2021 JATCO Environmental & Social Report

Jatco

JATCO gazes into a bright future for individuals and society, achieved through the development and production of automatic transmissions and parts for automobiles.

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 controls a car's driving and environmental performance. In other words, a transmission is the brain of a car.

At JATCO, by developing and producing automatic transmissions and their parts, we strive to not only support the global automotive industry, but also the lives of all those who rely on automobiles.

Jatco *The mission is passion.*

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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 aims to realize a sustainable society through monozukuri.
While working to solve challenges facing society starting with environmental problems and achieve carbon neutrality, we will continue providing our unique value to remain an indispensable company to society in a new era of mobility.

JATCO Ltd
President and CEO
Teruaki Nakatsuka

With the environmental policy of “the realization of a society where automobiles and the environment exist in harmony,” JATCO has undertaken various initiatives to achieve a sustainable society.

Since its founding in 1970, JATCO has served as a specialized manufacturer of automatic transmissions (ATs) for automobiles and provided the world with more than 120 million of our highly efficient products. With products like innovative step ATs, continuously variable transmissions (CVTs) that offer seamless shifting and excellent fuel efficiency, and hybrid vehicle transmissions that achieve high levels of both driving performance and fuel efficiency, we have contributed to reducing the burden on the environment. Our new CVT, the Jatco CVT-X announced in June 2021, surpasses the 90% transmission efficiency barrier, overcoming a considerable challenge to achieve the utmost in fuel efficiency.

Furthermore, to be ready for the coming era of electrification, we at JATCO are utilizing our strengths in vehicle optimization experience, gear design and processing technology, and high-quality mass production technology to perform research and development on products to bring new value to electric vehicles, starting with our e-Axle.

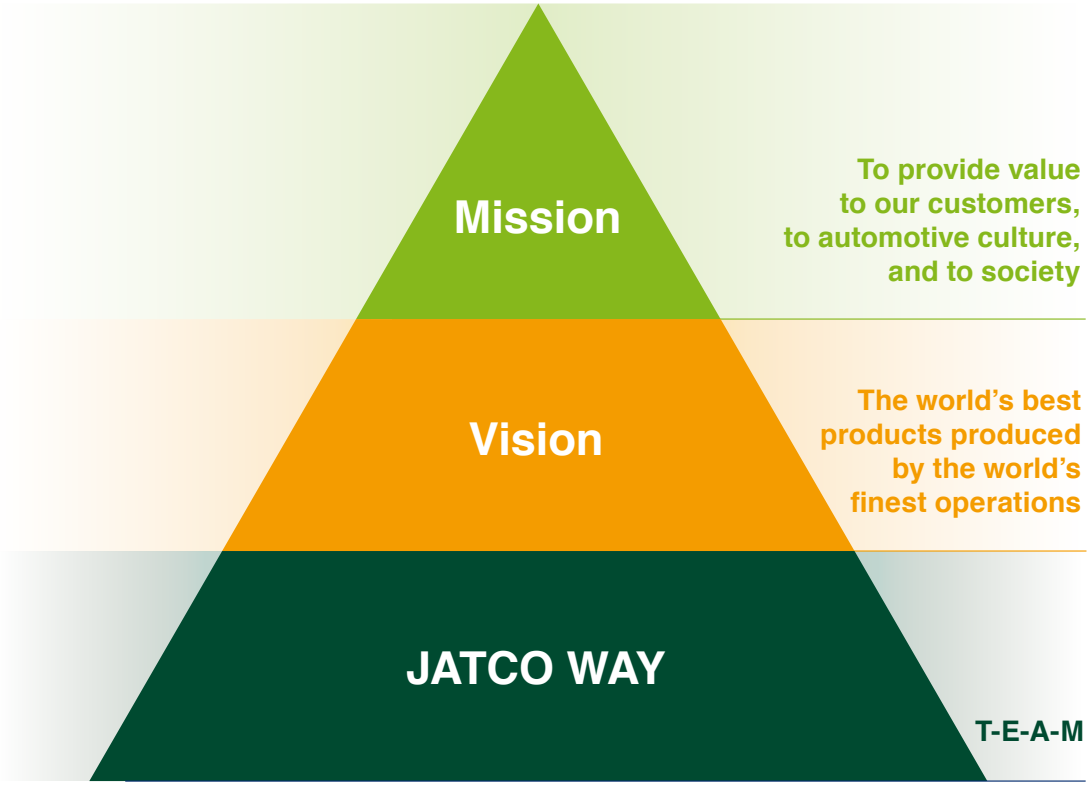
We are currently promoting digital transformation (DX) and implementing environmentally friendly measures in our development and production processes. For example, our development division is conducting virtual road testing whenever possible, significantly reducing the amount of fuel used for testing. Meanwhile, at our production division, we are promoting the use of digital technology to create smart factories that allow us to fully monitor facility operation status and make optimal choices in response to any problem, enabling us to reduce energy consumption per unit produced to the greatest extent possible.

Through these activities, JATCO aims to achieve carbon neutrality throughout its entire value chain by 2050. While this is a lofty goal, we consider it our social responsibility and will proceed steadily toward achieving it. We believe doing so will also strengthen JATCO’s business activities.

To promote business innovation and advance environmental initiatives in the tumultuous world of mobility, human resources are key. JATCO employs approximately 14,000 employees globally. We view bringing people with diverse cultures, histories, and values to work together in a unified and vigorous manner to be essential for creating new value. We have already taken steps aiming to promote diversity and achieve more varied work styles, including initiatives to promote the roles of women and the employment of people with disabilities. Furthermore, in response to the COVID-19 pandemic, we adopted a new way of working called the “JATCO New Normal,” and are now working to build a workplace environment that enables everyone to work with even greater enthusiasm.

JATCO will continue to leverage the strengths of its pioneering technologies and diverse human resources to rise to the challenges facing the environment and society.

Corporate Philosophy



*T-E-A-M: JATCO's shared values. Team leadership by everybody, External mindset, Aspiration to win, and Monozukuri excellence

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 will 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

Contributing to the achievement of the SDGs

The 2030 Agenda for Sustainable Development was adopted at the UN Sustainable Development Summit in September 2015. This agenda outlines 17 Sustainable Development Goals (SDGs) and their associated 169 targets, which are international goals aiming for a better, sustainable world by 2030. JATCO supports these shared global goals and is contributing to their achievement. To show how each of our initiatives is connected to the SDGs, pages describing related initiatives have the corresponding SDG icons on display.

Through all our activities lies 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 are proactively fulfilling our societal responsibilities by providing new value to society through our business pursuits and the development and provision of our products. 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.

In recent years, it has become necessary for companies to be proactive in addressing the global problem of climate change. Specifically, the greatest challenge for the automotive industry is reducing CO_2 emissions, the cause of global warming. 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, the Jatco CVT-X, and a 9-speed automatic transmission for RWD vehicles. 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 very important at the same time to reduce waste, to address water risks, and 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/Suzhou) 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 challenge 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 are now making steady progress toward the goal of becoming carbon neutral throughout our entire value chain by 2050.

Decreasing environmental impact is not only about reducing CO_2 emissions. It also requires us to cut back on waste and to mitigate risks posed to water resources. With regards to waste reduction, we are actively promoting activities in which we ask ourselves, “Can this be reduced? Can it be reused? Can it be used for other purposes?” and definitively implementing proper handling of waste at disposal time. With regards to water resources, we are also working to reduce our environmental burden in consideration of the water supply and depletion risk.

Engaging in our work from an environmental perspective is a given at our company. The way we think about the environment and engage in environmental initiatives is consistent with the direction of the SDGs, which are aiming to realize a sustainable society. We believe that each and every employee owns their involvement and can contribute to the achievement of the SDG targets by continuously linking their work with the objectives and vision of the SDGs.

Going forward, JATCO will continue to keep this environmental awareness 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 our employees, but also with our business partners, we will aim for “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.

The realization of a society where automobiles and the environment exist in harmony

Technology: Development of transmissions with efficient energy transfer
Prevention of pollution: Prevention of environmental problems and legal compliance
Effective utilization of resources: Minimization of the use of resources and energy
Continuous improvements: Enhancing the effectiveness of the environmental management system

Jatco 2020

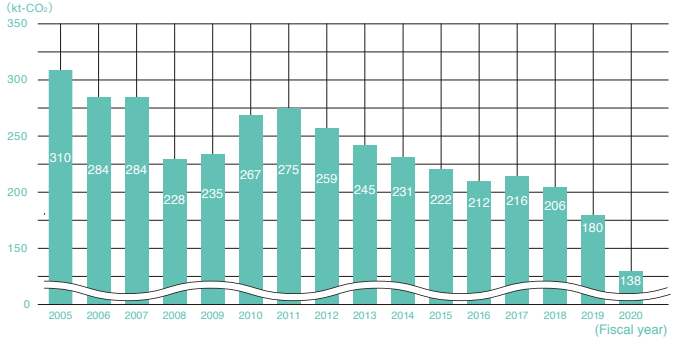
JATCO’s achievements in FY2020

Emissions of three major hazardous air pollutants
None

CO_2 emissions generated by our operations in Japan **55.58% reduction** (Compared to FY2005)
137,613 t-CO_2

JATCO’s operations in Japan in FY2020 generated 137,613 t-CO_2. Unit CO_2* was 0.0635 t-CO_2/unit, which is within our target of 0.0690t-CO_2/unit.
*To understand the proportional ratio of production fluctuations, JATCO monitors unit CO_2 (CO_2 produced per unit)

■ Changes in CO_2 emissions



Total waste generated
65.5% 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

Reducing impact on the environment through transmission technology

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 deep part of our everyday lives. Since its establishment in 1970, JATCO has delivered more than 120 million transmissions to the world. These transmissions are step ATs and continuously variable transmissions (CVTs), which are deeply connected with improved drivability and fuel economy. Our products with particularly good environmental performance include our Jatco CVT7, which is the world's first belt CVT with an auxiliary gearbox, and our Jatco CVT8 HYBRID, which utilizes a multi-plate dry clutch in the coupling between the engine and the motor. We are reducing the environmental impact imposed by automobiles on a global scale by supplying products with superior environmental performance to automobile manufacturers around the world.

To date, JATCO has delivered more than 120 million transmissions to the world.

Accounting for the environment in our global business activities

JATCO is operating 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 (steps to acquire the certification at JATCO Suzhou, established in November 2019, are in progress). Going forward, with the aim of producing transmissions with outstanding fuel efficiency 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.

JATCO (Guangzhou) Automatic Transmission Ltd. acquired ISO 14001:2015 certification in 2017.

