MUSASHI
Power to Value

MUSASHI Sustainability Report 2017

CEO Message

Musashi Group's Origin, Challenge and Passion for "Monozukuri"

The Musashi Group started its business by manufacturing carburetor parts for aircraft in 1938 and changed over to manufacturing sowing machine parts after World War II. In 1956 Musashi started manufacturing motorcycle parts, and transferred to the automobile industry where development was anticipated. Grasping the needs of the times, Musashi has established an original "Monozukuri" system with an integrated production system, precision forging technology and a global production/ sales system, and an R&D capability which has developed unique products such as maintenance free ball joints and MS diff*. These driving forces have allowed us to make over 70 years of history since our foundation. Throughout our history, we have been concerning about sincerity in development of human resource and Monozukuri, and passion for contributing to the development of people's living as well as society through Monozukuri.

Commitment for Sustainability

Recently, the technology and impact of private companies has been expected and required more to contribute to solve social issues. Solving the social problems and contributing to the sustainable development of society are becoming essential elements for corporate growth and development. We have to contribute to sustainable development throughout the entire business activities including the supply chain and throughout the product life cycle.

Based on the above background, we have resolved the "Basic Policy of Musashi Group for realization of sustainable global society" in the Board of Directors in December 2016. Under this policy, based on our corporate mission, we have decided to promote activities to realize sustainable global society from the perspectives of "creating shared values" and "social responsibility as a global company".

* Lightweight differential assembly with bevel gears developed by Musashi.

MM Circle World Convention awards ceremony

HAY group which newly joined Musashi group

To Be Trusted by People around the World, To Contribute to the Development of Global Society

For us, “creating shared values” means; supporting the popularization of the automotive industry by producing and supplying parts, and contributing to the improvement of automotive functions such as fuel efficiency and safety through design/development of parts. Last year, we welcomed HAY Group into our Group and started integrating the two companies to gain synergy benefit; wider product lineup, better competitiveness of unit products through technology fusion, and building relationship with mutual customers.

Additionally, as a social responsible of a global company, we recognize the need to help develop a better society together with our global stakeholders: employees, customers, business partners and local communities. Although there are many social issues related to our business such as product liability, human rights, labor practice, and environment, we are steadily tackling each of them.

We are undertaking various activities to contribute to the sustainable development of the 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 fully understanding of the Musashi Group’s activities in this regard.

June 2017
Musashi Seimitsu Industry Co., Ltd.
President & CEO

Hiroshi Otsuka

■Contents

■Period Covered

This report covers the activities in FY2016 (April 2016 to March 2017).

■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

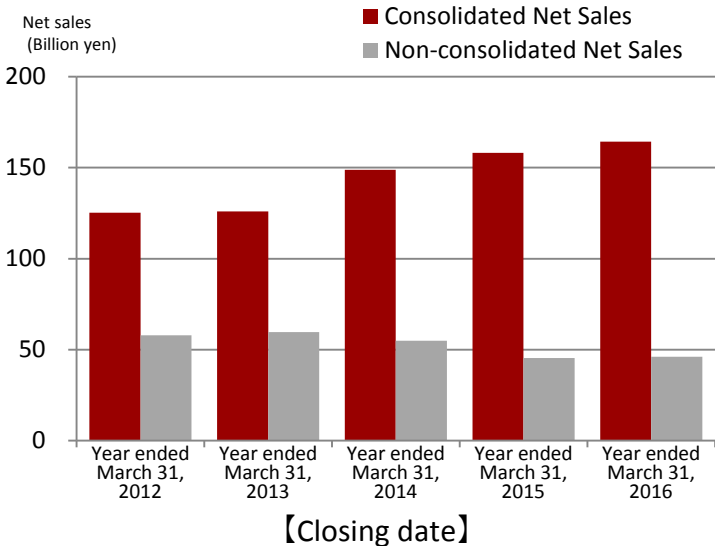
■Company Profile

Company Name	Musashi Seimitsu Industry Co.,Ltd.
Head Office	39-5, Daizen, Ueta-Cho, Toyohashi, Aichi
Founded	April, 1938
Incorporated	January 22, 1944
Capital	2,973 million yen
Employees	Group: 15,880 (As of March 2017) Japan: 1,182 (As of March 2017)
Principal Business	Manufacturing and sales of transportation equipment

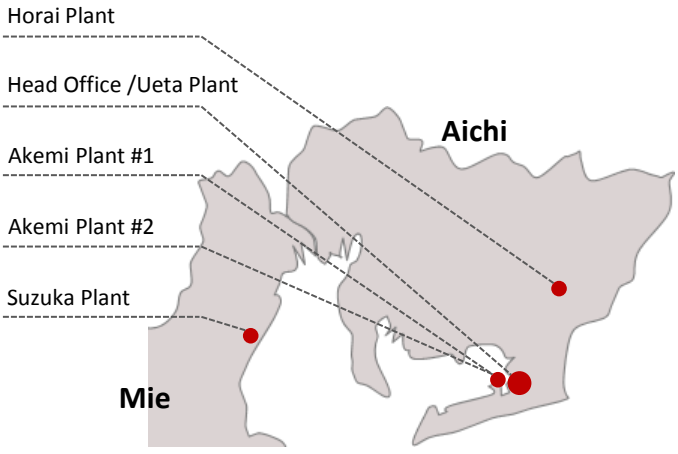
Plants in Japan	Head Office / Ueta Plant	(Toyohashi, Aichi)
	Akemi Plant #1	(Toyohashi, Aichi)
	Akemi Plant #2	(Toyohashi, Aichi)
	Horai Plant	(Shinshiro, Aichi)
	Suzuka Plant	(Suzuka, Mie)

[FY2016 Financial Result] (Million yen)

	Consolidated	Non-consolidated
Net sales	180,552	47,850
Ordinary income	10,323	3,797
Net income	6,315	2,643



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



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)


Differential Assembly


Differential Gear

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)


Planetary Assembly
(for compact cars)


Planetary Assembly
(for four-wheel drive)

This mechanism converts engine high-speed revolution to 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


Transmission Gears

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)


Suspension Arm Assembly


Suspension Ball Joints

Not only connecting the body, handle and tyres, this also plays a critical roll 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)


Transmission Gear Assembly


Final Gear Assembly

The transmission mechanism convers 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)


PF Camshafts
(for mid/ small-size motorcycles)

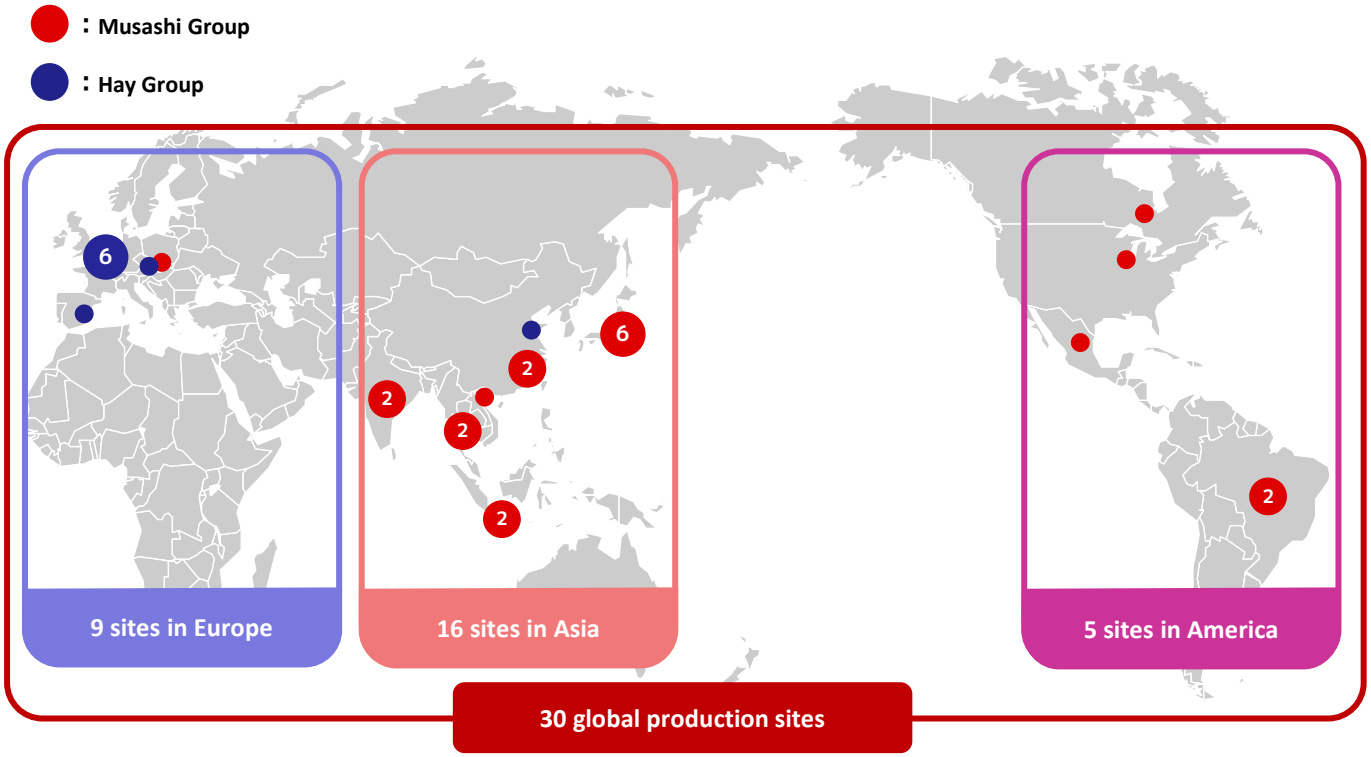

Camshafts
(for large-size motorcycles)

Along with a better fuel efficiency, high-precision and high-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 Production Sites



