees and sales amount are as of March 31, 2018.

※Since we acquired “Asadokatan Chutetsusho Co., Ltd.” in October 2013, their employees and sales are not included in the total.

Musashi Philosophy

Musashi Philosophy is a key trinity which consists of 3 elements: "Sprit of Foundation", "Corporate Mission" and "Guidance for Conduct."

Sprit of Foundation



Shitsujitsu-Goken
(Simple and Sturdy)

Shisei-Ikkan
(Consistent Sincerity)

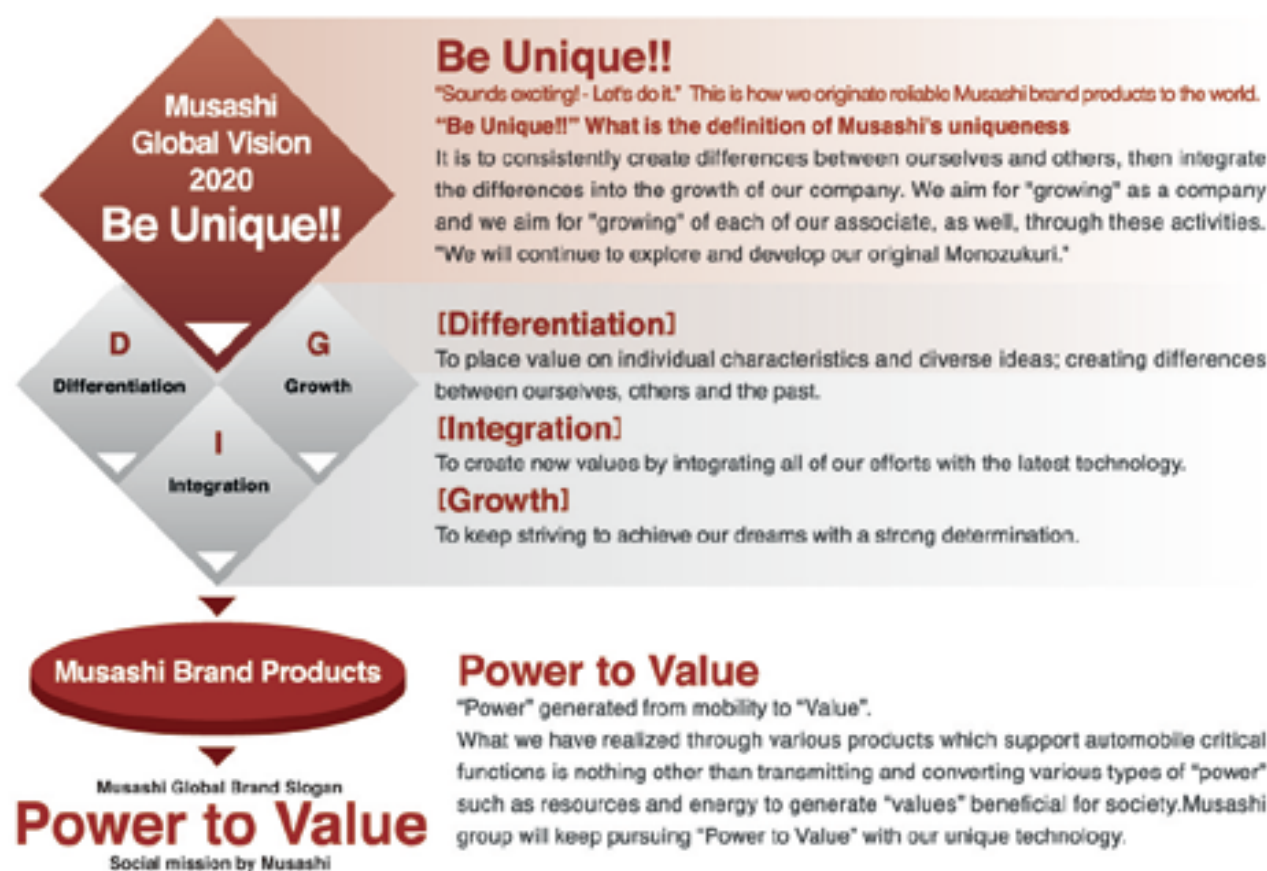
Corporate Mission

We will continue to explore and develop our original Monozukuri and thereby contribute to the global society by providing trusted and attractive products.

Guidance for Conduct

1. Customer first
2. Integrity
3. Resourcefulness
4. Hard work
5. Cooperation for the common goal
6. Remember our rights and responsibilities

Musashi Global Vision 2020



Musashi Group's Approach to Sustainability

Musashi Group resolved the "Basic Policy of Musashi Group for realization of sustainable global society" in the Board of Directors.

While the economic and social impact of corporations is increasing, providing society with values continuously and discharging corporate responsibilities for realization of sustainable society are the key issues for the mid/long term growth of Musashi group.

Musashi Group will promote activities for realization of sustainable society as a company trusted by people in the world and as a company contributing to the sustainable development of global society.

"Basic Policy of Musashi Group for realization of sustainable global society"

"We will continue to explore and develop our original Monozukuri and thereby contribute to the global society by providing trusted and attractive products."

This corporate mission is expressing basic attitude of Musashi Group for realization of sustainable global society.

Based on this corporate mission, we will contribute to sustainable development of the global society through our overall business activities from these two aspects below.

Creating Shared Value

We will continue developing "our original Monozukuri" and providing "attractive products" which can contribute to sustainable "global society" development.

Social Responsibility as a Global Company

To be a company which is "trusted" by people around the world, we will positively contribute to develop better society.



-Social mission- Power to Value



7 core subjects of ISO26000

Creating Shared Value

-Contribution to the social development through business activities -

Musashi's strength originates in "Unique Monozukuri": an integrated production system, precision forging technology and a global production/sales system. The core of Musashi business is to develop/provide "attractive products" for improvement of the mobility comfort and safety, and for a lower environment load through "Unique Monozukuri".

Creating and providing beneficial "values" for society through our business is the realization of "Power to Value." And that is essential for Musashi to contribute to the sustainable development of global society and to be needed by society.

Social responsibility as a global company -CSR promotion-

As the base of business practices, striving for solving various problems such as climate change in global society and communities is one of the important corporate responsibilities.

To discharge our responsibilities, we adopt the ISO26000 as the guidance to see the current condition of sustainability activities and to sort out issues. And we promote activities for a better society with our employees, customers, suppliers and local communities.

"Be Unique!!" Drives Innovation

The automobile industry is facing a once in a hundred year shock. The technology advancement such as CASE* ushers in an era that the existing automobile industry is affected significantly.

Now, in the phase of transition, is the perfect timing for us to take a new challenge for the future. We will contribute to the development of global society by enhancing the current business and innovation.

*CASE stand for "Connected", "Autonomous", "Shared", and "Electric."

AI Project

Based on the concept "human jobs for human", we are innovating manufacture by implementing AI in production fields.

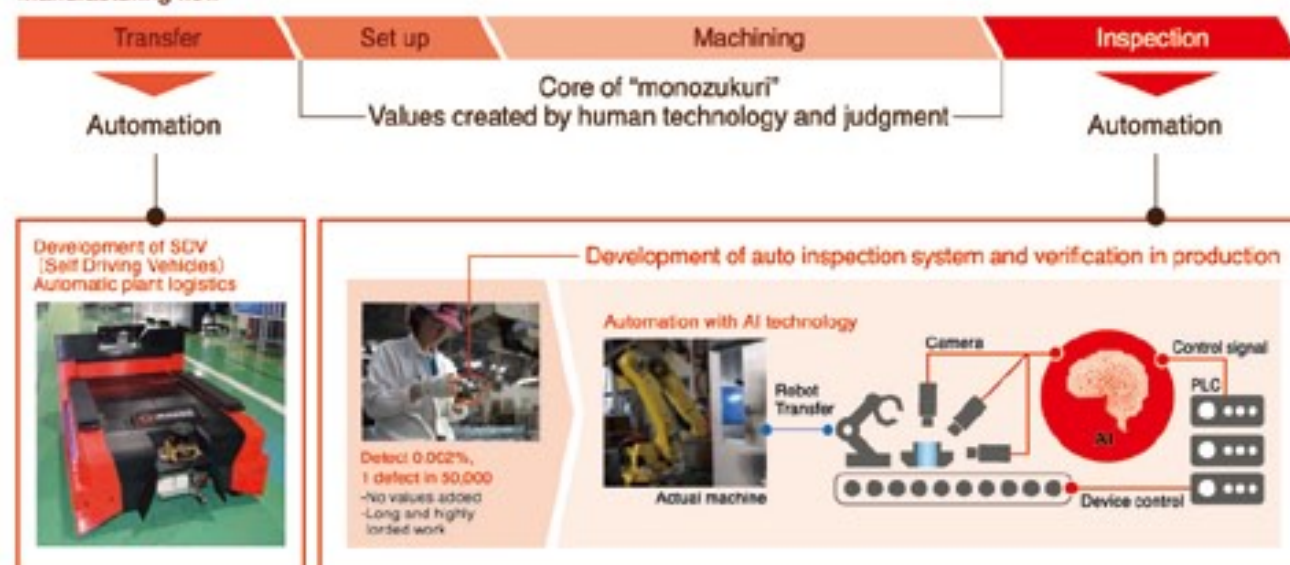
Our products are delivered to customers through the process of transfer, machining, and inspection. Machining, in particular, is the core of monozukuri where values are added by human technology and judgment. The transfer and visual check process, on the other hand, is highly repetitive and overloaded working routine, and does not produce significant added value. Human

beings, however, are naturally supposed to be creative. Repetitive work can be automated so that people can create something new and keep developing their work. We are taking a challenge of creating an environment allowing people to take meaningful and human jobs.

We aim to keep providing our group plants, as well as global manufacturers, with a wide range of technologies.

AI System under Development for Creating New Values in Production

Manufacturing flow



Drive innovation in production with "Monozukuri x AI" Human jobs for human!

Topics



April 4th - 6th
Participated in
the "2nd AI EXPO"
at Tokyo Big Site



September 13th and 14th
Participated in
"GTC Japan 2018"
held by NVIDIA

MUSASHi Innovation Lab CLUE, Now Open

On December 17th 2018, we opened "MUSASHi Innovation Lab CLUE" located in COCOLA AVENUE, a commercial complex directly connected to Toyohashi Station. We need to establish an ecosystem able to provide solutions for current social issues found in such a very crucial transitional phase. Cooperating with industry, government and academia, CLUE provides a common space where various people who are undertaking innovation can meet, and promotes encounters, raised by unique technologies and outstanding ideas, aiming to start business in Toyohashi.



Musashi Innovator's Gate 2017 – New Business Creation Project

In 2017 we started the "Musashi Innovator's Gate 2017", an in-house recruitment project of creating new business which is not on an extension of our existing business, for the purpose of launching new business responsible for the next generation. This

project recruits voluntary innovators who study new business from scratch and bring it into reality.

Currently, 2 teams born from the project are working full-time on commercializing their business ideas.

Two teams are taking a challenge for commercializing their business ideas to solve social issues.

baby
ing

Service name: babying

Social issues: Fewer children, women's participation in society
Theme: From "alone caring" to "co-caring"
Visualize kids as of "now" and share it with a couple to support "co-sing"



Service name: Ryouhou

Social issues: Aging of agricultural workers, lack of workforce
Theme: Connect farmers who want workers with individuals who want to work
Using our manualized work technology fostered in the manufacturing field, make know-how of farmers manualized and share it with the inexperienced people to lead their employment.