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

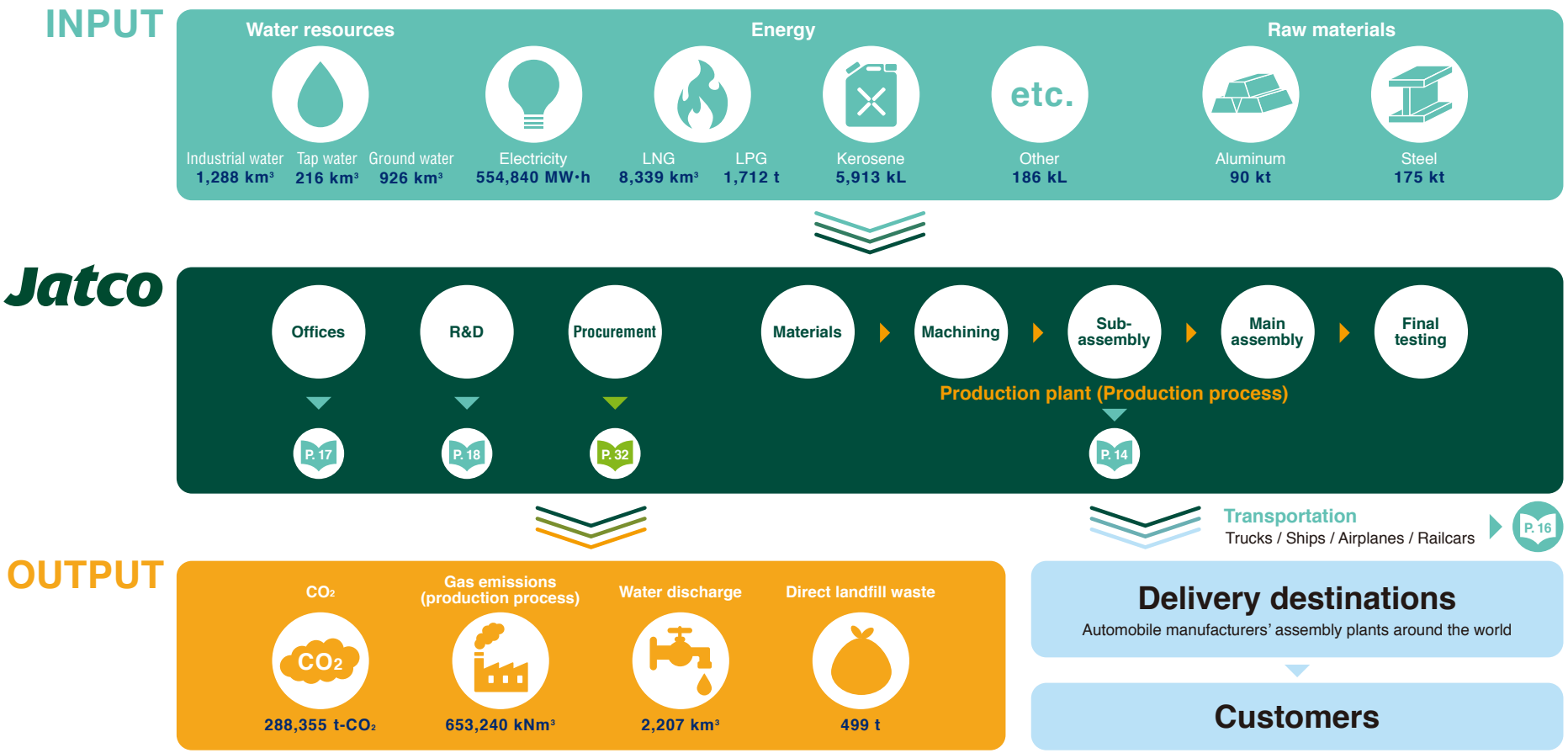
When customers choose a car, fuel economy and the environment are becoming increasingly important factors in their decision-making processes. As a manufacturer specializing in transmissions, JATCO pursues both driving and environmental performance. Our technologies and experience provide that value through products such as our Jatco CVT-S, Jatco CVT7, Jatco CVT8, Jatco CVT8 HYBRID, and JR913E. Going forward, we will continue to develop innovative technologies such as transmissions and e-Axles 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."

In addition to its main CVT and AT products, JATCO is conducting research and development on e-Axles for electric vehicles.

Material Balance

Understanding the emissions generated as a result of our business operations

JATCO aims to create a recycling-oriented society and is working to reduce the amount of industrial waste generated from business activities by properly using resources and reducing emissions.



Note: The numbers shown are extracted from global data for FY2020

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 FY2020

Environmental objectives	Items	FY2020 targets	FY2020 results	Achieved	FY2021 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 Incorporate environmental aspects of the SDGs	・Received regular audits: maintained certification ・Internal environmental audit: 1 time ・Environmental Committee meeting: 2 times Incorporated environmental aspects of the SDGs	✓	・Receive regular audits: maintain certification ・Internal environmental audit: 1 time ・Environmental Committee meeting: 2 times
	Internal environmental auditor training	・Train people as needed	・5 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: 3	✓−	・Number of B rank accidents: 0 ・Number of C rank accidents: 3
Promotion of resource conservation	Promotion of energy conservation ・Energy per unit sales (CO_2)	・0.0506 t-CO_2/unit	・0.0510 t-CO_2/unit	✓−	・0.0480 t-CO_2/unit
	Promotion of waste reduction ・Reduction in total waste generated	・2.2019 kg/unit (Measured as resource intensity as of FY2020)	・1.9060 kg/unit	✓	・1.8640 kg/unit
	・Reduce water consumption	・2.2% reduction from FY2019	・19% reduction from FY2019	✓	・0.619 m^3/unit (Measured as resource intensity as of FY2021)
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 100% of goals for individual (product) issues	✓	・Achieve 100% 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 2020	✓	・Publish our Environmental & Social Report
	Communication with local communities	・Participate in local community contribution activities: 50 events	・Participate in local community contribution activities: 86 events	✓	・Participate in local community contribution activities: 50 events

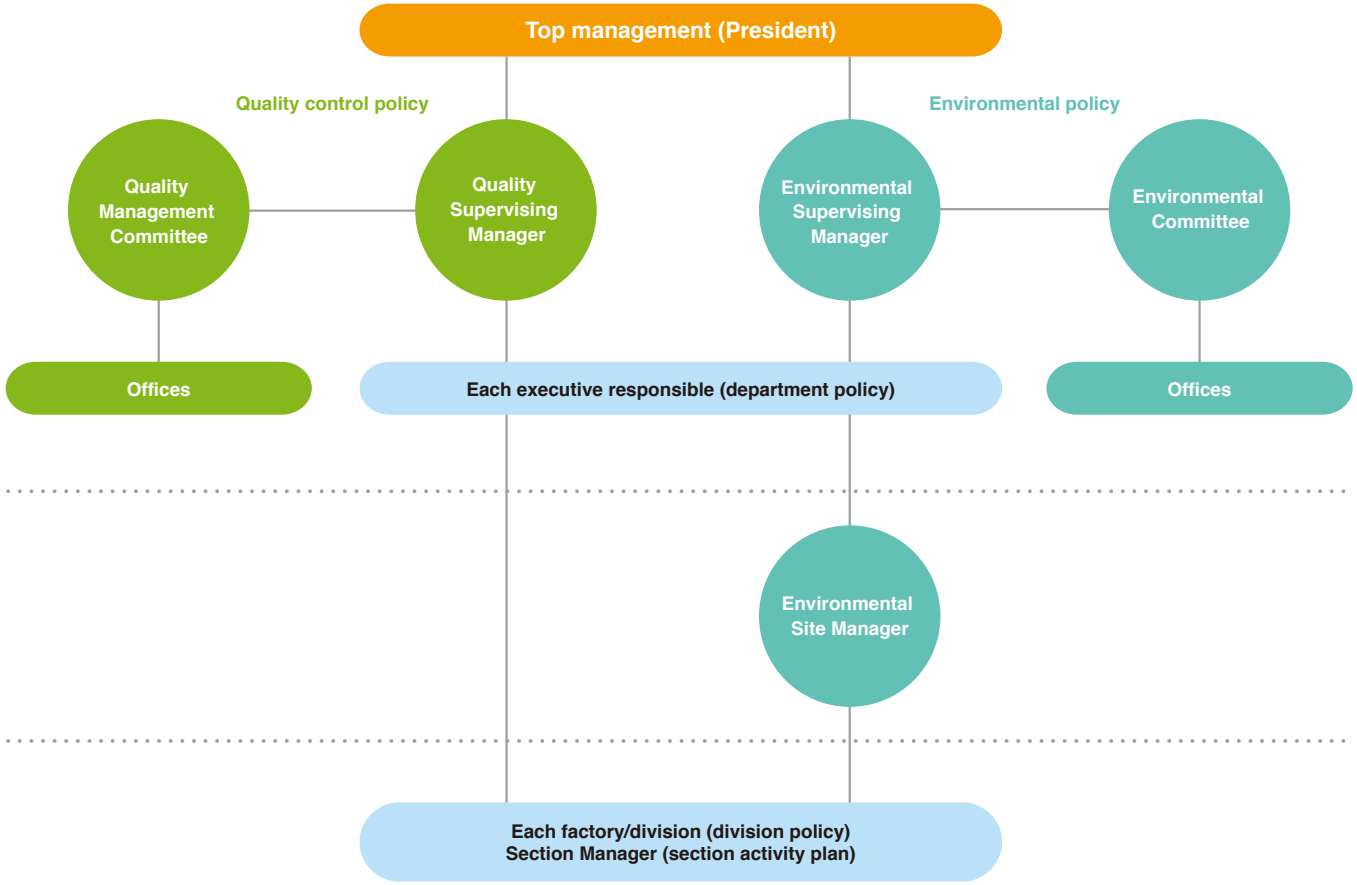
✓: 100% achieved ✓−: 80% or more achieved

Environmental Management System

Promotion system for environmental management

JATCO has earned ISO14001 certification for its head office in Fuji City, Shizuoka Prefecture, and for 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. Jatco (Suzhou) Automatic Transmission Ltd., which began operations in 2019, is currently making progress on establishing an environmental management system to acquire the certification.

■ JATCO's systems promoting quality and environmental management



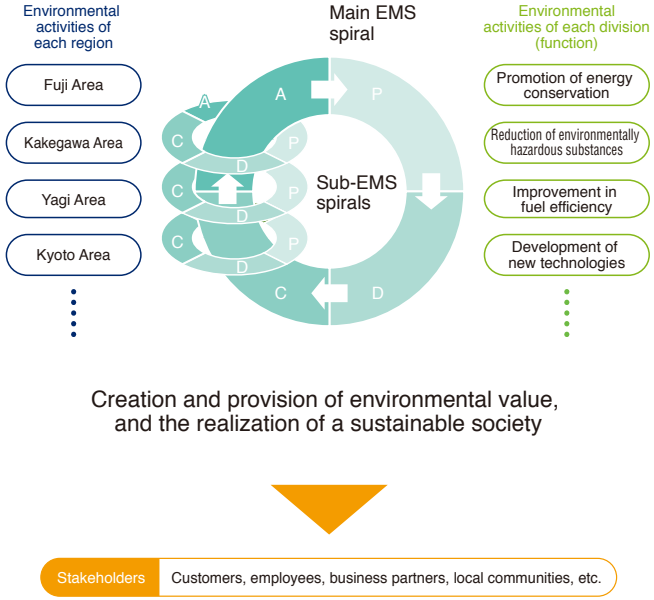
Environmental Management System

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.

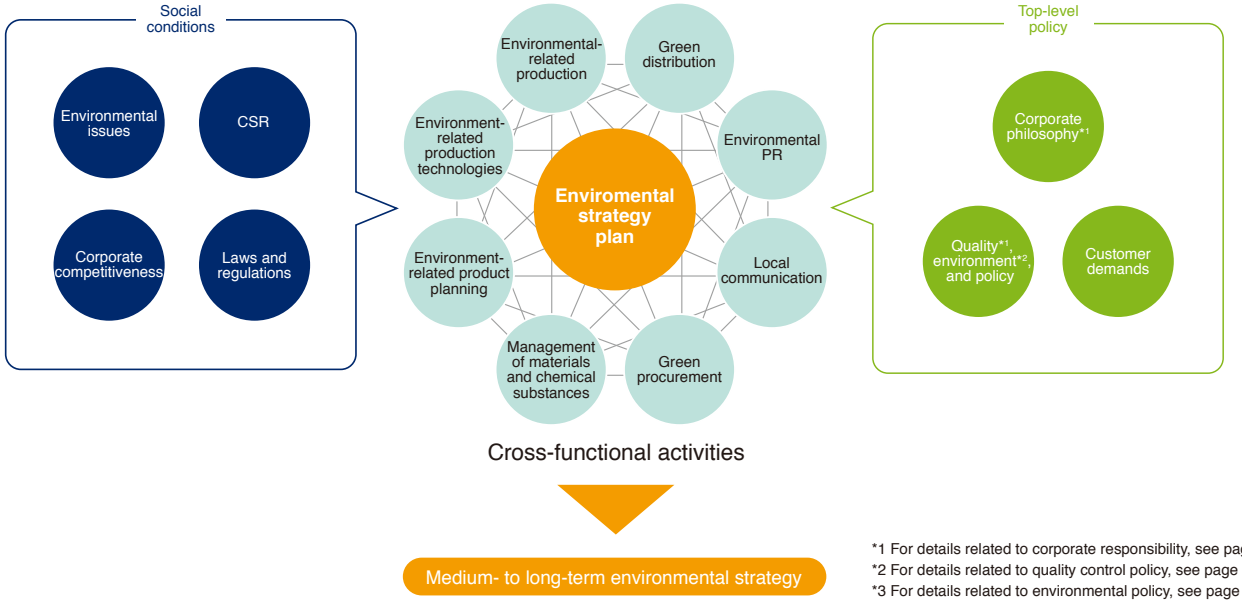
■ Conceptual diagram of JATCO's environmental activities



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.