Region	Major group companies				No. of production units	No. of employees	Sales volume (mil yen)
	No. of companies	Company name	Location	Abbribiation			
Japan	2	Musashi Seimitsu Industry Co., Ltd. (this company)	Aichi, Japan	MSI	6	1,863	27,221
		Kyushu Musashi Seimitsu Co., Ltd.	Kumamoto, Japan	KMS			
Asia	6	Musashi Auto Parts (Zhongshan) Co., Ltd.	Guangdong, China	MAP-CH	10	8,355	69,779
		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/ Middle America	3	Musashi Auto Parts Michigan Inc.	USA	MAP-MI	3	1,336	42,274
		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	1,073	6,977
		Musashi da Amazonia Ltda.	Amazonia, Brazil	MDA			
Europe	2	Musashi Hungary Manufacturing, Ltd.	Hungary	MHM	9	3,253	34,269
		Hay Holding GmbH	Germany	HAY Group			
Total	16				30	15,880	180,522

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】

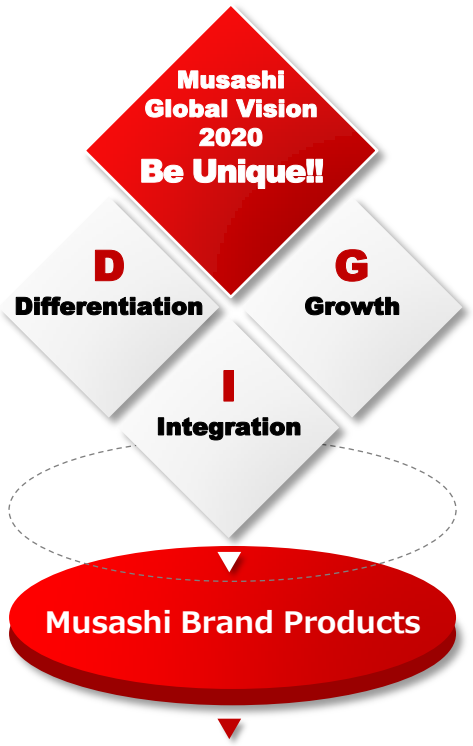
We will continue to explore and develop our original Monozukuri and thereby contribute to the global society by providing trusted and attractive products.

【Guidance for Conduct】

The “Musashi Spirit”

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



Musasih Global Brand Slogan

Power to Value

Social mission by Musashi

Be Unique!!

“Sounds exciting! - Let‘s do it.”
This is how we originate reliable Musashi brand products to the world.

“Be Unique!!” What is the definition of Musashi's uniqueness?

It is to consistently create differences between ourselves and others, then integrate the differences into the growth of our company. We aim for "growing" as a company and we aim for "growing" of each of our associate, as well, through these activities. "We will continue to explore and develop our original Monozukuri."

【Differentiation】

To place value on individual characteristics and diverse ideas; creating differences between ourselves, others and the past.

【Integration】

To create new values by integrating all of our efforts with the latest technology.

【Growth】

To keep striving to achieve our dreams with a strong determination.

Power to Value

“Power” generated from mobility to “Value”.
What we have realized through various products which support automobile critical functions is nothing other than transmitting and converting various types of “power” such as resources and energy to generate “values” beneficial for society.
Musashi group will keep pursuing “Power to Value” with our unique technology.

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 on December , 2016.
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.

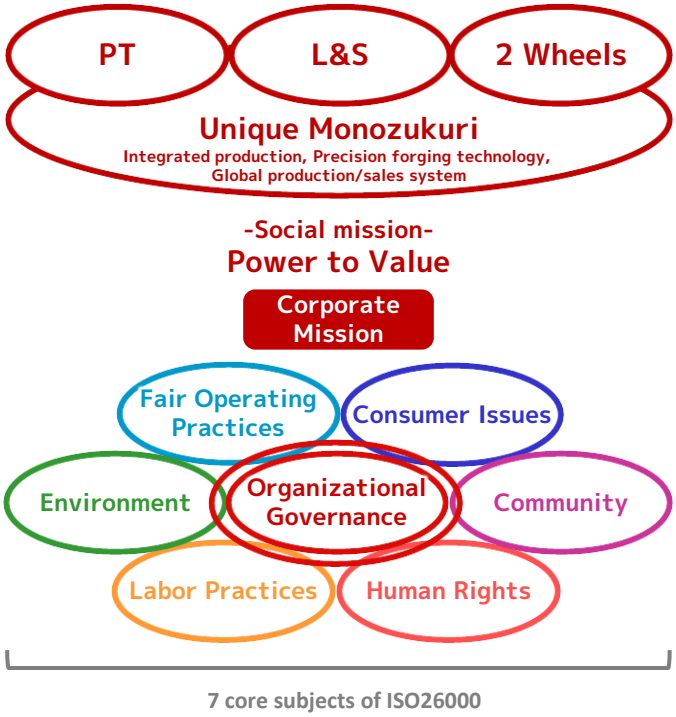
"Basic Policy of Musashi Group for realization of sustainable global society"

"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.



7 core subjects of ISO26000

Creation of common values

- 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.

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, in order to realize synergies with the HAY Group, we are working to expand product lineups, develop "unit product" by combining technologies, and improve competitiveness.

Product Development to reduce Environmental Impact of Mobility

Product Development

■Development of lighter weight MS Diff Assembly

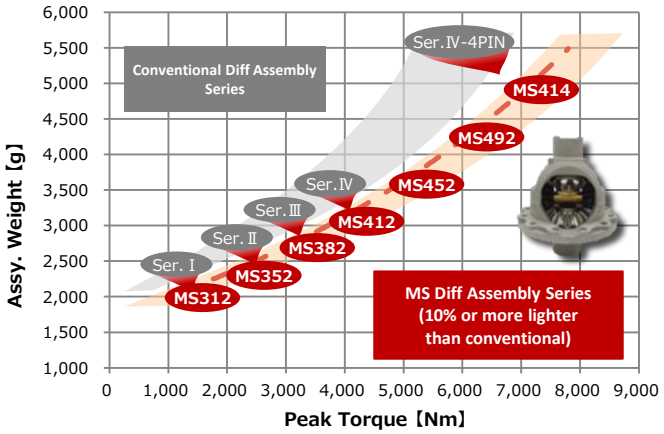
The lightweight diff assembly (MS Diff) with self-developed bevel gears achieves 10% or lighter than the conventional. The MS Diff Series reduce vehicle weight and improve fuel economy in every torque bands from compact to large vehicles.

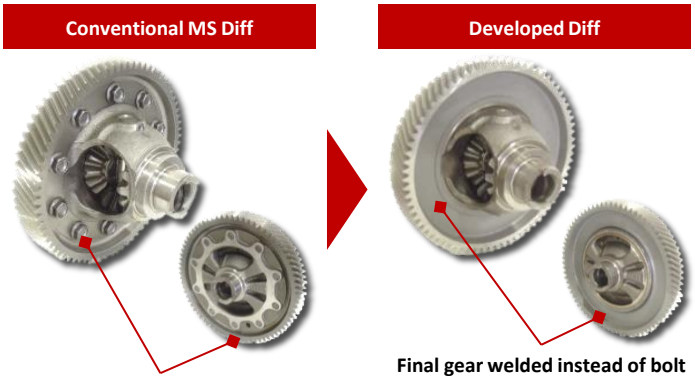
In FY2016, final gear welding technology was developed not to require the use of bolts for lighter weight.

■Electrically Driven Specs (Research of Electric Units)

To reduce environmental impact while using a car, we are promoting the research of unique electric units for hybrid/electric cars and for electric personal mobility. Also, we are studying electric unit control models by simulating with CAE[*1] and rapid prototyping[*2]. Analyzing required performances based on ISO26262[*3], we are promoting the development of EV units to ease our customers.

Development of MS Diff Assembly Series and new technology for weight saving





Final gear tightened with bolt

Final gear welded instead of bolt tightening to achieve lighter weight

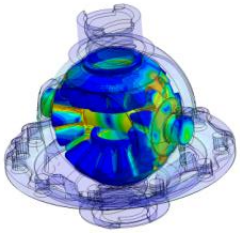
Environment for Research and Development

■Simulation Technology of Developing Products

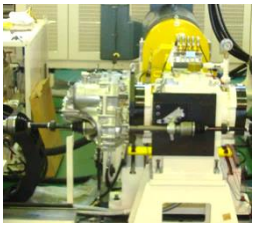
We are evaluating developing products with an active use of CAE simulations. This helps to shorten a developing period and to reduce energy and resources spent for prototyping and testing significantly.

■Initiatives for Virtual Prototyping

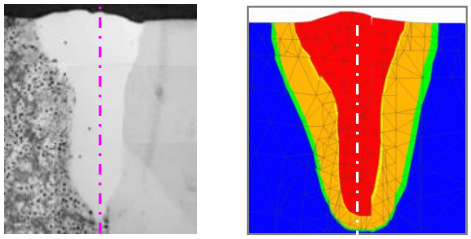
Conventionally, weld quality was assured through trials and errors. To achieve virtual prototyping, we are trying to establish weld distortion and stress forecast technology with CAE software. We are also promoting the research of testing method and the installation of test equipment which can replace real piece test.



CAE Simulation



Vehicle Mock Test with 3-axis Dynamo Tester



Simulation with Weld Analysis Software (Weld Section)

※1 An abbreviation for **C**omputer **A**ided **E**ngineering. Use a computer to design products and pre-study manufacturing and process design (simulation and numerical vale analysis).
※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 electronical hardware / software installed in automobiles.

Response to Change in Automobile Mechanism (Electrical Driven Specs)

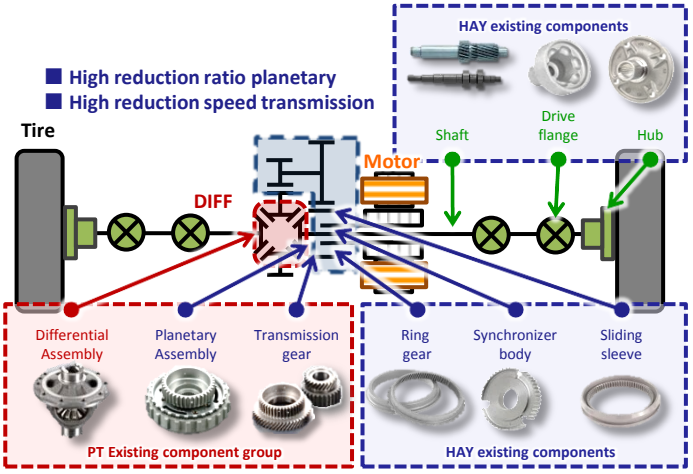
Like electrical driven specs, while changing the automobile mechanism rapidly, we take such environmental change as a chance.

