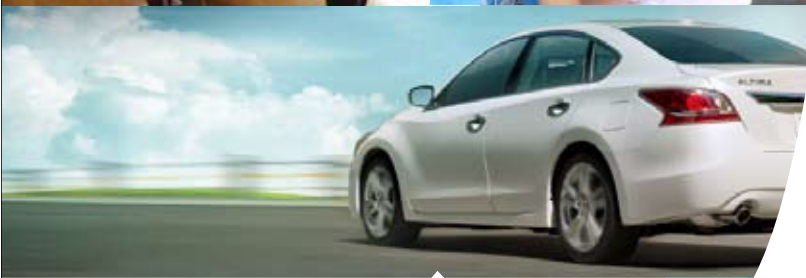


# Environmental & Social Report 2012





# Gazing at the bright future of man and society through the development and production of transmissions

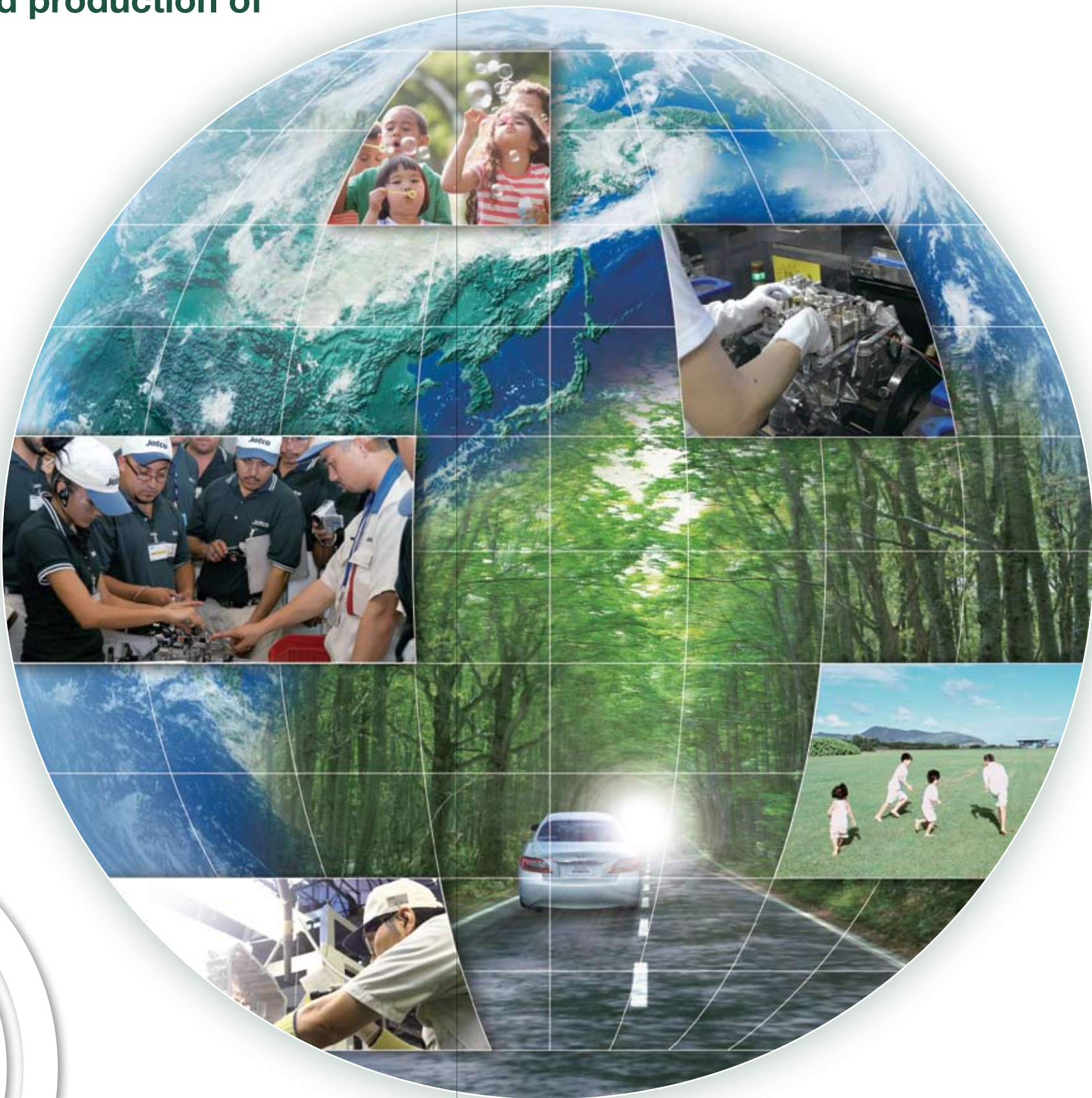
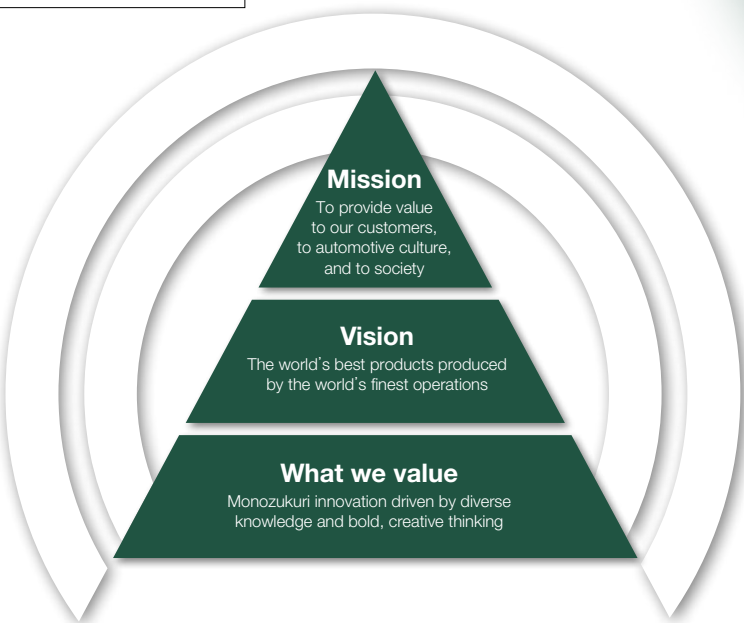
Connecting the engine to the drive wheel and delivering power smoothly to the road.

The transmission is the “unseen lead”, matching the driving conditions with the optimal gear change ratio, which plays a major role in the car’s driving and environmental performance.

We, at JATCO, will strive to develop and produce transmissions that are smoother and more environmentally friendly. Through this activity we not only support the global automotive industry, but also enhance people’s driving lives.

**We, at JATCO, will constantly challenge the ideal of “to provide value to our customers, to automotive culture, and to society” with the goal to “realize a society where automobiles and the environment coexist in harmony”.**

Corporate Philosophy



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## Editorial Policy

In this, the eighth edition of our Environmental Report, you will find messages from our new President and CEO as well as our new Executive Environmental Manager, in addition to messages from the officers in charge of our environmental and social efforts. Through this report, we hope to foster a better understanding of JATCO’s across-the-board improvement initiatives as well as its contributions to the environment and our society. This report is intended for all of our stakeholders, including customers, suppliers, employees and our local communities. We also hope that your opinions and input will provide an opportunity for us to identify new challenges that need to be addressed. We look forward to receiving your honest comments and feedback.

<Homepage> <http://www.jatco.co.jp/ENGLISH>



From a key component of future automobile  
To a determining factor behind  
environmental performance ——  
The possibilities for the automotive  
transmission are endless.



**As global environmental issues such a climate change and the depletion of natural resources garner stronger attention from society, expectations are growing as to how the auto industry and transmission industry will help build a richly - creative, sustainable mobility society.**  
**An interview was held with the newly appointed President and CEO of JATCO Takashi Hata on how the company will achieve its vision of realizing a society where automobiles and the environment coexist in harmony at a time when novel technologies and innovations are constantly evolving.**

President and CEO Takashi Hata

Before we begin, on behalf of the company I would like to extend our deepest sympathies to those affected by the Great East Japan Earthquake and the earthquake that struck Eastern Shizuoka Prefecture in March 2011. The impact from these earthquakes and the tsunami continue to be felt today in the lives of people, corporate activities and the local economy. We sincerely hope that Japan can quickly recover and rebuild as we move forward.

Environmental Initiatives

**Q How do you view the future relationship between the environment, automobiles and transmissions?**

Automobiles have a significant impact on the global environment. As a member of the automotive industry, JATCO has positioned measures to reduce CO<sub>2</sub> emissions as one of its most important tasks as a company.

In order to attain the target of improving the environmental performance of automobiles, the industry must not only modify the engine and body, but also establish advanced technologies that provide balance across the entire automobile. Automatic transmissions manufactured by JATCO fulfill an important role in creating this balance. The transmission remains a key automotive component, despite the diversification seen in automotive engines and motors, whose importance will only continue to grow going forward.

Automatic transmissions require driving performance, which enables the driver to start and accelerate according to their intention by efficiently transmitting power from the engine or motor to the drivetrain, and fuel economy, which helps reduce environmental loads by curbing fuel consumption. I believe how we can balance these conflicting performances at a high level is the key condition for customers in the selection process of our automatic transmission units.

As evidenced by the Jatco CVT7 that features an auxiliary gearbox that improves fuel economy through a higher gear ratio coverage and reduced size and weight as well as our transmission for hybrid vehicles that balances great fuel economy with driving performance by employing one motor and two clutches, JATCO continues to tackle the challenges posed by technological innovation aimed at optimizing collaborative control between the transmission and

engine or motor. In short, we develop products that meet the needs of our customers. As a leader in the industry, moving forward JATCO will continue to promote the development of next generation transmissions that balance environmental performance with driving performance to the greatest extent possible.

Social Initiatives

**Q What type of initiatives is JATCO, as a company with global operations, taking in order to provide greater value to society?**

Automobile market growth is beginning to shift from conventional developed country markets to emerging country markets. In order to respond to the needs of these new markets, JATCO is expanding its production bases globally. This is part of our aspiration to listen closely to feedback from local customers and provide high quality products that meet the demands of automakers from around the world in a timely manner. JATCO Mexico S.A. de C.V. and JATCO (Guangzhou) Automatic Transmission Ltd. have already commenced operations, and we are currently in the process of constructing our third overseas production base in Thailand.

Expanding operations into a new region, however, is not an easy endeavor. Initiatives need to take into account national affairs, governments and local community, initiatives toward this, as well as our impact on society, such as our societal responsibility for hiring large numbers of people. For example, we must always take part in initiatives to ensure JATCO has made a positive impact on the global environment as well as the local community. To that end, we promote initiatives aimed at environmental conservation, such as green purchasing as well as energy-saving and resource-saving activities. We also recognize that it is our responsibility to society to prevent potential harm, such as environmental accidents. As a social contribution activity, I also believe that it is essential to continue with and constantly enhance grassroots activities in the local community using a volunteer effort in collaboration with the local community and government.

Monozukuri

Q Can you tell us about the Monozukuri mindset JATCO is aspiring to achieve globally?

The fundamental aim of a company is growth. However, simply making money is not good enough. A company must fulfill its responsibility to society and contribute to society's growth. Only with this commitment will a company achieve real and continual growth, I believe. Today, the JATCO Group employs around 10,000 people worldwide and this number will grow further as we continue to expand our production bases outside of Japan. Each and every one of our employees retains the ability to produce something from their differing thought processes and experiences. The diversity of our employees is a driving force behind JATCO's ability to maintain sustainable growth, and by having employees learn and enhance their skill set together through our business activities, JATCO is creating a value uniquely its own.

The automobile is facing a major turning point. In order for JATCO to continue to manufacture products that meet the needs of society with an even greater sense of urgency and speed, each and every employee must ask themselves what value is it that they provide and boldly take on the challenges associated with reform. This represents our mission embodied by the phrase "providing value to our customers, to automotive culture and to society." This also represents the approach to Monozukuri that JATCO is aspiring to achieve, I believe.

Future Aspirations

Q How will JATCO evolve going forward?

As awareness toward the environment grows in society, we can expect that the market for environmentally friendly products will expand in the auto industry and the transmission industry. The diversification of novel technologies such as hybrid vehicles, electric vehicles and plug-in hybrids, will also continue to progress further. Amidst this constant evolution, JATCO stands committed to accurately grasping the needs of the market and tackling the challenges of Monozukuri to produce innovative products and technologies that exceed all expectations.

For example, the electric vehicle does not require the transmission to transmit torque as much as the conventional gasoline power automobile. However, this is not to say that an electric vehicle does not require a transmission. Today, the challenges faced by the electric vehicle include making their motors smaller and achieving greater battery efficiency. In the field of technological innovation that considers how smaller motors and higher capacity batteries can be used more efficiently to transmit power to the tires, or in other words transmit and manage energy, many possibilities for such a core component as the transmission will live on.

In addition, needs will continue to exist for both novel technologies and existing technologies alike. For example, next generation transmissions that achieve far superior environmental performance by enhancing the fuel efficiency to the maximum

extent possible will be needed for engines powered by gasoline or diesel, while demand is expected to grow for low-cost high efficiency transmissions for emerging markets. JATCO will continue to further refine its technological capabilities, create products only made possible by JATCO, and make these products more widely used by more customers. I believe this represents our mission.

JATCO's ideal vision of society is a society where automobiles and the environment coexist in harmony. I firmly believe that our environmental initiatives aimed at achieving this environmental philosophy will make broad contributions to sustainable development. For the Earth and for our future generations, JATCO employees will always ask themselves what is our role in society, while the company as a whole will continue to evolve under the goal of creating a new future together with all of its stakeholders.



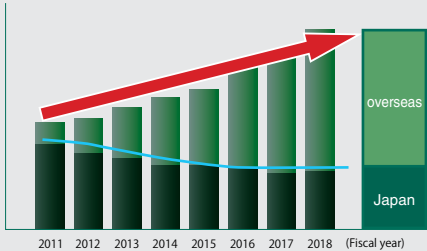
Takashi Hata  
President and CEO  
JATCO Ltd.

Takashi Hata

Topics

Implementing Initiatives to Be a 1 Trillion Yen Revenue Company

A company-wide objective of JATCO is to be a 1 trillion yen revenue company by 2018. We are executing a variety of initiatives to achieve this, including strengthening competitiveness in the global market, overhauling our product supply system in the ASEAN region, an emerging market, and improving responsiveness to new technologies, particularly for hybrid and electric vehicles.



Established "Jatco Future Technology Center"

The "Jatco Future Technology Center" was established in April 2012 as a new structure to develop electric technology for vehicles. The Center is aiming to accumulate technological expertise to lead the markets of tomorrow by conducting advanced research into technologies needed for future vehicles.

Established JATCO (Thailand) Co., Ltd.

JATCO (Thailand) Co., Ltd., a production company in Thailand, was established in July 2011. The company aims to contribute to environmental preservation through the supply of CVTs that feature exceptional environmental performance in the ASEAN region, where growth is forecasted.

Strengthened Production Capacity in Mexico and China

In order to enhance competitiveness in the global market, we are strengthening production capacity at JATCO Mexico, S.A. de C.V. and JATCO (Guangzhou) Automatic Transmission Ltd., which are already in operation. Plans are in place to manufacture the CVT7, CVT8 and CVT8 Hybrid, key products of JATCO, at these facilities.

Opened office in Russia

At the end of June 2012, JATCO opened a representative office in Togliatti in the Samara region where the headquarters of AvtoVAZ\*, Russia's largest automobile manufacturer, are located in line with the start of product supply to AvtoVAZ. JATCO aims to further expand business in the Russian market through this move.

\*AvtoVAZ was established in 1966. In 2011, it produced approximately 560,000 vehicles.



# The Transmission – Driving the Evolution of the Automobile Forward

~ A Look Back on the Development of JATCO's Transmission for Hybrid Vehicles ~



From the outside it looks almost identical to the 7-speed automatic transmission base unit for RWD automobiles. The two units can be differentiated by the three cables seen at the top left of the photo (orange on the actual unit) and the engine oil pump at bottom left.

Pictured above is the Fuga—the proud flagship model of Nissan Motor Company (hereinafter, Nissan). The much anticipated hybrid version of the Fuga went on sale in Japan in 2010.

The following special feature looks back on the development process of the new transmission for hybrid vehicles undertaken jointly with Nissan through an interview with the product development managers from the JATCO side—Senior Manager Shigeru Ishii with the Project Promotion Office and Manager Makoto Hattori of the Assembly Process Engineering Section in the Unit Process Engineering Department.

