



***JATCO Ltd Environmental & Social Report 2015***



Looking forward toward a bright future for man and society,  
achieved through the development and production of transmissions.

Connecting the engine to the wheel and delivering power smoothly to the road.  
The transmission is the “hidden star player” that matches driving conditions with the optimal  
gear ratio, playing a major role in the car’s driving and environmental performance.  
At JATCO, we strive to develop and produce transmissions that are smoother  
and more environmentally friendly.  
Through this, we not only support the global automotive industry,  
but also enhance people’s driving lives.

**Jatco** *The mission is passion.*

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## Editorial Policy

In this, the 11th edition of our Environmental and Social Report, we aim to foster a better understanding of JATCO's approach to contributions to the environment and our society. This report is intended for all of our stakeholders, including customers, employees, business partners, and our local communities. Through this report, we hope to foster a better understanding of JATCO's continued initiatives towards environmental and social improvements, and the contributions they have made. We also hope that your opinions and input will provide an opportunity for us to identify new challenges to address in our future initiatives. We look forward to receiving your honest comments and feedback.  
<Website> <http://www.jatco.co.jp/ENGLISH>



# Message from the CEO

JATCO supports the sustainable development of society through monozukuri activities that contribute to the environment and society.

We aim to be the No. 1 manufacturer of automatic transmissions in the world, and to continue being a corporation that is well loved by the community.

As a manufacturer specializing in automatic transmissions for automobiles, JATCO has provided the world with numerous innovative products throughout the history of the company. Of these, JATCO is a top-runner in the industry with approximately half of the global share in the area of continuously variable transmission (CVT), and offers a full line-up of products that cover a wide range of automobiles from mini vehicles to 3.5-liter class vehicles. Automatic transmissions, and particularly CVTs, are certain to play an increasingly important role for bringing about the realization of clean and fuel-efficient cars. The key to solving social problems lies in the technological prowess of monozukuri companies. To date, JATCO has commercialized the world's pioneering technology for reducing CO<sub>2</sub> emissions. In order to further reduce the burden on the environment, we are moving forward on the development of the next transmission system. We must also continue to develop

technologies that can provide support for the diversifying vehicle electrification technologies for automobiles, such as hybrid vehicles, electric vehicles, and fuel cell vehicles. It is our duty to provide innovative products that are characteristic of JATCO, through refining our technological capabilities and anticipating the needs of our customers. In order to continue achieving further growth in the expanding automotive market going forward, JATCO has established the goal of becoming the "No. 1 automatic transmission manufacturer in the world." However, this goal is not merely a quantitative indicator. Rather, we aim to be a No. 1 company with substance—where all employees work energetically, and which is recognized by everyone in the world as a company where people wish to work. In addition to our development and production bases in Japan, we have also expanded our business overseas, with development facilities in Korea, United States, France, Russia, and Spain,

as well as production bases in Mexico, China, and Thailand. There are differences in history, culture, and ways of thinking among different countries and regions, and the ideal image that is expected of a citizen also differs accordingly. Nevertheless, JATCO aims to continue being a company that is well loved by the residents of the local community, and which people feel positive about. Corporations shoulder the immense social responsibility of providing employment, while environmental conservation activities such as green procurement as well as energy and resource conservation are also of great importance. They must also never neglect showing consideration for local residents, such as by ensuring safety and caring for the environment in the areas around a production plant. JATCO also aims to continue contributing to society in line with the needs of the country and region, through activities such as cleanup activities, tree planting, and support for nurturing children. At the

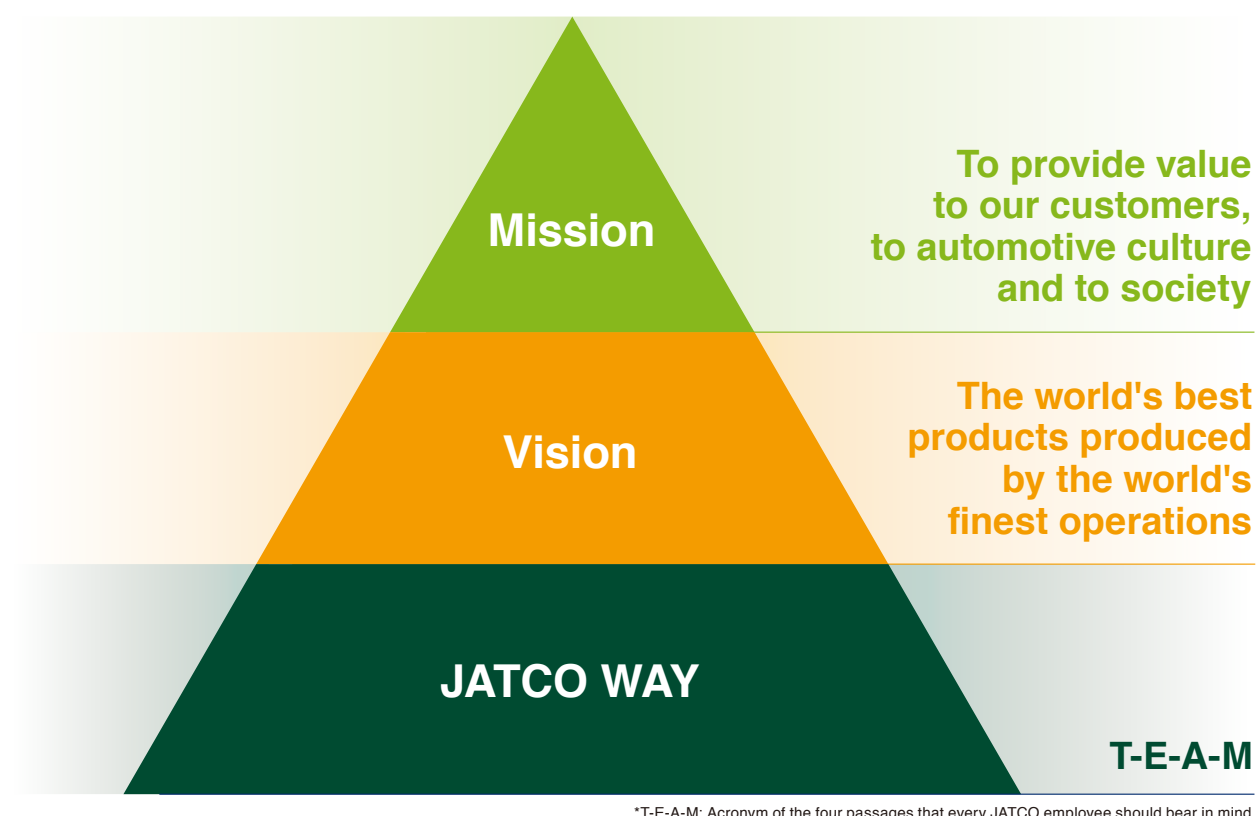
same time, we will continue to further enhance the company's support systems for employees' activities. A large number of outstanding personnel are employed at JATCO. When each individual employee acts with the desire to fulfill a useful role in the world, JATCO will present an image of a "good corporate citizen." Our goal is for each employee to demonstrate their leadership ability, take the perspective of the customer, and prevail on the global stage through technological prowess. We will continue to be a company where such human resources work dynamically as a united team. This in turn will contribute to "providing value to our customers, to automotive culture, and to society," which is JATCO's mission, and represents JATCO's ideal image as a manufacturer that aims to develop and mature to become a "good corporate citizen."

JATCO Ltd  
President and CEO

Teruaki Nakatsuka



# Corporate Philosophy



# Social Responsibility



In order to clearly set forth our ideal corporate image, JATCO has established a mission, vision, and the JATCO WAY (principles of action) as the company's philosophy.

As a manufacturer specializing in automatic transmissions for automobiles, JATCO aims to continue providing products of value not only to customers, but also toward the development of a sustainable automotive culture and society. We seek to further enhance our monozukuri technology and develop cutting-edge products in order to meet the expectations of customers and society. Each individual employee is working hard to promote the business with a strong awareness of this goal.

Striving toward a "society where automobiles and the environment coexist in harmony" in all our activities

JATCO complies with laws and human rights, and always acts fairly. In addition, we aim to take a proactive stance toward fulfilling our social responsibility by providing value to society through our business and products. Taking "good corporate citizen" as our mantra, we promote social contribution activities centered on the three areas of environment, education, and welfare toward being a JATCO that is well loved by the community. We are also engaged in voluntary efforts aimed at resolving social issues.



# Part 1 Environmental Activities

In order to achieve our corporate philosophy of “providing value to our customers, to automotive culture, and to society,” JATCO places importance on fusing the latest technology with the “kindness” of each individual employee as demonstrated through their consideration and care toward nature and the Earth.

JATCO will continue to put effort into realizing a “society where automobiles and the environment coexist in harmony,” through the development, production, and sale of transmissions.

JATCO Ltd  
COO

Seiji Honda

本田 聖二



Providing products with outstanding environmental performance, and reducing the burden imposed on the environment by our production and distribution processes, are the two aspects of environmental contribution that JATCO is striving to advance.

Global automobile production and ownership are expanding mainly in emerging economies, and automobiles featuring automatic transmissions are becoming the mainstream of this trend. Although there are still regions where automobiles with manual transmissions occupy a large market share, the demand for automatic vehicles are expected to grow more and more going forward. On the other hand, the rise in CO<sub>2</sub> emission volumes in tandem with the popularization of cars has given rise to concerns for the adverse impact on the Earth's environment, and we face increasingly diverse challenges to develop new forms of environmentally-friendly technologies, such as hybrid vehicles, plug-ins, electric vehicles, and fuel cell vehicles. JATCO, which plays a role in the automotive industry, is no exception. One of the answers that we have developed in response to these needs is the CVT. By developing products such as the Jatco CVT7 and Jatco CVT8, expanding

transmission gear ratio, making the transmissions more compact and lightweight, and reducing friction, we have succeeded in improving fuel performance and driving performance. In Europe, pairing with diesel engines that have excellent fuel performance is also a popular option. The shift toward vehicle electrification is also supported by transmissions for hybrid vehicles that make use of our unique 1-motor, 2-clutches system. While refining the basic function of transmissions, which is to transmit torque (power) efficiently from the engine to the tires, we have continued to innovate our technologies from the perspective of “total energy management” aimed at harnessing energy from the entire vehicle without incurring any waste, such as through energy regeneration. In this way, we are achieving an even higher dimension of balance between driving performance and fuel performance. In addition to providing environmentally-friendly

transmissions, it is also very important at the same time to establish production and distribution processes that impose a low burden on the environment. JATCO pursues the adoption of energy-saving facilities, development of efficient engineering methods, and streamlining of production processes, and our production processes are constantly evolving. This approach remains unchanged even at our overseas production bases, including JATCO Mexico, S.A. de C.V., JATCO (Guangzhou) Automatic Transmission Ltd. in China, and JATCO (Thailand) Co., Ltd. We aim to provide high-quality products in a timely manner while taking into consideration the characteristics of the country or region, such as peripheral infrastructure and energy matters, and to carry out production globally at locations that are close to our customers. Reducing the environmental burden that arises in the transportation process is also an important issue for JATCO, and we are actively taking

measures to promote the modal shift toward transporting cargo by rail or ferry, and to improve loading efficiency by consolidating cargo. In order to reduce the burden on the Earth's environment across the whole of JATCO's global supply chain, we also share our environmental philosophy with our business partners, and actively engage in initiatives that go beyond the boundaries of a corporation. We constantly remind our employees to engage in their work from an environmental perspective. Going forward, JATCO will continue to keep this “environmental perspective” in view, nurture human resources who are able to create new technologies, and fulfill our responsibilities as a corporation. By sharing this approach not only among JATCO's employees but also with the affiliated companies, we are confident that we will be able to move closer toward the realization of a “society where automobiles and the environment coexist in harmony.”

# Environmental Policy

We aim to bring about the realization of a “society where automobiles and the environment coexist in harmony” through environmentally-friendly products and facilities

## Realization of a society where automobiles and the environment coexist in harmony

Technology: Development of transmissions with high energy-transmission efficiency

Preventing pollution: Taking preventive measures for environmental problems, and complying with laws

Effective use of resources: Minimizing the use of resources and energy

Continuous improvement: Improving the effectiveness of our environmental management system

**16%** Total volume of waste generated reduction  
(Compared to FY2005)

**Jatco**  
**2014**

JATCO's achievements in FY2014

Recycling rate **Achieved 100%**



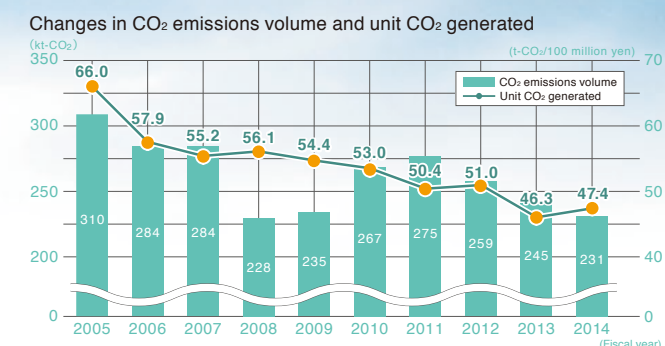
**100%** Reduction in the volume of the three major hazardous air pollutants generated  
(Compared to FY2000)



Volume of CO<sub>2</sub> emissions generated through our business activities in Japan **28.2%** reduction  
**231,434t-CO<sub>2</sub>** (Compared to FY2005)

The volume of CO<sub>2</sub> emissions generated through JATCO's business activities in Japan in FY2014 was 231,434t-CO<sub>2</sub>. Unit CO<sub>2</sub> generated\* was about 47t-CO<sub>2</sub>/100 million yen. This was a 28.2% improvement from the baseline figure from FY2005. Our final target for FY2020 is to achieve unit CO<sub>2</sub> generated of 46.2t-CO<sub>2</sub>/100 million yen.

\*Unit CO<sub>2</sub> generated: Refers to CO<sub>2</sub> emissions volume per unit sales (100 million yen)



**99%** VOC\* Emissions volume reduction  
(Compared to FY2000)

\*VOC is the abbreviation for "Volatile Organic Compounds," and is the general term for volatile organic compounds that enter the gaseous state in the atmosphere.

## JATCO's technologies play a role in reducing the burden that automobiles impose on the environment.

Today, the pressing need for environmental conservation is being debated on a global scale. In order to reduce the environmental burden generated through the social activities of human communities, various initiatives are being promoted and implemented across the world. One of these is the improvement of the environmental performance of automobiles, which is a familiar part of our everyday lives. In particular, there are high expectations toward the evolution of transmissions, which are strongly linked to improvements in driving and fuel performance, and with a particular focus on continuously variable transmissions (CVTs). JATCO, as the world's leading company for CVTs, and the only manufacturer that offers a full line-up of CVTs that cover a wide range of automobiles from mini vehicles to large passenger vehicles, contributes to reducing the environmental burden imposed by automobiles on a global scale, by supplying products with superior environmental performance to automotive manufacturers around the world.

## We also care for the environment in our global business activities.

JATCO is expanding its production facilities globally in order to ensure a stable supply of products to automotive manufacturers around the world. To minimize the burden imposed on the environment by these production facilities, we are applying the same environmental protection measures as for our production facilities in Japan, and taking a proactive stance toward trying out unique ideas at each facility. With regard to the environmental management standard ISO14001, JATCO (Thailand) Co., Ltd. JATCO (Thailand) Co., Ltd. is moving forward on preparations to obtain accreditation, following after JATCO Mexico, S.A. de C.V. and JATCO (Guangzhou) Automatic Transmission Ltd., which have already acquired the standard. Going forward, with the aim of producing transmissions with outstanding environmental performance while caring for the environment during the production process itself, we will continue to undertake production across our global bases that minimizes the impact on the environment.

## What JATCO can do for the future of the environment and automobiles

When users choose a car, "environment" and "fuel performance" are becoming increasingly important factors in their decision-making processes. In order to create an ideal automobile that strikes a balance between driving and environmental performance, JATCO continues to tackle the challenges of transmission development. Our technologies and experience, built up through our long history as a transmission manufacturer that has always been committed to conducting research on environmental and fuel performance, provides that value through

products such as the latest Jatco CVT7, Jatco CVT8, and Jatco CVT8 HYBRID. Going forward, we will continue to develop innovative technologies for electric vehicles (EVs), fuel cell vehicles (FCVs), and contribute to the future of the automotive society. Even in the future, we will never lose steam in tackling our monozukuri challenges, in order to bring about the realization of a "society where automobiles and the environment coexist in harmony."

ENVIRONMENTAL POLICY

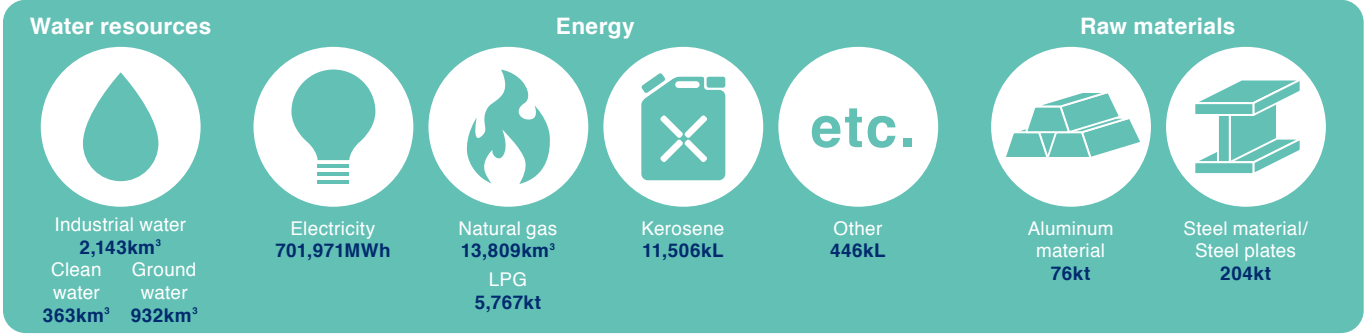


# Material Balance

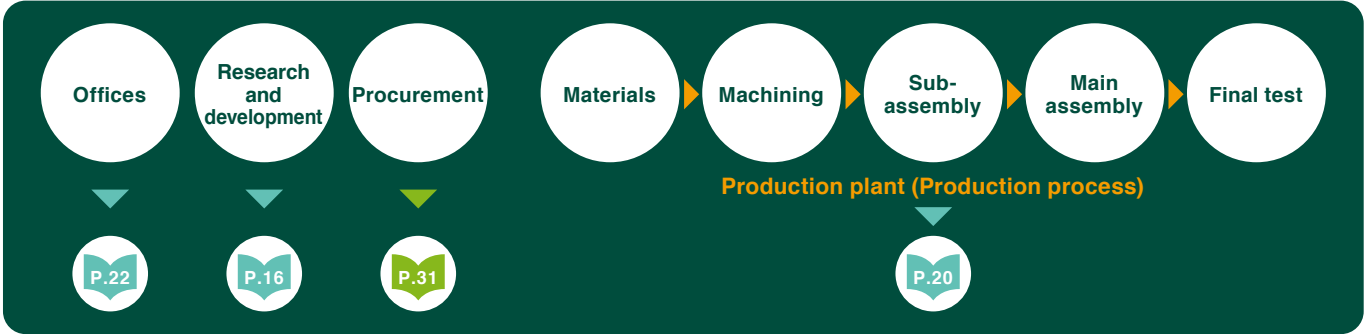
## Obtaining data about emissions volume generated as a result of business activities

Various waste substances are generated through JATCO's business activities. At JATCO, we are putting effort into the appropriate use of resources and reducing emissions volume, with the aim of developing a recycling society.