In production technology, the acquisition of HAY group made it feasible to manufacture key transmission components from electric motors to right before the tire in addition to our existing products including diff and planetary assembly.

In the development area, the introduction of testing equipment for unit products and assembled parts enhances the unit based system of product proposal, development and function assurance.

Catching a change in stakeholder needs quickly and designing a system to realize technology, products, and services at the times speedily, we are contributing to the mobility advancement.

Electric Driven Unit: Hardware Configuration and Our Products



Expansion in R&D System in North America

To expand the development system close to the North American market, two development systems, first-ever outside Japan, have been placed in Michigan, USA, and Ontario, Canada.

The main focus of the USA system is PT business, and that of Canada is L&S business. This establishment grabs customer needs of PT and L&S business in North America from the upper stream of development to propose products on a timely basis.

MAP-MI (Michigan, USA) ,New Development System Introduced This Year

Towards a Synergy Effect with HAY Group

To strengthen business structure and to correspond to change in the automobile industry, we acquired HAY Group, a large forging/machining manufacturer in Europe. To create a synergy effect with HAY Group, we have started vertical integration in PT business products and technology fusion for a stronger competitiveness.

Vertical integration of PT products aims for development and proposal of unit products as well as integrated production by combining the strength of each other: Musashi's differential assembly and HAY's final gears.

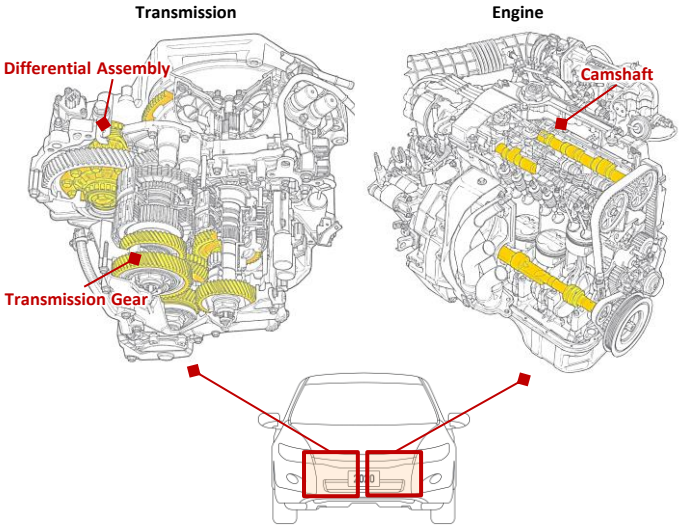
In technology fusion area, for innovative productivity in bevel/ring gear production, we are developing combined forging technologies; precision and high speed forging by combing Musashi's precision forging and HAY's high-speed forging, and application of HAY's diameter expansion/forming technology to Musashi's facilities.

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.

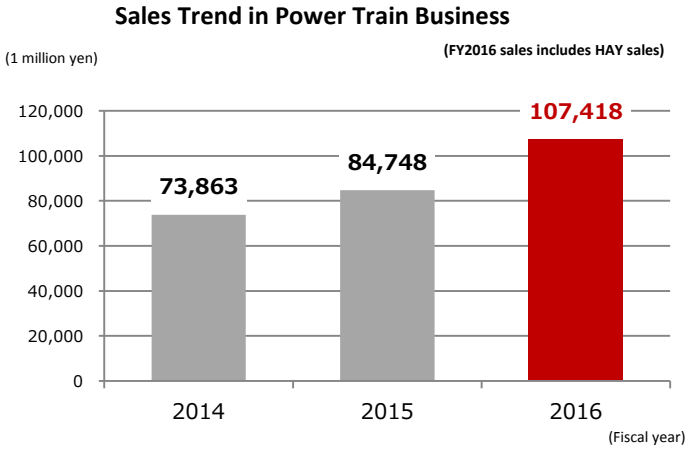
The MS Diff with self-developed bevel gears achieves 10% or lighter than the conventional, and contribute for less vehicle weight and better fuel economy. By building a mass production system and expanding the MS Diff Series covering torque bands from compact to large vehicles, we provide customers globally 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, we have started business with 2 companies in Japan. Also, we are expanding order placements and business with a synergy effect (technology linkage and customer base) with HAY Group.



FY2016 PT Business Topics

In the transmission gear area, we started mass production by establishing a manufacturing method of high-precision planetary assembly for newly developed lightweight and compact multi-speed automatic transmission (multi-speed AT).

In the camshaft area, forecasting low volume production of multiple models, we are establishing a production system flexible to environmental change by installing complex machines capable of machining multiple processes.

Technological linkage with HAY group started 20 kaizen projects including new machine installation, automation, and machining process revision. In Japan, technological development has been started for large-diameter gear forging with HAY Group’s special forging technology.

Planetary Assembly for Multi-speed AT – Mass Production started

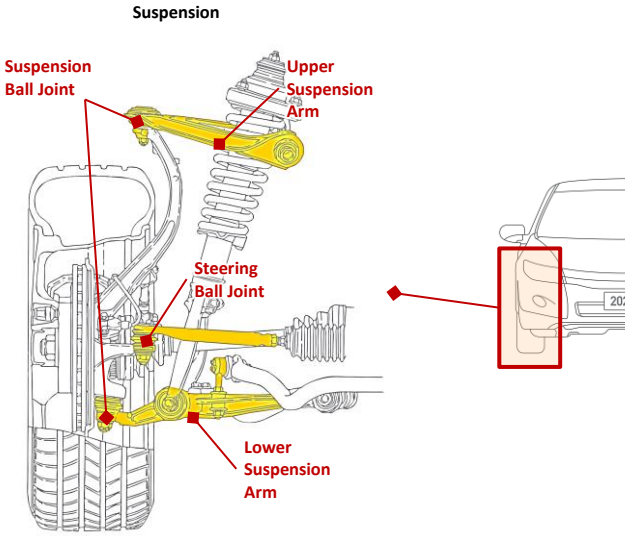
Large Diameter Ring Gear – Machining Technology under Development

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.

From a technological perspective, we are establishing the Musashi brand by pursuing specs and manufacturing method of ball joints good at friction performance and strong enough to improve drivability and comfort.

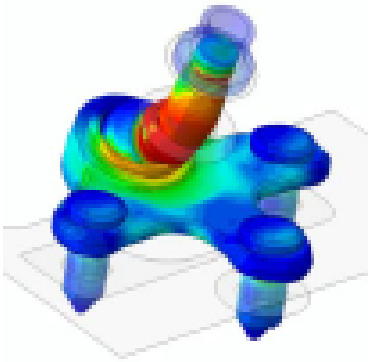


Image of Analysis with Highly-precise Simulation

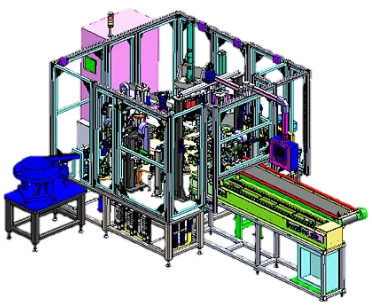
FY2016 L&S Business Topics

■NA (North America) Tech Center

As a ball joint development base, NA Tech Center was established in Waterloo, Ontario, Canada. Building a global R&D system and promoting local development, we are aiming at providing products meeting the regional needs more.

■Compact Automatic Assembly Machine

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

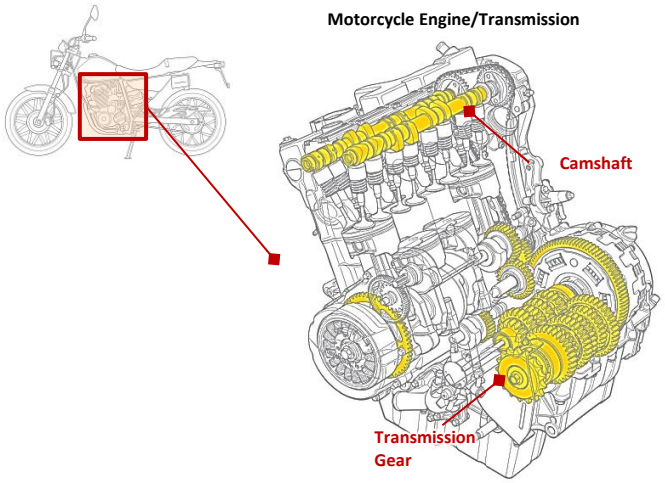


Initiatives in Motorcycle Business

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 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.

* 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.

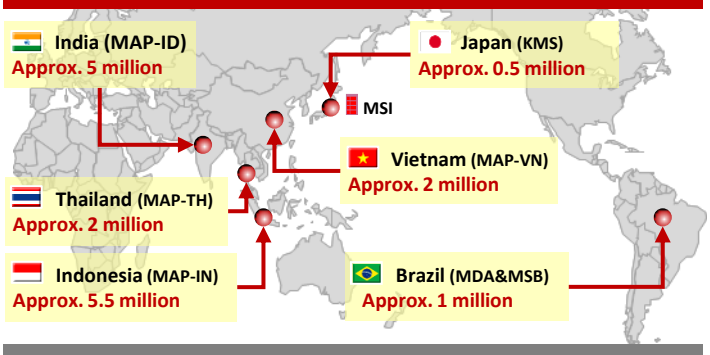


Development and Forecast of Motorcycle Business

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 HAY Group, acquired in 2016, as well as by high-speed forging technology with many Hatebur machines owned by HAY.