## What is the difference between the transmission for hybrid vehicles and ordinary transmissions?

**Ishii:** The new JATCO transmission for hybrid vehicles, as you can see from a cross section, uses the current RWD

7-speed automatic transmissions (AT) as a base, but replaces the torque converter with 1 motor and 2 clutches. This 1-motor, 2-clutch system aims to improve the recovery of braking energy and enhances fuel economy at high speeds. In the conventional 1-motor, 2-clutch system, the overall length increases because a motor

is added to the torque converter of the existing unit, but this new unit, which was co-developed by the development teams at JATCO and Nissan that are highly adept at advanced control technologies, resolved control issues related to the motor, clutch and oil pressure. These efforts enabled the new transmission to maintain the same size as the existing RWD 7-speed AT, making it easy to install in hybrid vehicles.

**Hattori:** From a manufacturing standpoint, this new transmission for hybrid vehicles is not necessarily a completely different structure. Simply put, the torque converter in the RWD 7-speed AT was replaced with a motor for a hybrid version, so it can be manufactured on the same assembly line as our existing RWD AT, with only a minor design change where the unit is transferred to a dedicated assembly line to install the motor. During the motor installation process, in addition to the motor, the electric pump, high-voltage harness and other specialized components are also installed and the insulation resistance is measured. As JATCO does simultaneous production with Nissan's Tochigi Plant, the different variations of transmissions are manufactured and shipped with the same order as Tochigi.

## What types of targets were set for this project?

**Ishii:** Since this new unit was slated for use in Nissan's flagship Fuga, our team felt an even stronger commitment to making the unit as high quality and as high performing as possible. Outside of Japan the new unit will be used by Infiniti, Nissan's luxury vehicle brand, so in addition to achieving driving comfort on a higher dimension, we also set the target to

be more competitive in terms of highway fuel economy. Honestly, initially we were a bit concerned about the degree to which the new unit would be able to achieve both of these targets, but in the end we were able to achieve not only improved highway fuel economy, but also 19.5km/liter even in 10-15 mode, which exceeded our expectations. In addition, while the focus was on improved fuel economy, there was also strong demand for enhanced drivability, and so we focused a great deal of energy on achieving a more direct feeling of acceleration where the motor provided the power. As a result, we were able to receive recognition as having helped create the world's fastest hybrid vehicle.

## How did you feel about working together with Nissan Motor on the development of this transmission?

**Ishii:** I felt we were able to develop a strong sense of cohesion. Near the end of the project, we no longer thought this person was from Nissan or that person was from JATCO, rather we had developed into a united team, which brought us great success.

**Hattori:** The production side of the project felt the same way. Although we experienced a number of firsts, I feel that everyone from JATCO with development and production as well as everyone from Nissan's Tochigi Plant (assembly plant) and the motor assembly line in Nissan's Yokohama Plant really came together as a team. Even when we spun the high voltage harness cables, which are a unique feature identifiable from the hybrid unit's external appearance, we traveled to the Nissan Technical Center, the

company's research and development center, as well as the Tochigi Plant to confirm, and also gathered at JATCO's Fujinomiya Plant to review the results.

**Ishii:** In such a project as this one, we needed to precisely align Nissan as well as JATCO's components. Since this was the first time to mass produce a hybrid for both companies, I believe we were able to make a breakthrough in this regard by closely working together in a way that transcended organizational boundaries.

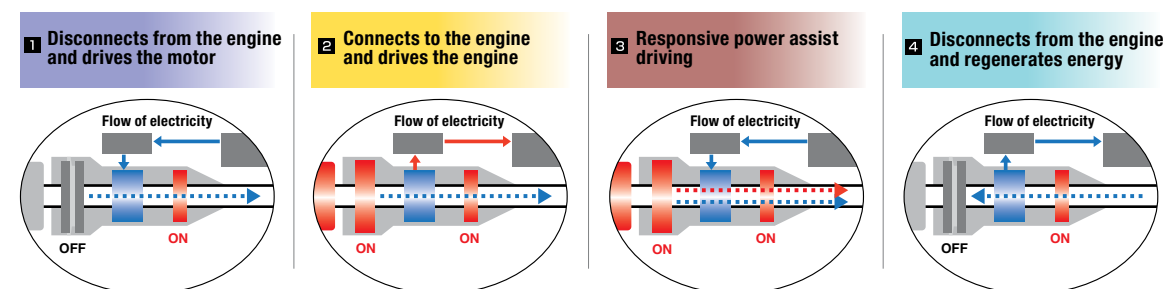
**Hattori:** In addition, even within JATCO internally we held cross-functional discussions across our development and production divisions, which helped move the entire process forward. I really feel that we came together as a team on the production floor, including our people from engineering, inspection and manufacturing, to make the production of this new unit a success.



Makoto Hattori  
Manager  
Assembly Process Engineering Section  
Unit Process Engineering Department

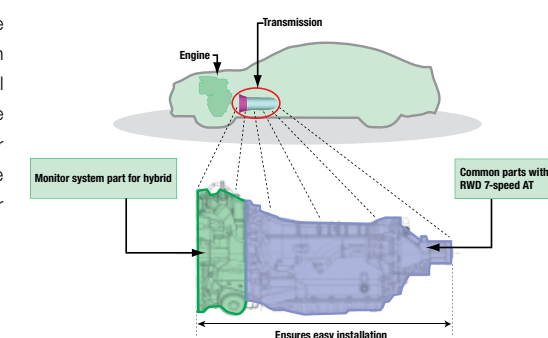
## Transmission Operation Pattern

The new transmission operates in the following ways by using one electric motor and two clutches for both the drive train and energy regeneration.



## Compact Package

The compact package achieved by using a clutch and motor in the traditional location of the torque converter makes it easier for the transmission to be installed in a variety of car models and classes.



## Main Car Model for the New Transmission for Hybrid Vehicles



Nissan Fuga



### In what part of the project did you face the greatest challenges?

**Ishii:** Generally we can utilize previous experiences when it comes to manufacturing existing units, but this time we used a lot of trial and error. For example, we needed to come up with all new designs not used in previous transmissions, such as installing additional equipment to cool off the motor in the transmission or making innovations to reduce noise from the motor, so we faced a lot of hurdles.

**Hattori:** The project got started right after the onset of the global financial crisis in the wake of the Lehman Shock, so we faced a lot of adversity in terms of restrictions on our spending. Because this was a unit that would be used in the Infiniti brand, we could not compromise in terms of quality, so in order to produce the unit using small-lot production with a high degree of quality while keeping costs down, we worked closely with everyone at the Fujinomiya Plant to come up with intelligent solutions. For example, we strived to identify issues at an early stage by verifying the installation of tools to be used in mass production during the trial production phase. In addition, in order to give easier-to-understand instructions for work processes on the production line, we enhanced workflow efficiency by changing the operator's board into a panel display. We made further innovations to this system, and today this panel display is being used on the production line at JATCO's Yagi Plant as well. These efforts to ensure the highest possible quality have in turn been handed down to those on the production floor.

**Ishii:** The greatest concern regarding the unit's development and design was small-lot production and costs. Our team worried a great deal about whether we really could produce a small-lot unit at the right price. However, since we had similar components to work with from the base RWD 7-speed AT and made innovations on the production floor, in the end we were able to achieve high performance at an optimal price. In this sense, this project incorporated a lot of common components used in existing automobiles to create a truly high performance transmission unit

for hybrid vehicles, which was a great achievement. Yet, I feel we need to seek out more of these creative innovations and evolve our product development further.

**Hattori:** I feel the same way. I feel there are still areas where the production floor can still make more improvements. If we do not have the flexibility to manufacture a variety of different units on the same line, I believe it will be difficult for us to beat out competition globally going forward. This project incorporated the concept of mixed production on the same line as the existing 7-speed AT, and also masterfully took on the challenge of improving efficiency, as evidenced by the panel display I talked about earlier. However, there are still some places where the layout of the production line has yet to be optimized in terms of man hours, so I feel there is still room for improvement.

**Ishii:** Also, as we developed this new unit together with Nissan, I came to realize that there were some challenges, which we once thought could not be overcome, that we could overcome by working together with an automaker. This is why I feel it will be important to deepen our relationship with automakers further in order to refine the unit more comprehensively. Moving forward, this approach will likely accelerate.

### How do you think JATCO and car manufacturing will change in the future?



**Ishii:** Moving forward, teamwork with JATCO's development bases around the world will become even more important, I believe. For example, consumers in Asia and North America want different things, even if it is the exact same car, so we need to plan our units based on the needs of customers in each of these regions. In order to provide attractive units in a timely manner, I think JATCO will shift to a structure where it manufactures its units in locations closer to the end market. In terms of environmental performance as well, efforts are being made in each car segment to improve fuel economy. As such, further innovation is also required in transmissions as well.

**Hattori:** As Mr. Ishii just said, going forward we will need to develop a structure to manufacture the high quality units demanded from our both customers in Japan and overseas. On the other hand, however, for units such as the new transmission for hybrid vehicles that are accompanied by innovative development, I believe the role of Japan, which forms the core of JATCO's development structure, will grow even more important. In order to deliver units that exceed the expectations of our customers around the world in a timely manner, I hope to leverage the experiences and knowledge gained from the development of transmission for hybrid vehicles to create products that are considerate of the environment and society.

### FY 2011 Targets and Results

# Commitment to Continually Improving Business Operations

Committed to continually reducing environmental load based on the PDCA Cycle.

At JATCO, we have initiatives each year to reduce environmental load. We call these initiatives "Environmental Objectives", and we strive to achieve them. By looking at the yearly results of previous initiatives, we are able to set goals for the following years, helping us to constantly improve our environmental performance.

Environmental objectives	Items	Targets	Results	Evaluation	FY 2012 targets
Continued improvement of the Environmental Management System	Periodic reviews	<ul style="list-style-type: none"> <li>■ Periodic reassessment audit</li> <li>■ Internal environmental audits: 1</li> <li>■ Environmental Integration Committee meetings: 2</li> <li>■ Management reviews: 1</li> </ul>	<ul style="list-style-type: none"> <li>■ Periodic reassessment audit: Continue registration</li> <li>■ Internal environmental audits: 1</li> <li>■ Environmental Integration Committee meetings: 2</li> <li>■ Management reviews: 1</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Periodic reassessment audit: Continue registration</li> <li>■ Internal environmental audits: 1</li> <li>■ Environmental Integration Committee meetings: 2</li> <li>■ Management reviews: 1</li> </ul>
	Internal environmental auditor training	<ul style="list-style-type: none"> <li>■ Required staff</li> </ul>	<ul style="list-style-type: none"> <li>■ Training completed for 4 persons</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Required staff</li> </ul>
Compliance with laws and preventive measures for environmental issues	Zero notices from the government and public offices	<ul style="list-style-type: none"> <li>■ Number of notices: 0</li> </ul>	<ul style="list-style-type: none"> <li>■ Number of notices: 0</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Number of notices: 0</li> </ul>
	Continued management of significant environmental aspects	<ul style="list-style-type: none"> <li>■ Percentage of periodic revisions: 100%</li> </ul>	<ul style="list-style-type: none"> <li>■ Number of periodic revisions: 100%</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Number of periodic revisions: 100%</li> </ul>
	Environmental law-related training	<ul style="list-style-type: none"> <li>■ Number of claims: 0</li> </ul>	<ul style="list-style-type: none"> <li>■ Number of claims: 0</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Number of claims: 0</li> </ul>
	Prevention of environmental incidents	<ul style="list-style-type: none"> <li>■ Class B accidents: 28</li> </ul>	<ul style="list-style-type: none"> <li>■ Class B accidents: 30</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Class B accidents: 11</li> </ul>
Effective use of resources	Implementation of energy-saving measures ■ Energy per unit of net sales (CO <sub>2</sub> conversion)	<ul style="list-style-type: none"> <li>■ 52.9t- CO<sub>2</sub>/100 million yen</li> </ul>	<ul style="list-style-type: none"> <li>■ 50.4t- CO<sub>2</sub>/100 million yen</li> </ul>	○	<ul style="list-style-type: none"> <li>■ 52.9t- CO<sub>2</sub>/100 million yen</li> </ul>
	Implementation of waste reduction measures ■ Reduction of general waste emission rate	<ul style="list-style-type: none"> <li>■ 2.0% reduction compared to FY 2010</li> </ul>	<ul style="list-style-type: none"> <li>■ 2.0% reduction compared to FY 2010*</li> </ul>	○	<ul style="list-style-type: none"> <li>■ 2.0% reduction compared to FY 2011</li> </ul>
	■ Recycling rate	<ul style="list-style-type: none"> <li>■ Maintain 100% rate</li> </ul>	<ul style="list-style-type: none"> <li>■ Maintain 100% rate</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Maintain 100% rate</li> </ul>
Technological development to reduce environmental load	Eco-friendly design (contributions to environmental protection and automobile fuel efficiency improvements)	<ul style="list-style-type: none"> <li>■ Individual product challenge targets: 100% achievement rate</li> </ul>	<ul style="list-style-type: none"> <li>■ Fuel efficiency targets in new development lots: 100% achievement rate</li> <li>■ Targets for challenges of departments in charge: 112% achievement rate</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Individual (product) challenges (friction, weight, etc.): 100% achievement rate</li> </ul>
	Reduction and management of environmentally hazardous substances used in products	<ul style="list-style-type: none"> <li>■ Implementation rate of decisions on compliance with environmental laws (EU-REACH and EU-ELV directive): 100% (2 times)</li> </ul>	<ul style="list-style-type: none"> <li>■ Decisions: 2 times</li> <li>Completed decisions on proper compliance with not sequentially checking substances contained in parts</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Maintain 100% product compliance with environmental laws</li> </ul>
Coexistence with the local community, society, and nature	External disclosure of information	<ul style="list-style-type: none"> <li>■ Publication of Environmental and Social Report</li> </ul>	<ul style="list-style-type: none"> <li>■ Environmental Report: published December 2011</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Publication of Environmental and Social Report</li> </ul>
	Communication with local communities	<ul style="list-style-type: none"> <li>■ Number of events held: 8</li> </ul>	<ul style="list-style-type: none"> <li>■ Number of events held: 7</li> </ul>	○	<ul style="list-style-type: none"> <li>■ Number of events held: 8</li> </ul>

Note: Did not achieve targets due to the impact of the Great East Japan Earthquake

Evaluation: ○ : Achieved target; × : Did not achieve target



## Fulfilling the vision of a society where automobiles and the environment can coexist in harmony with eco-friendly products and equipment

### JATCO technologies are hard at work in the fight to reduce the environmental impacts of automobiles

Today, as debate takes place on the urgency of protecting our environment globally, a variety of initiatives are being implemented around the world in order to reduce the environment impacts of human society.

One such initiative can be found in the environmental performance of automobiles, a mode of transportation that forms an integral part of our lives. Advancements in transmissions, and in particular continuously variable transmissions (CVT), both key to enhancing drivability and fuel efficiency, have garnered strong attention in this regard.

As a global leader in automotive transmissions and the only company offering a full line-up of CVTs, spanning from small to large vehicles, JATCO is helping to reduce the environmental impacts of automobiles on our planet by supplying transmissions with superior environmental performance to automakers throughout the world.

### Being more considerate of the environment in our global business activities

JATCO is currently in the process of expanding its production sites globally in order to deliver a stable supply of transmission products to its automaker customers around the world. These production sites adopt the same environmental preservation measures that we use in Japan to help minimize their impacts on the natural environment. They also proactively employ their own ideas when it comes to safeguarding the environment. JATCO Mexico has already obtained ISO14001 certification for its environmental management system and soon our other production sites will follow suit.

This is because we want to produce eco-friendly transmissions using eco-friendly means. In this sense, we are firmly committed to rolling out a production style at all of our sites around the world that mitigates impacts on the environment.

### JATCO's role in the future of the automobile and environment

As people and society's awareness toward environmental preservation grows, car buyers are now more determined than ever to purchase an automobile that is fuel efficient and considerate of the environment. That is, a green car that has less of an impact on the environment and offers excellent fuel economy. JATCO continues to tackle the many challenges associated with building the ideal vehicle, one which balances environmental performance with driving performance. Our long-standing technologies and experience as a transmission manufacturer that continually researches about the environment and fuel economy are on full display in our Jatco CVT7 and Jatco CVT8 transmissions. We are also committed to the future of the automobile through our ongoing development of breakthrough technologies for hybrid vehicles (HEV) and electric vehicles (EV). Our unwavering commitment to *monozukuri* as part of our vision to achieve a society where automobiles and the environment can coexist in harmony remains unhindered and steadfast.

### JATCO Environmental Policy

#### Basic Policy

To achieve JATCO's mission as stated in our corporate philosophy "to provide value to our customers, to automotive culture, and to society", each member of the company needs to integrate state-of-the-art technology with consideration for society, nature and the Earth, so that through the development, production and sales of our transmissions, we can realize a society where automobiles and the environment coexist in harmony.

