CSR Report 2013

JTEKT

JTEKT CORPORATION

JTEKT

Koyo TOYODA

JTEKT

CSR Report 2013

Pick-Up

Observe, Change and Challenge for the Sake of Society.

There are many rules and regulations a company must observe in order to fulfill its social responsibilities. However, merely observing rules will not fulfill the responsibility of creating new value. As well as observing, we must change and challenge. JTEKT's CSR and CSR report consider the importance of observing and changing, advancing year after year.

Editing policy

- This report aims to inform our stakeholders in straightforward language of JTEKT's concept and activities surrounding CSR.
- In FY2013, we have made major changes to the format of the report to make it easier to comprehend, dividing it into a Pick-Up section (this leaflet) and a full online report combining both the Pick-Up and a Details & Data section.

Target period and target organizations/scope

Target period

FY2012 (April 2012 - March 2013)

* Some items include content from other periods.

Target organizations and scope

All JTEKT Corporation activities

Management of the JTEKT group is carried out on a group-wide basis, including elements such as environmental data measurement and control based on a uniform standard. Some items also show the performance of our domestic affiliated companies and overseas local affiliates. As a general rule, if there are changes in the tallying scope, we revise data dating back to the past.

Reference guidelines

◎ GRI (Global Reporting Initiative)
"Sustainability Reporting Guidelines 2011 (3.1 edition)"

◎ Japan's Ministry of the Environment
"Environmental Reporting Guidelines (2012 edition)"

◎ ISO26000 (International Standard for corporate responsibility)

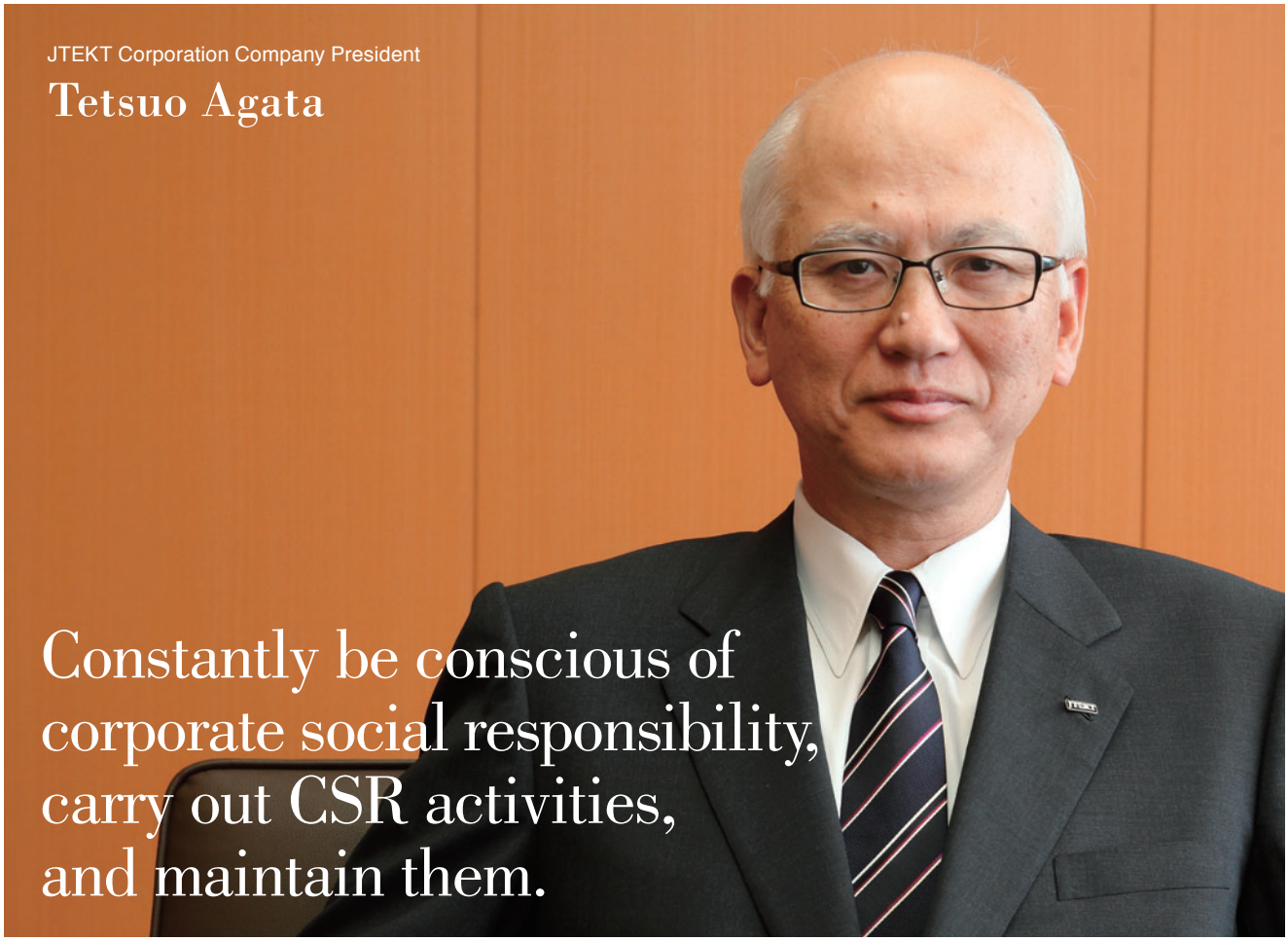
New! This mark is used to indicate new action begun in FY2012 and information disclosed for the first time in this year's report.

CONTENTS

This leaflet, as well as Details & Data, is available for viewing on JTEKT's website. http://www.jtekt.co.jp/e/csr/

◎ JTEKT VISION is introduced here. http://www.jtekt.co.jp/e/company/fvision.html ◎ Please see here for details on performance. http://www.jtekt.co.jp/e/ir/achievement.html

Message from the President



JTEKT Corporation Company President

Tetsuo Agata

Constantly be conscious of corporate social responsibility, carry out CSR activities, and maintain them.

Unite as a group and promote action to strengthen CSR

Towards accomplishing the mission of "contributing to the happiness of people and the abundance of society through product manufacturing", I believe corporate social responsibility (CSR) is performing business activities in which the economy, society and the environment are in harmony with each other, and doing one's best for the ongoing improvement of corporate value.

However, on March 29, 2013, regarding bearing business transactions, the Fair Trades Commission announced administrative action, and whilst JTEKT was not subject to this action, we were recognized as having violated the Anti-Monopoly Act. I would like to extend my sincere apologies to our shareholders, customers and all other stakeholders for the concern and trouble we have caused.

I will promote actions to reinforce compliance with all JTEKT employees and ensure this kind of thing does not happen again.

(➡ P3 Actions to reinforce compliance)

On that basis, in order to fulfill social responsibility, I would first like to ensure that a work environment is provided in which employees can work with vigor and demonstrate their talents to result in raising an appropriate profit, increasing employment and returning this to society through tax payments in each country and region and as dividends to shareholders. Furthermore, through monozukuri and technological innovation, JTEKT will proactively engage in action to solve social issues such as the planet environment, etc., managing our company in a way that will benefit people and the planet, and contribute to the sustainable development of society, with the goal of becoming a company that resonates with society, as well as being trusted and counted on.

JTEKT, with the aim of creating a workplace culture that implements CSR activities, is continuously promoting CSR policy awareness activities in the workplace as well as activities to strengthen the management ability of workplace leaders. I lead JTEKT in a way that encourages each employee to take another look at their tasks from a corporate social responsibility perspective, think deeply about "What is it for?" and fulfill their social responsibility while carrying out their everyday duties to lead to the accomplishment of the workplace mission and vision. I also aim to share the CSR policy throughout the JTEKT group in order to create an environment where group company employees can also work with vigor and demonstrate their talents.

Message from the President

Contributing to better environmental conservation through products and technology

In order to respond to global environmental issues, beginning with bearings which contribute to energy-saving and resource-saving throughout their lifecycle, JTEKT also offer customers around the world products and technology gentle on the environment. Such products and technology include electric power steering, which contributes to the improvement of vehicle fuel efficiency, electric oil pumps for idle-stopping mechanisms, CVJ (constant-velocity joints), low torque hub units, and machine tool systems which contribute to plant energy-saving or reduction of machining hours and number of equipment. On top of this, we make endless improvements and contribute to the prevention of global warming on a world-wide scale. Moreover, regarding production activities, we daily exert efforts to improve yield through quality improvement, and eradicate waste thoroughly in material acquisition and machining processes. In addition, 4 JTEKT plants, including our Kokubu plant, are planning the introduction of cogeneration systems with the goal of securing stable power supply and reducing environmental burden. At Kokubu plant, which has the highest energy consumption of all the JTEKT operation bases, energy efficiency has greatly improved compared to in the past. We are promoting various actions, including considering the introduction of solar power generation in our overseas group companies.

Towards establishing a strong foundation, challenge ourselves to further achievement

With various concerns such as the European debt crisis, the future of the economy is still unclear, however, the JTEKT group will make CSR our foundation, and further strengthen action regarding safety, quality, lead-time, human resources and appropriate corporate culture creation, in order to improve our financial strength.
Moreover, amidst intensifying competition, we will offer our customers even greater value, with the aim of achieving status as a brand which can be trusted and depended on by customers across the globe. To that end, we are promoting circulation of "Grasping the customers' needs", "Proposing attractive products" and "Making good products well", and turning our business model around.

First, in order to grasp our customers' needs and turn that into attractive products, our sales/technical service bases and technical centers around the world will mobilize our group technology, aiming for a shift to higher functionality products and product integration through the creation of product series, commoditization of parts, and reduction of the number of parts used. Moreover, in October of last year, JTEKT built Iga Proving Ground, where we evaluate vehicle steering systems, drive units and bearing units on actual cars, with the aim of contributing to the significant reduction of our customers' development period and cost through increasing our degree of completion even more. Through these actions to improve our sales ability and product strength, we will develop and propose original products which properly reflect the needs of regions around the world.
With regards to production, in order to make good products well, we promote internalization of core technologies, development of innovative techniques and equipment, and creation of a global standard line which instills quality into each product line. Our objective is to be capable of responding flexibly to changes in the market, and create a monozukuri framework with high versatility to allow production of even small volumes at an appropriate cost and, in addition, roll out the quality we instill in Japan to our overseas bases and secure equivalent quality worldwide. Furthermore, by tirelessly engaging in ground-roots activities such as solving problems in our manufacturing sites and strengthening maintenance, etc., we are further improving safety, quality and productivity and strengthening our monozukuri ability.
In this way, through taking various actions, we will establish a strong foundation not susceptible to change and continue to grow as a truly global monozukuri company to contribute to the creation of an abundant society.
JTEKT sincerely appreciate your ongoing support of our corporate mission.

Actions to reinforce compliance

Related article on page M_03,04,05

The JTEKT group implements many different types of measures in the belief that all employees should change their consciousness of compliance.
We will continue in our efforts to ensure compliance is thoroughly understood by each and every employee.

Main concrete measures

Change consciousness through statements by management, etc.

- Announcement of a "Work Order concerning Observance of the Anti-Monopoly Act" by the president. (June 2011)
- Transmission of an "Anti-Monopoly Act Observance Message" to domestic and overseas sales headquarters from the director of sales. (On a regular basis from November, 2011)
- Regular transmission of a compliance observation message from the president.
- Regular training workshops for executive officers led by external lawyers.
- Acquisition of a testimony from JTEKT and sales related personnel from domestic/overseas group companies relating to observance of laws such as the Anti-Monopoly Act. (Once a year or more from December of 2011)

etc.

Strengthening of systems and frameworks

- Establishment of a Compliance Promotion Department directly overseen by top management. (November 2011)
- Appointment of Compliance Officers in each headquarters, function and overseas location to conduct inspection and awareness-raising activities regarding compliance. (November 2011)
- Establishment of an Anti-Monopoly consultation desk. (November 2011)
- Implementation of a compliance inspection targeting all divisions and domestic/overseas group companies. (Once a year or more from January 2012)
- Gathering of information on compliance matters, including hearings, reporting at board of directors meeting and sharing with all departments. (Monthly from August 2012)
- Review of basic policy relating to the organization of an internal control system.

etc.

Organization of rules, training, etc., to ensure observance of various laws and regulations, including the Anti-Monopoly Act

- Revision of compliance rules. (December 2011, November 2012)
- Clarification of reporting rules when making contact with other companies in the industry. (November 2011)
- Distribution of a "Compliance Rules for Sales Activities" to sales divisions. (November 2011) ❶
- Compliance training (group discussion style) in all sales locations. (On a regular basis from October, 2011)
- Autonomous study sessions on the Anti-Monopoly Act by each sales division, inviting an external lawyer to give guidance (March 2013)
- Training by job category targeting all employees, training before overseas assignment and e-learning.
- Establishment of a Compliance Awareness Month (July) to prevent the forming of bad habits. (From July 2012) ❷

etc.

❶ **Compliance Rules for Sales Activities "Summary of Prohibitions"**
Japanese/English versions

Rolled out to all employees belonging to sales divisions. Describes which scenarios likely to occur in sales activities are OK and which are NG. Updated yearly reflecting the opinions of sales divisions. Also rolled out to both domestic and overseas group companies.

❷ **Example of Compliance Awareness Month from July 2012**

Left: Poster of the Compliance Awareness Month from July 2012. Posted in all operation bases and plants. Right: Compliance special report featured in the company newsletter for July 2012. Includes messages from the vice-president and managing officers to employees. Implementation of action to encourage every employee to deeply rethink the meaning of compliance, and fundamentally change their consciousness towards it.

Monitoring and strengthening of internal audits

- Strengthening framework of internal auditing department's
- Establishment of regional audit offices (April 2012)

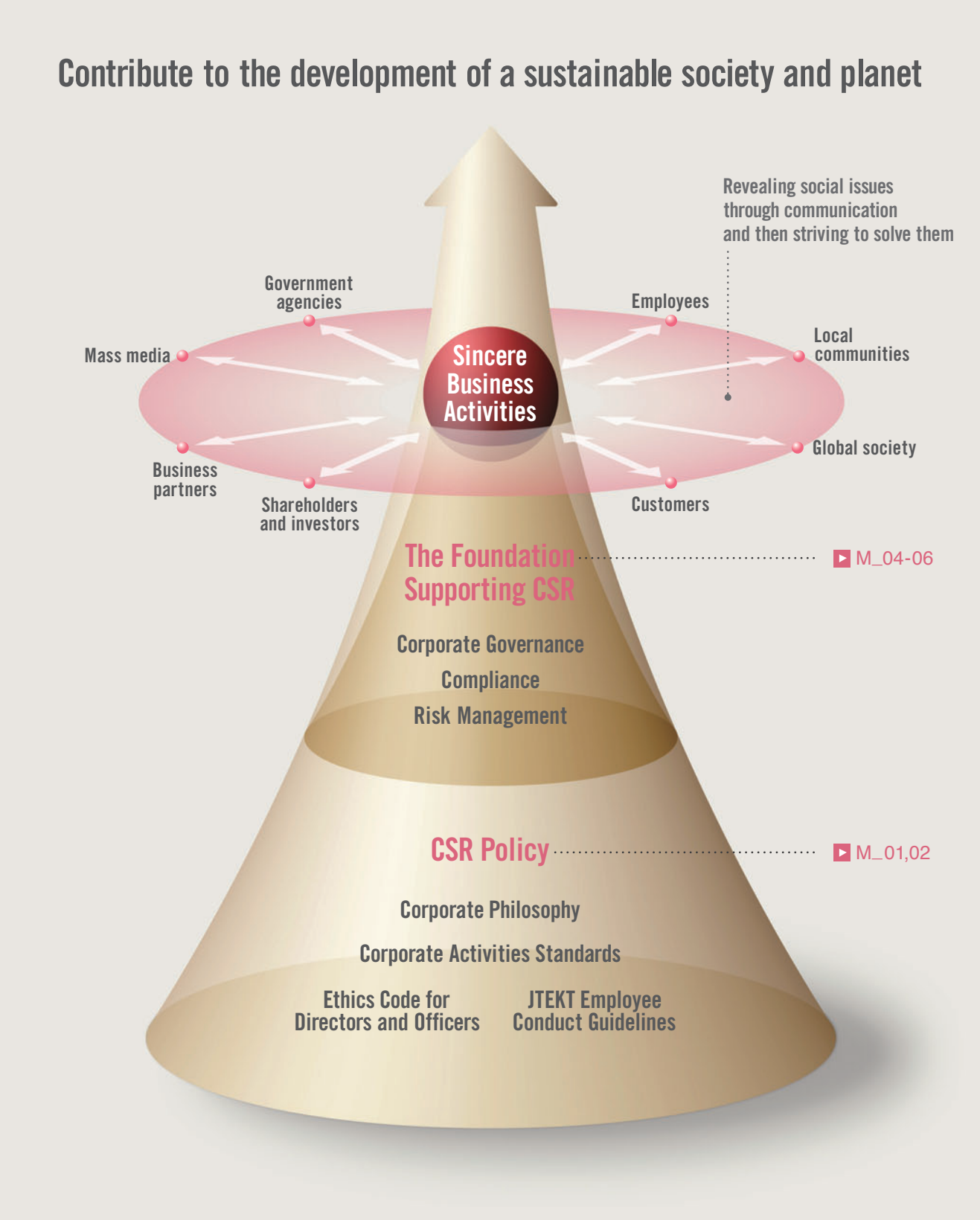
etc.