In FY2017, 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: 1.6 million

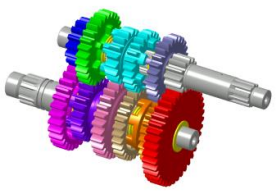


Motorcycle customers:
Honda, Suzuki, Kawasaki Heavy Industry, FCC, BMW Motorrad, Triumph Motorcycles Ltd., Hero Moto Corp Ltd.

FY2016 Motorcycle Business Topics

In-house Transmission Design Development

We are working on the entrusted design development of transmission gear assembly with a vehicle maker for the first time. Utilizing our mass production experiences so far, we are producing drawings by ourselves to meet the customer concept.



Motorcycle Transmission Gears

Key for In-house Design Developments

① Pitching*1 resistance & stronger dowel*2
② More accurate dowel location
③ Common gear design
④ Shape for better die life

Technology Development for Cam Grinding Free

With the use of a parts former, we are developing technology not requiring grinding for small cam. We are now trying for high-speed forging technology for mass production to achieve a better cam surface accuracy without a cam grinding process to achieve an outstanding competitiveness.

Camshafts for Motorcycle

Current machining process: PF Cam stock removal

Lathe → Carburize (HT) → Cam grind → Shaft grind

New machining process: PF cam mill scale

Lathe → Carburize (HT) → Eliminate ~~Cam grind~~ → Shaft grind

*1 The phenomenon that the surface of the gear is damaged by repeated contact between the gears.
*2 Protrusion which is made in the axial direction of the transmission gear.

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 engineers across the world to equalize the high forging technology level as well as to keep innovating forging technology.
The acquisition of HAY Group expanded a range of forging technology significantly. We are striving to fuse the strength of HAY’s high-speed forging technology with Musashi’s high-precision forging.

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

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.

FY2016 Forging Technology Topics

■Regional “Global T-Forge”

In FY2016, regional “Global T-Forge” activities started as part of the forging group activity. 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. The first regional “Global T-Forge” was held in Indonesia 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 Indonesia

■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. A new model launched in Brazil in FY2016 is one of the examples. The effective use of forging analysis brought an optimal middle process shape and die design and reduced local testing time significantly. Improving the analysis accuracy more, we are working on the product quality improvement by tool life forecast and the defect rate reduction.

Example of Forging Simulation (Left: Simulation, Right: Actual Part)

Corporate Governance

"Responsibilities and awareness as a public company." In the morning meeting of the day over-the-counter-trading started, Kimitoshi Otsuka, the second President, called his employees to work on their duties with being aware of a member of a public company. 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 fulfil corporate governance more for the sustainable growth of the company and for the improvement of the mid/long term corporate value.

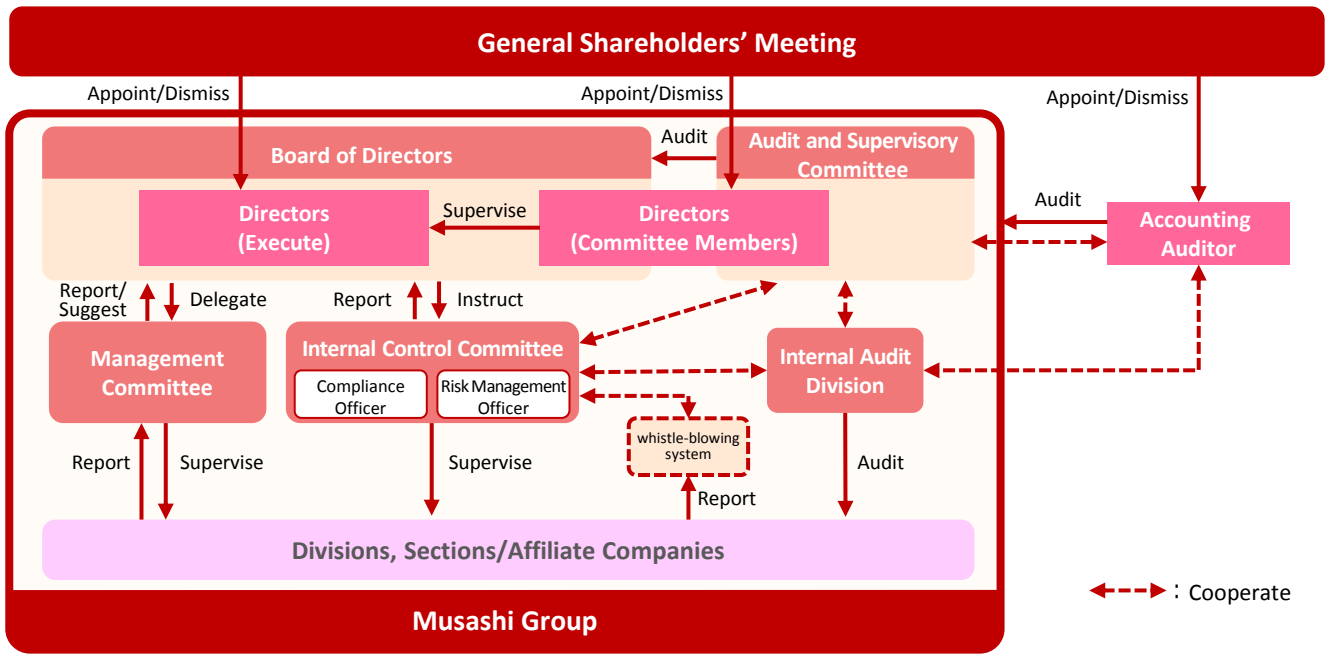
Corporate Governance System

The Company adopts an Audit and Supervisory Committee system. This enhances the auditing and supervising function of Directors to the business executions. Additionally by involving outside Directors, including the members of the Audit and Supervisory Committee, in decision making, the transparency and soundness of management is improved. Decisions can be made and implemented promptly by delegating authority of some items resolved by the Board of Directors to the Management Committee, etc. to improve the flexibility in management judgment.

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 fulfil corporate governance which is considered as one of the critical elements for management.

Scheme of Corporate Governance

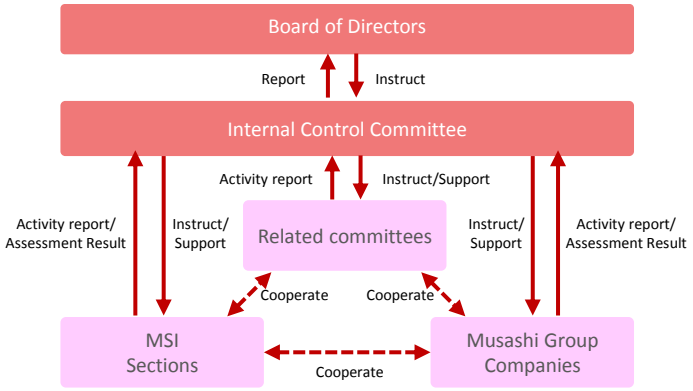


Basic System of Internal Control

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

An Officer is appointed in each business function or regional operation for an immediate and optimal management judgment.

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	Quality Assurance	Europe
R&D	Purchasing	North America
Forging Engineering	Finance & Accounting	South America
Machinery & Tools	HR & General Administration	Asia
Production Management	Corporate Planning	China
PT Business Unit	Sustainability Promotion	
L&S Business Unit	Globalization Initiatives	
Motorcycle Business Unit	Global IT Strategy	
Production	-	

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.

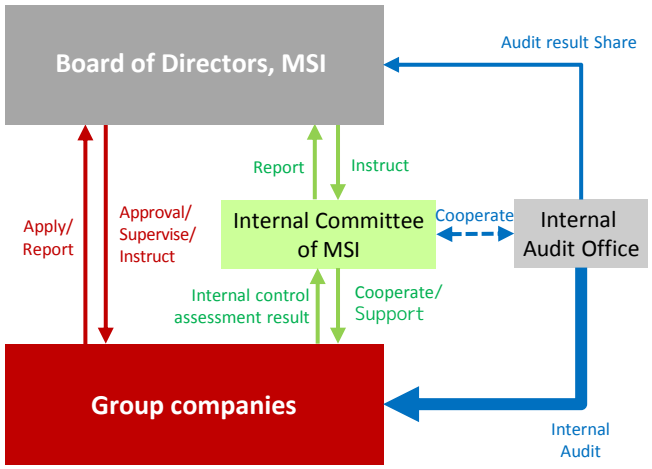
Self-Assessment

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.

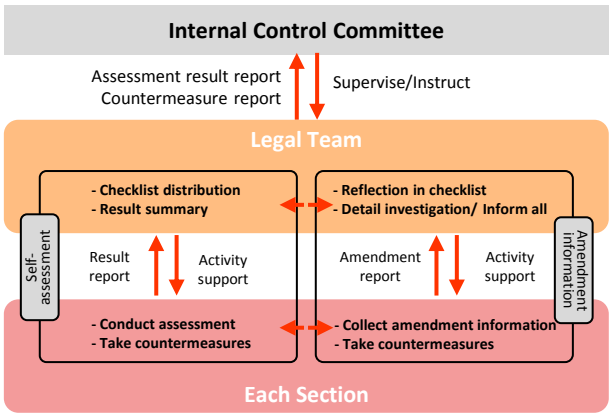
Musashi Compliance Guidelines

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 behaivor and safety.

Compliance System

The Company promotes a systematic approach: the appointment of a Directors as 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.

Open Door

3 windows to receive compliance matters such as violation, misconduct and harassment

《Open Door windows》

- Musashi suggestion (internal)
- Musashi suggestion (Audit & Supervisory)
- External lawyer

Risk Management and Business Continuity Management

Risk Management System

The Company has establish 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.

Business continuity management system

BCP Committee
Chair: Risk Management Officer
(Overall plan promotion, Education/training. Sub-committee confirmation)

- **Sub-committee for Operation of Crisis Response Headquarter**
  (Action plan, Timeline, Set-up of evacuation sites)
- **Sub-committee for Production Recovery**
  (Production recovery plan, Checklist of production equipment)
- **Sub-committee for Supply Continuity**
  (Supply continuity plan, Critical part list, Important supplier list)
- **Each section**
  (Member list by section, Procedures for recovery of critical work)

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.