Comprehensive Cooperation Agreement with Toyohashi University of Technology

On October 18th 2017, we concluded the agreement of comprehensive cooperation with Toyohashi University of Technology to encourage the application of research results to society and to develop global human resources from technology. The agreement promotes the collaboration of researching elements essential for monozukuri innovation including AI application and new material development.



Machinery & Tools Business Unit Starts Solution Business

Machinery & Tools Business Unit manufactures equipment, prototypes, dies and tools supporting Musashi monozukuri. The unit was transferred from Head Office to a dedicated building in November 2017 to incorporate the latest equipment and technology.

In addition to the enhancement of the existing business, we will utilize the technology we have fostered to develop solution-type business for clearing external customers' struggles. We will contribute to the further development of monozukuri with attractive and unique products as well as plant support.



Contribution to Sustainable Development of Mobility and Global Society

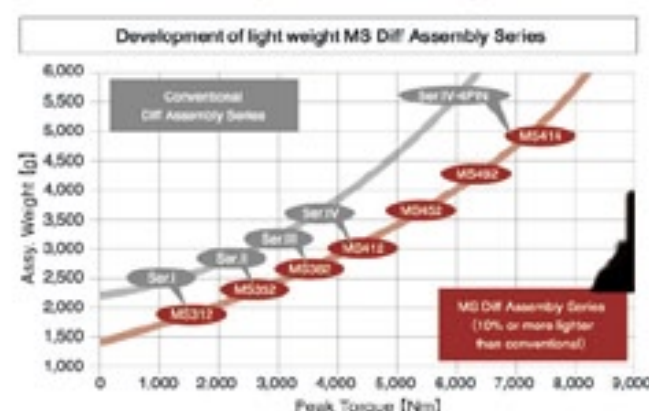
In order to contribute to the sustainable development of the global society by creating a "shared value" with society, through the production and supply of automobiles parts, we support the popularization of the automotive industry and contribute to the improvement of automotive functions such as fuel efficiency and safety. Additionally, we are working to expand product lineups, develop "unit product" by combining technologies, and improve competitiveness.

Product Development to reduce Environmental Impact of Mobility

Development of lighter weight MS Diff Assembly

The lightweight diff assembly (MS Diff) with self-developed bevel gears achieves 10% or lighter than the conventional. The MS Diff Series reduce vehicle weight and improve fuel economy in every torque bands from compact to large vehicles.

In FY2017, lightweight bevel gear module corresponding to high torque according to motorization it was developed.



Environment for Research and Development

Simulation Technology of Developing Products

We are evaluating developing products with an active use of CAE* simulations technology. This helps to shorten a developing period and to reduce energy and resources spent for prototyping and testing significantly.

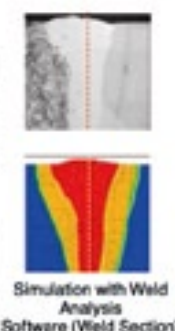


*1 An abbreviation for Computer Aided Engineering. Use a computer to design products and pre-study manufacturing and process design (simulation and numerical value analysis).

Initiatives for Virtual Prototyping

Conventionally, weld quality was assured through trials and errors. We established weld distortion and stress forecast technology utilizing CAE software. By this technology, time and resources for prototyping was dramatically decreased.

We continuously promote research of testing method, installation of test equipment, and improvement of accuracy of analysis which can replace real piece test.



Response to Change in Automobile Mechanism (Electrical Driven Specs)

While the automobile mechanism is changing rapidly, like the electrical driven specs, we take the advantage of such environmental changing as an opportunity. It is very feasible for us to manufacture key transmissions components for electric motors, right before the line, including diff and planetary assembly. In the development area, the installation of new test equipment, for single and assembled planetary products, and the introduction of CAE Analysis Technology, enhance our capacity to submit proposals, development and reliability of single and assembled products.

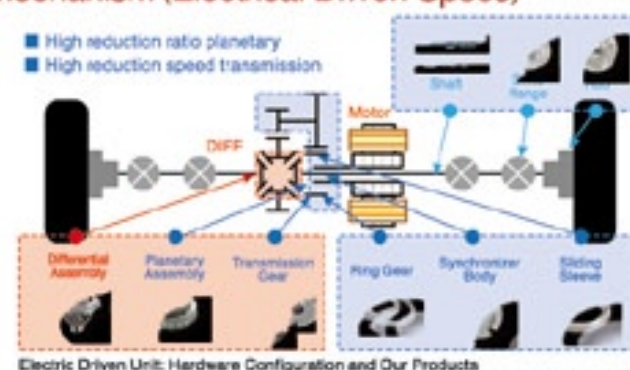
By catching quickly the change of stakeholders needs, and designing a system to create technology, products and services rapidly, we are at the same time contributing to the advancement of mobility.

Research of Electric Units

We are promoting advanced research of unique electric units for hybrid/electric vehicles and electric personal mobility.

By deploying the requirements for whole vehicle body, to each unit, assembly and part, and then simulating their behavior using CAE technology, we are creating our original compact electric driven unit with high efficiency and low noise. Also, by promoting study of electric unit control models, using rapid prototyping and analysis for required performance, based on ISO26262, we are developing EV units to improve the efficiency of our customers.

*2 A prototyping method for product development. Its purpose is rapid prototyping for making simple prototypes to confirm shapes.
*3 International safety specs subject to electrical and electronic hardware / software installed in automobiles.

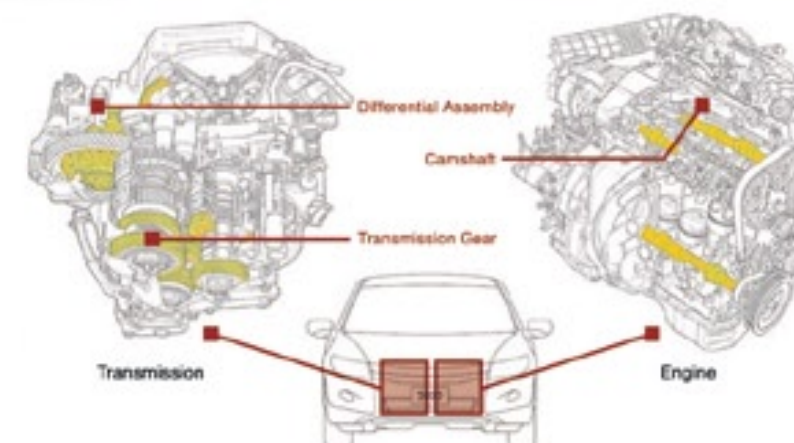


Initiatives in Power Train Business

Products and Technical Features in PT Business

PT Business develops and manufactures camshafts which control the timing of opening and closing intake/exhaust valves of an engine; transmission gears and planetary assembly which convert and transmit engine revolutions to optimal driving revolutions; and differential assembly which receive engine torque on the input shaft and allocate it to 2 output shafts (on right/ left wheels) with an applicable difference in revolutions.

The MS Diff with self-developed bevel gears achieves 10% or lighter than the conventional, and contribute for less vehicle weight and better fuel economy. By building a mass production system and expanding the MS Diff Series covering torque bands from compact to large vehicles, we provide customers globally with compact, lightweight, low-cost diff assembly for each vehicle.



Development and Forecast of PT Business

In the area of products and manufacturing, in addition to the established compact and lightweight MS Diff series, we are building a reputation "Musashi, high precision" by pursuing gear techniques good at strength and silence in large diameter gears such as final driven gear which is installed in diff assembly.

In sales, the business regarding differential assembly, transmission gears, and gears and shafts for speed reduction functions are expanding. Chances for expansion of PT business are increasing along with the change of automobile mechanism to electric drive. We are expanding business in this growing market.



PT Business Topics

High precision gears delivering high efficiency and low noise are required for the speed reduction mechanism used in electric vehicles.

By evolving surface finishing process, utilizing our technologies, including processing, analysis, evaluation and mass production, we became able to product high precision gears which satisfy the customer's requirements.

On the other hand, we aim to improve our competitiveness by developing production technology of gears and shaft utilizing high speed forging technology.

Initiatives for High Precise Gear Production

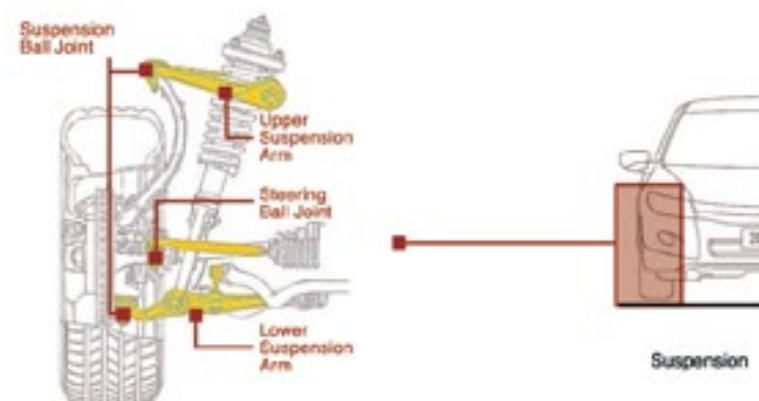


Initiatives in Linkage & Suspension Business

Products and Technical Features in L&S Business

L&S business covers ball joints, important security parts requiring high reliability, which are used in the joint between the tire and the vehicle. The ball joint works as a joint while steering or tire movement according to dents and bumps on the road and contributes to smooth steering and comfort driving. We are providing compact and light weight ball joints to our customers with an optimal shape and size for each vehicle. To

achieve this, designing process by highly-accurate simulation technology and the integrated inner process through design to evaluation are established. By which, we are contributing to a better driving comfort and fuel efficiency. Compact, lightweight, and low-cost ball joints can be manufactured and provided globally with a highly-efficient production system based on the size series.



Development and Forecast of L&S Business

With highly-precise simulation, we are expanding the business of compact and lightweight ball joints, particularly in North America and China where market size is big. We are establishing the Musashi brand by pursuing low cost manufacturing method of ball joints which is strong, durable and good at friction performance to improve drivability and comfort.



L&S Business Topics

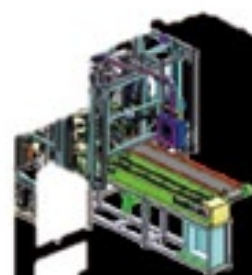
Establishment of Product Development Center in China

Product development center, as a basis for development and evaluation of suspension and steering products, was opened in Nantong, China. We strive to expand business in China by catching the customer needs quickly and realize it smoothly, maximally utilizing this development center.



Global Widespread of Compact Automatic Assembly Machine

We designed in house a compact automatic assembly machine (the one-third of the conventional one). This equipment was completed based on technical exchange with other affiliates with the intention of global use. It was installed in China in this year and is in operation in Canada, Japan and China.



