2019 Environmental & Social Report






Jatco

Gazing into a bright future for individuals and society, achieved through the development and production of transmissions.

A transmission connects the engine to the wheels and delivers power smoothly to the road. It delivers the optimal gear ratios for different driving conditions and is the key player behind the scenes that controls a car's driving and environmental performance.
At JATCO, we strive to develop and produce ever smoother and environmentally friendly transmissions.
By doing so, we not only support the global automotive industry, but also the lives of all those who rely on automobiles.

Jatco *The mission is passion.*

CONTENTS

Editorial Policy

This is our Environmental & Social Report, which 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 ongoing initiatives towards environmental and social improvements, and the contributions we have made so far.
We also hope that your opinions and feedback will provide an opportunity for us to identify new challenges which we can address in our future initiatives.
We look forward to receiving your comments and feedback.
<Questionnaire>
https://www.jatco.co.jp/english/society/enquete.html

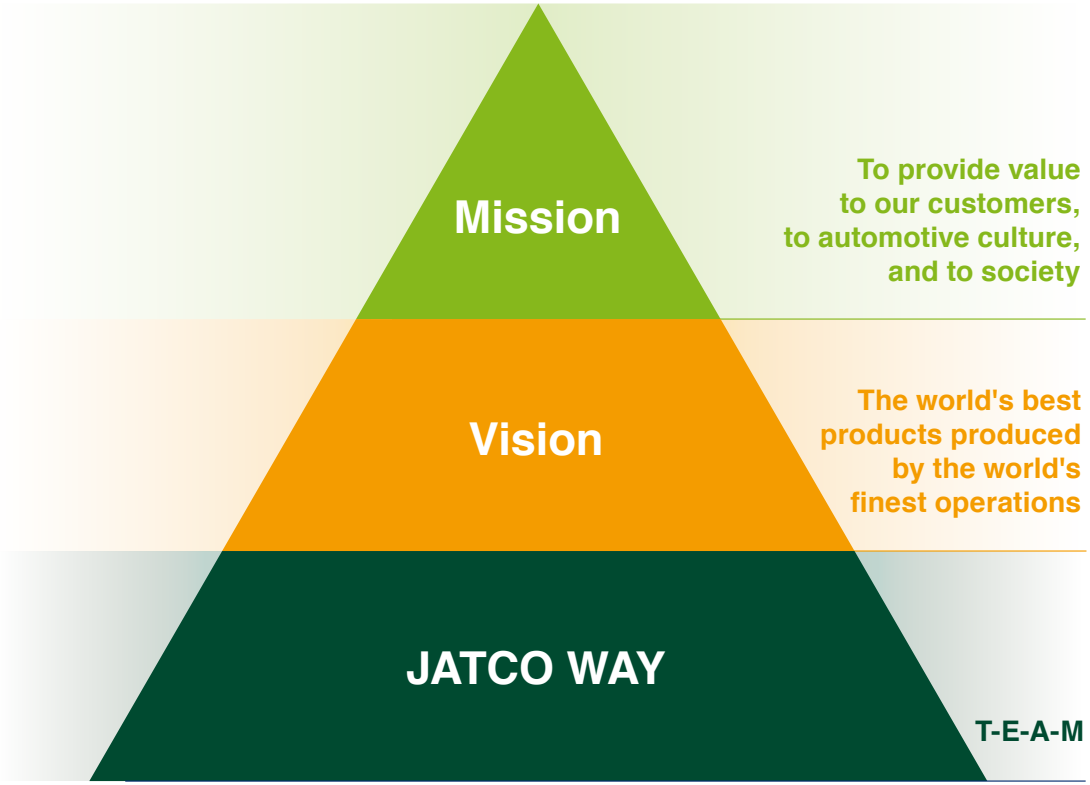
Message from the CEO

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 society.

JATCO Ltd
President and CEO
Teruaki Nakatsuka

As a manufacturer specializing in automatic transmissions (ATs) for automobiles, JATCO has provided the world with numerous innovative products throughout the history of the company. Of these, JATCO has the top share of the global market in the area of continuously variable transmissions (CVTs), and offers a full lineup of products that cover a wide range of automobiles, from mini vehicles to large passenger vehicles. Automatic transmissions, in particular, CVTs, are certain to play an increasingly important role in bringing about the realization of clean and fuel-efficient cars. The key for monozukuri companies to solving social problems lies in their technological prowess. To date, JATCO has been turning its pioneering technologies for reducing CO_2 emissions into products, and in order to further reduce our impact on the environment, we released our newly developed Jatco CVT-S to the world in March 2019, and are continuing the research and technology development of our e-Axles and transmissions for electrified vehicles. It is our duty to provide innovative products characteristic of JATCO, by 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 No. 1 in the world. However, this is not merely a numerical goal. Rather, we aim to be a No. 1 company with real substance—one where all employees work with enthusiasm and everyone around the world recognizes and is glad for JATCO's presence and would like to work there. We have expanded our business worldwide—in addition to our development and production bases in Japan, we have development bases in Korea, the United States, France, Russia, and Spain, as well as production bases in Mexico, China, and Thailand. The history, culture, and ways of thinking differ in each region, and so what is expected of a good citizen differs as well. Nevertheless, JATCO wishes to continue being a company that local residents can love and be glad about its presence in their community. Corporations shoulder the immense social responsibility of providing employment, while environmental conservation activities such as green procurement and energy and resource conservation are also of great importance. Companies must additionally never neglect to show consideration for local residents, such as by ensuring safety and by caring for the environment in the areas around production plants. JATCO also aims to continue contributing to society in line with the needs of each country and region, through efforts such as cleanup activities, tree planting, and support for raising children. At the same time, we will continue to further enhance the company's support systems for employee 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, the good corporate citizen aspect of JATCO begins to become apparent. Our goal is for each employee to demonstrate their leadership ability, consider the perspective of our customers, and prevail on the global stage through technological prowess. We will continue to be a company where such employees work dynamically as a united team. This connects to our mission "to provide value to our customers, to automotive culture, and to society," and it reflects the character of JATCO's monozukuri that aims for the proper growth of the company as a good corporate citizen.

Corporate Philosophy



*T-E-A-M: An acronym of the four things every JATCO employee must keep in mind as part of our work philosophy

In order to make clear the ultimate goals we must strive for, we at JATCO have defined our mission, our vision, and the JATCO WAY (our principles of action) to create our corporate philosophy.

As a manufacturer specializing in automatic transmissions for automobiles, JATCO aims to continue providing products of value, not only for customers, but also for the development of a sustainable automotive culture and society. We seek to further improve our skills in monozukuri and develop cutting-edge products in order to meet the expectations of both our customers and society. Each and every one of our employees is keenly aware of this as they work hard to drive our business forward.

Social Responsibility

The ultimate goal of all our pursuits is this: the realization of a society where automobiles and the environment exist in harmony.

Needless to say, we at JATCO abide by the law, respect human rights, and consistently act with fairness. We aspire to be proactive in fulfilling our societal responsibilities by providing value to society through our products and business pursuits. With "good corporate citizenship" as our mantra, we promote social contribution activities centered on the three topics of environment, education, and welfare, and engage in voluntary initiatives to help resolve societal problems as we aim to be a JATCO that is well loved by society.

Part 1

Environmental Activities

In order to achieve our corporate philosophy “to provide value to our customers, to automotive culture, and to society,” JATCO places importance on fusing the latest technology with the kindness of individual employees as demonstrated through their consideration and care toward Mother Nature and the Earth. JATCO will continue to put effort into “the realization of a society where automobiles and the environment exist in harmony,” through the development, production, and sale of transmissions.

JATCO Ltd
Executive Vice President
Environmental Management Representative
Tomoyoshi Sato 佐藤 朋由

Providing products with outstanding environmental performance and reducing the impact on the environment imposed by our production and distribution processes are the two ways that JATCO is striving to contribute to environmental conservation efforts.

Reducing CO_2 emissions to respond to global climate change is one of the biggest challenges for the automotive industry. The adoption of environmentally conscious vehicles such as hybrids, plugin hybrids, electric vehicles, and fuel cell vehicles is now accelerating. As a transmission maker, JATCO has responded to this trend via the development of products such as the Jatco CVT-S and Jatco CVT8. Improvements such as increases in transmission gear ratios, decreases in size and weight, and reductions in friction have allowed for the realization of products with both improved driving performance and fuel efficiency. Our unique one-motor two-clutch dedicated hybrid transmission also works with electric vehicles. We’ve continued to improve on the core function of a transmission—the efficient transfer of engine torque to the vehicle’s tires—while also continuing to create technological innovations through our total energy management system, which allows for energy regeneration and ensures that energy produced by the vehicle is not wasted. JATCO is aiming for further advanced improvements in both driving performance and fuel efficiency. In addition to providing environmentally-friendly transmissions, it is also very important at the same time to establish production and distribution processes that have a low environmental impact. 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 each 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 impact of our transport operations is also an important issue for JATCO, and we are actively taking measures to promote a modal shift toward transporting our cargo by rail or ferry, and improve our loading efficiency by consolidating cargo. In order to reduce the impact on 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 our 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 while training employees to be able to create new technologies and fulfilling our responsibilities as a corporation. By sharing this approach not just with JATCO’s employees, but also with our business partners, we are confident that we will be able to move closer toward “the realization of a society where automobiles and the environment exist in harmony.”

Environmental Policy

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

Realization of a society where automobiles and the environment exist in harmony

Technology: Development of transmissions with high energy-transmission efficiency
Pollution prevention: Taking preventive measures for environmental problems and complying with laws
Effective resource usage: Minimizing the use of resources and energy
Continuous improvement: Improving the effectiveness of our environmental management system

Jatco 2018

JATCO’s achievements in FY2018

Emissions of three major hazardous air pollutants

None

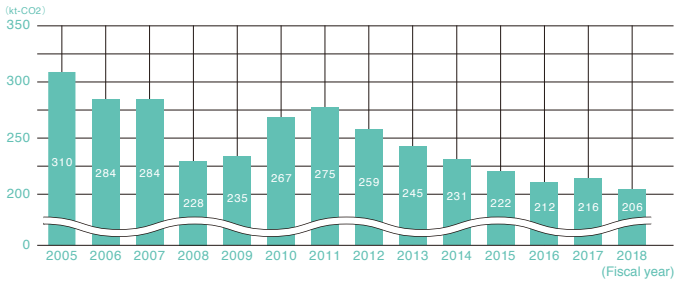
CO_2 emissions generated by our operations in Japan

33.51% reduction (Compared to FY2005)

205,676t-CO_2

JATCO’s operations in Japan in FY2018 generated 205,676 t-CO_2. We define Unit CO_2 Generated to mean CO_2 emissions per unit produced, making it easier to understand the proportional rate of fluctuations in production. Unit CO_2 Generated for FY2018 was within target, at 0.0583 t-CO_2/unit.

■ Trend in CO_2 emissions



Total waste generated

33.2% reduction (Compared to FY2006)

Recycling rate

100%

VOC* emissions

99% reduction (Compared to FY2000)

*VOC: Volatile Organic Compound, which is an organic compound that enters a gaseous state when exposed to the atmosphere.

Environmental Policy

JATCO's technologies play a role in reducing the impact of automobiles on the environment

Today, the pressing need for environmental conservation is being debated on a global scale. In order to reduce the environmental impact generated through the societal 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 are a part of our everyday lives. In particular, there are high expectations for the evolution of transmissions—especially continuously variable transmissions (CVTs)—which has strongly been linked to improvements in driving performance and fuel efficiency. JATCO, as the world's leading company for CVTs and the only manufacturer that offers a full lineup of CVTs that cover a wide range of automobiles ranging from mini vehicles to large passenger vehicles, contributes to reducing the environmental impact imposed by automobiles on a global scale by supplying products with superior environmental performance to automobile manufacturers around the world.

We also account for the environment in our global business activities

JATCO is expanding its production bases globally in order to ensure a stable supply of products to automobile manufacturers around the world. To minimize the impact on the environment imposed by our production bases, we apply the same environmental protection measures used in our production bases in Japan to all our bases around the world, and we are proactive in trying out unique ideas at each base. Furthermore, all of our bases have earned the new ISO14001:2015 environmental management system certification. Going forward, with the aim of producing transmissions with outstanding environmental performance while also caring for the environment during the production process itself, we will continue engaging in production practices that minimize environmental impact across our bases all over the world.

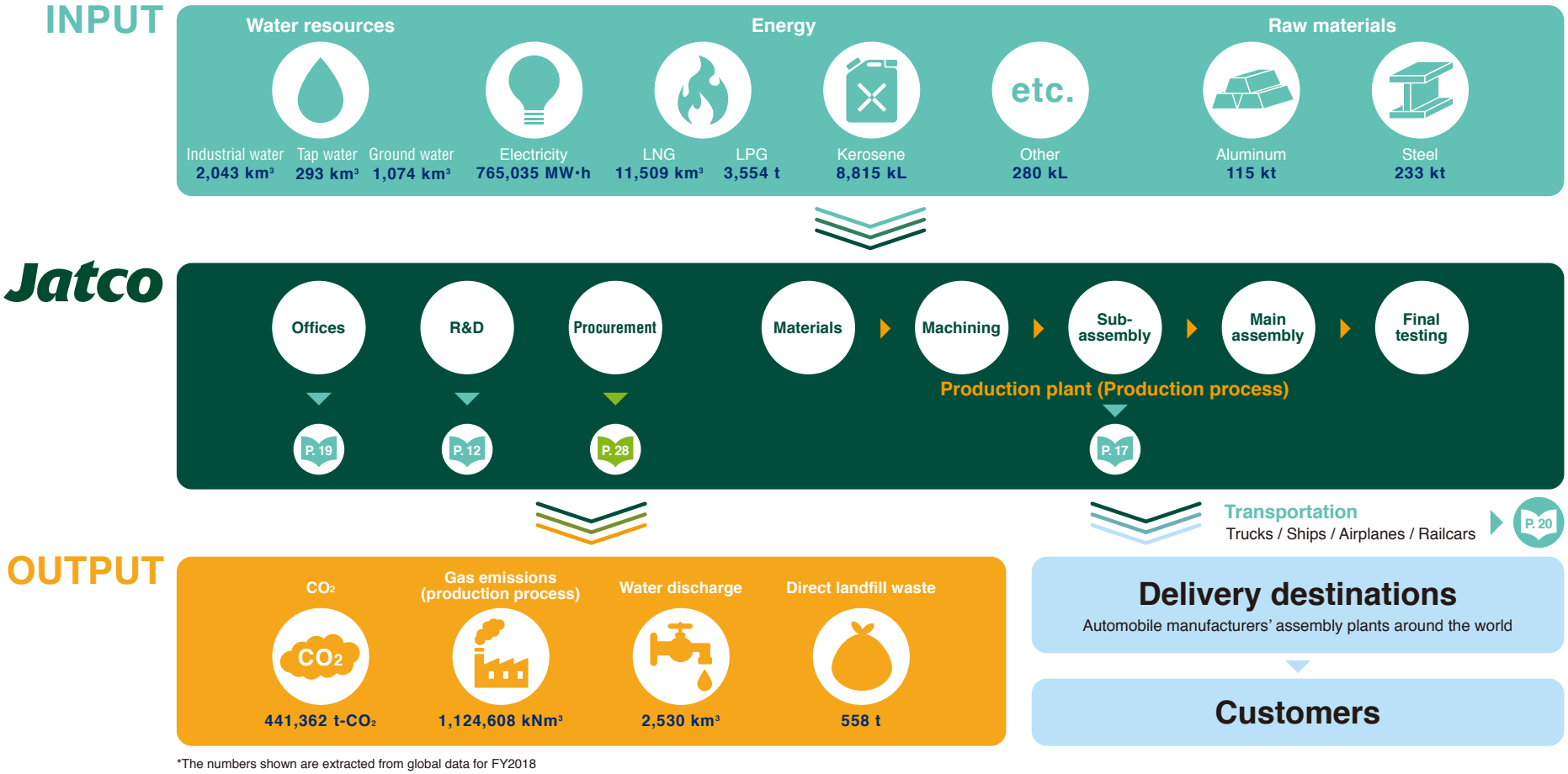
What JATCO can do for the future of the environment and automobiles

When customers choose a car, the environment and fuel economy are becoming increasingly important factors in their decision-making processes. In order to create the 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 performance and fuel efficiency, provide that value through products such as our Jatco CVT-S, Jatco CVT7, Jatco CVT8, and Jatco CVT8 HYBRID. Going forward, we will continue to develop innovative technologies for electric vehicles (EVs) and fuel cell vehicles (FCVs) and contribute to the future of 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 exist in harmony."