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 recurred).
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 devises/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, ratified by the USA, China and EU and became effective in November 2016 .

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."

Under such circumstances, in Japan, "plans for measures against global warming" were decided by the cabinet on May 13, 2016 to achieve a long-term target for the reduction of greenhouse emissions by 80% compared to 2013 before 2050.

Musashi Group which develops its business globally needs to respond to the emission reduction target of each region and recognizes that measures against global warming are one of the critical group-wide issues. Not only saving energy and 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.

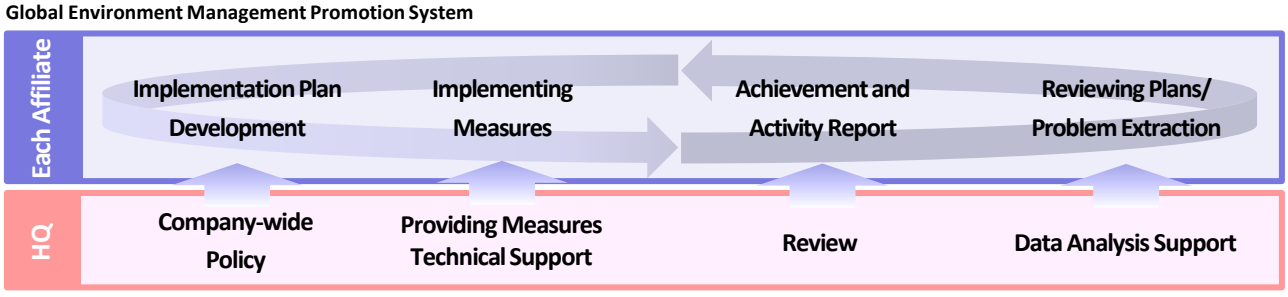
Global Environmental Management Promotion System

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 GTM represented by all 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 sprit of innovation.

Basic Policy

Musashi, as a good corporate citizen in global society, strives to achieve environmental management based on the guidelines stated below:

1- Not only complying with the international rules and local laws, Musashi establishes the necessary self-imposed standards for meeting social and stake holders requirements.

Waste water, Air, Noise, Odor, Vibration, Waste, Hazardous materials, Soil contamination

2- Musashi reduces the environmental load as much as possible in the business area of the organization. We shall endeavour to continuously maintain and improve our environmental management system.

3- Musashi ensures the effective use of energy and other resources in our business activities and pursues the appropriate management of chemical substances and reduction of waste.

4- Musashi will continue to actively engage with local groups and undertake further environmental conservation projects to protect and preserve our global environment.

We ensure that all individuals working in or for our organization are fully aware of these environmental policies and maintain harmonious ties with local communities.

We establish objectives and targets based on this policy and formulate an environmental action plan to achieve these objectives and targets, which we implement, evaluate and revise.

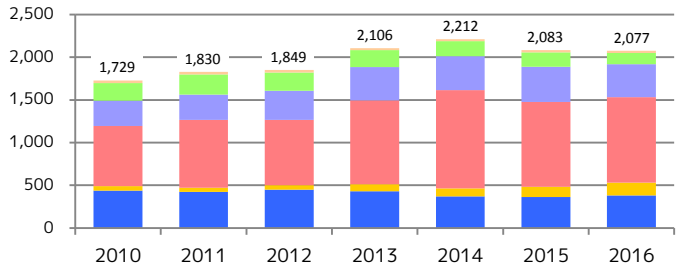
Also, we ensure that all individuals working in or for our organization are fully aware of these environmental policies by posting and disclosing such policies to the general public.

May 1, 2006

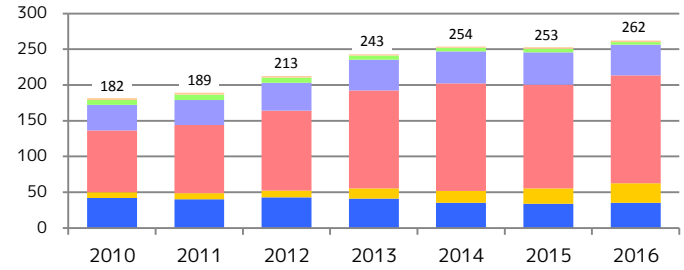
Environmental Impact and Reduction Initiatives in Production Sites*1

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.

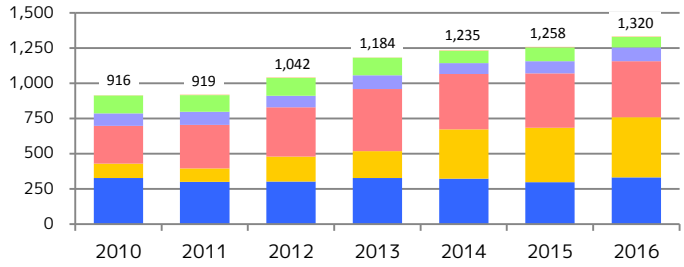
Energy Input (TJ)



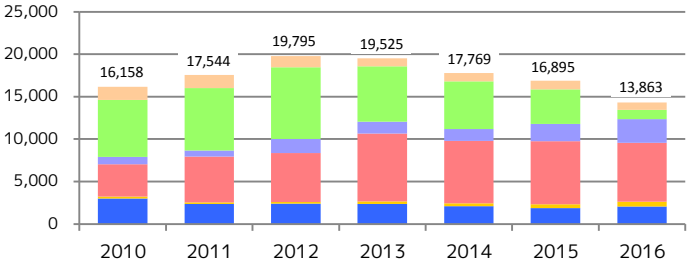
Greenhouse Emissions*2 (100ton-CO_2)

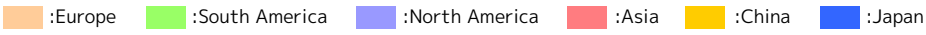


Water Consumption (100ton)



Waste Emissions (ton)





*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".

Better Robot Arm Oil Pan (MAP-NT, China)

Oil pans were placed to prevent oil spill on the floor while transferring materials with the robot arm. These could not be cleaned during running, therefore Oil deteriorate in the pans and ended to be disposed. After modification, oil can be collected automatically and reused. This resulted in annual saving oil of approximately 1,200 litters per line.

Oil Pan - Before

Oil Pan - After

Better Productivity in Shot Process (MAP-IN, Indonesia)

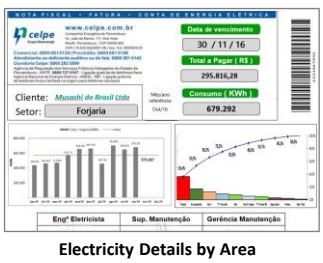
Conventionally, materials were placed on the hanger shot jig one by one manually. Revising the arrangement and jig, now materials can be placed at once. This increased the per shot capacity and improved workability a lot. Also, 30 ton of CO_2 can be reduced annually.

Improved Shot Process

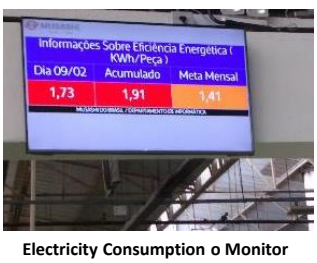
Much Better Efficiency

Energy Management System (MSB, Brazil)

To control energy by area, MSB prepared drawings of electricity distribution, started measuring/recording daily energy consumption, and set rules for cost responsibility. Understanding the status of energy consumption by area boosted energy saving activities, including specifying/improving high-energy consumption processes, compressor running control, and preparing/training machine shut down procedures.



Electricity Details by Area



Electricity Consumption o Monitor

Improvement in Water Feeding Pump Control (MAP-ID, India)

Water feeding pumps were running continuously before. The frequency controller was installed to control the pump speed according to the flow and pressure requirement. This eliminated extra running and saved 40 ton of CO_2 annually.

Installed Controller

Smaller Compressor Loss for Energy Saving (MAP-CH, China)

Running conventional piston-type intake valves for long-time made valve movement slow because of dust and contamination. This caused high load. By replacing it to cylinder-driven valve, electricity consumption was reduced.

Improved Intake Valve

Update to Energy Saving Compressors (Akemi No.1 Plant)

From a preventative maintenance perspective, MSI's 25 year-old compressors are being updated gradually to meet the top runner system. In FY2016, 2 compressors in Akemi No.1 Plant were updated to reduce 43 ton of CO_2 in a year.

Updated Compressor

Better Air Conditioning with Circulator (MAP-CA, Canada)

In 2016, MAP-CA installed large circulators to improve the air flow in plant and to save A/C and energy cost. As additional benefit, this made work environment better.

Installed Fan

Introduction of Highly-efficient Lighting (LED)

Highly-efficient lighting such as LED is being introduced in production sites in the world. In FY2016, such lighting was introduced not only in Akemi No.2 plant, MSI, but also in KMS (Japan), MAP-NT (China), MAP-TH (Thailand), MAP-VN (Vietnam), MAP-MI (USA), and MAP-MX (Mexico).

Akemi No.2 Plant, MSI

KMS (Kyushu, Japan)

MAP-TH (Thailand)

MAP-MX (Mexico)

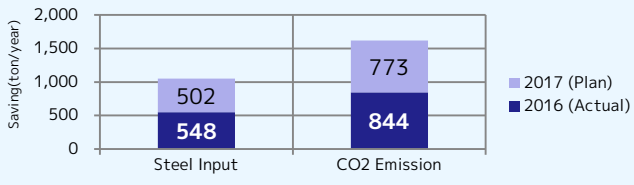
HAY Group Environmental Initiatives

Reduction of Input Resource by Reducing Cutting Amount

Smaller mass of materials for 40 variations of forged and rolled products achieved annual saving of 548 ton of steel input and 844 ton of CO_2.

To reduce material mass, many improvements were applied; less cutting amount during machining, the forging method not requiring outer diameter trimming, and more strict tolerance.

In 2017, annual saving of 500 ton of steel is anticipated by applying measures in 41 additional products.