■ Conceptual diagram of JATCO's Environmental Planning Subcommittee



*1 For details related to corporate responsibility, see page 03
*2 For details related to quality control policy, see page 33
*3 For details related to environmental policy, see page 06

Carbon Neutrality Initiatives

JATCO aims to achieve carbon neutrality in its entire value chain by 2050

Total Product Life Cycle Initiatives

From raw material procurement to final recycling, we evaluate the environmental effects of the entirety of our product life cycles and are tackling the reduction of CO_2 emissions from our supply chain and other business activities.

Production Initiatives

We are working to realize smart factories through innovations in production technologies and by pushing digital transformations (DX), promoting reduced energy usage. Moreover, through the proactive adoption and generation of renewable energy, we are working to reduce the CO_2 emissions from our production processes.

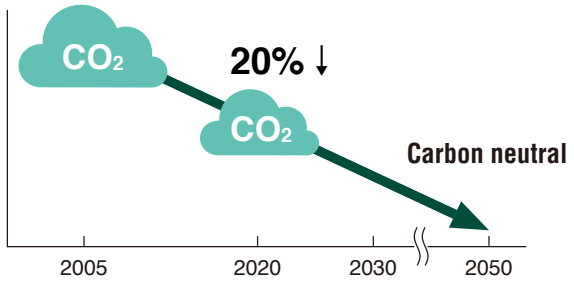
Product Initiatives

We improve the efficiency of our transmissions to the utmost limit to achieve ever better fuel economies. In addition, with our core technologies, we accelerate the development of products for next generation electric and hybrid vehicles, contributing to the reduction of CO_2 emissions.

Environmental Activities and Other General Initiatives

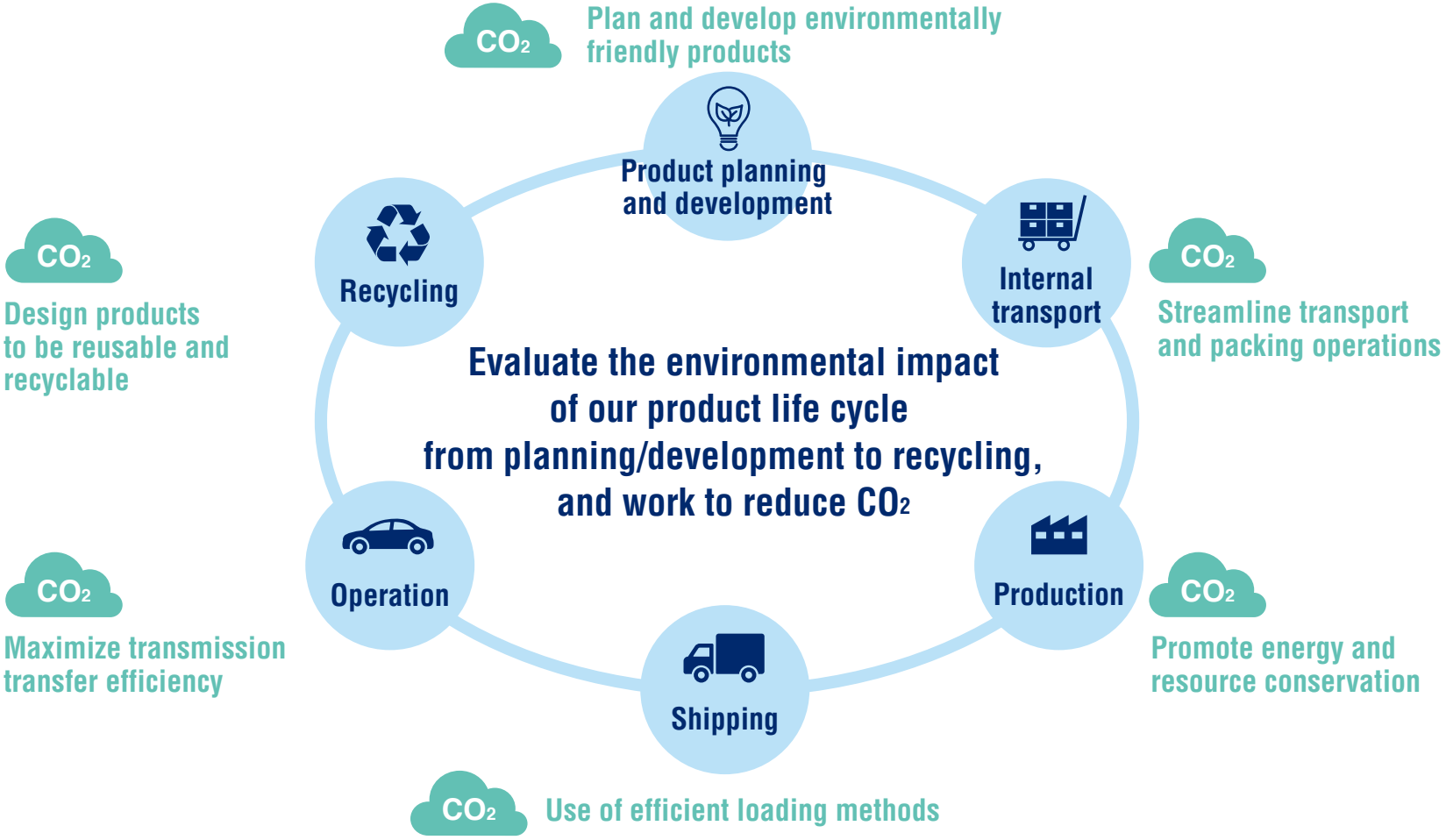
We are driving forward harder than ever with environmental activities such as tree planting in concert with governmental entities, local communities, and NPOs, working as a good corporate citizen to contribute to the reduction of carbon dioxide.

We have pledged to become carbon neutral by 2050 and efforts to achieve this goal are currently underway.
Our goal of “the realization of a society where automobiles and the environment exist in harmony” cannot be realized without the sustainability of Earth’s environment. We will continue to strengthen our efforts to preserve the global environment while deepening cooperation with our stakeholders.



Carbon Neutrality Initiatives

JATCO's overall life-cycle efforts



Production Efforts

Working towards a smart factory

JATCO will improve energy efficiency through innovations in production processes and methods by 2030, and through steps like introducing renewable and alternative energy sources, we aim to have virtually zero greenhouse gas emissions by 2050.
To achieve these goals, converting our plants into smart factories will be essential, and steps for digital transformation (DX) are advancing centered around our Digital Innovation Promotion Office, which was established on April 1, 2020. Their goal is to create “factories that never stop” by enabling us to detect signs of equipment failure and to track operating status. In one effort to adopt next-generation production technology, our production engineering division is taking proactive steps to adopt aerial transport methods, which require fewer vehicles than when using automatic guided vehicles (AGVs) and improve productivity while fostering energy conservation.

Production bases

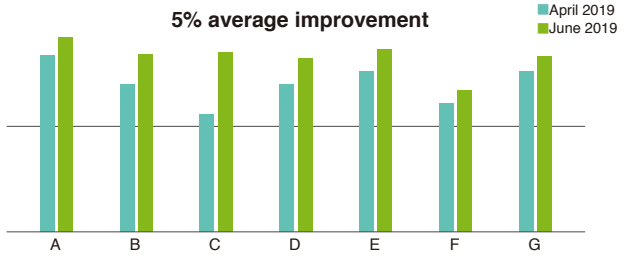
JATCO’s production bases are spread throughout the globe and are located in Japan, Mexico, China and Thailand.
The Jatco CVT7 and Jatco CVT8, our flagship products, are produced at multiple bases and production lines around the world. We are able to ensure products manufactured at each location meet the same quality standards, enabling us to respond flexibly to fluctuations in demand in each market.
This means we can provide high-value JATCO products to customers without making them wait.

Visualizing equipment operational status

JATCO’s plants have a system that eliminates any waste by synchronizing the series of processes from material procurement, processing, assembly, inspection, and shipping as if they were a single line. If production stops due to an error, it will affect the next process and then the one after that. In order to eliminate these effects, we aim to create “factories that never stop” by making the state of equipment in the production process visible at all times. Based on QRQC*, which quickly solves quality problems that occur in the workplace, we have created an in-house operation management software that allows us to see our operational status at a glance. This has made it possible to reduce production losses by quickly identifying phenomena such as short stoppages and breakdowns and implementing countermeasures. The introduction of the operational status monitor has improved the efficiency of our production lines by 5%.
JATCO is aiming for the ultimate in efficiency and quality, and by expanding the scope of its digital technology to create a smart factory, we will also contribute to the realization of carbon neutrality by minimizing the energy per unit used to manufacture our products.

QRQC using our operation management software

Example improvements in line efficiency due to use of the status monitor



*Quick Response Quality Control

Production Efforts

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, the machining, and the assembly, to the completion of the unit, and, 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.

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 cut 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%

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.

Enhancing production and engineering process innovation and inventive technology development

In our development of next-generation technologies, we established the elimination of CO_2 emissions as one of JATCO's principal goals, and have been putting in place initiatives to achieve our goal of zero greenhouse gas emissions by 2050, for both our production and development processes. One of these processes is the one for our latest CVT and vehicle electrification unit. We further reviewed the 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.

Vacuum carburizing furnace

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

Logistics Efforts

FY2020 CO_2 emissions due to transport activities

8% reduction

(Compared to FY2015)

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 8% per year in the five years since 2015. In order to reduce the CO_2 emissions due to the transportation of our parts, we have been implementing a modal shift in our logistics, while gaining the acceptance of our customers in Japan. Specifically, we 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). As a result, we were able to reduce our CO_2 emissions by 83.3%.

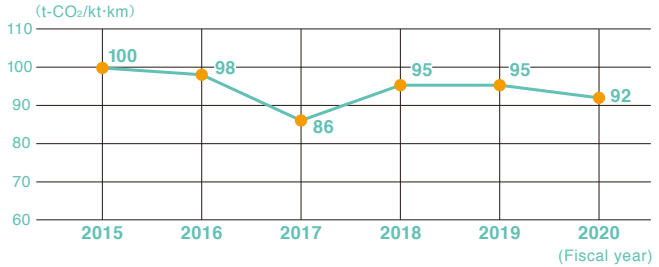
Additionally, since September 2019 we have introduced double trailer trucks to transport JATCO production parts from the JATCO Fuji area to the Kyoto Yagi plant. Transporting at a high load factor led to a reduction in CO_2 emissions.

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.

Land transportation by railway

Double trailer truck

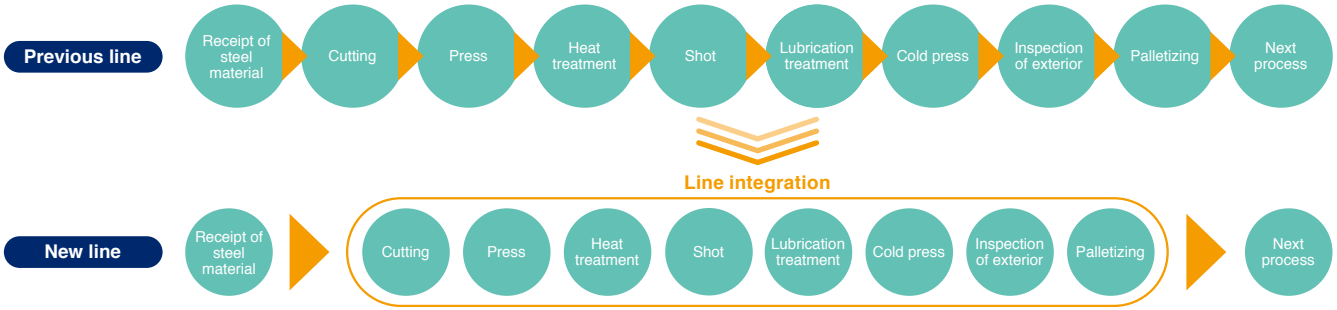
■ Trend in unit CO_2 emissions generated (Index)



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

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 that uses residual heat after hot forging (auto-thermal annealing). 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.