Material Balance

Understanding the emissions generated as a result of our business operations

A variety of waste substances are generated through JATCO's business operations. At JATCO, we are working to use resources appropriately and reduce emissions, as we aim to realize a recycling-oriented society.



*The numbers shown are extracted from global data for FY2018

Improvement Efforts

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

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

■ Targets and results for FY2018

Environmental objectives	Items	FY2018 targets	FY2018 results	Achieved	FY2019 targets
Continuous improvement of our environmental management system	Routine reviews	・Receive regular audits: maintain certification ・Internal environmental audit: 1 time ・Environmental Committee meeting: 2 times ・Management review: 1 time	・Received regular audits: maintained certification ・Internal environmental audit: 1 time ・Environmental Committee meeting: 2 times ・Management review: 1 time	✓	・Receive regular audits: maintain certification ・Internal environmental audit: 1 time ・Environmental Committee meeting: 2 times
	Internal environmental auditor training	・Train people as needed	・3 people trained	✓	・Train people as needed
Compliance with laws and preventive measures for environmental issues	Findings highlighted by administrative and government agencies	・Number of findings: 0	・Number of findings: 0	✓	・Number of findings: 0
	Maintenance of significant environmental characteristics	・Accomplish 100% of regular reviews	・Accomplished 100% of regular reviews	✓	・Accomplish 100% of regular reviews
	Education relating to environmental laws	・Number of complaints: 0	・Number of complaints: 0	✓	・Perform environmental training: 2 times
	Prevention of environmental accidents	・Number of B rank accidents: 0 ・Number of C rank accidents: 3	・Number of B rank accidents: 1 ・Number of C rank accidents: 8	✗	・Number of B rank accidents: 0 ・Number of C rank accidents: 6
Promotion of resource conservation	Promotion of energy conservation ・Energy per unit sales (CO_2)	・0.0571 t-CO_2/unit	・0.0583 t-CO_2/unit	✓−	・0.0565 t-CO_2/unit
	Promotion of waste reduction ・Reduction in total waste generated	・2.0% reduction from FY2017	・2.0% reduction from FY2017	✓	・2.0% reduction from FY2018
	・Recycling rate	・Maintain at 100%	・Maintained at 100%	✓	—
	・Reduce water consumption	—	—		・2.0% reduction from FY2018
Technological development aimed at reducing environmental impact	Environmentally-friendly design [Contribution to environmental conservation and fuel-economy improvements]	・Achieve 100% of goals for individual (product) issues	・Achieved 89% of goals for individual (product) issues	✓−	・Achieve 50% of goals for individual (product) issues
	Management and reduction of environmentally hazardous substances in products	・Maintain product compliance with environmental laws and regulations at 100%	・Maintained product compliance with environmental laws and regulations at 100%	✓	・Maintain product compliance with environmental laws and regulations at 100%
Harmonious existence with the local community, society, and nature	Disclosure of information to external parties	・Publish our Environmental & Social Report	・Environmental & Social Report was published in October 2018	✓	・Publish our Environmental & Social Report
	Communication with local communities	・Participate in local community contribution activities: 1 time Plan and participate through production plants	・Participated in local community contribution activities: 1 time Planned and participated through production plants	✓	・Participate in local community contribution activities: 50 events

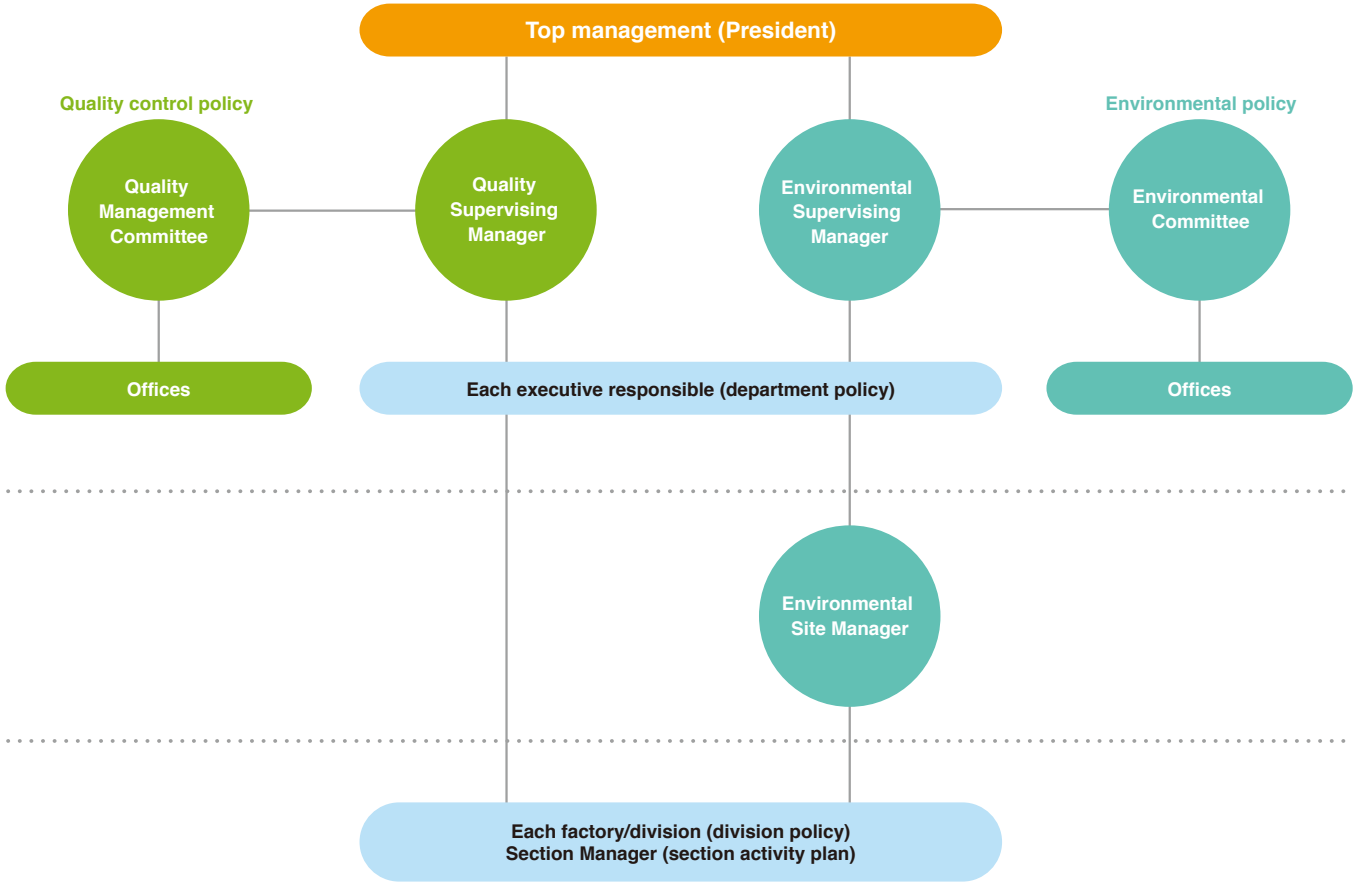
✓: 100% achieved ✓−: 80% or more achieved ✗: less than 80% achieved

Environmental Management System

Promotion system for environmental management

JATCO has earned ISO14001 certification for its head office and its production bases in Japan. As part of our framework to promote our environmental management system (EMS), we appointed one environmental supervising manager, 9 site managers, and 3 deputy site managers. Under the management and authority of the environmental supervising manager, they promote our EMS at each production base and division. Furthermore, in 2011, we integrated our quality management system and our environmental management system. With regard to EMS promotion across the entirety of JATCO, comprehensive deliberation and assessment is carried out by a company-wide environmental committee comprised of 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 bases, we are able to align our efforts as a company, and strongly promote environmental management. This is a major characteristic of JATCO's EMS. In terms of domestic JATCO group companies, JATCO Engineering Ltd independently earned its ISO14001 certification. As for our overseas bases, JATCO MEXICO S.A. DE C.V., JATCO (Guangzhou) Automatic Transmission Ltd., and JATCO (Thailand) Co., Ltd., earned their ISO14001 certifications in 2011, 2013, and FY2015 respectively. All of our bases have now earned ISO14001:2015 certification, the updated version of the standard.

■ JATCO's quality and environmental management



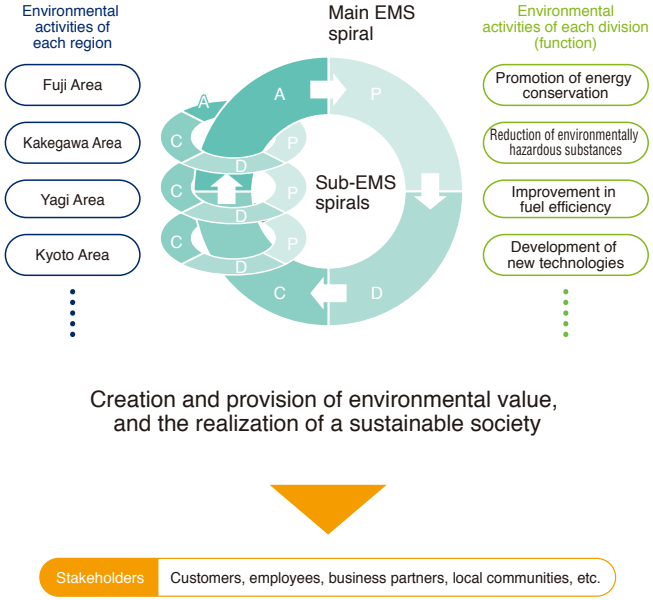
Environmental Management System

Promotion system for environmental activities

Promotion of activities that meet the needs of the local community by the 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 spirals)—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 our activities.

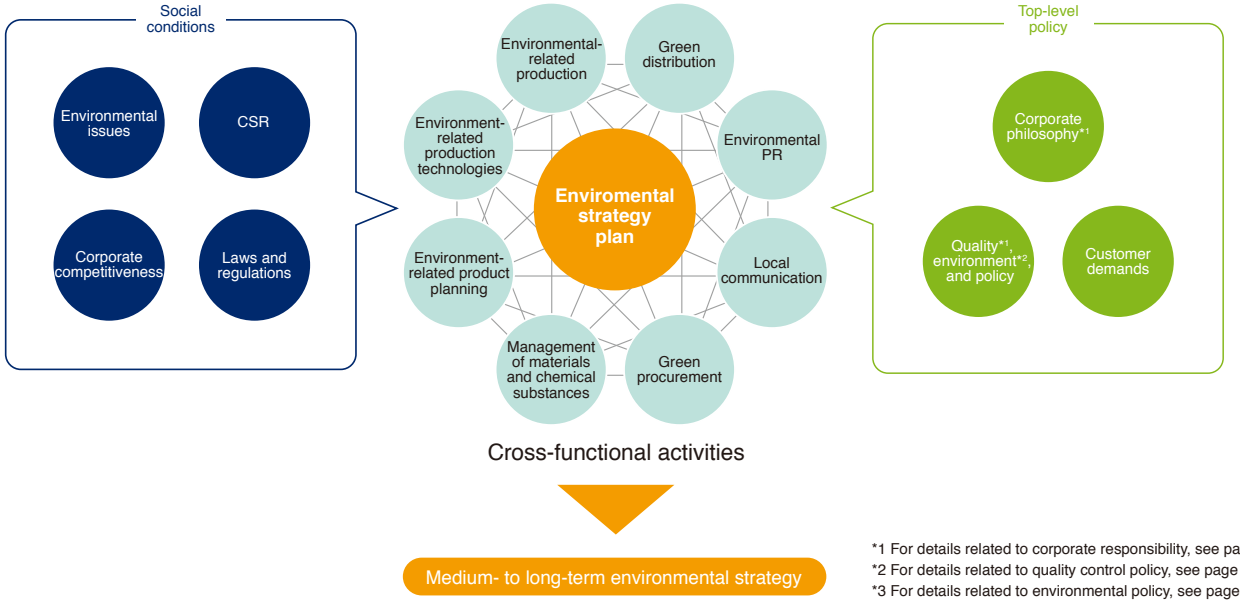
■ Conceptual diagram of JATCO's environmental activities



Exploring medium- to long-term strategies through an environmental planning subcommittee

As an organization that explores medium- to long-term strategies for its environmental plan, JATCO formed an environmental planning subcommittee in 2008. In contrast to the EMS promotion system that carries out environmental management by sector, the committee was formed to examine and promote medium- to long-term strategies related to the environment that JATCO should implement in response to social conditions and top-level policy. While examining JATCO as a whole, the committee performs management and planning across the company. They implement this strategy while coordinating the environmental activity planning and management of our overseas bases. The subcommittee is further broken up into eight working groups that deal with product development, production, and delivery amongst other business activities, creating environmental management that revolves around function as its axis. Within this, the environmental committee is strengthening its initiatives in three of the most important environmental fields to JATCO—stopping global warming, preserving the environment, and effective utilization of resources.