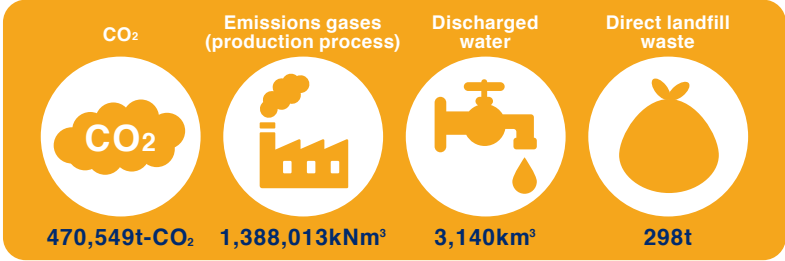
### INPUT



### Jatco



### OUTPUT



\*The numbers shown are extracted from global data for FY2014

# Improvement Efforts

## Continuous efforts to reduce environmental burden, based on the PDCA cycle (Plan-Do-Check-Act cycle)

JATCO sets forth initiatives every year aimed at reducing environmental burden. We have established these as our environmental targets, and aim to achieve these targets. Based on the results of the initiatives undertaken every year, we establish our targets for the following fiscal year and after, thereby improving continuously on our environmental performance.

Targets and results for FY2014

Environmental objectives	Items	Target	FY2014 results	Assessment	FY2015 target
Continuous improvement of the environmental management system	Implementation of regular reviews	<ul style="list-style-type: none"><li>Auditee of regular inspections Continuous registration</li><li>Implementation of internal environmental audit 1 time</li><li>Environmental Management Committee 2 times</li><li>Management review 1 time</li></ul>	<ul style="list-style-type: none"><li>Auditee of regular inspections Continuous registration</li><li>Implementation of internal environmental audit 1 time</li><li>Environmental Management Committee 2 times</li><li>Management review 1 time</li></ul>	○	<ul style="list-style-type: none"><li>Auditee of regular inspections Continuous registration</li><li>Implementation of internal environmental audit 1 time</li><li>Environmental Management Committee 2 times</li><li>Management review 1 time</li></ul>
	Nurturing internal environmental auditors	<ul style="list-style-type: none"><li>Number of required personnel</li></ul>	<ul style="list-style-type: none"><li>2 people Course completed</li></ul>	○	<ul style="list-style-type: none"><li>Number of required personnel</li></ul>
Complying with laws/ Taking preventive measures for environmental issues	"Zero" findings pointed out by administrative and government agencies	<ul style="list-style-type: none"><li>Number of findings: 0 cases</li></ul>	<ul style="list-style-type: none"><li>Number of findings: 0 cases</li></ul>	○	<ul style="list-style-type: none"><li>Number of findings: 0 cases</li></ul>
	Maintenance and management of significant environmental aspects	<ul style="list-style-type: none"><li>Number of regular reviews: 100%</li></ul>	<ul style="list-style-type: none"><li>Number of regular reviews: 100%</li></ul>	○	<ul style="list-style-type: none"><li>Number of regular reviews: 100%</li></ul>
	Implementation of education related to environmental laws	<ul style="list-style-type: none"><li>Number of complaints: 0</li></ul>	<ul style="list-style-type: none"><li>Number of complaints: 0</li></ul>	×	<ul style="list-style-type: none"><li>Number of complaints: 0</li></ul>
	Preventing environmental accidents	<ul style="list-style-type: none"><li>Number of B rank accidents: 0</li></ul>	<ul style="list-style-type: none"><li>Number of B rank accidents: 5*</li></ul>	×	<ul style="list-style-type: none"><li>Number of B rank accidents: 0</li><li>Number of C rank accidents: Less than 10</li></ul>
Effective use of resources	Promotion of energy conservation <ul style="list-style-type: none"><li>Amount of energy per unit sales (CO<sub>2</sub> conversion)</li></ul>	<ul style="list-style-type: none"><li>46.57t-CO<sub>2</sub>/100 million yen</li></ul>	<ul style="list-style-type: none"><li>47.4t-CO<sub>2</sub>/100 million yen</li></ul>	○	<ul style="list-style-type: none"><li>48.05t-CO<sub>2</sub>/100 million yen</li></ul>
	Promoting the reduction of the volume of waste <ul style="list-style-type: none"><li>Reduction in the total volume of waste generated</li></ul>	<ul style="list-style-type: none"><li>Compared to FY2013 2.0% reduction</li></ul>	<ul style="list-style-type: none"><li>Compared to FY2013 4.4% reduction</li></ul>	○	<ul style="list-style-type: none"><li>Compared to FY2014 2.0% reduction</li></ul>
	<ul style="list-style-type: none"><li>Recycling rate</li></ul>	<ul style="list-style-type: none"><li>Maintained 100%</li></ul>	<ul style="list-style-type: none"><li>Maintained 100%</li></ul>	○	<ul style="list-style-type: none"><li>Maintained 100%</li></ul>
Technological development aimed at reducing environmental burden	Environmentally-friendly design [Contribution to environmental conservation and improvement in automobile fuel performance]	<ul style="list-style-type: none"><li>Achievement rate for individual (product) issues: 100%</li></ul>	<ul style="list-style-type: none"><li>Achievement rate for individual (product) issues: 100%</li></ul>	○	<ul style="list-style-type: none"><li>Achievement rate for individual (product) issues: 100%</li></ul>
	Management and reduction of environmentally hazardous substances in products	<ul style="list-style-type: none"><li>Maintenance of product compliance with environmental laws and regulations: 100%</li></ul>	<ul style="list-style-type: none"><li>Maintenance of product compliance with environmental laws and regulations: 100%</li></ul>	○	<ul style="list-style-type: none"><li>Maintenance of product compliance with environmental laws and regulations: 100%</li></ul>
Coexisting in harmony with the local community, society, and nature	Disclosure of information to external parties	<ul style="list-style-type: none"><li>Publication of Environmental and Social Report</li></ul>	<ul style="list-style-type: none"><li>Publication of Environmental and Social Report February 2015</li></ul>	○	<ul style="list-style-type: none"><li>Publication of Environmental and Social Report</li></ul>
	Communication with local communities	<ul style="list-style-type: none"><li>Number of cases implemented for various events: 8</li></ul>	<ul style="list-style-type: none"><li>Number of cases implemented for various events: 14</li></ul>	○	<ul style="list-style-type: none"><li>Number of cases implemented for various events: 10 + 1 for each region</li></ul>

Assessment/Achieved: ○ Not achieved: × \*Accidents with no external impact

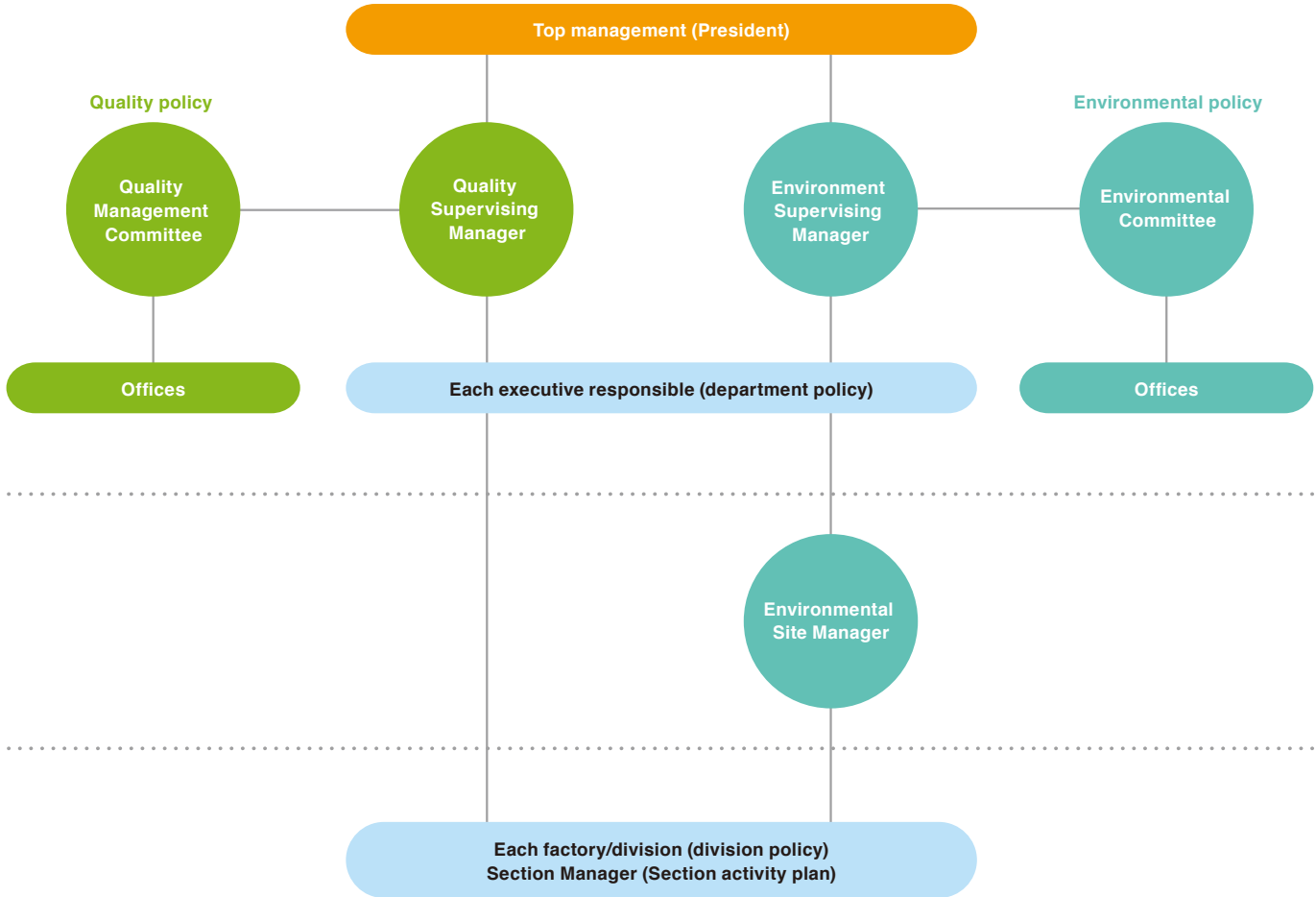
# Environmental Management System

## Promotion system for environmental management

JATCO has acquired the ISO14001 accreditation at its headquarters as well as at its production facilities in Japan. As part of our system to promote the environmental management system (EMS), we have appointed one environmental supervising manager and 13 environmental site managers. Under the responsibility and authority of the environmental supervising manager, they promote EMS at each production facility and division. Furthermore, in 2011, we integrated our management systems for quality and environment. With regard to EMS promotion for the whole of JATCO, a comprehensive deliberation and assessment is carried out by the company-wide environmental committee, which comprises the environmental supervising manager

and environmental site managers, and a follow-up system is put in place. By applying the company-wide EMS to all divisions and production facilities, we are able to align our efforts as a company, and strongly promote environmental management. This is a major characteristic of JATCO's EMS. JATCO Engineering Ltd has acquired the ISO14001 accreditation on its own efforts. At its overseas facilities, JATCO Mexico, S.A. de C.V. and JATCO (Guangzhou) Automatic Transmission Ltd. acquired the ISO14001 accreditation in 2011 and 2013 respectively. JATCO (Thailand) Co., Ltd. is moving forward on establishing an EMS for the acquisition of ISO14001 in FY2015.

### ■ JATCO's quality and environmental management

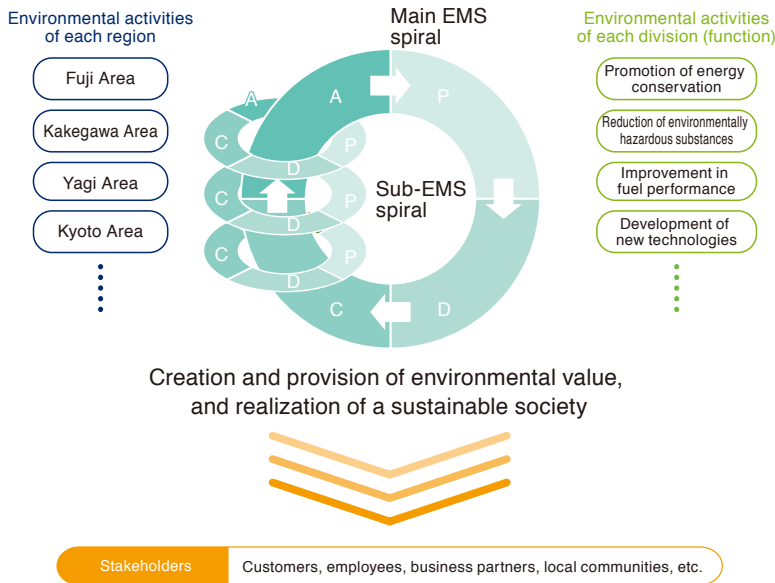


## Promotion system for environmental activities

### Promotion of activities that meet the needs of the local community by Environmental Committees of each region

JATCO has established Environmental Committees in each region, and the Committees carry out environmental activities that meet the needs of the local community. By mutually interlinking and operating two types of PDCA cycles—the PDCA cycle for the whole of JATCO (main EMS spiral), and the PDCA cycles for the regions and divisions (sub EMS spiral), —we strive to unite the direction of all the initiatives that are implemented. The aim is to create and provide environmental value to our stakeholders through continuous improvements, in order to improve the effectiveness of activities.

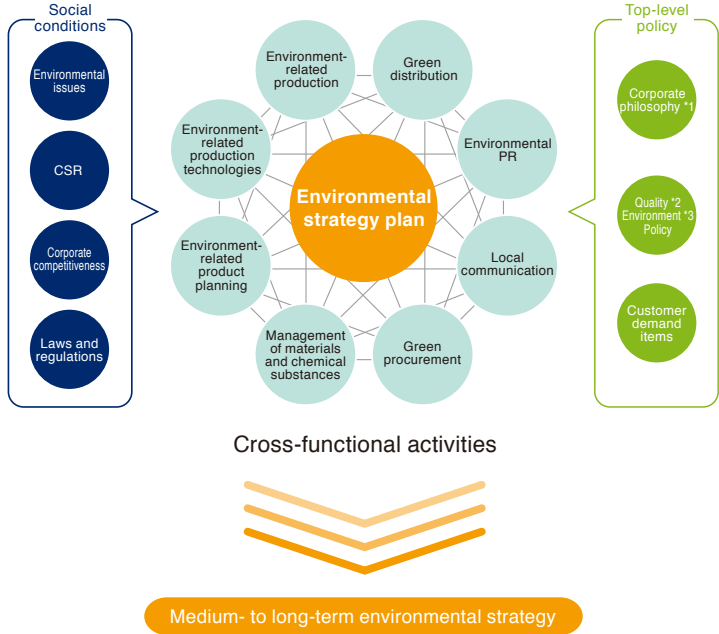
### ■ Conceptual diagram of JATCO's environmental activities



### Considered medium- to long-term strategy with environmental planning subcommittee

At JATCO, as an organization that considers medium- to long-term strategy for its environmental plan, an environmental planning subcommittee was formed in 2008. The committee was formed to examine and promote medium- to long-term strategies related to the environment that JATCO should undergo, responding to the EMS promotion system that does environmental management by sector and societal information and high level planning. While examining JATCO from an overall observatory position, the committee undergoes management and planning across the company. They are also implementing this strategy while coordinating the environmental activity planning and management of foreign bases. Within the subcommittee, it is further broken up into eight working groups that deal with product development, production, and delivery amongst other business activities, creating environmental management that utilizes function as its “axis.” Within this, the environmental planning subcommittee takes the three areas of “stopping global warming,” “preserving the environment,” and “effective utilization of resources,” as some of the most important environmental themes to JATCO, and is strengthening their work in these areas.