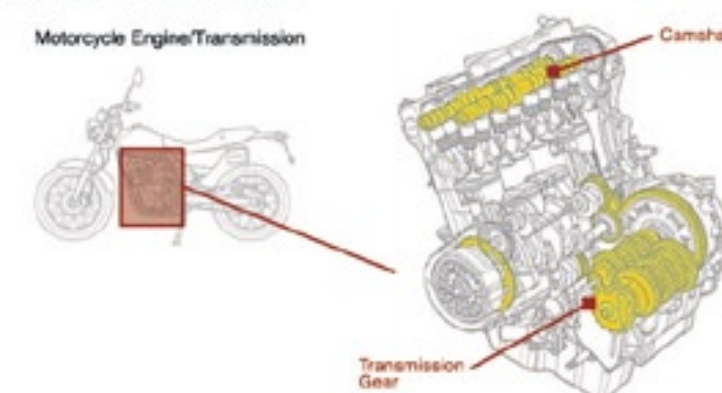
Initiatives in Motorcycle Business

Products and Technical Features in Motorcycle Business

Transmission gears, camshafts and other drive parts for motorcycles, general-purpose engines, and ATV* are manufactured and supplied to customers in the world. Utilizing the accumulated design and machining technology for the world-share No.1 production volume, we are promoting the development of new products for small-size motorcycles for the new developing countries. Technology

*An abbreviation for All Terrain Vehicle. "All Terrain Vehicles" are vehicles with engine or motor which designed to handle a wider variety of terrain than most other vehicles.

developed in Japan is applied in large-size premium models actively for the local procurement to meet customer needs in the world. With a stronger analysis and evaluation system of noise and vibration, we work on responding to environmental regulations, growing as a critical issue recently.



Development and Forecast of Motorcycle Business

Our precision forging technology and global production system help us to establish a system to ensure mass production capable of 1 million per model per year to keep expanding the motorcycle market.

A synergy effect in the motorcycle business is also being created by the forging technology and customer network of Musashi Europe, as well as by high-speed forging technology with many HATEBUR machines. In FY2018, we are starting business with new customers outside Japan. Accelerating the development of products responding to environmental regulations and electric specs and the establishment of new technology for a stronger competitiveness, we are expanding the market share and customer satisfaction.

World Annual Sales of Vehicles with the Group Products: 17.4 million

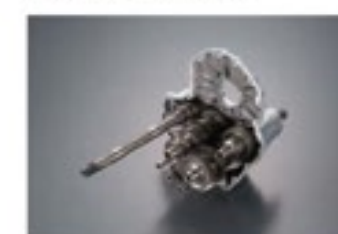


Motorcycle customers:
Honda, Suzuki, Kawasaki Heavy Industry, FCC, BMW Motorrad, Triumph Motorcycles Ltd., Hero Moto Corp Ltd.

Motorcycle Business Topics

Start of Mass Production for BMW Motorrad

Mass production of "BMW K5x GEARBOX Cover Assembly", a module product, was started in July 2018. By expanding our assurance responsibility range from unit parts to module and assembly products, we became able to provide greater additional value to our customers.



BMW K5x GEARBOX Cover Assembly

Installation of HATEBUR press (HM35) in Indonesia

HATEBUR press (HM35), a hot forming machine, was installed in Indonesia. Compared to current hot forming machine it is 10 times faster in terms of production. We will keep striving to improve our forging technology by incorporating hot forming technology into Musashi group.



HATEBUR Press

Initiatives in Forging Technology Development

Outline and Features of Forging Technology

One of our Group strengths is an "integrated production system" from forging and cutting through to assembly. The first process is "Forging" which is a cornerstone of an optimal production system by taking a challenge of precision forging for complex gear and by eliminating complex and fine machining processes later.

In Global T-Forge® (Musashi Forging workshop), we exchange our opinions on forging methods and problem solving periodically with

• Forging experts from various sites and divisions get together to share and discuss deeply about latest technology, struggles, and development cases.

forging engineers across the world to equalize the high forging technology level as well as to keep innovating forging technology.

By unifying with Musashi Europe, the range of forging technology expanded significantly. We are striving to fuse the strength of Musashi Europe's high-speed forging technology with Musashi's high-precision forging.

Basic Concept of Forging Technology Development

Main Improvement Points in Forging Engineering

- Process Design by Accumulated Forging Technology
- Formability Verification Through Simulation Technology
- Challenge to a Highly-Efficient Forging

In the forging area, "load reduction" and "fewer processes" after forging are constantly required. We have been taking a challenge of saving machining to achieve both the reduction of environmental load and the improvement of productivity by reducing processes and allowance, regardless of new or existing production.

Forging Technology Topics

Regional "Global T-Forge"

Regional "Global T-Forge" activities started as part of the forging group activity since 2016. Splitting the Musashi affiliates into three regions (North America, South America, and Asia), forging engineers meet in one place to discuss technical matters face-to-face, present struggles and improvements, and exchange opinions.

Regional "Global T-Forge" of this year was held in Thailand where 20 engineers gathered from Japan, Vietnam, Thailand, India and Indonesia to exchange technical opinions for 3 days. This provided the engineers with a good opportunity to raise their motivation and engineer level by visiting other plant and by bringing back their experience to their plant.

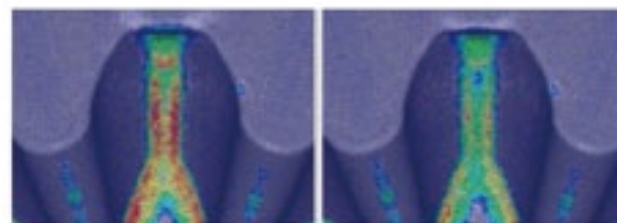


"Global T-Forge" in Thailand

More Accurate Forging Simulation

Forging technology focuses on a better forging simulation accuracy to achieve a smoother launch of new models and complex shape parts and less material waste generated from prototypes.

By effective use of the forging analysis, better middle process form and new die design could be adopted, realizing reduction of testing time by real machine and longer lifetime of the die. Improving the analysis accuracy more, we are working on the product quality improvement by tool life forecast.



Example of Simulation of Stress Test
(Left: Before Improvement, Right: After Improvement)

Services Provided by Machinery & Tools Business Unit

Outline and Technology Features

The Machinery & Tools Business Unit manufactures equipment, prototypes, dies and tools that support "Monozukuri"

[Dedicated machines]

1. Automatic transfer from material supply to unloading
2. Automatic assembly: Automation of manual work conventionally completed by skilled workers
3. In-line inspection: Automatic measurement in the integrated process

Mechanical design



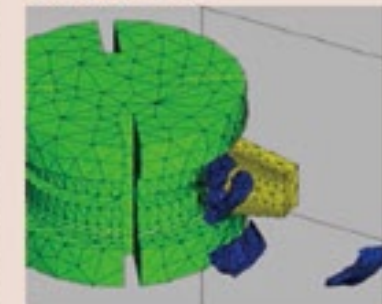
Automatic assembly machines



[Prototype manufacturing]

Using original jigs, tools and dies, the Unit provides prototypes meeting the need in a short time. Cutting simulations are used to realize highly efficient products with high quality.

Cutting simulation



Process design



[Cutting tools]

An image of optimal machining methods is created with precision cutting simulations. According to customer needs, the Unit provides highly efficient and long-life cutting tools including drills, end milling tools, and reamers which are not on brochures.

Original cutting tools



High-performance CNC tool grinding



Business Development and Future Vision

In November 2017, Machinery & Tools Business Unit moved to a new plant and incorporated the latest equipment and technology. In 2018, using the monozukuri supporting technology that has been fostered internally, the Unit started the solution-oriented business to clear struggles of outside customers. The Unit strives for business development not only in the automobile industry, but also in a wide range of manufacturers. Adding the AI and IoT technology to the automation technology we have been working on so far, the Unit also sets out to provide production environment that can add more values.



Corporate Governance

Musashi Group is working on full corporate governance to respond to social expectations and responsibilities towards us.

Concept and System of Corporate Governance

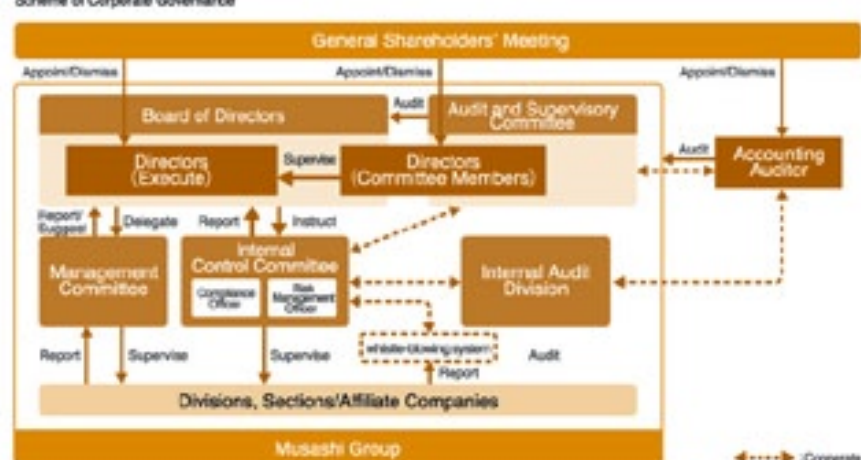
Musashi Corporate Governance

The Group considers full corporate governance as one of the critical elements for management. In October 2015, to clarify the policy for our activities and to improve our corporate value, the "Basic Policy for Musashi Corporate Governance" was defined according to each principle specified in the "Corporate Governance Code" issued by the Tokyo Stock Exchange. To respond to our stakeholders both inside and outside, we will strive to fulfill corporate governance more for the sustainable growth of the company and for the improvement of the mid/long term corporate value.

Basic Concept of Corporate Governance

Based on "Musashi Philosophy" consisting of "Spirit of Foundation," "Corporate Mission" and "Guidance for Conduct," the Musashi Group develops its business and defines the "Basic Policy for Musashi Corporate Governance" to fulfill corporate governance which is considered as one of the critical elements for management.

Scheme of Corporate Governance



Basic System of Internal Control

The Company has the Internal Control Committee consisting of Directors and Executive Officers which deliberates internal control matters including corporate ethics and compliance.

The Internal Control Committee receives reports from related sections, committees and subsidiaries on the status of design/operation of systems and policies in terms of compliance, information control, risk management, efficiency of business execution, and group governance. The Committee deliberates global internal control matters. Each section and subsidiary conducts self-assessment on internal control every year to clarify issues for the continuous improvement in internal control.

Schematic diagram of Internal Control



System to Ensure the Efficiency of Business Execution

For an immediate and optimal management judgment, officers are appointed dividedly for business strategic functions and regional business operation functions. Regional operations are deployed to each region, and CEO, COO, CFO are appointed basically in each region to establish efficient operation system. Also, to improve the optimization and efficiency of the entire group, the GTM (Global Top Meeting) is held to share policies with the group companies, to identify issues for the realization of management plans, and to discuss how to respond to it.

Business Execution Functions

| Business Function | | Regional Operation |
|-----------------------|---------------------------|--------------------|
| Sales | Manufacturing Engineering | Europe |
| R&D | Quality Assurance | America |
| Forging Engineering | Purchasing | Japan |
| Production Management | PT Business | Asia |
| IT | L&S Business | China |
| Human Resources | Motorcycle Business | |

*CEO, COO, CFO are appointed in each region.

Group Governance System

Application / Report on Business Executions

The Company has the "Regulation on Control of the Affiliate Companies" to ensure appropriate executions of its Group companies. Based on the Regulation, the Management Committee and the Board of Directors receive application/report on executions by degree of importance.

Self-Assessment

Each Group company conducts an annual self-assessment on internal control based on the checklist provided by MSI. Results and issues are shared by the MSI Internal Control Committee and section in charge of internal control to improve the entire group system continuously.

Audit Conducted by MSI Auditor

The "Internal Audit Office" independent from business executions conducts a periodic audit on the Group companies.