■ Medium- to long-term environmental strategy: Conceptual diagram of examination/promotion



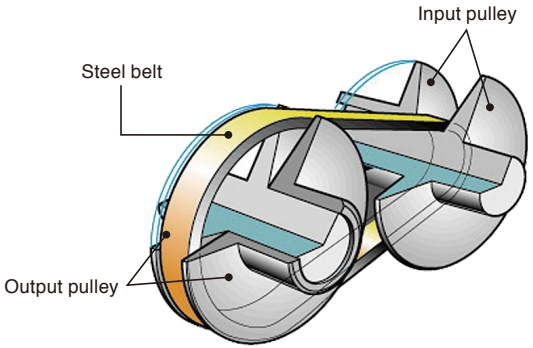
*1 For details related to corporate responsibility, see page 03
*2 For details related to quality control policy, see page 29
*3 For details related to environmental policy, see page 06

Product Efforts: Development

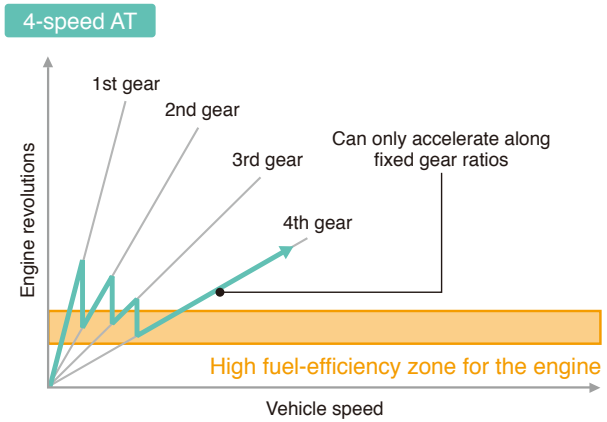
Developing CVTs with excellent environmental performance as the brand with the top market share

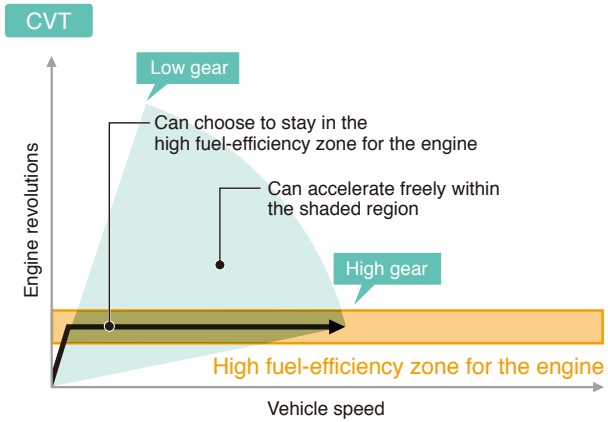
In order to limit the impact that CO_2 emissions have on the Earth's environment, fuel efficiency improvements for automobiles have become a top priority in recent years. JATCO turned its focus to CVTs with a high level of environmental performance at an early stage. In 1997, JATCO became the first company in the world to launch a 2-liter-class metal-belt-type CVT on the global market. On top of that, through repeated improvements, we have successfully created a full lineup of CVTs that cover a wide range of automobiles from mini vehicles to large passenger vehicles. As part of our efforts to update our original lineup, we developed the Jatco CVT7 with an auxiliary transmission in 2009, the Jatco CVT8 in 2012, and the Jatco CVT-S for mini vehicles in 2019, and we are working to further reduce the fuel consumption of our products. In FY2017, JATCO produced about 5 million CVT units, and as of the end of March 2018, the global total of CVT units ever produced by JATCO exceeded nearly 40 million. As the brand with the top CVT market share in the world, JATCO contributes to reducing the impact of automobiles on the environment.

■ CVT mechanism



■ Comparison of the efficiency regions of a 4-speed AT and a CVT





Technology that supports low fuel consumption and a comfortable driving experience

Automobiles with start-stop control reduce CO_2 emissions by turning off the engine when the vehicle comes to a halt. In recent years, technology has enabled the engine to be turned off not only when the vehicle stops, but also when it decelerates, hence achieving even further improvements in fuel efficiency. JATCO's use of this technology provides customers with a comfortable driving experience while keeping fuel consumption low. 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. JATCO has also developed a new control system with NISSAN MOTOR CO., LTD., known as "Dynamic Step Shift Control (D-Step Control)" This new system not only improves the fuel efficiency of CVTs, but also allows the driver to operate the vehicle just like a manual transmission or step AT, providing a direct drive sensation and enhancing the sense of acceleration.

Product Efforts: Development

Jatco CVT-S

Jatco CVT-S – Designed specifically for mini vehicles

In order to meet the expectations of mini-vehicle users, we developed a CVT specifically for mini vehicles based on the core technologies that we have developed thus far. Its ratio coverage has been optimized by taking into account Japan's traffic conditions and mini-vehicle usage patterns. A weight reduction of 4.2 kg (approx. 6%) has been achieved by reducing the inner diameter of the pulleys and using the latest in structural analysis techniques to carefully reconsider the thicknesses of various components. In addition, the use of low friction belts and bearings has reduced friction by approximately 8%, contributing to improved fuel efficiency.

Jatco CVT7

Jatco CVT7 – Low fuel consumption through an innovative new mechanism

The Jatco CVT7 aims to achieve dramatic improvements in environmental performance. These improvements have been realized by widening the transmission gear ratio through the adoption of an innovative new auxiliary transmission system combined with a 2-step AT. Fuel efficiency is also improved through friction-reduction technology, creating a product that provides outstanding driving performance. The high levels of power performance and fuel efficiency provided by the Jatco CVT7 have made it a best-seller, and its demand is continuing to grow. In August 2016, the total number of Jatco CVT7 units ever produced exceeded 10 million.

Jatco CVT7 W/R

Jatco CVT7 W/R – The world's widest gear ratio of 8.7

Based on the Jatco CVT7, the Jatco CVT7 W/R provides enhanced driving performance through the utilization of a variety of additional technologies. These include active slip control, which prevents excessive engine pick-up response when starting the engine, and D-Step control, which provides a sportier driving experience. In addition, the application of newly developed belts and enhanced pulleys allowed us to increase the gear ratio up to 8.7, the world's widest CVT gear ratio. The usage of an enhanced compact oil pump provides reduced friction, thereby improving fuel efficiency.

Jatco CVT8

Jatco CVT8 – A balance between environmental performance and driveability

We updated our previous CVT models and developed the Jatco CVT8 in order to support a wide range of engines in the 2-liter to 3.5-liter class vehicle range. 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*, comprehensively improving efficiency and reducing friction by about 40%. This allowed us to achieve a balance between a dramatic improvement in environmental performance and driveability. As of April 2018, over 10 million units have been produced globally.

Jatco CVT8 HYBRID

Jatco CVT8 HYBRID – Designed for the expanding range of needs relating to hybrid vehicles

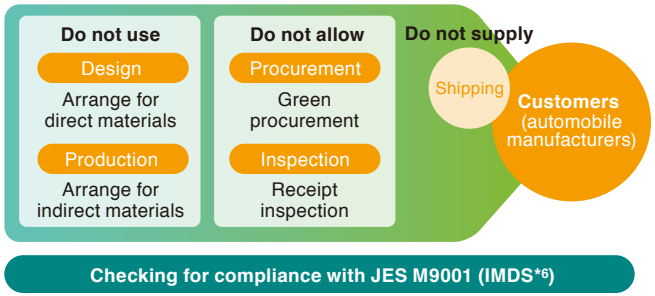
We used our original one-motor, two-clutch system to develop hybrid units specifically designed for use in FF and FR hybrid vehicles. The use of a system in which a clutch and motor take the place of a torque converter has made additional size and weight reductions possible, making it easier to install in a wider range of vehicles, and enhancing inner city driving efficiency and quietness. Combining this with the technologies in the CVT8 allows for improvements in fuel efficiency and quietness at high speeds, providing the feeling of direct drive and a quick throttle response.

Product Efforts: Reduce Environmental Impact

Thorough management and reduction of environmentally hazardous substances

Environmentally hazardous substances used in our products are controlled using JES M9001*1. Activities to reduce the use of JES M9001-controlled substances are considered to be the responsibility of each individual division. R&D and production divisions follow what is referred to as a “do not use” policy, while purchasing and inspection divisions follow a “do not allow” policy, and production and shipping divisions follow a “do not supply” policy. JES M9001 limits the use of chemical substances based on GADSL*2 (a list of controlled chemical substances for the automotive industries of Japan, Europe, and North America) and Japan’s Chemical Substance Control Law (CSCL)*3, and also covers the use of chemical substances restricted under the laws and regulations of the countries in which JATCO engages in business and as well as those restricted by regulations specified by individual JATCO customers. JATCO reviews JES M9001 at least once a year—more if necessary—and measures are put in place to manage and reduce the use and generation of environmentally hazardous substances in order to remain ahead of global environmental laws and regulations. As part of our efforts to comply with GHS*4, labels are used to ensure the safe handling of the substances, and SDS*5 are prepared to protect the environment and the health of our employees.

■ Key points in activities to reduce environmentally hazardous substances

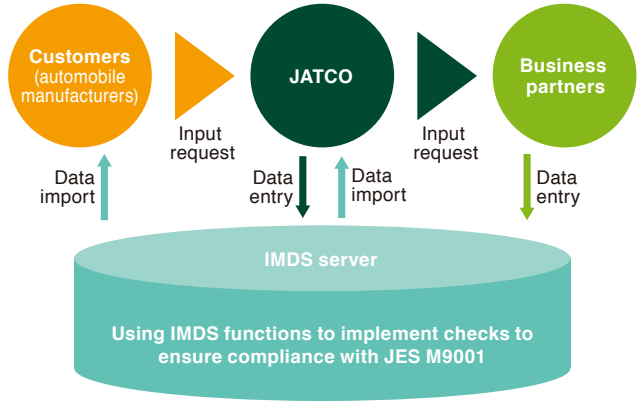


*1 An internal technical standard covering restrictions on the use of specified materials
*2 GADSL: Global Automotive Declarable Substance List
*3 Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
*4 GHS: Globally Harmonized System of Classification and Labeling of Chemicals, which is a standard global system for the classification and labeling of chemicals
*5 SDS: Safety Data Sheets
*6 IMDS: International Material Data System

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. Accordingly, JATCO distributes its “Green Procurement Guidelines” covering the specific requirements for suppliers in order to raise awareness throughout the supply chain.

■ IMDS*1 framework



*1 IMDS: International Material Data System

■ Status of efforts to reduce environmentally hazardous substances

Regulated chemical substances	Status
Lead	No longer in use (excluding exemptions)
Hexavalent chromium	No longer in use
Mercury	No longer in use
Cadmium	No longer in use
Asbestos	No longer in use
European REACH regulation*2 (substances requiring approval)	Currently reducing usage

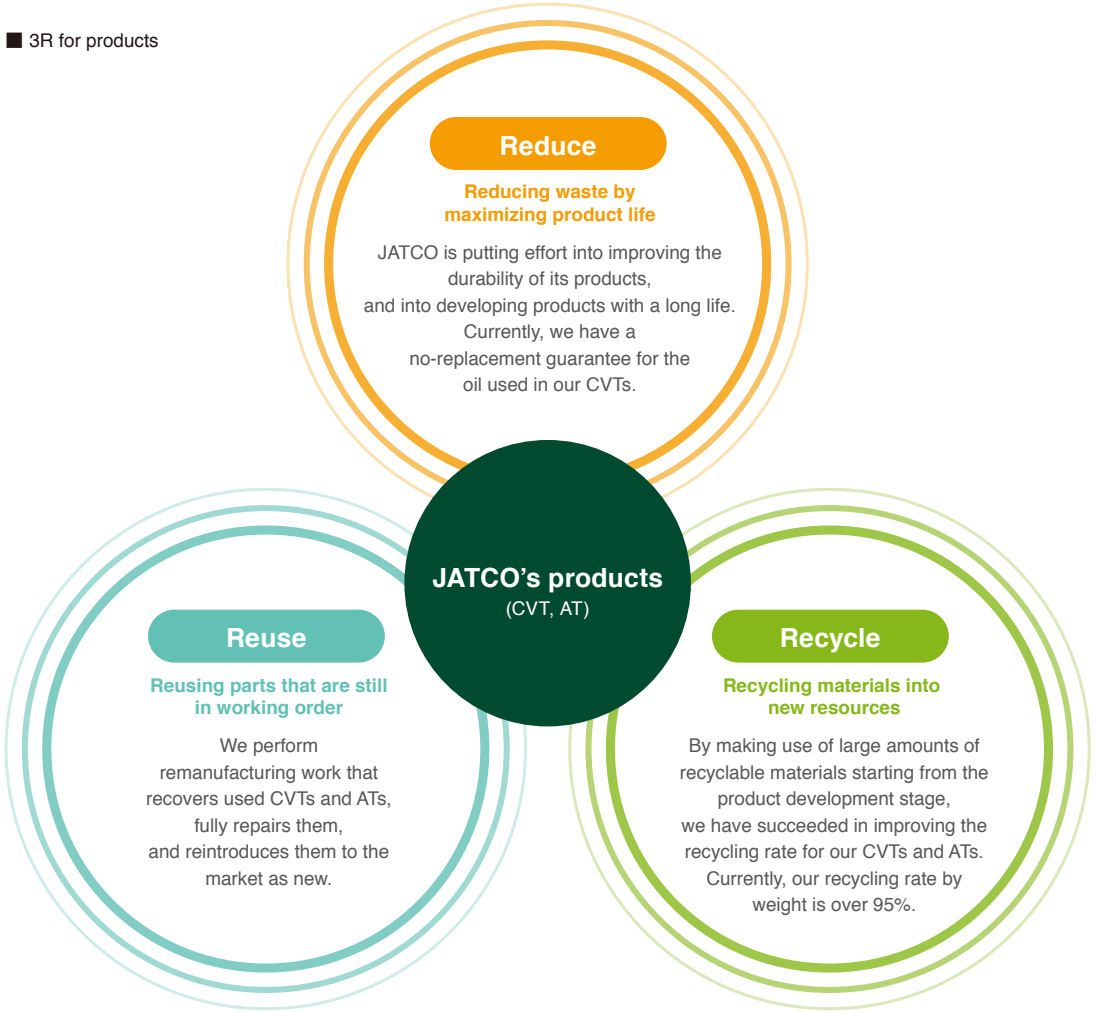
*2 REACH: Registration, Evaluation, Authorization and Restriction of Chemicals, which is a European system for managing chemical substances.

Product Efforts: Resource Reuse

3R initiatives for products

The term “3R” is derived from the first letters of the three keywords for building a recycling society—reduce, reuse, and recycle. JATCO designs and develops its products to ensure that they can be used for as long as possible, thus aiming for reductions in waste. JATCO also reuses usable parts from products that have been recovered from the marketplace. Finally, JATCO uses recyclable materials then recycles them into new resources. By doing so, JATCO ensures that it is contributing to the realization of a recycling-oriented society.