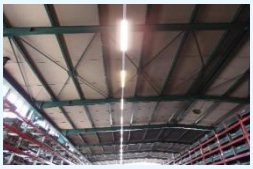
Energy Saving with Highly-efficient Pumps and Lighting

Bockenau Plant used to supply cooling water with 8 old pump systems running all the time. These were replaced with 5 new and highly-efficient systems.

Lighting has been updated to LED and automatic switches have been installed to turn on with sensor.

These improvements reduced 126 ton of CO_2 annually.

Updated Pump



Installed LED

Environmental Management in Japan

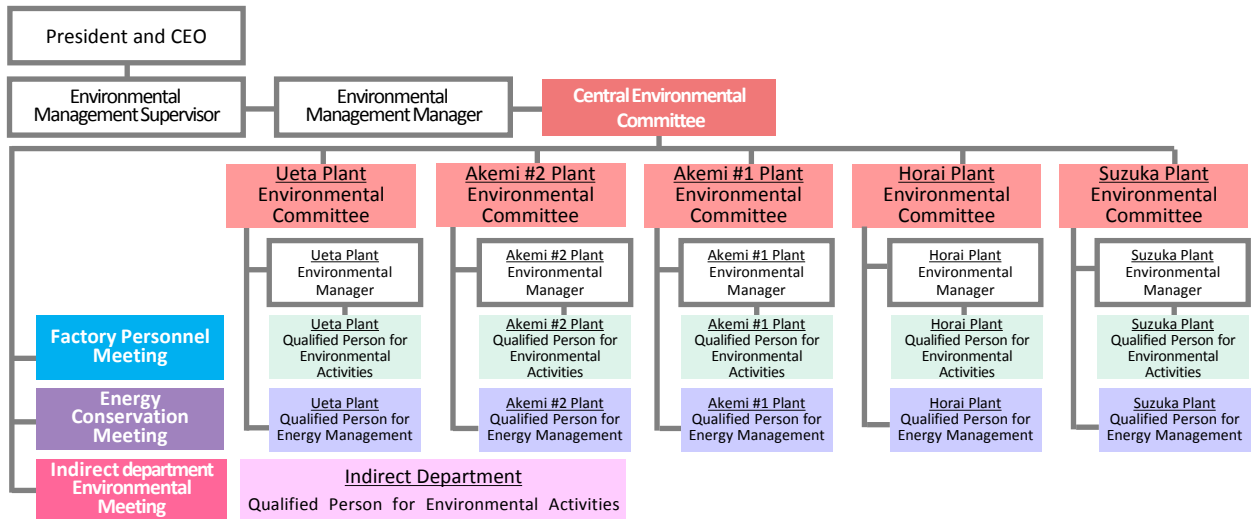
Current Status of Environmental Issues and Future Responsibilities

In Japan, “climate change and energy issues” stay as a key environmental matter and various initiatives have been taken.
Under global circumstances including the “Paris protocol,” “plans for measures against global warming” were decided by the cabinet on May 13, 2016. The plans set a mid-term target for the reduction of greenhouse emissions by 26% compared to 2013 before 2030, and a long-term target by 80% before 2050. With the expansion of our businesses on a global scale, not only taking measures in the domestic business, but also the target for emission saving needs to be achieved in each region of our business.
From both of business management and environmental perspectives, the domestic business is expected to improve production efficiency, to accumulate know-how of energy/resource saving, and to provide the above to the production sites in the world. Remaining as a frontrunner of environmental activities for all production sites, MSI will step up the group-wide 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 section since the acquisition of ISO 14001 certification in August 1998. In FY2016, the renewal audit was taken in June 2016, and the 1st periodic external audit was taken in January 2016. None of the items were identified as non-conformity and the certification was maintained. We take advice provided by an external audit as an opportunity for improvement and reflect it. In FY2016, to meet new standards according to the amendment in ISO 14001, the internal management system has been revised. To compete the adoption to the new standards in FY2017, we are promoting related activities.

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.

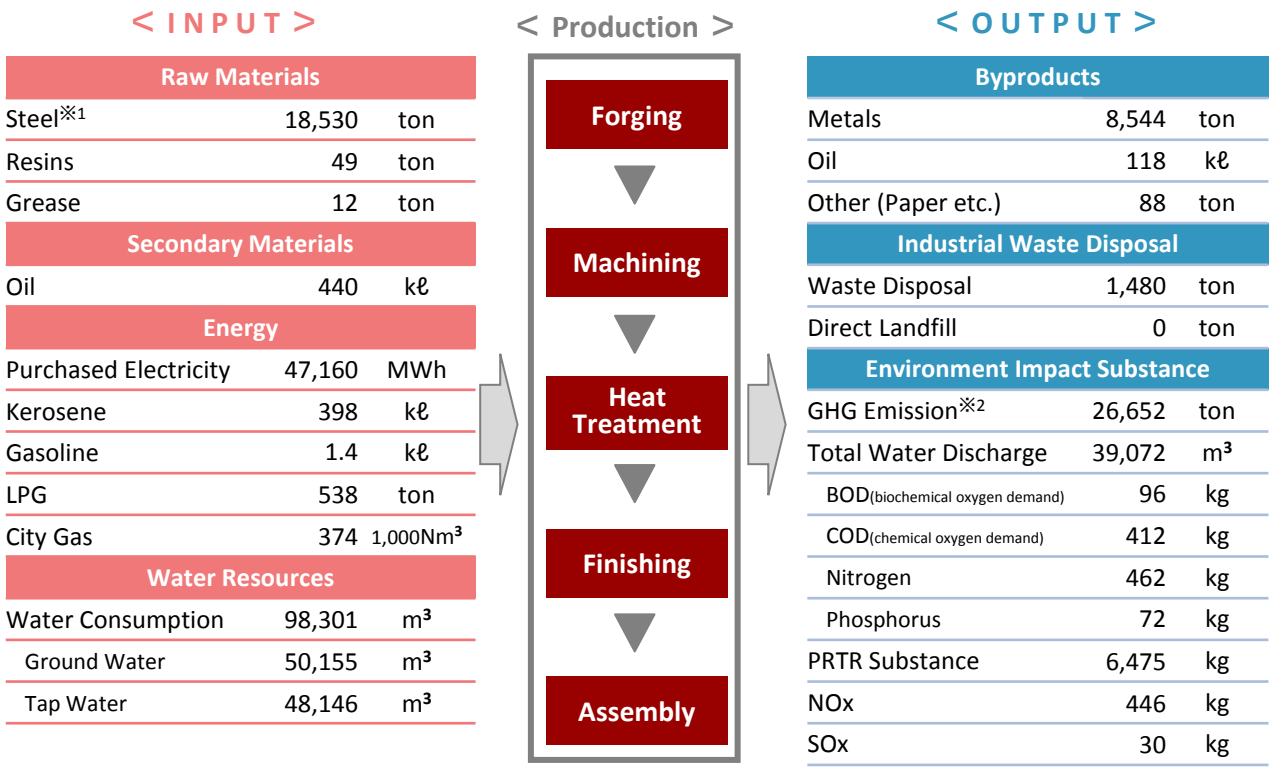
■Material Flow

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 CO_2 and waste.

■Environmental Accounting

Environmental accounting calculates investment and cost of environmental conservation. “Investment” is the investment for tangible fixed assets in FY2016, “Expense” is the expense for environmental measures in FY2016.

FY2016 Resource Input and Output



Period: April 1, 2016 to March 31, 2017

*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” publicized by the Ministry of the Environment of Japan in November 2015 was used.

FY2016 Environmental Accounting

(million yen)

Cost Classification		Main Initiatives	Investment	Expenses
(1)	Cost within Business Area		**18.3**	**116.0**
Break down	(1)-1 Pollution prevention	Air/water/soil pollution prevention	2.6	29.2
Break down	(1)-2 Global environmental preservation	Heat treatment process integration, Compressor update	15.7	5.9
Break down	(1)-3 Circulation of resources	Waste treatment, recycling	0.0	80.9
(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.	**0.6**	**59.1**
(4)	R&D Cost	R&D of products for energy saving (compact, lightweight)	**2.9**	**101.4**
(5)	Social Activity Cost	Community clean-up activities Musashi woodland project	**0.0**	**3.4**
(6)	Environmental Damage Cost		**0.0**	**0.0**
(7)	Other		**0.0**	**0.0**
		Total	**21.8**	**279.9**

FY2016 Environmental Goals and Achievements

In 2016, we set targets for each of the following categories and worked on environmental improvement.

Category	Environmental Activity	Control Item	FY2016			FY2017 Target
			Target	Result	Achievement	
Global Warming Measures, Energy Saving	Green-House Gas Reduction	CO_2 Emissions per Unit (CO_2 ton／million yen)	3% Reduction (baseline:2013)	3.7% Reduction	◎	1% Reduction (baseline: 2016)
	Reduction of Transportation-Related CO_2 Emissions	CO_2 per Unit (CO_2 ton／million yen)	3% Reduction (baseline:2013)	57.0% Reduction	◎	1% Reduction (baseline: 2016)
Resource Saving	Water Consumption Reduction	Water Consumption (m3)	8% Reduction (baseline:2008)	4.3% Reduction	×	1% Reduction (baseline: 2016)
	Industrial Waste Reduction	Waste Volume per Unit (ton／million yen)	6% Reduction (baseline:2011)	10.3% Reduction	◎	1% Reduction (baseline: 2016)
	Promotion of Waste Recycling	Direct Landfill (%)	Maintain 0% Landfill	0%	○	Maintain 0% Landfill
Less Environmental Impact	Reduction of Chemical Substances	PRTR*-Listed Substances (ton)	80% Reduction (baseline:2000)	87.9% 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.