### ■ Medium- to long-term environmental strategy Conceptual diagram of review/promotion



\*1 For details related to corporate responsibility, see page 6  
\*2 For details related to quality policy, see page 32  
\*3 For details related to environmental policy, see page 10



# Product Efforts: Development

## Developing CVTs with excellent environmental performance as a brand with the top market share

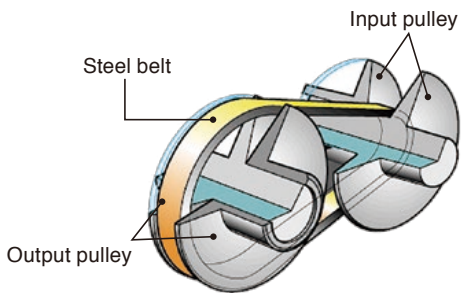
In order to limit the changes that CO<sub>2</sub> emissions impose on the Earth's environment, the improvement of fuel performance for automobiles has become a top priority issue in recent years. JATCO turned its focus on CVTs with a high level of environmental performance from an early stage, and in 1997, became the first company in the world to launch a 2-liter class metal belt-type CVT in the global market. On top of that, through repeated improvements, we also successfully created a full line-up of CVTs that cover a wide range of automobiles from mini

vehicles to 3.5-liter class vehicles. We developed the Jatco CVT7 with auxiliary transmission in 2009, and the Jatco CVT8 in 2012, as part of efforts to update the line-up of our original models. Furthermore, we have also achieved low fuel consumption. In FY2014, JATCO produced about 4.2 million units of CVT, and globally more than 25.6 million vehicles have been outfitted with JATCO's CVTs. As the brand with the top market share in the world, JATCO contributes to reducing the burden imposed by automobiles on the environment.

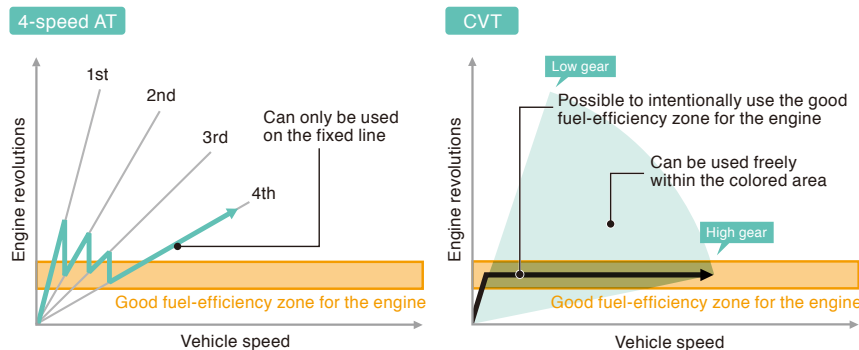
### Characteristics of CVT

A CVT takes advantage of its ability to shift seamlessly to enable the selection of the optimal gear ratio for various situations. In this way, it always matches the gear ratio ideally with the driving conditions, making it possible to drive a vehicle in the most fuel-efficient way.

#### ■ CVT mechanism



#### ■ Comparison of the range of efficiency between 4AT and CVT



## Jatco CVT8

Improvement in fuel performance in  
Jatco CVT8 compared to previous models

# More than 10%

### Jatco CVT8 - Striking a balance between environmental performance and powerful drive

We have updated our previous CVT models and developed the Jatco CVT8 in order to support a wide range of engines in the volume zone, from 2-liter to 3.5-liter class vehicles. This CVT retains the smooth driving performance offered by CVTs, while expanding the transmission gear ratio width from the previous 6.0 to 7.0\*, thereby thoroughly improving efficiency across the detailed parts and reducing friction by about 40%. This has allowed us to achieve a balance between a dramatic improvement in environmental performance and powerful drive.

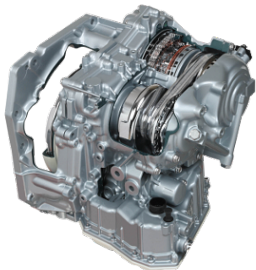
\*2-liter to 2.5-liter class



## Jatco CVT7

### Jatco CVT7 – Realizing low fuel consumption through an innovative new mechanism

Using a concept that is completely different from conventional ideas, we have developed the Jatco CVT7, which has the greatest possible transmission gear ratio width for CVTs. Through this CVT, we aim to achieve dramatic improvements in environmental performance by expanding transmission gear ratio through the adoption of an innovative new auxiliary transmission system, thereby improving fuel efficiency through friction-reducing technology, and bringing about outstanding driving performance.

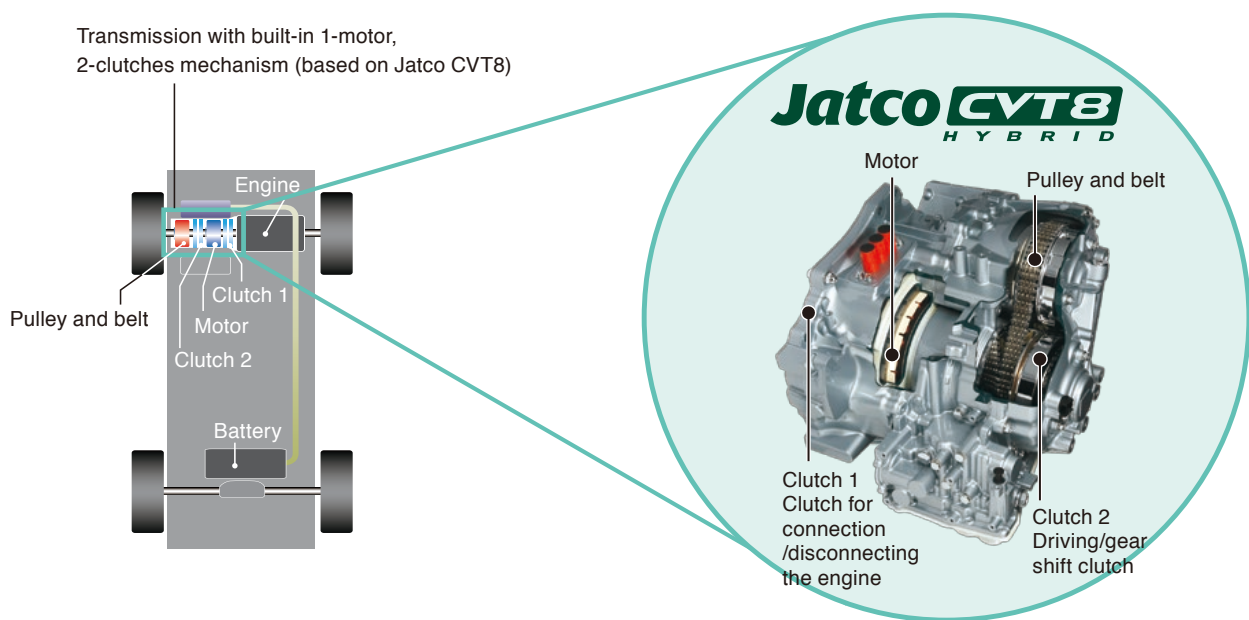


## Technology that supports low fuel consumption and a comfortable driving experience

Automobiles with start stop control reduce CO<sub>2</sub> emission volumes by turning off the engine when the vehicle comes to a rest. In recent years, the technology enabled the engine to be turned off not only when the vehicle stops, but also when it decelerates, hence realizing even further improvements in fuel efficiency. JATCO has been an early adopter of this technology, providing customers with a comfortable driving experience while keeping fuel consumption at a low level. This is achieved by maintaining transmission oil pressure using an auxiliary pump to ensure a smooth restart, and engaging the clutch on inclined roads when starting the car to prevent the car from sliding backwards. Furthermore, as JATCO believes that striking a balance between low fuel consumption and excellent driving performance contributes to improving customer satisfaction, it is developing a new control system known as “Dynamic

Step Shift Control” with Nissan Motor Co., Ltd. This new system not only improves the fuel performance of CVTs, but also allows the driver to operate the vehicle just like an MT or step AT, and it realizes a direct drive feeling and sustains the sense of acceleration. To respond to the growing need for hybrid vehicles in the market, we have also developed hybrid units for FWD and RWD vehicles through the introduction of our unique 1-motor, 2-clutches system. The size and weight of the transmission have been reduced by the introduction of our unique 1-motor, 2-clutches system. This arrangement provides for a more simple approach to packaging. Fuel efficiency and quietness when driving at high speeds have also been improved through the technology of the outstanding base unit, Jatco CVT8. By combining CVT and motor, we have succeeded in enabling quick response and the feeling of direct control.

#### ■ Jatco CVT8 HYBRID – Transmission for FWD hybrid vehicles



## Toward further reduction of CO<sub>2</sub> emissions

Going forward, we will continue to actively develop transmission technology toward achieving further reduction of CO<sub>2</sub> emissions.

- Improving transmission efficiency, expanding range, and reducing weight of the CVT
- Increasing the number of steps, expanding range, and reducing weight of the step AT
- Improving control technology (further expansion of the lock-up range, increasing adoption of idling stop control when the vehicle stops/decelerates)
- Providing support for growing vehicle electrification

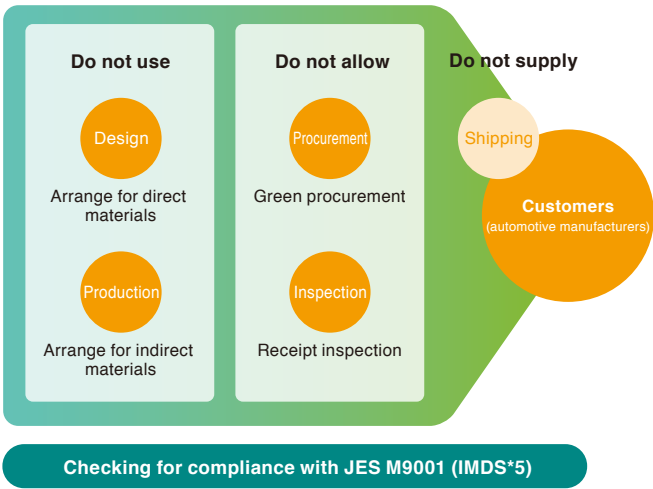
# Product Efforts: Lower Environmental Impact

## Thorough management and reduction of environmentally hazardous substances

Environmentally hazardous substances in products are managed through JATCO's internal technology standards, JES M9001. Activities to reduce such substances are regarded and promoted as the responsibility of each division—"Do not use" for the design and production divisions; "Do not allow" for the purchasing and inspection divisions; and "Do not supply" for the production and shipping divisions. JES M9001 takes as its core the GADSL\*1, which is shared among the automotive industries in Japan, the United States, and Europe, as well as Japan's chemical substances law, the Act on the Evaluation of Chemical Substances\*2, and adds to these the laws and regulations of the relevant countries. It restricts the use of about 150 groups of substances (2,700 substances). In JATCO, the JES M9001 is reviewed more than once a year, and measures are put in place to manage and reduce the use and generation of environmentally hazardous substances ahead of environmental laws and regulations worldwide. As part of our efforts to comply with GHS\*4, labels are used to ensure safe handling of the substances, and SDS\*3 are prepared to protect the environment and the health of employees.

\*1 GADSL: "Global Automotive Declarable Substance List"  
\*2 Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.  
\*3 SDS: "Safety Data Sheets"  
\*4 GHS: "Globally Harmonized System of Classification and Labeling of Chemicals," and refers to a standard global system for the classification and labeling of chemicals.  
\*5 IMDS: "International Material Data System"

### ■ Key points in activities to reduce environmentally hazardous substances

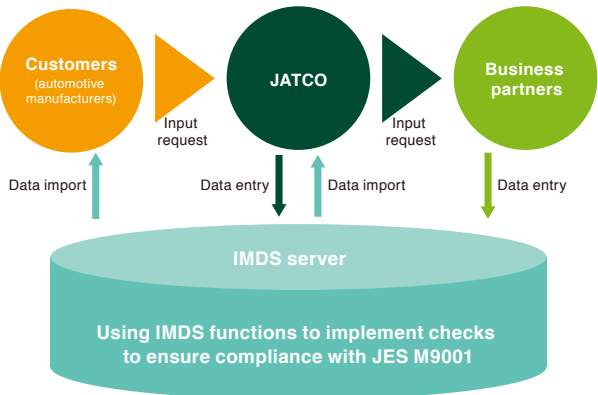


## Spreading management and reduction initiatives across the supply chain

It is also important to take thorough steps to spread the management and reduction of environmentally hazardous substances across the supply chain, including to business partners. With the aim of further enhancing environmental awareness in the supply chain, JATCO organizes Quality

Forums and other events to educate internal and external parties on the need to put in place initiatives for green procurement and to reduce environmentally hazardous substances.

### ■ IMDS\*5 framework



### ■ Status of efforts to reduce environmentally hazardous substances

Regulated chemical substances	Status
Lead	No longer in use (excluding exemptions)
- Lead solder (substrate)	Currently reducing usage
Hexavalent chromium	No longer in use
Mercury	No longer in use
Cadmium	No longer in use
Asbestos	No longer in use
Approved substances	Currently reducing usage

# Product Efforts: Resource Reuse

## 3R initiatives for products

The term "3R" derives from the first letter of the three keywords for building a recycling society—Reduce, Reuse, and Recycle. JATCO's 3R initiatives are shown in the following diagram.

### ■ 3R for products

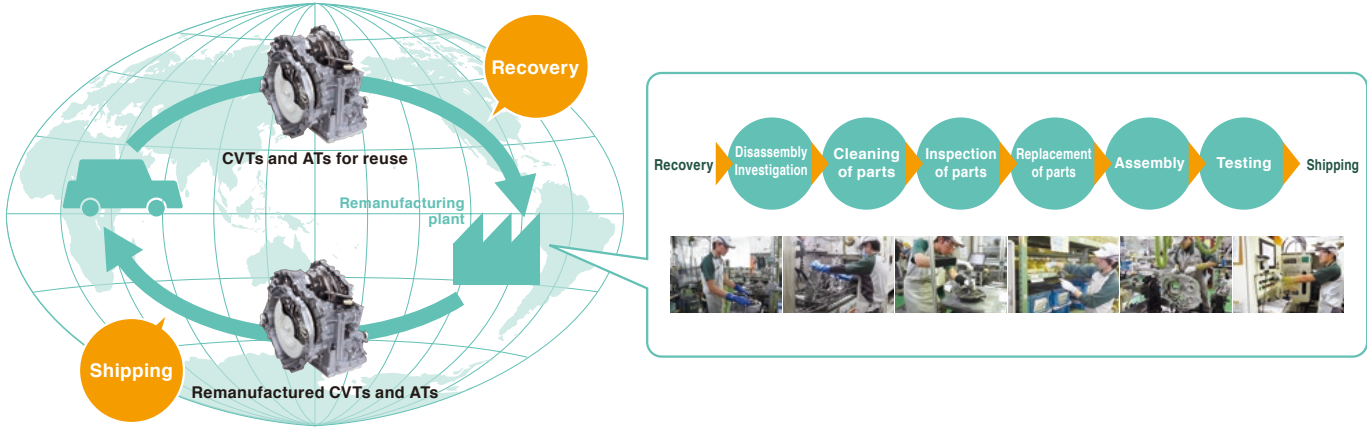


## Remanufacturing system

JATCO's remanufacturing activities (remanufacturing business) involve recovering CVTs and ATs from the market, disassembling and repairing them, providing quality assurance, and supplying them back to the market. We have engaged in these activities since 1989. By recycling and utilizing the resources that are required in CVT and AT production, we contribute to the conservation of the Earth's environment. In addition to establishing

remanufacturing business bases in Japan and Mexico, we have also concluded a technological assistance contract with a local repairing company in China and commissioned the company to undertake repairs of products recovered from the market. Going forward, we will continue to put effort into improving recycling rate of parts that are recovered, with the aim of protecting the environment.

### ■ Processes in the remanufacturing business





# Production Efforts

Generation of greenhouse gases in the production process by FY2050

50% reduction

JATCO is pursuing the introduction of energy and resource-saving facilities, aimed at achieving a balance between improving efficiency and reducing environmental burden in the production process.

## Promoting energy and resource conservation activities in pursuit of greater efficiency in the production process

JATCO carries out production in an integrated manner, from the purchase of raw materials, rough material process, machining process, assembly process, to the completion of the unit. However, when planning for a new product or developing a new technology, we are mindful of the Earth's resources. In particular, with the aim of tackling priority issues such as reducing CO<sub>2</sub> emissions and managing hazardous substances through the active adoption of

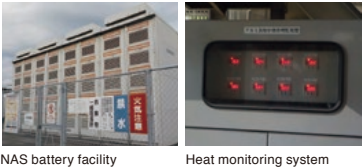
new technology, and recycling goods through the utilization of idle facilities, we are putting effort into developing innovative technologies to shorten work processes and develop highly-efficient processes with a low environmental burden, as well as adopting and making the shift toward energy and resource-saving facilities.

## Innovating production and engineering processes, and strengthening the development of innovative technologies

In the development of next-generation technologies, JATCO has established the reduction of CO<sub>2</sub> emissions as one of our principle goals, and is putting in place initiatives toward the achievement of this goal. Our target is to reduce the emission of greenhouse gases by 50% by 2050, for both the production and development processes. One of these is the production and engineering process for the latest CVT. We have further reviewed the production and engineering processes used to date, and succeeded in reducing the production lead-time significantly. With regard to all other parts, the development and production divisions are working together to minimize the emission of CO<sub>2</sub>.

## Protecting the Earth's environment through cross-industry collaboration

JATCO is actively promoting collaboration with companies from different industries as part of a new initiative for protecting the Earth's environment. Since FY2005, we have worked jointly with Tokyo Electric Power Company to introduce NAS battery facilities. NAS charges in the night time when power consumption is low, and utilizes this electric power during the daytime when load is high. This helps to reduce excess operation of the power plant, and brings about efficient power consumption. We have also collaborated with Chubu Electric Power since FY2007 to monitor the combustion conditions in aluminum melting furnaces in real-time, and jointly introduced a system that constantly maintains the optimal conditions. We are working to spread these initiatives laterally across the company in order to achieve further reduction.



\*NAS battery: An accumulator that uses liquid sodium, liquid sulfur, and special ceramics

## Launch of the expert diagnostic team for energy conservation

JATCO Plant Tec Ltd and JATCO have jointly established an expert facility diagnostic team for energy conservation (J-ESCO\* Team), and the team is now actively engaged in activities. To ensure the effective use of energy at overseas bases by conducting diagnostics on energy-saving facilities, the team commenced activities at JATCO (Guangzhou) Automatic Transmission Ltd. in FY2013, and conducted diagnostics at JATCO Mexico, S.A. de C.V. in FY2014. Representatives from the respective companies learned about energy conservation in Japan and acquired knowhow on energy conservation diagnostics, and then returned to the local sites to implement what they have learned. In FY2015, there are plans to expand these activities to JATCO (Thailand) Co., Ltd. as well.