■ 3R for products



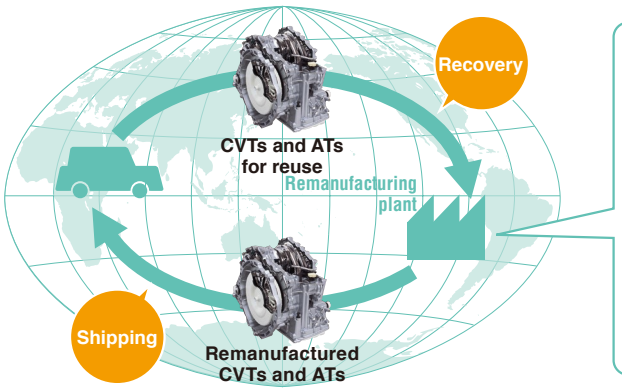
Product Efforts: Resource Reuse

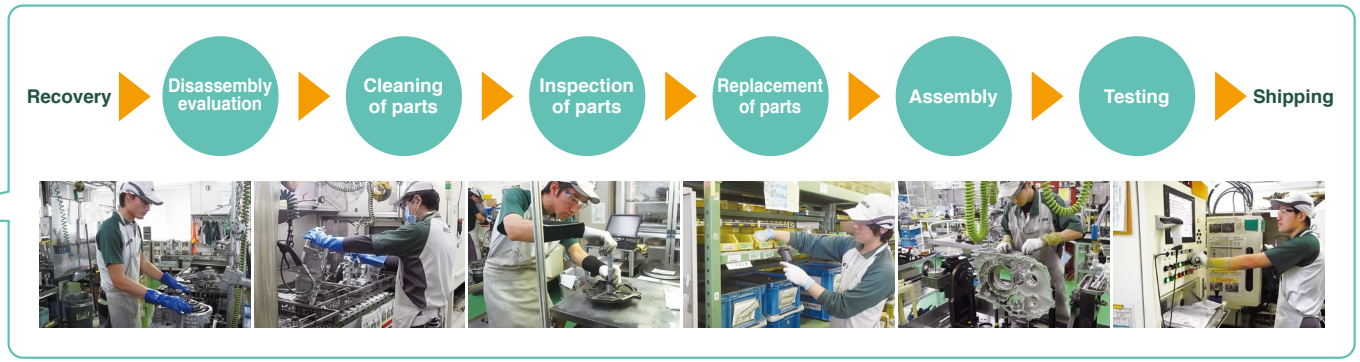
Remanufacturing system

JATCO has been developing its remanufacturing technologies since 1989 as part of its CVT/AT unit reuse business. Remanufacturing involves recovering used CVT and AT units produced by our company from the maintenance shops of automotive dealers. These are then cleaned and inspected, with components exchanged as required. After reassembly, a functionality test is performed to ensure an after-sales product that is no different in quality from a brand-new product, despite being used. This system allows for products to be offered to automotive users at a very affordable price. Our inspection standards have led to a PDCA cycle that has created an increase in demand for remanufactured parts. This has led to lower resource and energy use, thereby contributing to reduced CO_2 emissions and the mitigation of global warming. By adding inspection items specifically for the used parts and confirming the functionality of the parts using the same tests performed on our mass-produced new parts, we can ensure a level of quality equivalent to a new part. JATCO is also designing its products to make them both easy to remanufacture and repair, thereby increasing the proportion of recovered CVT/AT units that can be reused. Furthermore, by performing detailed inspections of our recovered parts, we can feed these results back into our product development, thereby further improving product quality. This initiative has been praised for its major contributions to the efficient use of environmental resources, and received the Director-General's Award of the Industrial Science and Technology Policy and Environment Bureau of the Ministry of Economy, Trade, and Industry at the FY2017 Resource Recycling Technologies and Systems Awards (hosted by the Japan Environmental Management Association for Industry with backing from the Ministry of Economy, Trade, and Industry). JATCO currently performs its remanufacturing in Japan (for the Japanese and European markets) and Mexico (for the North American market), while also coordinating with local repair companies in China, thereby working to improve its 3R initiatives globally. JATCO will continue to expand these operations globally, thereby contributing to a higher-level of global environmental protection.

Received the Director-General's Award of the Industrial Science and Technology Policy and Environment Bureau of the Ministry of Economy, Trade, and Industry

■ Processes in the remanufacturing business





Production Efforts

Greenhouse gas generation during production

50% reduction

by FY2050

JATCO is working to introduce energy and resource-efficient facilities, aimed at achieving a balance between improving efficiency in and reducing the environmental impact of the production process.

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

After purchasing the raw materials, JATCO carries out production in an integrated manner, from the rough material process, the machining process, and the assembly process, to the completion of the unit. However, when planning for a new product or developing a new technology, we are mindful of Earth's resources. In particular, with the aim of tackling priority issues—such as CO_2 emissions reduction and hazardous substance management—through the active adoption of new technology and the recycling of goods by using idle facilities, we are putting effort into developing innovative technologies to shorten work processes and develop highly-efficient processes with low environmental impact, as well as making the shift toward low-energy and low-resource facilities.

Enhancing production and engineering process innovation and inventive technology development

In our development of next-generation technologies, we established the reduction of CO_2 emissions as one of JATCO's principal goals, and have been putting in place initiatives to achieve this goal. Our target is a 50% reduction in greenhouse gas emissions by 2050, for both our production and development processes. One of these processes is the one for our latest CVT. We further reviewed the production and engineering processes used to date, and succeeded in reducing production lead-time significantly. With regard to our other parts, the development and production divisions are working together to minimize CO_2 emissions. Furthermore, we are working towards balancing product performance and improving productivity by promoting "production design," which gets the production technology division involved in the design of the product from the development phase. We challenge ourselves to achieve ever greater technological breakthroughs, such as the enabling of lower energy use for the production of our products through the purchase of molten metal at the die-casting stage, the abolishment of the shaving process for gear parts, the development of a next-generation vacuum carburizing furnace, the reduction of the weight of units through the use of alternative materials and thin-walled die-casting, and the downsizing of casting machines.

Preserving Earth's environment through cross-industry collaboration

JATCO is actively pushing its collaborations with companies from different industries as part of a new initiative for preserving the Earth's environment. Since FY2005, we have worked jointly with TEPCO Energy Partner, Incorporated, to introduce NaS battery* facilities. The NaS batteries charge at night when power consumption is low, and this electric power is utilized during the day when load is high. This helps to reduce excess operation of power plants and brings about efficient power consumption.

NaS battery facility
*NaS battery: A storage battery composed of liquid sodium (Na), liquid sulfur (S), and special ceramics

Operating an expert diagnostic team for energy conservation

JATCO Plant Tec Ltd and JATCO jointly established an expert facility diagnostic team for energy conservation (J-ESCO*1 Teams), and in December 2015, our team was certified as an energy-conservation diagnostic team for the Nissan Group, changing its name to NESCO-JTC*2. This team shares its information globally and will be further accelerating its energy-conservation activities. We also perform diagnostics on our energy-conservation facilities at our overseas bases to ensure energy is always used effectively. We started with JATCO (Guangzhou) Automatic Transmission Ltd. in FY2013. These diagnostics were then rolled out to JATCO MEXICO S.A. DE C.V. in FY2014, and JATCO (Thailand) Co., Ltd. in FY2016. Local leaders learn the key points of energy conservation and energy-conservation diagnostics in Japan and bring that know-how to their home countries to implement.

*1 J-ESCO: JATCO Energy Service Company
*2 NESCO-JTC: Nissan Energy Saving Collaboration - JATCO

Production Efforts

Adoption of compact and lightweight casing parts

Thin casing parts are used in the Jatco CVT8. In the development of this transmission, joint production design with the development and production technology divisions was strongly encouraged from the very beginning of development. By optimizing the shape and reducing the thickness of some sections (which sets the limits of production), we have succeeded in reducing the 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

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

Machining line	Line for previous units	Line for new units	
Equipment numbers	49 machines × 3.5 modules	**27 machines × 3.5 modules**	▼43%

Heat treatment line	Line for previous units	Line for new units	
Cycle time	100%	**66.6%**	▼33%

Reducing environmental impact through direct carving of the mold

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 the cutting conditions, we have significantly reduced machining time and the amount of industrial waste generated.

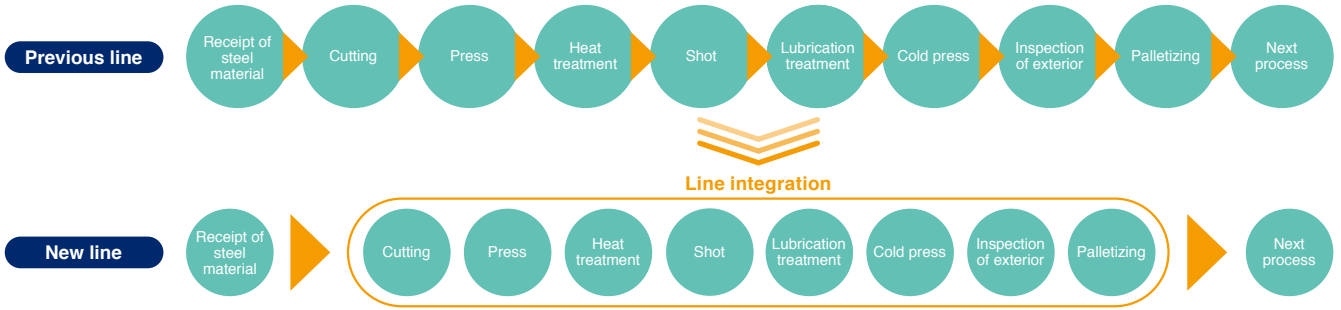
Die-cast mold produced through the direct carving process

Switch from hydraulic press fitting to servo (electric) press fitting

In conventional hydraulic press fitting, which is a part of the assembly process, a large amount of electricity is consumed at the pump because the hydraulic generator is constantly running. In addition, a lot of noise and heat is generated. Hence, JATCO is switching to the use of electric press fitting using servos. As a servo does not require a pump to constantly be in operation like for a hydraulic press fitting, it successfully minimizes the electricity consumed, as well as the noise and heat generated.

Use of residual heat in the forging process

At JATCO, we previously used a process that cooled the parts once after hot forging, heated the parts once again, and then carried out heat treatment for rough materials. Currently, we are pushing the transition 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.



Use of energy-regenerating and energy-efficient equipment, and visualization of power consumption

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

Enhancing lighting facilities at each production plant (Reduction in power consumption: 145 MW•h)

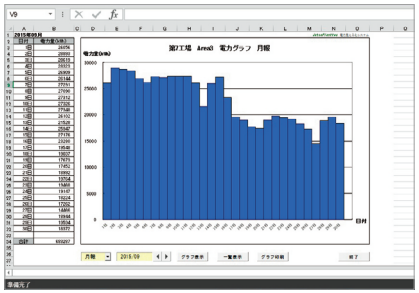
Reducing CO_2 emissions by improving our lighting equipment is also one of our main energy conservation initiatives, and it is proceeding according to plan. As energy consumption by lighting equipment in production plants is by no means low, we have focused on improving the ceiling lights in each production plant. To ensure the brightness of the working environment, we have taken measures such as switching to energy-efficient equipment, dimming the illumination, and turning off the lights when appropriate.

Office Efforts

Educating employees through the use of environmental content

With the aim of raising environmental awareness among employees, we set up a dedicated environmental topics webpage on our employee portal site. In addition to encouraging employees to participate in conservation events both within and without the company, we post content, such as JATCO's unique eco certification and eco-drive certification, to help employees learn about environmental issues in a fun and enjoyable manner. There is also a section with visualizations of our power consumption, which sheds light on our actual power consumption, and a section on electrical cost reduction, which provides information about energy conservation. Visualizing electricity usage allows for all of our employees to easily check the amounts of electricity used in each area, thereby leading to spontaneous energy saving.

Eco certification


Visualizations of our power consumption

Adoption of solar power systems and roof greening initiatives

JATCO has installed a solar power system (10 kW), on the rooftop of our head office. The power it generates is used to drive the air-conditioning equipment. We have also carried out roof greening initiatives that make use of the reduction of building temperature brought about by plants to reduce the amount of power consumed by air-conditioning facilities during summer. In FY2018 we reduced CO_2 emissions by approximately 5 metric tons.


Solar power system


Roof greening initiative

Logistics Efforts

FY2018 CO_2 emissions due to transport activities

8% reduction

(Compared to FY2012)

Implementation of a modal shift

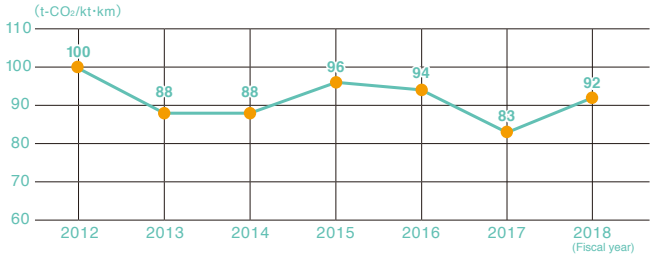
JATCO utilizes green logistics with the aim of reducing our CO_2 emissions and has achieved an average reduction of 1.5% per year in the seven years since 2012. In order to reduce the CO_2 emissions due to the transportation of our products, we have been implementing a modal shift in our logistics since 1994, while gaining the acceptance of our customers in Japan. Specifically, we switched from using trucks to using ferries for transporting products to customers in Kyushu, which reduced our CO_2 emissions by 75%. On top of that, we also switched from using trucks to using railcars for the transportation of procured parts to JATCO's production bases in Shizuoka, starting from FY2005 for the route from Hiroshima (approximately 780 km away), and starting from the beginning of FY2006 for the route from Okayama (approximately 680 km away). As a result, what was seven 10-metric-ton trucks of parts per day is now 16 rail containers, contributing to a reduction in CO_2 emissions of 83.3% per year. We will continue to pursue this modal shift and work to improve load efficiency to reduce the number of trucks and other vehicles used for shipping.

*Unit CO_2 emissions generated: CO_2 emissions (t-CO_2) ÷ Transportation load (kt-km)

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

Land transportation by railway

■ Trend in unit CO_2 emissions generated (Index)



Improvements in the transportation and packing of materials

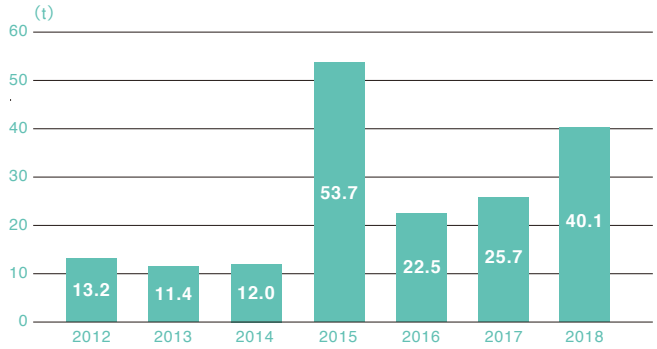
As part of our efforts to improve our loading ratio, which contributes to a reduction in the number of trucks used, JATCO is taking steps to improve the packing density of purchased parts for delivery. Plastic containers and plastic cushioning material used to protect products during transportation and storage that had become unusable as a result of deterioration or product changes had previously been disposed of as industrial waste. However, after 2004, JATCO began reusing this material for other products. We have also gained the cooperation of companies engaged in the production of plastic to help us further reduce the waste we generate, such as by recycling our plastics into raw materials.