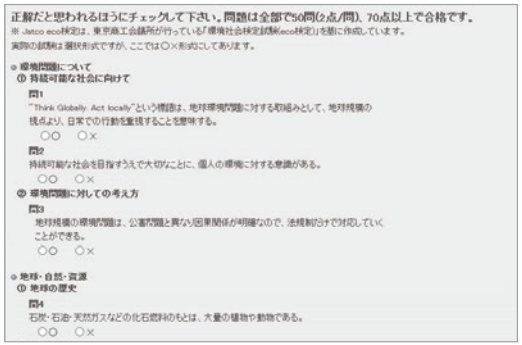


Environmental Activities Efforts

Office Efforts

Educating employees through the use of environmental content

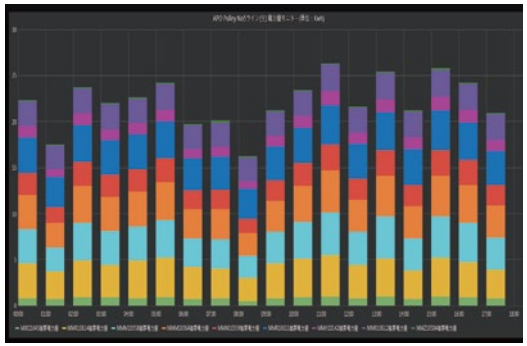
With the aim of raising environmental awareness among employees, we set up a dedicated environmental topics webpage on our employee portal site. In addition to encouraging employees to participate in conservation events both within and without the company, we post content, such as JATCO's unique eco 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. All of our employees can easily check the amount of electricity used in each area, thereby leading to spontaneous energy saving.


正解だと思われるほうにチェックして下さい。問題は全部で50問(2点/問)、70点以上で合格です。
※ Jatco eco検定は、東京商工会議所が行っている「環境社会検定試験(eco検定)」を題に作成しています。
実際の試験は選択形式ですが、ここでは○×形式にしてあります。

◎ 環境問題について
① 持続可能な社会に向けて
問1
"Think Globally, Act locally"という標語は、地球環境問題に対する取組みとして、地球規模の
視点より、日常での行動を重視することを意味する。
○○　○×
問2
持続可能な社会を目指すうえで大切なことに、個人の環境に対する意識がある。
○○　○×
② 環境問題に対しての考え方
問3
地球規模の環境問題は、公害問題と異なり因果関係が明確なので、法規制だけで対応していく
ことができる。
○○　○×

◎ 地球・自然・資源
① 地球の歴史
問4
石炭・石油・天然ガスなどの化石燃料のもとは、大量の植物や動物である。
○○　○×

eco検定



電力の見える化システム

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 in Fuji City. 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 FY2020 we reduced CO_2 emissions by approximately 5 metric tons.

Solar power system

Roof greening initiative

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

Reducing CO_2 emissions by improving our lighting equipment is 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.

Cool white lamps

Daylight lamps

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

Through the use of regenerative energy from motors 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 increase awareness of energy conservation via visualization of power consumption for the main and sub-lines respectively.

Contributing to environmental conservation

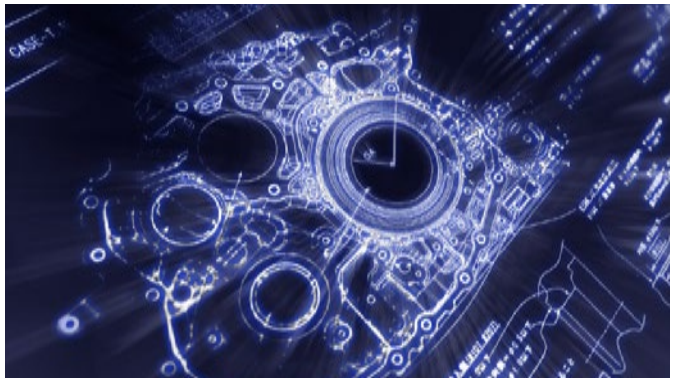
JATCO promotes environmental activities in collaboration with the government, local communities, and NPOs. For example, since 1994, we have participated in the Mt. Fuji Foothills Beech Forest Creation Project sponsored by Fuji City and contributed to the formation of a beneficial natural environment (In 2020, due to measures to prevent the spread of coronavirus, community planting events were canceled). We will continue to contribute to environmental conservation as a good corporate citizen.

Development Efforts 開発の取り組み

Utilizing our core technologies to accelerate product development

JATCO's efforts to reduce CO_2 emissions through environmentally friendly transmissions have included introducing new many-step transmissions and CVTs to the market. As part of our continuing efforts toward carbon neutrality, we work to further improve fuel efficiency by taking steps, such as conducting thorough assessments to minimize internal friction and enhance controllability, to maximize the transmission efficiency of our transmissions.

In addition, as the shift to electric vehicles continues to accelerate, we will utilize our core technologies, including gear technology cultivated over our 50-year history, to hasten the development of products for electric, hybrid, and other next-generation vehicles and contribute to lower CO_2 emissions.



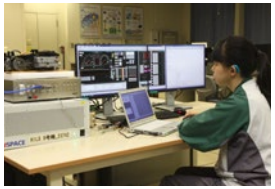
Development bases

JATCO's development bases are centered in Japan and have expanded across the world to the U.S., Korea, France, and China.
For our transmissions to be able to transport people comfortably in everyday life, even those who live in hilly cities or high-altitude countries, we possess global technological development capacities which enable us to successfully create products close to markets around the world that meet real-world needs and usages.

Using virtual evaluations to reduce environmental load

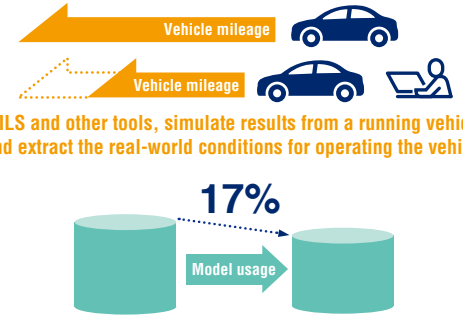
By using computer simulation to predict the phenomena that occur in each functional component when a car is actually driven, we are replacing what had previously been our real-world vehicle tests with virtual experiments (HILS*, etc.).
In addition, by checking the new control system virtually, it has become possible to develop it without having to rework it when it is installed in an actual vehicle.
By proceeding with these virtual evaluations, not only is the development period shortened, but also the number of experiments using actual vehicles are reduced, leading to positive environmental effects such as reduced prototyping and reduced use of fuel for experiments.
In addition, by applying the systems engineering methodology to our existing and next-generation products and expanding it globally, it is expected that our rework rate will be improved by 50%, which will not only shorten the development period but also reduce the amount of gasoline used by reducing the number of physical experiments.

*Hardware In The Loop Simulation



Virtual evaluation using HILS

■**Example results of virtual evaluations**



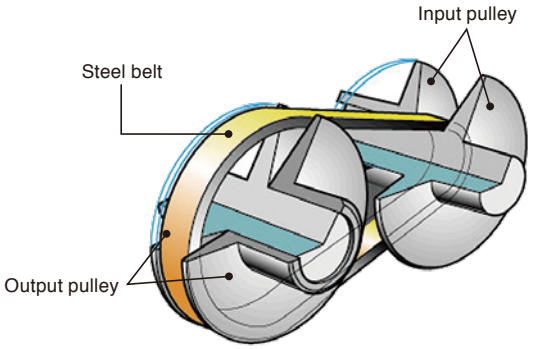
Vehicle running time reduced, fuel consumption reduced by 17%

Product & Technology Efforts

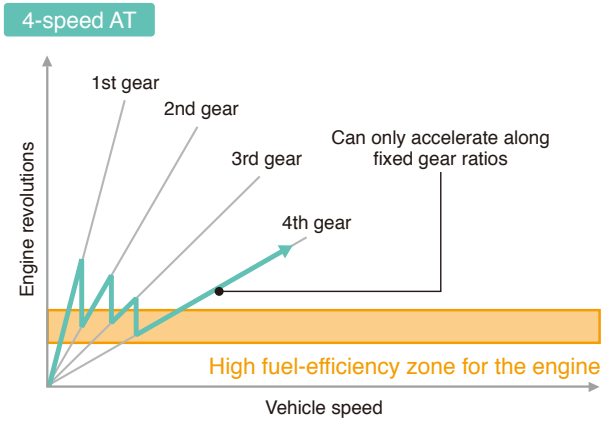
Developing CVTs with excellent environmental performance as a top brand

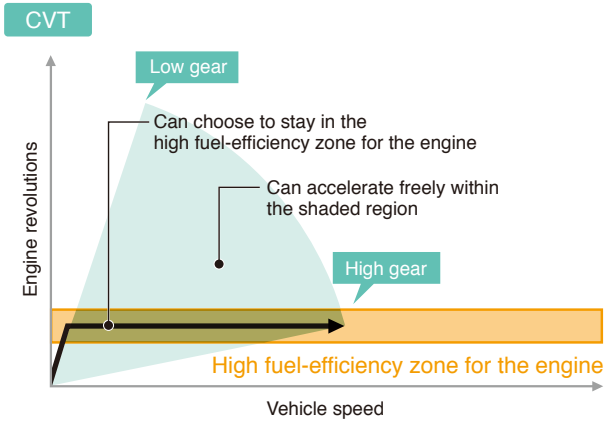
In order to limit the impact that CO_2 emissions have on the Earth's environment, fuel efficiency improvements for automobiles have become a top priority in recent years. JATCO turned its focus to CVTs with a high level of environmental performance at an early stage. In 1997, JATCO became the first company 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 September 2020, the global total of CVT units ever produced by JATCO exceeded nearly 50 million. As a world leader in the top CVT market, 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, preventing the car from sliding backwards.

Many-Step AT Development

In 2020, JATCO developed a 9-speed automatic transmission for RWD vehicles. By increasing the number of steps, it becomes possible to keep engine speeds within fuel-efficient ranges and to drive cars with less fuel consumption because the optimal gear position can be selected according to driving conditions.

Product & Technology Efforts

Existing products

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 through such methods as 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.

JR913E

JR913E – Provides both fuel efficiency and driving performance

The JR913E automatic transmission, built with a hydraulic system that selects the ideal gear ratios and enables responsive shifting, was developed for highly fuel efficient and highly responsive RWD vehicles. To reduce weight, we used magnesium for the transmission case, aluminum for the bolts around the transmission, and resin for the oil pan. Furthermore, to improve fuel efficiency, we minimized the mechanical losses from oil pumps, gears, clutches, and other parts, and optimally supply lubrication to each component according to the driving conditions, thereby achieving better fuel efficiency.

Products currently in development

e-Axle

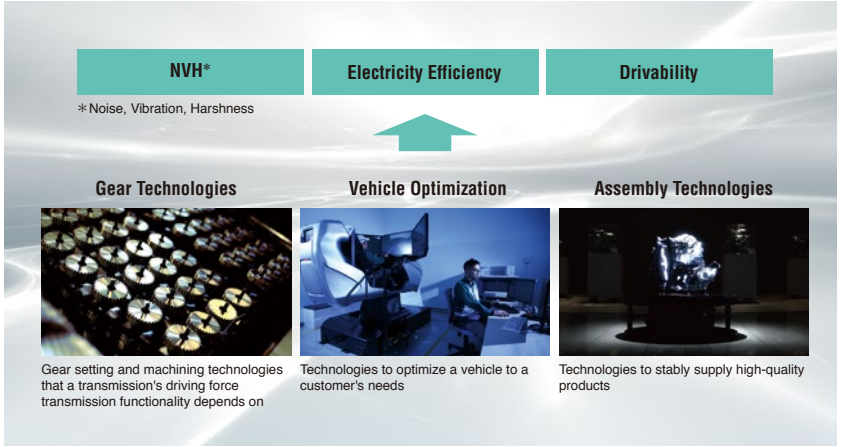
JATCO's e-Axle is a unit that integrates the motor and gears to realize a highly compact, lightweight, and highly efficient design utilizing the unit performance crafting and gear design/machining technology that only a specialized transmission manufacturer can provide. It is characterized by high quality and reliability cultivated through our experience in the mass production of transmissions.