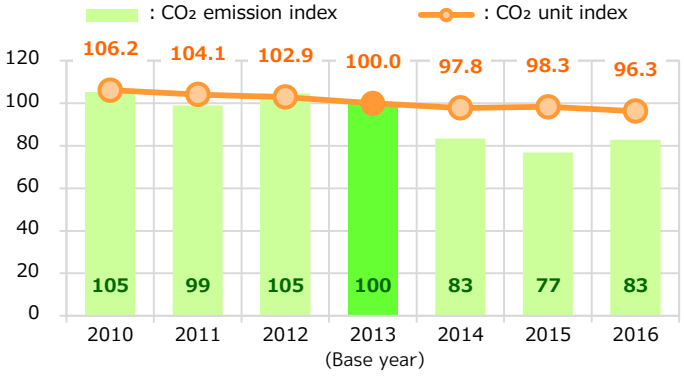
Reduction of GHG Emissions

In FY2016, CO_2 emissions increased from the previous year due to the increase in domestic production but CO_2 emission dropped significantly by 17% compared to 2013, the baseline. The CO_2 emissions unit, an expression of energy efficiency, was reduced by 3.7% from the FY2013 level. The target of 3.0% reduction from FY2013 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.

CO2 Emissions and Unit Energy Consumption

(Presented as an index with FY2013 as 100)



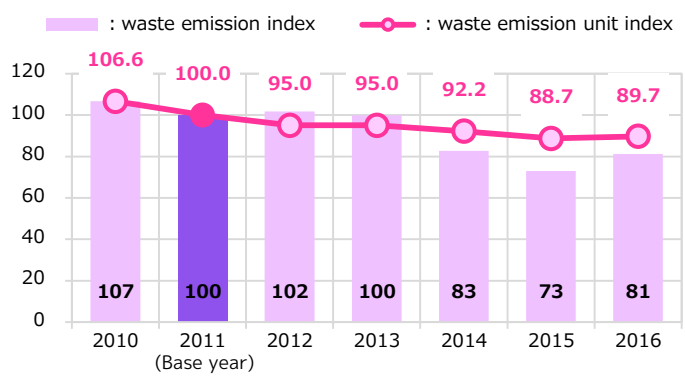
Reduction of Industrial Waste

In FY2016, industrial waste increased from the previous year due to a temporary increase in water-based waste. However, by continuous measures for reducing sewage sludge etc., 19% reduction in comparison to the base year of 2011 was achieved. The industrial waste emission unit was reduced by 10.3% compared to the FY2011 level. 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.

Industrial Waste and Unit Waste Emission

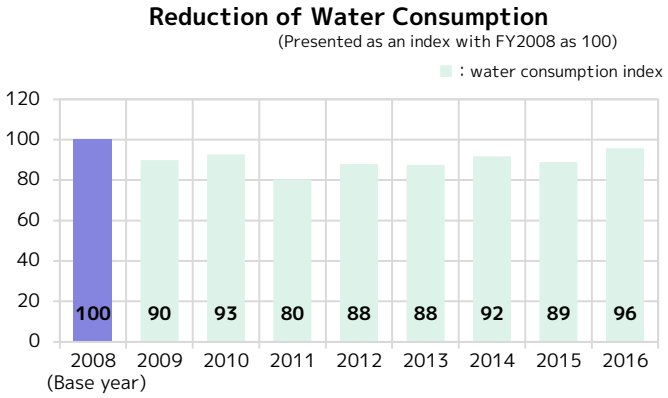
(Presented as an index with FY2011 as 100)



※The calculation method of industrial waste has been revised since this year.

Reduction of Water Consumption

The water consumption in FY2016 increased because of more processes requiring water, but decreased by 4.3% compared to the base year of FY2008. We will keep reducing water consumption by implementing water saving activities; by replacing old pipes for leakage prevention; and by monitoring waste and loss.

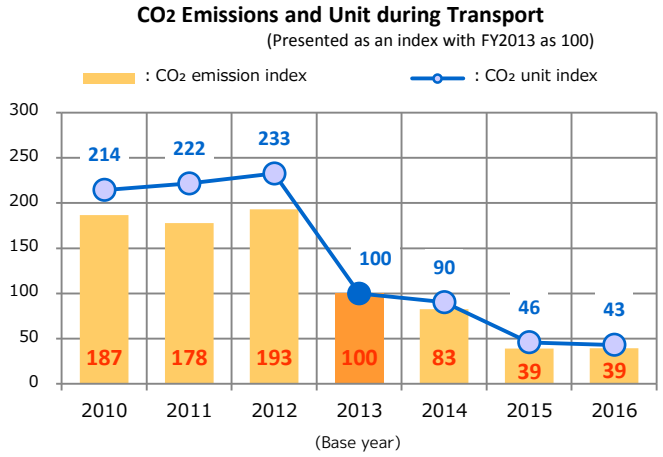


Highly-efficient Transportation

To reduce CO_2 emissions during shipping, Production Control is focusing on the highly-efficient transportation by working closely with customers and transport companies.

In FY2016, we worked on the improvement of loading efficiency for shipping and the expansion of “pick-up transportation” applied since FY2013 to reduce CO_2 in the entire supplier chain logistics.

This helped to reduce CO_2 emissions generated from transportation by 61% compared to the base year of FY2013. CO_2 unit was also reduced by 57% compared to FY2013.



External Evaluation

-Highly Evaluated for the 3rd 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 third consecutive year.

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

Highest DBJ Environmental Rank in the 3rd Consecutive Year

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 focus on the 2020 vision and defined our action policy as “Change from an approach ‘by force’ to building a ‘constitution’ from a customer first perspective!!”. Based on the action policy, we promote continuous improvement of our duties and qualities for much customer satisfaction.
In FY 2016, we were able to improve quality and production index indicator for the entire group by promoting various initiatives to improve production and quality and to anchor as a constitution.
We keep promoting the overall evaluation prior to mass production and the preventive actions towards defects to provide our stakeholders including customers with products which can be used with peace of mind.

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

Establishing quality management based on the ISO/TS16949 requirements, we have a system to provide products which satisfy customer quality requirements. All of our production sites are promoting the establishment of a quality management system to meet the ISO/TS16949 standards. As of now, 10 sites have been certified and 2 more are expected to be certified.

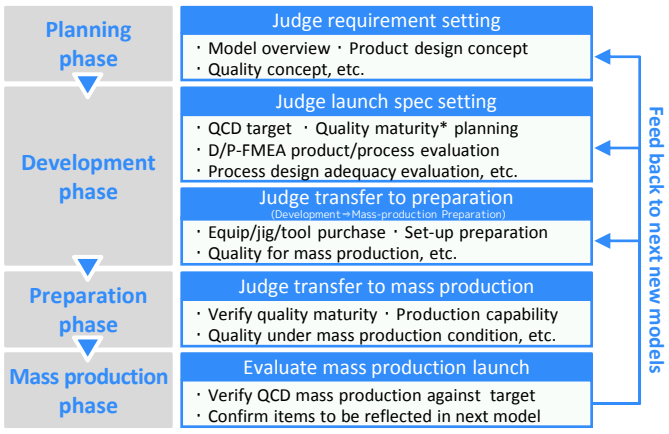
■Quality Assurance for New Model Launch (M-FLO)

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

■QCD Constitution Improvement Activity (M-QCD)

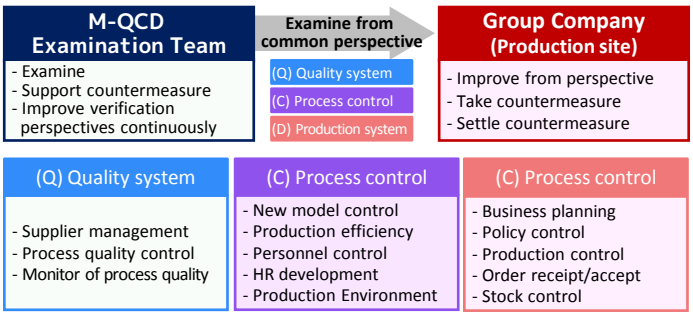
For a stronger “Monozukuri” or manufacturing, we are working on improving the corporate constitution to level our strengths by examining a quality/production system and process control from a common and objective perspective and by strengthening potential weaknesses.

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



*Assure quality level required in the phase after mass production phase by prototype/test.

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. The Junior Course for all employees and Foreman Courses mainly for employees in production and quality management, these are provided not only to our employees but also to our suppliers. The Junior Course for the employees oversea production site started last year. In FY2017 we will establish a quality certification system for all including members outside Japan to improve the capability of quality members globally.

【Annual training plans】

- **ISO/TS 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

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 .

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.

■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.

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

Philosophy

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

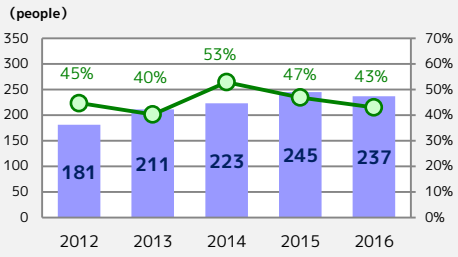
Global training

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

Hay Group's Approach to HR Development

In Germany, an emphasis is given on vocational training under cooperation between private companies and vocational schools. Hay Group is also devoted in HR development and in contribution to its local communities.

Students graduated from a vocational school can participate in specific vocational training in the employment of a private company for a few years to get certified. Currently, about 120 trainees are employed by the Hay companies in Germany. The level of skill/ qualification can be assured by vocational training.

Trainees working in HAY Group

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.

■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.

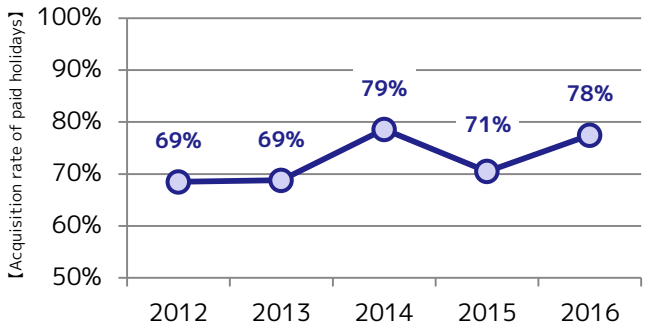
Like child care, "shorter working hour," "holiday caring" and "caring leave" programs are provided for caring of another family member to manage both work and family support.

■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.