■ Improving the packing density of parts purchased

In this example, the elimination of wasted space not only improved our transportation efficiency, but also made handling the goods safer.

We are also encouraging employees to keep containers clean.

■ Trend in amount of plastic containers recycled or reused



Waste Reduction & Substance Management

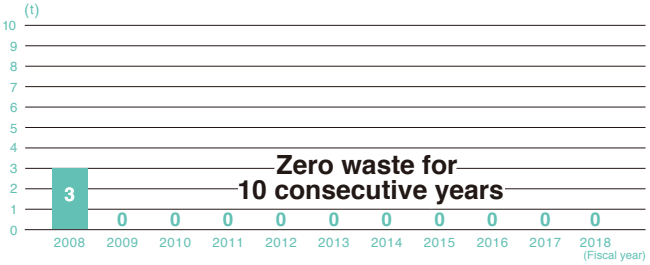
〈Waste reduction activities〉

Amount of direct landfill waste

Implementation of zero-emission initiatives **Zero**

At JATCO, in order to encourage the reduction of waste, we have incorporated the goal of producing zero waste into the management of activities in our environmental management system (ISO14001) and are promoting initiatives toward the achievement of this goal. As a result of these initiatives, we have reduced our direct landfill waste to zero at our locations in Japan. We are putting effort into reducing our direct landfill waste overseas as well.

■ Trend in the amount of direct landfill waste (Japan)



Recycling rate

Efforts to sort waste thoroughly for recycling **100%**

As part of our zero-emission initiatives, JATCO has eliminated waste disposal through incineration and landfills, and is promoting thermal recycling (conversion to fuel) and material recycling (reuse and recycling). We are also putting efforts into sorting our waste in order to enable the effective reuse of this waste as resources. Through these initiatives, we have succeeded in attaining a 100% recycling rate at our locations in Japan.

Total waste generated in FY2018

Initiatives to reduce waste through company-wide participation **33.2% reduction** (Compared to FY2006)

JATCO works to reduce our waste by asking ourselves, “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 sorting standards and dispose of waste in line with these standards. At each location, we establish waste reduction targets, register ideas for initiatives implemented at each workplace, and share information on reducing waste to improve employee motivation.

〈Management of chemical substances〉

VOC emissions for FY2018

Management of volatile organic compounds **99% reduction** (Compared to FY2000)

We implemented volatile organic compound (VOC) countermeasures to achieve our 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 countermeasures, we were able to reduce VOC emissions by 98% by FY2006, 99% in FY2010, and 99% again in FY2018.

Soil and groundwater pollution countermeasures

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

FY2018 emissions of three major hazardous air pollutants

Emissions of three major hazardous air pollutants **None**

We were able to eliminate our emissions of three major hazardous air pollutants*1 in FY2006, and we have successfully prevented further emissions through FY2018.

Management of PRTR*2 substances

The amount of PRTR chemical substances handled by JATCO, calculated as the amount discharged and transported by domestic production facilities, is shown in the following table.

■ Amount of PRTR substances handled and discharged (FY2018)

Classification	Chemical substance	Amount handled	Amount discharged			Waste transported
			Air	Water	Soil	
Specific Class I Designated Chemical Substances	Dioxin	—	7.1	0	0	0
Class I Designated Chemical Substances	Benzene	870	1.1	0	0	0
	Ethylbenzene	2,792	1.4	0	0	0
	Xylene	98,671	9.6	0	0	0
	1, 2, 4-Trimethylbenzene	101,495	0.3	0	0	0
	1, 3, 5-Trimethylbenzene	1,813	7.2	0	0	0
	N-hexane	2,669	7.7	0	0	0
	Toluene	40,413	19.9	0	0	0

Unit: kg (mg-TEQ/Nm³ for dioxins)

*1 Three major hazardous air pollutants: Dichloromethane, trichloroethylene, and 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

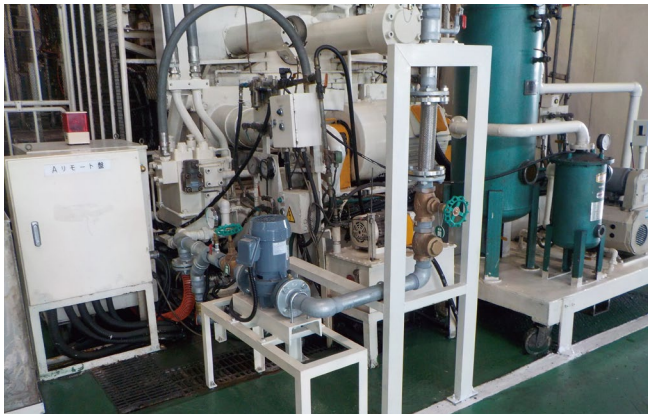
Waste water purification and effective water resource utilization initiatives

JATCO's production plants not only comply with the standards for water discharge established by national and municipal governments, but have also drawn up even more stringent purification standards for internal use. By combining facilities for activated carbon adsorption, ultrafiltration, high-speed aggregation precipitation, contact oxidation, sand filtration, and pressure flotation, we continue to maintain a high level of purification quality. 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 and succeeded in reducing water consumption in FY2018 by 9.7% compared to FY2014.

Water treatment facilities

Reusing discharged water through the adoption of cold water circulation equipment

JATCO promotes the reuse of discharged water, and has adopted the use of cold water circulation equipment to purify the water used for the cooling and cleaning of production equipment, as well as for the thinning of cutting oil.



Cold water circulation equipment at forging facilities

Implementation of rainwater measures

Rainwater that falls on the premises of our production plants is discharged through drainage outlets directly into rivers. Employees use cameras to monitor the drainage outlets at all times to prevent rainwater that has been polluted by oil and grease from roads and buildings on the premises from flowing into rivers. To enable prompt identification of the drainage outlets, employees have manually color-coded the outlets. This not only prevents the accidental use of these drains for polluted water, but also raises awareness among all employees that these drainage outlets lead to rivers. In the unlikely event that oil leakage from employees' cars or from vehicles transporting parts and products within the premises should flow into the drainage outlets, gates have been installed where the drains connect with rivers in order to prevent these pollutants from flowing through.

Color-coding of drainage outlets by employees

Consideration of safety in the transportation of polluted water

JATCO not only takes steps to reduce the incidences of water pollution, but also considers safety when transporting polluted water to treatment facilities. Measures have been put in place at the facilities where parts are cleaned to enable the repeated reuse of water after pollutants have been removed from it. After reusing this water for several months, it is then transported to a treatment facility by truck. Given the fact that transportation of polluted water to treatment facilities through underground pipes and gutters is method that is easily impacted by the passage of time and has reliability issues, we are also making improvements by switching to transportation of this water using aboveground pipes that are visible to employees.

Environmental Communication

Proactive information disclosure

JATCO aims to be proactive in disclosing information about its environmental initiatives. In order to promote widespread understanding of our environmental conservation initiatives, we have published our Environmental Report since 2005. From 2009 onwards, we expanded the focus to include societal topics, and changed the title to the “Environmental & Social Report.” The 2015 report, which marked the 10 year milestone since its first publication, underwent a complete design revision to make the report easier to read and understand. The various initiatives published in the Environmental & Social Report are also posted on JATCO’s company website. Additionally, we are working to further disseminate this information to wider society by actively registering it on Internet websites for searching and browsing CSR and environmental reports.

Environmental & Social Report: https://www.jatco.co.jp/english/society/reports.html
JATCO's environmental initiatives: https://www.jatco.co.jp/english/society/environmental/

Considering and nurturing the environment together with local communities

Hosting of factory tours

JATCO hosts factory tours for numerous organizations, including children’s groups, as part of our open factory initiative. During our factory tours, we introduce our 3R (Reduce, Reuse, Recycle) initiatives, such as the fine-grained separation of production waste and use of any recyclable waste in new products, and we run a program where visitors can experience the process of using lab equipment to filter waste water produced by our plant to create clean water.

A factory tour

Cleaning the neighborhoods around our locations

JATCO proactively contributes to society and engages in environmental conservation at each of its locations. For example, in the Kambara Area, we have continued to clean and mow the banks of the Koike River near our factory for fourteen consecutive years (since 2005). The Kambara factory is located in a residential area, so all the employees follow the local cleaning schedule to work together with members of the community. The factory also distributes decorative plants to help local children develop a greater awareness of the importance of greenery. Purchased with the proceeds from the sale of aluminum cans collected by the staff, the plants represent our gratitude towards the local community.

Cleaning of the Koike River

Environmental Communication

Protecting Mount Fuji, a World Heritage site

JATCO's headquarters are located in Fuji City at the base of Mt. Fuji, and the company carries out numerous environmental activities to protect this registered World Heritage site. For example, in conjunction with the opening and closing of Mt. Fuji's climbing routes, volunteer members gather to clean and pick up trash along the climbing route that runs from the coast to the summit. Another activity we engage in to care for the mountain is the planting of beech trees near its base in collaboration with other local companies. We also support the Waterside Expedition, which teaches the importance of protecting Mt. Fuji's abundant water resources through activities such as the release of fry into rivers, and the study of both the mechanisms of and the living creatures in springs, while also cooperating with universities, the prefecture, and the city to work on environmental education initiatives. Furthermore, we work with local NPOs and companies to plan and implement flower planting and grass cutting along embankments to preserve the landscape and turn local rivers into ones beloved by local residents. Our employees volunteer their time proactively to participate in all of these activities, which provides them with a great opportunity to think about the environment.

Releasing fry

Planting equinox flowers

Mt. Fuji Clean Route 3776

Cleaning Mihomasaki Beach

Waterside Expedition

Mt. Fuji Foothills Beech Forest Creation Project

Reducing Environmental Impact At Overseas Bases

JATCO MEXICO S.A. DE C.V.

Since its establishment in April 2003, JATCO MEXICO S.A. DE C.V. has promoted various environmental initiatives, including formulating an environmental policy, participating in the energy conservation initiatives of their power suppliers, and promotion of waste sorting to improve their recycling rate. In particular, it established an environmental management system in 2009, and acquired ISO14001 certification 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 and the Energy Conservation Sub-Committee. The Environmental Committee is led by the president and vice-president of the company, and is comprised of representatives from each division. 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 group that uses electricity, water, gas, or other power sources. Annual environmental targets are also established with the aim of reducing environmental impacts. Furthermore, by reflecting on the previous year and setting targets for the next fiscal year, continuous efforts are being made to improve on their environmental management system.

■ JATCO Mexico's resource consumption

Energy	FY2017	FY2018
Electricity	253,965,070 kW•h	215,265,568 kW•h
Natural gas	3,218,200 m³	2,626,992 m³
Propane gas	566 t	512.16 t
Water	392,200 m³	353,924 m³

JATCO (Guangzhou) Automatic Transmission Ltd.

JATCO (Guangzhou) Automatic Transmission Ltd. began formulating its environmental management system in 2013, and acquired ISO14001 certification in March 2014. While aiming for "the realization of a society where automobiles and the environment exist in harmony," it established an Environmental Committee and an ISO Office to run the environmental management system. The Environmental Committee is comprised of general managers, assistant general managers, and representatives from each division, and it conducts comprehensive management, assessment, and follow-up on environmental activities. The ISO Office is under the engineering division, and carries out assessments on compliance with environmental legal requirements as well as the implementation of other everyday items.

■ JATCO Guangzhou's resource consumption

Energy	FY2017	FY2018
Electricity	106,419,938 kW•h	113,679,974 kW•h
Natural gas	–	–
Propane gas	–	–
Water	155,189 m³	175,520 m³

JATCO (Thailand) Co., Ltd.

JATCO (Thailand) Co., Ltd., which began production activities in September 2013, began formulating its environmental management system as soon as it was established, and in February 2016, acquired its ISO14001 certification. It has also formulated a plan called "JATCO Thailand Green Action" with the aim of further reducing its environmental impacts. In line with this, it plans measures to reduce environmental impact in collaboration with local companies such as:

1. **Bulk purchase of molten metal together with other companies**
2. **Introduction of a vacuum carburizing heat treatment facility**
3. **Purification of water discharged from the production plant**
4. **Reuse of resource materials through sorting and recovery**
5. **Maximization of the proportion of green spaces on plant premises**

■ JATCO Thailand's resource consumption

Energy	FY2017	FY2018
Electricity	30,972,800 kW•h	31,704,800 kW•h
Natural gas	–	–
Propane gas	47.29 t	41.76 t
Water	57,856 m³	72,201 m³

Part 2

Social Activities

JATCO strives to be a company with a wide societal reach,
and to that end, we engage in a variety of activities.
In order to build relationships of trust with all of our stakeholders and
resolve the various issues confronting society,
we aim to be a corporation that is well loved and trusted by the people,
and that contributes to the development of a sustainable society.

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 considering the opinions of all our stakeholders and the needs of society, and we consider it important to build our relationships based on trust. JATCO responds to the changing needs of customers, and provides products of value while giving top priority to safety and peace of mind. We also pursue true customer satisfaction by engaging in the highest standards of manufacturing excellence in the world. Through fair trade with our business partners based on mutual trust, we are working to achieve mutual growth and "the realization of a society where automobiles and the environment exist in harmony." We also aim to train our employees to match the needs of the times, respect diversity, and create a motivated workplace where each and every employee can experience growth. We will continue to contribute to local communities and engage in communication activities deeply rooted in local communities 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

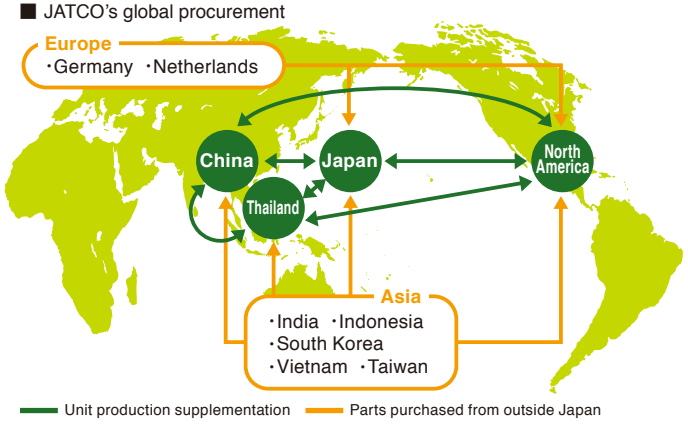
Contributions to the development of society and the maintenance and strengthening of cooperative relationships

JATCO strives to bring about mutual growth and "the realization of a society where automobiles and the environment exist 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 our production activities in Mexico, China, and Thailand, we are encouraging local production and the procurement of materials from highly competitive overseas sources in order to increase competitiveness while ensuring fairness in the global market and improving efficiency in the shipping of parts.