\*J-ESCO: Abbreviation for Jatco Energy Service Company

## Reduction in volume of CO<sub>2</sub> emissions for FY2014

Adoption of compact and lightweight casing parts Approx. 68 t-CO<sub>2</sub>

Thin casing parts are used in Jatco CVT8. In the development of this model, "production design" was strongly promoted in the development and production technology divisions from the development phase. By adopting the optimal shape and reducing the thickness of some sections (which determines the limitations of production), we have succeeded in reducing weight by 10% compared to previous CVTs in the same class.



Transmission case with reduced wall thickness

Adoption of production design into the machining and heat treatment lines Approx. 3,200 t-CO<sub>2</sub>

For Jatco CVT7, "production design" was promoted by involving the production technology division in the product design process from the development phase. By reducing the number of processing locations as much as possible on the pulley machining line, we have significantly reduced the number of production machines and cycle time. By incorporating the requisite specifications in the heat treatment line, we have also significantly reduced cycle time on this line. These measures have dramatically increased current production efficiency.

Machining line	Line for previous units	Line for new units	
Number of equipment	No. of units 49 × 3.5 Modules	No. of units 27 × 3.5 Modules	▲43%
Annual CO <sub>2</sub> emissions	2,919t/year	1,740t/year	▲40%

Heat treatment line	Line for previous units	Line for new units	
Cycle time	100%	66.6%	▲33%
Annual CO <sub>2</sub> emissions	6,244t/year	4,164t/year	▲33%

Reducing environmental burden through direct carving of the mold Approx. 48 t-CO<sub>2</sub>

Due to the complicated shapes of the molds used in the die-casting and forging processes at JATCO, production had previously been carried out using electro-discharge machining. Today, however, we are moving toward direct carving with direct machining at the machining center. By improving the machining program and cutting conditions, we have also significantly reduced machining time and the volume of industrial waste generated.



Die-cast mold, produced through a direct carving process

Converting from hydraulic press fitting to servo (electric) press fitting Approx. 75 t-CO<sub>2</sub>

In conventional hydraulic press fitting, which is a part of the assembly process, a large amount of power is consumed as the pump in the hydraulic generator is constantly running. In addition, much noise and heat is generated. Hence, JATCO is moving toward converting to the use of electric press fitting using a servo. As the servo does not require the pump to be in constant operation as in a hydraulic press fitting, it successfully minimizes the amount of power consumed, as well as the noise and heat generated.

Use of regenerative energy and energy-saving equipment, and visualization of the amount of power consumed Approx. 45 t-CO<sub>2</sub>

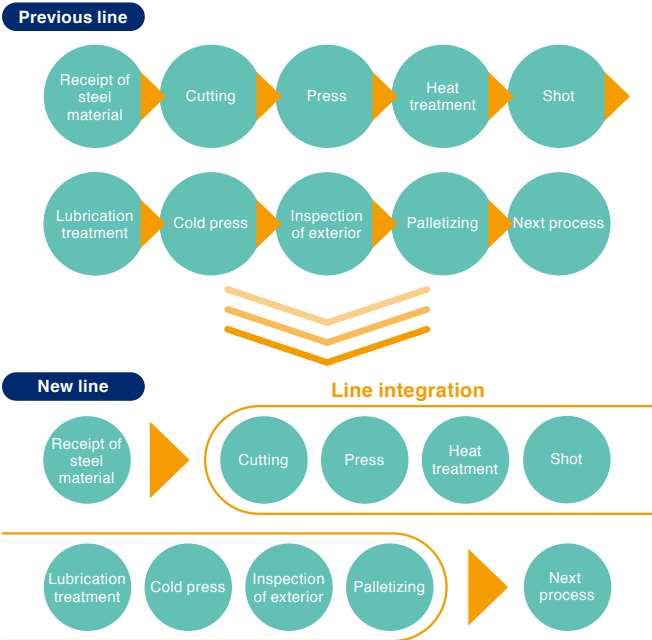
Through the use of regenerative energy from the motor and the adoption of energy-saving equipment such as LED lighting, we have succeeded in minimizing the amount of power consumed. We are also promoting activities to reduce power consumption by visualizing power consumption for the main and sub-lines respectively, and by enhancing awareness of energy conservation.

Enhancing lighting facilities at each production plant (Reduction in power consumption: 245MWh) Approx. 92 t-CO<sub>2</sub>

Reducing CO<sub>2</sub> emissions by enhancing our lighting equipment is also one of the main items in our energy conservation initiatives, and is proceeding according to plan. As the rate of energy consumption by lighting equipment in production plants is by no means low, we have focused on improving ceiling lights for each production plant. To ensure the brightness of the working environment, we have put in place measures such as making the conversion to energy-saving equipment, dimming the illumination, and turning off the lights appropriately.

Use of residual heat in the forging process Approx. 100 t-CO<sub>2</sub>

At JATCO, we have previously adopted a process that cools the parts once after hot forging, heats the parts once again, and carries out heat treatment for rough materials. Currently, we are moving forward on changing to a heat treatment format (auto-thermal annealing) that uses residual heat after hot forging. This has allowed us to integrate the heat treatment processes that had been carried out on separate lines into one line, thereby omitting the need for logistics between the lines.



# Office Efforts

## Promotion at offices

As part of our energy conservation initiatives at offices in Japan, we promote Cool Biz from June to September by encouraging employees to wear light clothing and raising the temperature settings of air-conditioning equipment at offices, and Warm Biz from December to March by encouraging employees to put on warm clothing when they feel cold and reducing the temperature settings of heating equipment. Through the visualization of power consumption, it is now possible for all employees to easily verify the amount of power consumed at the respective regions. This in turn contributes to voluntary efforts by each individual employee to engage in energy conservation initiatives.

COOLBIZ

WARMBIZ

## Reduction in volume of CO<sub>2</sub> emissions for FY2014

Promotion of energy conservation activities based on ideas from the employees

13,895 t-CO<sub>2</sub>

JATCO has established targets for reducing CO<sub>2</sub> emissions at each place of business, and environmental officers as well as many employees brainstorm and come up with and implement ideas for energy conservation. For ideas that have been implemented and which have proven to be particularly effective, we take the initiative to share the ideas and improve motivation, through means such as introducing them on the internal environment website.

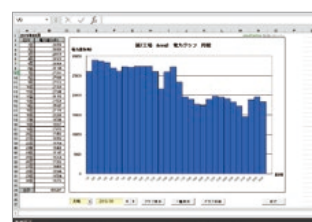


## Educating employees through the use of environmental contents

With the aim of raising environmental awareness among employees, we have set up a dedicated environment webpage on our portal site for employees. In addition to encouraging employees to participate in environmental events within and outside the company, we also post contents to help employees learn about environmental issues in a light-hearted manner, such as JATCO's unique eco certification and eco-drive certification. There is also a section on the power consumption visualization section, which sheds light on the situation of actual power consumption, and a section on power cost reduction, which provides information about energy conservation.



eco certification



The power consumption visualization section

Adoption of solar power systems, and roof greening initiatives

Approx. 5 t-CO<sub>2</sub>

JATCO has installed a solar power system (10kW), on the rooftop of the head office. The power generated through this is used as electricity to drive the air-conditioning equipment. We have also carried out roof greening initiatives by harnessing the drop in the building's temperature brought about by plants, which contributes to a reduction in the amount of power consumed by air-conditioning facilities during summer.



Solar power systems



Roof greening initiatives

# Logistics Efforts

## Volume of CO<sub>2</sub> emissions generated through transportation in FY2014

29% reduction  
(Comparison with FY2009)



## Promotion of modal shift

JATCO has established the green logistics goal of reducing CO<sub>2</sub> emissions intensity\* by an average of more than 1% year-on-year over the past five years. The company is putting in place initiatives to achieve this goal. In FY2014, we improved CO<sub>2</sub> emissions for domestic distribution by 1% year-on-year, and realized a five-year average of 6.9%, thereby successfully achieving our goal. In order to reduce the volume of CO<sub>2</sub> emissions arising through the product transportation process, we have been promoting a modal shift since 1994 by gaining the understanding of customers in Japan. Specifically, we have switched from using trucks to using ferries for transporting products to customers in Kyushu, thereby improving effectiveness by 75% for CO<sub>2</sub> emission rate. On top of that, for the transportation of procured parts to Shizuoka, where JATCO's production facility is located, we have also switched from truck transportation to rail transportation from Hiroshima (about 780 km) starting from FY2005, and from Okayama (about 680 km) starting from the beginning of FY2006. As a result, the shipping load amounting to seven 10t trucks per day is now transported in 16 containers, contributing to reduction in CO<sub>2</sub> emissions of 83.3% per year. Going forward, we will continue to put in place measures to reduce the number of trucks through modal shift and improvements in load efficiency.

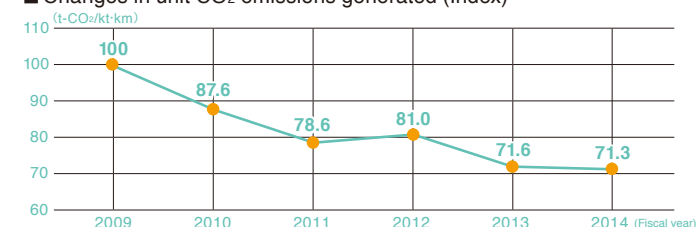
\*Unit CO<sub>2</sub> emissions generated: CO<sub>2</sub> emissions (t-CO<sub>2</sub>) ÷ Transportation load (kt/km)



Maritime transportation by ferry (Photo source: MOL Ferry Co., Ltd.) Land transportation by railway



### Changes in unit CO<sub>2</sub> emissions generated (Index)



## Improvements in transportation and packaging materials

As part of our measures to improve the loading ratio, which contributes to a reduction in the number of trucks used, JATCO is taking steps to improve the packing of purchased parts for delivery. Plastic cushioning material that is used as plastic containers and for protecting products in their transportation and storage, but which have become unusable as a result of deterioration or product changes, had previously been disposed of as industrial waste. However, after 2004, JATCO has begun reusing this material on other products. We have also received cooperation from companies engaged in the production of plastic to further reduce the volume of waste generated, such as by recycling plastics as raw materials.

### Improving packaging of parts purchased



In the example, we have eliminated wasted space and improved transportation efficiency for goods. In addition, we have also improved safety in the handling of the goods.



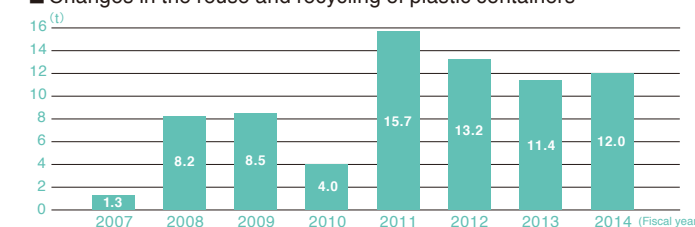
Before cleaning



After cleaning

At the same time, we are also promoting clean activities for containers.

### Changes in the reuse and recycling of plastic containers





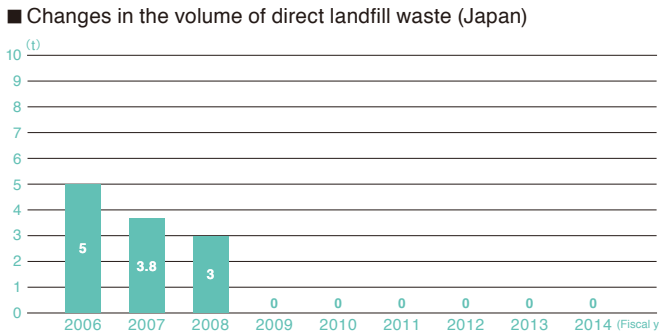
# Waste Reduction & Substance Management

## Activities to reduce the volume of waste generated

Volume of direct landfill waste  
Implementation of zeroemission activities

**Achieved zero emissions**

At JATCO, we have incorporated the goal of achieving zeroemissions of waste into the management of activities to promote the reduction of waste, in our environmental management system (ISO14001). We are promoting initiatives toward the achievement of this goal. As a result of the initiatives, we have reduced the volume of direct landfill waste to “zero” at our places of business in Japan. Overseas, we are also putting effort into reducing the volume of direct landfill waste.



Recycling rate  
Recycling waste through thorough efforts to separate garbage

**Achieved 100%**

As part of our zero-emission initiatives, JATCO has abolished disposal of waste through incineration and landfill, and is promoting thermal recycling (conversion to fuel) and material recycling (reuse and recycling). We are also putting a thorough effort into separating garbage in order to enable the effective utilization of waste as resources. Through these initiatives, we have succeeded in achieving 100% recycling rate at our places of business in Japan.

Total volume of waste generated in FY2014  
Initiatives to reduce waste through company-wide participation

**24% reduction** (Compared to FY2005)

JATCO puts effort into reducing the volume of waste by considering “Can it be reduced? Can it be reused? Can it be used for other purposes?” To make it easier to recycle items that we have no choice but to discard, we establish separation standards and dispose of garbage in line with these standards. At each place of business, we have established targets of reducing the total volume of waste, registered ideas for initiatives implemented at each workplace, and shared information on reducing waste to raise the level of motivation.

## Management of chemical substances

VOC emissions for FY2014  
Management of volatile organic compounds

**Approx. 99% reduction** (Compared to FY2000)

We have implemented measures against volatile organic compounds (VOC) to achieve the target of reducing total VOC emissions by 30% (compared to FY2000) by FY2010, based on the action plan formulated by the Japan Auto Parts Industries Association (JAPIA). As a result of these measures, we have succeeded in reducing VOC emissions by 98% by FY2006, and by 99% by FY2010.

### Measures against soil and groundwater pollution

As part of our measures against soil and groundwater pollution, we have completely abolished the use of organic chlorine-based solvents, and are currently monitoring past usage records of organic chlorine-based solvents and impact on the environment.

Emissions of the three major hazardous air pollutants for FY2014  
Reduction in the three major hazardous air pollutants

**100% Maintaining reduction levels** (Compared to FY2000)

With regard to the emissions volume of the three major hazardous air pollutants\*, we achieved 100% reduction in FY2006, and have successfully maintained this even in FY2014.

### Management of PRTR\*2 substances

The volume of PRTR chemical substances handled by JATCO, totaled for the volume discharged and transported by domestic production facilities, is shown in the following table.

■ Volume of PRTR substances handled and discharged (FY2014)

Classification	Chemical substance	Volume handled	Volume discharged			Volume transported Waste
			Air	Water	Soil	
Specific Class I Designated Chemical Substances	Dioxin (mg-TEQ/Nm³)	—	86	0	0	0.41
	Benzene	822	1	0	0	0
Class I Designated Chemical Substances	Ethylbenzene	2,658	22	0	0	0
	Xylene	111,161	80.9	0	0	0
	1, 2, 4-Trimethylbenzene	74,336	0.3	0	0	0
	1, 3, 5-Trimethylbenzene	1,725	20	0	0	0
	N-hexane	1,551	4.6	0	0	0
	Toluene	38,540	33.8	0	0	0

Unit: kg (mg-TEQ/Nm³ for dioxins)  
\*1 Three major hazardous air pollutants: Dichloromethane, trichloroethylene, tetrachloroethylene  
\*2 PRTR: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

# Responding to Water Risk

## Initiatives for the effective utilization of waste water purification and water resources

JATCO's production plants comply with standards for discharged water established by the national and municipal governments, and have also drawn up even more stringent internal standards for purification. By combining facilities for activated carbon adsorption, ultrafiltration, high-speed aggregation precipitation, contact oxidation, sand filtration, and pressure flotation, we have continued to maintain a high level of quality in our purification activities. Furthermore, in line with the Nissan Green Program 2016 launched by Nissan Motor Co., Ltd., JATCO commenced activities in FY2014 to reduce water consumption as a countermeasure against water depletion on a global scale. In

FY2014, we succeeded in reducing water consumption by 9.5% as compared to the previous year.



Water treatment facilities

### Reusing discharged water through the adoption of cold water circulation equipment

JATCO promotes the reuse of discharged water, and has adopted cold water circulation equipment to purify the water that is used for cooling and cleaning production equipment, as well as for thinning cutting oil. Of the 48 units targeted, water purification was carried out for 16 units in FY2014, resulting in the reduction of water consumption by 100,000t. Purification for all targeted equipment is expected to conclude by FY2015.



Cold water circulation equipment for forging facilities

### Implementation of rainwater measures

Rainwater that falls on the premises of the production plants is discharged through drainage outlets directly into rivers. Employees monitor the situation at the drainage outlets to prevent rainwater that has been polluted by oil and grease from roads and buildings in the premises from flowing into the rivers. To enable prompt identification of the drainage outlets, employees have manually color-coded the outlets. This not only prevents polluted water from accidentally flowing through, but also raises awareness among all employees that the drainage outlets lead to rivers. In case of incidents where oil leakage from employees' cars and vehicles transporting parts and products within the premises flow to the drainage outlets, gates have been installed at the connecting points with rivers, in order to prevent the pollutants from flowing into them.



Color-coding of drainage gutters by employees

### Consideration for safety in the transportation of polluted water

JATCO not only takes steps to reduce the incidences of water pollution, but also gives consideration for safety when transporting polluted water to treatment facilities. Measures are put in place at facilities where parts are cleaned to enable the repeated reuse of water after pollutants have been removed from it. After reusing the water for several months, it is then transported to the treatment facility by truck. In view of the fact that the method

of transporting polluted water to treatment facilities through pipes and gutters buried under the ground is easily impacted by changes over time, and gives rise to credibility issues, we are also putting in place improvements by transporting this water to treatment facilities using pipes installed above ground, which are visible to employees.