Scheme of Group Governance



Compliance System

Basic Concept of the Compliance System

While the global business of the Group developing, to discharge corporate responsibilities including corporate ethics and compliance, each of us should be aware of society through our daily work and take initiatives.

To respect culture and customs of various countries and regions and develop global business more at the same time, "Musashi

Compliance Guidelines" have been defined as shown below to specify our daily efforts. "Musashi Compliance Guidelines" written in Japanese and English as principle languages have been translated into the language of each region and country to share the understanding with all of the Officers and employees of each Group company through various education and training opportunities.

Musashi Compliance Guidelines

1. We will actively participate in activities that contribute to the well-being of society.
2. We will freely and willingly comply with all laws and regulations.
3. We will seek ways to protect the environment.
4. We will strive to provide a safe and healthy working environment.
5. We will abide by all traffic rules and regulations and drive safely.
6. We will respect and embrace the uniqueness and differences of each individual. We will respect human rights and will not tolerate forced or child labor, or any form of harassment.
7. We will do our utmost to respect and protect each individual's privacy.
8. We will pay the utmost attention to the appropriate handling of confidential information including drawings, documents, information and data.
9. We will conduct fair and sound transactions. We will not enter into any improper trade agreements or cartels, or abuse any dominant bargaining positions.
10. We will reject all contacts with organizations involved in activities in violation of laws or accepted standards of responsible social behavior and safety.

Compliance System

The Company promotes a systematic approach: the appointment of a Compliance Officer who promotes compliance, and the deliberation of corporate ethics and compliance matters in the Internal Control Committee.

An annual self-assessment is conducted with a checklist to see the status of compliance. Measures are taken against high risk items according to plans. The Company also sets a section in charge of grasping information on the amendment of laws related to our business, which informs the legal amendment company-wide immediately and reflects the self-assessment checklist.

Schematic diagram of Compliance Management system



Whistle Blowing System

The Company provides Musashi corporate ethics window, a whistle blowing window, (so called "Open Door") to receive suggestions on corporate ethics and compliance. This system is designed to preserve the privacy of the person who made the proposal and to protect him/her so as not to suffer disadvantage by proposing. And anonymous proposal can be accepted. To make it more effective, there are 3 windows; an internal window, Audit & Supervisory, and an external lawyer to provide a better environment for making suggestions.



Risk Management and Business Continuity Management

Risk Management System

The Company has established a risk management system appointing one of the Officers as a Risk Management Officer who promotes a systematic risk management activities. Risk management at ordinary times includes measures by each section for risk reduction/moderation and preparation of procedures in case of risk. Self-assessment is conducted on a regular basis to see the status of management for continuous improvement.

Crisis Response and Business Continuity Management

The Company has regulations which define what the organization and employees should do in case of crisis. Also, the regulations have been applied in the Group companies.

In Japan, the Company has created a Business Continuity Plan (BCP) intended for a large-scale earthquake as one of the biggest risk in business continuity. Education and training based on BCP is provided on a regular basis. We reflect drill results and update/revise BCP periodically to improve the capability against risk in business continuity.

Business continuity management system



Basic Policy of BCP

- (1) Prioritize the safety of human life
- (2) Comply with laws and agreements
- (3) Respond to customer needs and assure stakeholders' profits

Together with the above basic policy, cooperate with local communities and support the recovery and restoration of our partners necessary for product supply.

Information Management System and Security Control

The Company defines regulations on documentation control and storage period to control/store work related information.

The system of security control is in place by defining a basic policy on handling. The regulation on security control clarifies "10 items to comply" including the "Need-to-Know principle" to specify rules of each item so that access, usage, copy, storage or taking out of confidential information can be limited and controlled. Training programs on security control are provided for

all of the employees to ensure their understanding and a proper operation of rules/system.

The Company also prepared the "Social Media Guidelines" summarizing what to be focused in official/private use of social media which has become common recently. The Group companies also apply the Guidelines to protect them and their employees from risk such as slander through social media, security violation, and lawsuit.

Basic Policy for Security Control

Information is our precious property.
Based on the "Musashi Philosophy," we protect confidentiality of the Musashi Group and customers.

- ① Recognize that information in the Company is precious property and act accordingly.
- ② Make full efforts to prevent risk of leak of internal / external information (including recovered).
- ③ Share the common recognition with all Musashi Group companies to work on security control.

10 Items to comply

- ① Need-to-Know principle
- ② Confidentiality rank setting and control according to the rank
- ③ Prohibition of use of confidential information apart from work (including the retired)
- ④ Control of external use of confidential information
- ⑤ Copy/Distribution/Sending control of confidential documentation
- ⑥ Storage/Saving/Disposal control of confidential information
- ⑦ Control of outsourcing confidential information
- ⑧ Control of internal computers/networks
- ⑨ Control of PC/communication devices/media
- ⑩ Control of entry/exit

Environment

Musashi considers stakeholders' requests and expectations include developing and providing products which contributes to the prevention of global warming and the reduction of environmental impact throughout the product life cycle. Each of the global affiliates is working on the reduction of environmental impact from both "products" and "production" perspectives.

Environmental Issues Surrounding Musashi Group

In December 2015, the 21st Conference of the Parties (COP21) for the United Nations Framework Convention on Climate Change adopted the Paris Agreement, a new framework of greenhouse gas emissions after 2020.

The Paris Agreement is a legally binding international framework since the Kyoto Protocol adopted 18 years ago. The Agreement specifies "holding the increase in the global temperature to well below 2 °C and to pursue efforts to limit the temperature increase to 1.5 °C."

The Kyoto Protocol obligated only the developed countries to reduce greenhouse gas emissions; however, the Paris Agreement concluded all countries including developing countries should reduce greenhouse gas emissions too. The Agreement recognised that

global warming is now a world-common issue.

Under such circumstances, Musashi Group which develops its business globally recognizes that measures against global warming are one of the critical group-wide issues.

Not only saving energy and reducing environmental impact in production processes, but also our stakeholders including customers are requesting and expecting us to develop and supply products which contribute to reduce energy consumption and environmental impact while these are in use.

To respond to their requests and expectations and to be a "company trusted by people around the world," our global production sites are working on the reduction of environmental impact including energy and resource saving from "product" and "production" perspectives.

Global Environmental Management Promotion System

Musashi Group is advancing environmental management under the ISO14001 standard. Based on the standard, we have conducted activities, the quantitative grasp of the environmental data, and information sharing regarding technologies and measures for environmental impact reduction.

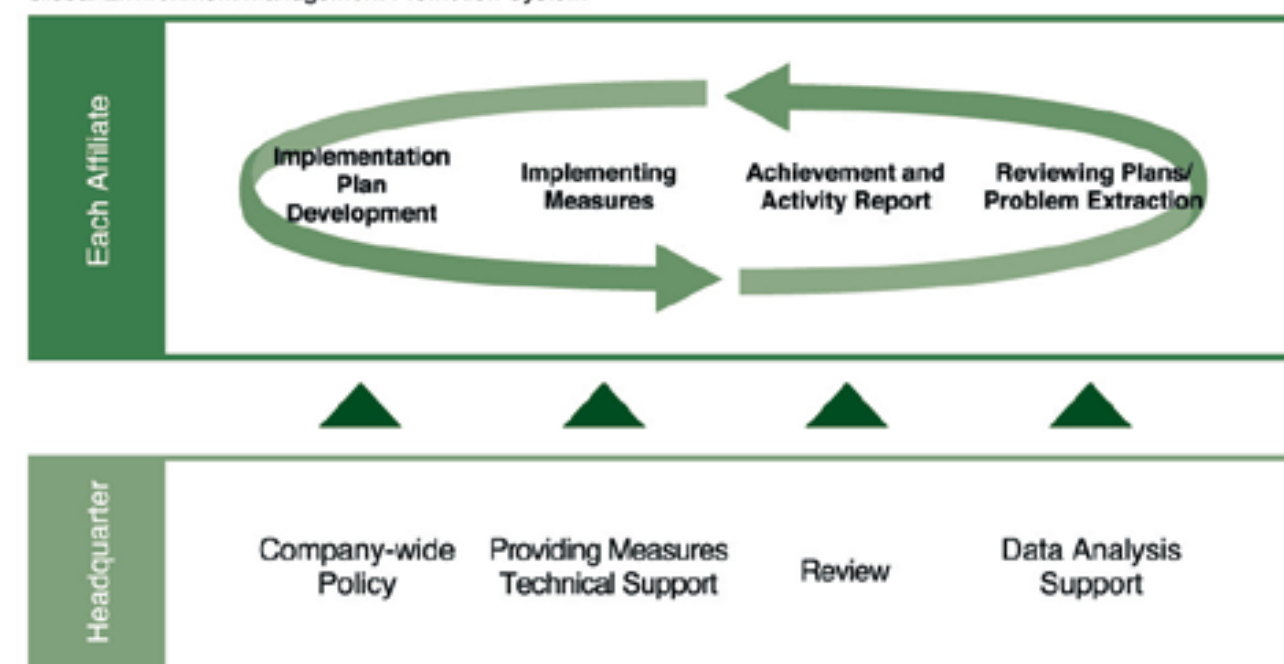
Various environmental data in each region is shared between the affiliates and headquarters each month and its achievement and activities are reviewed at the "Global Top Meeting" represented by all

*A meeting attended by management of all global sites to share group policies, identify issues for realizing management plans, and discuss actions to be taken.

management.

Collection of actual cases of environmental improvement reported from each region has been published on the company intranet. We also share advance improvement activities in each region at the Global QC Circle Convention. These measures and activities for reducing environmental impact are planned and promoted continuously across the Group.

Global Environment Management Promotion System



Environmental Policy

Basic Principle

Musashi recognizes that environmental preservation is one of the most important problems as a member of society. We preserve the global environment and enhance mankind's prosperity through its corporate activities for the society and the environment. We set the following guidelines toward achieving the goal to maintain the spirit of innovation.

Basic Policy

We will continue to explore and develop our original Monozukuri and thereby contribute to the global society by providing trusted and attractive products.

To realize this corporate mission, we globally establish environmental management system based on the guidelines stated below.

- ① Not only complying with law regulations, Musashi establishes the necessary self-imposed environmental targets for meeting social and stake holders requirements. Musashi promotes environmental preservation activities, including reduction of Green House Gas, Waste water, Air pollutant, Noise, Odor, Vibration, Waste, Hazardous materials, Soil contamination.
- ② Musashi reduces environmental load as much as possible in all business area of the organization. Musashi shall continuously endeavour to maintain and improve our environmental management system to improve our environmental performance.
- ③ Musashi ensures the effective use of energy and other resources and pursues the appropriate management of chemical substances and reduction of waste, in every lifecycle stage of our products and all aspects of business activities.
- ④ To protect and preserve our global environment, Musashi implement environmental conservation actions and endeavour that all individual working in or for our organization keep awareness of environmental protection.

We establish objectives, targets and action plans to achieve these policies. And, we review and revise them for every fiscal year according to the law regulation, environmental aspects of our business and opinion and requirement of stakeholders.

Also, we ensure that all individuals working in or for our organization are fully aware of these environmental policies by posting and disclosing these policies. And, we make these policies available to all stakeholders.