■ JATCO's global procurement



Environmental initiatives

Promotion of 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. Application of our guidelines to new business partners
We promote the management of environmentally hazardous substances among new business partners by clearly indicating our requirement of submitting green procurement documents.

3. Compliance with REACH* regulations
We do not limit the scope of items targeted for management to the data on chemical substances contained in our products, but rather extend it to the data on chemical substances in our packaging materials and shipping parts during transportation, as well as in recent years, the supplies used during 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.

*REACH: Registration, Evaluation, Authorization, and Restriction of Chemicals, a European system for managing chemical substances.

4. Promoting the management of environmentally hazardous substances through the utilization of IMDS*
Corresponding with this era of "No Data, No Market" (no sales without data), we are cooperating with business partners to jointly promote with the development division the management of highly detailed data using IMDS.

*IMDS: "International Material Data System"

Promoting green procurement activities

JATCO's green procurement activities tackle environmental conservation across all the products 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 makes it a precondition to purchase products from companies that are taking a proactive stance toward green procurement. We also request that our business partners encourage their suppliers to promote green procurement activities. In addition, JATCO awards business partners that have put particular effort into achieving JATCO's vision of "the realization of a society where automobiles and the environment exist in harmony."

Business partners award

For Our Customers

JATCO's quality control policy

Achieving the high quality that customers can continue to place their trust in

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 our customers. In order to achieve the high quality that our customers can continue to place their 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 constantly strives to improve itself and to seek innovation while complying with global laws. We believe that this approach can contribute to the creation of a comfortable and safe automotive society.

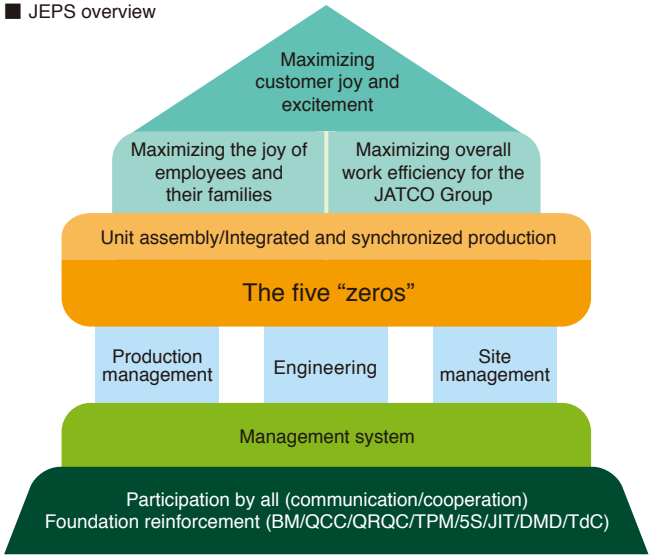
■ JATCO's quality control policy

For Our Customers

Aiming from a customer's perspective to be the world's no. 1 in monozukuri

JATCO aims to respond swiftly to changing 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 utilizing, 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 in the same order as if they were on a single line, and carrying out production and transportation in a timely manner. Through JEPS, we bring about the realization of two "unlimiteds" across our whole supply chain—unlimited synchronization with our customers, and unlimited innovation and realization of challenges.

■ JEPS overview

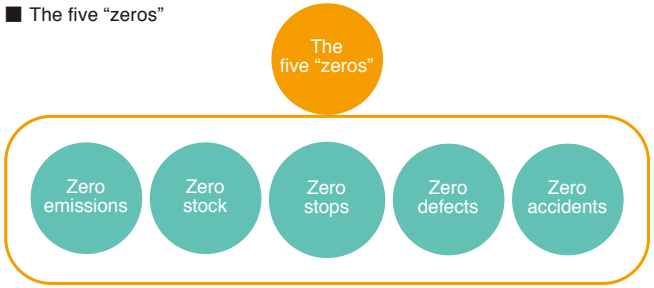


JEPS activities

Promoting JEPS innovation

The basic concept of JEPS can be summed up in the following two points: unlimited synchronization with our customers, and unlimited innovation and realization of challenges. To pursue these two "unlimiteds," JATCO has established clear metrics in the form of the five "zeros." Toward the achievement of these metrics, JATCO continuously improves JEPS and promotes energy and resource conservation.

■ The five "zeros"

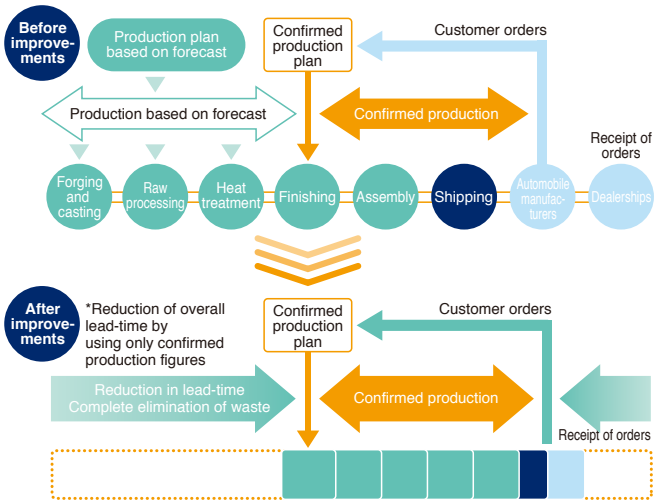


The two "unlimiteds"

1. Unlimited synchronization with our customers

Q: Quality synchronization – producing the quality demanded by our customers
C: Cost synchronization – offering reasonably priced products
D: Delivery synchronization – reducing production lead-time
JATCO aims to pursue these three synchronizations to move infinitely closer to our customers.

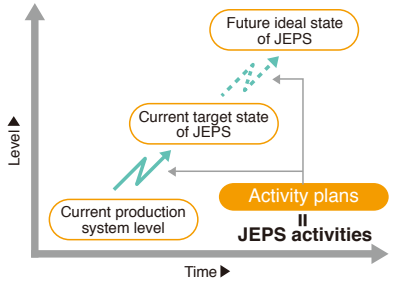
■ JATCO's monozukuri



2. Unlimited innovation and realization of challenges

While recognizing the gap between our current state and the ideal state that JATCO should strive for as the world's no. 1 in monozukuri, we are striving to make visible the challenges we have had difficulty admitting to. We are continuously trying to improve our monozukuri system through repeated improvements and innovation.

■ Unlimited innovation and realization of challenges



With Society

Making societal contributions a part of our corporate culture

The JATCO Group's aim is to become a "good corporate citizen" under our corporate philosophy "to provide value to our customers, to automotive culture, and to society." Corporate activities are conducted through our involvement with local communities. JATCO considers it an important responsibility to be actively involved with society as a member of the community, and to contribute to the local community in a variety of ways. We promote societal contributions with this approach in mind.

Our three key categories

Based on our desire to be a presence that local communities are glad to have, the JATCO Group has established the environment, education, and welfare as our three key categories for societal contributions. We are engaging in activities around the world in these three categories, and undertake activities that meet the needs of local communities.

Contribution activities for education

Kids Engineer

The Kids Engineer event is 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 its inaugural event in 2008. In FY2018, the event was held in Yokohama, Kanagawa Prefecture and in Sendai, Miyagi Prefecture, where we hosted a program that uses models to study how transmissions work called "Let's Build a Car that Uses Rubber Bands to Change Speeds."

Kids Engineer event organized by the Society of Automotive Engineers of Japan

Hands-on learning for middle and high school students

We host hands-on learning courses for local middle and high school students. We provide participants with experience in a wide range of work environments, from development to production, to help provide an opportunity for the children to consider what type of work they want to do and which path to take in the future. The activities include CAD software operation, tours of testing facilities, experiencing next generation technologies at the Future Technology Center, factory tours, and factory work experience. In addition, high school students from Shizuoka Prefecture went to visit our production lines at JATCO Thailand in FY2018.

Hands-on learning for middle and high school students

With Society

Contribution activities for the environment

Hana-saku JATCO-MAE Station Project

JATCO-MAE is a station on the Gakunan Line in Fuji City. It is one of the very few stations in Japan that are named after a company. This project began when a JATCO employee expressed their wish to “turn the local train station named after JATCO into a popular flower-viewing spot.” During FY2018, the fourth year of the project, two different types of sunflower seeds were planted, completing the beautiful flower bed. The work to carefully cultivate the flower beds continues on a daily basis in collaboration with the members of Koko Kara, the Fuji City youth consultation office.

Planting moss phlox flowers around JATCO-Mae Station on the Gakunan Line

Supporting the traditional tea-grass integrated system in Shizuoka

The tea plantations in Higashiyama in the city of Kakegawa use the traditional tea-grass integrated system, which is certified as a World Agricultural Heritage System. The tea-grass integrated system is a traditional method that nurtures rich biodiversity and works in harmony with nature. Every year in January, JATCO cooperates with the Kakegawa Tea Promotion Association and Kakegawa City Hall as volunteer help for the tea-grass integrated system to help clear the silver grass and bamboo grass and lay them between the tea trees.

Working to lay the silver grass and bamboo grass between the tea trees

Contribution activities for welfare

Soccer match for athletes with intellectual disabilities

Soccer players with intellectual disabilities have only limited opportunities to demonstrate the results of their training. Accordingly, JATCO organizes the “JATCO × Yokohama F. Marinos Futuro Cup” together with the Yokohama F. Marinos soccer club. In FY2018, the event’s fourth year, a total of five teams and approximately 100 athletes participated. The event was managed by ten university student volunteers from the New Kantō Science and Engineering League, which is supported by JATCO and the Yokohama F. Marinos.

JATCO × Yokohama F. Marinos Futuro Cup

Creation of hats for children in Africa

JATCO Korea Engineering Corp. carries out societal contribution activities as proposed by their employees. One of these activities was the creation of hats for children in Africa. In some parts of Africa, children run the risk of losing their vision due to the strong sunlight and sandstorms. Accordingly, the use of these hats, which include a wind blocking mesh, can serve to protect their eyes and prevent vision loss. The hats made by the employees were delivered to the children via a non-government organization.

Creating hats for children in Africa

With Our Employees: Diversity

Diversity at JATCO

In order to expand our business globally in response to changing times, JATCO positions diversity as a value to be cherished by our employees. JATCO's diversity involves engaging in a variety of initiatives with the objective of generating new ideas and providing better value to our customers by having employees with a wide range of values work together and exchange opinions while treating one another with respect. Since FY2008, we have been conducting regular reviews by management personnel led by our president and actively promoting hiring and employee deployment that does not discriminate based on gender, nationality, or other such criteria.

Enhancing quality of life

JATCO aims to build a workplace environment that not only enhances productivity but also enables everyone to work enthusiastically with a sense of security in order to enhance both personal and professional quality of life for all employees. The expansion of both the flex time system, which enables employees to work according to their individual circumstances, and the telecommuting system, which can be used for purposes other than child rearing and nursing care, is one of the measures supporting the promotion of diversity.

Empowering women

JATCO works to empower women as one of the pillars of its diversity promotion efforts. We set targets for our ratio of female managers in our action plan based on the Act on Promotion of Women's Participation and Advancement in the Workplace, worked to develop our female staff, and have surpassed the average ratio by industry published by the Ministry of Health, Welfare and Labour. We also promote the role of women at our manufacturing facilities. Women can demonstrate leadership and pursue self-growth at our Diversity Lines, where everyone is made to feel welcome.

Encouraging multinational employees to play an active role

JATCO's diversity initiatives include encouraging employee hiring that does not discriminate based on nationality, and employee and technology exchanges with each of our overseas bases. In Japan, employees of various nationalities including Chinese, Korean, Mexican and Thai play an active role in Japan. Employees with a wide variety of values working at the same workplace and growing by learning something new from each other leads to the provision of new value to our customers.

Exchanges with our employees from overseas

Third-party acclaim

JATCO has introduced a variety of systems as part of our efforts to develop an environment where employees can strike a balance between childcare and work. These systems allow employees to adopt diverse working styles and include maternity leave, childcare leave, telecommuting, and a flex-time system. These efforts have been highly regarded, and in August 2015 we became the first company headquartered in Shizuoka Prefecture to be specifically certified under the Act on Advancement of Measures to Support Raising Next-Generation Children (commonly known as the Platinum Kurumin Certification), established by the Ministry of Health, Labor, and Welfare. In March 2016, JATCO was listed in the New Diversity Management Selection 100 by the Ministry of Economy, Trade, and Industry. We were the first company headquartered in Shizuoka Prefecture to be selected for this list as well. Enterprises selected for this list needed to demonstrate best practices "to create innovation and generate value with diverse human resources while providing them with the opportunity to realize their maximum potential." JATCO was also recognized for its wide range of programs that allow employees to engage in work in diverse ways and reduce the need for overtime. The company was additionally recognized for its implementation of production plant workplaces that are accepting of women, leading to production lines that are friendly places to work not only for women but for everyone, leading to enhanced quality and efficiency at the same time.

Logo for the special certification based on the Act on Advancement of Measures to Support Raising Next-Generation Children, commonly known in Japan as "Platinum Kurumin" (left) and logo for the New Diversity Management Selection 100 (right)

With Our Employees: Global Talent Development

Achieving the mutual growth of our company and employees

JATCO works to develop its employees and respect diversity, and it aims to create an environment worth working in where each employee can feel they are experiencing growth. We continuously offer various opportunities for growth to our employees while respecting the diversity of each and every employee. This is not limited to growth through their work responsibilities. A wide range of programs are available, ranging from capacity-building programs related to their duties, to training for problem solving and for communication skills. Our employees take responsibility for their own growth, using the provided opportunities to the fullest, and their bosses work to support their growth.
In addition, to ensure that employees can can continue their vigorous growth after they have joined the company and been assigned to their departments, we have introduced a Freshman Leader System. Under this system, the employee who is their direct superior in their department provides guidance and advice to them and provides support to help them adapt smoothly to their work and to corporate life.

Development of a culture of acknowledgement and praise

JATCO is encouraging the development of a culture of praise, and has introduced a Thanks Card System that encourages employees to express feelings of gratitude by writing on cards. This system contributes to the improvement of employee motivation. In addition, the Global JATCO CEO Award and the Employee Awards are presented to employees whose conduct and achievements have enhanced our corporate performance and reputation. By properly evaluating and commending such conduct and achievements, we are developing an environment where our employees can be highly motivated as they carry out their work.