# Environmental Communication

## Proactive stance toward information disclosure

JATCO takes a proactive stance toward disclosing information about its environmental initiatives. In order to gain widespread understanding for our environmental conservation initiatives, we have continued to publish the Environmental Report since 2005. From 2009, we have enriched information pertaining to society, and changed the title to the “Environmental and Social Report.” The 2015 report, which marks the milestone 10th anniversary of the publication, has undergone a complete design update. By placing an emphasis

Environmental and Social Report: <http://www.jatco.co.jp/ENGLISH/society/reports.html>  
JATCO's environmental Initiatives: <http://www.jatco.co.jp/ENGLISH/society/environmental/>

## Raising awareness among children, who are the leaders of the next generation

### Implementing environmental education events targeted at elementary school students in Shizuoka Prefecture

In FY2014, we implemented an environmental education event titled “Fujisan Club,” in collaboration with media organizations in Shizuoka Prefecture and Tokoha University. This event was targeted at elementary school students in the prefecture and their parents, and covered explanations about the purification of polluted water discharged from production plants to water so clean that “goldfish could live in it,” as well as a puppet show performed by university students about animals living in the forest. Through the event, the participants learned about Mount Fuji, the spring water that flows from the mountain and rivers that flow on into the sea, as well as the importance of protecting the water systems that exist in our everyday lives.



Environmental education event, “Fujisan Club”

on the visual aspects, we aim to create a report that is intuitively easy to understand. The various initiatives included in the Environmental and Social Report are also published on JATCO's company website. We are also putting further effort into disseminating information widely to society by actively registering information on browsing and search websites for “CSR report” and “environmental reports” on the Internet.

### Actively hosting plant tours

JATCO hosts plant tours for a wide range of stakeholders including business partners and the families of employees, but mainly for elementary and junior high school students in the region. The program, which focuses on observation of the machining on assembly lines, provides explanations about the environmental protection initiatives that have been incorporated into the production processes. These include the purification of water discharged from the plant, recycling initiatives, and efforts to reduce the volume of CO<sub>2</sub> emissions. In addition, participants also gain an understanding about how the fuel-efficient transmission products manufactured by JATCO reduce the burden imposed on the environment



Plant tour program targeted at elementary school students

### Sponsorship for the Shizuoka Ecommunicator Caravan

JATCO provides sponsorship for activities organized by the Shizuoka Ecommunicator Caravan every year. These activities serve the objective of sowing and nurturing the seeds of environmental awareness in the hearts of children, who are the leaders of the next generation, and primarily involve character shows at kindergartens and nurseries in Shizuoka Prefecture, and the distribution of picture books related to the environment. Effort is put into fostering environmental awareness in a way that children can relate to easily.



Scene of activities by the Shizuoka Ecommunicator Caravan

# Reducing Environmental Impact

## JATCO Mexico's environmental management system

Since its establishment in April 2003, JATCO Mexico, S.A. de C.V. has promoted various environmental initiatives, including formulating an environmental policy, energy conservation activities from the power supply side, and the promotion of garbage separation to improve recycling rate. In particular, since 2009, it has established an environmental management system, and acquired the ISO14001 accreditation in May 2011. Three committees have been established to oversee the environmental management system—the Environmental Committee, and under that, the Environmental Legal Requirements Sub-Committee, as well as the Energy Conservation Sub-Committee. The Environmental Committee is led by the President and Vice-President of the company, and comprises representatives from the respective divisions. It engages in comprehensive deliberations, assessments, and follow-up on activities related to the environment. The Environmental Legal Requirements Sub-Committee deliberates on and promotes efficient operation for each shop that uses electricity, water, gas, or other power sources. Annual environmental targets are also established with the aim of reducing

environmental burden. Furthermore, by reflecting on the previous year and setting targets for the next fiscal year, continuous efforts are also made to improve on the environmental management system. In order to successfully mitigate environmental pollution, JATCO (Guangzhou) Automatic Transmission Ltd. has also engaged in energy conservation activities since 2014, with the aim of reducing energy consumption by 3% year-on-year.

### ■ JATCO Mexico's energy consumption

	FY2013	FY2014*
Electricity	139,242,065kWh	164,915,043kWh
Natural gas	2,654,054m <sup>3</sup>	3,159,490m <sup>3</sup>
Propane gas	81.00t	72.80t
Water consumption	243,064m <sup>3</sup>	270,433m <sup>3</sup>

\*Increase in energy consumption as a result of plant expansion on the second site

## Environmental management system of JATCO (Guangzhou) Automatic Transmission Ltd.

JATCO (Guangzhou) Automatic Transmission Ltd. began establishing its environmental management system from 2013, and acquired the ISO14001 accreditation in March 2014. With the aim of realizing a “society where automobiles and the environment coexist in harmony,” it also established an Environmental Committee and ISO Office to manage the environmental management system. The Environmental Committee comprises the General Manager, respective Assistant General Managers, and representatives from each division, and conducts comprehensive management, assessments, and follow-up on environmental activities. The ISO Office is established under the

engineering division, and carries out assessments on compliance with environmental legal requirements as well as the implementation of other everyday items.

### ■ Energy consumption of JATCO (Guangzhou) Automatic Transmission Ltd.

	FY2013	FY2014
Electricity	84,004,378kWh	77,043,657kWh
Natural gas	—	—
Propane gas	—	—
Water consumption	163,979m <sup>3</sup>	153,192m <sup>3</sup>

## JATCO Thailand's Green Action

JATCO (Thailand) Co., Ltd., which commenced production in September 2013, has formulated the “JATCO Thailand Green Action” with the aim of reducing the burden imposed on the environment. Under this initiative, it plans measures such as the following to reduce environmental burden, and puts in place environmentally-friendly measures in cooperation with local corporations.

1. Purchasing molten metal in place of using aluminum ingots
2. Introduction of vacuum carburizing heat treatment facility
3. Purification of water discharged from the production plant
4. Reuse of resource materials through separation and recovery
5. Maximizing the proportion of green spaces on the plant premises

### ■ JATCO Thailand's energy consumption

	FY2013	FY2014
Electricity	16,596,800kWh	28,276,000kWh
Natural gas	—	—
Propane gas	19.44t	42.07t
Water consumption	62,729m <sup>3</sup>	79,877m <sup>3</sup>



# Part 2

## Social Activities

JATCO strives to be a company that is widely accepted by society, and to that end, engages in various activities.

In order to build relationships of trust with all stakeholders and resolve the various issues confronting our society, we aim to be a corporation that is well loved and trusted by the people, and which contributes to the development of a sustainable society.

JATCO Ltd  
Executive Vice-President

Masaaki Nishizawa

西沢 正昭



### Strengthening bonds with stakeholders and contributing to the development of a sustainable society

JATCO engages in business activities while working together with a wide range of stakeholders, including our customers such as end-users and automotive manufacturers, employees, business partners, and the local community. To contribute to the development of a sustainable society, it is also important for us to constantly listen to our stakeholders, and build relationships of trust. Assessing the needs of society and incorporating these into our corporate activities can help us to win the trust of society and improve our corporate value. For example, there is a growing number of consumers who use environmental-friendliness as a selection criteria when purchasing products, and vehicles are also expected to meet even higher levels of environmental performance. Furthermore, reducing the incidence of traffic accidents is a vital issue for bringing about the realization of a sustainable mobile society, and there are growing global

needs for vehicles that can easily be driven by anyone. To fulfill such end-user needs, JATCO is keeping up its efforts to develop products that are easy to operate, and even more environmentally-friendly than before. For JATCO, collaborating with the automotive manufacturers that are our customers, as well as the business partners that we procure parts from, is vital for engaging in our business activities. We put effort into maintaining and strengthening cooperative relationships that draw out best practices through constant friendly competition with our business partners, in order to provide the global market with low-cost products of outstanding quality, which is what automotive manufacturers demand. As a good corporate citizen, in order build positive relationships with the local community and residents of the region, and to be a well loved corporation, it is important for us to first be a corporation that our

employees can take pride in. We believe that employees who take pride in the company contribute to building relationships of trust when they engage in activities as good corporate citizens with honor in the local community. Hence, in addition to JATCO's characteristic activities that leverage on our corporate resources as a monozukuri company, such as providing the use of our facilities and organizing plant tours, experiential events, etc., we also actively promote social contribution activities such as environmental conservation, education, and welfare support. JATCO regards its employees as irreplaceable assets, and uses the term "human resources" to describe them. We also respect the diversity of individuals, and are taking strategic measures to develop the workplace environment and nurture human resources to enable them to maximize their potential as we head toward the common goal of achieving sustainable growth for

the company. When each individual employee is innovative and takes up challenges, it brings about the sustainable growth of JATCO, and in turn helps to develop relationships of trust with external stakeholders. Going forward, by "providing value to our customers, to automotive culture, and to society," we seek to pass down a richer future to the next generation, and to contribute to the development of a sustainable relationship.

# Our Stakeholders



## JATCO's stakeholders

JATCO's business activities are founded upon the trust between the company and its various stakeholders. We engage in business activities while giving consideration to the opinions of all our stakeholders and the needs of society, and we consider it important to build relationships of trust. JATCO responds to changes in the needs of customers, and provides products of value while positioning safety and peace of mind as the top priority. We also pursue true customer satisfaction by engaging in the highest standards of monozukuri in the world. Through fair trading with our business partners based on mutual trust, we are taking steps toward achieving mutual growth and the realization of a "society where

automobiles and the environment coexist in harmony." We also aim to develop human resources to match the needs of the times, respect diversity, and create a motivated workplace that each individual employee can experience growth in. We will continue to contribute to the local community and engage in communication activities that are deeply rooted in the community, in order to be a good corporate citizen in all the regions in which JATCO conducts business.

# With Our Business Partners

## Building partnerships of mutual growth

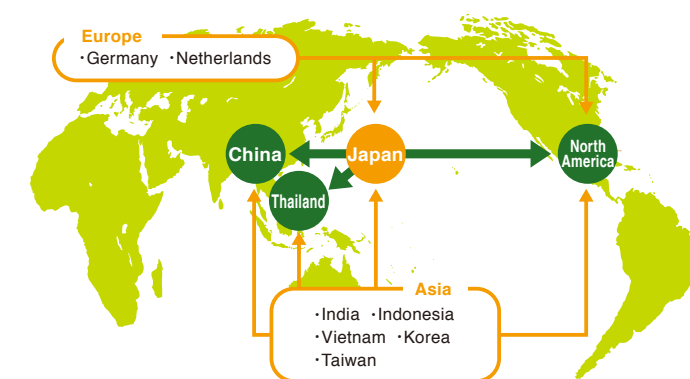
### Contributing toward the maintenance and strengthening of cooperative relationships, and the development of society

JATCO strives to bring about mutual growth and the realization of a "society where automobiles and the environment coexist in harmony," based on the relationships of trust that we share with our business partners. To that end, it is important to work together in accordance with standards that are fair, just, and transparent. We follow clearly established rules, as represented by green procurement, in selecting our business partners, and present awards to outstanding corporations.

### Procurement in the global market

In light of the expansion of production in Mexico, China, and Thailand, we are promoting local production and the shift toward LCC, with the goal of ensuring fairness in the global market and reducing the distance for parts transportation.

### ■ JATCO's global procurement



## Environmental initiatives

### Promoting the management of environmentally hazardous substances

In light of the expansion of the global market, JATCO promotes the management of environmentally hazardous substances in cooperation with our business partners with a focus on the following four items.

**1. Global implementation of the JATCO Green Procurement Guidelines**  
Beginning with the head office in Japan, we manage environmentally hazardous substances on a global scale, including our overseas affiliates.

**2. Standardized application of requirements to new business partners**  
We promote the management of environmentally hazardous substances among new business partners by clearly indicating the requirement of submitting green procurement documents.

**3. Compliance with REACH\* regulations**  
We are expanding the scope of items targeted for management beyond data on chemical substances contained in our products, but also extending to data on chemical substances in packaging materials and shipping parts during transportation, and in recent years, supplies used in the production process (for example, stationery items such as marker pens). Going forward, we will continue to put effort into minimizing the use of environmentally hazardous substances.

\* Registration, Evaluation, Authorization and Restriction of Chemicals

**4. Promoting the management of environmentally hazardous substances through the utilization of IMDS**

Corresponding with an era of "No Data, No Market" (no sales without data), we are cooperation with business partners to promote the management of highly precise data using IMDS (International Material Data System), jointly with the development division.

### Promoting green procurement activities

JATCO's green procurement activities tackle environmental conservation across all the products that are supplied by our business partners. The following are the three key points.

1. Verifying the intention to promote green procurement
2. Establishing an environmental management system
3. Reporting on the use of environmentally hazardous substances

JATCO prioritizes the purchase of products from companies that take a proactive stance toward green procurement activities. We also request that our business partners prioritize companies that promote green procurement activities when deciding on a company to purchase products from. In addition, JATCO awards business partners that have injected particular effort into achieving JATCO's vision of realizing a "society where automobiles and the environment coexist in harmony."



Photograph of awards ceremony (August 2015)



# For Our Customers

## JATCO's quality policy

Customers are the ones who ultimately assess the quality of JATCO's products. Responding sincerely to assessments from our customers serves as our starting point for meeting the expectations of customers. In order to achieve the high quality that our customers can continue to trust in, it is necessary for JATCO to provide products and services that exceed their expectations, based on our world-class monozukuri capability. Amidst the

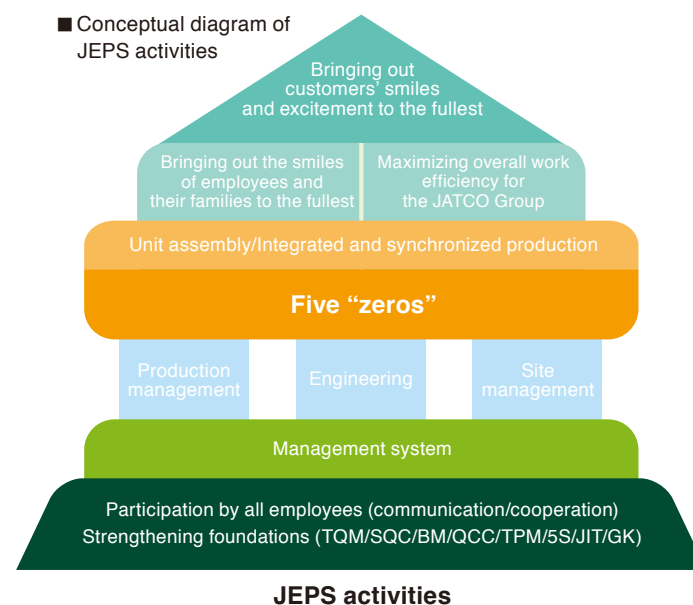
global expansion of our business, it is vital for us to ensure that we offer quality that JATCO can take pride in regardless of the region or country that we are in. JATCO complies with global law, and also constantly strives to improve ourselves and to take up the challenge of being innovative. We believe that this approach can contribute to the creation of a comfortable and safe automotive society.

Realizing the high quality that customers can continue to trust



## Aiming to be the world's No. 1 in monozukuri, from the customers' perspective

JATCO aims to respond swiftly to changes in customers, and to be the world's no. 1 in monozukuri in the aspects of quality, cost, and delivery. To that end, we have established, and are operating, a unique production system known as the JATCO Excellent Production System (JEPS). JEPS eliminates all waste by operating the entire series of processes, from assembly to shipping, at the same speed and sequence as if they were on a single line, and carries out production and transportation in a timely manner. Through JEPS, we are bringing about the realization of two "unlimited" features across the whole supply chain—"unlimited synchronization with our customers," and "visualization of unlimited challenges and innovation."



## Two "unlimited"

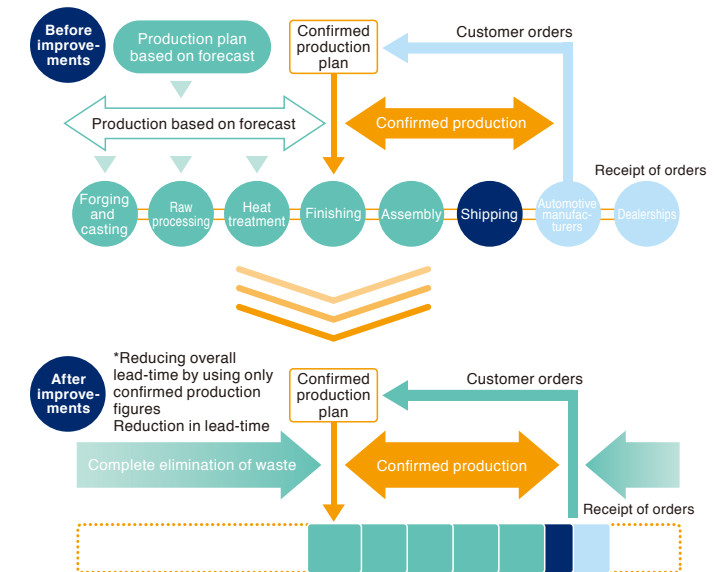
### 1. Unlimited synchronization with our customers

Q: To synchronize quality by producing the quality demanded by our customers  
C: To synchronize costs by offering reasonably priced products  
D: To synchronize delivery time by reducing production lead-time  
JATCO aims to pursue these three "synchronizations" and move infinitely closer to our customers.

### 2. Visualization of unlimited challenge and innovation

While recognizing the gap between the current situation and the "ideal state" that JATCO should aim achieve as the world's no. 1 in monozukuri, we are striving to visualize difficult issues. We are continuously trying to improve the monozukuri system through repeated improvements and innovation.

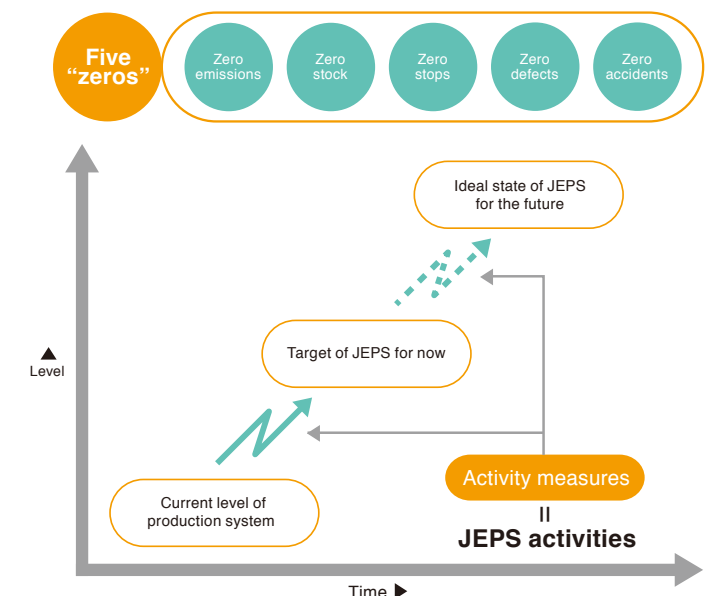
### ■ JATCO's monozukuri



## Promoting JEPS innovation

The basic stance of JEPS can be summed up into the following two points: unlimited synchronization with our customers, and visualization of unlimited challenge and innovation. To pursue these two "unlimited goals," JATCO has established clear indicators in the form of the five "zeros." Toward the achievement of these goals, JATCO continuously improves JEPS and promotes energy and resource conservation.