#### Code of Conduct

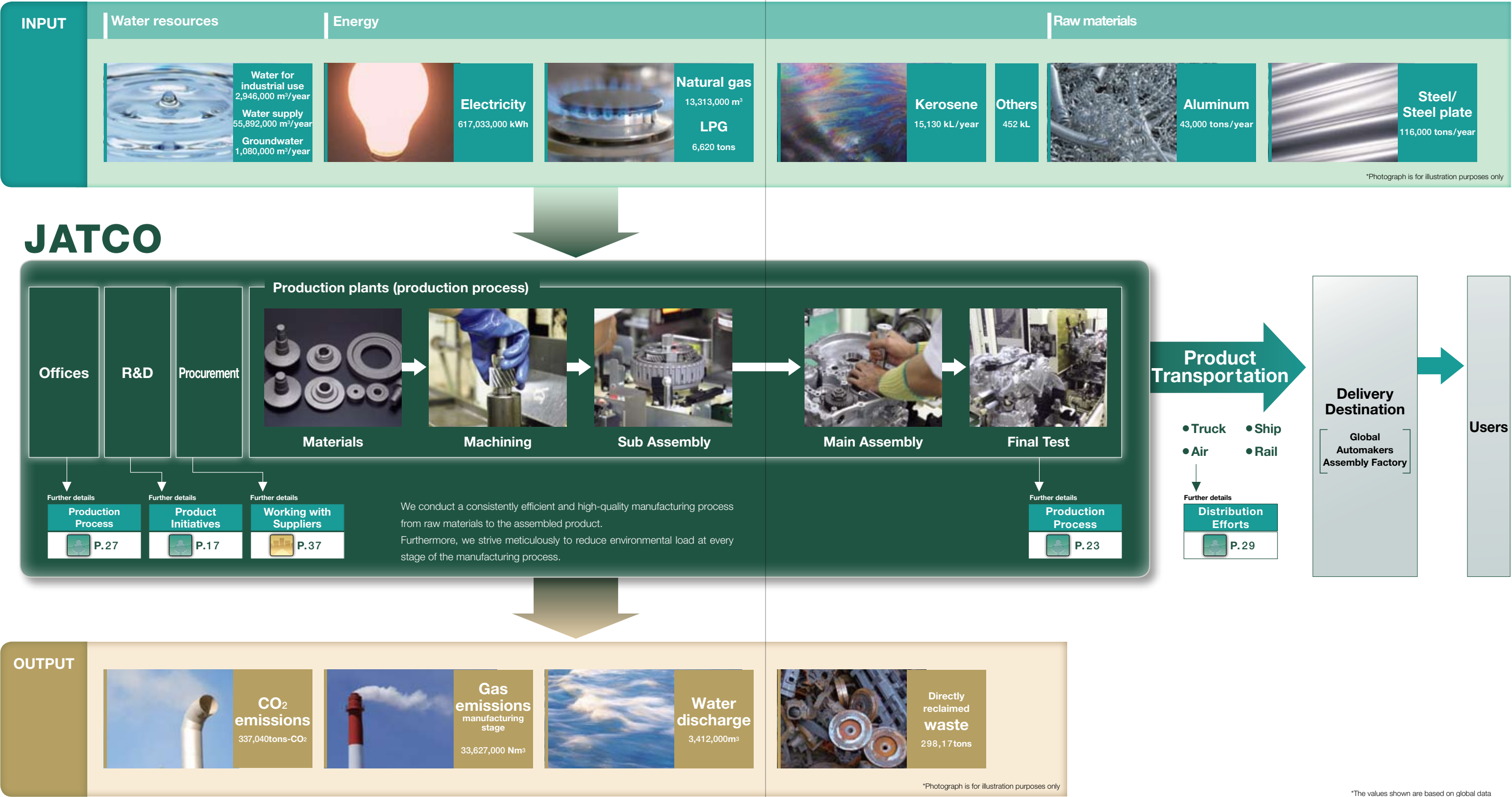
- Plan continual improvement of our environmental management system to ensure quick and effective response to diversified environmental issues.
- Prevent environmental problems, acting in compliance with laws and regulations.
- Foster a corporate culture where the environment and nature are respected.
- Consider the finite nature of resources and energy and minimize their use for each product.
- Actively develop technology that will help reduce environmental load.
- Endeavor to coexist amicably with the community, society and nature.



# Material Balance

We strive to understand the emissions of the various substances associated with our business activities

JATCO generates a variety of waste by-product in the course of conducting its business. To reach its goal of building a recycling-oriented society, JATCO is committed to the appropriate use of resources and the reduction of emissions.







## Ongoing development of products with less environmental load

JATCO is dedicated to making products with reduced environmental load by reducing fuel consumption further.

### Aiming to improve CVT's environmental performance

#### The world's only manufacturer offering a full line-up of CVTs

To control global environmental changes caused by CO<sub>2</sub> emissions, the most crucial issue is improved fuel economy for all automobiles. In response, we have started developing CVTs from early on. Also, through repeated improvements, we have achieved a full line-up of CVTs that covers mini vehicles to 3.5-liter class vehicles.

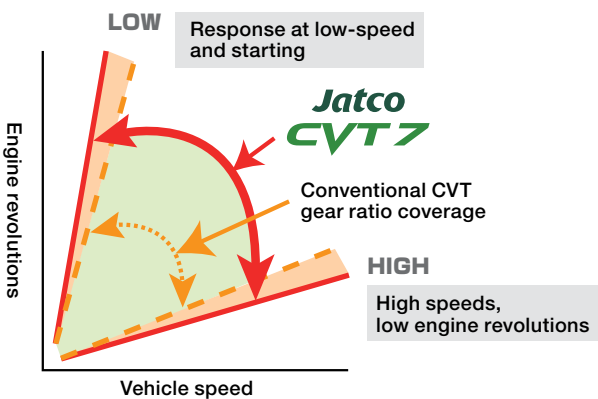
JATCO produced approximately 2.6 million CVTs in FY 2010, bringing the total number of JATCO's CVT-equipped vehicles in the market to 10 million.

#### Jatco CVT7, aiming to further reduce fuel consumption

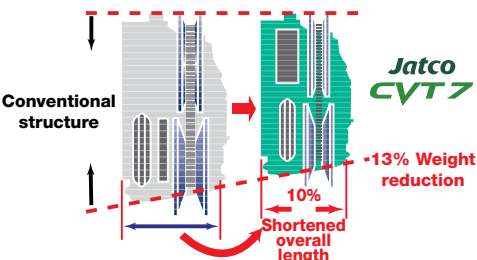
By thinking out of the box, JATCO was able to develop its next-generation CVT with the world's highest gear ratio\* coverage. To endow this transmission with better environmental performance, we worked to produce a new auxiliary gearbox structure that allows an expanded higher gear ratio coverage, and friction reducing technology that results in better fuel efficiency. \* According to our own research (AT/CVT transmissions with torque converters, as of March 2011)

##### < Features of the Jatco CVT7 >

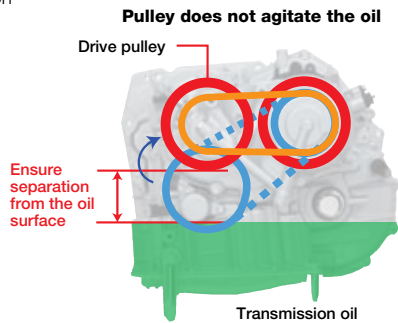
- Improves start-line and acceleration performance using the world's widest gear ratio coverage



- Reduced the overall size and weight of the unit by making pulleys more compact



- Improves fuel economy and transmission efficiency through reduced friction



#### Idling stop control

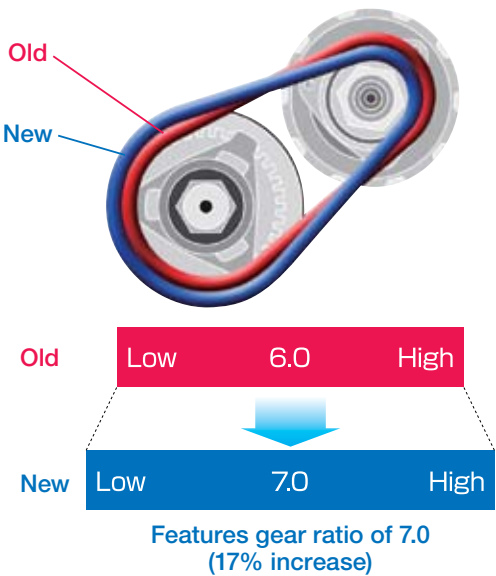
Vehicles equipped with the idling stop feature automatically turn off the engine when the car is stopped, to reduce CO<sub>2</sub> emissions. An auxiliary pump is needed to maintain oil pressure through the transmission, which also ensures that the engine re-starts smoothly, and engages the clutch to stop the car from rolling back when starting on an incline.

### Jatco CVT8 – balancing environmental performance with power

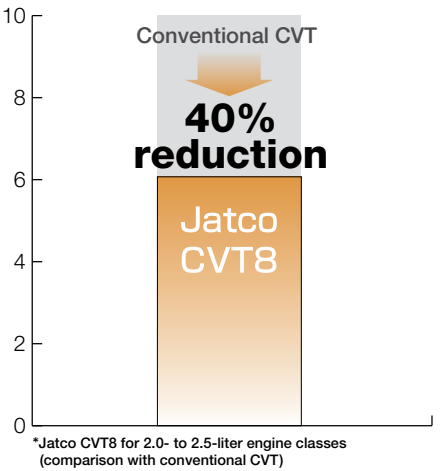
We developed the Jatco CVT8 for a wide range of engine classes, spanning from 2.0 through to 3.5 liters. This CVT model offers the perfect blend of far superior environmental performance and power all in a compact design that retains the smooth and seamless shifting of a CVT. This performance is made possible by its best-in-class gear ratio and significant reduction in friction thanks to greater efficiency achieved throughout its design.

##### < Jatco CVT8 features >

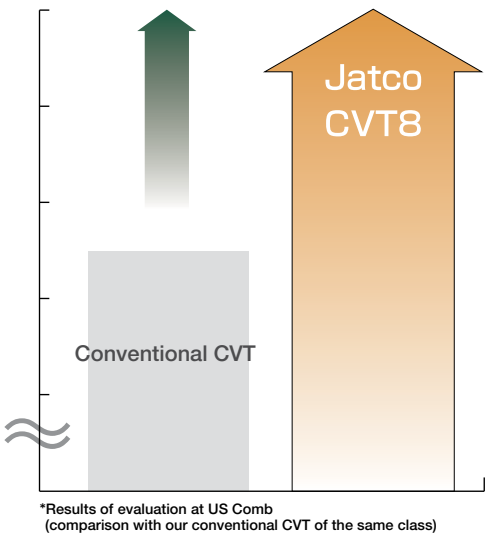
- Increases gear ratio in 2.0- to 2.5-liter class engines to a world leading 7.0, providing powerful, responsive starts as well as improved fuel efficiency and less noise at highway speeds



- 40% reduction in friction compared to our similar engine class CVTs provides enhanced transmission efficiency and improved fuel economy



#### Greater than 10% improvement



### JATCO Voice

#### Product planning that accommodates CO<sub>2</sub> reductions and a wide range of market needs

Demand is growing for automatic transmissions with the popularization of the automobile in emerging countries. However, many of our customers believe that automatic transmissions are less fuel efficient and produce more CO<sub>2</sub> emissions than manual transmissions. Based on this type of market feedback, we are

planning and developing automatic transmissions that offer far superior performance than their manual transmission counterparts. This will encourage more of our customers to use eco-friendly automatic transmissions, which in turn will help protect the natural environment.



Shoji Sugaya  
Product Marketing Strategy Office



## Ongoing development of products with less environmental load

JATCO is dedicated to making products with reduced environmental load by reducing fuel consumption further.

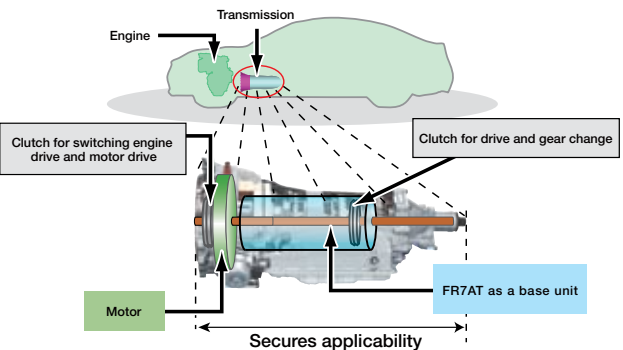
### Creating a specialized transmission to meet market needs

#### A hybrid transmission using our proprietary system

To meet the needs of the growing hybrid car market, JATCO has developed a hybrid transmission unit for large RWD and FWD vehicles.

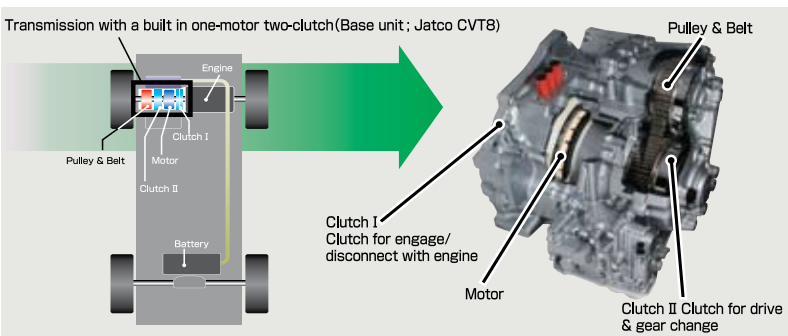
##### < Jatco CVT8 HYBRID (hybrid transmission for FWD vehicles) >

- Improves fuel economy in the city with the use of a proprietary 1-motor 2-clutch system
- Jatco CVT8 technologies help improve fuel efficiency and reduce noise at highway speeds
- The combination of CVT and motor provides a quick response and direct feeling of acceleration
- Clutch and motor replaces the torque converter making the unit lighter weight and more compact, providing for easier installation



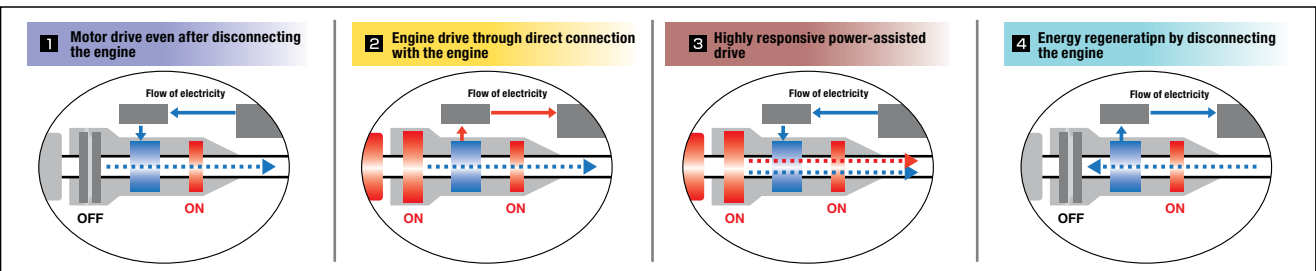
##### < Hybrid transmission for RWD vehicles >

- Improves fuel economy in the city with the use of a proprietary 1-motor 2-clutch system
- Advanced control of the clutch system made possible by our long-standing automatic transmission development experience improves transmission efficiency during motor use
- Clutch and motor replaces the torque converter making the unit lighter weight and more compact, providing for easier installation



### Working pattern of transmission

Realizes the below work by using a motor and two clutches for driving and regeneration.



### Fuel efficiency improvement of the step AT

#### Multisteping and wider range of gear ratio

We are working to improve the fuel efficiency of step ATs, with their fixed step design, to add multistep and wide range. In the RWD 7-speed AT the gear ratio has been widened, so that the transmission is smooth and fuel-efficient at every stage, when starting, accelerating or cruising at high speed.

### Further measures to reduce CO<sub>2</sub> emissions

We will pursue further technical innovations in transmissions to reduce CO<sub>2</sub> emissions.