JTEKT's CSR concept

M_01,02 Related article

Spreading CSR activities capturing the JTEKT essence further throughout society

JTEKT aim to contribute to the development of a sustainable society and planet through sincere business activities based on our corporate philosophy of "contributing to the happiness of people and the abundance of society through product manufacturing". By valuing communication with each of our stakeholders, we will do our best to uncover social issues. Then, we will create and apply solutions to such issues and spread CSR activities capturing the JTEKT essence further throughout society.



CSR Report 2013

PICK UP 2012

Corporate Philosophy

Corporate Purpose

Seek to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society.

Management Stance

1. Create new value and provide society with joy and inspiration on a broad scale.
2. Aim for growth in harmony with society through innovative operations on a global basis.
3. Create a bright, energetic corporate atmosphere based on respect for people.
4. Strive toward the realization of safer, more abundant living circumstances.

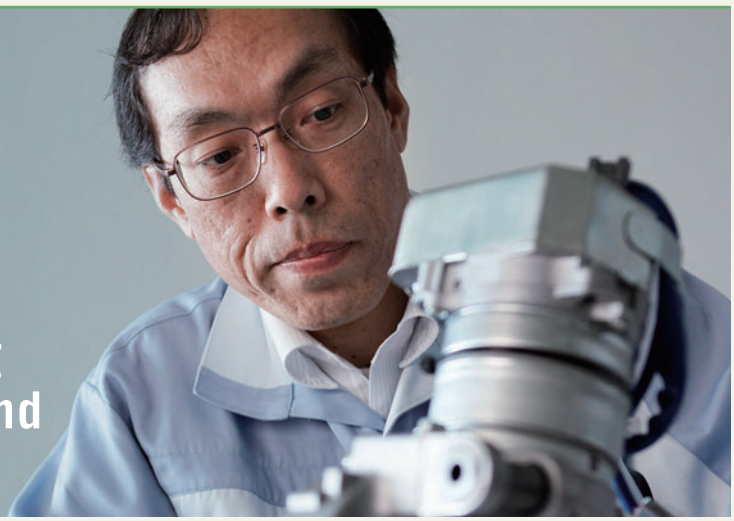
This section introduces some of the major activities from FY2012 centered on 5 keywords.
4 of the 5 keywords are based on our management stance, which is part of our CSR policy.
We have added "Disaster Recovery Support" to these, as we think it is an important issue in present day Japan.

KEYWORDS

KEYWORD

Creating new value

In order to contribute to the global environment and people's lifestyles, as well as offer joy and inspiration to society, rather than being content with our performance to date, JTEKT challenge ourselves to create new value through monozukuri.



1

Design Group 1
ECU Development Office 1
Electronics Engineering Dept.1
Automotive Systems Business Headquarters
Susumu Koike

Integrated motor/ ECU for electric power steering systems

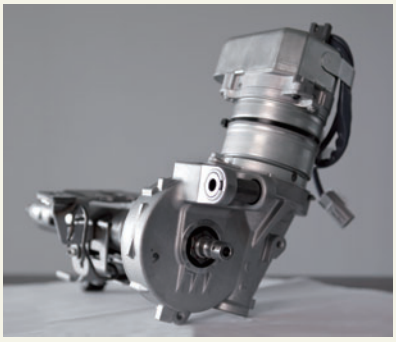
"Integration" contributing to better fuel efficiency and a more spacious interior

Toyota Auris

To reflect market needs which continue to demand better fuel efficiency and improved safety, there has been a rapid shift in steering systems, which connect directly to the steering wheel operation of the driver, from the conventional hydraulic style to electric power steering (EPS). Meanwhile, in addition to demands to make EPS more power-saving and lightweight, there is also an emphasis on compactness in order to widen the interior space for increased comfort. To respond to these issues, JTEKT made the decision to develop fundamental parts in-house.

A decision to manufacture in-house in order to create something never created before

Conventionally, the EPS motor and the computer which controls it (ECU), are installed separately. In order to respond to the needs of power-saving, compactness and weight reduction, JTEKT has developed a product in-house which integrates the EPS motor and ECU. "Up until then, JTEKT had presented the specifications and our business partners would design and manufacture products. However, in order to achieve our goals of power-saving, compactness and lightweight, we thought it was necessary to design a new structure and develop new techniques, not merely continue with conventional methods. This spurred our decision to develop the product in-house."

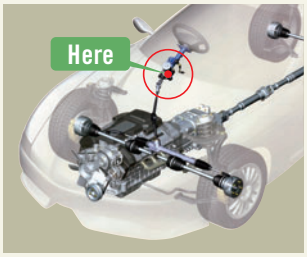


In the development of this new product, a "Big Room Activity" approach was taken, whereby issues such as design, testing, product engineering and so on were shared between all divisions from the initial stages. This improved the efficiency of the development by providing the opportunity for any issues to be solved early on through the combined wisdom of those involved.

We achieved great results. But we haven't accomplished our goals

This product was conceived from the close coordination between many divisions, and is around 30% smaller and 35% lighter than the conventional product. Moreover, by integrating the part, the harness (cable) which connects the motor and ECU, has become redundant, thereby reducing power loss and decreasing power consumption by approximately 10%. Mass production of the integrated product commenced in 2012, and it was adopted on Toyota's new model Auris, in Japan and Europe.

"We feel pride and responsibility in the fact that we have created a product which has never been created before. We will not stop here due to being content with what we have achieved, but continue to seek an even smaller, lighter, more efficient product and contribute to better fuel efficiency and improved safety here on into the future as well.



Volume	Approx. 30% smaller compared to the conventional
Weight	Approx. 35% lighter compared to the conventional
Power consumption	Approx. 10% less compared to the conventional

* Auris is a registered trademark of Toyota Motor Corporation.

KEYWORD

Creating new value

Electric Pump Group
Hydraulic Pump Engineering Office
Hydraulic System Engineering Dept.
Automotive Systems Business Headquarters
Akihiko Kawano

Until the day when it becomes a given

Car commercials which emphasise the inclusion of idle reduction mechanisms are now quite commonplace. While this is encouraging to see, if this feature needs to be emphasized, then it means we are not yet at the ideal stage. I think, and I hope, that in the future, it will become a given that idle reduction mechanisms are equipped on all vehicles. In order to popularize use, I would like to contribute by developing an even better EOP.

2

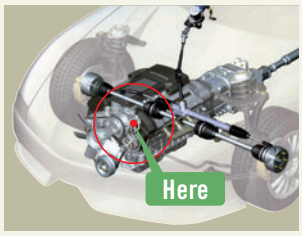
Electric oil pump for the idle reduction mechanism

Contributing to a new mechanism so even normal driving of a vehicle is eco-drive

In cars with idle reduction, the transmission oil pressure drops when the engine is stopped. As such, in order to enable the car to begin moving again smoothly, the electric oil pump (EOP) is necessary to supply oil to the stopped engine.

JTEKT has developed an EOP which, compared with the conventional product, is approximately 30% smaller and consumes a maximum of 47% less power. In addition, the new EOP is available at a reduced cost. Actual production of this EOP began in 2012. Compared with hybrid vehicles, etc., cars with the idle stop mechanism are less expensive and have better fuel efficiency, therefore it is anticipated they will become even more popular in the future. This product was made significantly smaller to enable it to be equipped on present-day gasoline-driven cars with minimal structural change and there are expectations that it will be beneficial to promoting the spread of idle reduction. These efforts were recognized as contributing significantly to the economy and society, and as a result, JTEKT was awarded the Technology Development Award by the Japan Fluid Power System Society.

The technologies accumulated throughout the development processes of this product can be deployed to many other vehicle parts such as lubrication of electric car motors. JTEKT will continue to exhibit high technological prowess and contribute to the higher fuel efficiency of vehicles.



Volume Approx. 30% smaller compared to the conventional

Power consumption Approx. 47% less compared to the conventional

3

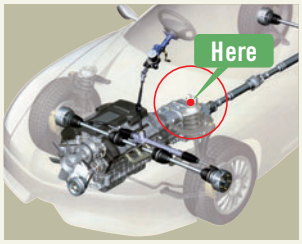
TORSEN Type C

Groundbreaking friction control technology improving the quietness of hybrid 4WDs

TORSEN Type C (planetary gear type torque-sensing type LSD (Limited Slip Differential) is a product which serves the purpose of instantaneously optimizing the torque allocation to the front and back tires to suit the driving conditions. In recent years, the needs for running stability and improved safety have grown, and the importance of 4WD vehicles is being reacknowledged around the world.

JTEKT, in joint research with Toyota Central R&D Labs, has analyzed the gear surface at a nano-level, and developed a friction control technology which improves the reliability and quietness of TORSEN. In the past, we promoted the adoption of TORSEN with a focus on high performance sports cars and large vehicles such as SUVs, however, thanks to the developed technology, we are able to use the TORSEN on a broader range of vehicle types, such as hybrid vehicles, which are demanded to be lightweight and quietness. It was recognized that this new technology was groundbreaking as a technology based on tribology (*) for automotive parts, and as a result, JTEKT received the Technology Award from the Japan Society of Tribologists and the Technical Paper Award from the Society of Automotive Engineers of Japan. The TORSEN Type C has already been commoditized and is adopted on a wide range vehicle types, such as hybrid 4WDs.

* The science and technology relating to friction, wear and lubrication



Differential Engineering Group
Coupling System Engineering Office
Driveline System Engineering Dept.2
Automotive Systems Business Headquarters
Junji Andou

I want to do work that will bring people happiness

I think that reporting a developed technology in a technical paper is one form of contributing to society. By making it possible for engineers all around the world to read about new technologies, the technical level will improve on a global basis. I belief that "Happiness comes First". I would like to continue doing work which ultimately leads to the happiness of me, my team, their families, JTEKT, society and the planet.

KEYWORD **Creating new value**

4

Chassis Engineering Office
Central JAPAN Technical Center
Bearing Operations Headquarters
Tetsuya Ishikawa

Low torque hub unit for light cars

Further improve the energy-saving performance of light cars –that lightness and smoothness

In recent years, light cars make up an increasingly higher percentage of top-ranking new car sales. One influencing factor is that people are now more environmentally-conscious and as such have a desire to reduce energy-usage. Automotive manufacturers are seeking even higher energy-saving performance in order to respond to this need and are becoming creative regarding all parts. The hub unit that JTEKT supplies to Suzuki Motor Corporation is one such example.

Aiming for the further evolution of major car part – the hub unit

The hub unit integrates the bearing, responsible for connecting the vehicle body to the tires, and the bearing's peripheral parts. It is a part of the car that plays an important role, and there are two types, one which supports the tires which rotate while bearing the weight of the vehicle body, and one which conveys drive force from the engine to the tires. JTEKT has developed a hub unit which achieves reduced energy loss and weight reduction.

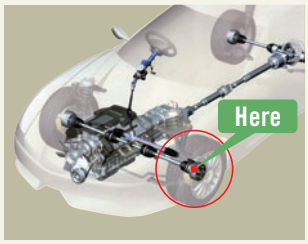
"The short development timeframe was what we struggled with. To respond to our customers' requests of getting cars with better fuel efficiency out on the market as soon as possible, we had to achieve mass production of the part in a short period."

To make development more efficient, we proactively setup opportunities for the people in charge of the various elements, i.e. design, procurement, production engineering and so on, to all come together and discuss issues, right from the initial stages of development. "The various people in charge got together and discussed issues such as how the hub unit could be made lighter, how it could be made easier, how cost could be kept down, and so on. This made development progress much smoother."

JTEKT hub unit adopted on Suzuki light cars from the Alto Eco onwards

The developed hub unit is approximately 48% lighter than the conventional product. Moreover, energy loss is reduced by approximately 30%. Beginning with the Alto Eco sold in 2012, the JTEKT hub unit has been adopted on all of Suzuki's light car models since.

"The hub unit is a low-profile product which is not seen by drivers or described in catalogs, but I feel joy as a technician to know it is contributing to better fuel efficiency. I wish to continue to develop products which contribute to the planet environment by utilizing my experience and achievements."



Weight Approx. **48%** lighter compared to the conventional

Energy loss Approx. **30%** reduction compared to the conventional

Suzuki Alto Eco

* Alto is a registered trademark of Suzuki Motor Corporation

KEYWORD **Creating new value**

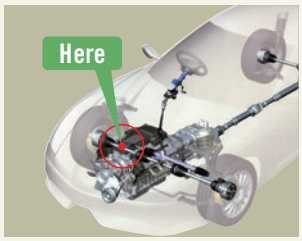
5

Working with diluted lubricant – the low torque thrust needle roller bearing

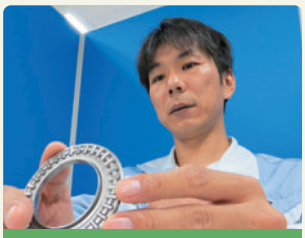
Supporting improvement of car AC performance – a one-of-a-kind product

JTEKT was the first in the world to develop and mass produce the thrust needle roller bearing, which can be used with 3mm²/s, a lubricant with a viscosity which is as low as water, and still not generate wear. This product was developed as a bearing for compressor application, at the request of Toyota Industries Corporation, who holds the highest share of the car AC compressor market in the world. The higher the viscosity of lubricant, the better able it is to prevent seizing, however resistance increases and energy loss occurs. JTEKT's bearing, which supports low viscosity lubricant, serves an important role in improving compressor efficiency. A car's AC uses the power of the engine to operate. This means that improving the performance of compressors, which are fundamental parts of AC, leads to improved fuel efficiency.

In May of 2011, we began production of the thrust roller needle bearing in our domestic plant, followed by North America in 2012. In 2013, we plan on starting production in Europe and ASEAN. This product is contributing to improvement of fuel efficiency in cars around the world.



Energy loss Approx. **50%** reduction compared to the conventional



Needle Roller Bearing Group
Bearing Engineering Office
Bearing Engineering Dept.
Bearing Operations Headquarters
Yoshitaka Waseda

Solved difficult problems through repeated discussion with customers

Unlike household AC compressors, car AC compressors must operate in extreme environments where they are constantly subjected to vibration and heat. JTEKT's goal was to achieve specifications never before achieved under such conditions, which made this development extremely challenging. The fact that we were able to discuss this project openly with customers and be part of a team, lead to the realization of a one-of-a-kind product.

Cutting Group
Machining & Process Development Office
Advanced Unitized Product Engineering Dept.
Machine Tools & Mechatronics Operations Headquarters
Ayako Yamada

Messages of appreciation from customers

In this development project, I was responsible for proposing what could be done to make it more user-friendly from a process designer's perspective, as well as providing data which incorporated process design know-how accumulated at JTEKT.
We even received messages of appreciation from customers and I truly felt we were contributing to society.

6

Die machining design support system Mill-Plan/UH 5Axis

Making it possible to swiftly respond to market needs by reducing process design time

In the field of die manufacturing, in order to swiftly respond to the ever-changing needs of the market, how much the time taken from design to completion can be reduced by is a critical point. For that reason, there is a lot of focus on 5-axis machining (*) which can machine even complex-shaped dies in a short time. However, to design processes which sufficiently leveraged the capacity of the 5-axis processing machine, extensive experience and knowledge, as well as time, were necessary. Although the actual machining time itself was reduced, there was an issue of the preparatory process design phase being time consuming. JTEKT, in joint research with Toyota Central R&D Labs, has developed a system which supports the process design of 5-axis machining. This system automatically designs efficient processes in a short time through mere numerical input, enabling even beginners to use it with ease. It also has the advantages of eliminating the variation between process designers and securing stable quality. The value of this was recognized and rewarded in the form of a Technical Award by the Japan Society for Precision Engineering.

* A processing machine which has 2 swiveling axes in addition to the X, Y and Z axes.

Example of installation results

Customer A **Plastic pack dies**
Machining time
13 hours After installation → Reduced to **3.3 hours**

Customer B **Vehicle component die**
Process design time + machining time
39 hours After installation → Reduced to **24 hours**

KEYWORD **Creating new value**

7

Grinding Machine Group
Standard Machine Development Office
Machine Tools & Mechatronics Engineering Dept.
Machine Tools & Mechatronics Operations Headquarters
Toshiaki Naya (left)

Control Unit Development Office
Mechatronics Control Engineering Dept.
Machine Tools & Mechatronics Operations Headquarters
Toshihiro Yonezu (right)

Machine tool/crankshaft grinding flexible cell

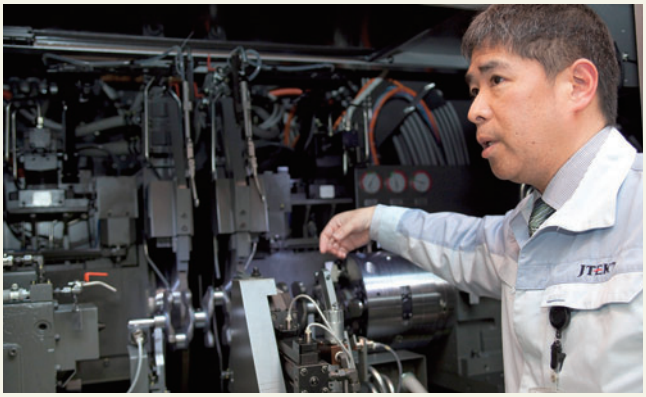
Responding to diversifying needs with the highest level grinding technology in the world

Amidst diversifying consumer needs, there is an increased demand for high-mix low-volume production across all fields. The crankshaft of a car is no exception. While machining speed and accuracy go without saying, there is also great emphasis placed on the ability to flexibly respond to fluctuating production volume and workpiece specification changes.