Mild-hybrid vehicle transmission

Our mild-hybrid vehicle transmission combines an existing CVT with 48V electric components to allow for more compact batteries, motors, and other parts compared to transmissions for strong hybrid vehicles. It also utilizes the same one-motor, two-clutch system featured in the Jatco CVT8 HYBRID, which allows the engine to be stopped while driving and completely disconnected for EV driving, increasing fuel efficiency.

JATCO's technology lives on in future mobility

JATCO provides its worldwide customers with products featuring all the outstanding core technologies we have cultivated as a specialist manufacturer of automatic transmissions, such as gear technologies, vehicle optimization technologies, and assembly technologies. Utilizing all our technological capabilities, backed by a market track record of over 120 million units in accumulated sales, we remain as committed as ever to meeting the diverse needs of our customers. As part of this, we are strongly focused on the future of mobility, including the electrification of vehicles.



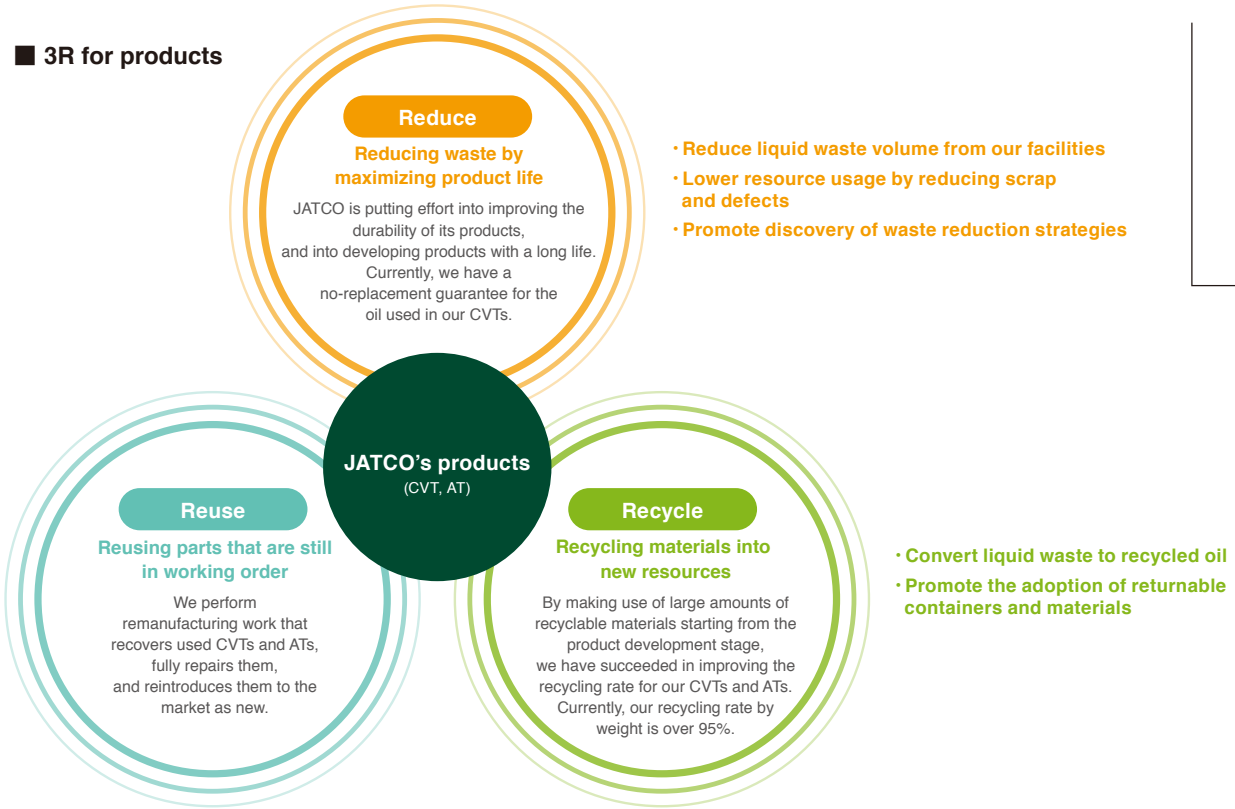
3R Initiatives

Taking action to realize a recycling society

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.

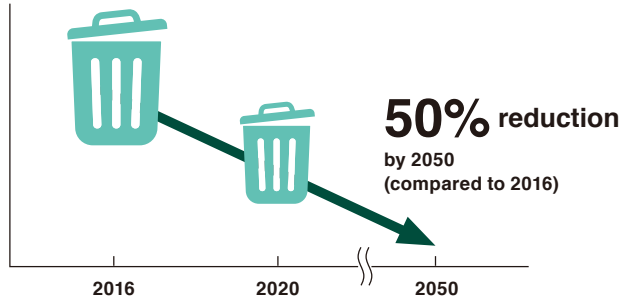
As for our waste reduction efforts, we have set reduction targets and are working towards their achievement.
JATCO aims to reduce the amount of waste products per unit it produces by 50% by 2050 (compared to 2016).

■ 3R for products



- Reduce liquid waste volume from our facilities
- Lower resource usage by reducing scrap and defects
- Promote discovery of waste reduction strategies

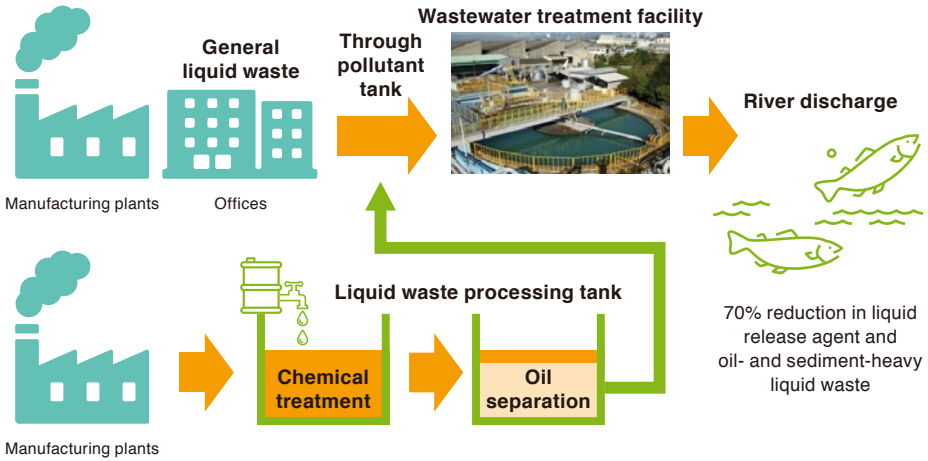
- Convert liquid waste to recycled oil
- Promote the adoption of returnable containers and materials



3R Initiatives

Reduce liquid waste from manufacturing plants

Wastewater discharged from our manufacturing plants and offices is sent to in-house water treatment facilities, treated into safe water, and then discharged into rivers. However, liquid release agent or liquid waste with large amounts of oil or sediment, cannot be treated to safe levels at water treatment facilities, so they have been processed externally as waste.
Therefore, to make it possible to treat the liquid waste, we repeatedly reviewed the chemicals used and our purification methods, and reduced the amount of liquid release agent and liquid waste with large amounts of oil or sediment by 70%.



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

Improvements in the transportation and packing of materials

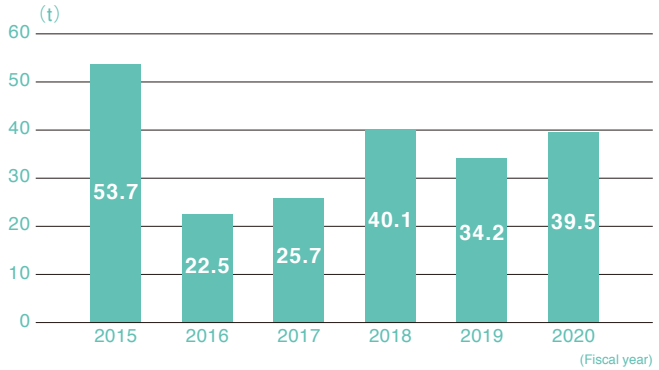
As part of our efforts to improve our loading ratio, which contributes to a reduction in the number of trucks used, JATCO is taking steps to improve the packing density of purchased parts for delivery. Plastic containers and plastic cushioning material used to protect products during transportation and 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

Eliminating wasted space not only improved transportation efficiency, but also made handling goods safer

Employees are also encouraged to keep containers clean

■ Trend in amount of plastic containers recycled or reused



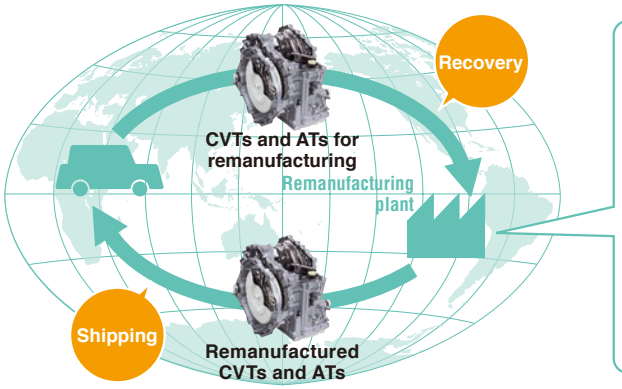
3R Initiatives

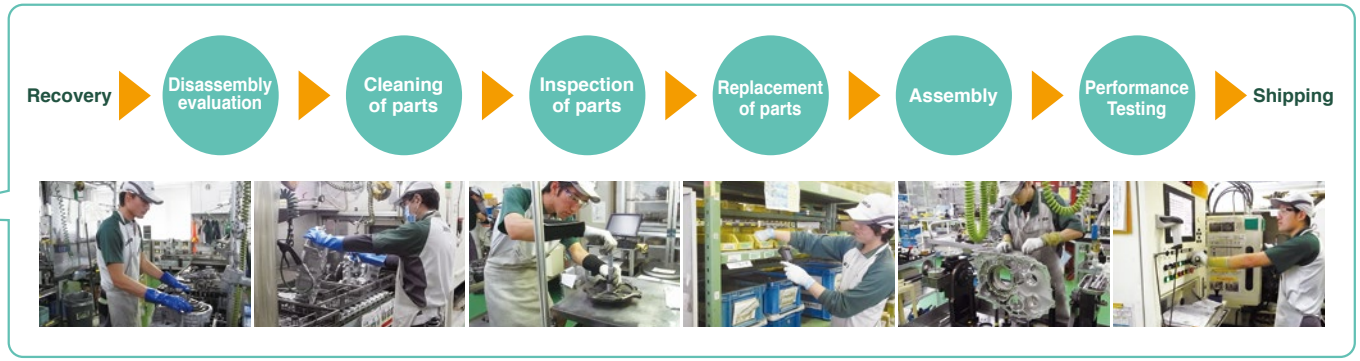
Remanufacturing system

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 disassembled, 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 reuse 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 Japan Environmental Management Association for Industry 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**





Waste Reduction & Substance Management

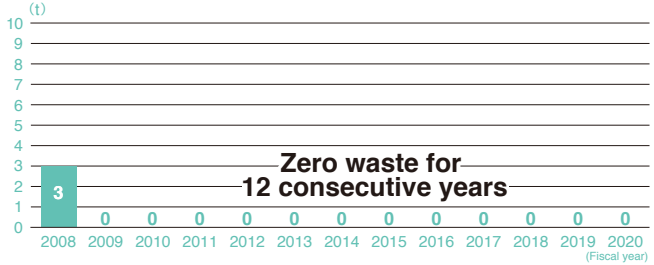
〈Waste reduction activities〉

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, in 2009 we were able to reduce 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 FY2020

Initiatives to reduce waste through company-wide participation **65.5% reduction** (Compared to FY2006)

JATCO employees are always asking, “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 at each workplace.