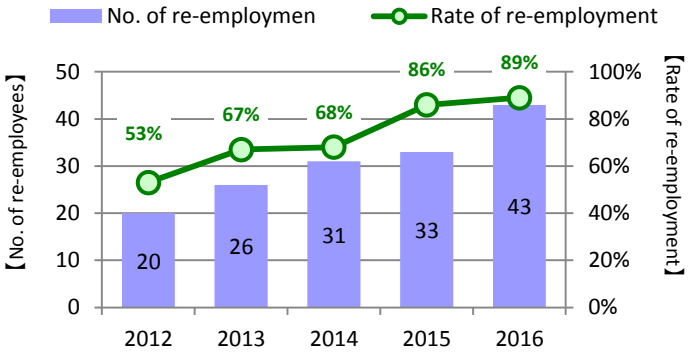
Paid Holiday Acquisition Rate



Child-care Leave

	2012	2013	2014	2015	2016
Female employee child-care leave (%)	100	100	100	100	100
Return to work after child-care leave (%)	100	N/A	100	100	100

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"

Ⅳ 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.

【Basic Concept】

The Musashi Group will promote the creation of a work environment where each associate is able to maximize their worth and ability and is able to work productively.

We will respect the human rights of every associate; we will not accept any form of discrimination, child labor, forced labor, sexual harassment, power harassment or bullying.

【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, age, intellectual or physical disability, disease, academic background or social status.
- We will not accept forced labor nor employ children who are under the legal working age. Also we will not conduct business with companies which accept child labor.
- We will avoid any forms of sexual harassment which could make others feel uncomfortable and could have a negative effect on the work environment.
- We will not abuse the dignity of others by verbally abusing them, by using a position of authority to bully them, or by unnecessarily disturbing their work environment.

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 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

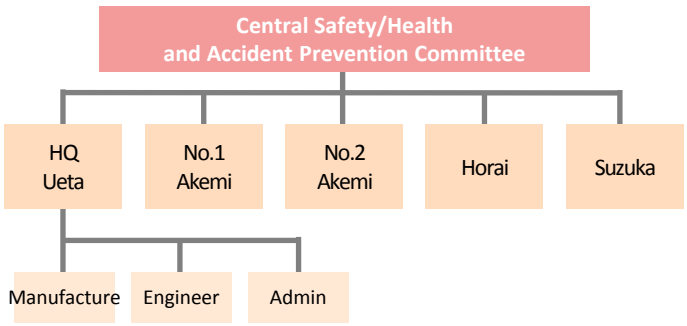
Based on the basic philosophy “No safety, no production,” we make sure that preventive action is applied and taken against similar serious accidents of pinching or trapping in past. Also, safety/health risk assessment is conducted from multiple perspectives of production and safety/health when new equipment 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:

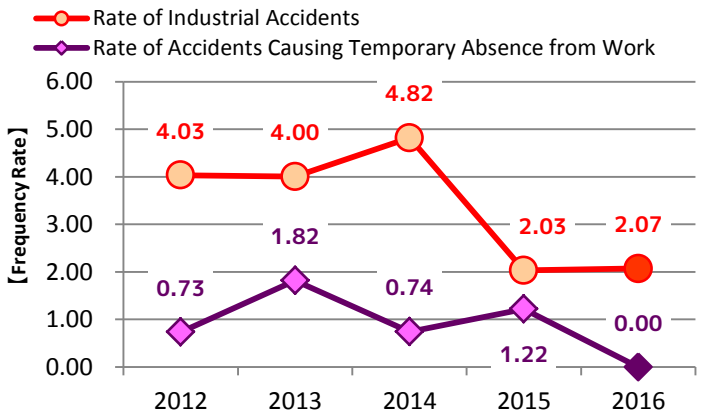
- Full medical check-up
  - Additional X-ray on stomach and check of bowel cancer
  - Additional blood test at age of 30
  - Vaccination against flu in the Company
- Support for individual health improvement
  - Lecture on health
  - Support for half-marathon runners
- Support for employee’s mental health
  - 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 We will conduct fair and sound transactions. We will not enter into any improper trade agreements or cartels, or abuse any dominant bargaining positions.

【Basic Concept】

The Musashi Group will never use improper trading restraints or any other unfair methods of business.

【Action Guide】

- We will comply with all anti-monopoly and fair trading legislation applicable in the country or region of operation. We will not seek to create private monopolies, use improper trading restraints or any other unfair methods of business, such as cartels or bid-rigging, nor will we seek to abuse any dominant bargaining positions which may arise.
- 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.
- We will not receive or offer improper facilities from or to interested parties such as suppliers by misusing our position or authority.
- We will not receive or offer excessive gifts or entertainments from or to interested parties such as suppliers.
- We will conduct business with our suppliers based on the “Subcontractors Delayed Payment Prohibition Act”. We will consequently issue written purchase orders and ensure that payment for subcontract work is made within 60 days after receiving the goods or services. We will not make any unreasonable reductions in the amount to be paid, make unfair modification to the work required, or make unreasonable demands for rework.

■Training session on ”Subcontractors Act”

To ensure thorough compliance in transactions with subcontractors, we regularly hold trainning session about the Subcontractors Act (Subcontractors Delayed Payment Prohibition Act) by external lecturer. In fiscal 2016, 112 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 CO_2 emissions, we are working to conduct periodic surveys of CO_2 emissions at business partners and sharing examples of CO_2 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.

Local Environmental Conservation

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

■Environmental Educational Activity (MDA: Brazil)

MDA works together with neighborhood companies, local governments, and environment groups for educational activities. In 2016, MDA participated environmental events in a zoo and schools and provided kids programs and plants.

■Voluntary Cleaning (MAP-CH: China)

For community environmental improvement and a better environmental mind-set of the employees and their families, MAP-CH started clean-up activities in local villages and parks in 2011. More and more kids and family members are attending.

■Musashi Woodland Project (MSI: Japan)

The “Musashi Woodland Project” started in 2009 for raising biodiversity and the employees’ awareness on environment.
Initially on-loan prefectural forest was used for planting activities. From 2012 a large woodland area in the city of Toyohashi has been used to provide more Musashi employees and its family members with opportunities of engaging with nature. Main activities include planting of Japanese black pine which number is declining due to bug bites, and nature experience programs for kids.
During the past 5 years since this activities started, 1,117 people have participated and planted 29 black pines, 480 azaleas, and 67 irises in total.

Traffic Safety Promotion

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

■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.

■Traffic Safety Campaign (MSB: Brazil)

MSB organizes an educational campaign on traffic safety for its employees. During the campaign, they listen to the disabled from an traffic accident, test breath, and experience how the drunk see the world.

■Traffic Safety in Chinese New Year (MAP-CH: China)

In the Chinese New Year season, many people go back to their home town. MAP-CH calls its employees for safe driving by tying a red ribbon charm on the back mirror and by handing in a card with a safety message for their family.

■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.

■Traffic Safety Enlightening Activity (MSI: Japan)

The MSI's Central Safety/Health Committee plans and promotes the prevention of traffic accidents. Traffic safety programs include accident prediction with video and sharing information of accidents and traffic safety class by police to raise awareness.

■Award on Traffic Safety Activities (MSI: Japan)

MSI was awarded by the chief of the Aichi prefectural police station for organizing parent-child traffic safety classes through simulations and experiences about traffic safety and for continuous enlightening activities on traffic safety.

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.

■Plant Open to Family (MAP-TH: Thailand)

MAP-TH opened the plant half day for the family of its employees to feel closer. This was a good opportunity to let the family members know about the company to give them a better sense of ease and trust about where they work.

■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 estate.

■Health Support Program (MAP-IN: Indonesia)

Under the cooperation of the local government and a corporate doctor, MAP-IN checked on the health of 220 people and provided seminars on health. This program targets at residents around the plant, the economically indigent people in particular.

■ Participation in Charity Marathon (MAP-MX: Mexico)

MAP-MX participates in “kilometoron” every year. The company donates 50 pesos to local society every time its employee runs 1 mile. The money earned from the event this year was used to donate beds and breakfast to a medical institution.

■Sponsorship of Youth Sports (MAP-MI: USA)

MAP-MI sponsors a youth basketball team. An amateur sports association organizes and provides sports programs for the sound development of youth. Many young people are engaged in sports through this association.

■Donation to a Local Fountain Park (MAP-CA: Canada)

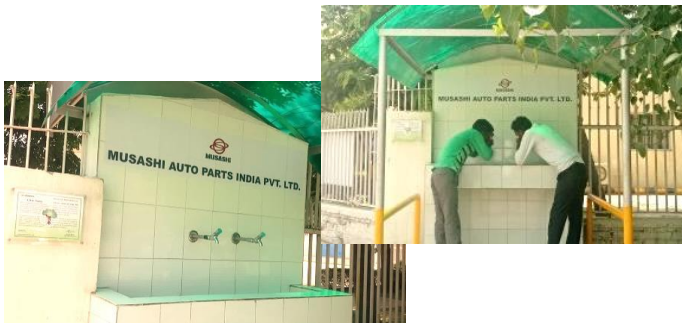
MAP-CA keeps supporting its local communities. Donation was made to the Arthur Optimist Club for the development and construction of a fountain park which will be a place of relaxation for local residents.

■Haiku Sponsorship (MHM: Hungary)

MHM sponsored an event organized by Hungarian fans of literature who celebrated the 300th anniversary of the birth of Yosa Buson (a Japanese haiku poet, artist). MHM employees also attended as audience and voted the presented poems.

■Water Supply Stand for Local Residents (MAP-ID: India)

In India, securing water safe to drink is a social issue. MAP-ID provided a drink water supply stand for its local residents. The stand supplies the enough amount of drinkable water to them.



■ Delivery /Saturday Class (Educational Support) (MSI: Japan)

As part of local society, MSI carries out educational support activities with schools and communities to contribute to the development of children who will lead the future. 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 firework, and many events organized by the employees. It provides a good opportunity for interacting with the local residents.

MUSASHI
Power to Value

MUSASHI Sustainability Report 2017

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