Global JATCO CEO Award ceremony

Responding to globalization

Promoting the employee exchange program and global education program

JATCO is working to develop employees that can handle global business. The employee exchange program, undertaken in cooperation with our overseas bases for the purpose of encouraging the early growth of our employees as global talent, is one such program. Young employees strive to acquire a global outlook through various experiences that encompass not only their work, but everyday life. Separately, for employees in their second year at the company, we conduct activities such as overseas training programs and various communication seminars to build skills necessary for a globalizing world, as part of our efforts to improve the global skills and mindsets of our employees.

Employee development that supports overseas production sites

As part of JATCO's efforts to transfer the specialized skills and know-how regarding on-site management that we have built up over the years at our production sites in Japan to our overseas bases, we are working to provide training to the employees at these locations that aims to have them implement and operate using the same approaches and methods we use in Japan. To ensure that the supervisors at each of our overseas bases are able to act as employee trainers to properly conduct the necessary training courses, we dispatch instructors from Japan to develop the skills of each trainer. Together with these local trainers, we are aiming to bring the employee development of all our JATCO employees around the world to the next level.

Providing guidance to employees at our overseas bases

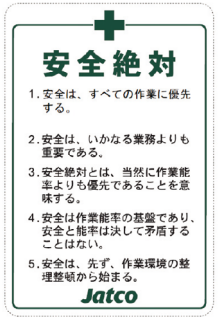
With Our Employees: The Work Environment

Ensuring work safety

JATCO aims to move from “zero accidents” to “zero danger,” so promotes the development of a workplace where all employees can work safely and comfortably through measures such as the active completion of risk assessments at workplaces and the promotion of health management for employees. We recognize the task of ensuring safety as a priority in all our work, and have 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 assessments, SES I*1, 5S patrols*2, plant (division) safety patrols, public work inspections, and safety commitment inspections. Particular emphasis is placed on eliminating non-standard processes that have a high risk of causing work accidents and may also cause losses in our production activities. The assessed risks of each production activity are summarized in a list. We establish the degree of priority and the appropriate countermeasures based on the size of the risk, and then speedily implement hard countermeasures, such as improving facilities, and soft countermeasures, such as training and guidance.

*1 SES I: Safety Evaluation System I. Our system for quantitatively assessing safety levels at the workplace

*2 5S patrols: Patrols of our sites on a regular basis to ensure compliance with the 5S methodology (*Seiri* [Sort], *Seiton* [Set in order], *Seisō* [Shine], *Seiketsu* [Standardize], *Shitsuke* [Sustain])



Implementing SES through our global members

Promoting occupational health

At JATCO, the following initiatives are implemented as part of our efforts to help employees maintain their physical and mental health.

Initiatives for mental health

In cooperation with an organization specializing in EAP*, we conduct stress check-ups once a year. The results are returned to each individual employee, so as to enable them to know their own stress levels. The families of employees may also make use of consultation and treatment, as well as counseling services, through the EAP. To ensure early detection and prevention of mental health problems, the mental health seminars that had previously been only for managers and supervisors have since been extended to general employees.

*EAP: Employee Assistance Program

A mental health seminar

Initiatives to improve lifestyle habits

As part of our measures to combat lifestyle-related diseases and metabolic syndrome, we identify at-risk employees based on their health examination results and provide health guidance to these employees. We continue to support them even after their health interview, and provide various forms of guidance to help them make steady progress towards achieving their goals.

Guidance session for the prevention of lifestyle-related diseases

Activities to eliminate exposure to secondhand smoke and reduce smoking rates

Since 2003, JATCO has promoted measures to eliminate exposure to secondhand smoke and reduce the smoking rate. As a result of initiatives such as the segregation of smoking areas from office break rooms, the promotion of anti-smoking awareness, and the banning of cigarette sales within the company, the smoking rate has decreased significantly among employees, thereby also dramatically reducing the risks of exposure to secondhand smoke. Furthermore, an initiative to eliminate smoking entirely at all locations was begun on April 1, 2017. Smoking is known to have extremely serious health effects, including brain damage, heart disease, and cancer. JATCO will continue to encourage our employees—our most important asset—to quit smoking in order to maintain their health by way of development activities that include continuing use of smoking cessation clinics, and maintaining a consultation desk at the health support office to help smokers quit.

Part 3

Corporate Governance

In order for JATCO to further enhance our value as a company that can continue to be trusted by our 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 of and compliance with laws.

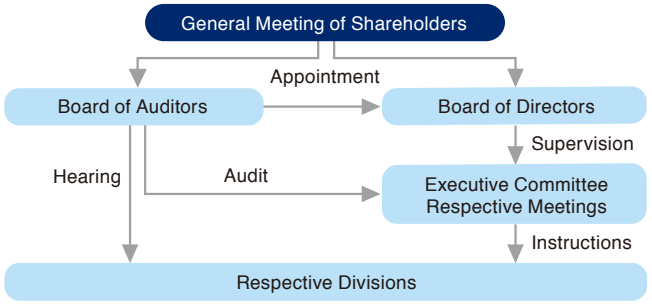
Governance Efforts

Commitment to corporate governance

Corporate governance system

JATCO is a “Company with Board of Company Auditors” as defined in the Companies Act, and is established as a legal entity with a General Meeting of Shareholders, a Board of Directors, and a 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 details of the operations being executed. The Board of Directors is composed not only of the directors who execute our operations, but also several directors from outside the company in order to create a system that allows for more objective supervision of the execution status of our operations. A Corporate Officer system has also been introduced to facilitate efficient and flexible management, and authority has been delegated to Corporate Officers in clearly defined ways in the management of the business.

■ JATCO’s corporate governance system



Strengthening our internal control system

JATCO maintains and strengthens its internal control system based on the Basic Policy on Internal Control System passed by our Board of Directors. This policy lays out our basic policies on matters such as compliance with laws, information management, risk management, proper and efficient execution of work by 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 accomplish appropriate and efficient management of the JATCO Group, the JATCO Group companies, both domestically and abroad, are working together with each of the divisions in charge at JATCO to perform this management. To ensure that Group companies are able to undertake decision making that is consistent with our Group policy, information exchange is carried out through the Group’s Management Committee. Furthermore, in order to check if the Group companies are being properly managed, internal and external 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

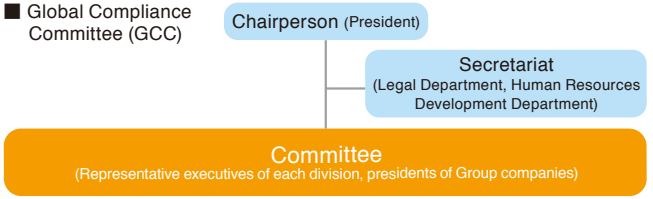
Basic stance on compliance

The JATCO Group considers compliance with the laws of each country and region to be a minimum requirement for being trusted by society. In addition to compliance with laws, we consider it important for all employees of our Group to act fairly and honestly with a strong sense of ethics. JATCO has instituted a Global Code of Conduct, and we put effort into ensuring thorough compliance by providing action guidelines for all employees to abide by.

■ Standards in the Global Code of Conduct

1. Comply with all Laws and Rules
2. Avoid Conflicts of Interest
3. Preserve Company Assets
4. Be Impartial and Fair
5. Be Transparent and Accountable
6. Value Diversity and Provide Equal Opportunity
7. Be Environmentally Responsible
8. Ensure Safety
9. Be Active; Report Violations

■ Global Compliance Committee (GCC)



Promotion system for compliance

In order to promote compliance across the whole of the JATCO Group, JATCO has organized a Global Compliance Committee (GCC) comprised of 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 details of the compliance activities of each company. Compliance committees are also established in each respective Group Company, 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 rules violations. In addition, we have also established the Speak Up System 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 violations.

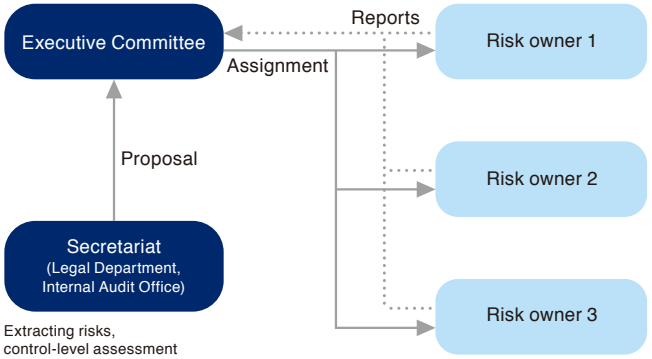
Risk Management: Systems & InfoSec

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 its internal control system. Specifically, we identify risks each year, determine the items that should be tackled in the Executive Committee meetings, assign 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 meetings, 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 predicts the various risks that may arise, and has established a BCM Committee to implement measures to eliminate risks before they develop and to mitigate risks when incidents do occur. If a situation arises that has continuous impact on production, the relevant parties are notified immediately, and the BCM Committee takes a central role in resolving the problem with the cooperation of the respective divisions across the company. BCM training is carried out every year to help employees learn how to react to a large-scale earthquake, and how to appropriately respond in order to achieve quick recovery.

*BCM: Business Continuity Management. This involves determining the countermeasures to take in situations where the company becomes unable to continue operations due to large-scale disasters, epidemics and the like and conducting the needed training and other activities to execute these countermeasures.

Risk management system for JATCO Group companies

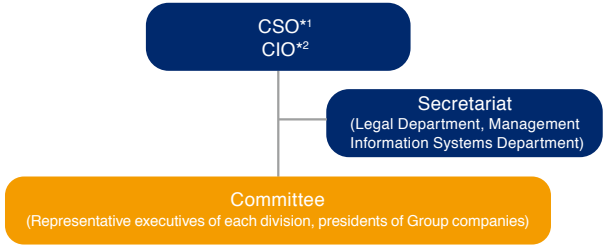
With regard to Group companies, including our overseas production bases, risk management is performed by implementing countermeasures for the expected risks to each company. The experience and know-how that JATCO has built up through its BCM activities are disseminated to the Group companies, and for risks that are common to all our facilities across the world, risk management is carried out in cooperation with other Group companies.

Strengthening information security

Information security promotion system

JATCO has enacted an Information Security Policy and conducts itself appropriately with regards to information security. The Information Security Committee, which operates in a Group-wide fashion, shares problems common to and solutions applicable across the Group companies, and checks on the implementation of these solutions in each Group company and division. An employee is assigned to oversee information security matters in each division and Group company, and they supervise the everyday management of those 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

In order for us to maintain growth, more robust information security will be required. JATCO is putting effort into further strengthening our information infrastructure. To prepare for cyber attacks, we are implementing various technical measures to prevent external attacks, while engaging in thorough information management to prevent information from leaking out in the event of a security breach. Information security is dependent on there being a proper awareness of information management by those who must handle the information—each and every one of our employees. Hence, we continue to provide information security education to 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 appropriate management of information security, it is vital to properly continue the PDCA cycle by having each division and Group company correctly grasp the current state of and risks pertaining to information security, formulate and implement countermeasures, and review the results. Details on the information security activities undertaken by each division and Group company is shared with the Information Security Committee. By encouraging the divisions and Group companies to incorporate each other's best practices, we are striving to further enhance information security across all the Group companies.

Risk Management: Emergency Response

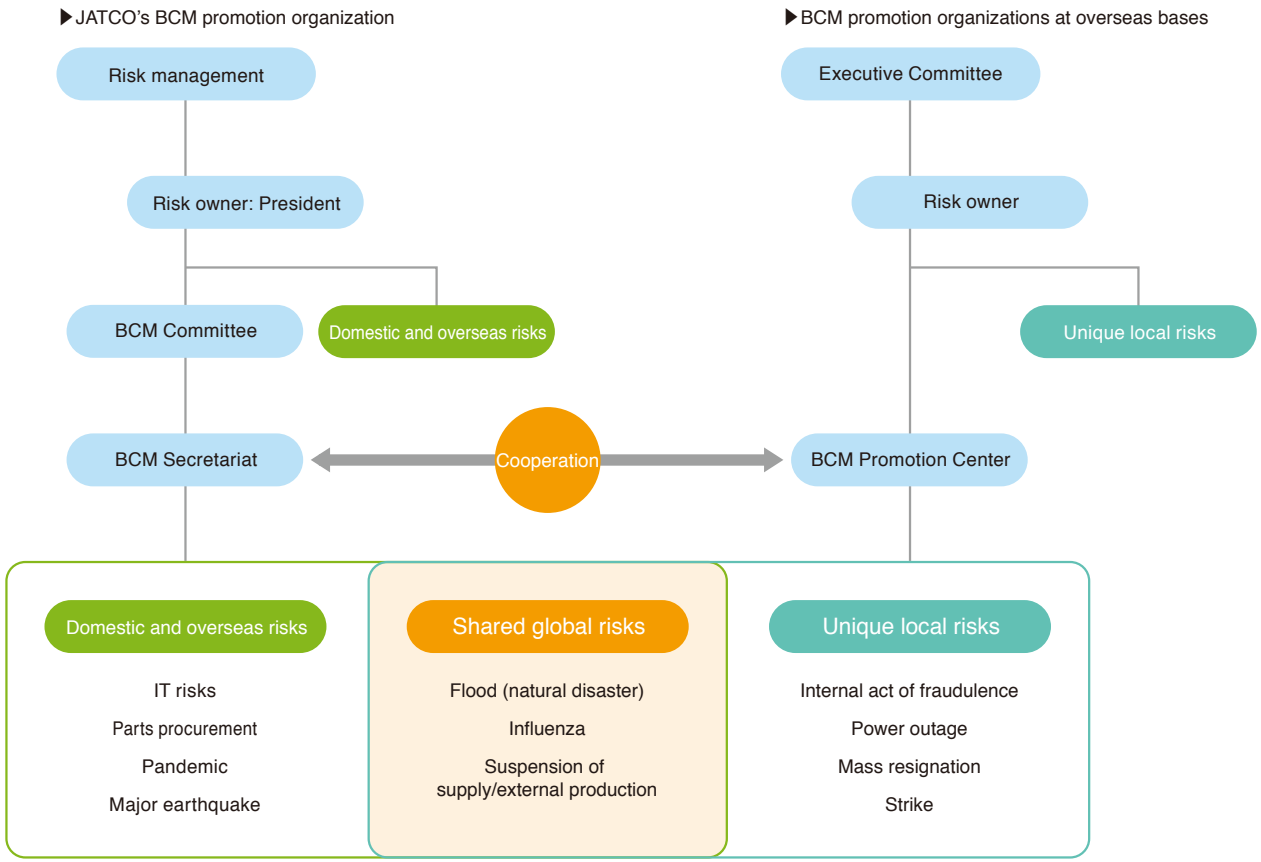
Ensuring business continuity in the event of a large-scale earthquake

As part of JATCO's BCM* initiatives, we organize disaster preparedness activities with regards to a large-scale earthquake (seismic intensity of 6 Upper or greater) that is feared to occur in the near future. These activities are aimed first towards saving lives, preventing secondary disasters, and a prompt and effective recovery to aid in the recovery of our business. Our BCM formulations are being reviewed and strengthened through our experience from such disasters as the Niigata Chuetsu-oki Earthquake in July 2007, the Great East Japan Earthquake in March 2011, and the earthquake in eastern Shizuoka Prefecture in March 2011, which resulted in significant damage to one of our plants. The disasters that we prepare for are not limited to just earthquakes. They cover a wide range that includes new strains of influenza, IT failures, and supply chain stoppages. We also apply the experience that we have gained in developing BCM in Japan to the risks facing our overseas locations, including Mexico, China, and Thailand to extend our BCM practices globally across the entire JATCO Group. In order to promote activities focused on our supply chain in light of our experience during past disasters, we have made efforts to strengthen our overall supply chain by performing diagnoses of the BCM systems of each Group company. JATCO's highly effective BCM is driven by the repeated use of training. We have been conducting BCM simulation training every year since FY2008, through which we confirm our initial disaster response and recovery system for business continuity. This training is based on expected levels of damage and involves the relevant departments and company bases working together to solve problems related to business recovery. These problems include how to respond to automobile manufacturers, business partners, local communities, and the media. Through the repeated use of this training, we aim to provide a speedy response in the event of a disaster. This emphasis on simulation training with a focus on cooperation between bases has already yielded results at our Fujinomiya Plant, when during the earthquake in eastern Shizuoka Prefecture, the plant was able to easily receive assistance from our other bases and make a rapid recovery.