〈Management of chemical substances〉

VOC emissions for FY2020

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 FY2020.

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.

FY2020 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 FY2020.

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 (FY2020)

Classification	Chemical substance	Amount handled	Amount discharged			Waste transported
			Air	Water	Soil	
Specific Class I Designated Chemical Substances	Dioxin (mg-TEQ/yr)	0	42	0	0	0
	Benzene	717	0.9	0	0	0
Class I Designated Chemical Substances	Ethylbenzene	2,261	45	0	0	0
	Xylene	67,013	67.8	0	0	0
	1, 2, 4-Trimethylbenzene	67,385	0.2	0	0	0
	1, 3, 5-Trimethylbenzene	1,395	7.1	0	0	0
	N-hexane	1,536	4.8	0	0	0
	Toluene	32,463	72	0	0	0

Unit: kg (mg-TEQ/yr for dioxins)

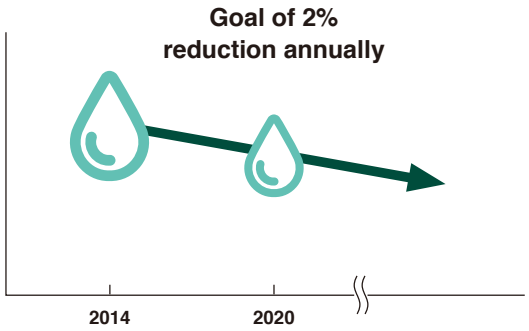
*1 Three major hazardous air pollutants: Dichloromethane, trichloroethylene, and tetrachloroethylene

*2 PRTR: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Water Resource Management 水資源の管理

Annual water consumption reduction target of 2%

JATCO tracks the amount of water used for production at our plants and is working to reduce it. In accordance with the “Nissan Green Program” formulated by our parent company, Nissan Motor Co., Ltd., we have been working on a comprehensive reduction of our water consumption since fiscal year 2014 as a countermeasure against global water depletion. With the goal of reducing the amount by 2% every year, we achieved a reduction of 32.1% in fiscal year 2020 compared to fiscal year 2014.



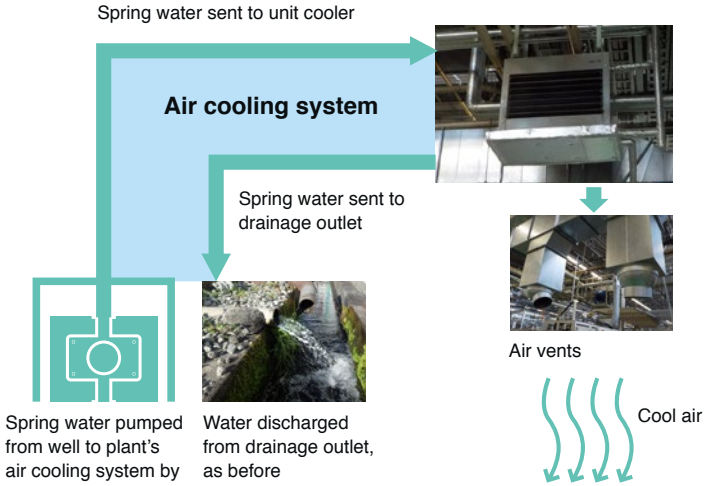
Maintaining high standards of purification

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, we have installed water-saving valves on the water faucets at each of our domestic offices to reduce our water usage.

Water treatment facilities

Mt. Fuji spring water cooling

There is a natural spring within the grounds of Fuji Area 1 Plant at the foot of Mt. Fuji. This water used to be discharged through a drainage outlet, but since the temperature of the spring water stays at 15–17 degrees Celsius all year round, we use it as a natural cooler via the plant’s cooling air system.



Water Resource Management

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

Safe and reliable 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

Aiming for 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 local elementary, middle, and high school groups, as part of our open factory initiative. During our factory tours, we introduce our 3R (Reduce, Reuse, Recycle) stance, such as the fine-grained separation of production waste and use of any recyclable waste in new products. Furthermore, 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 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

Note: Due to the impact of the COVID-19 pandemic, activities were suspended in FY2020.
Photographs shown are from earlier years.

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 promote 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. Employees wearing our company's green vests 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

Beech Forest Creation at the Foot of Mt. Fuji Project

Note: Due to the impact of the COVID-19 pandemic, activities were suspended in FY2020.
Photographs shown are from earlier years.

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	FY2019	FY2020
Electricity	213,490,755 kW·h	169,617,431 kW·h
Natural gas	2,010,198.67 m^3	796,922 m^3
Propane gas	241 t	150 t
Water	372,382 m^3	307,989 m^3

JATCO (Guangzhou) Automatic Transmission Ltd.

Established in 2007, 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. Additionally, in order to reduce its environmental impact, JATCO (Guangzhou) Automatic Transmission Ltd. started energy saving activities in 2014, aiming to reduce its energy consumption by 3% when compared to its previous fiscal year.

■ JATCO Guangzhou's resource consumption

Energy	FY2019	FY2020
Electricity	105,640,590 kW·h	109,968,489 kW·h
Natural gas	–	–
Propane gas	–	–
Water	156,462 m^3	161,703 m^3

JATCO (Suzhou) Automatic Transmission Ltd.

JATCO (Suzhou) Automatic Transmission Ltd. began production in November 2019 and is establishing an environmental management system to acquire ISO 14001 certification. Ongoing initiatives in this effort include the establishment of an environmental committee and joint environmental activities with local companies to contribute to the community. To reduce hazardous waste which can impact the environment, it is working with the environmental ministry to introduce equipment for separating shavings and cutting oil and for reducing VOCs in the exhaust from our heat treatment vacuum carburizing furnaces. It plans to put that equipment into service in FY2021 with the goal of becoming an even more environmentally friendly company.

■ JATCO Suzhou's resource consumption

Energy	FY2019	FY2020
Electricity	–	29,598,000 kW•h
Natural gas	–	36,000 m^3
Propane gas	–	–
Water	–	43,438 m^3

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	FY2019	FY2020
Electricity	27,119,912 kW·h	14,555,600 kW·h
Natural gas	-	-
Propane gas	42.77 t	17.46 t
Water	58,891 m^3	34,025 m^3

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

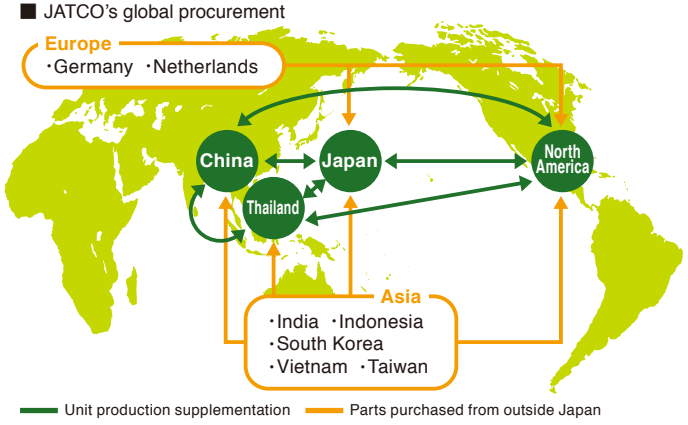
Contributions to the development of society and the maintenance and strengthening of cooperative relationships

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 our “Green Procurement Guidelines,” 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 five 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. Responding to environmental regulations and customer requirements

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.

4. Thorough management and reduction of environmentally hazardous substances

Environmentally hazardous substances used in our products are controlled using JES M9001*1. 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 and measures are put in place to manage and reduce environmentally hazardous substances in order to remain ahead of global environmental laws and regulations.

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

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.

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. 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.”

Overview of Business Partners’ Awards

Awards presented to business partners in FY2020: 30 (37 companies)

Global Award : **12 (19 companies)**
Regional Award : **18 (18 companies)**

Award Category	Global Award	Regional Award
QCDS Best Performance Award	1 (1 company)	
Technical Innovation Award	3 (3 companies)	
Quality Award	–	14 (14 companies)
Special Award	8 (15 companies)	4 (4 companies)

There are four categories of awards for business partners: QCDS Best Performance Awards, a new award established last year; Technical Innovation Awards; Quality Awards; and Special Awards.

The Business Partners’ Awards Ceremony (The ceremony for FY2020 was held remotely)

*1 Jatco Engineering Standard (JES): Internal technical standards on restrictions for the use of specified substances *2 GADSL: Global Automotive Declarable Substance List
*3 Act on the Regulation of Manufacture and Evaluation of Chemical Substances *4 IMDS: International Material Data System

For Our Customers

JATCO's quality policy

For the realization of superior quality that continues to be trusted by customers

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 closely observing global laws. We believe that this approach can contribute to the creation of a comfortable and safe automotive society.

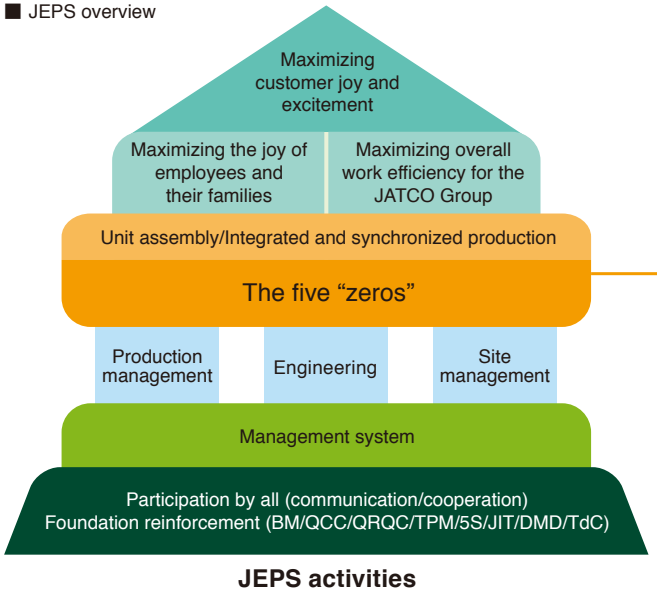
■ JATCO's quality policy

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, time, and cost. 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.

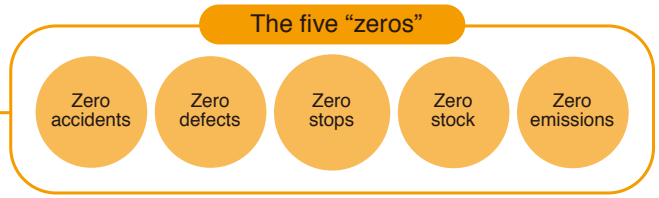
■ JEPS overview



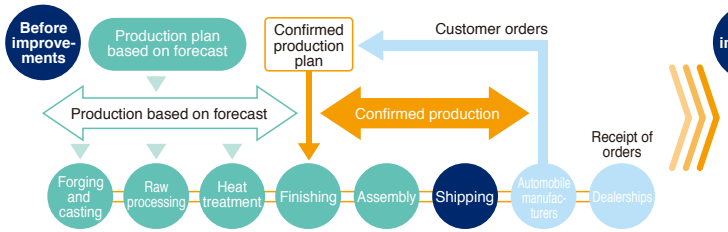
Promoting JEPS innovation

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"



■ JATCO's monozukuri



The two "unlimiteds"

1. Unlimited synchronization with our customers

Q : Quality synchronization – producing the quality demanded by our customers

T : Time synchronization – Reducing production lead time to get as close to the customer as possible

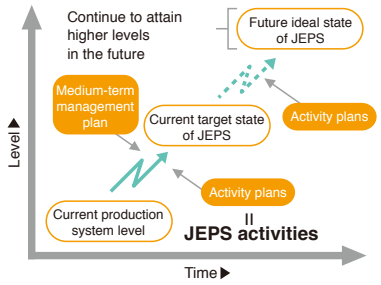
C : Cost synchronization – Increasing added value that customers are willing to pay for.

JATCO aims to pursue these three synchronizations to move infinitely closer to our customers.

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.