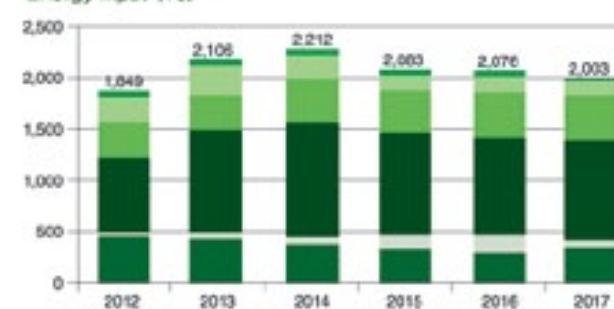
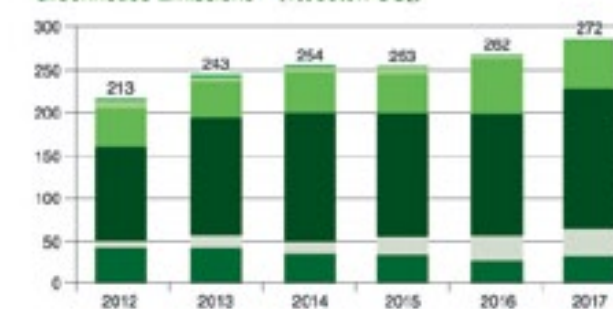
April 1, 2018

Environmental Impact and Reduction Initiatives in Production Sites*1

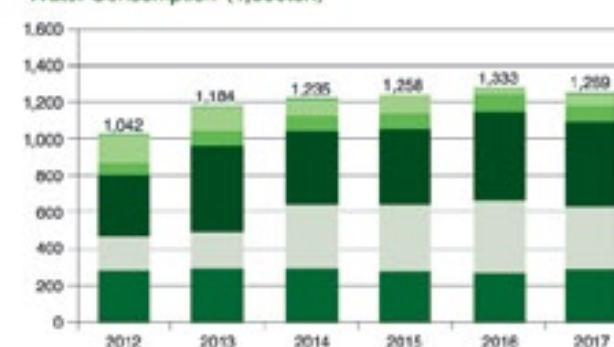
Our production sites in the world have been continuously promoting the reduction of environmental impact such as

resource/energy saving and waste reduction to contribute to the development of a sustainable society and planet.

Energy Input (TJ)

Greenhouse Emissions*2 (1,000ton-CO₂)

Water Consumption (1,000ton)



Waste Emissions (ton)



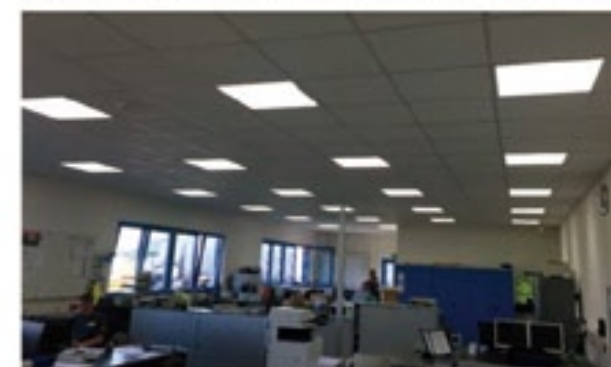
■ : Europe ■ : South America ■ : North America ■ : Asia ■ : China ■ : Japan

*1 Since FY 2016 MAP-MX and MAP-NT have been added for calculation. For the HAY Group, it is not subject to calculation in fiscal 2016.

2 Calculation protocol of greenhouse emissions refer mainly to WRI/WBCSD (2004), The Greenhouse Gas Protocol (Revised Edition) for Scope1 and Scope2. Scope2 is calculated by using for 2010 electric power emission factor from International Energy Agency (2013), "CO2 Emissions From Fuel Combustion Highlights 2013".

Installation of High Efficiency Lighting (LED) (MEU : Germany)

52 sets of LED lighting were installed in office area. It resulted in 125 ton of CO₂ and 10,000kWh electricity saving annually.



Energy saving by Changing Processing Conditions (MAP-CH : China)

Processing Conditions of GNS furnace for 4 types of parts were different each other. Therefore, it took a long time to change processing conditions and wasted time and energy. By changing and unifying processing conditions, switching times were decreased and 52.4 ton of CO₂ emissions could be reduced.



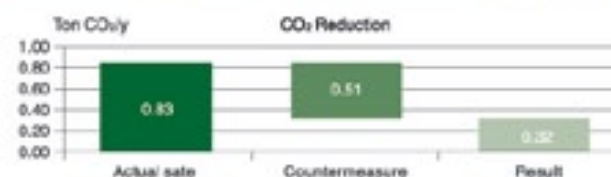
Replacement of Ceiling Lights (MAP-UK : UK)

Ceiling lights on the warehouse was replaced to the LED lighting with the infrared sensor. Lights are turned on/off automatically saving energy consumption.



Installation of power control program (MAP-VN : Vietnam)

Before this, mist collectors were running continuously even if main facility stopped. By installing auto power control program to the mist collectors, they stop automatically when the main facility stopped and saves 9.2 ton of CO₂ emission annually.



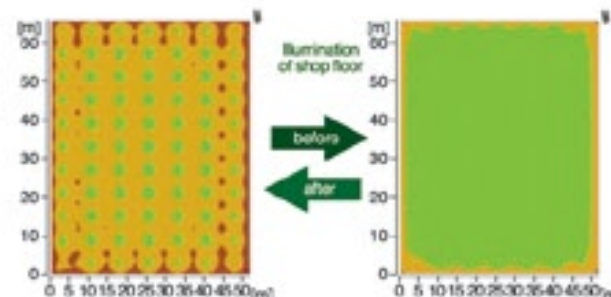
Reducing environmental impact of the waste (MHM : Hungary)

MHM was able to reduce the environmental impact with more selection of the municipal waste. The polystyrene is collected and transported separately and passed on to reuse. 10m³ less municipal waste was issued in the first six months compared to the same period of last year.



Installation of LED Lighting (MEU : Germany)

To increase lightning level and improve work environment, LED lighting is installed in Bad Sobernheim Factory and saved 125 ton of CO₂ annually. LED lighting will introduce other factories stepwisely.



Environmental Management in Japan

Current Status of Environmental Issues and Future Responsibilities in Japan

In Japan, "climate change and energy issues" stay as a key environmental matter and various initiatives have been taken. With the expansion of our business on a global scale, the efficiency is much required in the domestic business. From environmental perspectives, cutting-edge activities of the reduction of environmental

energy conservation, saving resources and pollution prevention are expected to be taken as well as developing these in the world. Remaining as a frontrunner of environmental activities for all production sites, we will step up Musashi's global activities for all production sites, we will step up Musashi's global environmental activities.

Environmental Management Organization

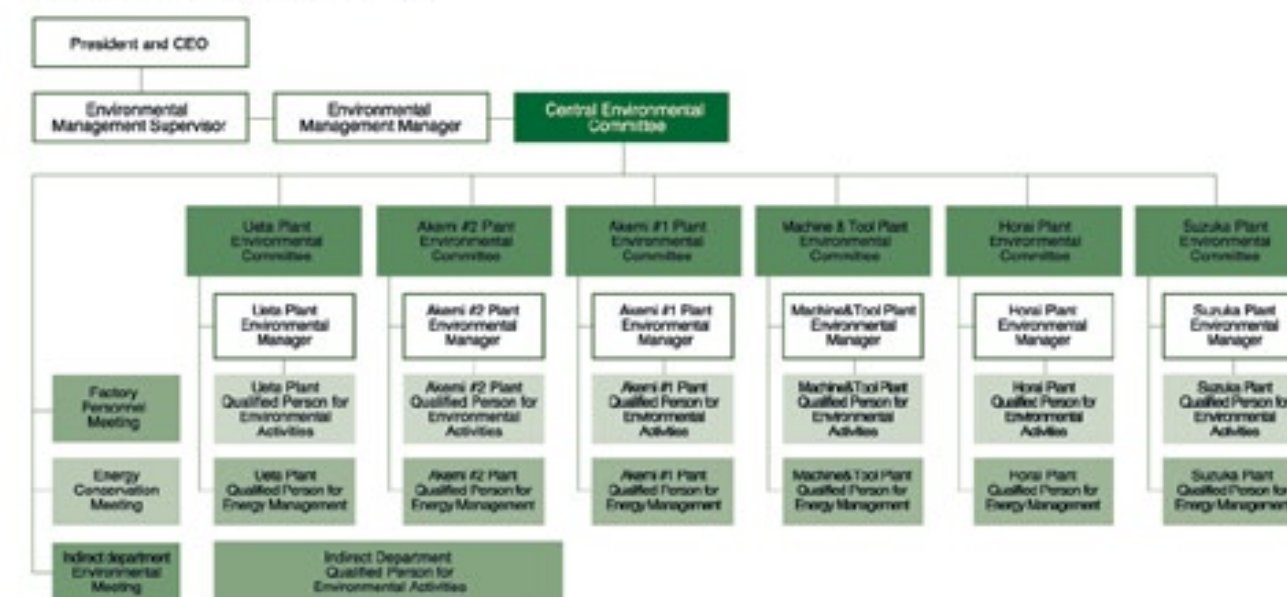
To establish a company-wide environmental management, Musashi has formed the Central Environment Committee to orchestrate a company-wide response to the environmental issues.

Also, to improve environmental management, an audit has been conducted twice by an external certification body and by an internal audit team since the acquisition of ISO 14001 certification in August 1998.

In FY2017, 2nd and 3rd periodic external audit was taken in July 2017 and February 2018. None of the items were identified as non-conformity and the certification was maintained.

Additionally, in July 2017, external audit for migration to the new standard (ISO14001:2015) was taken, and we acquired the certification of ISO14001:2015.

Environmental Management Organization



Environmental Laws/Regulations and Risk Management

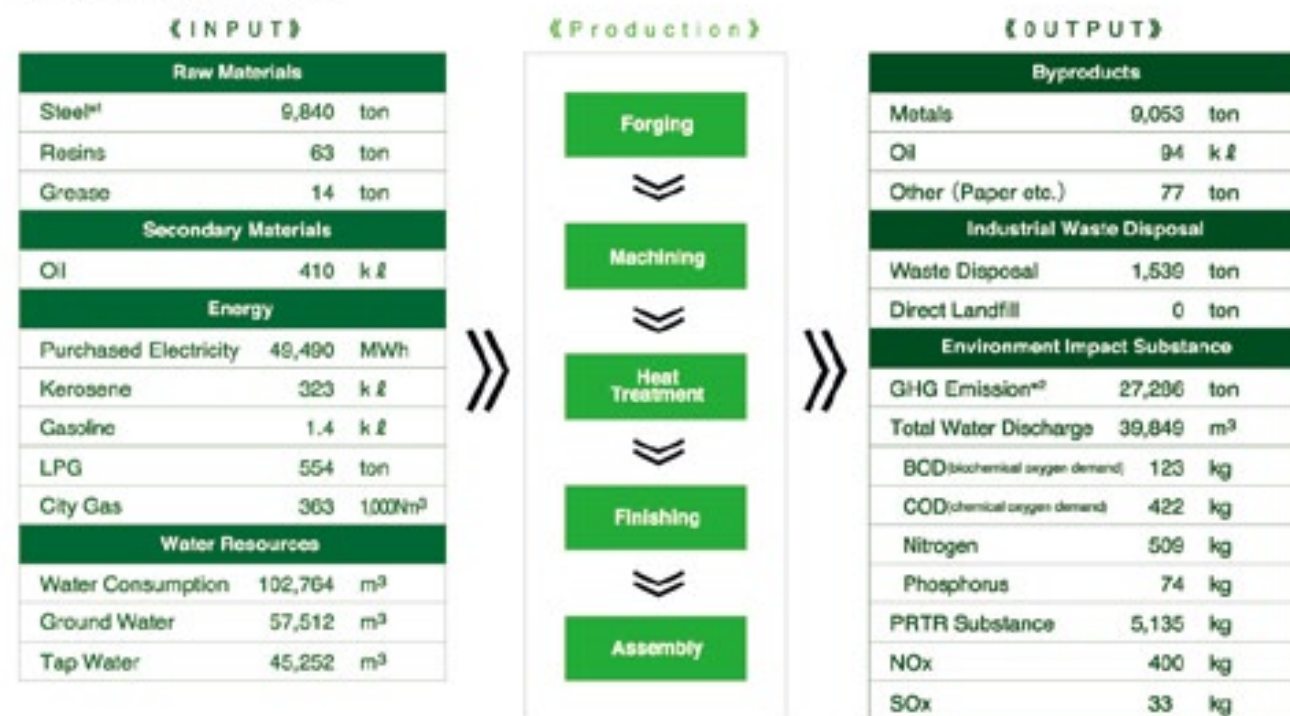
To ensure the compliance of environmental laws and regulations, we conduct a periodic check of the measurement of regulatory values, the notification to government, and the status of equipment. For any equipment which may impact significantly on environment, possible accidents are anticipated. We are prepared for emergency by defining procedures and contact routes, and conducting/reviewing periodic training programs and drills. Our business partners also participate in such drills.