Shorter machining time and less equipment achieves a drop in power consumption by around 39%

The crankshaft is an engine part which converts the reciprocating motion of the pistons to rotational motion. Its shape is complex, and the final finishing stage of grinding must be performed in a line configured from 5 grinders. JTEKT has developed grinding equipment which can integrate complicated grinding processes – the grinding center "TG4" and crankshaft grinder "GF50M-70T". We propose a grinding system which can be completed with just these 2 machines.

"These machines were developed with the goal of responding to the needs of the production shop floor to carry out high-mix low-volume production more efficiently. In addition to improving net count ratio (*) from approximately 55% to 74%, through shortening machining time and reducing the number of equipment, a reduction in power consumption of around 39% has been achieved"(Yonezu)



Grinding center "TG4" and crankshaft grinder "GF50M-70T"

Achieving the highest accuracy and speed in the world with automatic wheel head swivel

Naya reflects on the development process - "TG4 features a wheelhead mounted with 2 types of grinding wheels and adopts an automatic swiveling method to switch between the two. We particularly struggled in our efforts to increase the speed and accuracy of the swivel motion as much as possible." The result of this effort, however, was a world top class swiveling accuracy of ± 0.0002° and world fastest wheel switching time of 2 seconds. The TG4, which has achieved high speed and high accuracy through incorporating various ideas such as adoption of a wheel jointly developed with JTEKT group company, Toyoda Van Moppes, was awarded the Technology Award from the Japan Society for Abrasive Technology in 2012.

"JTEKT's strength is that we were able to build a framework whereby the people in charge of machining, machinery and control were all able to work as one. We would like to continue to leverage this strength and engage in development of production equipment which achieves higher production efficiency and energy-saving." (Naya)

* Of the total machining time per product, the ratio of actual time during which machining work was performed (subtracting the time the machine was stopped from the total machining time)

Net count ratio
Conventional part
Approx. 55%
→Approx. 74%
Approx. **19** points higher

Power consumption
Approx. **39**% less compared to the conventional

KEYWORD

Creating new value

Equipment Design Group
Hydraulic pressure and Pneumatic Technical Office
Engineering Dept. Toyooki Kogyo Co., Ltd.
Takashi Andou

The future issue is global deployment

We experienced hardship in trying to improve reliability and safety while reducing cost at the same time, however were able to overcome this through close cooperation between the individual departments involved, such as design, testing and manufacturing. In the future also, I believe it is important to focus on market research and develop products with a proper understanding of what society is looking for. To what extent global deployment is possible is also an issue, I believe.

8

Ultra-energy-saving small hydraulic unit (small pack)

Zero power consumption at pressure hold - product development foreseeing the next generation

Practically all of the power used by machine tool hydraulic units is for securing workpieces. In other words, if the power used to secure workpieces is reduced, significant energy-saving can be achieved. The operation of securing the workpiece is divided into 3 steps - "applying pressure" – "holding pressure" and "releasing pressure". When pressure is held, the hydraulic unit drive part basically does not operate, however, conventionally, it was necessary to continuously operate the pump and motor during this step as well.

JTEKT group company, Toyooki Kogyo, has developed a hydraulic unit whereby the pressure required to secure the workpiece can be held even if the pump and motor are stopped.

By operating the motor intermittently, significant power consumption reduction was achieved. Moreover, by making the motor and capacity of the tank smaller, etc., a significant size reduction was achieved. The hydraulic unit has been reduced to a size allowing it to be installed near the device which secures workpieces. Toyooki Kogyo will continue to contribute to society through development of products which foresee the next generation.

Ultra-energy-saving small hydraulic unit

Toyooki Kogyo Co., Ltd.

Head office
45 Kaizan, Hachiji-cho, Okazaki, Aichi

Date of establishment
February 1, 1958

No. of employees
444 (current as of April 1, 2013)

Businesses
Hydraulic / pneumatic / automotive parts/ Manufacturing and sale of various testing apparatus

Motor size Approx. **66%** smaller compared to the conventional part

Tank capacity Conventional part 10L→1.2L Approx. **88%** smaller

Power consumption at pressure hold Conventional part 0.55kW→ **Zero**

9

Installation of Kokubu plant cogeneration system

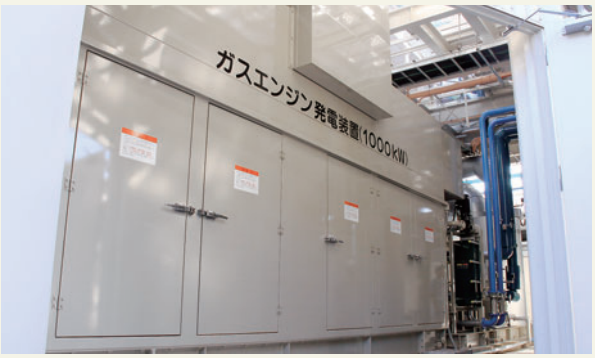
Dispersed layout of small equipment to accomplish less wasteful energy usage

At JTEKT's Kokubu plant, a cogeneration system was installed which generates electricity using gas and utilizes exhaust heat. The first operation period of this system commenced in autumn of 2012, and the second began in May, 2013.

Kokubu plant is the main production base for bearings. Due to the need to continuously operate the furnaces of the heat treatment operation, countermeasures for planned power interruptions and power restrictions surfaced as an issue in the wake of the 2011 earthquake off the Pacific coast of Tohoku. The cogeneration system was introduced so that stable power supply could be secured and production could be continued even in states of emergency.

The feature of this system is that, by adopting an adsorption refrigerator, low temperature energy can be utilized in addition to exhaust heat. Moreover, a dispersed layout consisting of 4 small pieces of equipment is adopted in order to use the exhaust heat caused by power generation without waste.

JTEKT has installed in-house power generating equipment in our Kagawa, Okazaki and Tokushima plants. By FY2016, there are plans to install cogeneration systems in the Tokyo, Tadomisaki and Kameyama plants in addition to the Kokubu plant. The target is to raise JTEKT's overall in-house power generation percentage from 4.3% in FY2011 to 20%.



Kokubu plant cogeneration system Energy usage efficiency Target **74%**

JTEKT's in-house power generation FY2011 Actual **4.3%** ▶ FY2016 Target **20%**

Engineering Section 3
Process Engineering Dept.
Kokubu Plant
Bearing Operations Headquarters
Kei Hase

I will never forget the feeling of relief and joy when the system started up

This time, a new technology, the adsorption refrigerator, was going to be adopted, therefore there was a lot of pressure. I still remember the feeling of relief and joy when the 1st machine was started and exhaust heat collection went according to design. The key to our success was optimization of heat utilization and heat transportation. Adopting the small equipment dispersal method resulted in significant energy-saving. I am truly appreciative of all those who supported this project.

KEYWORD

Safety, Peace-of-mind, Comfort

Introducing the newly opened Iga Proving Ground New!

Establishment of an extensive in-house test course to enrich the future of auto companies

1

In October 2012, JTEKT opened the long-awaited Iga Proving Ground in Iga City, Mie prefecture; the large-scale test course anticipated since the establishment of the company. By constructing an environment where vehicle drive analysis can be conducted in-house, we as an auto parts maker can develop and propose products with even further added value, and contribute to the creation of safer and more comfortable automobiles.

Maintaining an environment where various evaluation tests can be performed

The Iga Proving Ground is JTEKT's very first large-scale test course, with a site area of approximately 500,000 m² and a course area of approximately 170,000 m². The site includes a straight course for high-speed tests and a winding course imitating average roads, as well as courses resembling various road conditions such as a stone block paved course and wave course, for evaluating noise. There is also a fording course with a maximum water depth of 50 cm. and a dynamics pad for conducting slalom driving, etc. This test course —where vehicle drive analysis can be conducted on worldwide road conditions—aims to optimize the development of products chosen by customers throughout the world.

Promoting the spread of safer, more comfortable automobiles

The demand has been rising for safer, more comfortable automobiles, and auto Manufacturers are faced with the issue of curbing both development cost and time. The fact that JTEKT can now perform vehicle drive analysis and evaluation means reduced cost and time for development. This promotes the propagation of safer, more comfortable automobiles, which we are confident will lead to a new form of auto Manufacturer which works in harmony with people. With our abundant knowledge, we will continue as a steering, drive parts, and bearings maker to focus on contributing to the future of auto Manufacturers.

→ S_02 Related article


Proving Ground member

We want to promote the joy and pleasure of driving

JTEKT is a specialty maker, well-versed in "drive" and "turn". We are currently working towards perfecting the test environments essential to creating more efficient, higher quality products. With the application of the Iga Proving Ground, we will thoroughly pursue the safety and operability of products to create monozukuri which surpasses customer expectations. We look forward to promoting the joy and pleasure of driving to people throughout the world.

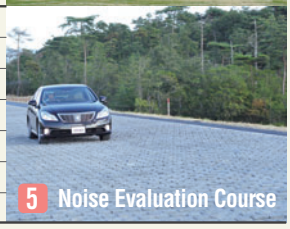
**We believe safety, peace-of-mind and comfort are elements strongly demanded by society of manufacturing companies.
We are responsible for offering products with these 3 elements as well as protecting the safety of our employees and all related persons.**

1 Winding Course (Main Track)	
• Length	1,200 m
• Minimum radius	20 R
• Maximum radius	200 R
• Maximum vertical slope	5.0%
• Transverse slope	1.0%
2 Straight Course (Main Track)	
• Length	1,000 m
(Evaluation section: 400 m)	
• Maximum design speed	120 km/h
• Partially paved with noise-suppression surface	
• 4 lanes	
3 Fording Course	
• Length	50 m
• Width	5 m
• Maximum water depth	50 cm
4 Dynamics Pad	
• Area	54,000 m²
• Straight section	750 m
(Evaluation section: 350 m)	
5 Noise Evaluation Course	
• Length	310 m
• Width	28 m
• Special Courses	
Stone Block Paved Course, Wave Course, Cobblestone Course, Rope Course, Cracked Surface Course, Rumble-strip Course	


2 Straight Course (Main Track)


3 Fording Course


4 Dynamics Pad


5 Noise Evaluation Course

2 Establishment of a "Safety Dojo"

New!

A new location for strengthening safety awareness through simulated danger experiences

At JTEKT, we are continuing safety activities towards our goal of zero work accidents. Lately, in particular, creating countermeasures for "Failure-to-Stop" Accidents(*1) has become our main issue, with a plan to eliminate accidents by thoroughly enforcing the observance of work rules. The results were that the number of lost-day accidents were reduced from 7 in FY2011 to 4 in FY2012 (*2), however, the number of Failure-to-Stop Accidents rose from 4 in FY2011 to 6 in FY2012, which ultimately shows no outcome.

For this reason, we felt it essential to strive towards a new method of experiencing, rather than just knowing and understanding, the importance of work rule observation. Thus, we started preparations for the creation of a Safety Dojo. The Safety Dojo is an education facility where workers can experience Failure-to-Stop Accidents simulations using actual machines, in order to heighten their awareness of work rule observance. The instructors are greatly experienced in production workplaces and are familiar with the equipment. All employees involved with machines must of course attend the class, but office personnel who may possibly visit factories are also expected to attend. The establishment of the facility is planned to be completed during FY2013.

*1 Accidents which occur when troubleshooting work or repairs are conducted without first stopping the machine.
*2 At JTEKT, lost-day accidents are defined as work accidents requiring more than 1 day of leave.

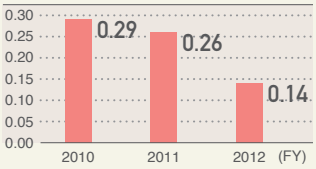
→ S_08 Related article

Ratio of Failure-to-Stop Accidents within all accidents

	All accidents	Failure-to-Stop Accidents
FY2010	17	10
FY2011	17	4
FY2012	17	6

* The accident frequency rate for FY2010 and FY2011 differs from the 2012 CSR Report. However, it was later confirmed that some accidents were omitted in the report, which we have added to this document.

Percentage of lost-day accidents



* The percentage of lost-day accidents in FY2011 was cited as 0.23 in the 2012 CSR Report. However, the value has changed as a handicap recognition case was added to the value at a later date.

$$\text{Percentage of lost-day accidents} = \frac{\text{Number of lost-day accidents}}{\text{Hours of field work}} \times 1{,}000{,}000$$

What we can do as colleagues to stop injuries

When people hurry, they make mistakes and break rules. We chose to create the Safety Dojo with the idea of the importance in instilling the awareness of acting in accordance with rules, even during extremely busy times. Employees are both comrades and vital to business, and we are constantly brainstorming about what we can do to keep them from injury. We will continue our many efforts towards our goal of becoming a zero-accident workplace.

Safety & Health Control Dept.
Production Engineering Headquarters
Makoto Terada

KEYWORD

Spreading CSR internally

1 FY2012 Activities to Spread CSR within the Company

Each and every employee must consider and apply CSR within their daily work

From the distribution of the report to employees, to the results report of each worksite

In FY2012 as well as FY2011, copies of the CSR Policy were distributed to each employee, and study sessions were held for each work area from September through December. Before this, JTEKT CSR had stopped at the observance of laws and rules, but there were cases which showed how the consciousness of "Benefitting the planet and the people in it" had not yet taken root, and this will not help employees to grow. We are now aiming for all employees of each work area and their superiors to consult often with on another, bearing in mind CSR and putting it into practice during work.

◎ Results Report

In January of 2013, we received the results report from each worksite, with opinions such as "It is vital for employees to consider CSR as a part of themselves", and "CSR awareness begins with daily communication".

Points of Consideration

Create CSR which each employee can think and act upon, that can be conducted during work

Revised CSR Hand Book

The November 2012 CSR Hand Book was revised and distributed in a portable "pocket edition" to all employees, beginning in December. The revised Hand Book includes concrete examples for the Conduct Guidelines, and has improved descriptions about the relevant laws.

Continuation of the CSR Policy Comprehensibility Survey

A workplace management survey was conducted for each worksite (January – February, 2013). The results of the survey showed that the CSR policy was understood by 79% of top administrative personnel, and by 36% of general workers. The comprehensibility of the CSR policy is improving each year, but further familiarization activities are required, especially for the production sites, where familiarization seems to have been weakest.

Percentage of people who "understood CSR satisfactorily" and "understood CSR really well".
(Top 2 answers out of 6 options)

	FY2010	FY2011	FY2012
Managers or above	47%	64%	79%
General employees	13%	26%	36%
All employees	21%	35%	43%

I want to promote human resource development of people who can think for themselves

HOUKO Co., Ltd. **Toshiharu Otake**

I am currently busy with inner-company education in order to perfect the CSR activities of our whole company. Along with creating the "CSR Hand Book (pocket edition)", distributing copies and holding explanatory meetings for all employees, I also publish "CSR News" each month, and participate in the morning meeting of each worksite. I will continue to strive towards improving each employee's awareness and promoting the development of personnel who understand societal expectations and can think of what they themselves can do.

It is important to always be conscious of your actions

Daibea Co., Ltd. **Toshihiro Kimura**

I make the plans to improve compliance awareness within the company through in-house training and the company newsletter, and I feel that there are still areas where compliance has not penetrated fully into the workplace. I believe we as a company are not fully aware of the tough stance in regard to violations of compliance. especially to those which are done in private; I think it is vital that each person act in awareness of compliance. From now on as well, I will continue promoting CSR to improve employee awareness.

Regional collaboration for the "South Library Festival"

Utsunomiya Kiki Co., Ltd. **Tomomi Tanaka**

My job is to conduct regional collaboration for the planning, opening and administration of events, as part of the efforts to promote employee welfare and corporate philosophy (CSR). In September 2012, we held the 1st South Library Festival at the Utsunomiya City South Library. Of those invited, around 8,200 people attended, including present and former employees, and those from affiliate companies. The festival was a great success, and I look forward to the challenge of planning next year's activities.

2 CSR familiarization strengthening in group companies

Working to contribute to the creation of a better society through the whole of JTEKT

New!

While working to further inner company CSR familiarization, we have brought group company CSR familiarization, begun in 2008, to a new level in FY2012. As our first step, we launched a CSR liaison conference with 11 of JTEKT's main group companies in Japan. On February 22, 2013, the first meeting was held in the Nagoya Head Office, and the persons in charge of CSR promotion in each company discussed the current state of CSR, the grasp of the issues at hand, and plans for familiarization activities. The conference is scheduled to take place at every half-year interval.

Written in ISO26000 is the principle for carrying out social responsibilities, vital to compliance for management and members. Inner-company compliance is taken as one of the most importance issues at JTEKT, and we are continuing activities and additionally, stressing the development of group companies.