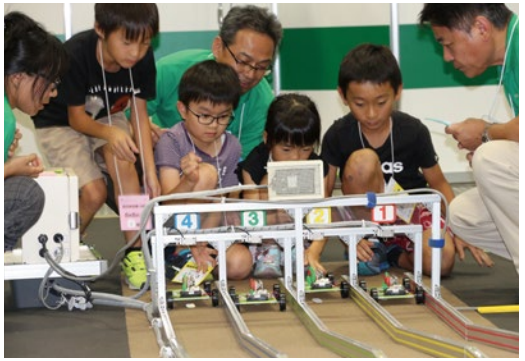
Our three key categories

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 participated in it since its inaugural event in 2008. While the FY2020 event was cancelled due to the COVID-19 pandemic, we have reviewed our methods and content and developed a program that can be provided remotely so these activities can continue regardless of changes in the environment.



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

Hands-on learning for middle and high school students

For local middle and high school students we host hands-on learning courses in a wide variety of work environments, from development to production. We provide participants with experience to help children consider what type of work they want to do and what career paths 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, since FY2018 they have also visited our production lines at JATCO Thailand, and we have provided opportunities for them to broaden their horizons globally.

Hands-on learning for middle and high school students

Note: Due to the impact of the COVID-19 pandemic, activities were suspended in FY2020.
Photographs shown are from earlier years.

With Society

Contribution activities for the environment

Hana-saku JATCO-MAE Station Project

The nearest train station to JATCO Fuji Area 1 is the JATCO-MAE 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 at the station began when a JATCO employee expressed their wish to “turn the local train station named after JATCO into a popular flower-viewing spot” and ran continuously from FY2015. While this initiative was scaled back in FY2020 due to the COVID-19 pandemic, we contributed to a brighter, more cheerful town by running a wrapped train decorated with moss phlox blossoms. The flowers that we planted are being maintained daily together with the local community.

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 matches for athletes with intellectual disabilities

Soccer players with intellectual disabilities have only limited opportunities to demonstrate the results of their training. Accordingly, JATCO has been organizing the “JATCO × Yokohama F. Marinos Futuro Cup” together with the Yokohama F. Marinos soccer club since FY2015. Unfortunately, the FY2020 tournament was cancelled, but we will continue to support many athletes with intellectual disabilities, along with their teams, with the goal of them participating in this tournament and having an opportunity to once again know the joy of soccer.

JATCO × Yokohama F. Marinos Futuro Cup

Powerchair soccer tournament

Powerchair soccer is soccer for players with severe disabilities who cannot walk on their own due to muscular dystrophy or cerebral palsy, and the players ride in power wheelchairs during matches. Since first joining the Yokohama F. Marinos-sponsored tournament in FY2019, JATCO has supported these athletes utilizing our technologies. Starting with the JATCO pit, where we remove and install the foot guards powerchair soccer players use instead of their feet, we are taking steps to realize better powerchair performance. In the future, we will continue to provide support that leverages JATCO’s technological prowess.

Powerchair soccer tournament

Note: Due to the impact of the COVID-19 pandemic, activities were suspended in FY2020.
Photographs shown are from earlier years.

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 to enhance both personal and professional quality of life (QoL) 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 the 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 sense of global standards 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 each country's supervisors are able to act as employee trainers to properly conduct each training course, we dispatch Nissan Motor certified instructors from Japan. Together with these local trainers who have received instruction, we are aiming to bring the employee development of all our JATCO employees around the world to the next level.

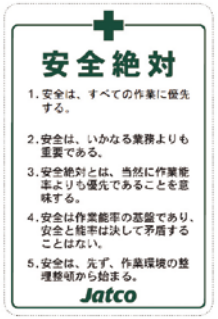
Providing guidance to employees at our overseas bases

With Our Employees: The Work Environment

“Absolute Safety” is our key phrase

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

JATCO is advancing initiatives to help employees maintain good physical and mental health.

Certification as a “Certified Health & Productivity Management Organization 2021 (White 500)”

Every year since 2019, JATCO has been named one of the “Certified Health & Productivity Management Organization (White 500),” a designation from the Ministry of Economy, Trade and Industry that recognizes large corporations, small- and medium-sized enterprises, and other companies that practice excellent health management.
In order to realize this “health management,” JATCO has been making efforts towards work-style reform, creating a vibrant and comfortable workplace, and activities for secondhand smoke prevention and smoking rate reduction. JATCO will continue to work on “health management” as one of its important management issues in order to promote the health of each and every employee and to become a company that is a healthy, vibrant, and comfortable place to work in.

2020 健康経営優良法人 Health and productivity ホワイト500

We continue to receive Health & Productivity Management Organization (White 500) certification. Every year since 2019, we have been certified as one of the “White 500,” a certification that is only awarded to the top 500 corporations.

Initiatives for mental health

Mental health measures are an important part of activities promoting employee health. Aiming for each and every employee to be able to vigorously carry out their activities, a countermeasures team was formed in the Human Resources Department to promote mental health activities, and it uses stress checks that encourage work environment improvement and provide opportunities to confirm individuals’ stress levels. It also carries out educational activities such as providing employee consultations with industrial physicians, occupational health nurses, and counselors; support for returning to work; and increasing public awareness. We also utilize outside EAP to provide an environment where employees can work with peace of mind through counselling, not just for individuals, but also their families.

Employees helping each other with mental health

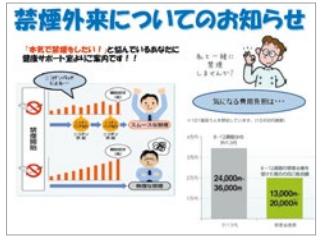
Initiatives to improve lifestyle habits

As part of our measures to combat lifestyle-related diseases and metabolic syndrome, we provide health guidance based on physical examinations, hold events to raise awareness about diet and exercise, and conduct health evaluations through workplace visits by occupational health nurses. Through continuing these activities we provide a variety of support so that occupational health staff can achieve their goals.

Lifestyle-related disease prevention instruction

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. In order to eliminate passive smoking risk within the company, an initiative to eliminate smoking entirely at all locations was begun on April 1, 2017. This has significantly lowered employee smoking rates and has greatly reduced the risk from secondhand smoke. 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.

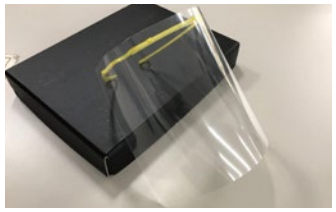


Response to COVID-19

Supporting the response to COVID-19

Contributions to treatment sites

To support the response to the novel coronavirus, we manufactured medical gowns, using the polyethylene sheets we use for packaging materials, and medical face shields, for which there was an increasing shortage of at treatment sites, and provided them to the Fuji Medical Association in Fuji City, Shizuoka Prefecture, where our headquarters is located.



Face shield

3D printed frames

Medical gown

We will continue advancing initiatives that pay the utmost consideration to health and safety for all.

In-house infection prevention efforts

We established an infection prevention team led by our human resources development department and are advancing efforts in cooperation with industrial physicians and occupational health staff. In addition to following thorough prevention measures such as masking, hand washing, gargling, and practicing cough etiquette, we are also observing infectious disease control measures such as minimizing travel, avoiding the three Cs (closed spaces, crowded places, and close-contact settings) in the workplace, and respecting physical distance. We are also encouraging our personnel to adopt staggered working hours and to work remotely, and we have eliminated hour limits on remote work wherever appropriate.

Responding to the new normal era

Reforming work styles through digital transformation (DX)

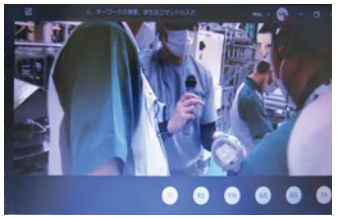
Our Digital Innovation Promotion Office was established on April 1, 2020 and is leading the effort to promote the “JATCO New Normal,” which outlines new ways of working within the new normal. Adopting the synthesis of the real world and virtual reality as its slogan, it is implementing various activities to meet the needs of the coming era.

For example, when travel was severely travel restricted due to COVID-19, we introduced an approach called “JATCO New Normal” to monitor manufacturing sites. In the past, confirmation meetings were held in person in accordance with the Sangen Principle: Gemba, Genbutsu, and Genjitsu.

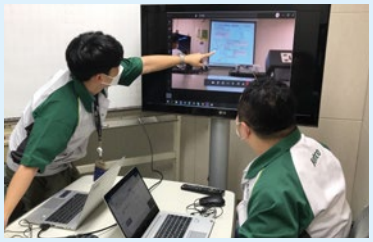
Under that principle, participants would visit the worksite (gemba) in person, hold the actual item (genbutsu) in their hands, and see the reality (genjitsu) with their own eyes. However, we have been exploring methods for participants in these meetings to join remotely, which has led to the successful development of a confirmation meeting format that combines the real and the virtual. This enables participants to gather sufficient information regardless of location, space, or number of participants, even when they are separated by great distances. By completing work on a new system to conduct “Three Actuals” Confirmation Meetings, we have created new value.

On-site livestreaming with smartphone

Livestream



Feedback



Livestreams from bases around the world are checked and feedback is provided to those on-site.

In addition to Sangen Principle meetings, JATCO will apply the “JATCO New Normal” to various other operations in the future.

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

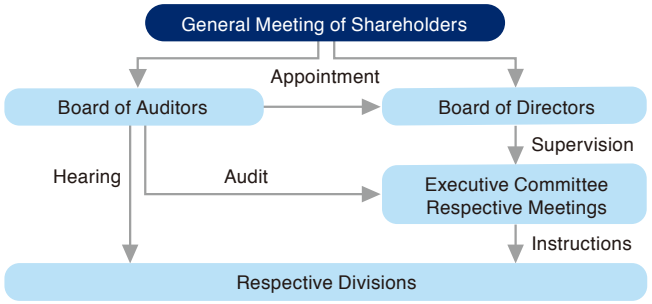
コーポレート・ガバナンス

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 strict 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

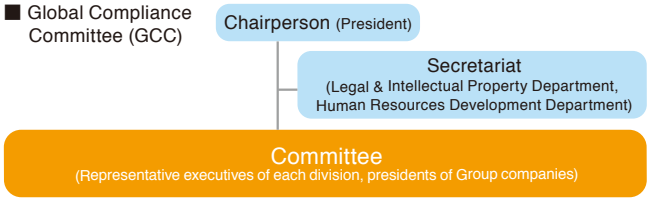
Basic stance on compliance

The JATCO Group considers strict compliance with the laws of each country and region to be a minimum requirement for being trusted by society. In addition to strict 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. Fully 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

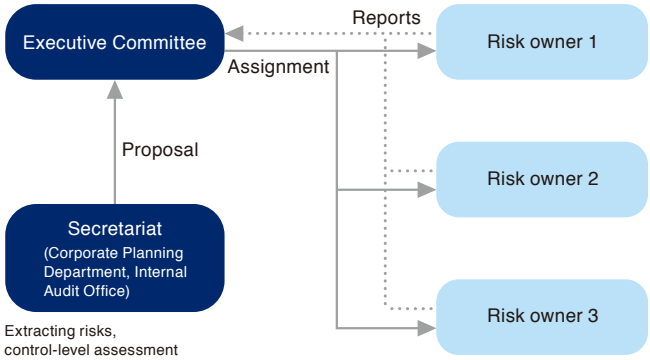
Risk management initiatives

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

Item selection, progress review



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 simulation 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

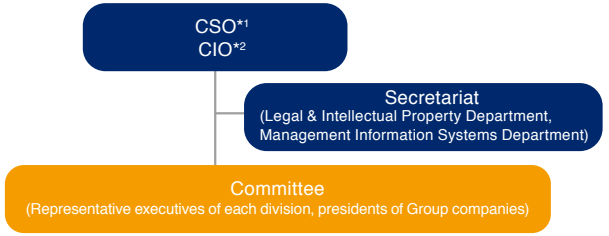
With regard to Group companies, including our overseas production bases, risk management is performed by implementing countermeasures for the expected risks to each company. The experience and know-how that JATCO has built up through its BCM activities are disseminated to the Group companies, and for 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 JATCO 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, then 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.