Material Flow

To see the overall environmental impact, we ascertain the balance (material flow) of annual raw materials, energy, and waste. The data is used to set target for reduction of CO₂ and waste.

FY2017 Resource Input and Output



#1 Excluding supplier processed parts.

#2 The subjects of CO₂ emissions have been those under the Energy Saving Act. Accordingly, the actual emission factor in the "CO₂ Emission Factors of Each Electricity Utility" published by the Ministry of the Environment of Japan in November 2017 was used.

FY2017 Environmental Accounting

| Cost Classification | | Main Initiatives | Investment | Expenses |
|---------------------|---|--|------------|----------|
| (1) | Cost within Business Area | | 5.2 | 114.5 |
| Break down | (1)-1 Pollution prevention | Air/water/soil pollution prevention | 2.5 | 26.7 |
| | (1)-2 Global environmental preservation | Heat treatment process integration, Compressor update | 2.8 | 7.1 |
| | (1)-3 Circulation of resources | Waste treatment, recycling | 0.0 | 80.7 |
| (2) | Upstream/Downstream Cost | Investment in product recycling | 0.0 | 0.0 |
| (3) | Management Activity Cost | ISO regular inspection, environmental education, environmental labor cost etc. | 1.6 | 53.9 |
| (4) | R&D Cost | R&D of products for energy saving (compact, lightweight) | 6.0 | 253.5 |
| (5) | Social Activity Cost | Community clean-up activities Musashi woodland project | 0.0 | 3.1 |
| (6) | Environmental Damage Cost | | 0.0 | 0.0 |
| (7) | Other | | 0.0 | 0.0 |
| 合計 | | | 12.8 | 425.0 |

Environmental Accounting

Environmental accounting calculates investment and cost of environmental conservation. "Investment" is the investment for tangible fixed assets in FY2017, "Expense" is the expense for environmental measures in FY2017.

FY2017 Environmental Goals and Achievements

In 2017, we set targets for each of the following categories and worked on environmental improvement.

| Category | Environmental Activity | Control Item | FY2017 | | | FY2018 Target |
|--|---|---|-------------------------------|-----------------|-------------|-------------------------------|
| | | | Target | Result | Achievement | |
| Global Warming Measures, Energy Saving | Green-House Gas Reduction | CO ₂ Emissions per Unit (CO ₂ ton./million yen) | 1% Reduction (baseline:2016) | 2.5% Reduction | ○ | 2% Reduction (baseline: 2016) |
| | Reduction of Transportation-Related CO ₂ Emissions | CO ₂ per Unit (CO ₂ ton./million yen) | 1% Reduction (baseline:2016) | 4.8% Reduction | ○ | 2% Reduction (baseline: 2016) |
| Resource Saving | Water Consumption Reduction | Water Consumption (m ³) | 1% Reduction (baseline:2016) | 4.5% Reduction | × | 2% Reduction (baseline: 2016) |
| | Industrial Waste Reduction | Waste Volume per Unit (ton./million yen) | 1% Reduction (baseline:2016) | 0.8% Reduction | △ | 2% Reduction (baseline: 2016) |
| | Promotion of Waste Recycling | Direct Landfill (%) | 85% Reduction (baseline:2000) | 0% | ○ | Maintain 0% Landfill |
| Less Environmental Impact | Reduction of Chemical Substances | PRTR*-Listed Substances(ton) | 85% Reduction (baseline:2000) | 90.4% Reduction | ○ | 85% Reduction (baseline:2000) |

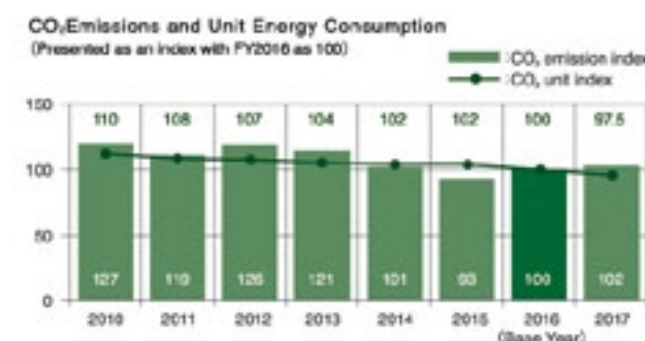
<Target achieved> ○:105% or higher, ○:95% to 105%, △:80% to 95%, ×:80% or lower

*A PRTR (Pollutant Release and Transfer Register) is a national or regional database of information on the environmental release and off-site transfer of potentially hazardous chemical substances from industrial and other facilities.

Reduction of GHG Emissions

In FY2017, CO₂ emissions increased from the previous year due to the increase in domestic production, but the CO₂ emissions unit, an expression of energy efficiency, was reduced by 3.7% from the FY2016 level. The target of 1.0% reduction from FY2016 was achieved.

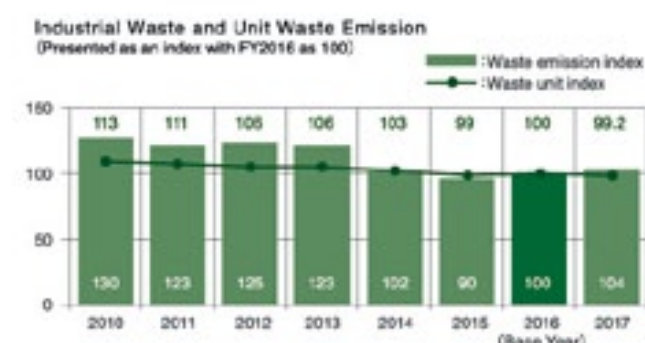
In the years ahead, we will strive to improve energy efficiency by improving processes and production efficiency as well as by taking measures against loss in production decrease.



Reduction of Industrial Waste

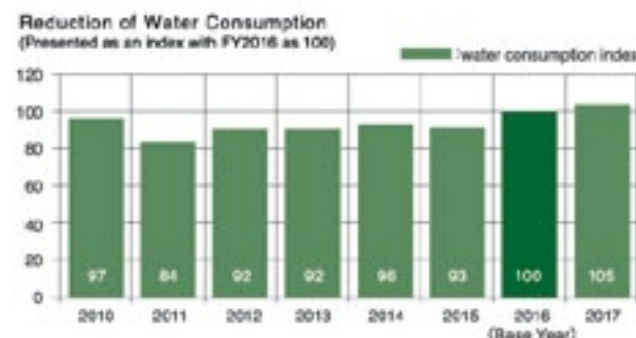
In FY2017, industrial waste increased from the previous year due to a production increase in domestic sites. The industrial waste emission unit was reduced by 0.8% compared to the FY2016 level, however, we couldn't achieve the target of 1.0% reduction from FY2016. Also, the direct landfill waste remains zero and its recycling rate is over 95%.

We will engage in initiatives to generate less industrial waste internally by using water-based coolant and by reducing sludge with the treatment of wastewater.



Reduction of Water Consumption

The water consumption in FY2017 increased by 4.5% compared to the base year of FY2016 because of leakage from aging tap water pipe in the Ueta Plant. On the other way, a new recycling system was installed and could reduce water consumption. We will keep reducing water consumption by implementing water saving activities; by replacing old pipes for leakage prevention; and by monitoring waste and loss.



Highly-efficient Transportation

To reduce CO₂ emissions during shipping, Production Management Division is focusing on the highly-efficient transportation by working closely with customers and transport companies.

In FY2017, we continuously worked on the improvement of loading efficiency for shipping and the expansion of "pick-up transportation" applied since FY2013 to reduce CO₂ in the entire supplier chain logistics.

This helped to reduce CO₂ emissions generated from transportation by 0.5% compared to the base year of FY2016. CO₂ unit was also reduced by 4.8% compared to FY2013.



Compliance system for environmental law and regulations

To ensure the compliance of environmental laws and regulations, personnel of each factory implement items as below in monthly basis.

- (1) Compliance check (report, measurement, maintenance etc.)
- (2) Regular Report to and approval by the factory manager (twice a year)
- (3) Regular Report to the Environmental Management Manager (twice a year)

Additionally, we implement internal environmental audit by the expert team for specific facilities which may have significant impact in case of emergency. In 2017, no law violations were identified through this internal audit.

We will continuously maintain appropriate facility management.

External Evaluation

Highly Evaluated for the 4th Consecutive Year by the Development Bank of Japan

We have achieved the highest rank, "advancing activities of environmental care in particular," in the DBJ Environmental ranking evaluated by The Development Bank of Japan for the

fourth consecutive year.

We will continue to develop our environmental activities globally without being complacent.

Product Responsibility & Quality Assurance

As described in our motto, "Generate trust and prosperity through quality" and "Provide products pleased by our customers," we work on quality assurance to provide our customers with better products by setting "control/criteria not to occur defects" and "control/criteria not to flow out defects."

Basic Policy for Quality Assurance Activity

Based on the Quality Policy, as shown below, we have defined our actions as "Challenge to the 'Number 1' ~aiming to be a truly global company~". Based on the action policy, we are promoting continuous improvement of our duties and quality to increase the customer satisfaction.

In FY 2017, we were able to improve quality and production index

indicator for the entire group by promoting various initiatives to prevent recurrence of defects.

We keep improving globally our quality management system and promoting preventive actions to avoid defects, in order to provide our stakeholders, especially the customers, with products which can be trustfully used.

Quality Policy

Meet customer needs accurately, respond to a change flexibly and speedily, and provide top level products in the world to gain customers' trust from Quality, Cost and Delivery perspectives.

Quality Management System, Preventive Action, and Constitution Improvement

Quality Management System

The Quality Management System has been established based on the IATF16949 requirements, such a system allow us to provide products which fully satisfy our customers' requirements in terms of quality. Not only in Japan, but all over the world our production sites are promoting the establishment of a Quality Management System to meet IATF16949 standards. In this way, we are promoting to establish group wide quality management system.