Supporting employees both inside and outside the workplace

Koyo Machine Industries Co., Ltd.
Tadanobu Ishibashi

My post is in charge of the company's Health and Safety Office, developing safety activities with the cooperation of workplace staff. I consider creating a safe and pleasant workplace environment as a societal contribution I can work towards. I want our employees to be able to do that which is only natural; to work without being injured, to be able to go home to their waiting families. I want to promote safety activities from hereon as well, including prevention of accidents during commutation.

Koyo Sealing Techno Co., Ltd. **Hitoshi Sejiki**

Our company holds the same corporate objective as JTEKT, to "contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society". As a member of the company and the regional society, and with this philosophy as a basis, I plan to promote various efforts through inner-company information communication tools and employee education in order to deeply familiarize each and every employee with CSR activities.

As a member of the company and the regional society

Compliance is the first step to gaining trust

Koyo Electronics Industries Co., Ltd.
Murohashi Kenji

As part of the legal staff, my job is to strengthen CSR awareness by conducting compliance training for new employees and company-wide educational activities through the company newsletter. In any given department, work involves many different people (stakeholders, for example), and I believe that the first step to living up to their trust is the improvement of compliance awareness. I will work through a wide range of measures for company-wide education to further CSR activities.

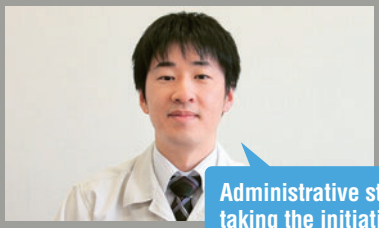
Toyooki Kogyo Co., Ltd. **Shingo Kondo**

I work every day towards reducing waste. Waste reduction activities are integral to decreasing the burden on the Earth's environment. There are things that must be thrown away, and I find the most rewarding work in the effective use of resources, such as making waste reusable through cleaning. I will exercise my knowledge every day to continue improvements towards zero emissions, without becoming complacent about the current standard.

Fully exercising knowledge each day to aim for zero emissions

A message from JTEKT group companies

Every CSR supervisor within each of the 11 companies wrote about their enthusiasm and the details of their efforts for the JTEKT Group CSR liaison conference.



Administrative staff taking the initiative to promote CSR activities

Koyo Thermo Systems Co., Ltd.
Yoichi Kita

I believe what is most important for employees to realize about compliance is that more than simply "protecting the company"; it prevents "injury of individual employees sustained through compliance violations". This type of education begins with new employees. To raise CSR awareness in all employees, each department must work on their own risk countermeasures while the administrative staff take the initiative to promote CSR activities.

Koyo Sales Co., Ltd. **Yukihiro Ikejiri**

As the CSR Promotion Committee Office, we work to improve CSR and compliance awareness through stratified and departmental education, and through the publishing of compliance articles in the company newsletter. In 2012, we created the CSR Hand Book, distributing a copy to all employees; in February 2013, we conducted a compliance check on each employee. We will continue to strive towards the improvement of individual awareness through education and various activities.

Each person's contribution is important

Building a culture of safety and a zero-accident company

Toyoda Van Moppes Ltd. **Tukasa Iwase**

I have been in safety administration since starting my career, and I know the extreme dangers that rule violations lead to at production sites, like people being caught in machines, and heavy objects falling. I feel it is very important for workers to able to do safe jobs in a safe environment. I wish to contribute to CSR by constructing a culture where everyone is conscious of safety, and does not engage in dangerous work or go against rules. I want to create a company without accidents.

Working in Information Systems, I promote the strengthening of information security systems. After introducing a new confidential information control system in FY2012, we had many problems concerning operations, and we realized that employee cooperation is indispensible in maintaining information security. I will continue to work to improve each employee's compliance awareness through periodic educational activities, so that everyone may act with a deep understanding of information control.

CNK Co., Ltd.
Syuhei Nagasaka

I want to strengthen confidential information control awareness throughout the company

KEYWORD

Global

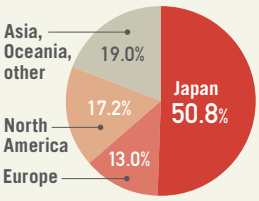
The JTEKT group comprises of 139 companies, spreading across the globe. With the aim of becoming a truly global corporation, we will advance one step at a time towards establishing CSR on a global scale, with consideration of the various characteristics of the region.

1 Management Framework
Strengthening the foundation for growth in countries around the world

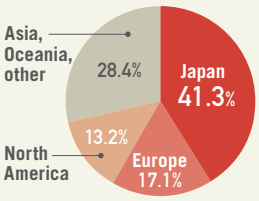
The JTEKT group has established managing companies in the major regions around the world and maintains a global management framework. In order to strengthen our auditing framework, we established regional audit offices in North America, Europe, ASEAN, India, China and Central and South America in 2011.
In 2012, we reorganized our North American operations and strengthened our management foundation. In monozukuri, we are advancing action to deploy and build a framework to make good products well on a global basis. We will exert efforts to enhance management with an awareness that the strengthening of the foundation for growth around the world will increase our impact upon society.

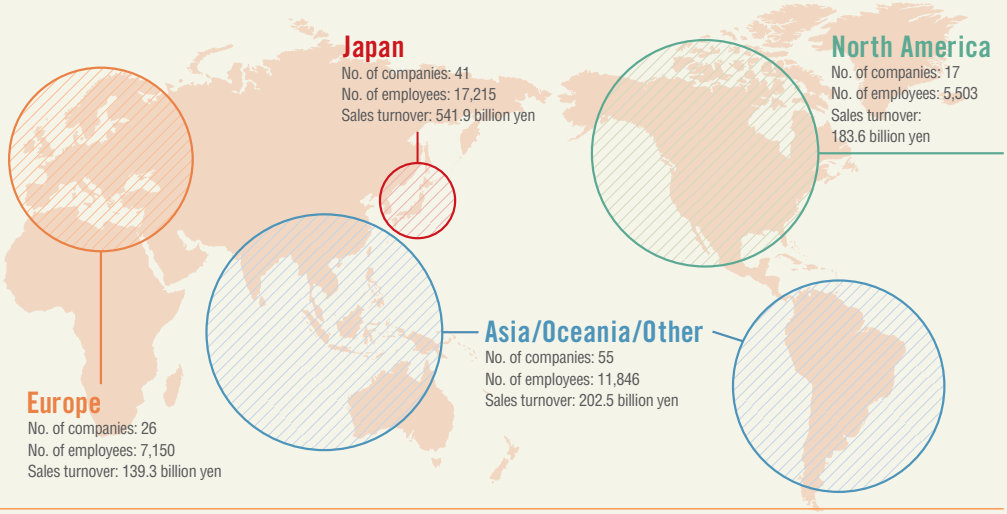
E_02 Related article

Sales turnover share by location
(FY2012 consolidated net sales)



Employee percentage by location
(Consolidated net sales current as of March 31st, 2013)





2 Global standard line
Training sessions to spread the concept

In FY2010, JTEKT began building a global standard line to roll out the leading production lines of our domestic plants to our local affiliates around the world.
The objective is to secure an equal level of quality in our products, regardless of where they are manufactured in the world, and build a competitive monozukuri framework. We believe this will lead to stable employment in the region and the development of human resources, as well as contribute to the vitalization of the region.

Koushi Yoshida lecturing at the ASEAN training session.

Training sessions (Europe)

In FY2012, in order to further deepen understanding of this concept internally, we issued a handbook titled the "Concept of the Global Standard Line". Using this handbook as teaching material, we began holding training sessions in our domestic plants from October of 2012. The lecturer of these training sessions was Koushi Yoshida, Senior Advisor to the Board. From 2013, we also held the same training session overseas and at the JTEKT Junior Association (*).
We will continue to take steps forward, seeking high ideals for a global standard line.

* A training session for the next management layer of the JTEKT Supplier Association, which comprises of 212 JTEKT suppliers.

3 2012 Topics
Various other actions

Establishment of a bearing plant in South Korea

In June of 2012, JTEKT and Korean company, JICO, completed construction of a new plant for their joint venture, KJKC. KJKC manufactures bearings for vehicle water pump, and occupies the top share of the market for Hyundai Motor Company. We have expanded our production framework with expectations of expanding our volume of sales to Hyundai, whose presence is becoming increasingly prominent in the US and Asia.

KJKC building

New China plant completed

New plants were completed for JTEKT's Chinese local affiliates, WKB and KNBW in December, 2012 and March, 2013, respectively. At WKB, a portion of the production equipment for small ball bearings, WKB's main product, was renewed. At KNBW, a production line was newly installed for rocker arms, an engine part which had previously been imported from overseas. Both WKB and KNBW will continue to improve their productivity and quality to respond to an increased demand in the Chinese market.

Opening of an integrated website for European bearings New!

With a goal of improving service in the bearing business and strengthening brand image in European countries, an integrated website was opened on May 25th, 2012. The site features rich content such as operation base locations, product information and a members-only section for certified sales agents.

Homepage

KEYWORD

Disaster Recovery Support

Over 2 years has passed since the 2011 earthquake off the Pacific coast of Tohoku, however recovery of the affected areas is still a major issue for Japan and JTEKT is proactively involved in recovery support. We are continuing our support efforts in FY2013 also.

1 Recovery support of the 2011 earthquake off the Pacific coast of Tohoku

New!

Cooperation in providing an on-demand bus connecting temporary housing sites and the CBD.

As part of the Kokorohakobu Project (*1), Toyota Motor Corporation began operation of an on-demand bus in cooperation with Kamaishi City, Iwate. This bus, affectionately named the "Niko-niko (or "Smiley") bus", has been trial operating since October, 2012. It uses a newly developed "On-demand Transportation System" and travels back and forth between the temporary housing sites and Kamaishi's central business district. JTEKT also cooperates with this project.

*1 A 2011 earthquake off the Pacific coast of Tohoku support project run by Toyota Motor Corporation. Activities range from utilization of locally-produced products, events, children and education-oriented activities and so on.

●BUS+AID
http://bus-aid.com

2 Recovery support of the 2011 earthquake off the Pacific coast of Tohoku

Participation in Toyota group's recovery support volunteer activities

Toyota group is conducting recovery support volunteer activities, which are participated in by its employees. In FY2012, 4 JTEKT employees also participated. Write-ups including photos describing each of their individual experiences were featured in the JTEKT company newsletter and their impressions shared with all JTEKT employees.

Planning Sect. / R&D Planning Dept.
Research & Development Headquarters
Yutaka Inada

Period : July 11-15
Place : Rikuzentakata, Sumita and Ofunato, Iwate prefecture
Content : Cutting grass, etc., at temporary housing sites and parks.

Regional needs vary from hard to soft

Some said to me, "We are so sorry to make a person who has come from so far away cut grass.", but I thought to myself that, it didn't matter what I did, as long as I helped the people making the request who were working with determination for regional recovery or emotional care, it was well worth it. The needs of the region are changing from hard to soft and long-term support activities are necessary.

Engineering Section / Quality Control Dept.
Okazaki Plant / Automotive Systems Business Headquarters
Kazuhiko Inagaki

Period : July 25-29
Place : Rikuzentakata and Ofunato, Iwate prefecture
Content : Cutting grass, clearing debris, etc., in the disaster-affected areas which have become vacant plots.

An experience like no other that will remain with me

When I finished my work, I received smiles and words of appreciation from the landowners, making me feel a sense of fulfillment. I was able to hear the thoughts of the people in the disaster-struck area directly. Things such as the events of that disastrous day, life in the evacuation centers, how things had hardly changed at all after a year and a half, etc. I had an experience that will remain with me which I could never have had if I hadn't volunteered.

Planning Group / Head Office
General Administration Dept.
Personnel and General Administration Division
Toshiki Ohkumo

Period : September 5-9
Place : Rikuzentakata and Ofunato, Iwate prefecture
Content : Fixing water ways in rice fields, clearing mud out of ditches in temporary housing sites, cutting grass, etc.

Volunteers are still needed

We all went to the region and did our absolute best so that the locals might feel even a little cheerier. The locals would wave at the recovery support bus we rode in when they saw it. The region has recovered quite a bit since directly after the disaster, however volunteers are still needed.

International Trade Affairs Group
Management Office 2
Corporate Sales Management Dept.
Sales & Marketing Headquarters
Youko Inoue

Period : October 17-21
Place : Rikuzentakata and Ofunato, Iwate prefecture
Content : Clearing mud out of ditches, cutting grass, etc.

We must keep going! Don't let things be neglected!

Many places in the disaster-affected areas remain unchanged from the day the earthquake and tsunami struck, making me feel that recovery would take time. While I was volunteering, the locals greeted me with words of thanks and told me about their experiences of that dreadful day, and all in all it was an invaluable experience that will remain with me. We must keep going! Don't allow damage done by the 2011 Tohoku earthquake and tsunami disaster to be neglected!

3 Recovery support of the 2011 earthquake off the Pacific coast of Tohoku

New!

Cooperation in "Oiden! Fukushima-ko!"

A summer project "Oiden! Fukushima-ko!" (*2) was hosted by citizen's group, Tohoku Oendan Higashi Mikawa, between July 31st and August 9th, and JTEKT's Toyohashi plant cooperated with fund-raising and operational aspects. Various activities including mountain climbing, playing at rivers and star-gazing, were carried out so the children who participated could enjoy playing outdoors to the fullest. One JTEKT employee sharply felt the gravity of the situation children of Fukushima now find themselves in when they were asked the question "Is this water okay to touch?" JTEKT will continue participating in socially contributing activities as a member of the community.

*2 A project where children from Fukushima whose outdoor activities are restricted due to the nuclear power plant disaster are invited to Higashi Mikawa, and play outside to their heart's content.

4 2012 Topics

Support of various accidents, etc.

Recovery support for southern Nara prefecture disaster

JTEKT sold towels for charity at the Nara plant festival held in May, 2012. A total of 150,000 yen was raised and donated to recovery support for the southern Nara prefecture disaster, caused by Severe Tropical Storm Talas, which struck in 2011.

Support for northern Kyushu, affected by torrential rain

Emergency response to requests from "One 1% Club (*3)" to transport goods to the areas of northern Kyushu affected by the torrential rain of July, 2012. Distributed a total of 60 relief supplies primarily collected by employees of JTEKT's Tokyo branch, including towels, soap and wet tissues.

*3 A social contributing support group formed by Keidanren.

[Donations in FY2012] As donation money for the Great Sichuan Earthquake, JTEKT and 19 JTEKT group companies (4 in Japan/ 15 in China) raised a total of 4.5 million yen(roughly 45,000 USD or 280,000 CNY)

CSR Report 2013
Company Performance

Up until last year, we had created a graph entitled "CSR activity results and issues". However, this year, we have listed the performance data from the CSR activities for the past 3 years.