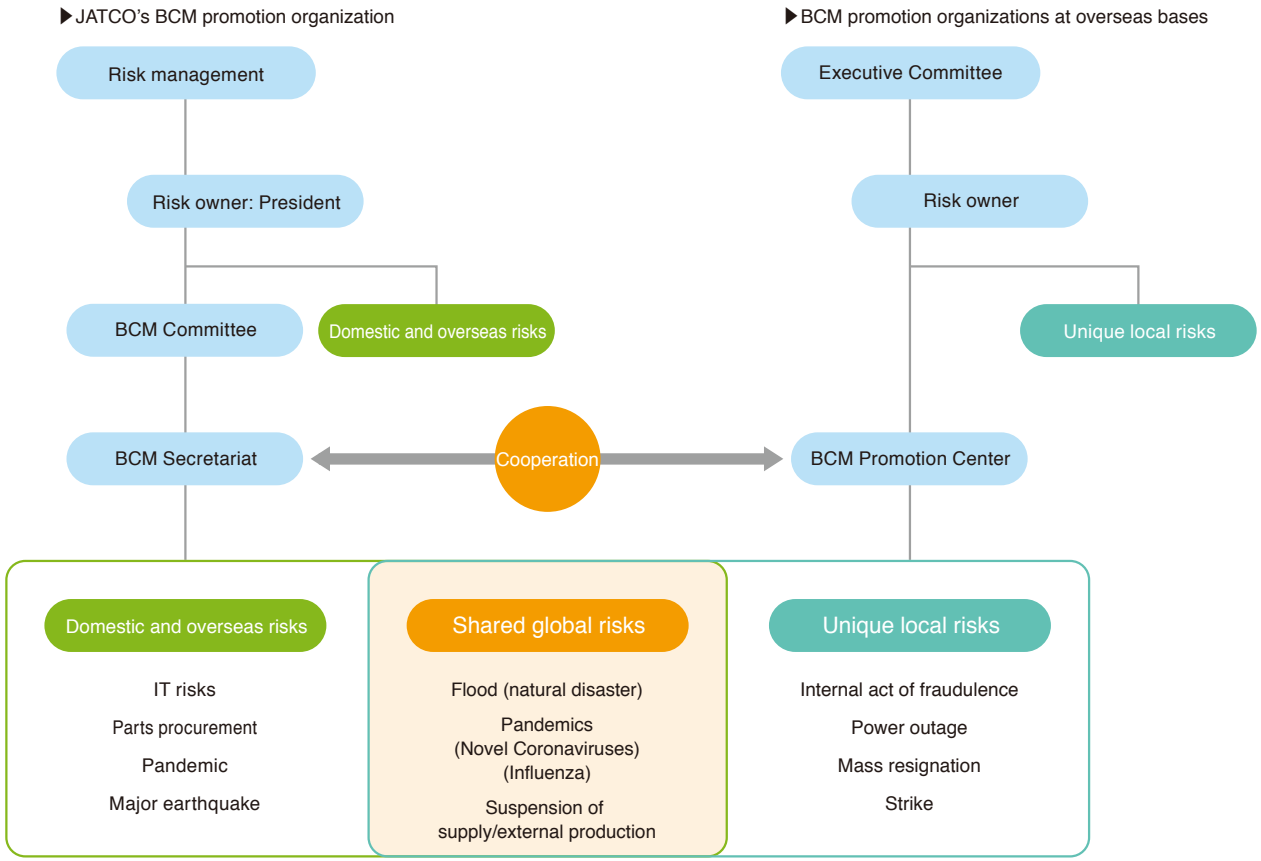
Risk Management: Emergency Response

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 novel strains of coronavirus, 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 simulation training

■ BCM promotion organization

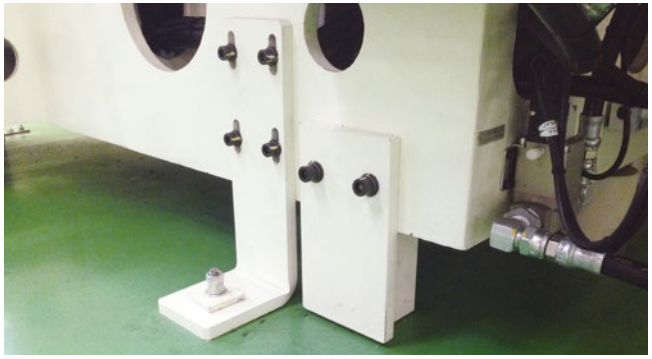


Risk Management: Emergency Response

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.



Earthquake countermeasures at overseas bases

JATCO operates globally and has implemented BCM activities at our overseas bases similar to those at our domestic 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, blankets, sleeping bags, and portable toilets 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 be included on municipal emergency shelter lists and 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	0.003	0.0002
	NOₓ	ppm	100	92	31
	SOₓ	Nm³/h	0.002	0	0
Metal-heating furnace (16 units)	Dust and soot	g/Nm³	0.05	0.035	0.006
	NOₓ	ppm	150	33	9
	SOₓ	Nm³/h	0.018	0	0
Steel-heating furnace (4 units)	Dust and soot	g/Nm³	0.05	0.004	0.0011
	NOₓ	ppm	150	6	2
	SOₓ	Nm³/h	0.026	0	0
Aluminum-melting furnace (11 units)	Dust and soot	g/Nm³	0.06	0.045	0.005
	NOₓ	ppm	150	44	9.32
	SOₓ	Nm³/h	0.019	0	0
	Dioxin	mg-TEQ/Nm³	5	0.78	0.14
Drying kiln (1 unit)	Dust and soot	g/Nm³	0.05	0.043	0.025
	NOₓ	ppm	56	28	22
	SOₓ	Nm³/h	0.0048	0	0
	Dioxin	mg-TEQ/Nm³	5	0.0000045	0.0000045
Drying combustion furnace (1 unit)	Dioxin	mg-TEQ/Nm³	5	0.000003	0.000003

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	7.1	7.1
Biochemical oxygen demand (BOD)	mg/L	20 (15)	4.4	3.45
Chemical oxygen demand (COD)	mg/L	20 (15)	6.5	4.5
Suspended solids (SS)	mg/L	20 (10)	2	2
n-hexane extracts (mineral oils)	mg/L	4	0	0
Copper	mg/L	0.1	0	0
Zinc	mg/L	1.0	0.08	0.06
Coliform count	units/mL	3,000	6	3
Trichloroethylene	mg/L	0.3	0	0
Dichloromethane	mg/L	0.02	0	0
Boron	mg/L	10	0	0
Fluorine	mg/L	15	0	0
Ammoniacal nitrogen Nitrate-nitrogen Nitrite-nitrogen	mg/L	100	0.9	0.5

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	74	47.5
	SOₓ	Nm³/h	0.045	0	0

*Aluminum melting furnace operations halted January 2019.

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	7.4
Biochemical oxygen demand (BOD)	mg/L	20 (15)	4.6	2.85
Chemical oxygen demand (COD)	mg/L	25 (20)	6.4	5.55
Suspended solids (SS)	mg/L	40 (30)	4	4
n-hexane extracts (mineral oils)	mg/L	5	0	0
Coliform count	units/mL	1,000	8	7
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	0	0.0

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	0.004	0.00075
	NOₓ	ppm	100	84	37
	SOₓ	Nm³/h	0.01	0	0
Metal-heating furnace (3 units)	Dust and soot	g/Nm³	0.05	0.01	0.003333
	NOₓ	ppm	150	77	45
	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	7.5	7.3
Biochemical oxygen demand (BOD)	mg/L	20 (15)	0.9	0.8
Chemical oxygen demand (COD)	mg/L	20 (15)	1.6	1.3
Suspended solids (SS)	mg/L	20 (15)	2	2
n-hexane extracts (mineral oils)	mg/L	5	0	0
Phenols	mg/L	5	0	0
Copper	mg/L	3	0.02	0.02
Zinc	mg/L	2	0.17	0.10
Soluble iron	mg/L	10	0.08	0.05
Soluble manganese	mg/L	10	0	0
Chromium	mg/L	2	0	0
Coliform count	units/mL	3,000	8	1.6
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	0.00

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	0.0000
	NO_x	ppm	100	46	20
	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	7.5	7.2
Biochemical oxygen demand (BOD)	mg/L	20 (15)	15.6	3.5
Chemical oxygen demand (COD)	mg/L	80 (60)	13.7	10.1
Suspended solids (SS)	mg/L	20 (10)	3.1	1.8
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	0.12	0.105
Soluble iron	mg/L	5	0.83	0.64
Soluble manganese	mg/L	5	0.04	0.035
Chromium	mg/L	1	0	0
Coliform count	units/mL	3,000	5	0.4
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	16.1	12.8

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	55	55
	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	67	44
	SO_x	Nm³/h	0.00	ND	ND
Continuous carburizing furnace	Dust and soot	g/Nm³	0.1	ND	ND
	NO_x	ppm	150	82	35
	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	7.4	7.4
Biochemical oxygen demand (BOD)	mg/L	20 (10)	1	1
Chemical oxygen demand (COD)	mg/L	30 (20)	2.8	2.7
Suspended solids (SS)	mg/L	30 (20)	0.8	0.8
n-hexane extracts (mineral oils)	mg/L	2.5	Undetected	Undetected
Phenols	mg/L	0.5	Undetected	Undetected
Copper	mg/L	1.5	Undetected	Undetected
Zinc	mg/L	2.5	0.01	0.01
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)	7.7	7.5
Nickel	mg/L	1	Undetected	Undetected
Phosphorus	mg/L	1 (0.5)	Undetected	Undetected
Boron	mg/L	10	0.1	0.1
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	1209.0000	249.2900
	NO_x	ppm	—	—	—
Aluminum-melting furnace	Dust and soot	g/Nm³	448.4500	1.8000	1.3700
	NO_x	ppm	375.0000	2.8900	1.8400
Metal-heating furnace	Dust and soot	g/Nm³	488.0200	520.3200	87.2900
	NO_x	ppm	—	—	—

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5 - 10	7.8	7.6
Biochemical oxygen demand (BOD)	mg/L	150	136	66.37
Chemical oxygen demand (COD)	mg/L	320	144.88	101.4
Suspended solids (SS)	mg/L	150	136	41.12
n-hexane extracts (mineral oils)	mg/L	15	14	14.1
Phenols	mg/L	NA	—	—
Copper	mg/L	4	0.2	0.2
Zinc	mg/L	10	0.3	0.2

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	18.1	12.3000
	Nonmethane hydrocarbons	mg/m³	120	75.9	6
Machining line	TSP	mg/m³	120	16.4	7.100
	Nonmethane hydrocarbons	mg/m³	—	—	—

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	6.0 - 9.0	8.1	7.2
Biochemical oxygen demand (BOD)	mg/L	300	135	47.5
Chemical oxygen demand (COD)	mg/L	500	472	167.5
Suspended solids (SS)	mg/L	400	146	78.5
n-hexane extracts (mineral oils)	mg/L	20	1.4	0.54

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	26.48	12.00
Vacuum carburizing furnace VF No. 2	TSP	mg/m³	400	26.4	3.40

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	5.5 - 9.0	8.37	7.6
Biochemical oxygen demand (BOD)	mg/L	500	90	39.43
Chemical oxygen demand (COD)	mg/L	750	181	93.8
Suspended solids (SS)	mg/L	200	65	27
n-hexane extracts (mineral oils)	mg/L	10	5.7	2.99

JATCO (Suzhou) 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	2	1.7
	Nonmethane hydrocarbons	mg/m³	50	157	71
Machining line	TSP	mg/m³	120	2.3	1.8
	Nonmethane hydrocarbons	mg/m³	–	–	–

Water quality

Item	Unit	Regulatory limit (including exceptions)	Measured values	
			Maximum	Average
Hydrogen ion concentration (pH)	—	6.0 - 9.0	8.8	8.0
Biochemical oxygen demand (BOD)	mg/L	300	110	71.4
Chemical oxygen demand (COD)	mg/L	500	47	12.3
Suspended solids (SS)	mg/L	400	48	17.11
n-hexane extracts (mineral oils)	mg/L	100	0.29	0.1

Jatco

The mission is passion.

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