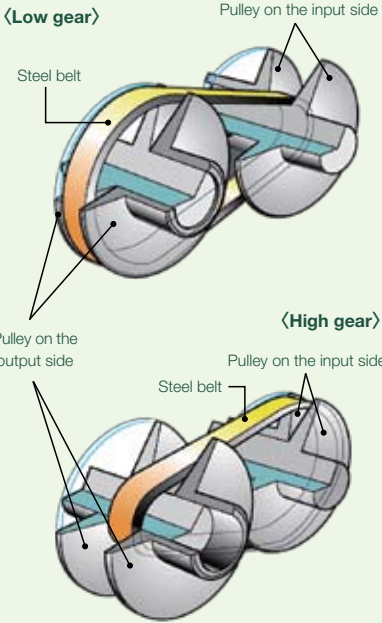
- Improvements to the belt CVT
  - Improved transmission efficiency, wide-range conversion, lightweight
- Improvements to the step AT
  - Multi-stepped AT, wide-range conversion, lightweight
- Control technology improvements
  - Expansion of lock-up area, neutral idling control, idling stop control
- Measures for hybrid systems
  - Optimized transmission for hybrid cars

### What is a CVT?

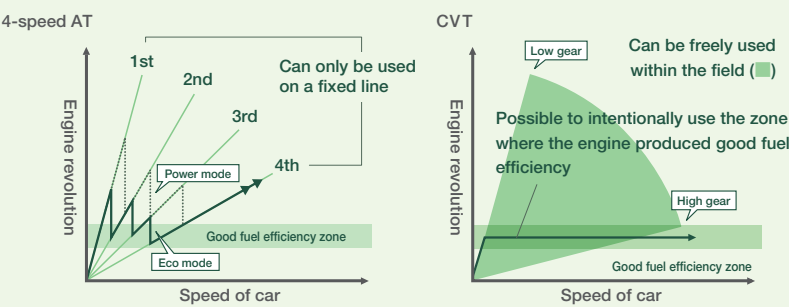
#### Characteristics of a CVT

The CVT can take advantage of its stepless design to choose the gear ratio that best suits the driving situation; thus, it is constantly matching the ideal gear ratio to run the automobile in the most fuel efficient way.

#### ■ Belt CVT mechanism

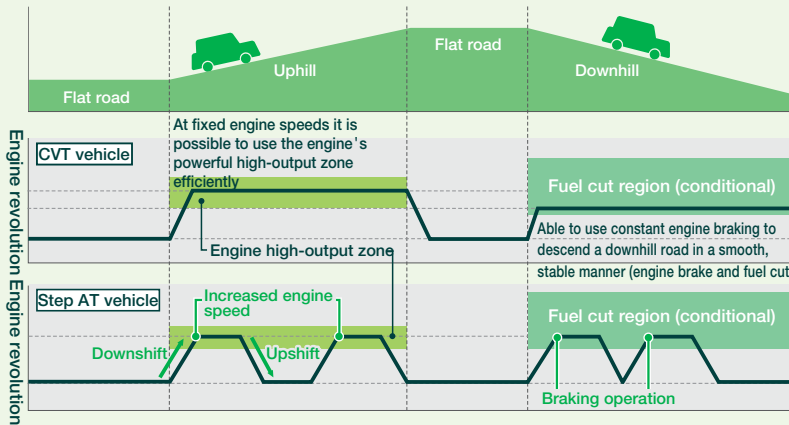


#### ■ 4-speed AT and CVT efficiency range



#### CVTs and Engine Coordinated Control

CVTs can easily select the most suitable gear for the driving conditions, making it possible to adjust flexibly to differing driving styles, reducing fuel consumption.



## Promoting the reduction of environmentally hazardous substances and the “3R”s in our transmission units

JATCO is dedicated improving its recycling and reuse ratios by reducing the use of environmental load substances from the development stage.

### Reduction and Thorough Management of Environmentally Hazardous Substances

#### Management of chemical substances according to JATCO technical standards

We manage environmental load substances in transmissions according to our internal technical standard “JES M9001.” JES M9001 governs the use of some 150 substance groups (2,700 substances) based on GADSL,\*1 a list of controlled chemical substances common to the auto industry in Japan, the U.S. and Europe, and the Chemical Substance Control Law,\*2 together with legislations from various countries. JATCO carries out appropriate reviews more than once per year to stay ahead of global environmental laws and promote the reduced use of environmentally hazardous substances.

#### Activities to raise environmental awareness internally and externally

The reduction of environmentally hazardous substances is essentially a supply chain-related measure involving suppliers. In order to further raise awareness regarding the environment, JATCO stressed the importance of green purchasing and initiatives to reduce hazardous substances at the JATCO Quality Forum.

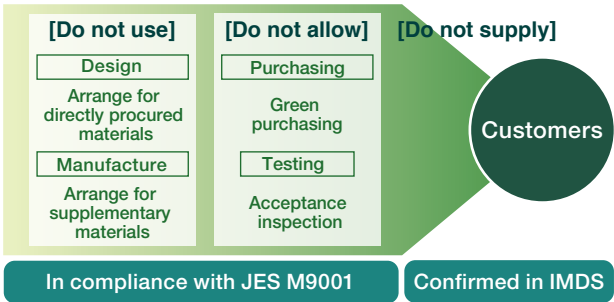


Raising environmental awareness at the Quality Forum

#### Efforts to reduce the use of environmentally hazardous substances

In pursuing such reductions, it is important that we “do not use” controlled substances under JES M9001 in the design and manufacturing divisions, “do not allow” these in the procurement and inspection divisions, and “do not supply” these in the production and shipping divisions.

■ Key points in initiatives to reduce use of environmentally hazardous substances



■ Status of efforts to reduce the use of environmentally hazardous substance

Regulated Substances	Situation
Lead	No longer in use (excluding exemptions)
-Lead solder (platforms)	Currently reducing usage
Hexavalent chrome	No longer in use
Mercury	No longer in use
Cadmium	No longer in use
Asbestos	No longer in use
Approved substances	Currently reducing usage



#### Managing environmentally hazardous substances using IMDS

EU-REACH and other chemical substance regulations around the world are being tightened, ushering in an era of “no data, no market”. We use the international material data system (IMDS), a common tool used in the auto industry, to manage

environmentally hazardous substances contained in our products and pass this information on to our customers. We are working with our suppliers to actively promote the provision of timely, highly precise data in order to meet the demands of our customers.



Nami Shimizu  
R&D Management Department

#### Glossary

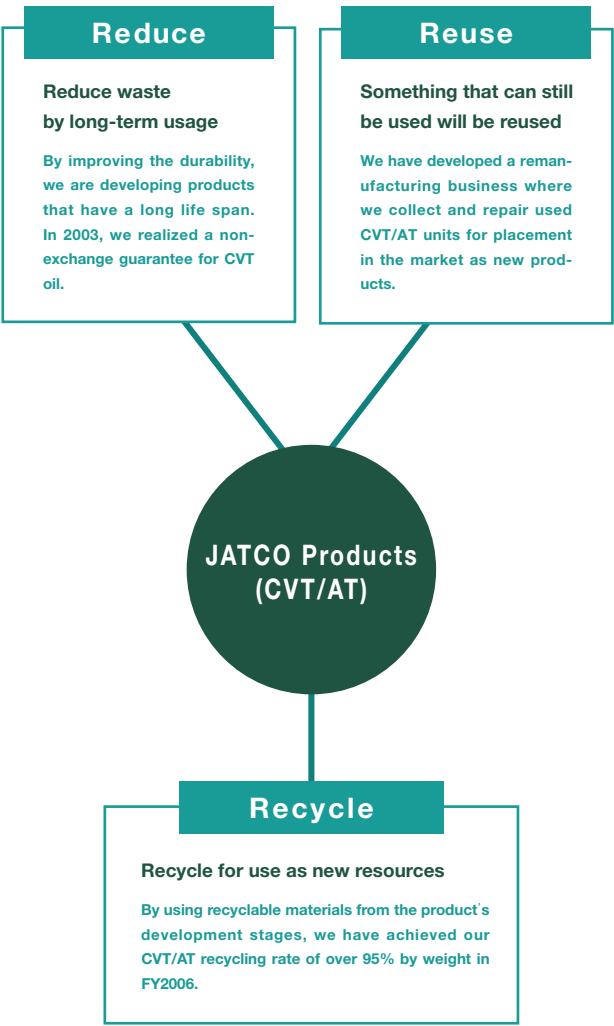
\*1 GADSL: Global Automotive Declarable Substance List    \*2 Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc  
\*3 IMDS: International Material Data System

### Promotion of reuse of resources that had been discarded

#### The “3R”s of our products

The “3R”s represent three key words necessary to create a recycling-oriented society. Reduce, Reuse, and Recycle. JATCO’s approach to 3R activities is in the diagram below.

■ “3R”s of production

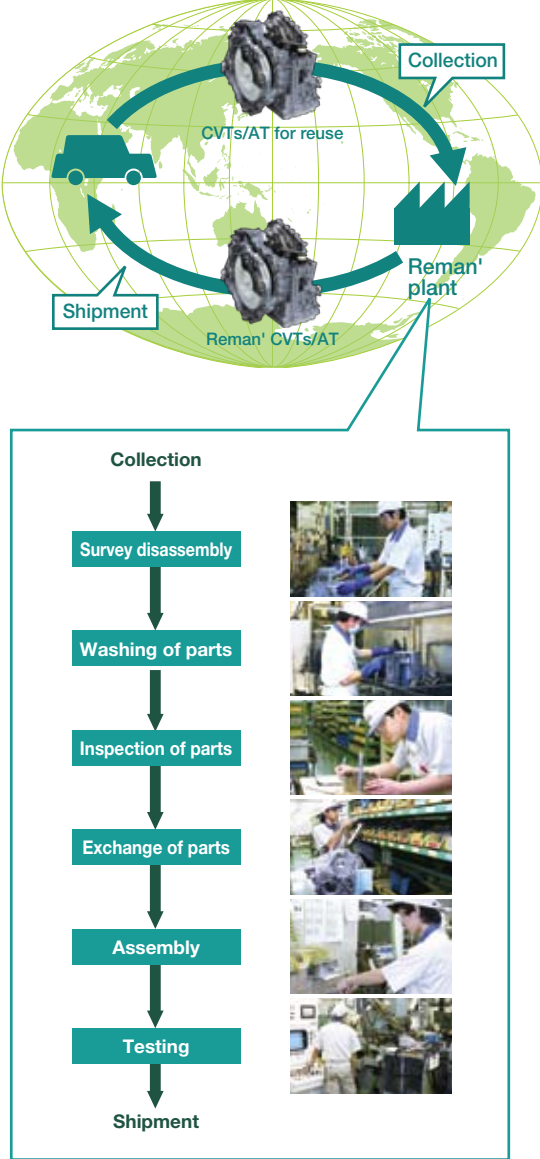


#### Remanufacturing system

Since 1989, Remanufacturing Operations has been collecting CVT/AT units from the market for disassembly, repair and quality assurance to supply to the market once again. Through this business, we help to preserve the global environment by reusing necessary resources.

Remanufacturing Operations bases are located in Japan and Mexico; furthermore, we have negotiated a technical assistance agreement with a local repair company in China to repair products collected from the market. We will continue to improve the recycling rate for products that we have collected for environmental preservation.

■ Remanufacturing Operations Process





# Production Process

**Aiming to be the “World’s No.1 in Monozukuri”, JATCO is advancing with upgrades of technologies and facilities**

JATCO aims to balance the need for reductions in environmental load during production with the need for efficiency, as well as introduce energy and resource saving equipment. We are also taking measures to properly manage chemical substances and reduce waste.

**Aiming to be the World's No. 1 in Monozukuri**

### JEPS (JATCO Excellent Production System)

JATCO strives to become the top Monozukuri company for quality, cost and delivery. Our JEPS (JATCO Excellent

■ JEPS Activity Conceptual Diagram



### Target of JEPS

The target of JEPS is to achieve the following two “unlimiteds” features within the entire supply chain.

**(1) Unlimited synchronization with our customers - QCD**

Q: to synchronize QUALITY that emphasizes the value desired by our customers;

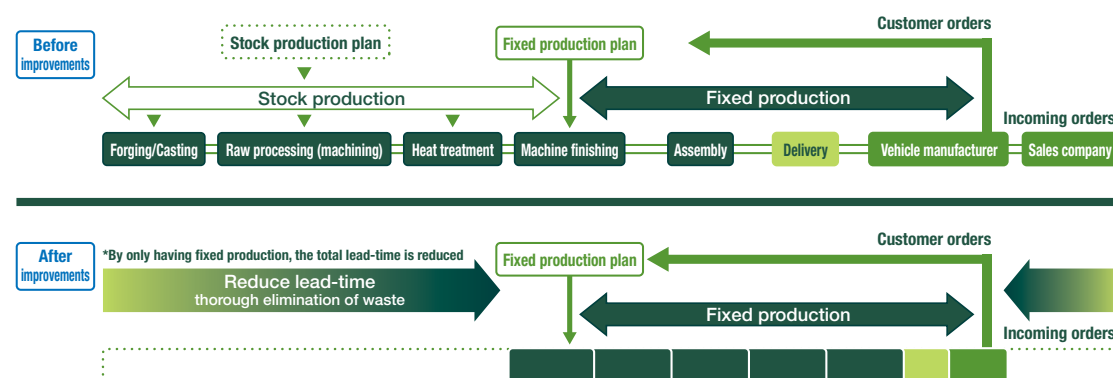
D: to synchronize the time of DELIVERY to our customers, reducing production lead time.

JATCO are in pursuit of these three synchronizations.

## (2) Visualization of unlimited challenge and innovation

To recognize the gap between the ideal state of Monozukuri and the current situation, visualize the hidden weak points and actively make improvements. By repeating these improvements and innovations, we can raise the level of efficiency and process efficacy of production.

## ■ JATCO's Monozukuri



### Striving to improve processes for energy efficiency and resource conservation

## Environment-responsive production technology

Integrated production from raw materials to completed unit is performed at JATCO where the Production Technology Division considers the limits of the Earth's resources at each stage of new product and technology developments.

Top priorities include reduced CO<sub>2</sub> emissions through new technology, reduced environmental load (management of hazardous materials), and utilization of idle facilities to effectively use (recycle) our resources. We are developing highly efficient, load-reducing methods and innovative methods to reduce production processes as well as introducing and converting to energy and resource-saving equipment.

### CO<sub>2</sub> reduction through the usage of compact, lightweight parts

In FY 2011 CO <sub>2</sub> emissions	300 tons
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JATCO has employed compact, lightweight parts for the Jatco CVT7 introduced in 2009.

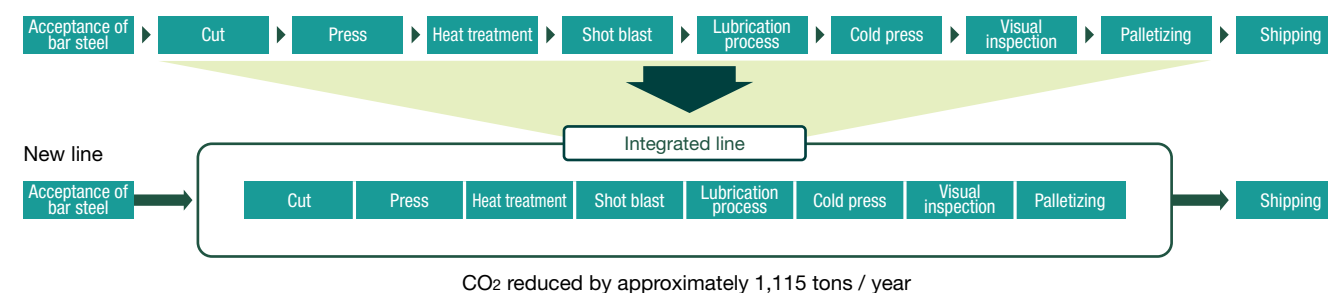
In the development of new CVT with an auxiliary gearbox, collaborative efforts in production design by the R&D Division and Production Technology Division were intensive.

By reducing the general thickness by using the optimum configuration and clearance of limits during production, a weightsaving of 22% was achieved compared with same class conventional CVT. CO<sub>2</sub> emissions generated during parts production were thus substantially reduced and it is now possible to reduce emissions by 300 tons per year.

Reduced thickness transmission  
case

■ Forging process integrated line

Conventional line



### CO<sub>2</sub> reduction to the machining/heat treatment line through production design

In FY 2011 CO <sub>2</sub> emissions	860 tons
--------------------------------------	----------

The Production Technology Division was involved in the product design of Jatco CVT 7 from its early product development stage. This new CVT went into production in 2009, and production is now being largely expanded. This new CVT went into production in 2009, and production is now being largely expanded due to its popularity. From the production design phase it became possible to drastically reduce the number of machines and to shorten the cycle time required in the pulley machining line, by reducing machining points to minimum. The cycle time was then further reduced when the necessary conditions for the heat treatment line were refined. As a result, we have succeeded in reducing CO<sub>2</sub> emissions by approximately 860 tons per year.

■ Reduction in CO<sub>2</sub> emissions by production design

Machining line	Conventional line		New line	
Number of machines	49 units x 3.5 modules		27 units x 3.5 modules	▲ 43%
Annual CO <sub>2</sub> emissions	834 t / year		497 t / year	▲ 40%

Heat treatment line	Conventional line		New line	
Cycle time	100%	➡	66.7%	▲ 33%
Annual CO <sub>2</sub> emissions	1,561 t / year		1,041 t / year	▲ 33%

### Reduced CO<sub>2</sub> emissions using residual heat from the forging process

In FY 2011 CO <sub>2</sub> emissions	1,115 tons
--------------------------------------	------------

In the past, we have cooled the work after hot forging and reheated it to process rough materials. However, we are now changing to a heat treatment method (self-annealing) that uses the heat remaining from the forging process. By doing so, it is now possible to use one line instead of two for heat treatment. This has eliminated physical distribution between lines and reduced annual CO<sub>2</sub> emissions by approx. 1,115 tons per year.