Section	Item				Unit	FY2010	FY2011	FY2012
Contributing through *monozukuri*	**Products** [Independent]	Reduction of CO_2 as a result of building eco-friendliness into the design of each product		Total		301.7	330.9	415.5
			Example product groups	Steering: C-EPS Electrically Assisted Power Steering System	10,000 t	103.3	115.9	176.0
				Bearings: Taper roller bearings for automobiles		71.4	72.3	79.9
	Environment [Independent]	Prevention of global warming	Amount of CO_2 emissions in production		t	236,814	234,173	230,896
				Basic unit	t/100,000,000yen	161.7	156.3	147.7
			CO_2 emissions in logistics		t	12,574	13,396	13,994
				Basic unit	t/100,000,000yen	2.30	2.28	2.25
		Effective use of resources	Basic unit of waste		t/100,000,000yen	7.7	6.8	6.9
		Reduction and management of environmental burdensome materials	Release/transfer of substances subject to PRTR		t	36.9	34.9	42.1
		Number of environmental regulation violations			Incidents	0	0	0
		Number of environmental near-incidents*			Incidents	3	3	5
	Regional contributions [Independent]	Number of plant festival goers			People	6,812	7,267	7,045
		Number of regional conferences			Place	12	12	12
		Number of participants in region cleanup activities			People	8,093	10,387	10,555
		Number of people attending plant tours			People	620	1,088	1,189
		Number of people enrolled in insurance for volunteer activities			People	–	–	516
Establishment of a firm management foundation	**Employees** [Independent]	Percentage of women in administrative positions		Managerial positions	%	0.57	0.76	0.80
				Assistant managers		1.66	1.61	1.78
		Percentage of disabled employees			%	1.94	1.86	1.94
		Number of disabled employees			People	218	220	247
		Female employees who took childcare leave		Number	People	26	19	25
				Percentage**	%	93	89	100
		Percentage of lost-day accidents			%	0.29	0.26	0.14
		Lost worktime due to a new category for mental illness		Days	Day	3,870	3,683	4,398
				Number	People	57	61	65
		Percentage of employees with a BMI above normal			%	22.0	25.1	24.9
		Percentage of smokers			%	41.0	39.2	36.2
		Number of employees (Total permanent, fixed-term, part-time, reemployed, and temporary employees)		Total	People	11,890 (1,984)	13,526 (3,272)	14,232 (3,688)
				Men		11,133 (1,817)	12,393 (2,867)	12,952 (3,148)
				Women		757 (167)	1,133 (405)	1,280 (540)
		Average age			Age	39.7	39.4	38.9
				Men		39.8	39.5	39.0
				Women		39.2	38.2	38.1
		Years of employment			Years	17.1	16.5	15.5
				Men		17.2	16.8	15.8
				Women		15.6	12.6	12.2
		Number of employees who quit within 3 years of entering the company [permanent employees, seasonal recruits, quitting due to personal reasons]			%	3.99	3.93	2.03

* Incidents that had only a slight impact on the environment and were handled within the area they occurred in
** Percentage of female employees who gave birth and also took childcare leave

Section	Item				Unit	FY2010	FY2011	FY2012
Establishment of a firm management foundation	**Employees** [Independent]	Persons hired [Seasonal recruitment]	Total		People	175	289	326
			Men			169	269	306
			Women			6	20	20
			Administrative		People	21	43	38
				Men		17	29	26
				Women		4	14	12
			Engineering		People	52	95	85
				Men		51	94	81
				Women		1	1	4
			Technical		People	102	151	203
				Men		101	146	199
				Women		1	5	4
		Percentage of reemployed senior partners			%	Approximately 98	Approximately 99	100
		Percentage of employees who say they feel fairly or completely satisfied with their personal growth***			%	22	25	29
		Percentage of employees who say they feel their work is worthwhile or mostly worthwhile***			%	–	27	32
		Percentage of employees who say they feel fairly satisfied or completely satisfied with the company***			%	–	18	21
	Financial	Sales	Total		Hundred million yen	9,554	10,526	10,675
			Japan			5,000	5,220	5,419
			Europe			1,430	1,698	1,393
			North America			1,461	1,820	1,836
			Asia/Oceania/Other			1,662	1,786	2,025
		Operating profit/loss (% of increase or decrease in sales profits)	Total		Hundred million yen	399 (–)	356 (△10.7)	291 (△18.2)
			Japan			182	169	179
			Europe			△14	△32	△53
			North America			8	18	17
			Asia/Oceania/Other			231	187	177
		Current term net income			Hundred million yen	200	133	138
		Common equity			Hundred million yen	3,484	3,542	3,626
		Total assets			Hundred million yen	8,422	9,596	10,269
		Net assets			Hundred million yen	3,360	3,423	3,842
		Self-owned current term net margin [ROE]			%	6.5	4.1	4.0
		Dividend per share			yen	16	16	16
		Equipment investment			Hundred million yen	308	658	1,096
	Global development	Number of companies (including JTEKT)	Total			136	141	139
			Japan			42	43	41
			Europe			26	26	26
			North America			17	17	17
			Asia/Oceania/Other			51	55	55
		Number of employees (external, average temporary employed personnel)	Total		People	36,775 (–)	39,834 (4,677)	41,714 (4,971)
			Japan			15,915	16,771	17,215
			Europe			7,513	7,515	7,150
			North America			4,469	4,935	5,503
			Asia/Oceania/Other			8,878	10,613	11,846
	Governance	Number of incidents reported within the company [Independent]			Incidents	29	21	28

*** From the workplace management survey (6 options)

Company Profile

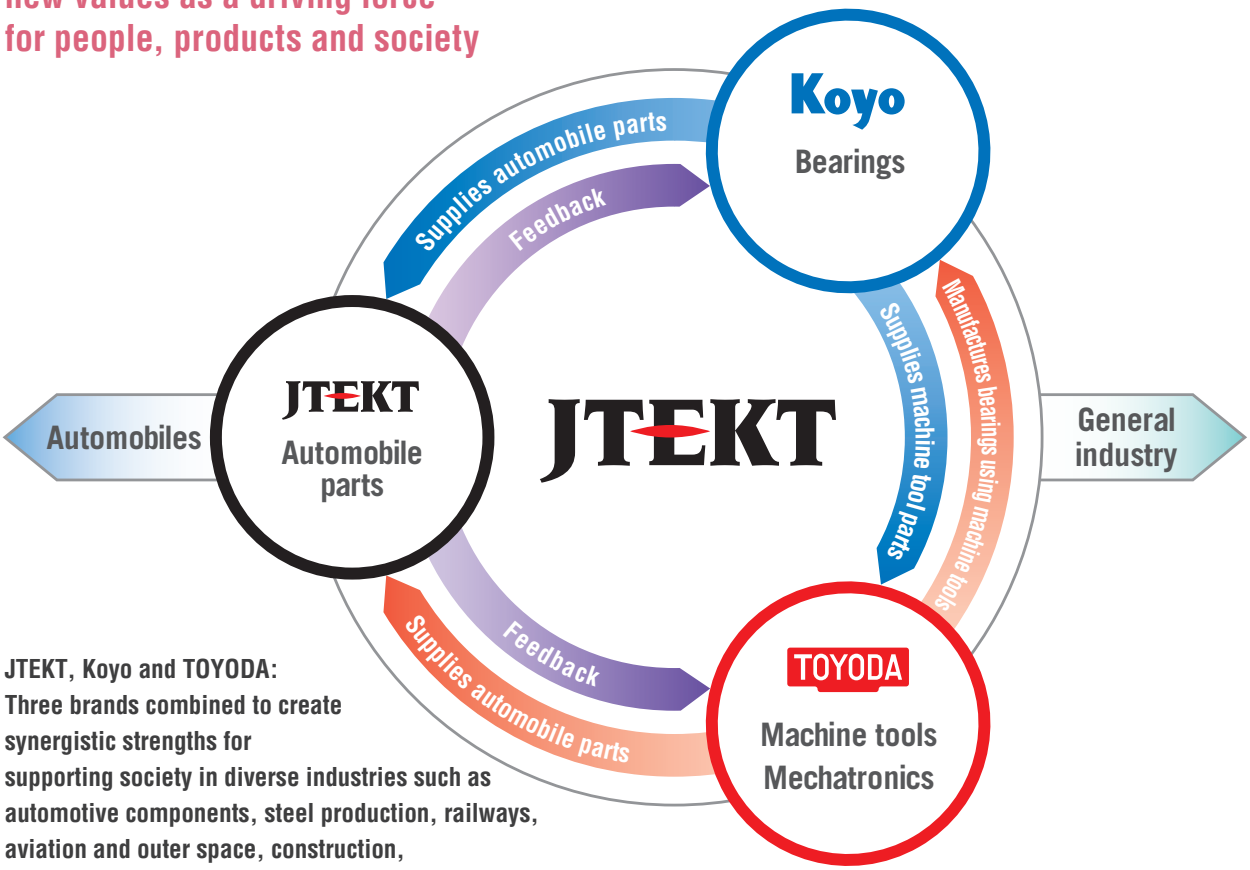
Combining Koyo bearings and Toyoda machine tools, JTEKT brings a single, challenging spirit to the field of power steering

In January 2006, top-class bearing maker Koyo Seiko combined with Toyoda Machine Works, a machine tools maker using the best technology; thus forming JTEKT.

Koyo, a manufacturer of bearings that facilitate industrial development, Toyoda, a manufacturer of machine tools, and JTEKT, a systems supplier that also operates an automobile parts business; all committed to contributing to an abundant society using trusted technologies.

3-business Integrated Brand Logo

Three brands harmoniously creating new values as a driving force for people, products and society



JTEKT, Koyo and TOYODA: Three brands combined to create synergistic strengths for supporting society in diverse industries such as automotive components, steel production, railways, aviation and outer space, construction, agricultural machinery and wind power generation.

Establishment of a brand message

Starting January 2013, we established a new brand message for the JTEKT Group corporate philosophy, which we publicized via the newspaper and signs in bullet train stations, etc.

Creating the next value

－モノづくりで、まだない価値を。－

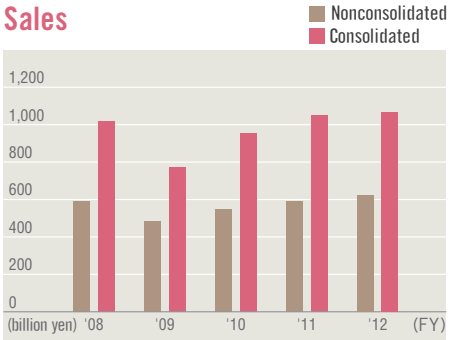
Company Profile

Company name	JTEKT Corporation	
Headquarters	No. 5-8, Minamisemba 3-chome,Chuo-ku, Osaka Japan	
Head Offices	[Nagoya Head Office] 15th Floor, Midland Square, No. 7-1, Meieki 4-chome, Nakamura-ku, Nagoya, Aichi Pref. Japan	
	[Osaka Head Office] No. 5-8, Minamisemba 3-chome,Chuo-ku, Osaka Japan	
President	Tetsuo Agata	
Capital	45.5 billion yen (as of March 31, 2013)	
Number of employees (external, average temporary employed personnel)	41,714 (4,971)	[consolidated] (as of March 31, 2013)
	10,651 (2,290)	[nonconsolidated] (as of March 31, 2013)
Sales	1,067.5 billion yen	[consolidated] (FY2012)
	622.0 billion yen	[nonconsolidated] (FY2012)
Ordinary income	34.2 billion yen	[consolidated] (FY2012)
	19.1 billion yen	[nonconsolidated] (FY2012)
Consolidated subsidiaries	138 (40 in Japan, 98 overseas)	

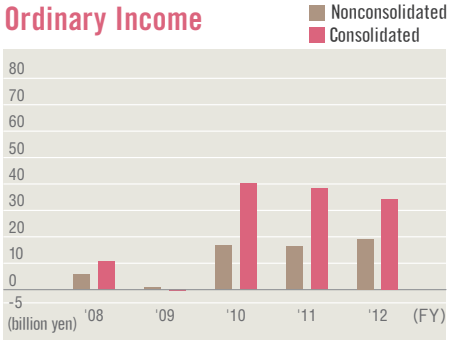
Company History

2005	Koyo Seiko Co., Ltd. and Toyoda Machine Works, Ltd. signed a merger agreement
2006	JTEKT Corporation established
2007	Development and mass production of large-size insulated ceramic bearings for wind power generation
2008	Development of lightweight, low-torque hub unit bearings
2009	Acquired the needle bearing business of the Timken Company, USA Developed torque-sensitive (TORSEN) limited-slip differential for luxury sports cars Launched high-precision combination grinder
2010	Began manufacturing electric power steering systems in India Launched five-axis horizontal machining center
2011	Started manufacturing electric power steering systems in Indonesia
2012	Opened the Iga Proving Ground

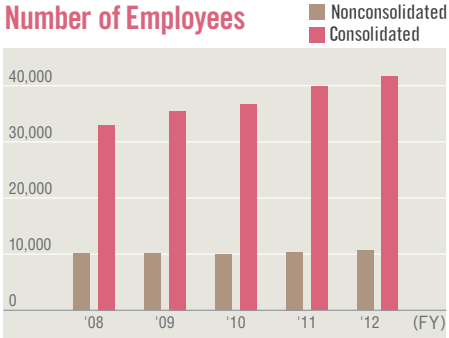
Sales



Ordinary Income



Number of Employees



Dear Readers

Thank you for reading. We welcome your feedback regarding this report.

Combined friendliness and completeness is our eternal theme. This year, we have drastically reduced the CSR booklet volume to a mere 24 pages, and have made the detailed report into a web-only format. Our website is definitely worth a visit, as we have enriched the contents of each page of the unabridged web version. Hereafter as well, we would like to gather everyone's opinions to continue to evolve our efforts towards a better CSR. We would appreciate your honest opinions.

CSR Report 2013 Pick-Up

Issued by: Corporate Planning Dept.
Enquiries: TEL +81-52-527-1905
FAX +81-52-527-1912
Date of issue: September 2013
Next issue: August 2014

http://www.jtekt.co.jp/e/csr/

Details & Data

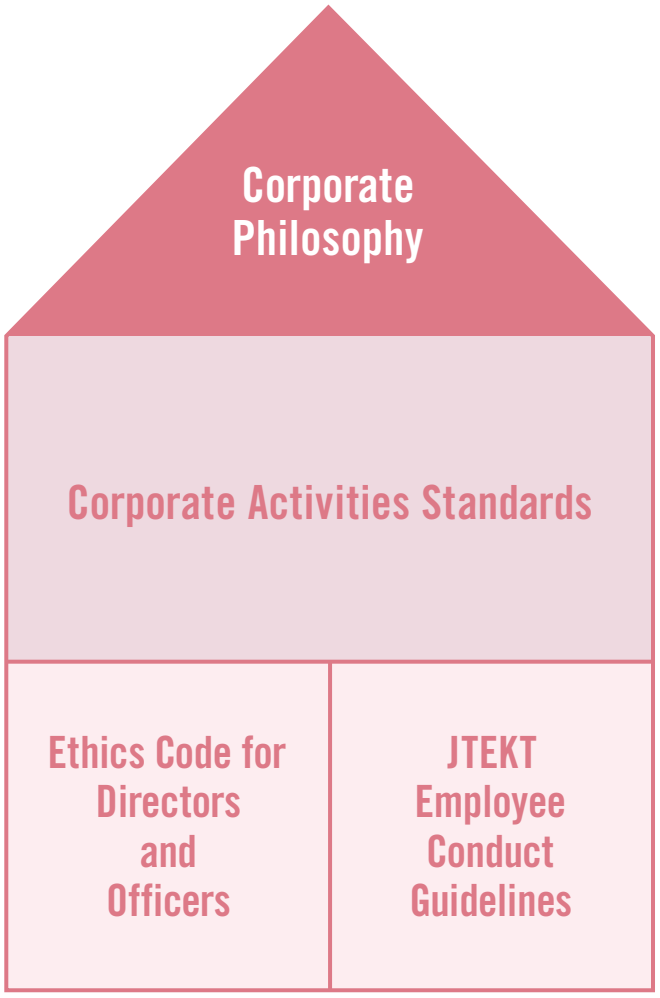
CSR Management

→ [Pick-Up] P4 Related article

- This report aims to inform our stakeholders in straightforward language of JTEKT's concept and activities surrounding CSR.
- In FY2013, we have made major changes to the format of the report to make it easier to comprehend, dividing it into a Pick-Up section (leaflet) and a full online report combining both the Pick-Up and a Details & Data section.
- The Details & Data section emphasizes objectiveness, completeness and continuity.
- In this section, "CSR Management", we have organized the JTEKT CSR concept and the important points of corporate governance, beginning with "CSR Policy".

CSR Policy

JTEKT's CSR Policy comprises of the Corporate Philosophy, Corporate Activities Standards, Ethics Code for Directors and Officers, and Employee Conduct Guidelines.



CSR Policy

CSR Policy

The JTEKT group, in order to fulfill its mission of "contributing to the happiness of people and the abundance of society through product manufacturing," seeks to carry out business activities in harmony with the economy, society, and the environment. As a good corporate citizen, we will continue activities to obtain the further trust of stakeholders and contribute to the sustainable development of society and the environment. We also share this idea with our business partners in the anticipation they will follow our lead.

Corporate Philosophy

Corporate Purpose

Seeks to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society.

Management Stance

1. Create new value and provide society with joy and inspiration on a broad scale.
2. Aim for growth in harmony with society through innovative operations on a global basis.
3. Create a bright, energetic corporate atmosphere based on respect for people.
4. Strive toward the realization of safer, more abundant living circumstances.

Corporate Activities Standards

1. Follow proper business practices and engage in fair, transparent and free competition based on a respect for the law.
2. Derive concepts from the market, provide the best in quality, technology and service, and obtain the satisfaction and trust of customers.
3. Carry out global environmental improvement activities proactively and aggressively with deep awareness of their being an important corporate mission.
4. Respect the individuality of employees, create workplaces that are motivating to employees and enable them to fulfill their potential, and strive to provide each with abundant living circumstances.
5. Maintain close communication not only with shareholders but also with society at large and disclose corporate information properly.
6. As a good corporate citizen, aggressively pursue activities that contribute to society.
7. Follow international rules, observe the laws, cultures and customs of countries and regions where we have operations, and seek to contribute to their growth.

Ethics Code for Directors and Officers

The Ethics Code for Directors and Officers was established in April, 2008. It is the equivalent to conduct guidelines for directors and corporate officers. This ethics code comprises of 11 clauses including "Ethical conduct in good faith", "Compliance with laws and regulations" and so on to insure that laws are complied with. Moreover, another objective of this ethics code is to encourage employees to observe laws by directors setting examples.

Configuration of the Ethics Code for Directors and Officers (excerpt)

Article 5	Ethical conduct in good faith
Article 6	Compliance with laws and regulations
Article 8	Reporting of illegal and unethical actions
Article 9	Responsibility to comply with the Code

JTEKT Employee Conduct Guidelines

This report is organized to make basic mental attitudes and guidelines for work easy to understand for employees, focusing on putting the JTEKT corporate philosophy into practice and making our goal status into a reality. It was created in April 2006, and revised in June 2008.
The guidelines appear in the inner-company intranet and the CSR Handbook (revised November 2012). A portable "pocket edition" has been distributed as well to help the thorough permeation of CSR throughout all employees.