### ■ Visualization of unlimited challenge and innovation, and the five "zeros"



# With the Community

## Transforming social contribution activities into a corporate culture

The JATCO Group has established the corporate philosophy of “providing value to our customers, to automotive culture and to society.” We have also set forth the goal of becoming a “good corporate citizen” in our mid-term management plan. Corporate activities are conducted through our involvement with the local community. JATCO considers it our important responsibility to be actively involved with society as a member of the community, and to contribute to the local community in various ways. We promote social contribution activities with this approach in mind.

## Three priority areas of activities

Based on our desire to be a presence that the local community is glad to have, the JATCO Group has identified the three priority areas of “environment,” “education,” and “welfare.” We are implementing social contribution activities around the world in these three areas, and undertake activities that meet the needs of the respective local communities.



## Contribution activities in the area of education

### Kids Engineer (Kanagawa Prefecture/Miyagi Prefecture)

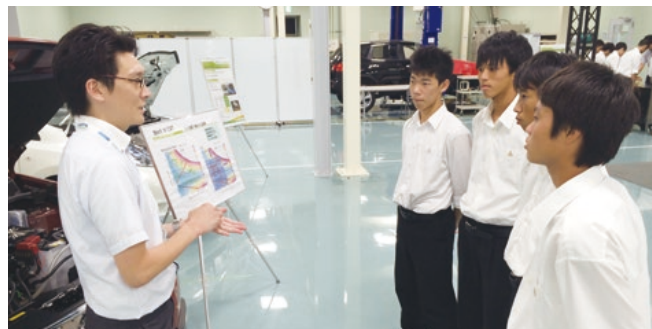
The “Kids Engineer” event was organized by the Society of Automotive Engineers of Japan. JATCO agrees with the spirit of this event, which is targeted at elementary school students and seeks to communicate the joy of monozukuri, and has continued to participate in it since the inaugural event. In FY2014, in addition to the regular event in Yokohama, we also visited the areas in the Tohoku region that were affected by the earthquake disaster, and conducted visiting lessons for the local elementary schools.



“Kids Engineer” organized by the Society of Automotive Engineers of Japan

### One-day experiential learning for high school students in Fuji City (Shizuoka Prefecture)

High school students in Fuji City, where the JATCO head office is located, are accepted into this one-day experiential learning program. On the day of the event, participants tour a wide range of workplaces from development to production, including experiencing CAD operation, visiting experimental facilities, experiencing virtual reality at the Future Technology Center, and participating in plant tours. JATCO creates the opportunity for students to consider the kind of work that they wish to take up in the future, and the career paths on which they should embark.



One-day experiential learning targeted at high school students in Shizuoka Prefecture

## Contribution activities in the area of environment

### Cutting waterweeds at Tajuku River, and releasing young fish into the water (Shizuoka Prefecture)

The Tajuku River is a clear stream that is made up entirely of spring water from Mount Fuji. To conserve this water system, which is located relatively close to the head office, JATCO works together with the local residents to cut the waterweeds about six times a year. Entering the water in waders and cutting the weeds that grow from the depths of the water using sickles that are almost as long as our bodies is harder work than it appears to be. Even so, more than 30 employees participate in the activity each time, and enjoy working together with the local residents. In June, we purchase young fish using the profits gained from the sale of aluminum cans, and invite children from kindergartens nearby to participate in the event of releasing these young fish into the water. This activity aims to nurture an attitude of treasuring the river.



Releasing young fish into Tajuku River

### Planting mangroves (Thailand)

JATCO (Thailand) Co., Ltd. has continued to implement a reforestation event named “9,999 trees for ecology... we care.” This event involves planting mangroves in the mud at the wetlands of Chonburi Province, which is located about 20km from the production plant. In addition to JATCO employees, many of their family members also participate in the event where they have a good time working together.



Mangrove reforestation activity carried out in Thailand

## Contribution activities in the area of welfare

### Soccer match for the intellectually disabled (Kanagawa Prefecture)

Soccer players with intellectual disability are not blessed with the opportunity to demonstrate the results of their training. Hence, JATCO organizes the “JATCO×Yokohama F. Marinos Futuro Cup” jointly with Yokohama F. Marinos, which we have sponsored for many years. Six teams from various parts of the Kanto region, comprising about 100 players, participated in the first match. Volunteer staff from JATCO was responsible for taking care of each team and recording results. We provided support for two days of heated competitions.



Employee volunteers who provided support for the JATCO×Yokohama F. Marinos Futuro Cup

### Participation as food bank volunteers (United States)

JATCO USA, Inc. participates in food bank activities by providing support for supplying food to underprivileged children in the local community, based on the motto of “aiming to become a good corporate citizen.” Volunteers, who include the families of employees, gathered at the volunteer site, The Second Harvest Food Bank, and carried out the work of packing canned food, juice, jelly, milk, and cereals into Ziploc bags and boxes. This food was then distributed to underprivileged children in the local community by volunteer groups.



Volunteer activities with The Second Harvest Food Bank



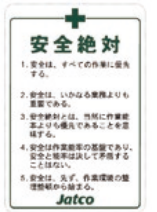
# With Our Employees: The Work Environment

## Ensuring work safety

JATCO aims to move from “zero accidents” to “zero danger,” and promotes the development of a workplace where all employees can work safely and comfortably through measures such as actively conducting risk assessments at the workplace and promoting health management for employees. We recognize the task of ensuring safety as a priority in all our work, and has established “Absolute Safety” as our motto. In line with this, we engage in safety activities with a focus on on-site inspection, such as risk assessment activities, SESI <sup>\*1</sup>, 5S patrols <sup>\*2</sup>, plant (division) safety patrols, public work inspections, and safety commitment inspections. Particular emphasis is placed on eradicating abnormal processes with a high risk of causing work accidents, and which also cause potential loss in production activities. The risks that are detected in each activity are captured in a list. We determine the degree of priority and the appropriate countermeasures based on the size of the risk, and speedily implement “hard” countermeasures such as improving

facilities, as well as “soft” countermeasures such as training and guidance.

<sup>\*</sup> SESI: “Safety Evaluation System I.” This system conducts quantitative assessments of safety levels at the workplace (JATCO Safety Evaluation Standards)  
<sup>\*2</sup> 5S Patrols: Patrolling the sites on a regular basis to ensure compliance with 5S (Seiri, Seiton, Seiso, Seiketsu, Shukanduke)



Implementing SES by our global members

## Promoting occupational health

At JATCO, the following initiatives are implemented as part of our efforts to help employees stay physically and mentally healthy.

### Initiatives for mental health

In cooperation with the specialized EAP<sup>\*</sup> organization, we conduct stress check-ups once a year. The results are fed back to each individual employee, so as to enable them to check on their own stress levels. The families of employees may also make use of consultation and treatment, as well as counseling services, at EAP. To ensure early detection and prevention for those who are suspected of suffering from mental health issues, the mental health seminars that had previously been conducted for managers and supervisors have also been extended to general employees.

<sup>\*</sup>EAP: “Employee Assistance Program”



Scene at a mental health seminar

### Initiatives to improve lifestyle habits

As part of our countermeasures against lifestyle-related diseases and metabolic syndromes, we extract a list of targeted employees based on the health examination results, and provide health guidance to these employees. Support is provided even after the interview, and various forms of guidance are provided to help employees improve steadily and achieve their goals.



Guidance for the prevention of lifestyle-related diseases

### Activities to prevent passive smoking and reduce smoking rates

Since 2003, JATCO has promoted measures to prevent passive smoking and reduced smoking rate. As a result of initiatives such as (1) Segregating workplace rest areas from the smoking areas, (2) Activities to raise awareness on non-smoking, and (3) Suspending the sale of cigarettes in the company, the smoking rate has reduced significantly among employees thereby also dramatically reducing the risks of passive smoking. However, we have not reached the level of completely eradicating the risks of passive smoking in the company. In light of that, we are putting an effort into disseminating information on the serious impact that passive smoking, as well as smoking, have on cancer, brain, and heart diseases. We will continue to put in place company-wide anti-smoking measures to protect the health of our employees, who are the most valuable assets of the company.

#### ■ Initiatives toward the realization of a workplace with no passive smoking

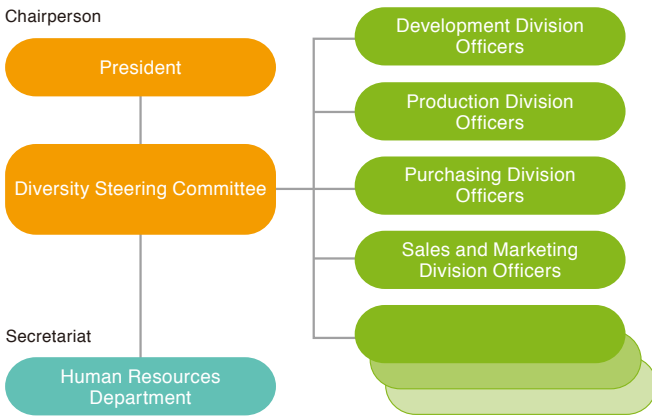
	Non-smoking implementation targets	Initiatives to provide support for smokers who wish to quit the habit
FY2015	Consensus building activities to be implemented from FY2016 toward eradicating smoking during office hours	Promoting the utilization of outpatient treatment for giving up smoking
FY2016	No smoking during office hours for all regions with effect from 1 April 2016 (scheduled)	Activities to raise awareness through guidance sessions on giving up smoking, seminars on giving up smoking, etc.
FY2017	No smoking within all premises in all regions with effect from 1 April 2017 (scheduled)	

# With Our Employees: Diversity

## Tackling diversity as a management issue

In order to continuously provide our customers with good value as we expand our business globally to respond to the changes of the times, it is necessary for us to incorporate diverse perspectives and create new value. From this perspective, JATCO positions diversity as a management issue, and has put in place various initiatives to that end. In FY2008, we established the Diversity Steering Committee, headed by the President and staffed by management personnel, to actively promote employment and human resource deployment that are not discriminated by gender, nationality, or other forms of bias.

#### ■ Organizational structure of the Diversity Steering Committee



## Promoting work-life balance

With the aim of building a workplace environment in which everyone can work confidently and enthusiastically, JATCO places great importance on the concept of “work-life balance” that seeks to enrich both work life and personal life. At the same time, we are working to expand our systems to enable employees to work despite the demands of their personal lives. We have also positioned work-life balance as one of the measures that provide support for the promotion of diversity, and are enhancing various systems in order to provide support to employees for striking a balance between work and childcare/elder care.

## Encouraging multinational human resources to play an active role

One of JATCO’s diversity initiatives involves promoting employment that does not discriminate by nationality. Already, employees of various nationalities including China, Korea, and Mexico play an active role in the company, particularly at our overseas bases. We also promote human resource and technological exchanges with our respective overseas bases. When conducting a review for a new project, relevant members from the overseas members come together as global JATCO, and work united across the barriers of their affiliations and regions to tackle and solve problems.



Exchanges with members of overseas bases

## External evaluation

JATCO has introduced various systems as part of our efforts to develop an environment where employees can find a balance between childcare and work. These include maternity leave, childcare leave, telecommuting and flex-time systems that allows employees to adopt diverse working styles. These activities have been highly valued, and we became the first company headquartered in Shizuoka Prefecture to be certified in August 2015 under the special certification based on the Act on Advancement of Measures to Support Raising Next-Generation Children (typically known as “Platinum Kurumin Certification”), established by the Ministry of Health, Labor and Welfare. During the target period of the certification (FY2012 – 2014), the rate of use of childcare leave among female employees was 98%, and the proportion of male employees taking childcare leave and using their leave for childcare purposes was 43%. Both of these were recognized as extremely high levels. In September 2013, JATCO also received the Shizuoka Labor Bureau Excellence Award in the category of corporations promoting equality, under the award for corporations that promote equality and work-life balance presented by the Ministry of Health, Labor and Welfare. This award is presented to companies that are promoting exemplary initiatives in the region to encourage women to maximize their potential.



Mark of special certification based on the Act on Advancement of Measures to Support Raising Next-Generation Children Typically known as the “Platinum Kurumin”



# With Our Employees: Training Global Talent

## Human resource development that encourages independent growth

JATCO practices human resource development that corresponds with the changing times, as well as respect for diversity, and aims to establish motivated workplaces where each individual employee can experience growth. In order to provide support for employees with the desire to earn, we offer programs that employees can take through their own volition. A wide range of courses is available, from topics that are directly related to their work, to self-development programs. To ensure that employees can continue to grow dynamically, even after they join the company and are assigned to a division, we have introduced a Freshman Leader System. Under this system, senior employees whom they report directly to at their designated divisions provide guidance and advice to the new employees, and provide support to help them adapt smoothly to their work and corporate life.

## Promoting the development of a culture of acknowledgement and praise

JATCO promotes the development of a culture of praise, and has introduced the Thanks Card System that encourages employees to express feelings of gratitude by writing on cards. This system contributes to improving the motivation of employees. In addition, the Global JATCO CEO Award and Employee Award are also presented to employees who have achieved results or taken positive action to enhance the results and reputation of the company. By positively evaluating and commending such achievements and positive action, we are developing an environment where employees can carry out their work in a motivated manner.



"Global JATCO CEO Award"

## Responding to globalization

### Promoting the human resource exchange program and global education program

JATCO has put in place initiatives for the development of global human resources who can respond to the expansion of the overseas market in the future. The human resource exchange program, undertaken in cooperation with overseas bases for the purpose of encouraging the early growth of employees as global human resources, is one such program. Young employees strive to acquire a global outlook through various experiences that encompass not only their work, but also everyday life. We also offer overseas training programs, conduct various communication seminars (on assertiveness, debating, etc.) for employees in their second year in the company, based on the skills that are necessary in the globalizing world, and conduct intercultural seminars (Mexico, China, Thailand), as part of our efforts to improve global skills and mindset.

### Human resource development that supports production sites overseas

As part of JATCO's efforts to transplant the specialized skills and know-how on site management that we have built up over many long years at our production sites in Japan to the overseas bases, we are working to nurture local employees with the aim of putting in place management and practices based on the same approach and methods that are used in Japan. Already, in the establishment of JATCO (Guangzhou) Automatic Transmission Ltd., expatriates from JATCO have undertaken human resource development in the same way as in Japan. Furthermore, since FY2013, we have extended this initiative and dispatched instructors for two and a half months to JATCO Mexico, S.A. de C.V. Supervisors from Mexico are trained to enable them to fulfill their functions as trainers for the respective courses. Currently, we are also extending the activity to JATCO (Thailand) Co., Ltd., and through the trainers that we have nurtured at the local sites, we aim to develop and raise the capability levels of all employees working in JATCO around the world.



Providing guidance to members at overseas bases

## Part 3

# Corporate Governance

In order for JATCO to further enhance our value as a company that can continue to win the trust of diverse stakeholders, it is vital to enhance our corporate governance system.

In addition to building a management structure that combines a strong sense of ethics with transparency, all employees strive to raise their own awareness and compliance with laws.



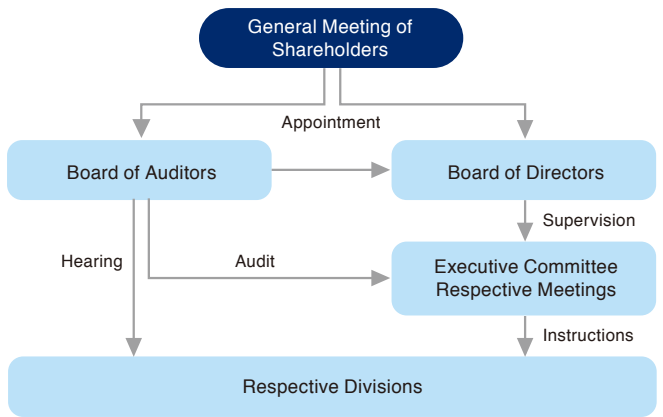
# Governance Efforts

## Commitment to corporate governance

### Corporate governance system

JATCO is a company with a Board of Corporate Auditors, in line with the Companies Act, and is established as a legal organization with a General Meeting of Shareholders, Board of Directors, and Board of Auditors. In principle, the Board of Directors convenes once a month to decide on important management matters as well as to preside over the contents of the execution of operations. The Board of Directors is composed of Directors who undertake the execution of operations, as well as several external Directors in order to create a system that enables an objective check on the situation of the execution of operations. A Corporate Officer system has also been introduced to facilitate efficient and flexible management, and authority is delegated to Corporate Officers in clearly defined ways in the management of the business.

#### ■ JATCO's corporate governance system



### Strengthening the internal control system

JATCO maintains and strengthens our internal control system based on the Basic Policy on Internal Control System passed by the Board of Directors. The Basic Policy on Internal Control System lays out the basic policy on matters such as compliance with laws, information management, risk management, proper and efficient execution of work by the Directors, management of Group companies, and ensuring an effective audit system among the Auditors. Regular checks are conducted to verify that the internal control system is functioning effectively, and the results are reported to the Board of Directors.