# Production Process

We are making improvements to our production technology in order to create a production line with lower environmental load

Not only are we making improvements to the products themselves, we are also streamlining the production process, expanding our energy efficiency and resource conservation activities throughout the entire organization.

## We are working to reduce overall environmental loads throughout the production process

### CO<sub>2</sub> reduction by reducing the final tester

In FY 2011 CO<sub>2</sub> emissions reduced by approx. 170 tons

The involvement of the production technology division in the 'production design' process from the very beginning of product design is part of the proactive way that we enable improvements to both product performance and productivity. As a result, we could level product performance to the accuracy of individual parts, reduce product performance tests by front-loading the assembly accuracy testing (done in-process), shortening the final tester cycle time. The number of final testers required has been halved, reducing CO<sub>2</sub> emissions by 170 tons annually.

### Environmental improvement by converting from hydraulic to servo press fitting

Hydraulic press fitting is the conventional press fitting method used during the assembly process. Hydraulic press fitting machinery requires a pump to maintain oil pressure at all times, consuming a lot of electricity, creating noise and producing a lot of heat even when not being used. This is why we are converting to servo motors, which consume less power, and create less heat and noise, contributing to a better environment.

### Shortening the lead time of our next generation CVT units and reducing CO<sub>2</sub> emissions

We are making changes to the processes and methods used to manufacture our next generation CVT units in order to significantly reduce lead time, which in turn will also help us further curb our CO<sub>2</sub> emissions.

We are aiming to achieve a higher target by through bold proposals for all parts the Production Technology Division handles and by collaborating with the R&D and Production divisions.

### Utilizing direct mold carving to reduce environmental load

In FY 2011 CO<sub>2</sub> emissions reduced by approx. 40 tons

The molds used by JATCO for die casting and forging involve complex shapes, so electro-discharge machining (EDM) has been the conventional manufacturing method. This method consumes a lot of power, and the graphite used as electrode material becomes industrial waste. Therefore we are currently promoting the process of direct mold carving directly at the Machining Center. This has resulted in reductions of CO<sub>2</sub> emissions of 40 tons annually, and has significantly reduced the amount of industrial waste.



Die-casts fabricated using the direct mold carving process

### Pursuing groundbreaking technological development

The Production Engineering Division is constantly searching for new technological breakthroughs as part of its plans to reduce greenhouse gases emissions 50% by the year 2050. These measures include purchasing molten metal for die casting, eliminating the shaving process for gear parts, developing next-generation vacuum carburizing furnaces, and reducing CVT unit weight through thin-wall die casting and new materials.

The scope of technological development is not limited to production lines but also includes activities to develop elemental technologies for bringing about innovation in parts and units. The division aims to successfully develop the next version of units as well as highly efficient next-generation units based on these activities. Product development from the Production Division can also contribute to reduction in environmental loads.

JATCO  
Voice

### Achieving a clean and green society with our proprietary technologies

We are developing the necessary elemental technologies and production process technologies for achieving higher efficiency next-generation mobility under the broader goal of creating a more sustainable society.

I make sure I am constantly aware of what needs to be provided to our customers and society for the future. I am also deeply involved in meetings with the Development Division from the planning stages of next-generation CVT units to pursue technological development that helps mitigate impacts on the environment. There are a great many things that need to be accomplished, such as advanced technological

development associated with product specifications and the streamlining of in-house processes.

For example, I look into how new and improved fuel efficiency specifications can be manufactured on our lines, which specifications are easy to produce, and if we need to reduce the number of processes.

I would like to help create cars that offer great performance, but are also fun to drive and eco-friendly. In this sense, I hope to tackle the challenges of tomorrow to help us drive manufacturing forward.

I believe the technologies, processes, and people used to create not only cars, but our CVT units will undergo great changes going forward.



In charge of technological development

**Fumiya Yakabe**  
Parts Process Engineering  
Section No.2  
Parts Processing Engineering  
Department

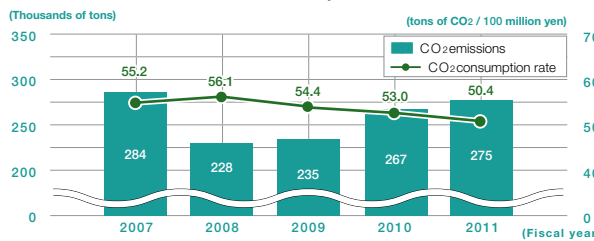
## Energy efficiency activities undertaken at the facilities

### CO<sub>2</sub> reduction targets

In FY 2011 CO<sub>2</sub> emissions were approx. 275,136 tons

Environmental measures at our facilities include an initial evaluation when installing new equipment. For equipment in operation, we are taking steps to switch to energy- and resource saving equipment that has low environmental load. We will continue to pursue technological innovation to reduce the environmental load at all our facilities and plants. JATCO's business activities in 2010 resulted in CO<sub>2</sub> emissions of approximately 266,920 tons. CO<sub>2</sub> consumption rate\* was approximately 53.0 tons / 100 million yen. Using 2005 levels as a standard, this is an improvement of 19.6%. Our aim for 2011 is to achieve 52.9 tons of CO<sub>2</sub> / 100 million yen.

#### CO<sub>2</sub> Emissions and CO<sub>2</sub> Intensity Trends



### Energy-saving activities at all sites

In FY 2011 CO<sub>2</sub> emissions were reduced by approx. 14,600 tons

JATCO sets CO<sub>2</sub> emissions reduction targets for each site, and not only those in charge of environmental conservation but a large number of employees come up with and implement energy-saving ideas. The ideas that were actually put into practice and proven to be significantly effective are featured on the internal environmental website (see p.25 for details) for sharing as well as for boosting employee motivation. The energy saving ideas implemented in FY 2010 resulted in CO<sub>2</sub> emission reduction of approximately 14,500 tons.

### CO<sub>2</sub> emission reductions through lighting improvements at various factories

In FY 2011 CO<sub>2</sub> emissions were reduced by approx. 190 tons

CO<sub>2</sub> emissions reductions made through lighting improvements are one of JATCO's core energy saving measures that have been implemented systematically. Lighting is a typical "little things make a big difference"-type energy and account for a rather significant share of energy consumption at the company as a whole including factories. We have therefore made improvements to ceiling lighting in our factories. We switched to energy efficient lighting, carried out light thinning and turned off certain lights, while ensuring a bright enough environment. In FY 2010, these efforts resulted in savings of 2,059,000 kWh in power consumption, while CO<sub>2</sub> emissions were reduced by approximately 770 tons.

### Collaboration with companies in other business fields

As a new global environmental conservation approach for JATCO, we have been actively promoting collaboration with companies from different industries. We have been working with The Tokyo Electric Power Company, Incorporated since FY 2005 to install NAS battery equipment\*2. The NAS is charged at night, when demand for electricity is at its lowest, and the power is used during the day, when demand for electricity is at its peak. This helps the power plants control output and enables an efficient use of electricity.

In FY 2007, we collaborated with CHUBU Electric Power Co., Inc. to observe the combustion conditions of an aluminum-melting furnace in real time and implemented a system to sustain the most suitable state of combustion. Presently, we are promoting the same activity for the entire company.

JATCO  
Voice

### Providing documents that lead to energy cost reductions

I have been in charge of energy budgeting, results management and cost reductions since 2008. Over the last four years there have been a variety of fluctuations in energy prices. This included the sharp increase in oil prices following the collapse of Lehman Brothers in 2008. This was followed by instability in the Middle East in 2009.

Then it was the nuclear accident at the Fukushima Daiichi Nuclear Power Plant after the Great East Japan Earthquake in 2011. This led to the suspension of operations at all nuclear power plants

in Japan and also caused sharp electricity price hikes in areas served by the Tokyo Electric Power Company starting in April 2012.

In the process of pursuing further energy conservation activities, I have found that while it is necessary to improve investments in facilities it is also important to improve energy efficiency without additional investments.

Going forward, I hope to provide documents that help us visualize our energy use and in turn cut costs. In this regard, I ask for everyone's assistance.



In charge of environmental energy

**Akinori Warashina**  
Production Administration Section  
Production Administration  
Department

#### Glossary

\*1 CO<sub>2</sub> consumption rate: CO<sub>2</sub> emissions per sales (100 million yen)

\*2 NAS battery: a liquid sodium and liquid sulfur storage battery using a special ceramic



# Production Process

We are making improvements to our production technology in order to create a production line with lower environmental load

Not only are we making improvements to the products themselves, we are also streamlining the production process, expanding our energy efficiency and resource conservation activities throughout the entire organization.

## Conducting various environmental activities

### Installation of solar power generation system and rooftop greening

In FY 2011 CO<sub>2</sub> emissions reduced by approx. **4.8 tons**

On the roof of the head office building we have installed a 10kW solar power generation system that takes advantage of the sun's renewable energy. This energy is used to power the building's air conditioning. The introduction of this system has cut annual CO<sub>2</sub> emissions by approximately five tons per year. In addition, we used the inherent nature of plants to lower the temperature to implement a green roof that has helped to lower the building's temperature, reducing the power requirements of the air conditioning in summer.



Rooftop solar panel array

### J-ESCO activities

JATCO is promoting energy saving with its energy efficiency audit team called J-ESCO (JATCO Energy Service Company). J-ESCO is a team that investigates such things as the condition of factory equipment and the loss of energy. They then make improvement proposals to the divisions, and support them in their efforts to reduce CO<sub>2</sub> emissions. There are members on the team, appointed from among JATCO and JATCO Plant Tec's environmental energy staffs. By having efficiency experts perform audits and provide support, we are also transferring energy-saving knowledge within the company.

So far the team has been supporting energy efficiency-related efforts at factories. It is currently working on ascertaining the status of energy usage at offices.

## Conservation activities in the office

### Implementation of Cool Biz and Warm Biz

As part of our energy conservation efforts, we raise temperatures in our offices between June and September, and encourage our employees to wear Cool Biz friendly light clothing. From December to March we participate in Warm Biz, encouraging our employees to wear more clothes if they feel cold, and allowing us to lower the set air-conditioning temperature.

### Visualization of power consumption to promote voluntary energy-saving activities

JATCO began announcing the previous day's power consumption within the company in a bid to promote energy-saving activities by visualizing our actual power use. This allows all employees to easily check the power consumption in the various regions and serves as a guide for energy saving. With this initiative, we aim to promote voluntary energy-saving activities by individual employees.

### Employee awareness activity through the environmental website

We launched a dedicated environmental intranet site to raise environmental awareness among employees. This website is updated with internal and external event information, as well as content such as JATCO eco test and Ecodrive test that help employees learn more about environmental issues.



To raise awareness of energy efficiency, we posted on the website a case study conducted in the company titled "Energy Efficiency Case Study Presentation 2010". The knowledge gained from this is being spread throughout the whole company.

JATCO  
Voice

### Two ways to conserve energy

Our energy conservation activities can be largely broken down into two methods. First, activities that completely eliminate waste, such as forgetting to turn off the lights, heating or cooling empty rooms, air leaks, idling machines, or furnaces kept on even though they are empty. Secondly, activities that help reduce energy usage through streamlining and greater work flow efficiencies, such as changing lighting fixtures to LED bulbs, shortening machining times, eliminating

processes, and consolidation of empty areas.

Eliminating waste can be done manually by our people, so it does not require any additional costs. Activities that help streamline work methods and continually lead to improvements are a form of energy conservation made possible by human knowledge. We are taking a balanced approach to both these energy conservation methods to ensure our production activities are efficient and not wasteful.



**Shigeru Aoki**  
Production Administration Section  
Production Administration  
Department

## Setting easily practiced rules for separating waste

We are implementing internal activities to reduce waste by assessing whether it can be reduced, reused or used in other ways and devising ways to do this. There are some waste materials that we have no option but to dispose of. Such waste is disposed of in accordance with the established separation criteria so that it can be recycled.

## Waste reduction activities

### "Zero emission" activities

In FY 2010 achieved direct landfill waste was **zero**

By incorporating "zero emission of waste" into the waste reduction promotion management of the Environmental Management System (ISO 14001), we are promoting activities to achieve this goal. As a result of these efforts, we were able to cut the amount of landfill-bound waste to zero at our business sites in Japan.



### Achieved 100% recycling rate

In FY 2011 achieve recycling rate was **100%**

As part of its "zero emission" initiatives, JATCO is driving forward with efforts to avoid the incineration or landfill of waste and instead take measures such as thermal recycling and material recycling. Also, to effectively collect waste for use as resources, we have strict measures for separating our waste. Through these activities, we achieved a recycling rate of 100% at our business sites in Japan.

### All employees participate in waste reduction

In FY 2011 total waste was reduced by **11% (vs. FY 2005)**

To reduce CO<sub>2</sub> emissions at each of our business sites, we are taking various energy-saving measures. Each business site sets its own targets and each worksite posts its own ideas that have been implemented to raise motivation and share methods for energy preservation.

### Glossary

\*1 Hazardous air pollutants: dichloromethane, trichloroethylene, tetrachloroethylene

\*2 PRTR: The Pollutant Release and Transfer Register, a law to promote improved management of emissions of specific chemical substances into the environment

## Chemical substance management activities from production processes

### Managing Volatile Organic Compounds

In FY 2011 VOC emissions were reduced by **99% (vs. FY 2000)**

As a volatile organic compound (VOC) measure, activities based on the action plan of Japan Auto Parts Industries Association (JAPIA), aiming for VOC 30% reduction in emissions by the year 2010 (compared to FY 2000) were conducted. As a result, we were able to achieve a 98% reduction by FY 2006 and a 99% reduction in FY 2010.

### Measures against soil and groundwater contamination

As a measure to protect against soil and groundwater pollution, the use of chlorinated organic solvents was abolished. As these solvents had been used in the past, JATCO is currently monitoring its records and the environment for any signs of impact.

### Eliminated the use of 3 hazardous air polluting substances

In FY 2011 3 hazardous air polluting substances were eliminated by **100% (vs. FY 2000)**

In FY 2006 JATCO achieved a 100% elimination of the emissions of 3 hazardous air polluting substances\*<sup>1</sup> and maintained that success in FY 2010.

### PRTR substances management

The amount of chemical substance emissions and transfers subject to PRTR\*<sup>2</sup> handled at JATCO's production sites in Japan are shown in the graph below. In FY 2010, N,N-dicyclohexylamine, 1,2,4-Trimethylbenzene, and n-hexane were added to list of controlled chemical substances based on revisions made to Chemical Substance Control Law.

■ PRTR substance handling and emissions volumes (FY 2010)

Classification	Chemical substance	Amount handled	Emissions volume			Amount of waste transfers
			atmosphere	water	soil	
Specified Class I Designated Chemical Substances	dioxin (mg-TEQ/year)	—	67.7	0	0	0.51
	benzene	894	1	0	0	0
Class I Designated Chemical Substances	ethylbenzene	2,875	7	0	0	0
	xylene	151,801	40	0	0	0
	1,2,4-trimethylbenzene	117,245	0.3	0	0	0
	1,3,5-trimethylbenzene	1,888	32	0	0	0
	n-hexane	1,688	5	0	0	0
	toluene	41,960	28	0	0	0

Unit: kg / year (dioxins mg-TEQ / year)

## Reducing the environmental loads associated with transportation

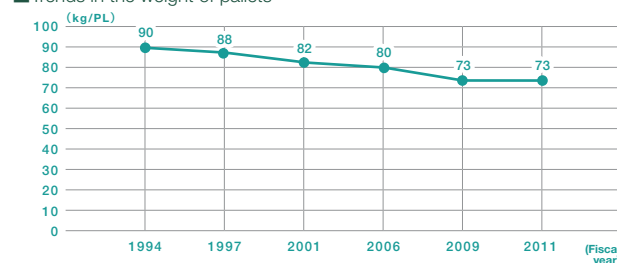
## Switching to improved transportation systems

In FY 2011, CO<sub>2</sub> emissions were reduced by 32% (vs. FY 2006)

Diagram illustrating the new route from Shizuoka to Guangzhou via Honmoku:

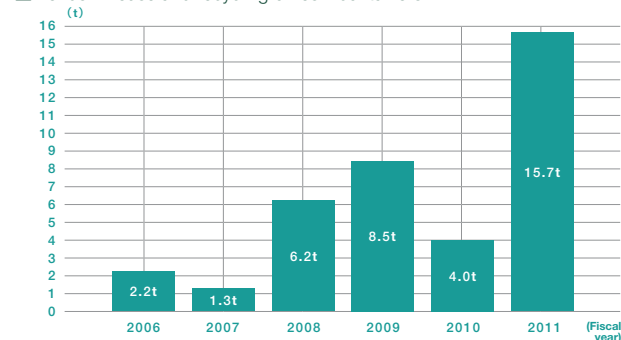
- New route:** Shizuoka → Guangzhou (dark green arrow).
- Existing route:** Shizuoka → Honmoku → Guangzhou (light green arrow from Shizuoka to Honmoku, and light blue arrow from Honmoku to Guangzhou).