Configuration of the JTEKT Employee Conduct Guidelines

Section 1	Employee's relationship with the company
Section 2	Employee's work in the company
Section 3	Employee's relationship with society
Section 4	Employee's personal activities

CSR Promotion Structure

Systematic promotion of CSR activities

Regular inspections of CSR activity status are conducted by the CSR Promotion Committee. The CSR Promotion Committee is chaired by the company president and was established to systematically promote CSR activities on a companywide and group-wide basis. This organization also discusses how best to accomplish the missions of fulfilling the corporate philosophy and controlling risk through CSR activities from many angles.

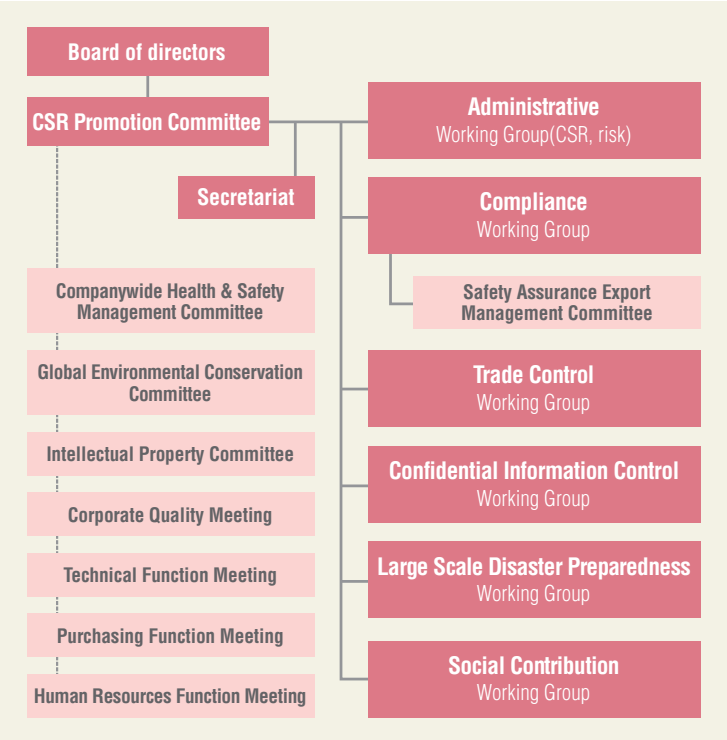
At the March 2013 committee meeting, 21 domestic compliance officers and the presidents of 11 main domestic companies participated and discussed plans for furthering compliance within the JTEKT Group.

[Pick-Up] P3 Related article

Specialized working groups

One of our specialized working groups is currently planning and promoting activity schedules for the important themes of compliance, confidential information control, large-scale disaster control, and social contributions. The trade control working group was newly created in March 2013.

Outline of the structure



● Administrative Working Group	Plan and monitor the progress of CSR activities, regularly assess risk countermeasures and evaluate risks.
● Compliance Working Group	Raise awareness and reinforce the need for compliance with laws, internal rules and business ethics.
● Trade Control	Proposing and promoting measures for securing compliance with foreign rules concerning imports and exports.
● Confidential Information Control Working Group	Assess and improve in accordance with guidelines and strengthen structures and systems concerning information security.
● Large Scale Disaster Preparedness Working Group	Strengthen buildings and equipment to withstand disasters, prepare and revise manuals for early recovery, etc.
● Social Contribution Working Group	Promote social contribution and volunteer activities.

CSR activities in each department, companywide

JTEKT promotes CSR activities through an expert committee belonging to the "CSR Promotion Committee" and specialized working groups. For out fiscal year goal, we plan to incorporate our CSR objectives into each company department, and promote CSR activities consistently by implementing the PDCA cycle(*). Through the construction of this type of system, we aim to jumpstart and enhance CSR activities throughout JTEKT and JTEKT Group companies.

Continuing on from FY2011, in FY2012 we have added details particularly emphasizing CSR to our global company policy. All employees of Line Leader status and above have expressed their determination regarding CSR, and are strengthening their efforts to improve CSR awareness within each department.

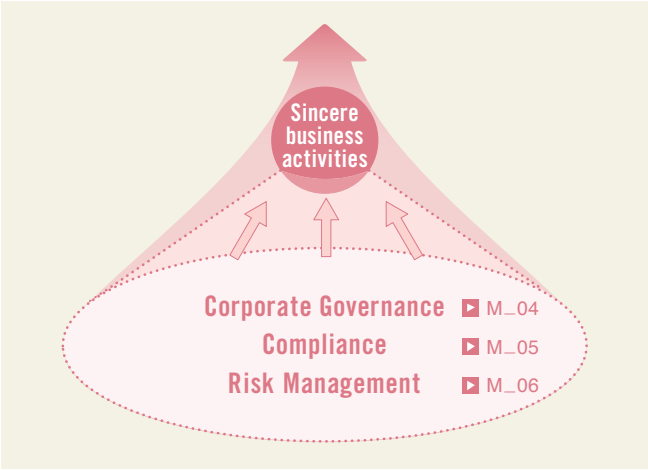
* **PDCA cycle** PDCA is a management tool for continuously improving work by repeating a Plan-Do-Check-Action cycle.

[Pick-Up] P14-15 Related article

The foundation supporting CSR

The 3 pillars of sincere business activities

At JTEKT, we believe that the continual implementation of sincere business activities is important for the promotion of CSR. One thing that is essential to sincere business activities is a highly transparent, healthy management style that observes statutory and social norms. The three pillars, "Corporate governance", "Compliance" and "Risk management", are positioned as important mechanisms to achieve this. All of these three have been emphasized in recent years in all corporations however the important thing is whether they are actually being implemented or not. In order to use these 3 pillars effectively, JTEKT makes numerous improvements such as ongoing revisions to the CSR Promotion Structure, etc.



Corporate Governance

Basic concept

Management transparency improves corporate value

In order to fulfill our social responsibility and continuously improve our corporate value, we have established an internal control system. We strive to improve our management transparency and secure ample accountability for all our stakeholders.

Promotion structure

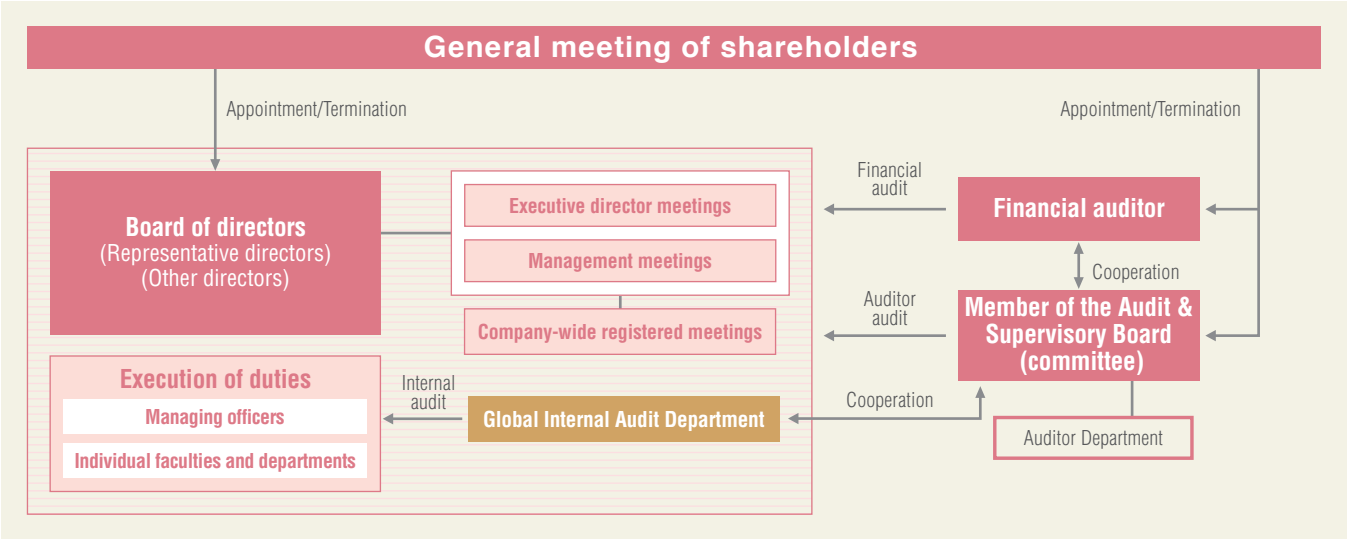
Towards Governance on a Global scale

At JTEKT, the board of directors meets every month to make management decisions and monitor directors' performance of duties. Also, sub-mechanisms of board meetings, such as executive director meetings, management meetings and company-wide registered meetings, are held to fulfill individually deliberated issues and monitor the duty performance of managing officers.

As a way of monitoring management, we have adopted an auditory system to inspect the directors' duty performance, consisting of five Members of the Audit & Supervisory Board, three of whom are external. Internal audits are conducted by an independent Global Audit Department, who inspects the validity and lawfulness of overall operations and procedures. The Members of the Audit & Supervisory Board, financial auditors and Global Audit Department liaise together and hold conference periodically (See the below figure).

Also, JTEKT maintains and operates an internal control system in line with both the Financial Instruments and Exchange Act and the Companies Act. In FY2012, our compliance officers conducted surveys and education for the heads of each department both in Japan and overseas, and we strengthened our auditing framework through the establishment of auditory departments in North America, Europe, ASEAN, India, China, and Central/South America. Furthermore, we enhanced our internal control system utilizing management control guidelines.

[Pick-Up] P3 Related article



The foundation supporting CSR

Compliance

Basic concept

Every individual behaves and makes correct decisions according to Corporate Ethics

JTEKT believes that implementing corporate philosophy is essential to compliance as the premise and foundation supporting CSR. Without stopping at mere law observation, we have established an "Ethics Code for Directors and Officers", "Employee Conduct Guidelines" and "Compliance Standard" in order to fulfill corporate ethics and societal obligations.

Promotion structure

Education and inquiry by compliance officers

Compliance officers have been newly appointed, mainly from among managing officers. Their role is to promote business activities in line with compliance in every department, facility and overseas region, and perform periodic compliance checks on the departments and facilities they supervise. Compliance officers also must understand compliance familiarity, risks and issues, and engage in efforts towards compliance improvement.

→ [Pick-Up] P3 Related article

Group company promotion structure

This same promotion structure is adopted by our group companies, both in Japan and around the world, and activities are promoted in response to the characteristics of each country, region and company.

Training and educational activities

Promoting and reinforcing awareness among employees

We engage every day in activities which aim to raise awareness among all employees, so that they may reflect compliance within their daily conduct.

◎Compliance Strengthening Month

In order to not let the fact that we underwent an on-site investigation from the Fair Trade Commission in July 2011, we have made July of each year into Compliance Strengthening Month, holding educational activities for all employees. Other efforts include adding featured articles to our company newsletter, putting up posters, and setting compliance messages to be displayed upon computer startup.

◎Departmental education on major subjects

Each year we designate departmental compliance education on major subjects as part of the yearly schedule. We prepare easy-to-understand educational materials explaining the laws concerning the department in question, and conduct education and group instruction via e-learning.

◎Compliance education within each company level

Instruction is carried out for executives, employees promoted to managerial and supervisorial positions, and new employees.

◎Examples of compliance violations

We have drawn up a list of generalized compliance violations (incidents and near-incidents) that have occurred within JTEKT and JTEKT Group companies. The material was posted to our database to help prevent reoccurrences of these incidents.

Internal reporting system

28 cases reported and handled in FY2012

The JTEKT corporate ethics consultation desk was created as a way for employees to report problems and concerns regarding compliance, and receive consultation; the facility consists of an Employee Opinion Box (managed by the Legal Dept.) and a Corporate Ethics Helpline (managed by an external lawyer). As a result of proactive publicity activities, a total of 28 cases were reported and handled in FY2012.

FY2012 breakdown

Rule violation	6
Personnel system	8
Workplace communication	5
Harassment	6
Health and safety	1
Other	2
Total	**28**

Structure of the internal reporting system

* The internal reporting system has expanded to include group companies overseas.

Number of internally reported cases

FY2008	FY2009	FY2010	FY2011	FY2012
31 cases	22 cases	29 cases	21 cases	28 cases

Actively encouraging employee use

The consultation desk proactively advertises opportunities such as employee instruction within the company newsletter, intranet, etc. During FY2012, the consultation desk was publicized on the paper cups of beverage vending machines in order to reach employees on a closer level.

My CSR

Naoki Nishizawa
Domestic Legal Affairs Group Legal Dept.
Personnel and General Administration Division

Supporting JTEKT activities from the legal aspect

The word "CSR" can be interpreted to mean different things, but we define it as everyone's aim to build a happier, more abundant world through work. In the Legal Department, we work daily to support the JTEKT activities of "Purchasing materials, creating useful products for the world, and conducting sales", through a legal lens. As a member of the Legal Department, I would like to contribute to fulfilling our corporate philosophy by helping everyone.

The foundation supporting CSR

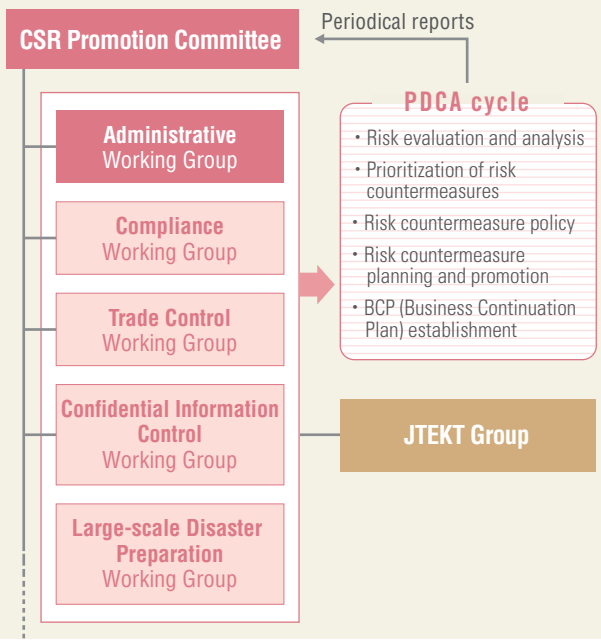
Risk management

Basic concept

To continue business activities under any circumstances

In order to continue business activities uninterrupted, JTEKT constantly engages in accident prevention and countermeasures to minimize damage in the unlikely event of an emergency. Taking into consideration the effect of large-scale disasters and the influenza epidemic on business activities, we have further strengthened our risk management framework.

Risk management structure



Promotion structure

Promote countermeasures based on a companywide organization

The companywide, horizontal organization, CSR Promotion Committee, selects risks, etc., that affect business activities, the environment and safety. Each Risk Management Department then formulates measures for prevention, countermeasure and recovery assuming such risks. Ongoing revisions are made in response to changes in the external environment and the level is constantly improved.

Ongoing revision of risk management

Implemented in FY2011

- Continue countermeasures and reevaluate each risk
- Discuss revisions in the company rules/information transmission route that respond to changes in the outer environment

Implemented in FY2012

- Expanding risk management to group companies overseas, aiming to minimize risk across the whole of the JTEKT Group

FY2013 plan

- Review risk management framework and operations
- Strengthen PDCA cycle to improve risk management

Framework in the event of risks affecting the whole company

In the event of a risk occurring such as a large scale disaster, etc., which would affect the whole company, a task force is set up to respond to risks.

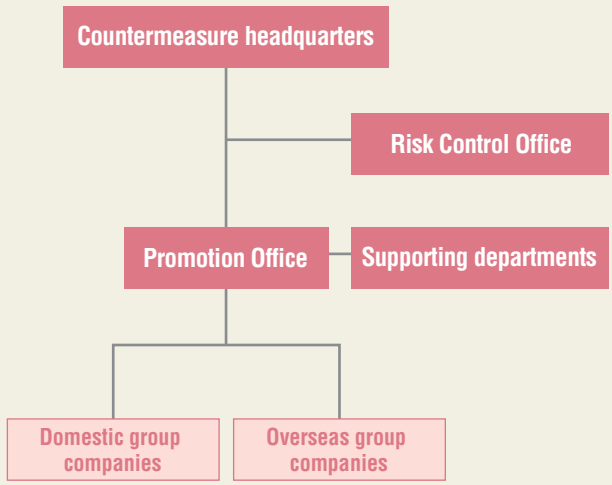
My CSR

Tadashi Ashida
System Infrastructure Planning Group 2 Planning Office
Management Information Systems Dept.
Finance & IT Division

Facing risks while pursuing higher work efficiency

In the Information Systems Department, we are continuing the enhancement of risk countermeasures to handle mainly the risks of information leakage, system shutdown due to large-scale disaster, and software license violations. While IT is extremely convenient, it has the potential to cause considerable damage or greatly influence a company if a problem or accident occurs. We will face these risks as we pursue higher work efficiency; working towards risk reduction and the improvement of IT user morale, and conducting further countermeasures for preparation in case of an emergency.

Crisis-management system (at risk manifestation)



Details & Data

Social Report

- This report aims to inform our stakeholders in straightforward language of JTEKT's concept and activities surrounding CSR.
- In FY2013, we have made major changes to the format of the report to make it easier to comprehend, dividing it into a Pick-Up section (leaflet) and a full online report combining both the Pick-Up and a Details & Data section.
- The Details & Data section emphasizes objectiveness, completeness and continuity.
- In this "Social Report" section, we have summarized the overall activities for FY2012 by stakeholder. It is configured in a consistent format since the CSR Report 2008 to make it easy to read continuously.