BCM training

*BCM: Business Continuity Management.

■ BCM promotion organization

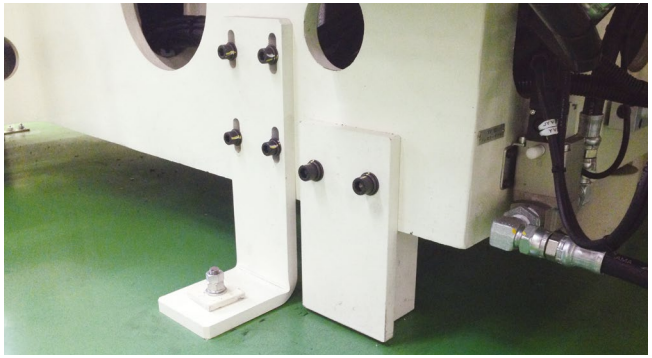


Risk Management: Emergency Response

Ensuring the safety of employees and the local community

Earthquake measures for buildings and facilities in Japan

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



Newly added equipment support braces

Earthquake countermeasures at overseas bases

JATCO is expanding globally, and BCM activities similar to those at our domestic bases are also being implemented at our overseas bases to prepare them for earthquakes or other large-scale disasters. 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 compared to the initial plans, in preparation for tsunami and floods.

Building site where the filling was carried out

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 actions and evacuation shelters. In order to ensure that employees have a good grasp of this information, regular drills are conducted based on a variety of day and night emergency situations that we expect could occur. Given the possibility of having employees at each facility who are unable to return home during an emergency, we have prepared supplies such as water, food, helmets, and blankets at each facility.

Disaster preparedness supplies available at the Shin-Yokohama office

Securing safety and peace of mind for local residents

JATCO is a company that stands together with local residents. Hence, we cooperate actively to secure safety and peace of mind for local residents. We are working to establish a system that allows us to provide company facilities as emergency shelters for local residents who have nowhere to evacuate to in the event of a large-scale disaster.

Environmental Data For Each Production Base

Fuji Area

[Including the Head Office]
Site: 580,440 m²
Buildings (Total): 389,403 m²

Air pollution

NOₓ: Nitrogen oxide, SOₓ: Sulfur oxide

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Compact boiler (22 units)	Dust and soot	g/Nm³	0.05	0.009	0.001
	NOₓ	ppm	100	98	30
	SOₓ	Nm³/h	0.002	0	0
Metal-heating furnace (17 units)	Dust and soot	g/Nm³	0.05	0.049	0.017
	NOₓ	ppm	150	110	88
	SOₓ	Nm³/h	0.018	0	0
Steel-heating furnace (9 units)	Dust and soot	g/Nm³	0.05	0.004	0.0017
	NOₓ	ppm	150	23	11
	SOₓ	Nm³/h	0.026	0	0
Aluminum-melting furnace (9 units)	Dust and soot	g/Nm³	0.06	0.043	0.008
	NOₓ	ppm	150	46	20
	SOₓ	Nm³/h	0.019	0	0
	Dioxin	mg-TEQ/Nm³	5	0.18	0.03
Drying kiln (1 unit)	Dust and soot	g/Nm³	0.05	0.048	0.048
	NOₓ	ppm	56	16	14
	SOₓ	Nm³/h	0.0048	0	0
	Dioxin	mg-TEQ/Nm³	5	0.0000079	0.0000079
Drying combustion furnace (1 unit)	Dioxin	mg-TEQ/Nm³	5	0.003	0.003

Water quality

Figures shown in brackets ( ) for the regulatory limit are daily averages

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	7.3	7.1
Biochemical oxygen demand (BOD)	mg/L	20 (15)	2	1.7
Chemical oxygen demand (COD)	mg/L	20 (15)	5.3	4.1
Suspended solids (SS)	mg/L	20 (10)	6	2.5
n-hexane extracts (mineral oils)	mg/L	4	0	0
Copper	mg/L	0.1	0	0
Zinc	mg/L	0.1	0.06	0.06
Coliform count	units/mL	3,000	6	12
Trichloroethylene	mg/L	0.3	0	0
Dichloromethane	mg/L	0.02	0	0
Boron	mg/L	10	0.1	0.03
Fluorine	mg/L	15	0	0
Ammoniacal nitrogen Nitrate-nitrogen Nitrite-nitrogen	mg/L	100	3.7	0.9

Kambara Area

Site: 78,423 m²
Buildings (Total): 58,033 m²

Air pollution

NOₓ: Nitrogen oxide, SOₓ: Sulfur oxide

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Kerosene boiler (2 units)	Dust and soot	g/Nm³	0.1	0.001	0.00025
	NOₓ	ppm	130	81	69
	SOₓ	Nm³/h	0.045	0	0
Aluminum-melting furnace (1 unit)	Dust and soot	g/Nm³	0.05	–	–
	NOₓ	ppm	100	–	–
	SOₓ	Nm³/h	0.013	–	–
	Dioxin	mg-TEQ/Nm³	5	–	–

Water quality

Figures shown in brackets ( ) for the regulatory limit are daily averages

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	7.4	7.25
Biochemical oxygen demand (BOD)	mg/L	20(15)	2.4	1.7
Chemical oxygen demand (COD)	mg/L	25(20)	3	2.7
Suspended solids (SS)	mg/L	40(30)	1	0.5
n-hexane extracts (mineral oils)	mg/L	5	0	0
Coliform count	units/mL	1,000	74	38
Dichloromethane	mg/L	0.02	0	0
Boron	mg/L	10	0	0
Fluorine	mg/L	8	0	0
Ammoniacal nitrogen Nitrate-nitrogen Nitrite-nitrogen	mg/L	100	1.9	0.4

Fujinomiya Area

Site: 67,698 m²
Buildings (Total): 66,756 m²

Air pollution

NOₓ: Nitrogen oxide, SOₓ: Sulfur oxide

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Compact boiler (6 units)	Dust and soot	g/Nm³	0.05	0.01	0.002
	NOₓ	ppm	100	89	81
	SOₓ	Nm³/h	0.01	0	0
Metal-heating furnace (3 units)	Dust and soot	g/Nm³	0.01	0.009	0.004
	NOₓ	ppm	150	66	40
	SOₓ	Nm³/h	0.01	0	0

Water quality

Figures shown in brackets ( ) for the regulatory limit are daily averages

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	7.3	7.2
Biochemical oxygen demand (BOD)	mg/L	20(15)	0.8	0.7
Chemical oxygen demand (COD)	mg/L	20(15)	1.5	1.4
Suspended solids (SS)	mg/L	20(15)	2	1
n-hexane extracts (mineral oils)	mg/L	5	0	0
Phenols	mg/L	5	0	0
Copper	mg/L	3	0.02	0.01
Zinc	mg/L	2	0.08	0.08
Soluble iron	mg/L	10	0.06	0.06
Soluble manganese	mg/L	10	0	0
Chromium	mg/L	2	0	0
Coliform count	units/mL	3,000	0	0
1, 1, 1-trichloroethane	mg/L	0.001	0	0
Boron	mg/L	10	0	0
Ammoniacal nitrogen Nitrate-nitrogen Nitrite-nitrogen	mg/L	100	0.1	0.02

Environmental Data For Each Production Base

Kakegawa Area

Site: 95,522 m²
Buildings (Total): 14,954 m²

Air pollution

NO_x: Nitrogen oxide, SO_x: Sulfur oxide

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Compact boiler (2 units)	Dust and soot	g/Nm³	0.05	0.007	0.006
	NO_x	ppm	100	49	44
	SO_x	Nm³/h	0.01	0	0

Water quality

Figures shown in brackets ( ) for the regulatory limit are daily averages

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	7.6	6.9
Biochemical oxygen demand (BOD)	mg/L	20(15)	0.9	0.3
Chemical oxygen demand (COD)	mg/L	80(60)	16.4	10.3
Suspended solids (SS)	mg/L	20(10)	6.2	2.2
n-hexane extracts (mineral oils)	mg/L	3	0	0
Phenols	mg/L	2.5	0	0
Copper	mg/L	0.5	0	0
Zinc	mg/L	2	0.13	0.07
Soluble iron	mg/L	5	0.46	0.46
Soluble manganese	mg/L	5	0.03	0.03
Chromium	mg/L	1	0	0
Coliform count	units/mL	3,000	9	0.9
Cadmium	mg/L	0.03	0	0
Cyanide	mg/L	0.5	0	0
Organic phosphorus	mg/L	1	0	0
Lead	mg/L	0.1	0	0
Hexavalent chromium	mg/L	0.25	0	0
Arsenic	mg/L	0.1	0	0
Total mercury	mg/L	0.0005	0	0
Alkyl mercury	mg/L	Undetected	Undetected	Undetected
PCB	mg/L	0.001	0	0
Trichloroethylene	mg/L	0.1	0	0
Tetrachloroethylene	mg/L	0.05	0	0
Carbon tetrachloride	mg/L	0.01	0	0
1, 1, 1-trichloroethane	mg/L	1	0	0
Boron	mg/L	10	0	0
Ammoniacal nitrogen Nitrate-nitrogen Nitrite-nitrogen	mg/L	100	16.5	5.2

Kyoto Area

Air pollution

NO_x: Nitrogen oxide, SO_x: Sulfur oxide, ND: Below detection limit

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
City gas boiler	Dust and soot	g/Nm³	0.1	ND	ND
	NO_x	ppm	150	32	32
	SO_x	Nm³/h	0.56	ND	ND

Yagi Area

Site: 233,323 m²
Buildings (Total): 68,277 m²

Air pollution

NO_x: Nitrogen oxide, SO_x: Sulfur oxide, ND: Below detection limit

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Compact boiler	Dust and soot	g/Nm³	0.1	ND	ND
	NO_x	ppm	150	53	35
	SO_x	Nm³/h	0.00	ND	ND
Continuous carburizing furnace	Dust and soot	g/Nm³	0.1	0.008	0.008
	NO_x	ppm	150	120	32
	SO_x	Nm³/h	5.00	ND	ND

Water quality

Figures shown in brackets ( ) for the regulatory limit are daily averages

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.8–8.6	7.7	7.5
Biochemical oxygen demand (BOD)	mg/L	20(10)	3	1.6
Chemical oxygen demand (COD)	mg/L	30(20)	5.2	3.4
Suspended solids (SS)	mg/L	30(20)	0.8	0.6
n-hexane extracts (mineral oils)	mg/L	2.5	0.5	0.5
Phenols	mg/L	0.5	Undetected	Undetected
Copper	mg/L	1.5	0.01	0.01
Zinc	mg/L	2.5	0.02	0.02
Soluble iron	mg/L	5	Undetected	Undetected
Soluble manganese	mg/L	5	Undetected	Undetected
Chromium	mg/L	1	Undetected	Undetected
Coliform count	units/mL	1,500	0	0
Nitrogen	mg/L	16(12)	7.5	7.2
Nickel	mg/L	1	Undetected	Undetected
Phosphorus	mg/L	1(0.5)	Undetected	Undetected
Boron	mg/L	10	0.2	0.2
Fluorine	mg/L	7.5	Undetected	Undetected

Environmental Data For Each Production Base

JATCO MEXICO S.A. DE C.V.

Air pollution

NO_x: Nitrogen oxide

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Metal-heating furnace	Dust and soot	g/Nm³	1,467.2450	45.07	44.66
	NO_x	ppm	—	—	—
Aluminum-melting furnace	Dust and soot	g/Nm³	448.4500	58.03	52.715
	NO_x	ppm	375.0000	13.32	7.15
Metal-heating furnace	Dust and soot	g/Nm³	488.0200	30.18	22.79667
	NO_x	ppm	—	—	—

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5–10	7.24	7.06
Biochemical oxygen demand (BOD)	mg/L	150	89	53.33
Chemical oxygen demand (COD)	mg/L	320	259.9	109.3
Suspended solids (SS)	mg/L	150	72	64.89
n-hexane extracts (mineral oils)	mg/L	15	14.35	12.31
Phenols	mg/L	N/A	—	—
Copper	mg/L	4	0.2	0.2
Zinc	mg/L	10	0.31	0.2503

JATCO (Guangzhou) Automatic Transmission Ltd.

Air pollution

TSP: Total suspended particulates

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Heat treatment line	TSP	mg/m³	120	16.5	9.9
	Nonmethane hydrocarbons	mg/m³	120	87	7.94
Machining line	TSP	mg/m³	120	25.9	10.2
	Nonmethane hydrocarbons	mg/m³	—	—	—

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	6.0–9.0	7.61	7.06
Biochemical oxygen demand (BOD)	mg/L	300	139	25.6
Chemical oxygen demand (COD)	mg/L	500	443	137
Suspended solids (SS)	mg/L	400	186	46
n-hexane extracts (mineral oils)	mg/L	20	1.76	0.5

JATCO (Thailand) Co., Ltd.

Air pollution

TSP: Total suspended particulates

Equipment	Item	Unit	Regulatory limit (including exceptions)	Measured values	
				Maximum	Average
Vacuum carburizing furnace VF No. 1	TSP	mg/m³	400	1.89	1.2
Vacuum carburizing furnace VF No. 2	TSP	mg/m³	400	3.16	1.67

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.5–9.0	8.20	7.53
Biochemical oxygen demand (BOD)	mg/L	500	110	58.58
Chemical oxygen demand (COD)	mg/L	750	285	159.42
Suspended solids (SS)	mg/L	200	86	50.5
n-hexane extracts (mineral oils)	mg/L	10	9.9	5.53

Jatco

The mission is passion.

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