## ■ Trends in the weight of pallets



\*The comparison between truck transport of 3,276 tons-CO<sub>2</sub> and JR train transportation of 546 tons-CO<sub>2</sub> (research conducted by the Japan Freight Railway Company).

## ■ Trends in reuse and recycling of resin containers



## Making the environment the origin of our communication

## JATCO actively shares its commitment to the environment

### Performance by the Shizuoka Environmental Caravan

Children releasing juvenile fish into the river

Our booth at the Tokyo Motor Show

### Distribution of plants



# Environmental Conservation Activities Overseas

JATCO's sites around the world are each joining in initiatives to reduce our environmental load.

## Mexico

At JATCO Mexico, employees are highly motivated to address global environmental protection issues as a key social responsibility of the company.

### JATCO Mexico's environmental management system

Since its establishment in April 2003, JATCO Mexico has been engaged in a variety of environmental activities, including establishing environmental policies, conserving energy from the power supply side, and improving the company's recycling rate through waste sorting. In particular, starting in 2009 the company worked to construct an environmental management system, which underwent a review in March 2010 and obtained ISO14001 certification in May 2011. Moving forward, JATCO Mexico will operate this system as it strives for continuous improvement and works to achieve "A society where automobiles and the environment can coexist in harmony".

The company has set up three committees to operate its environmental management system: the Environmental Committee, the Environmental Legal Requirements Subcommittee, and the Energy Conservation Subcommittee.

The Environmental Committee is composed



ISO14001 certificate

of representatives from each department and is headed by the company President and Vice-President. The Committee comprehensively debates, assesses, and tracks activities related to the environment. The Environmental Legal Requirements Subcommittee is comprised of managers in charge of the environment as well as members drawn from production, occupational safety and health, finance, and other departments. The Subcommittee determines, assesses, and applies legal and other requirements pertaining to the environment. Finally, the Energy Conservation Subcommittee deliberates and promotes the efficient management of electrical power, water, gas, and other power sources at each shop.



Key members behind construction of the environmental management system

### Continuous improvement initiatives at JATCO Mexico

JATCO Mexico establishes environmental objectives every fiscal year as the company seeks to reduce its environmental load. The company also subjects its environmental management system to continuous improvement, conducting an annual review and setting objectives for the next fiscal year.

Items	Base year performance (base FY)	2010		Evaluation
		Targets	Results	
Determination of applicable legal items	—	100%	100%	○
Reduction in general waste generated per unit*	0.45 Kg (2009)	10% reduction (compared to base FY) 0.405 Kg	33.3% reduction 0.300 Kg	○
Reduction in industrial waste generated per unit*	79.44Kg (2008)	10% reduction (compared to base FY) 71.5 Kg	17.2% reduction 65.77 Kg	○
Efficient use of electricity per unit*	153.17kwh (2008)	153.17 kwh	7.4% reduction 141.83 kwh	○
Reduction in volume of water consumed per component in the casting process	0.063 m³ (2008)	3% reduction (compared to base FY) 0.0611 m³/pza	26.3% reduction 0.0464 m³/pza	○

\* Units produced: Generated per unit of CVTs produced

Evaluation/○:Achieved target: ×:Did not achieve target

## China

JATCO Guangzhou conducts environmental assessments for new equipment and construction taking place at the plant to preserve as much beautiful nature as possible for future generations. The company also adheres to Guangzhou Environmental Protection Agency regulations.

### We conducted environmental assessments to achieve a factory with low environmental burden.

To meet increasing demand, JATCO Guangzhou is undertaking new construction aimed at expanding the existing factory, with new operations set to begin in April 2012. The company has performed construction to expand the factory twice so far, including new construction in 2009. At both times, the company conducted environmental assessments to understand the factory's impact on the local environment. The assessments investigated elements including factory wastewater, exhaust gases, and environmental loads arising from production processes. With the subsequent approval of the Guangzhou Environmental Protection Agency, JATCO Guangzhou drew upon the results of the assessments during construction at the factory. Since the first expansion project, the company has worked particularly hard to introduce energy efficient equipment

in every building, starting with high-efficiency lighting. Moreover, recently the company has been tackling energy conservation not only in the development of infrastructure but also as a day-to-day improvement activity, launching improvements such as reducing unneeded lighting in offices and managing the temperature of air conditioning. In this way, JATCO Guangzhou will achieve clean operations in line with China's regulations.

In addition, JATCO Guangzhou launched a recycling system along with the construction of its factory, to address wastes such as aluminum spent chips, plastics, and cardboard. As a result, the company has been able to achieve its current 70% recycling rate. At present JATCO Guangzhou is pushing forward with activities that deal with the new increase in waste accompanying factory expansion.

## Thailand

JATCO Thailand, which is scheduled to start production in 2013, aims to lessen its environmental impact through measures under the banner "JATCO Thailand Green Action," as follows.

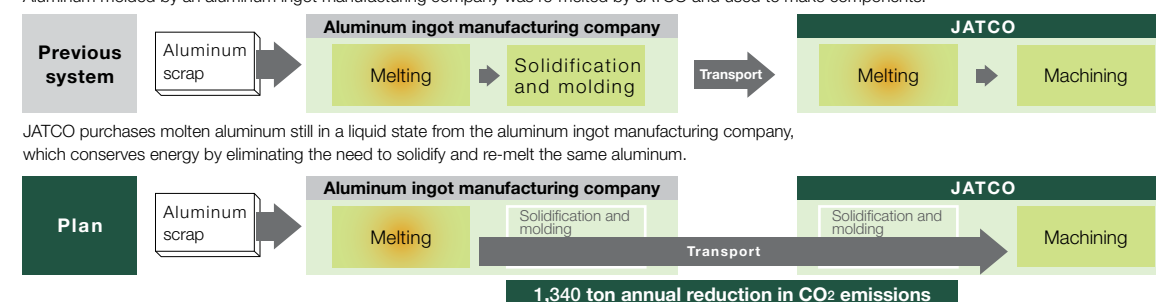
1. Purchase molten metal instead of aluminum ingots
2. Introduce vacuum carburizing heat treatment equipment
3. Treat plant wastewater
4. Recycle resources through separation and collection
5. Maximize greenery on plant grounds

Among these, the purchase of molten aluminum is particularly unique. JATCO Thailand takes advantage of ingots from an adjacent ingot casting company. By using the molten metal as-is in plant's equipment, the scheme reduces CO<sub>2</sub> that would otherwise be produced during the re-melting process.

In this way, JATCO Thailand is striving for environmentally friendly improvements together with local businesses.

#### ■ Purchasing system for molten aluminum ingots

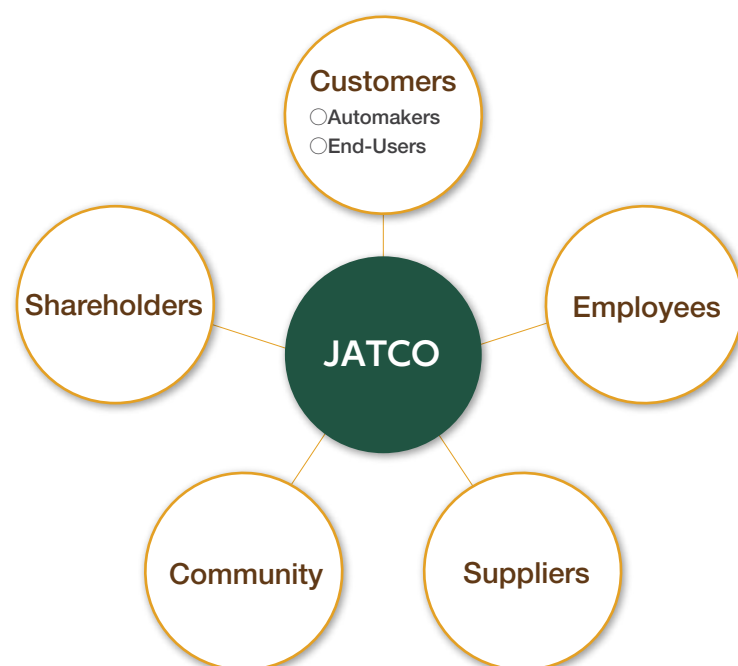
Aluminum molded by an aluminum ingot manufacturing company was re-melted by JATCO and used to make components.





Corporate Vice President Takeshi Kitajo

## [JATCO's various stakeholders]



## JATCO Recognizes the Importance of its People in Continuing to Provide Value Added Transmission Units that Meet the Needs of Global Markets

### The growth of each and every employee produces a relationship of trust

As demands today call for a higher level of environmental performance from automobiles, JATCO's transmission units are required in many markets around the world, including developed countries and emerging countries alike. In order to continually meet the expectations of these markets, it will be critical to provide superior transmission units at a lower cost and in a speedier manner. To that end, JATCO must continue to tackle even greater challenges.

JATCO values its employees so much that it refers to them as "human assets." We also value the diversity of each and every individual that is part of the JATCO family, and we strategically promote building positive workplace environments so that we can utilize the strengths of every employee to the maximum extent possible in striving to achieve the shared goal of sustainable growth. We believe that the constant evolution and spirit to take on challenges exhibited by our employees will provide the impetus for JATCO to achieve sustainable growth and by extension foster relationships of trust with its stakeholders.

### Building relationships with the local community first begins by making employees proud of the company

In order to build relationships of trust with our stakeholders, it will also be equally important to develop positive relationships with the local community as a good corporate citizen. For JATCO to be a company that is well regarded by the local community and local residents, however, first we need to be a company that our employees are proud of. Employees that have pride in their company and that are active as good corporate citizens with positive character in the local community will help foster a relationship of trust with society, I believe. JATCO actively supports the social contribution activities of each and every one of its employees by

providing facilities for these activities and giving plant tours and sponsoring hands-on events, in essence undertaking uniquely JATCO social contribution activities that leverage the resources cultivated from our business activities. Going forward, we wish to contribute to the sustainable development of society in order to pass on a rich and diverse world to future generations.

### Keys to making further progress

Collaboration with our suppliers, which provide us with components, as well as our automaker customers is absolutely essential to our business activities. The Great East Japan Earthquake that struck Japan on March 11, 2011 brought about significant damages to the plants of JATCO's supplier and customer companies. JATCO strived to provide information on production and to ascertain the damages of each of its business locations as well as to provide assistance to restore the operations of damaged companies. In the earthquake that struck Eastern Shizuoka Prefecture later in March 2011, this time JATCO's facilities suffered heavy damages and its customer as well as supplier companies came to the rescue to provide significant amounts of assistance to restore operations at our affected plants. As a member of the supply chain, today I now feel a renewed sense of importance in inter-company collaboration.

In the wake of these earthquakes, we implemented our business continuity plan (BCP), which we had formulated to ensure that the company could continue to facilitate its operations even during a major natural disaster, and our employees came together in making efforts to ensure that we were able to continue to provide our transmission units to our customers in a speedy manner. The bond of solidarity and experiences in overcoming these crises will without a doubt act as an important foothold for our future progress. Going forward, together with its stakeholders JATCO will continue to promote the growth of its people in order to provide value to its customers, automotive culture and society.



# Responding to emergencies

Planning for accidents and disasters to create thorough readiness

## Preparing for emergencies

JATCO has prepared countermeasures against major impacts on production and supply caused by disasters such as earthquakes, as well as epidemics, accidents, and other unforeseen troubles.

### Initiatives toward BCM\*

#### Dealing with major earthquakes

As one component of BCM, JATCO conducts disaster prevention activities aimed at first-response rescue, secondary disaster prevention, and speedy and effective recovery, all directed toward major (seismic intensity 6 or higher) earthquakes feared to strike sometime in the near future.

As a first-response measure, in March 2010 we completed preparations for an emergency earthquake notification system. We further enabled a system in workplaces to confirm employees' safety after an incident, and worked to shorten the time required to complete confirmations. Moreover, the disaster training we conduct every year incorporates the activities of our in-house firefighting team and involves participation by all employees.

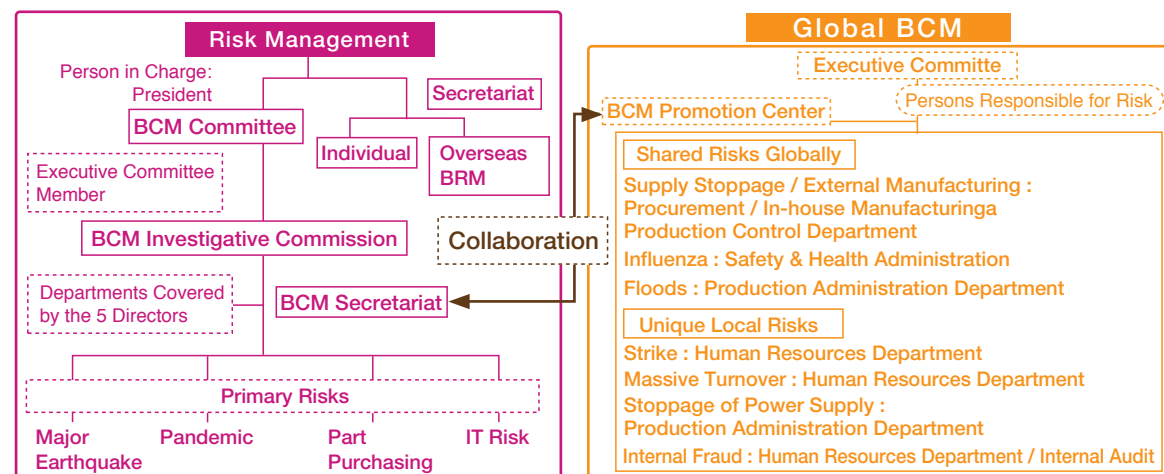
As one recovery measure, from FY 2008 we have conducted BCM training for all relevant divisions. In this training, each division coordinates among themselves to find solutions to anticipated problems facing business recovery, based on damage assumptions from an earthquake. This includes

dealing with automobile manufacturers, suppliers, the community, and the media. Through repetition of such training, we aim to ensure a rapid response. To roll out our BCM more smoothly, in 2011 we expanded our BCM room, further strengthening our ability to respond to business continuity risks including emergencies. In addition, experiences gained from this BCM development process are also utilized in the BCM development process of our overseas production bases including Mexico and China, indicating that the JATCO Group is steadfastly committed to implementing BCM across all of its operations globally.



BCM activities at the time of the earthquake in March 2011

#### ■ BCM Promotion Organization



#### Glossary

BCM: An abbreviation for "Business Continuity Management," which refers to creating a business continuity plan (BCP) and conducting training exercises under this plan in preparation for addressing a situation where the company can no longer continue to operate due to a large-scale natural disaster or pandemic.

## Safeguarding Our Employees and Equipment

### Earthquake countermeasures for buildings and equipment

We have instituted a wide range of earthquake countermeasures at our primary production sites in Japan to prevent damage or injury to employees, equipment and buildings as well as ensure plant functions can be quickly restored. These measures include seismic retrofitting of our buildings, securing production equipment in place, and making sure that nothing can fall from the ceiling or cranes. As a member of the supply chain, we are also constantly thinking up new measures so that any impacts on our customer's production are kept to a minimum.



Newly installed brace

### Earthquake countermeasures at our overseas sites

JATCO plans to roll out the same BCM activities overseas in preparation for earthquakes or large-scale disasters at its growing network of overseas sites.

For example, JATCO Thailand, at which construction is underway, raised its foundation embankment by 50cm to guard against flooding and tsunami, given the major floods that occurred in the country in 2011.

### Ensuring the safety of our employees

JATCO has developed detailed procedures on evacuation sites and evacuation methods in order to ensure the safety of its employees in the event of a large earthquake.

We also regularly hold training drills based on a wide range of scenarios, including disasters striking during the daytime or nighttime, to make these procedures known to all employees. In addition, we maintain stockpiles of supplies at our sites, such as water, food, helmets and blankets, to prepare for an emergency event where employees may not be able return home on the same day.



Disaster relief supplies stockpiled at one of our sites in Yokohama



Raised embankment at the future site of JATCO Thailand

## Cooperating with local safety enhancements

### Assisting with the evacuation of local community members

We have made plans to provide local community members with a place of refuge at our sites if they have no other evacuation site to go to following a large-scale natural disaster. As a member of the local community, we are always committed to helping those in need.

### Activities to promote BCP (Business Continuity Planning)

From FY 2008, we have undertaken efforts to promote the spread of BCP through training sessions aimed at local small and medium enterprises in Fuji City. JATCO supports the program by providing instructors.