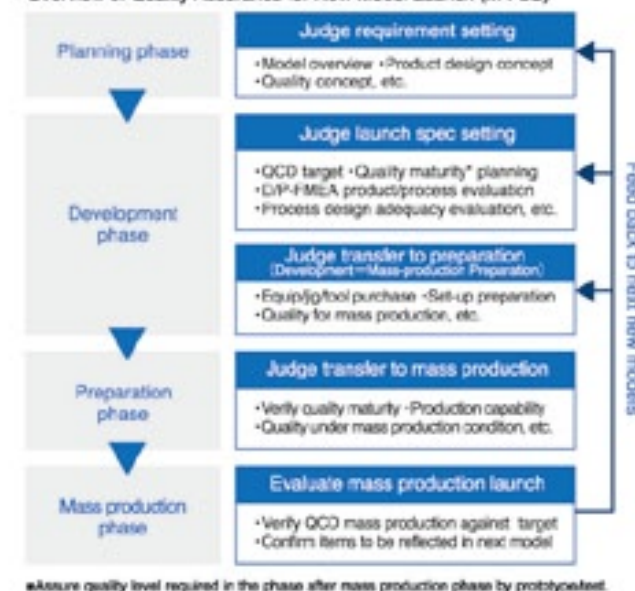
Quality Assurance for New Model Launch (M-FLO)

We adopt M-FLO, a management flow for new model development/launch in all production sites.

In accordance with the M-FLO, we carry out council for evaluation/judgment on quality, production capability, and cost in each phase from planning to mass production.

Quality, in particular, is evaluated and judged in each phase to make sure preventive action against quality defects is studied fully for preventing the recurrence of defects.

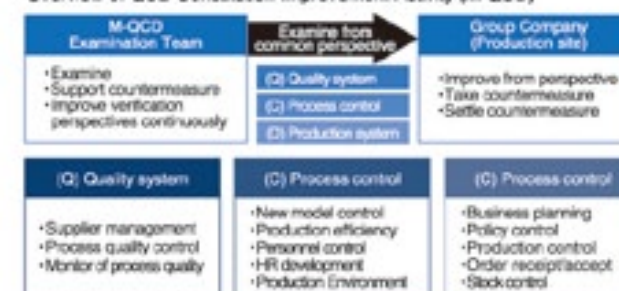
Overview of Quality Assurance for New Model Launch (M-FLO)



QCD Constitution Improvement Activity (M-QCD)

For a stronger "Monozukuri" or manufacturing, we are working on improving the corporate constitution to level our strengths by examining a quality/production system and process control from a common and objective perspective and by strengthening potential weaknesses.

Overview of QCD Constitution Improvement Activity (M-QCD)



Quality Training

The Company provides the employees with quality training programs according to their internal qualification and duties. We provide "The Junior Course" for all employees and "The Foreman Courses" mainly for employees in production and quality management internally.

[Annual training plans]

- IATF Training
understanding of standards, internal auditor training
- Quality control training
Junior Course
Foreman Course
- QC Circle activity training
for promoters and leaders
- Quality training for new members
basics of quality, practice of measurement instruments

In FY2016, we will expand the subject of Quality Control Certification Test to all employees. Additionally, we will establish Quality Certification System for all including members outside Japan to strengthen group wide systematic quality training system.



Global MM Circle (QC Circle) Activities

The Group has 385 circles (3,260 members) working on the improvement for the purpose of creating, expanding, and succeeding small-group activities as well as making a more lively and stronger workplace and corporate constitution. Outcomes of their activities are highly acclaimed in conventions held by our customers in the various countries.



■ Production Improvement by revising cutting method and karakuri mechanism (MAP-IN)

Using a "karakuri" mechanism from a toy and revising the cutting method improved the line which production efficiency needed to be improved.



The "MM Circle World Convention" is organized every year to invite representative circle members from all over the world to Japan. Not only sharing kaizen know-how between attendees, but also exchanging with global associates makes the Group more cohesive and contributes to improve the competing power.



■ Better production efficiency by improving the shaving process (MAP-TH)

Following the 3 realities principle (actual site, actual thing, reality), various kaizen activities were applied persistently to reduce loss in the shaving process. This activity is also applied in the launch of new models.



Human Resource • Labor Practices • Human Rights

Considering the "development of creative human resources" as the foundation of realizing "Be Unique!" and creating values continuously, Musashi works on the development of human resources. Based on the concept "valuing human resources is a corporate basis," we works on the improvement of worksite environment, the health management of our employees, and the prevention of discrimination and harassment.

Basic Concept of Human Resource Development

Based on the concept of "developing independent individuals as well as standing on the foundation of fairness and trust to bring out the total power," our human resource development allows each of our employees to grow with "free ideas," "initiatively action," and

"responsibility for outcome."

Our employees are provided with various training opportunities according to their position and role in order to deepen their understanding of "Musashi Philosophy" and to bring it to action.

Basic Concept of Human Resource Development

Develop independent individuals as well as stand on the foundation of fairness and trust to bring out the total power

Boost-up to Strengthen Expertise and Boss-Subordinate Communication

Target Setting and Measurement of Competence

To bring out the employees' competence in their expertise and to boost up their growth, the Company has a clear definition of the required competence of each area. The employees set their target based on the definition and improve their competence in their work and learning. The annual measurement of their competence can show their current competence level to allow them to set a new target for continuous development.

2WAY

The Company has a "2WAY" meeting every half year to strengthen the reliability between boss and subordinate, to promote the growth of subordinate, and to understand personnel assessment in a more satisfied and transparent way. Through 2WAY, boss conveys his/her expectations and advise for growth, subordinate conveys his/her career plan and request, and both set the work/competence target to achieve an interactive communication.



Coaching training for stronger 2WAY communication

Dialogue with Labor Representatives

The Company considers it essential to listen to its employees and exchange opinions for the sustainable development, thus dialogue with the labor union as labor representatives is a key. To accept employee needs and develop a better labor environment, the Company discusses honest opinions in monthly labor and management meetings and periodic committees to improve/apply labor conditions and various welfare systems. Employee survey is taken periodically to reflect its results in business plans of each division.



Labor and management meeting

■ Training System (Overview)

| Category | By Position/ Responsibility | Special Knowledge/ Skill | Global Communication | Language | Other |
|-----------------|---|--|----------------------------|----------------------------------|---------------|
| Title | | | | | |
| General Manager | • Strategic Management Training | | Expert with responsibility | | |
| Section Manager | • Management • Assessor training | [Applied] • Quality • Safety/ • Environment | | Coaching skill | |
| Supervisor | • Management candidates • Leadership training • Training at promotion | [Basic] • Quality • Safety/ • Environment | Expert training | English skill | |
| General | • Young leader training • Orientation | | | English learning support program | |
| | | National trade certificate training | Global mind | | |
| | | CUT (by area/section) | | | |
| | | Compliance Education | | | |
| | | | | | Mental health |
| | | | | | Life plan |

Training by Position

To improve knowledge and capability required by position or title, training programs including orientation, promotion, and management are provided.



Young leader training

Global training

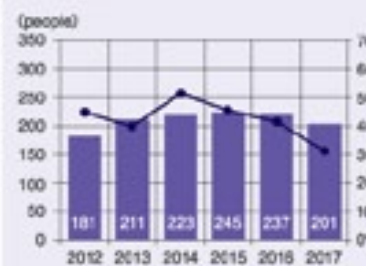
Cross-cultural communication and English learning programs are provided for global work as well as self-development.



English learning program

Engineering / Skill Training

Focusing on engineering and skill training essential for a manufacturing company, we are training our employees to get certified.



Participants and pass % of trade certification

Development of education program in Asian subsidiaries utilizing "Engineering and Skill Certification System" of Japan

In four Asian subsidiaries (Thai, India, Vietnam, Indonesia), original education programs referring "Engineering and Skill Certification System" of Japan were developed.

In 2017, the first certification examination in Asian subsidiaries was carried out, and two members from Vietnam and Indonesia passed the examination and got certified.

We will continuously develop education programs regarding "Monozukuri" to improve employees skill and mind through trying and learning to obtain the certification.



Local Staff and Japanese expatriate developed the education program

Support for Diverse Work Style

Promotion of Paid Holiday Acquisition

Labor and management are working together to ensure a high level of take-up of paid holiday entitlement. A special system for "paid holiday caring" has been set up. In the system, paid holidays which are not used are carried over each year and then could be used for either that individual's own sickness benefit, or for caring of another family member.

Paid Holiday Acquisition Rate



Support of Both Work and Family

A "shorter working hour program for child care," which can be used for any period under certain conditions, is provided for the employees raising school kids. Also a "nursing leave program" has been set up separately from annual paid holiday acquisition to allow the employees to acquire a holiday for nursing pre-school kids.

Like child care, "shorter working hour," "holiday caring" and "caring leave" programs are provided for caring of another family member. Additionally, in 2017, "reemployment system" and "work-from-home system" for employees caring and supporting children or elders were introduced to manage both work and family support.

Child-care Leave

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|------|------|------|------|------|
| Female employee child-care leave (%) | 100 | 100 | 100 | 100 | 100 |
| Return to work after child-care leave (%) | N/A | 100 | 100 | 100 | 100 |

Re-employment after Retirement

The company sets the retirement age as 60; however, a "re-employment after retirement" system is in place to allow the employees with good health and mentality to work continuously. Both the number and the rate of re-employment are increasing. Employees can work up to 65 years old in full-time base or some days a week. Their skills built in a long time can be utilized after their retirement.

Re-employment after Retirement



Respect for Human Rights and Harassment Prevention

Concept and training against discrimination and harassment

The "Musashi Compliance Guidelines," common code of conduct that the employees are kept informed, clearly indicate the basic concept of respect for human rights and harassment prevention.

Using the "Musashi Compliance Guidelines" as main training materials, basic training programs on human rights and harassment prevention are provided for new members at their entry. Training programs at promotion are also provided according to the position or rank of the employees to deepen their understanding.

Basic Concept of Respect for Human Rights and Harassment Prevention – from "Musashi Compliance Guidelines"

(V) We will respect human rights and embrace diversity and differences of each individual. We will not tolerate any discrimination or harassment.

[Basic Concept]

As a responsible company which conducts business activities around the world, the Musashi Group will respect the human rights of every individual and will not accept forced labor, child labor or any form of discrimination. Additionally, the Musashi Group will strive to avoid complicity in human rights violations.

To realize the work environment where each associate is able to work with integrity and maximize their worth and ability, the Musashi Group will respect and embrace the diversity and differences of each individual and will not accept any form of harassment.

Prohibiting Forced Labor:
We will not accept forced labor and ensure that all labor is on a voluntary basis such that each employee is able to leave his or her job freely. We will never take any actions that restrict freedom of movement or leaving the company's employment, such as keeping a government-issued identification card (including passport, work permits) at the company.

Prohibiting Child Labor:
We will not employ children who are under the legal working age in the country or region of operation.

Avoidance of Complicity:
- We will not conduct business with companies which accept human rights abuses.
- We will strive to avoid and prevent adverse impacts against human rights which may indirectly occur as a result of our business activities, including avoiding the use of "conflict minerals" from unvetted sources.

[Action Guide]

- We will not discriminate against those working for Musashi or its suppliers for any reason including family background, nationality, race, ethnicity, belief, religion, gender, sexual orientation, age, intellectual or physical disability, diseases, academic background or social status.

- We will not use words or expressions which are, or could be deemed as discriminatory or could violate human dignity.

- We will not tolerate any kind of harassment (including bullying, sexual harassment, power harassment etc.) in our workplace which could violate human dignity (others, put others at unfair disadvantage, make others feel threatened or uncomfortable).