Target period and target organizations/scope

Target period

FY2012 (April 2012 - March 2013)

* Some items include content from other periods.

Target organizations and scope

All JTEKT Corporation activities

Management of the JTEKT group is carried out on a group-wide basis, including elements such as environmental data measurement and control based on a uniform standard. Some items also show the performance of our domestic affiliated companies and overseas local affiliates. As a general rule, if there are changes in the tallying scope, we revise data dating back to the past.

Reference guidelines

◎ GRI (Global Reporting Initiative)
"Sustainability Reporting Guidelines 2011 (3.1 edition)"
◎ Japan's Ministry of the Environment
"Environmental Reporting Guidelines (2012 edition)"
◎ ISO26000 (International Standard for corporate responsibility)

New! This mark is used to indicate new action begun in FY2012 and information disclosed for the first time in this year's report.

Together with customers

Social background

Awareness of consumer's rights is rising on a global scale, represented by moves such as the ISO26000 positioning consumer issues as one of its central themes, etc. Since the establishment of the Consumer Affairs Agency in Japan in 2009, consumer's rights are also being respected on an administrative level. Thorough quality control is being demanded of manufacturers and system suppliers in order to provide safe and secure products.

JTEKT's concept

Considering the entire society as customers

In order to provide customers with the highest quality products, JTEKT naturally search for value as a supplier but at the same time aim to be considered as having value as a partner that can be relied upon.

Moreover, JTEKT's products are used in various industries, such as automotive, railway, steel, aviation and space and are deeply and widely involved with society and environmental issues. JTEKT have a strong awareness of our social responsibility, and constantly strive to improve technology and quality, regarding our customers to be not only those who we directly do business with, but also society at large.

→ [Pick-Up] P20 Related article

Quality policy and quality assurance system

▶ Figure-01

Establishing a quality policy with the motto of "Customer First", JTEKT are involved in a variety of quality improvement activities. We also maintain and constantly improve a quality assurance system based on this policy.

Quality policy Adhering to the theme of "Quality First", we offer products which earn the trust and satisfaction of our customers

- Making decisions and taking swift action from the standpoint of our customers
- The instilment of own-process quality through the ingenuity of all employees

TOPICS

Awarded the Silver Prize in the Nationwide QC Circle Contest

On November 13th, 2012, the 42nd Nationwide QC Circle Contest was held at Tokyo Big Sight with 17 circles selected from around Japan. From JTEKT, Nara plant's "Ring Circle" participated and was awarded the Silver Prize. Under the keywords of "Wa" (meaning "peace", "discussion" and "circle"), Ring Circle was highly regarded as an excellent example of achieving growth for both the leader and members.

Yukikazu Yasuda (left) and Hidekazu Kubota (right) receiving their award.
The assistant is Shigeyuki Kawaguchi.

Together with customers

Major activities in FY2012

Implemented QG (*1) -20 activities (milestone control)

JTEKT has begun a control meeting using 20 milestones for all stages, from planning, design, development and production preparation to full-scale production. The required quality is properly reflected in the product. *1 QG is the abbreviation for Quality Gates.

Improvement through regular inspections

JTEKT actively pursued the obtainment of reviewed quality management system certification through third parties. JTEKT continues to receive periodical inspections once or twice a year and uses the results to further revise and improve its quality control system.

Major obtained certifications

- ISO9001 (International quality management system standard)
- TS16949 (Quality management system for the automotive industry)
- AS9100 (Quality management system for the aviation/aerospace industries)

Promoting TQM activities

JTEKT promote TQM (Total Quality Management) activities based on the three pillars of "Customer First", "Endless Improvements" and "Participation by All". Also, at workplaces, which are the frontline, we strive to foster mutual instruction and the handing-down of unique techniques through small group activities (QC Circle activities).

Held a SQC (*2) Improvement Case Study Companywide Presentation New!

In R&D, design, production activities and so on, JTEKT proactively incorporate the SQC method to be able to make scientific judgments based on data and consider the variation of material, parts and properties.

In FY2012, in order to share case studies which utilized SQC throughout the company, a SQC Improvement Case Study Companywide Presentation which around 350 people came and listened to.

*2 SQC is the abbreviation for Statistical Quality Control.

My CSR

Masahiro Hoshino
Delivery Management Office
Sales Coordination Dept.
Sales & Marketing Headquarters

Our mottos are "Safe and Secure Exporting & Importing" and "Customer First"

The Delivery Management Office consists of an export group which performs processing of imports and exports, and a task group which mainly handles lead-time management of completed bearings for overseas customers. Under their motto of "Safe and Secure Exporting & Importing" the export group engages in improving the accuracy of processing and compliance. The task group, under their motto of "Customer First", exert efforts to improve customer satisfaction level.

Conducting a customer satisfaction survey

As in previous years, in FY2012 JTEKT conducted customer satisfaction surveys targeting our main customers. We share the issues revealed through such surveys companywide and strive to resolve them swiftly and effectively.

Opening of a test course New!

In October of 2012, a test course, the "Iga Proving Ground" was opened in Iga city, Mie prefecture. By evaluating and analyzing actual vehicle driving performance we are contributing to the better efficiency of our customers development tasks and shortening of the development period. → [Pick-Up] P12-13 Related article

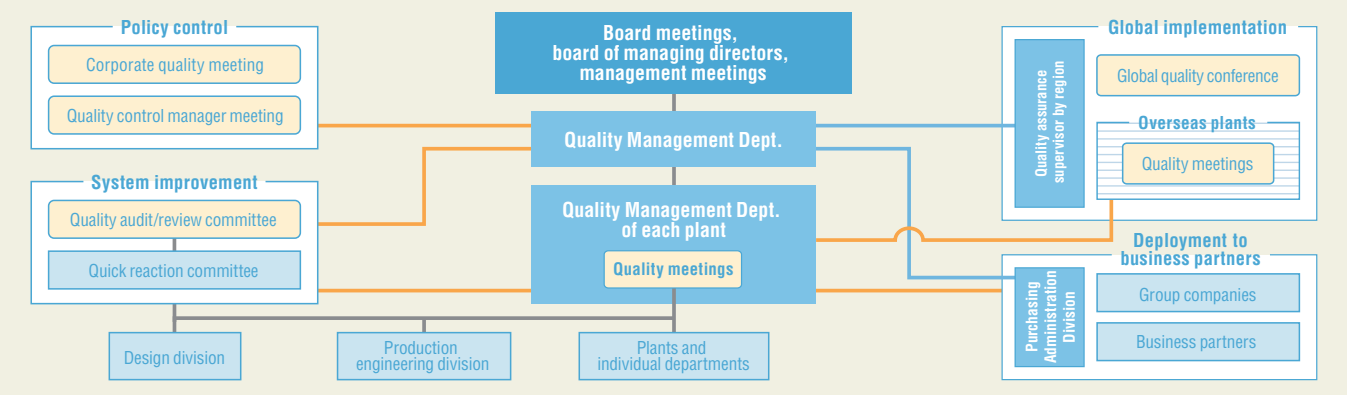
Awarded from customer companies

JTEKT received awards from customer companies in recognition of various quality improvement activities.

Major awards in FY2012

Customer name	Award	Awarded company
Aichi Machine Industry Co., Ltd.	Award of Excellence for Quality	JTEKT Corporation
General Motors Japan	Supplier Quality Excellence Award	JTEKT Corporation

Figure-01 Quality assurance system



Together with business partners

Social background

With CSR receiving more and more interest on a global scale, in addition to the current QCD (quality, close, delivery), there is an expectation of companies to engage in purchasing activities which consider the environmental and safety factors of the material and parts purchased, work environment, law and regulation observation, and BCP (*1).

*1 BCP
BCP is an abbreviation for Business Continuity Plan. It is an action plan to formulate ways of minimalizing impact to important operations in times of disasters and restarting operations as soon as possible if they are interrupted.

JTEKT's concept

Promoting fair business

JTEKT regards business partners as equals and aims for mutual development and growth based on strong relationships of trust. JTEKT has stipulated policies for open and fair business practices in its Corporate Activities Standards and its Purchasing Philosophy regardless of country or company size and including companies with no experience supplying to JTEKT. We have outlined procedures in our website for new business partners to start business with JTEKT as a means of providing fair, equal opportunities for all.

"Follow proper business practices and engage in fair, transparent and free competition based on a respect for the law."

(from JTEKT Corporate Activities Standards)

Purchasing Philosophy

Fair and transparent business transactions	We provide open, fair and equal opportunities to all regardless of nationality or company size, including companies with no experience doing business with JTEKT.

Purchasing Basic Policy

Mutual trust	Build mutual trust through close communication with business partners.
Coexistence and co-prosperity	Achieve harmonious relationships with business partners based on mutual trust.
Long-term, stable business relationships	Achieve stable procurement meeting JTEKT's quality, cost , volume, and delivery requirements through continuous business.
Global purchasing	Achieve optimal purchasing from a global viewpoint and improve international competitiveness by a strong supplier chain.

Green Purchasing activities

JTEKT promotes companywide Green Purchasing activities in order to contribute to the creation of a sustainable recycling-based society. For that purpose we issued Green Purchasing guidelines and have requested the cooperation of business partners.

Requests to our business partners

We make the following requests to our business partners under the Green Purchasing Guideline.

- Construction of an environmental management system based on obtainment of external certification such as ISO14001.
- Observation and reinforcement of environmental laws and regulations
- Prohibit or restrict use of environmentally burdening substances
- Improve environmental performance through reducing CO_2 emissions, etc.
- Promote action to conserve biodiversity

Major activities in FY2012

Purchasing Policy Briefing

On April 19th, 2013, the Purchasing Policy Briefing was held at the Teikoku Hotel in Osaka, attended by 328 companies and 366 people. As FY2013's purchasing policy, JTEKT requested the strengthening of CSR and thorough safety, which are major assumptions of doing business. At the same time, we explained our major implemented items for the fiscal year. We also awarded our business partners who had demonstrated outstanding performance in regards to quality, technology and cost price improvement for the year overall.

Major Implemented Items for FY2013

- Reconstruction of a framework to guarantee sound quality
- Strengthening of international cost competiveness
- Promotion of global optimal purchasing

Quality Management Convention

The Quality Management Convention was held on November 14th, 2012 at Osaka Matsushita IMP Hall, and was participated in by around 360 people from all 212 member companies of the JTEKT Supplier Association (*2). 6 companies presented improvement case studies and Kokubu plant's QC circle also gave a presentation. In addition, there was a lecture relating to QC circle and talk from Nakazato Seisakusho's CEO, Mr. Nakazato.

*2 The JTEKT Supplier Association comprises of 212 companies. It is intended to foster mutual trust among members and raise their capabilities through activities such as quality management conventions, workshops, and lectures.

Together with business partners

JTEKT Supplier Association Workshop

The JTEKT Supplier Association Workshop was held at the Kariya Industrial Development Center on January 30th, 2013, and was attended by many people from the JTEKT Supplier Association. Training was implemented based on the three themes of labor compliance, workplace mental health measures and CSR action.

Issuance of CSR Activity Item Guidelines New!

In order to share the gist of JTEKT's CSR policy, we issued CSR Activity Item Guidelines to our business partners in October, 2012. These guidelines clarify items relating to management, sociality and environment that we would like our business partners to observe.

[Pick-Up] P14-15 Related article

Masahiko Nakagami
Training & System Group
Global Purchasing Planning Office
Purchasing Planning Dept.
Purchasing Administration Headquarters

My CSR

Cooperating to promote local industry through a fair

In December of 2012, JTEKT tied up with Mie prefecture and held a Technology Fair. 20 companies from Mie exhibited and employees from the JTEKT group attended. More than 250 people attended over the 2-day event, and there was lively opinion exchange. We will continue to cooperate with promoting local industry through introducing companies with unique characteristics.

Together with employees

Personnel-related actions

Social background

Human rights were raised as one of the core themes of ISO26000 issued in 2010. Also, in the 2011 revision of the OECD Guidelines for Multinational Enterprises, a chapter relating to human rights was newly established. As can be seen by the increasing number of international guidelines relating to human rights which are being established and revised recently, there are strong demands for companies to conduct business activities which place importance on human rights.

JTEKT's concept

Creating a friendly work environment for all

JTEKT fosters discrimination-free workplaces where human rights and diversity are respected and employees can strive to achieve high goals. We promote the creation of a workplace in which all of our employees find it easy to work, considering various aspects such as human development, respect for diversity and safety and hygiene. JTEKT believe that, as we expand globally, it will become even more important to deepen understanding towards human rights and share this with group companies both domestically and overseas.

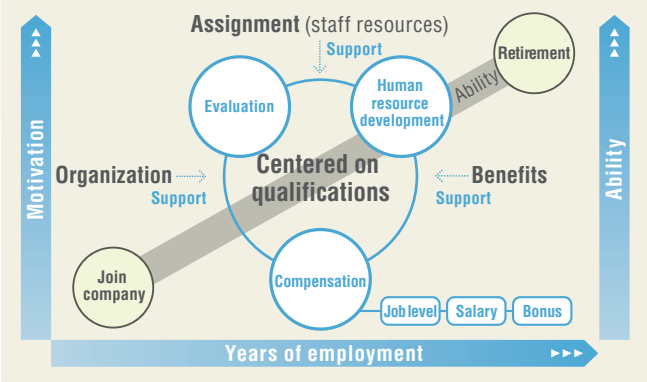
Direction of human resource development

Based on the following 3 points, JTEKT constructed a systematic human resource development system to enable all employees to grow while achieving a sense of accomplishment.

1. Develop employees who understand the Corporate Philosophy and are professional, creative, highly skilled, and able to achieve management goals.
2. Develop employees who are continually motivated to improve themselves and able to realize their true potential through self-driven, disciplined effort.
3. Develop employees who respect human rights, live in harmony with the environment, observe social rules, are sensible, and have an international perspective.

Maintaining high motivation and enhancing abilities

Our human resource development system, consisting of training, evaluation and compensation, enables employees to continually improve their skills and provides them with a motivating working environment during their years in the company.



Major activities in FY2012

Emphasizing labor-management communication

JTEKT place importance on labor-management communication and facilitate numerous opportunities for direct dialogue between workers and management on a companywide and individual plant basis. These include various social gatherings and discussion sessions. Workers and management exchange opinions on company development and improving employee quality of life, and strive to deepen mutual trust and understanding by building even firmer relationships.

Labor-management discussion opportunities (held in FY2012)

- Central Production Subcommittee Meetings (annual)
- Central Labor-Management Meetings (semiannual)
- Labor-Management Meetings (4 times)
- Labor-Management Committee Meetings (14 times)
- Labor-Management training (annual)
- Plant Production Section Meetings (monthly at each plant)
- Business Facility Labor-Management Discussions (monthly at each business facility)
- Workplace Discussions (as required at each workplace)

VOICE Aiming for gold in a national competition

Hiroki Watanabe
Technical Training Center
Personnel and General Administration Division

At JTEKT Technical Training Center (*1), as an instructor for the National Skills Competition [Mechatronics] job category (*2), Watanabe uses his experience as a player to develop the junior members. At the 2012 National Skills Competition (*3), JTEKT obtained the silver prize. We will further improve our level and aim for gold next time. The development of technical specialists will contribute to the development of JTEKT on the whole.

*1 **JTEKT Technical Training Center** The JTEKT Technical Training Center is set up within JTEKT to focus on developing outstanding technical human resources.
*2 **[Mechatronics] job category** Participants form pairs and design, assemble, adjust, program and service devices. This category is a competition focusing on work speed and accuracy which aims to develop the top mechatronics technician in the world.
*3 **National Skills Competition** A competition where young technicians (23 years and younger) compete for the top skill level in Japan. The year before the World Skills Competition, a participant screening session is held.

Together with employees

Training held by job type and rank

Human resource development for office & engineering staff

The JTEKT training system is composed of three pillars. Rank-based training, teaching the knowledge and skills necessary for each rank, function-based training, teaching advanced knowledge and skills and workplace-based training, teaching employees specific skills related to their job. In addition, we support the acquirement of qualifications and self-study efforts.

Human resource development for production staff

Based on the training at the JTEKT Technical Training Center, we incorporate systematic guidance through OJT (*) and strive to foster highly skilled production staff. Apart from this, we maintain a support system for certification acquisition, various examination systems and so forth.

* **OJT** Abbreviation for "On the Job Training," or training carried out during actual work.

Rank-based training types and main content

	Training	Main content	Attendees
Managers	Training for new department managers and manufacturing assistant managers	CSR, workplace management	57
	R3 training for new managers	CSR, policy management, daily task control	109
Office & engineering staff	R4 training for new office & engineering staff	CSR, leadership, planned fulfillment of tasks	118
	R5 training for office & engineering staff	Business communication skills	219
	R6 training for office & engineering staff	Problem solution methods and concepts	176
	Training for mid-career new employees	CSR, JTEKT employee basic knowledge and mindset	142
	Training for office & engineering new employees	CSR, JTEKT employee basic knowledge and mindset	124
Production staff	Training for new Chief Leaders	CSR, Management basics and planned fulfillment of tasks	57
	Training for new Group Leaders	Problem solutions based on QC concept	110
	Training for new production employees	CSR, JTEKT employee basic knowledge and mindset	178

Respect for human rights and utilization of diverse human resources

Included in JTEKT's Corporate Activities Standards and Employee Conduct Guidelines is the following: "Respect the individuality of employees, create workplaces that motivate employees and enable them to fulfill their potential, and strive to provide each with abundant living circumstances."