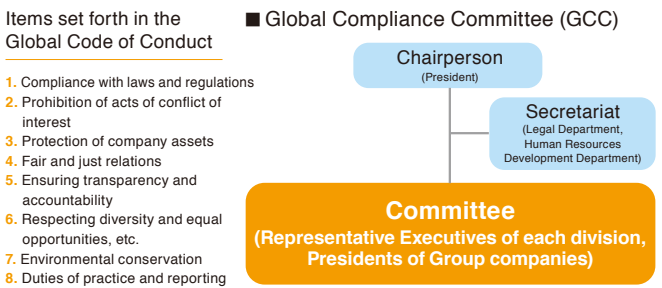
### System for ensuring proper management of Group companies

In order to put into practice the proper and efficient management of the JATCO Group, JATCO's domestic and overseas Group companies are working together with the respective divisions in charge at JATCO to carry out management work. To ensure that Group companies are able to undertake decision-making that is consistent with the Group policy, information exchange is carried out through the Group's Management Committee. Furthermore, in order to check if proper management is carried out in the Group companies, Auditors and Internal Auditors are regularly dispatched to conduct audits. Regular checks are conducted to verify that the internal control system in each company is functioning effectively, and the results are reported to the Board of Directors.

## Strengthening compliance

### Basic stance on compliance

JATCO Group considers compliance with the laws of each country and region a minimum requirement for winning the trust of society. In addition to compliance with laws, we also consider it important for all employees of the Group to act fairly and honestly with a strong sense of ethics. JATCO has enacted a Global Code of Conduct, and puts effort into ensuring thorough compliance by providing action guidelines that all employees should abide by.



### Promotion system for compliance

In order to promote compliance across the whole of the JATCO Group, JATCO has organized a Global Compliance Committee (GCC) comprising representative Executives from each division and the Presidents of Group companies in Japan and overseas, and holds regular meetings of this Committee. The GCC puts effort into ensuring the proper implementation of the PDCA cycle, such as by sharing common global matters related to compliance, sharing specific cases of incidents that have actually occurred, and checking the contents the compliance activities of each company. Compliance committees are also established in the respective Group companies, and these committees work together with the GCC Secretariat while engaging in their own compliance activities.

### Compliance education and activities to raise awareness

Code of Conduct training is provided once a year for all employees in the Group, through the use of the e-learning system. With regard to important legal fields that are related to the execution of work by employees, such as prohibition of monopolization, prohibition of corruption, product safety, intellectual property, and export control, the GCC Secretariat draws up and implements programs to educate employees.

### Promoting the internal reporting system

The JATCO Group has established the Easy Voice System, which is an internal reporting system that allows employees to report directly to the company on matters such as acts of violation. In addition, we have also established a Compliance Hotline that allows employees to report via phone or the website to a third-party organization, as part of our efforts to develop an environment where employees can take a proactive stance toward reporting on violations.

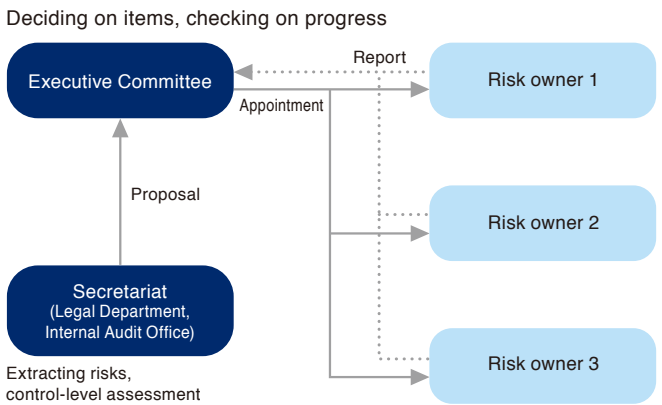
# Risk Management: Systems & Infosec

## Risk management initiatives

### Promoting risk management

In order to respond to the diversifying risks accompanying the global expansion of our business, JATCO carries out a risk management audit as part of the internal control system. Specifically, we identify risks each year, determine the items that should be tackled in the Executive Committee, appoint personnel to take charge of each item, and formulate and implement measures to mitigate the risks. The progress of initiatives for each item are reported at the Executive Committee, and a control-level assessment for each item is conducted at the end of the fiscal year.

#### ■ Risk management promotion system



### Initiatives through the BCM\* Committee

There are scenarios that endanger business continuity, such as earthquakes, typhoons, or other natural disasters. JATCO draws up hypotheses on the various risks that may arise, and has established a BCM Committee to implement measures for preventing risks before they happen and to mitigate risks when incidents do occur. In the event that a situation that has continuous impact on production arises, the relevant parties are notified immediately, and the BCM Committee takes a central role in resolving the issue with the cooperation of the respective divisions across the company. BCM training is carried out every year to help employees familiarize themselves with initial responses to take in the event of a large-scale earthquake, and the appropriate responses to take in order to achieve early recovery.

\*BCM: Abbreviation of "Business Continuity Management." In preparation for events where the company becomes unable to continue with its business, such as large-scale disasters, epidemics of diseases, etc., countermeasures are formulated and training is carried out to ensure that the plan can be executed when necessary.

### Risk management system in Group companies

With regard to Group companies, including our overseas production facilities, risk management is carried out through the implementation of measures to counter hypothetical risks for each company. The experience and knowhow that JATCO has built up through its BCM activities are disseminated to the Group companies, and for risks that are common to all bases across the world, risk management is carried out in cooperation with other Group companies.

## Strengthening information security

### Information security promotion system

JATCO has enacted the information Security Policy, and conducts proper operations in relation to information security. The Information Security Committee, which operates in a Group-wide fashion, shares issues and measures that are common across the Group, and checks on the implementation status in each division and Group company. Personnel in charge are assigned for each division and Group company, and these personnel supervise the everyday management of information security matters.

#### ■ Information Security Committee



\*1 Chief Security Officer  
\*2 Chief Information Officer

### Commitment to information management, and promotion of training activities and activities to raise awareness

There is a need for more robust information security in order for us to maintain growth. JATCO is putting effort into further strengthening our information infrastructure. To prepare for cyber attacks, we implement various technical measures to prevent external attacks, and at the same time, undertake thorough information management to prevent information from leaking out in the event of an invasion. Information security rests on the awareness of proper management among employees who handle information. Hence, we have continued to carry out information security education for all employees in the Group once a year, and strive to raise awareness about information security management.

### Information security activities in each division and Group company

In order to ensure the proper management and operation of information security, it is vital for each division and company of the group to have a proper grasp of the current situation and risks related to information security, formulate and implement countermeasures, and review the results, as part of the proper implementation of the PDCA cycle. Information on the contents of information security activities undertaken by each division and company is shared in the Information Security Committee. By encouraging the divisions and companies to incorporate mutual best practices, we are striving to further enhance information security across the Group.

# Risk Management : Emergency Response

## Toward ensuring business continuity in the event of a large-scale earthquake

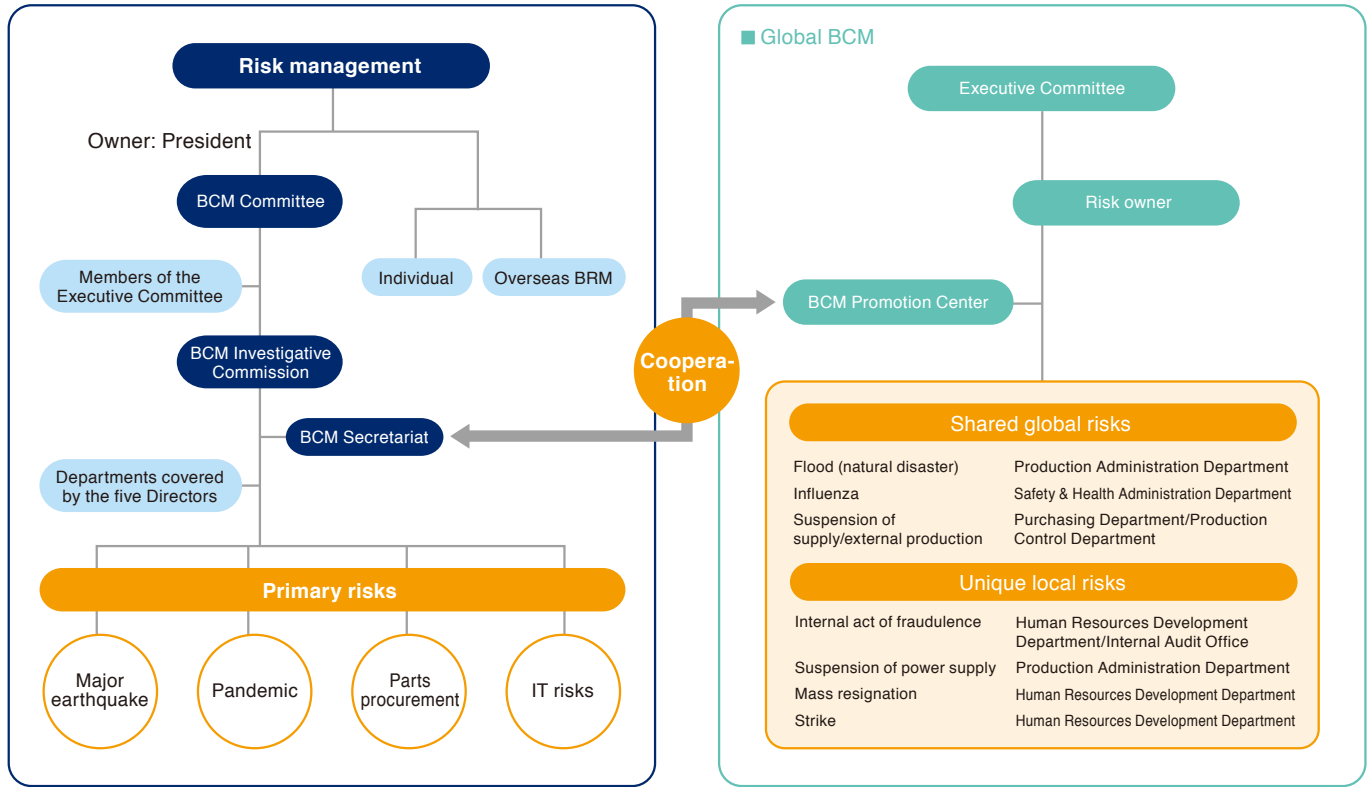
As part of JATCO's BCM initiatives, we organize disaster preparedness activities with a view to the possibility of a large-scale earthquake (seismic intensity higher than 6) that may occur in the near future. These activities are aimed at enabling the saving of lives as an initial response, preventing secondary disasters, and prompt and effective recovery to aid in the recovery of the business. With regard to initial response activities, we completed the establishment of a reception facility for emergency earthquake reports in March 2010, and commenced the operation of the facility. Furthermore, we have also launched the operation of safety verification systems in the respective places of business, and are striving to reduce the time taken to verify safety. We have incorporated self-defense and fire brigade activities into the drills that we conduct every year, and all employees participate in these drills. With regard to activities directed at business recovery, we have been conducting BCM simulation training since FY2008 for the relevant divisions. This training, based on hypothetical situations of damage, involves working together with the relevant divisions to solve issues related to business recovery. These issues include responding to automotive manufacturers and business partners, and responding to local communities and the media. Through the repeated implementation of such training, we aim

to provide speedy response in the event of a disaster. Furthermore, in order to implement BCM more smoothly, we expanded the BCM Room in FY2011, thereby further enhancing our response capability in the event of an emergency, as well as to all risks related to business continuity. We also apply the experience that we have gained in developing BCM in Japan to our overseas bases, such as in Mexico, China, and Thailand. We are expanding BCM practices globally across the entire JATCO Group.



BCM training in the BCM Room, conducted in November 2014

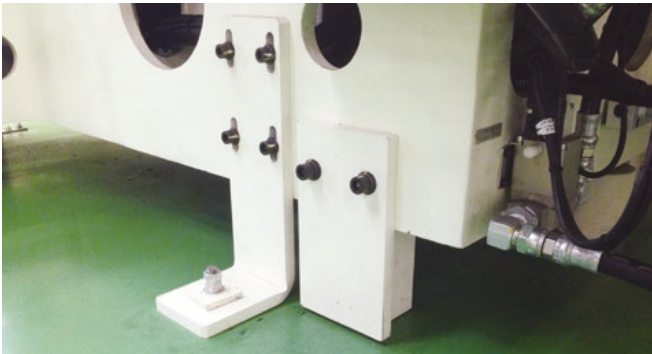
### ■ BCM promotion organization



## To ensure the safety of employees and the local community

### Earthquake measures for buildings and facilities in Japan

In order to prevent damage to buildings, facilities, and employees in the event of a large-scale earthquake, and to achieve early recovery of production plant functions, we have taken a wide range of earthquake countermeasures that include strengthening the quake-resistance of main production bases in Japan, stabilizing production facilities, and taking measures to prevent objects from falling from ceilings or cranes. As a member of a supply chain, we are constantly coming up with countermeasures to minimize the impact to the production activities of our customers.



Support legs newly added to facilities

### Earthquake countermeasures at the overseas bases

BCM activities that are similar to those at our domestic bases are also implemented at JATCO's overseas bases, which are expanding globally, in preparation for the event of a large-scale disaster such as an earthquake. At JATCO (Thailand) Co., Ltd., which commenced operations in July 2013, we have drawn lessons from the major floods that occurred in 2011, and raised the foundation filling of the building by 50 cm from the initial plans, in preparation for tsunami and floods.



Building site where the filling was carried out

### Securing safety and peace of mind for local residents

JATCO is a company that stands hand-in-hand with local residents. Hence, we cooperate actively with local residents to secure safety and peace of mind in everyday life in the region.

### Ensuring the safety of employees

In order to ensure the safety of employees in the event of a large-scale earthquake, JATCO has established detailed procedures with regard to evacuation shelters and actions. In order to ensure that employees have a good grasp of this information, regular training is conducted based on various hypothetical situations that may occur in the day or night. Taking into consideration the possibility of having employees at each base who are unable to return home during an emergency, we have prepared supplies such as water, food, helmets, and blankets.



Disaster preparedness supplies available at the Shin-Yokohama office

We are promoting the establishment of a system that provides company facilities as emergency shelters for local residents who have nowhere to escape to in the event of a large-scale disaster.



# JATCO's History

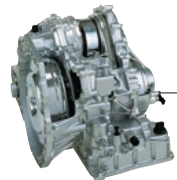
World's First

JR502E



World's first 5-speed electric controls automatic transmission

F06A



World's first steel belt CVT for 2L class

JR006E



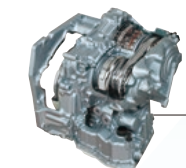
Mass Production of an ultimate "Toroidal CVT" for the first time in the world.

JF010E



World's first steel belt CVT for 3.5L class

Jatco CVT7 (JF015E)



World's first CVT with an auxiliary gearbox

JR712E



World's first 1-motor, 2-clutches type transmission without a torque converter for hybrid vehicles

1943.8

Begins operation as Yoshiwara Plant of aircraft division of Nissan Motor Co., Ltd. (Current Fuji Area No. 1)

1970.1

Japan Automatic Transmission Co., Ltd. established through merger of Nissan Motor Co., Ltd., Mazda Motor Corporation (then: Toyo Kogyo Co., Ltd.), and Ford Motor Company

1989.4

1989.10

Japan Automatic Transmission Co., Ltd. changes name to JATCO Corporation

1997.8

1999.6

AT/CVT division of Nissan Motor Co., Ltd. splits off to become TransTechnology Ltd

1999.10

TransTechnology Ltd and JATCO Corporation merge to form JATCO TransTechnology Ltd

1999.10

JATCO TransTechnology Ltd changes name to JATCO Ltd

2002.4

AT/CVT division of Mitsubishi Motors Corporation splits off to become Diamondmatic Co., Ltd.

2002.11

2003.4

JATCO Ltd merges with Diamondmatic Co., Ltd.