# Working with Suppliers

## Aiming for a partnership of mutual growth

Building upon a foundation of trust with our suppliers, we are working to maintain and strengthen cooperative relationships based on equal footing and aimed at mutual growth.

### JATCO's commitment to maintaining and strengthening its cooperative relationships with suppliers as well as contributing to the development of society

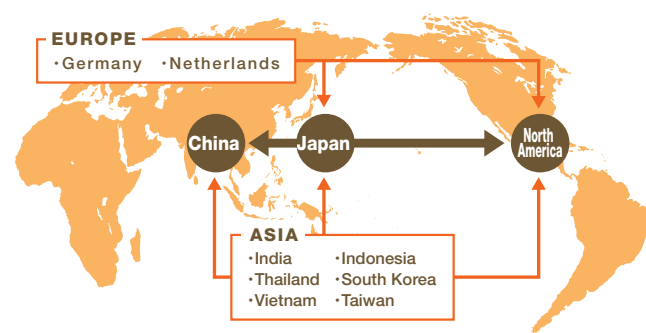
Based upon our relationship of trust with our suppliers, JATCO is working toward our shared growth and the achievement of a society where automobiles and the environment coexist in harmony.

Cooperation under fair, even, and transparent standards is vital to the achievement of those goals. That is why we implement and follow clear rules (as exemplified by Green Purchasing) for supplier selection and commendation of excellent suppliers.

In the future, as we expand our procurement from the global marketplace, JATCO will undertake the sharing of CSR (Corporate Social Responsibility) and continue contributing to the sustainable development of society.

### Procurement in the global marketplace

In the global market, where JATCO is significantly expanding production in Mexico and China, we implement fair and equitable procurement activities. We also promote LCC procurement and local production to improve efficiency of parts transportation.



### Environment-related initiatives

#### Managing environmentally hazardous substances

JATCO manages substances with environmental loads in its products based on the JES M9001 technical standards that regulate the use of specified substances. In FY 2010, we continued to pursue activities under this program together with suppliers, centered on the three items discussed below.

##### 1. Global implementation of JATCO's Green Purchasing Guidelines

We manage substances with environmental loads on a global basis including the Japanese headquarters and overseas affiliated companies.

##### 2. Standardizing the application of Green Purchasing to new suppliers

We promote management of substances with environmental loads at new suppliers by asking them to submit Green Procurement-related documents.

##### 3. Conformance with the EU-REACH Regulation

We have expanded the scope of items under management to include not only the data on chemical substances in products but data on chemical substances in shipping parts and in packaging materials for transport and more recently supplies used in the production process (such as stationery including magic markers). We will continue with our persistent efforts to reduce the use of environmental load substances.

#### Collaboration with suppliers

JATCO will further promote Green Purchasing activities in response to rising environmental consciousness around the world.

In addition, we commend excellent suppliers which recognize JATCO's aspiration to achieve a society where "automobiles and the environment coexist in harmony" and cooperate in our endeavors. Starting from FY 2011, we decided to commend suppliers which made contributions to business locations in Japan, Mexico and China, in addition to our global commendations. We include contributions to environmental conservation from various aspects in the selection criteria for commendation, with the aim of deepening a win-win relationship with our suppliers.

#### Outline of green purchasing

The Green purchasing activities for which we are asking your cooperation at this time, are the activities to promote environmental conservation through the products purchased from our suppliers. Important activities include the following three items:

1. Confirmation of intention toward green purchasing
2. Development of an environmental management system
3. Reporting on the usage conditions environmental impact substance

In the future, we will favor those suppliers who aggressively promote green purchasing activities in product purchasing. We also ask our suppliers to favor their suppliers who are aggressively promoting green purchasing activities in product purchasing.

JATCO  
News

#### Supplier commendations and promoting a common vision

Every year JATCO awards a select number of its suppliers to receive commendations at an awards ceremony to express its thanks and recognize its partnerships. In 2011, nine suppliers were commended for their contributions to JATCO globally, while 29 suppliers were recognized for their contributions to individual JATCO sites in Japan, Mexico and China. Although there were many ways in which these suppliers contributed, including new product development and production capacity expansion, JATCO and each of its suppliers always share the same vision that transmissions help achieve a society where automobiles and the environment can coexist in harmony.



Picture of the 2011 awards ceremony

# Employees and our Workplace

## Aiming for safety first in the workplace

Through workplace risk assessment activities and employee health care, we are creating workplaces in which all employees can perform their jobs safely and comfortably.

### Ensuring occupational safety

Under the motto "All safety activities run through risk assessment activity," JATCO undertakes safety programs centered on observation of the workplace. This includes SES I,\*1 5S patrols, factory (or section) safety patrols, open work observation, and safety-focused observation, beginning with our "Risk Disclosure Group" that unearths on-site risks from a wide variety of perspectives. We are emphasizing an elimination of processing glitches in particular, as they not only are associated with high risk of occupational accidents but also hurt production activities.

All risks uncovered through various activities are recorded for determination of appropriate response and prioritization of

response according to risk severity. By speedily implementing hardware measures such as equipment improvements and software measures such as education or instruction, we are seeking to achieve our goal of "Zero dangers from zero accidents".



Risk Disclosure Group activities

### Ensuring employees' health (occupational health)

#### Mental health initiatives

To maintain the health of employees in both body and mind, we have partnered with an EAP\*2 specialist organization to offer consultation, examination, and counseling to employees and their families.

#### Improving lifestyle habits of employees

To counter metabolic syndrome and other lifestyle-related illnesses, JATCO offers health guidance to employees who are identified as in need based on health check-up results. We provide various forms of guidance, such as continuous support including follow-up after interviews, to steadily improve their health condition and to achieve their health goals.



Guidance on preventing lifestyle-related illnesses

#### Anti-smoking initiatives

In addition to the existing anti-smoking measures such as reducing smoking areas, the setting of smoking times and discontinuation of in-house tobacco sales, JATCO set forth a monthly no smoking day in FY 2011 by following the lead of the World No Tobacco Day on May 31, to raise employee awareness about non-smoking. JATCO also holds workshops for quitting smoking and offers treatments using smoking-cessation aid.



No smoking poster

#### Dealing with new strain of influenza

When the new strain of influenza broke out in 2009, we were able to minimize outbreak among employees by drawing up and disseminating employee activity guidelines. We gave a report on this activity during the 83rd Japan Society for Occupational Health.

To address highly contagious new strains of influenza, we have compiled a manual detailing our response to outbreaks and ensure the smooth continuation of our business activities by following the basic policies of human life first, preventing the spread of the virus and ensuring business continuity outlined in our action plan and other documents.

#### Glossary

\*1 SES I : An abbreviation for Safety Evaluation System, this is a system for quantitatively evaluating the level of safety in workplaces (JATCO safety evaluation standards). \*2 EAP : Employee Assistance Program



# Employees and our Workplace

## Aiming for workplaces that support individual growth

JATCO practices respect for diversity along with human resource development matched to the times. Our goal is to create workplaces that spur motivation to work and allow employees to experience growth as individuals.

### Efforts to develop human resources globally

#### Dealing with globalization

##### Human resource exchange program with our overseas locations

To help young employees grow quickly as global human resources able to respond to our expanding overseas markets, JATCO operates a human resource exchange program with its overseas locations. This program aims to instill a global mindset in participants, not only through work but also diverse experiences that include everyday living.

#### Global Education Program

This program offers not only language study (English, Chinese, Thai, etc.) but also communication training (assertiveness, debate, etc.) and overseas intercultural training to enhance the skills and mindset needed for globalization.

#### Gemba Training for Overseas Personnel

JATCO conducts practical shop-floor training at our plants in Japan for Chinese workers introduced to us through the China International Intellectual Corporation. The program allows workers to learn practical skills as it contributes to the development of young talent, one of China's key national policies. At the same time, this program aims to give trainees personal exposure to JATCO's corporate philosophy and culture, instilling in them the image of working within the JATCO Group and an understanding of the transmission manufacturing workflow.



Trainees from China

### Respecting the independent growth of each individual

#### Nurturing personnel with independence

To enable new employees to thrive in whatever division to which they are assigned, we implemented our Freshman Leader system. Under this system, the senior employees who will directly supervise new employees in their assigned divisions offer guidance and advice to ensure a smooth entry into work and company life.

#### Fostering the desire to learn

To support employees that have a desire to learn on their own, JATCO has prepared educational courses that employees can take on their own. The program provides opportunities to take a variety of courses, ranging from job-related content to personal development programs not immediately related to work.

### Working toward a corporate culture of recognition and praise

#### Thanks Card System

"Thanks for the quick response on..." "Thank you for always brightening the workplace with your cheery greetings..." These are the expressions of gratitude we write and exchange by card under the Thanks Card System introduced by JATCO. Through on-the-spot expressions of gratitude, we aim to promote a culture of praise and boost employee motivation to take the next action.



Thanks Award recipients

#### Commendation System

JATCO awards the President's Commendation and Corporate Officers' Commendation for meritorious deeds and conduct that enhance the company's results or its honor. By properly evaluating, recognizing, and commending such deeds and conduct, we create an environment where employees gain motivation to undertake their work.



President's Commendation

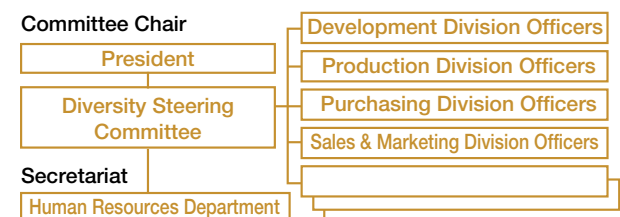
### Respecting employee diversity

#### Undertaking diversity as a management issue

To develop our business globally and continue providing good value to customers while responding to changing times, we recognize the importance of creating new values that incorporate diverse perspectives. With that in mind, JATCO has positioned diversity as a management issue and has launched a variety of related initiatives.

In FY 2008 we established the Diversity Steering Committee, staffed by management personnel and headed by the President, to actively promote employment and human resource deployment without gender, nationality, or other bias.

■ Organizational chart of the Diversity Steering Committee



#### Encouraging the activities of multinational human resources

As one of its diversity initiatives, JATCO promotes employment opportunities without concern for nationality. The company now has employees from many nations, including South Korea, China, U.K., and India among others. We also promote personnel and technological exchanges among overseas sites. In situations such as discussing new projects, concerned members from across JATCO, including members from overseas sites, come together as one to resolve issues.



Interaction among members of overseas sites

### Valuing employee diversity

#### Work-life balance

JATCO realizes the importance of the "work-life balance" mindset that enables compatibility between jobs and private life. We strive to create a workplace environment in which all can work with confidence and enthusiasm, and are expanding systems to flexibly allow work tailored to individual employees' circumstances.

We have also positioned work-life balance as a measure supporting the promotion of diversity, and year by year are enriching our programs to support work that is compatible with child and family care.

### JATCO's initiatives have received praise from outside the company as well.

JATCO's support for men's participation in child care, including the promotion of work leave for fathers following childbirth and the raising of the target age for the shortened working hour program, resulted in the awarding of the "Next Generation Accreditation Mark" (colloquially known as "Kurumin") by the Minister of Health, Labor and Welfare in June 2009. This mark recognizes companies

that fulfill specified criteria, including drafting, executing, and accomplishing general employer action plans based on Japan's Law for Measures to Support the Development of the Next Generation.

JATCO is not content to stop with the acquisition of this certification, and will continue striving for a workplace environment in which all can work comfortably.



Next Generation Accreditation Mark (also known as "Kurumin")

#### JATCO Voice

#### Both study and work are enriching

I am a new employee in my first year with the company. I joined JATCO with an admiration for Japan's high technological prowess.

Since joining, I have come to gradually understand more about transmissions through group training, on-site practical training, and internal e-learning. The workplace is enriching with

something new every day, making both my studies and work enjoyable. The workplace environment has many male employees. I find it easy to talk to my seniors, and find the workplace very easy to work in. I am still new, but I hope to quickly grow into a full-fledged member able to contribute to the company through my own abilities.



New hire in 2011

**Sai Seii** (from China)  
Quality Assurance Department

# Community Relations

## Making efforts to contribute to society as a member of the community

Making ongoing contributions to the local community is a requirement for a good corporate citizen.  
At JATCO, we carry out communication activities rooted in our communities.

### Providing facilities to the community

#### Cooperation with events

In addition to opening up facilities such as our gymnasiums and tennis courts to employees, their families, and local residents, we undertake communication with local communities through events held on our company grounds. We take part in summer festivals and other local events, providing shuttle buses and parking spaces as a part of our contribution to regional activity.



JATCO Festa held at Yagi Area

Yoshiwara Gion Festival held in Fuji City

#### Support for the Fuji City Foster Care Group

As one of its regular events, the Fuji City Foster Care Group holds a training get-together every October in Hakone, with participants enjoying pools, hot springs, and meals together while deepening communication. JATCO endorses the purpose of the event and offers support by providing minibuses.

### Factory tours as a component of social studies and environmental education

As a component of social studies and environmental education for local elementary and middle school children, we welcome factory tours by the students and their families. Our tour moves from processing to assembly sites as we explain the connection between cars and transmission or the workings of gear shifting. We teach the challenges of manufacturing and also the importance of environmental preservation, through overviews of water treatment facilities and the recycling process.



Factory tours

### Undertaking societal contribution rooted in communities

#### Local cleanup activities

We actively participate in regional activities aimed at cleanup, beautification, and environmental maintenance. Moreover, we have established an Environment Day at each workplace to regularly perform mowing and garbage pickup around factory grounds during lunch hour.



Cleanup activity

#### Involvement in tree planting activities

JATCO is taking part in a project to plant native beech trees at the foot of Mt. Fuji to ensure that the natural wonders of the area can be passed down to future generations.



Planting Japanese beech saplings

#### Support for child facilities

JATCO donates picture books and story books to kindergartens and preschools in Fuji City and Nantan City.



Donating picture books and story books to kindergartens and preschools

#### Volunteer work at welfare facilities

At our locations in Shizuoka and Kyoto Prefectures, JATCO employees carry out ongoing volunteer work at nearby welfare facilities, assisting with tasks such as mowing grass, washing windows, and raking leaves.



Volunteer work at welfare facilities

#### Internships for local technical high schools

To support the transfer of advanced skills and the early education of young technicians, the Ginou-Juku training centers held within our company dispatch lecturers to nearby technical high schools to provide instruction in high-level technical skills. In addition, we also arrange internships for local technical high schools in order to deepen student understanding of the intricacies of Monozukuri, from materials through to machining and assembly, enable a more informed understanding of the workplace through the acquisition of technical and practical



Internships for local technical high schools

skills, and to provide a deeper understanding of related subject matter as well as help them make a career choice.

#### Cooperation with hands-on events

On August 5th and 6th, 2011, we offered support for Kids Engineer 2011, a hands-on event focused on automobiles held at INTEX OSAKA. JATCO supports the event from the first time, hoping that participating children become the engineers that will support Japan in the future.



Kids Engineer

JATCO  
Voice

#### Forever remaining a company that is admired

Our communication activities with the community are diverse, beginning with our support for environmental activities. All of these activities play an important role in the local community.

In my work I have opportunities to interact with people from the community and from external organizations. What I sense from this is that JATCO, as a company, is in many ways given more attention

by those around us than we realize. Amid this, I have come to feel more strongly than ever that it is our corporate responsibility to sustainably contribute to society while we grow toward the future.

Moving forward we will actively promote social contribution activities that include various means of interacting with the community.



In charge of Public relations

**Nobuaki Kimura**  
General Affairs Department

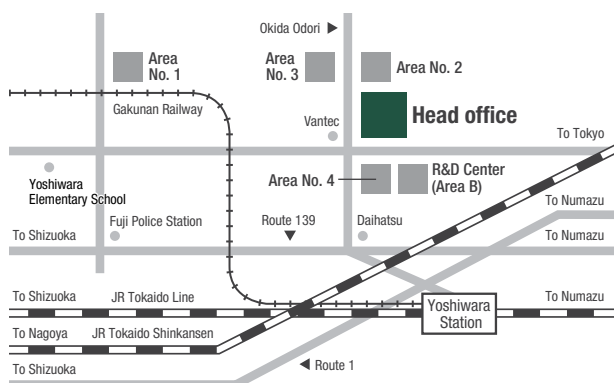


# Environmental Data from our Production Bases

\*Site data is not included for Areas other than these listed, as our company does not directly emit waste or wastewater there.