Industrial Health/Safety Management

Basic Concept of Industrial Health/Safety

Based on "No safety, no production," the basic philosophy of industrial health and safety, we consider that corporate continuation starts from creating a safe and healthy workplace. To eliminate industrial accidents, we are promoting various safety training programs to reduce serious industrial disasters or accidents not only by sharing preventive action, but also by training internal prediction trainers to improve their awareness.

Prevention of Industrial Accidents and Safety/Health Activities

To prevent industrial accidents and to improve work environment, the Central Safety/Health Committee, consisting of Production Officer as its Chair, is promoting company-wide safety and health activities for "safe work environment." In addition to Safety/Health and Accident Prevention Committees set in each plant, the head office has sub-committees in manufacturing, engineering and administration areas to develop activities according to each level and area, to take countermeasures, and to share information. Union members attend all of the committees to reflect employees' opinions.

Occurrence of Industrial Accidents

Based on the basic philosophy "No safety, no production," we make sure that preventive action is applied and taken against similar serious accidents of pinching or trapping in past. Also, safety/health risk assessment is conducted from multiple perspectives of production and safety/health when new equipment is installed to make sure no serious risk of safety which cannot be identified in the phase of process design to create a safe production environment.

Keeping the Employees Healthy

The Company provides its employees with continuous health support through the following:

- Full medical check-up
 - Additional X-ray on stomach and check of bowel cancer
 - Additional blood test at age of 30
 - Vaccination against flu in the Company
- Support for individual health improvement
 - Lecture on health
 - Support for half-marathon runners
- Support for employee's mental health
 - employee's mental stress diagnosis on a regular basis
 - Work environment improvement initiatives based on stress diagnosis results
 - Support and counseling by industrial counselor
- Prevention of passive smoking

Organization Chart for Safety/Health



Safety/Health Walk-through

Frequency Rate of Industrial Accidents



Half-marathon Runners

Supply Chain

Musashi business cannot be run without the cooperation of its business partners in the world. Based on the mutual benefit concept, we are building a reliable relationship with our business partners to promote sustainability activities in the entire supply chain.

Basic Concept of Purchasing

We develop our global purchasing activities in the world. Based on compliance and equal and fair business with our business partners in the various countries and regions who provide "products with good quality at low cost," we are aiming for mutual benefit. Specifically, we are developing the QCD structure and activities in ways that provide a safe and healthy working environment, and also minimize our impact on the global environment. We will contribute to finding ways to develop our local and global society in a sustainable way.

Basic Policy for Purchasing

1. Stronger governance and compliance
2. Stronger structure of Quality, Cost and Delivery
3. Compliance with the Green Purchasing Guidelines

For Equal and Fair Business

We provide our business partners with an equal and fair opportunity regardless of their nationality, corporate size or business history, and establish a sound partnership with them. We are developing a strong and thorough governance and compliance

system, and set up an "Open Door" system to allow all stakeholders, including the employees of our business partners, to make a suggestion to us.

Full Anti-Bribery

We never pursue profits from bribery or other improper methods. The "Musashi Compliance Guidelines" clearly indicate the basic concept of fair business to keep the employees informed. Also, all of the business partners involved in our business are kept informed periodically not to make profits for Musashi with improper ways.

Corporate Ethics Window

Also from the employees in our business partners, "The Musashi corporate ethics window" receives consultation and suggestion on (possibility of) actions violating laws or corporate ethics in the business with us.

By internal regulation, the privacy of the person/ company who made the proposal is preserved and business partners are protected so as not to suffer disadvantage by proposing. And anonymous proposal can be accepted.

Our business partners are informed on the "Open Door" contact through a periodic meeting.

Basic Concept of Fair Business from "Musashi Compliance Guidelines"

IX To establish sound relationship with our customers and suppliers, we will provide honest and precise information and conduct fair and sound transactions.

[Basic Concept]
The Musashi Group will provide honest and precise data to our customers and conduct faithful promotion activities based on facts and data.
The Musashi Group will conduct fair and sound business transactions complying with all applicable legislation for fair-trade including anti-monopoly, anti-corruption and anti-bribery in each country and region of operation and our internal policies regarding them.

[Action Guide]
• To avoid misunderstandings and misleading our customers, we will ensure that we fully understand our product related information by using precise information and product data, and use this as a basis for conducting fair and honest promotional activities.
• We will preserve product related information and data in accordance with internal policies, we will strive to provide information and data which our customers require.
• We will comply with all fair trading and anti monopoly legislation applicable in the country or region of operation and our internal policies. We will not seek to create private monopolies, use improper trading restraints or any other unfair methods of business, such as improper agreements, cartels or bid-rigging, nor will we seek to abuse any dominant bargaining positions which may arise.
• We will comply with all anti-corruption and anti-bribery legislation applicable in the country or region of operation and our internal policies. We will not receive or offer improper or excessive facilities including money, gifts, services or entertainments from or to interested parties such as suppliers.
• When sourcing products or services, we will compare the terms and conditions from at least two suppliers in order to fairly determine which one to use.

Training session on "Subcontractors Act"

To ensure thorough compliance in transactions with subcontractors, we regularly hold training session about the Subcontractors Act (Subcontractors Delayed Payment Prohibition Act) by external lecturer. In fiscal 2017, 103 employees related to ordering operation participated.



Training session on "Subcontractors Act" by external lecturer

Stronger Cooperation with Our Business Partners

We hold a periodic meeting with our business partners to share the latest information on the business environment and to take action for the changing environment. In the meeting we present the annual policies for "Purchasing", "Quality" and "Environment" and

so on, to keep our business partners understood on our various global activities. Additionally, we hold internal exhibitions and seminars organized by our business partners to develop the new Musashi brand together with business partners.

Dialogue with Our Business Partners (Meetings/Panels)

In the annual meeting with our business partners, we provide information on the business environment surrounding us and our basic policy. In addition to our overall policy, we inform our business partners on sustainability, purchasing, quality, and environmental policies for their understanding and cooperation.



Business partners gathering

Initiatives for New Business Values

We hold internal exhibitions and seminars organized by our business partners. In the exhibitions, our business partners can propose their new technologies, materials etc. New business values are developed together with our business partners through these activities.

Quality Management Initiatives

In order to provide products that customers can use with reliance, we are working on quality control and improvement activities throughout the supply chain, aiming at "0" quality defects, in collaboration with suppliers. Based on our own quality assessment method, we constantly confirm the quality status of each business partner, plan improvement program collaborating with our business partners, and promote quality improvement activities.



Internal exhibitions and seminars organized by business partners

Environmental Initiatives

We are working to reduce the environmental impact throughout the supply chain in cooperation with suppliers. In order to manage chemical substances contained in products together with suppliers, we issue Green Purchasing Guidelines. Additionally, to reduce CO₂ emissions, we are working to conduct periodic surveys of CO₂ emissions at business partners and sharing examples of CO₂ reduction measures.

Living with Local Communities

As a global company to be trusted by its local communities, based on the concept of mutual development in society, we will continue efforts towards social contribution activities tailored to the needs of communities in each region.

Support for Next Generations and Local Communities

For mutual harmony and benefit, the Musashi Group supports the sound development of next generations and local communities in all over the world.

Donation to Local Elementary School (MAP-ID: India)

MAP-ID has donated sports goods like basketball balls, volleyball balls etc. to local elementary school for supporting sports activities and health. To meet the expectation of local community, we will support the local education continuously.



Support for Local Communities (MAP-VN: Vietnam)

MAP-VN provides scholarships for students in local schools for the low-waged, donates to the poor and disabled soldiers, and invites local people to a summer festival in the industrial site.



Factory tour for local students (MHM: Hungary)

MHM hosted secondary school students from the near city, twice during the year in 2017. The purpose of the visits was to show industrial environment and to get to know in practice what they are learning theoretically at school.



MuSASHi RT HARC-PRO. Scholarship (MSI: Japan)

MSI is supporting the "MuSASHi RT HARC-PRO. scholarship program" for the next generation motorcycle rider training by HARC-PRO. This is a very special program in which former world champion join as a trainer.



Education support for local students (MSI: Japan)

As part of local society, MSI carries out educational support activities with schools and communities. Utilizing resources of special knowledge/skill and facilities, MSI organizes delivery class and plant tour and send lecturers to Saturday class (recommended by the Education, Sports, Culture, Science and Technology Ministry) in a municipal public hall to meet the needs of vocational education by neighborhood elementary and junior high schools.



Musashi Summer Festival (MSI: Japan)

MSI organizes "Musashi Summer Festival" every summer since 1993. The festival is open to everyone including its local residents and the family members of the employees. This festival attracts more than 1,500 people with various food stalls, spectacular fireworks, and many events organized by the employees. It provides a good opportunity for interacting with the local residents.



Traffic Safety Promotion

As a transportation component manufacturer, we are committed strongly to enlightening on traffic safety.

Traffic safety awareness raising (MAP-CH: China)

As a internal traffic safety activity, we warn our employees do not drive at high risk, such as without a helmet, over speed, one-handed driving. Also, before consecutive holidays, MAP-CH enlighten employees on safety driving by playing traffic accident simulation movies.



teaching to employees



playing movies in the hall

Traffic safety class for students (MAP-VN: Vietnam)

To enlighten traffic safety mind-set, MAP-VN holds traffic safety class for local students and donates helmets.



Local Traffic Safety Promotion (KMS: Japan)

Cooperating with its local traffic safety association and schools, KMS "checks on the street" during traffic safety weeks in spring and fall to secure the safety of kids on the way to school and to improve drivers' mind-set on the prevention of traffic accidents.



Parent-Child Traffic Safety Class (MSI: Japan)

"Parent-child traffic safety classes" have been provided for local school kids and the family members of the employees since 2014. Working with local police, programs include the simulation of various traffic accidents for better safety mind-set.



Local Environmental Conservation

Musashi Group takes various activities globally to conserve local environment and to raise the environmental awareness of the employees.

Involvement in firefighting teams (MEU: Germany)

About 60 to 70 associates are involving proactively in their local firefighting team. Their activities include fire extinguishing and rescuing the victims of traffic accidents. Many of the surrounding small villages do not have their fire department. Luechow plant was awarded the "Partner of Firebrigades" from Lower Saxony for their activities.



Cleaning around the Factory (MAP-CH: China)

Voluntary cleaning activities is implemented around the factory and adjacent village. Environmental awareness of Employees, especially young members, are rising through this activities.



Planting in local village (MAP-ID: India)

MAP-ID donated 500 mango and blackberry trees to 5 local villages. Employees planted together with local resident and village mayor.



Reducing plastic bags (MAP-ID: India)

MAP-ID donated 150 jute bag and 10 ceiling fans to the Women Help Center, and also educated them not to use plastic because it will harm environment.



Planting of mangrove Trees (MAP-IN: Indonesia)

MAP-IN planted 3,000 mangrove trees cooperating with Jakis Jaya village society and environmental administration of Karawang area. The program aims to prevent beach degradation that is increasing on the Pakis Jaya beach.



Tideland conservation program (MSI: Japan)

This project started in 2017 for raising biodiversity and the employees' awareness on environment.

This project is held yearly and many Employees and their family members join, and clean up the tideland and observe creatures living in tideland.





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※ Cover-page is made of the scenes of the Musashi 80th anniversary dance video. Our employees all over the world participated in the video. It is available to watch on Youtube.