2009.9

2010.11

# Our Business

## Corporate Profile

Company Name	JATCO Ltd
Established	June 28, 1999
Head Office	700-1, Imaizumi, Fuji City, Shizuoka, Japan
Main Businesses	Development, manufacture and sale of transmissions and automobile components
Capital	¥29,935.3 million
Number of Employees (consolidated)	14,800 (as of March 31, 2015)
Shareholders	NISSAN MOTOR CO., LTD. 75% MITSUBISHI MOTORS CORPORATION 15% SUZUKI MOTOR CORPORATION 10%

## Financial results (consolidated)

	FY2012	FY2013	FY2014	Unit: 100 million yen
Net Revenues	5,925	7,109	7,401	
Operating income	340	469	464	
Net income	207	191	231	

(Reference)

## Locations

### ● Head Office and Fuji Area

Fuji City, Shizuoka  
PHONE +81-0545-51-0047 FAX +81-0545-51-5976

### ● Shin-Yokohama Office

Yokohama City, Kanagawa  
PHONE +81-045-285-0200 FAX +81-045-473-8107

### ● Kambara Area

Shizuoka City, Shizuoka  
PHONE +81-054-388-3486 FAX +81-054-388-2318

### ● Fujinomiya Area

Fujinomiya City, Shizuoka  
PHONE +81-0544-58-6700 FAX +81-0544-58-5549

### ● Kakegawa Area

Kakegawa City, Shizuoka  
PHONE +81-0537-24-9661 FAX +81-0537-24-9627

### ● Kyoto Area

Kyoto City, Kyoto  
PHONE +81-075-864-8060 FAX +81-075-861-6693

### ● Yagi Area

Nantan City, Kyoto  
PHONE +81-0771-43-2200 FAX +81-0771-43-2216

### ● Atsugi R&D Center

Atsugi City, Kanagawa  
PHONE +81-046-270-1458 FAX +81-046-270-1751

### ● Okazaki R&D Center

Okazaki City, Aichi  
PHONE +81-0564-32-5255 FAX +81-0564-31-2104

### ● Motegi Proving Ground

Haga-gun, Tochigi  
PHONE +81-0285-64-1335 FAX +81-0285-64-1340

## Affiliated companies in Japan

### ● JATCO Engineering Ltd

Fuji City, Shizuoka  
PHONE +81-0545-51-5777 FAX +81-0545-51-5494

### ● JATCO Tool Ltd

Fuji City, Shizuoka  
PHONE +81-0545-54-2221 FAX +81-0545-54-1160

### ● JATCO Plant Tec Ltd

Fuji City, Shizuoka  
PHONE +81-0545-57-5510 FAX +81-0545-57-5515

## Affiliated companies overseas

### ● JATCO USA, Inc.

38700 Country Club Drive, Farmington Hills, MI 48331, USA  
PHONE +1-248-306-9200 FAX +1-248-306-9201

### ● JATCO Mexico, S.A. de C.V.

Carretera Panamericana Km 75, Col. Los Arellano, C.P. 20340, Aguascalientes, AGS., Mexico  
PHONE +52-449-929-5064 FAX +52-449-971-1081

### ● JATCO Korea Engineering Corp.

IT Castle 2-4F, 98, Gasan digital 2-ro, Geumcheon-gu, Seoul 153-768, Korea  
PHONE +82-2-2082-7000 FAX +82-2-2082-7003

### ● JATCO Korea Service Corp.

IT Castle 2-412, 98, Gasan digital 2-ro, Geumcheon-gu, Seoul 153-768, Korea  
PHONE +82-2-2082-7133 FAX +82-2-2082-7130

### ● JATCO (Guangzhou) Automatic Transmission Ltd.

NO.8, Lihong 2 Road, Science City, Guangzhou Hi-Tech Industrial Development Zone, Guangzhou, Guangdong, 510530, China  
PHONE +86-20-8226-7338 FAX +86-20-8226-7002

### ● JATCO France SAS

ZAC des Godets - Batiment C, 1-4 Impasse de la noisette, 91370 Verrières le Buisson, France  
PHONE +33-1-69-32-71-50 FAX +33-1-69-41-83-35

### ● JATCO (Thailand) Co., Ltd.

700/999 Moo 3, Amata Nakorn Industrial Estate, Thumbon Nongkakha, Amphur Phanthong, Chonburi 20160, Thailand  
PHONE +66-38-930-000 FAX +66-38-930-051

Please refer to our website for information on our representative offices, etc.

as of October 1, 2015

# JATCO'S HISTORY

# OUR BUSINESS

Environmental data for each production base

Fuji Area

[Including the Head Office]  
Site:580,440m<sup>2</sup>  
Buildings (Total):  
389,403m<sup>2</sup>

Atmosphere

NOx : Nitrogen oxide SOx : Sulfur oxide  
ND : Below the lower limit of the fixed quantity

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Compact boiler (24 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	0.001	0.001
	NOx	ppm	100	64.4	37
	SOx	Nm <sup>3</sup> /H	0.002	ND	ND
Metal-heating furnace (14 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	0.046	0.016
	NOx	ppm	150	120	81
	SOx	Nm <sup>3</sup> /H	0.018	ND	ND
Steel-heating furnace (3 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	0.008	0.003
	NOx	ppm	150	43	19
	SOx	Nm <sup>3</sup> /H	0.026	ND	ND
Aluminum-melting furnace (6 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	0.026	0.007
	NOx	ppm	150	43	22
	SOx	Nm <sup>3</sup> /H	0.019	ND	ND
	Dioxin	mg-TEQ/Nm <sup>3</sup>	5	2	0.414
	Soot and dust	g/Nm <sup>3</sup>	0.05	0.048	0.045
Drying kiln (1 unit)	NOx	ppm	56	15	11.5
	SOx	Nm <sup>3</sup> /H	0.0048	ND	ND
	Dioxin	mg-TEQ/Nm <sup>3</sup>	5	0.000015	0.000015
Drying combustion furnace (1 unit)	Dioxin	mg-TEQ/Nm <sup>3</sup>	5	0.028	0.028

Water quality

Figures shown in the brackets ( ) for the regulation value are daily averages  
ND : Below the lower limit of the fixed quantity

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8~8.6	7.2	7.1
Biochemical oxygen demand (BOD)	mg/L	20 (15)	3.3	2.6
Chemical oxygen demand (COD)	mg/L	20 (15)	5.6	5.0
Suspended solids (SS)	mg/L	20 (10)	2.0	2.0
n-hexane extracts (mineral oils)	mg/L	4	ND	ND
Copper	mg/L	0.1	ND	ND
Zinc	mg/L	0.1	0.05	0.04
Coliform count	Unit/cm <sup>3</sup>	3,000	0	0
Trichloroethylene	mg/L	0.3	ND	ND
Dichloromethane	mg/L	0.02	ND	ND
Boron	mg/L	10	0.2	0.1
Fluorine	mg/L	15	ND	ND
Ammoniacal nitrogen	mg/L	100	2.7	1.4
Nitrate-nitrogen				
Nitrite-nitrogen				

Fuji Area

Site:78,423m<sup>2</sup>  
Buildings (Total):  
58,033m<sup>2</sup>

Atmosphere

NOx : Nitrogen oxide SOx : Sulfur oxide  
ND : Below the lower limit of the fixed quantity

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Kerosene boiler (2 units)	Soot and dust	g/Nm <sup>3</sup>	0.1	0.002	0.002
	NOx	ppm	130	93	69
	SOx	Nm <sup>3</sup> /H	0.045	ND	ND
Metal-heating furnace (0 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	ND	ND
	NOx	ppm	150	ND	ND
	SOx	Nm <sup>3</sup> /H	0.01	ND	ND
	Soot and dust	g/Nm <sup>3</sup>	0.05	0.021	0.02
Aluminum-melting furnace (1 unit)	NOx	ppm	100	30	27
	SOx	Nm <sup>3</sup> /H	0.013	0.004	0.004
	Dioxin	mg-TEQ/Nm <sup>3</sup>	5	0.57	0.57

Water quality

Figures shown in the brackets ( ) for the regulation value are daily averages  
ND : Below the lower limit of the fixed quantity

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8~8.6	7.4	7.4
Biochemical oxygen demand (BOD)	mg/L	20 (15)	1.1	1.1
Chemical oxygen demand (COD)	mg/L	25 (20)	2.5	2.1
Suspended solids (SS)	mg/L	40 (30)	ND	ND
n-hexane extracts (mineral oils)	mg/L	5	ND	ND
Coliform count	Unit/cm <sup>3</sup>	1,000	0	0
Dichloromethane	mg/L	0.02	ND	ND
Boron	mg/L	10	ND	ND
Fluorine	mg/L	8	ND	ND
Ammoniacal nitrogen	mg/L	100	38.9	20.6
Nitrate-nitrogen				
Nitrite-nitrogen				

Fujinomiya Area

Site:67,698m<sup>2</sup>  
Buildings (Total):  
66,756m<sup>2</sup>

Atmosphere

NOx : Nitrogen oxide SOx : Sulfur oxide  
ND : Below the lower limit of the fixed quantity

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Compact boiler (6 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	0.005	0.005
	NOx	ppm	100	55	47
	SOx	Nm <sup>3</sup> /H	0.01	ND	ND
Metal-heating furnace (3 units)	Soot and dust	g/Nm <sup>3</sup>	0.01	0.009	0.0065
	NOx	ppm	150	140	78
	SOx	Nm <sup>3</sup> /H	0.01	ND	ND

Water quality

Figures shown in the brackets ( ) for the regulation value are daily averages  
ND : Below the lower limit of the fixed quantity

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8~8.6	7.3	7.2
Biochemical oxygen demand (BOD)	mg/L	20 (15)	0.9	0.8
Chemical oxygen demand (COD)	mg/L	20 (15)	ND	ND
Suspended solids (SS)	mg/L	20 (15)	ND	ND
n-hexane extracts (mineral oils)	mg/L	5	ND	ND
Phenols	mg/L	5	ND	ND
Copper	mg/L	3	ND	ND
Zinc	mg/L	2	0.04	0.03
Soluble iron	mg/L	10	0.08	0.07
Soluble manganese	mg/L	10	ND	ND
Chromium	mg/L	2	ND	ND
Coliform count	Unit/cm <sup>3</sup>	3,000	0	0
1, 1, 1-trichloroethane	mg/L	0.001	ND	ND
Boron	mg/L	10	ND	ND
Ammoniacal nitrogen	mg/L	100	1.2	0.6
Nitrate-nitrogen				
Nitrite-nitrogen				

Kakegawa Area

Site:95,522m<sup>2</sup>  
Buildings (Total):  
14,954m<sup>2</sup>

Atmosphere

NOx : Nitrogen oxide SOx : Sulfur oxide  
ND : Below the lower limit of the fixed quantity

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Compact boiler (2 units)	Soot and dust	g/Nm <sup>3</sup>	0.05	ND	ND
	NOx	ppm	100	63.7	61.5
	SOx	Nm <sup>3</sup> /H	0.01	ND	ND

Water quality

Figures shown in the brackets ( ) for the regulation value are daily averages  
ND : Below the lower limit of the fixed quantity

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8~8.6	7.9	7.2
Biochemical oxygen demand (BOD)	mg/L	20 (15)	5.2	2.1
Chemical oxygen demand (COD)	mg/L	80 (60)	22.3	18.2
Suspended solids (SS)	mg/L	20 (10)	7.2	2.9
n-hexane extracts (mineral oils)	mg/L	3	1.2	1.2
Phenols	mg/L	2.5	ND	ND
Copper	mg/L	0.5	ND	ND
Zinc	mg/L	2	0.12	0.1

Water quality

Figures shown in the brackets ( ) for the regulation value are daily averages  
ND : Below the lower limit of the fixed quantity

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Soluble iron	mg/L	5	0.88	0.66
Soluble manganese	mg/L	5	0.03	0.03
Chromium	mg/L	1	ND	ND
Coliform count	Unit/cm <sup>3</sup>	3,000	330	24.5
Cadmium	mg/L	0.03	ND	ND
Cyan	mg/L	0.5	ND	ND
Organic phosphorus	mg/L	1	ND	ND
Lead	mg/L	0.1	ND	ND
Hexavalent chromium	mg/L	0.25	ND	ND
Arsenic	mg/L	0.1	ND	ND
Total mercury	mg/L	0.0005	ND	ND
Alkyl mercury	mg/L	Undetected	ND	ND
PCB	mg/L	0.001	ND	ND
Trichloroethylene	mg/L	0.1	ND	ND
Tetrachloroethylene	mg/L	0.05	ND	ND
Carbon tetrachloride	mg/L	0.01	ND	ND
1, 1, 1-trichloroethane	mg/L	1	ND	ND
Boron	mg/L	10	ND	ND
Ammoniacal nitrogen	mg/L	100	23.5	21.9
Nitrate-nitrogen				
Nitrite-nitrogen				

Kyoto Area

Atmosphere

NOx : Nitrogen oxide SOx : Sulfur oxide

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Compact boiler (1 unit) Instructions	Soot and dust	g/Nm <sup>3</sup>	0.1	0.003	0.003
	NOx	ppm	150	31	31
	SOx	Nm <sup>3</sup> /H	0.00	ND	ND
City gas boiler (1 unit)	Soot and dust	g/Nm <sup>3</sup>	0.1	0.008	0.006
	NOx	ppm	150	54	54
	SOx	Nm <sup>3</sup> /H	0.49	ND	ND

Yagi Area

Site:233,323m<sup>2</sup>  
Buildings (Total):  
68,277m<sup>2</sup>

Atmosphere

NOx : Nitrogen oxide SOx : Sulfur oxide

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Compact boiler (11 units)	Soot and dust	g/Nm <sup>3</sup>	0.1	ND	ND
	NOx	ppm	150	52	42
	SOx	Nm <sup>3</sup> /H	0.00	ND	ND
Continuous carburizing furnace (11 units)	Soot and dust	g/Nm <sup>3</sup>	0.1	0.018	0.001
	NOx	ppm	150	86	32
	SOx	Nm <sup>3</sup> /H	0.00	ND	ND

Water quality

Figures shown in the brackets ( ) for the regulation value are daily averages

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8~8.6	7.9	7.5
Biochemical oxygen demand (BOD)	mg/L	20 (10)	3.0	1.3
Chemical oxygen demand (COD)	mg/L	30 (20)	4.9	2.7
Suspended solids (SS)	mg/L	30 (20)	0.6	0.5
n-hexane extracts (mineral oils)	mg/L	2.5	0.5	0.5
Phenols	mg/L	0.5	0.1	0.1
Copper	mg/L	1.5	0.01	0.01
Zinc	mg/L	2.5	0.04	0.01
Soluble iron	mg/L	5	0.1	0.1
Soluble manganese	mg/L	5	0.1	0.1
Chromium	mg/L	1	0.01	0.01
Coliform count	Unit/cm <sup>3</sup>	1,500	0	0
Nitrogen	mg/L	16 (12)	11.4	8.7
Nickel	mg/L	1	0.01	0.01
Phosphorus	mg/L	1 (0.5)	0.1	0.1
Boron	mg/L	10	0.2	0.2
Fluorine	mg/L	7.5	0.2	0.2

JATCO Mexico, S.A.de C.V.

Atmosphere

NOx : Nitrogen oxide

Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Metal-heating furnace (2 units)	Soot and dust	mg/mf	450	57.62	39.32
	NOx	kg/hf	376	131.1	121.3
Aluminum-melting furnace (2 units)	Soot and dust	mg/mf	1085.01~610.34	50.12	17.03
	NOx	kg/hf	—	—	—

Water quality

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5~10	7.5	7.2
Biochemical oxygen demand (BOD)	mg/L	160	41.4	28
Chemical oxygen demand (COD)	mg/L	320	237.2	110.5
Suspended solids (SS)	mg/L	150	30	16.5
n-hexane extracts (mineral oils)	mg/L	15	12.7	9.2
Copper	mg/L	4	0.25	0.211
Zinc	mg/L	10	0.85	0.342

JATCO (Guangzhou) Automatic Transmission Ltd.

Atmosphere

TSP: Total suspended particulates

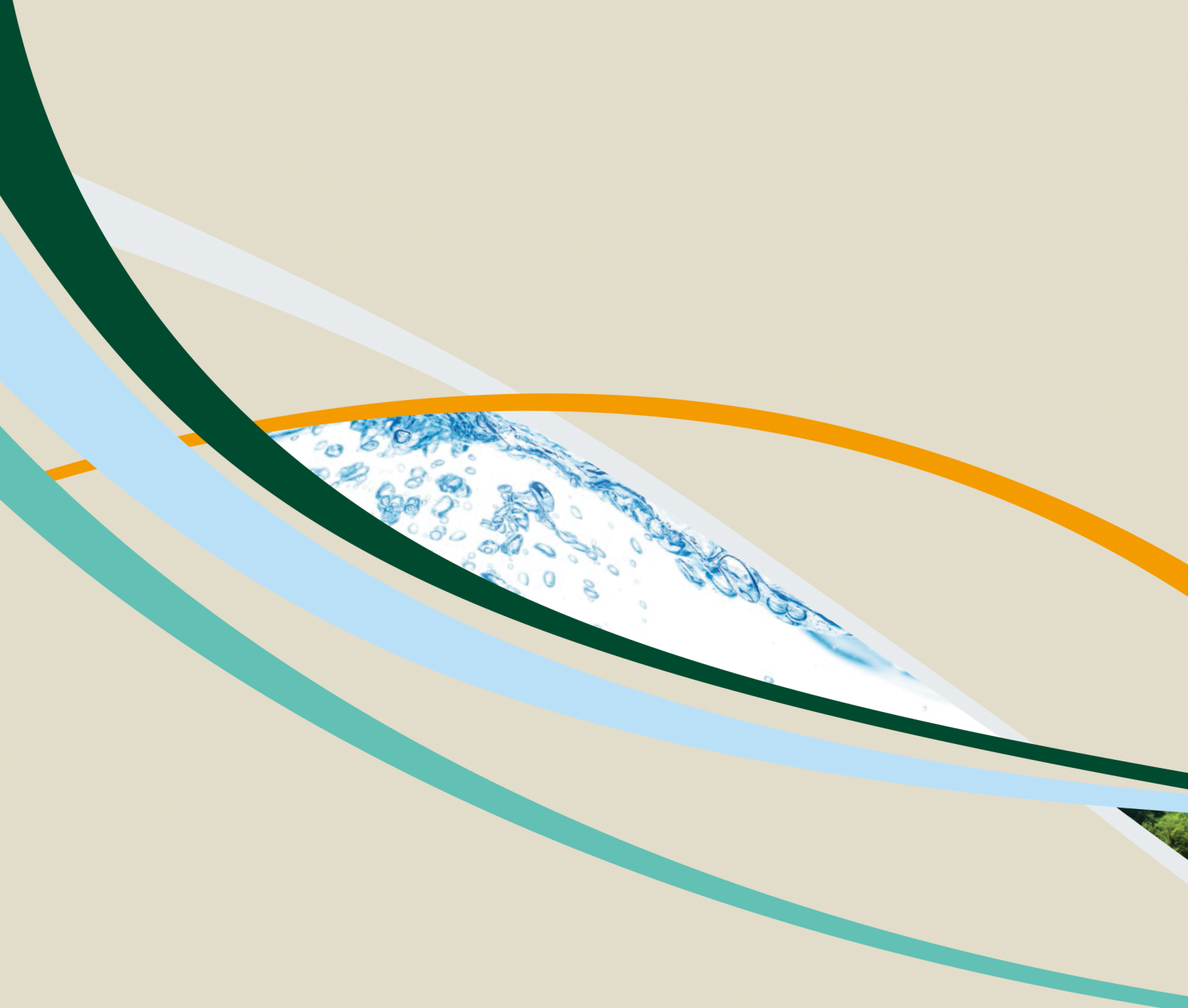
Facility	Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
				Maximum	Average
Heat treatment line (18 units)	TSP	mg/m <sup>3</sup>	120.0	115.0	17.4
	Nonmethane hydrocarbons	mg/m <sup>3</sup>	120.0	14.7	3.5
Machining line (4 units)	TSP	mg/m <sup>3</sup>	120.0	6.0	3.0
	Nonmethane hydrocarbons	mg/m <sup>3</sup>	120.0	0.4	0.2

Water quality

Item	Unit	Regulation value <small>(including agreed value)</small>	Measured value	
			Maximum	Average
Hydrogen ion concentration (pH)	—	6~9	7.8	7.2
Biochemical oxygen demand (BOD)	mg/L	300	106.0	35.1
Chemical oxygen demand (COD)	mg/L	500	440.0	128.0
Suspended solids (SS)	mg/L	400	116.0	54.5
n-hexane extracts (mineral oils)	mg/L	20.0	2.9	1.1

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