## Fuji Area

[including head office]  
grounds:580,440m<sup>2</sup>  
buildings (total):  
389,403m<sup>2</sup>



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
compact boiler (24 units)	dust	g/Nm <sup>3</sup>	0.05	ND	ND
	NO x	ppm	100	75	46
	SO x	Nm <sup>3</sup> /H	0.002	ND	ND
metal-heating furnace (16 units)	dust	g/Nm <sup>3</sup>	0.05	0.045	0.017
	NO x	ppm	150	120	73
	SO x	Nm <sup>3</sup> /H	0.018	ND	ND
steel-heating furnace (8 units)	dust	g/Nm <sup>3</sup>	0.05	0.006	0.003
	NO x	ppm	150	47	28
	SO x	Nm <sup>3</sup> /H	0.026	0.0069	0.0014
aluminum-melting furnace (10 units)	dust	g/Nm <sup>3</sup>	0.05	0.008	0.004
	NO x	ppm	150	35	22
	SO x	Nm <sup>3</sup> /H	0.019	ND	ND
drying kiln (1 units)	dioxins	ng-TEQ/Nm <sup>3</sup>	5	0.690	0.232
	dust	g/Nm <sup>3</sup>	0.05	0.047	0.045
	NO x	ppm	56	29	19.5
drying combustion furnace (1 units)	SO x	Nm <sup>3</sup> /H	0.0048	ND	ND
	dioxins	ng-TEQ/Nm <sup>3</sup>	5	0.038	0.038
	dioxins	ng-TEQ/Nm <sup>3</sup>	5	0.1	0.1

### water quality

regulation values in parentheses are daily averages ND: below lower limit

item	unit	regulation value	measured value	
		(including agreed value)	maximum	average
hydrogen ion concentration (pH)	—	5.8 ~ 8.6	7.5	7.2
biochemical oxygen demand (BOD)	mg/L	20 (15)	9.2	5.9
chemical oxygen demand (COD)	mg/L	20 (15)	8.3	6.3
suspended solids (SS)	mg/L	20 (10)	4.0	2.3
extractive substance in normal-hexane	mg/L	4	ND	ND
copper	mg/L	0.1	ND	ND
zinc	mg/L	0.1	0.09	0.07
coliform group number	group/cm <sup>3</sup>	3000	0	0
trichloroethylene	mg/L	0.3	ND	ND
dichloromethane	mg/L	0.02	ND	ND
boron	mg/L	10	0.2	0.2
fluorine	mg/L	15	ND	ND
ammonium nitrogen	mg/L	100	1.6	1.2
nitrate nitrogen				
nitrite nitrogen				

## Kambara Area

grounds:78,423m<sup>2</sup>  
buildings (total):  
58,033m<sup>2</sup>



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
kerosene boiler (2 units)	dust	g/Nm <sup>3</sup>	0.1	0.002	0.002
	NO x	ppm	130	87	68
	SO x	Nm <sup>3</sup> /H	0.045	ND	ND
metal-heating furnace (3 units)	dust	g/Nm <sup>3</sup>	150	0.009	0
	NO x	ppm	0.01	140	117.25
	SO x	Nm <sup>3</sup> /H	0.05	ND	ND
aluminum-melting furnace (1 units)	dust	g/Nm <sup>3</sup>	0.05	0.011	0.0095
	NO x	ppm	100	21	17
	SO x	Nm <sup>3</sup> /H	0.013	ND	ND
	dioxins	ng-TEQ/Nm <sup>3</sup>	5	0.16	0.16

### water quality

regulation values in parentheses are daily averages ND: below lower limit

item	unit	regulation value	measured value	
		(including agreed value)	maximum	average
hydrogen ion concentration (pH)	—	5.8 ~ 8.6	7.5	7.5
biochemical oxygen demand (BOD)	mg/L	20 (15)	3.4	2.9
chemical oxygen demand (COD)	mg/L	25 (20)	6.7	5.8
suspended solids (SS)	mg/L	40 (30)	4.0	4.0
extractive substance in normal-hexane	mg/L	5	ND	ND
coliform group number	group/cm <sup>3</sup>	1000	23	12
dichloromethane	mg/L	0.02	ND	ND
boron	mg/L	10	ND	ND
fluorine	mg/L	8	ND	ND
ammonium nitrogen	mg/L	100	1.7	1.6
nitrate nitrogen				
nitrite nitrogen				

## Fujinomiya Area

grounds:67,698m<sup>2</sup>  
buildings (total):  
66,756m<sup>2</sup>



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
compact boiler (6 units)	dust	g/Nm <sup>3</sup>	0.05	0.005	0.003
	NO x	ppm	100	85	76
	SO x	Nm <sup>3</sup> /H	0.01	ND	ND
metal-heating furnace (3 units)	dust	g/Nm <sup>3</sup>	0.01	0.004	0.002
	NO x	ppm	150	145	89
	SO x	Nm <sup>3</sup> /H	0.01	ND	ND

### water quality

regulation values in parentheses are daily averages ND: below lower limit

item	unit	regulation value	measured value	
		(including agreed value)	maximum	average
hydrogen ion concentration (pH)	—	5.8 ~ 8.6	7.6	7.5
biochemical oxygen demand (BOD)	mg/L	20 (15)	1.2	1.2
chemical oxygen demand (COD)	mg/L	20 (15)	0.6	0.6
suspended solids (SS)	mg/L	20 (15)	ND	ND
extractive substance in normal-hexane	mg/L	5	ND	ND
phenols	mg/L	5	ND	ND
copper	mg/L	3	ND	ND
zinc	mg/L	2	0.04	0.04
soluble iron	mg/L	10	0.06	0.05
soluble manganese	mg/L	10	0	0
chromium	mg/L	2	ND	ND
coliform group number	group/cm <sup>3</sup>	3000	0	0
1,1,1-trichloroethane	mg/L	0.001	ND	ND
boron	mg/L	10	ND	ND
ammonium nitrogen	mg/L	100	0.5	0.3
nitrate nitrogen				
nitrite nitrogen				

## Kakegawa Area

grounds:95,522m<sup>2</sup>  
buildings (total):  
14,954m<sup>2</sup>



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
compact boiler (2 units)	dust	g/Nm <sup>3</sup>	0.05	0.006	0.006
	NO x	ppm	100	67	66
	SO x	Nm <sup>3</sup> /H	0.01	ND	ND

### water quality

regulation values in parentheses are daily averages ND: below lower limit

item	unit	regulation value	measured value	
		(including agreed value)	maximum	average
hydrogen ion concentration (pH)	—	5.8 ~ 8.6	8	7.3
biochemical oxygen demand (BOD)	mg/L	20 (15)	3.4	2.6
chemical oxygen demand (COD)	mg/L	80 (60)	19.7	14.3
suspended solids (SS)	mg/L	20 (10)	8.0	4.1
extractive substance in normal-hexane	mg/L	3	ND	ND
phenols	mg/L	2.5	ND	ND
copper	mg/L	0.5	ND	ND
zinc	mg/L	2	0.06	0.05
soluble iron	mg/L	5	0.41	0.32
soluble manganese	mg/L	5	0.04	0.04
chromium	mg/L	1	ND	ND
coliform group number	group/cm <sup>3</sup>	3000	0	0
cadmium	mg/L	0.05	ND	ND
cyanogen	mg/L	0.5	ND	ND
organic phosphorus	mg/L	1	ND	ND
lead	mg/L	0.1	ND	ND
hexavalent chromium	mg/L	0.25	ND	ND
arsenic	mg/L	0.1	ND	ND
mercury	mg/L	0.0005	ND	ND
alkyl mercury	mg/L	ND	ND	ND
PCB	mg/L	0.001	ND	ND
trichloroethylene	mg/L	0.1	ND	ND
tetrachloroethylene	mg/L	0.05	ND	ND
carbon tetrachloride	mg/L	0.01	ND	ND
1,1,1-trichloroethane	mg/L	1	ND	ND
boron	mg/L	10	ND	ND
ammonium nitrogen	mg/L	100	0.5	0.3
nitrate nitrogen				
nitrite nitrogen				

## Kyoto Area



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
compact boiler (1 units) guideline	dust	g/Nm <sup>3</sup>	0.1	0.003	0.003
	NO x	ppm	150	32	30
	SO x	Nm <sup>3</sup> /H	0.00	ND	ND
town gas boiler (1 units)	dust	g/Nm <sup>3</sup>	0.1	0.008	0.006
	NO x	ppm	150	71	51
	SO x	Nm <sup>3</sup> /H	0.49	ND	ND

## Yagi Area

grounds:233,323m<sup>2</sup>  
buildings (total):  
68,277m<sup>2</sup>



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
compact boiler (11 units)	dust	g/Nm <sup>3</sup>	0.1	ND	ND
	NO x	ppm	150	63	43
	SO x	Nm <sup>3</sup> /H	0.00	ND	ND
continuous carburizing furnace (11 units)	dust	g/Nm <sup>3</sup>	0.1	ND	ND
	NO x	ppm	150	93	29
	SO x	Nm <sup>3</sup> /H	0.00	ND	ND

### water quality

regulation values in parentheses are daily averages ND: below lower limit

item	unit	regulation value	measured value	
		(including agreed value)	maximum	average
hydrogen ion concentration (pH)	—	5.8 ~ 8.6	7.7	7.4
biochemical oxygen demand (BOD)	mg/L	20 (10)	4.5	2.3
chemical oxygen demand (COD)	mg/L	30 (20)	4.6	3.2
suspended solids (SS)	mg/L	30 (20)	0.6	0.5
extractive substance in normal-hexane	mg/L	2.5	0.5	0.5
phenols	mg/L	0.5	0.1	0.1
copper	mg/L	1.5	0.01	0.01
zinc	mg/L	2	0.03	0.03
soluble iron	mg/L	5	0.1	0.1
soluble manganese	mg/L	5	0.1	0.1
chromium	mg/L	1	0.1	0.1
coliform group number	group/cm <sup>3</sup>	1500	33	17
nitrogen	mg/L	120 (60)	21.8	12.4
nickel	mg/L	1	0.10	0.10
phosphor	mg/L	16 (8)	0.1	0.1
boron	mg/L	10	0.3	0.3
fluorine	mg/L	8	0.2	0.2

## JATCO México, S.A. de C.V.



### atmosphere

NOx: nitrogen compounds SOx: sulfur oxides ND: below lower limit

facility name	item	unit	regulation value	measured value	
			(including agreed value)	maximum	average
metal-heating furnace (2 units)	dust	mg/m <sup>3</sup>	1,420 ~ 1,384	833	824
	NO x	Kg/hr	—	—	—
aluminum-melting furnace (2 units)	dust	mg/m <sup>3</sup>	458 ~ 461	10.67	10.67
	NO x	Kg/hr	—	0.10	0.08

### water quality

regulation values in parentheses are daily averages ND: below lower limit

item	unit	regulation value	measured value	
		(including agreed value)	maximum	average
hydrogen ion concentration (pH)	—	5 ~ 10	7.9	7.2
biochemical oxygen demand (BOD)	mg/L	150	86	29
chemical oxygen demand (COD)	mg/L	320	224	111
suspended solids (SS)	mg/L	150	90	21.5
extractive substance in normal-hexane	mg/L	25	12.69	7.25
copper	mg/L	4	4	0.25
zinc	mg/L	10	0.762	0.2185

## JATCO (Guangzhou) Automatic Transmission Ltd.



### air and water quality: not applicable

Environmental Activities

Corporate History

1943

August: Begins operation as Yoshiwara Plant of aircraft division of Nissan Motor Co., Ltd.

1970

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

April: Mitsubishi Motors Corporation established

1989

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

1997

September: JATCO USA Inc. established in USA

1998

May: JATCO Korea Engineering Corp. established in Korea

1999

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

October: TransTechnology Ltd and JATCO Corporation merge to form JATCO TransTechnology Ltd

2002

April: JATCO TransTechnology Ltd changes name to JATCO Ltd

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

2003

April: JATCO Ltd merges with Diamondmatic Co., Ltd.

April: JATCO México, S.A. de C.V. established in Mexico

October: JATCO France SAS established in France

2004

May: JATCO Korea Service Corp. established in Korea

2007

April: JATCO (Guangzhou) Automatic Transmission Ltd. established in China

Environmental and Quality Initiatives

1943

1970

1989

1992

Earth Summit held in Rio de Janeiro

1993

Basic Environment Law enacted in Japan

1997

COP 3 held in Kyoto

1998

1999

January: Nissan Motor Co., Ltd. Fuji Plant acquires ISO14001 certification (current: Fuji Area, Kambara Area)

2000

April: Acquires QS9000 certification

2001

February: ISO14001 renewal assessment

2002

December: Diamondmatic Co., Ltd. Kyoto Area acquires ISO14001 certification (current: Kyoto Area, Yagi Area)

2003

March: Diamondmatic Co., Ltd. Mizushima Area acquires ISO14001 certification (current: Mizushima Area)

November: ISO14001 renewal assessment

2004

February: Affiliated firm JATCO Engineering Ltd acquires ISO14001 certification

2005

February: Acquires ISO/TS 16949 certification

2006

December: ISO14001 renewal assessment

2008

May: Awarded Shizuoka Prefecture Governor's Medal for Distinguished Efforts in Proper Disposal of Industrial Waste

2009

February: Fuji Areas 1, 2, 3, and 4, and Kambara Area awarded commendation as Excellent Energy Management Factories; awarded Agency for Natural Resources and Energy Director-General's Award

Release of the environmentally superior Jatco CVT7

2010

Mass production of transmissions for hybrid vehicles

2011

May: JATCO Mexico obtains ISO14001 certification

2002

Earth Summit 2002 held in Johannesburg

Revised Law Concerning Special Measures for Total Emission Reduction of Nitrogen Oxides and Particulate Matter goes into effect in Japan

2003

2004

2005

End-of-life Vehicle Recycling Law goes into effect in Japan

2006

Kyoto Protocol takes effect

2007

2008

Start of first commitment period of Kyoto Protocol

2009

International Renewable Energy Agency (IRENA) established

2010

2011

Corporate Information

Corporate Profile

Company Name

JATCO Ltd

Established

June 28, 1999

Head Office

700-1, Imaizumi, Fuji City, Shizuoka, Japan

Main Businesses

Development, manufacture and sale of transmissions and automobile components

Capital

¥29,935 million

Number of Employees (consolidated)

10,567 (as of March 31, 2012)

Consolidated Net Revenues (Reference)

¥468.1 billion (FY2009)  
¥559.5 billion (FY2010)  
¥602.5 billion (FY2011)

Locations

● Head Office and Fuji Area

Fuji City, Shizuoka

■ Global Satellite Office

Yokohama City, Kanagawa

● Kambara Area

Shizuoka City, Shizuoka

● Fujinomiya Area

Fujinomiya City, Shizuoka

● Kakegawa Area

Kakegawa City, Shizuoka

● Kyoto Area

Kyoto City, Kyoto

● Yagi Area

Nantan City, Kyoto

● Mizushima Area

Kurashiki City, Okayama

■ Atsugi R&D Center

Atsugi City, Kanagawa

■ Okazaki R&D Center

Okazaki City, Aichi

■ Motegi Proving Ground

Haga-gun, Tochigi

\*Out of the above locations, ● is a environmental management system site

Global Network

JATCO (Guangzhou) Automatic Transmission Ltd.

JATCO France SAS

Togliatti representative office

JATCO Ltd

JATCO Engineering Ltd

JATCO Tool Ltd

JATCO Plant Tec Ltd

JATCO (Thailand) Co., Ltd.

(Scheduled to start production in 2013)

JATCO Korea Engineering Corp.

JATCO Korea Service Corp.

JATCO México, S.A. de C.V.

JATCO USA, Inc.

Affiliated Companies

JATCO Engineering Ltd/Fuji City, Shizuoka

JATCO Tool Ltd/Fuji City, Shizuoka

JATCO Plant Tec Ltd/Fuji City, Shizuoka

JATCO USA, Inc./Wixom, MI, U.S.A.

JATCO Korea Engineering Corp./Seoul, Korea

JATCO México, S.A. de C.V./Aguascalientes, AGS., Mexico

JATCO France SAS/Paris, France

JATCO Korea Service Corp./Seoul, Korea

JATCO (Guangzhou) Automatic Transmission Ltd./Guangzhou Guangdong, China

JATCO (Thailand) Co., Ltd. (Scheduled to start production in 2013)

Togliatti representative office/Samara, Russia

Major Customers

NISSAN MOTOR CO., LTD.

MITSUBISHI MOTORS CORPORATION

SUZUKI MOTOR CORPORATION

DONGFENG MOTOR COMPANY LIMITED

RENAULT SAMSUNG MOTORS CO., LTD.

CHRYSLER GROUP LLC

FUJI HEAVY INDUSTRIES LTD.

RENAULT S.A.S.

GM KOREA COMPANY

HYUNDAI MOTOR COMPANY

Map of Japan showing locations: Mizushima Area, Yagi Area, Kyoto Area, Fujinomiya Area, Kambara Area, Kakegawa Area, Atsugi R&D Center, Head Office and Fuji Area, Okazaki R&D Center, Global Satellite Office, Motegi Proving Ground.



***Jatco***

[www.jatco.co.jp/ENGLISH](http://www.jatco.co.jp/ENGLISH)