We give explicit instructions regarding the prohibition of discrimination based on race, gender, age, nationality, etc., and share and enforce this thinking with our group companies both in Japan and overseas. Additionally, we engage in various actions to utilize diverse human resources.

Main actions

- Hiring foreign employees
- Assisting female employees' career development
- Employing handicapped persons
- Changing fixed-term employees to permanent employees
- Providing assistance for those engaged in child-care or nursing-care
- Reduction of work outside regular hours and encouragement of paid leave usage
- Providing post-retirement employment opportunities
- Various education concerning human rights, etc.

Labor condition transition

* Average per each workers union member

	2008	2009	2010	2011	2012
Total work hours (hours)	2,015.3	1,934.8	2,170.6	2,077.2	2,074.7
Work outside of regular hours (hours)	278.0	220.9	306.1	321.8	316.0
Percentage of paid leave consumption (%)	60.2	55.0	58.6	62.1	63.2

* In CSR Report 2012, the total work hours for FY2011 was given as [2,064.7] however there was a mistake in the tallying and this should have been [2,077.2].

Maintain employment

In FY2012 also, JTEKT exerted an effort to maintain employment through taking various measures such as reassignment. JTEKT observed compliance by adjusting the employment of fixed-term workers making 167 fixed-term workers permanent employees in FY2012.

Transition from fixed term workers to permanent employees

	2010	2011	2012
Number of transitions made (people)	50	205	167

Composition of employees as at end of March, 2013

	Male	Female	Total
Permanent employees	9,804	740	10,544
Fixed-term employees (*1)	3,148	540	3,688
Total	12,952	1,280	14,232

	Male	Female	Average
Years of employment	15.8	12.2	15.5

Job turnover rate (*2)	0.5%

* 1 Total fixed-term, part-time, reemployed, and temporary employees
* 2 Voluntary early retirement rate

Together with employees

Assisting female employees in developing their careers

We provide equal opportunities based on motivation and qualifications regardless of gender.

Hiring women for management-track positions and promoting to management positions

We hire women for management-track positions, assign them based on aptitude, and promote them to management positions.

Hires of women for management-track positions and promotion to management positions

	2008	2009	2010	2011	2012
Total no. of women hired for management-track positions	7	8	8	16	11
Total no. of employees hired for management-track positions	(132)	(163)	(75)	(135)	(118)
No. of women managers	5	6	8	11	12
Total no. of managers	(1,378)	(1,384)	(1,386)	(1,446)	(1,491)
No. of women assistant managers	16	18	20	20	21
Total no. of assistant managers	(1,238)	(1,226)	(1,204)	(1,240)	(1,183)

Supporting the work/child-raising balance

With the adoption of our childcare leave and short-time working systems, we actively assist those who wish to balance their careers with child-raising and work free from anxiety. In line with the regulation adjustment in July of 2010, JTEKT is proactively incorporating changes to answer employees' needs such as expanding the short-time working system for child-raising until April of first grade elementary school.

Number and percentage of employees who took childcare leave (*)

	2008	2009	2010	2011	2012
Number of employees who took childcare leave	28	21	26	19	25
Percentage of employees who took childcare leave (%)	97	88	93	89	100

* Percentage of female employees who took childcare leave of all female employees who gave birth

Reemployment of retired employees

So that highly motivated retired employees with abundant knowledge and experience could continue working, JTEKT established a Senior Partner System in April 2006. As of the end of March 2013, 743 such senior partners reemployed by JTEKT and related companies were working at various workplaces and training younger employees who will become leaders of JTEKT.

Number of senior partners in FY2012

Number of those who are applicable		179
Number of applications [a]		147
Number of reemployed [b]	JTEKT 138	147
	Group companies 9	
Rate of employment [b/a]		100%

Continuation of the "Iki-iki 60 Committee"

In FY2011 an "Iki-iki 60 Committee" was formed for employees and management to jointly investigate various measures enabling employees 60 years and above to work positively and with vigor. In FY2012, the system was revised in response to law reforms and improvements, etc., were made.

Expansion of life career plan training scope

Previously, life career plan training was only held for those employees who had turned 55 however from FY2012, the scope was increased to cover those who were turning 50. We provide an opportunity for employees to think about their career and life design after retirement.

Life career plan training participants (FY2012)

50 year old participants	102
55 year old participants	164
Total	266

Employment of people with disabilities

JTEKT actively participate in joint-employment seminars aimed at people with disabilities and strive to provide as many people as possible with interviews and opportunities to apply. Currently we have employees with disabilities working mainly as shop floor support and general administration staff. On April 1st, 2013 the percentage of disabled employees required by the law was raised from 1.8% to 2%, and as such we have further enhanced our actions such as expanding the areas disabled persons can work in.

Number of disabled persons employed (Average for 2012)

No. of disabled employees	247
No. of employees according to legislation	230
No. of over and short	+17
Employment rate	1.94%

* In accordance with legislation, employees with severe disabilities are counted twice (as 2 people) in the above table.

Workplace management questionnaires

JTEKT conducts workplace management questionnaires to grasp the strengths and weaknesses of workplace management and lead to improvements. We used the results of these questionnaires to improve not only workplace management level but performance of the whole organization. Moreover, we also conduct moral surveys (*) and do our best to improve employee satisfaction.

***Moral survey** Survey to confirm the level of employee satisfaction or dissatisfaction towards the organization and policies and the associated reasons.

Together with employees

Safety, hygiene and health related actions

Social background

According to the Health, Labor and Welfare Ministry, every year approximately 110,000 people are injured or fall ill during work and take at least 4 days off to rest. Furthermore, the percentage of people who feel stress or anxiety due to work is increasing and mental health countermeasures are becoming more important in the workplace.

JTEKT's concept

Making the workplace safe and protecting employee health

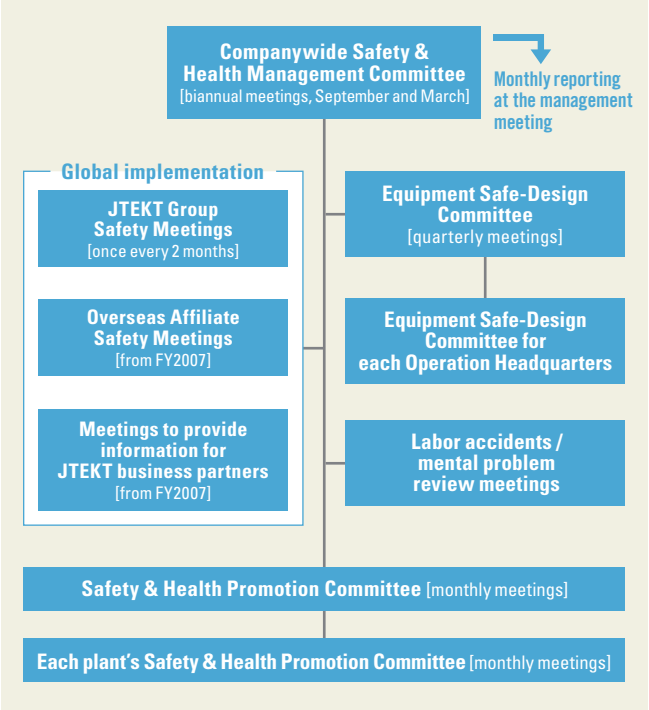
Maintaining the health of all employees is indispensable to an enthused and vital work environment and to protect the mind and body. In our "Safety & Health Policy", we at JTEKT clarify that "safety and health activities are promoted by the company as a whole".

Promoting activities under a centralized control system

▶ Figure-01

Under the "Companywide Safety & Health Policy," in order to strategically and systematically promote the creation of safer and healthier workplaces, JTEKT has constructed a centralized control system.

▶ Figure-01 Safety, hygiene and health control system



Major activities in FY2012

Activities based on the safety & health management system

By FY2007,11 plants and the Higashi-kariya operations center (*) had acquired certification concerning work safety from external organizations. Since then, activities have been ongoing in accordance with the management system.

* Name changed from Higashi-kariya plant

Certification by external organizations

FY2012	Renewals at Tokyo plant, Okazaki plant and Kariya plant
FY2013	Renewals are planned for Higashi-kariya Operations Center, Tadomisaki plant, Hanazono plant, Nara plant, Toyohashi plant and Tokushima plant.

Aiming for zero work-related accidents

JTEKT is continuously promoting various safety & health activities aiming for zero work-related accidents. Amongst these, accidents which can easily lead to death and impairment have been established as the 6 Major Accidents (*1), and efforts are being made to prevent these through work and equipment improvements.

*1 **6 major accidents** Accidents arising through pinching/entanglement, heavy objects, vehicles, falling, electrocution and hot surfaces.

Beginning of preparations for a safety dojo New!

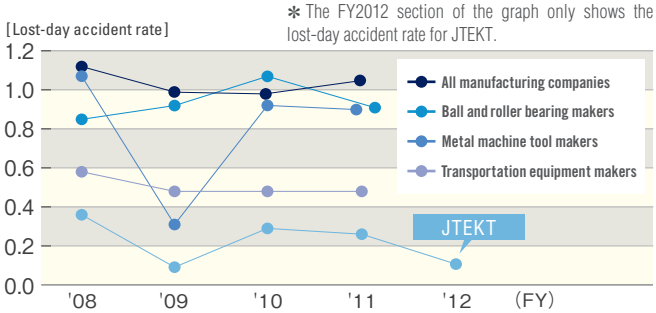
The results of an analysis of past accidents showed that from FY2011 onwards, countermeasures for "Failure-to-Stop" Accidents (*2) were of the highest importance and the eradication of these has been heavily focused on. As a result, compared with 10 Failure-to-Stop Accidents in FY2010, there were only 4 in FY2011. However, in FY2012, the number of Failure-to-Stop Accidents had increased to 6. As such, we have begun preparing to establish a safety dojo. This will involve participants actually using machines and simulating what happens if Failure-to-Stop Accidents occur. The aim is to increase employee awareness regarding observance of work rules. Safety dojos are scheduled to be established in all plants in FY2013.

*2 **Failure-to-Stop Accidents** Accidents which occur when troubleshooting work or repairs are conducted without first stopping the machine.

→ [Pick-Up] P13 Related article

Change of industrial accident frequency rate

* The FY2012 section of the graph only shows the lost-day accident rate for JTEKT.



$$\text{Lost-day accident rate} = \frac{\text{Number of lost-day accidents}^{(*3)}}{\text{Total work hours}} \times 1\text{ million}$$

*3 **Lost-day accidents** : JTEKT defines lost-day accidents as work-related accidents resulting in work absence of 1 day or more.

Together with employees

Standardization of difficult-to-do work

- Assessed and implemented countermeasures for troubleshooting work on frequently-stopping equipment.
  → All of the 179 pieces of equipment that were registered were countermeasured of work was standardized.
- Assessed and implemented countermeasures for time consuming, high frequency repair/maintenance work.
  → All of the 157 pieces of equipment that were registered were countermeasured of work was standardized.

Built workplaces where safety awareness is shared and workers warn each other about unsafe behavior

- Reinforced safety checks using the pointing and calling method targeting 100% execution.
- Near misses (*1) promoting proposals.
  → All 96,465 proposals made were countermeasured.
- Rolled out of visual training tools (DVDs) for the eradication of not-stopping accidents and held training.
- Actions in safety reinforcement months.
  → Held a safety talk for all 1,832 young employees in light of the frequency of accidents involving young employees.
- Conducted a safety awareness survey.
  → Conducted a questionnaire twice in the year to half of employees at a time. Analyzed the questionnaire results and rolled out the content to other plants.

*1 **Near misses** A safety and health activity involving gathering and sharing of information on near misses and the devising of reoccurrence prevention measures.

Creating an environment of friendly competition in plants

- Exposing hazardous places in safety cross-checks and countermeasuring.
  → Of the total 265 extracted, countermeasures have been completed for all.

Global roll out

- Rolled out domestically rolled out items to our overseas group companies.
  → Rolled out the latest equipment safety standards.
  Held investigations when accidents occurred and promoted countermeasures.
  Promoted safety activities.

Workplace noise countermeasures

JTEKT is engaging in improvements to eliminate all Noise Level 3 Classification (workplaces requiring improvement by law) by FY2014. In FY2012, 2 workplaces were improved (19 pieces of equipment).

Creating a workplace environment considerate of senior and female workers

To promote the creation of a workplace environment considerate of senior and female workers, we conducted a posture-weight assessment on newly installed lines. Posture-weight assessments allocate a score for posture determined by the work posture, and a score for weight, determined by the weight of the object/s handled. It is a method to quantitatively assess the risk of lower back pain. The assessment gave satisfactory results and no workplaces required improvement.

Improving high temperature workplaces

From the perspective of worker protection, JTEKT revised our work environment measurement standards and began WBGT-based (*2) assessments from FY2010. JTEKT's index is WBGT 30°C. A FY2011 investigation showed that improvements were necessary in 5 plants therefore as countermeasures for hot workplaces, in FY2012, pressure air fans and coolers were established and results were seen. We will continue implementing countermeasures in FY2013.

*2 **WBGT (Wet-Bulb Globe Temperature)** An indicator incorporating humidity, radiation heat and temperature, which significantly impact upon a person's heat balance. Calculated using dry-bulb temperature, wet-bulb temperature and globe temperature.

WBGT (Wet-Bulb Globe Temperature) calculation method

Outdoors: WBGT = 0.7 × wet-bulb temp. + 0.2 × globe temp. + 0.1 × dry-bulb temp.
Indoors : WBGT = 0.7 × wet-bulb temp. + 0.3 × globe temp.

Safety & health education and training

One of the key requirements of safety & health activities is the planned implementation of education and training. Our main forms of education are rank-based training based on job level, special training based on job type, while our main forms of training are basic KYT 4R training (*3), sensing-danger training, and skill training.

*3 **Basic KYT 4R training** KYT stands for Kiken (hazard), Yochi (prediction), and Training. 4R means "4 rounds." This is hazard-prediction training through 4 phases.

Main training types (number of attendees in FY2012)

Rank-based training	Safety management training	111
	Group Leader training	126
	New employee training	123
	Training Center student training	82
Special training	Grinding wheel replacement	80
	Arc welding	80
	Low-voltage handling	80
Others	All-Toyota training for those overseeing outside workers	350
	All-Toyota training for those overseeing construction	103
	Elevated-work training	483
	Electric shock prevention training	380
	Risk assessment training	197
		2,195

Hitoshi Ito
Safety & Health Control Dept.
Production Engineering Headquarters

My CSR

Aiming for the creation of global safety culture

I go about my daily tasks with the aim of instilling a consciousness within JTEKT that "Safety should come above all else". I propose safety and fire prevention activities that all employees can proactively engage in and feel a sense of achievement when management and supervisors cooperate. Taking the responsibility that JTEKT should fulfill seriously, I would like to continue to aim for the creation of a global safety culture.

Together with employees

Achieving mental health

Figure-01

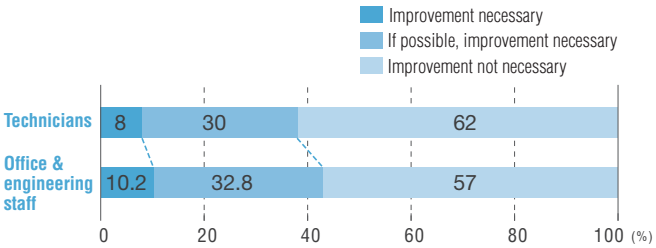
JTEKT aggressively promoted mental health measures with a focus on preventing depression. As a result, there was a reduced number of high stress individuals in FY2012, however, we were unable to reduce the number of people and days taken off work due to mental disorders. By analyzing age and causing factor, we learnt that the number of people in their thirties affected by mental disorders is increasing and the causing factor is due to a lack of communication in the workplace leading to human relationship and workload problems. New depression cases are increasing yearly and we saw that half of the people who take time off work between 20 and 35 years of age are affected.

[Issues] Countermeasures for mental health targeting particularly people in their thirties is important

Implementation of a mental health workplace diagnosis New!

From August to September, a questionnaire relating to mental-health was held on an individual level to all employees (excluding fixed-term employees and temporary staff). The return rate was 75%. The Safety and Health Control Department analyzed results and reported these to the director in charge and division managers in December.

Results of a mental health workplace diagnosis

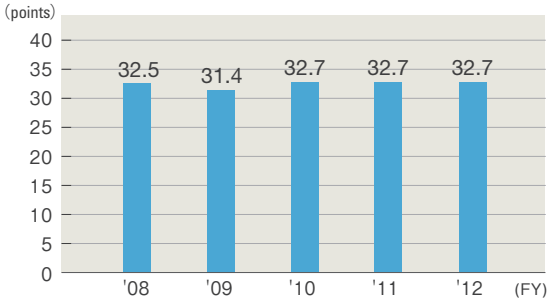


Requests

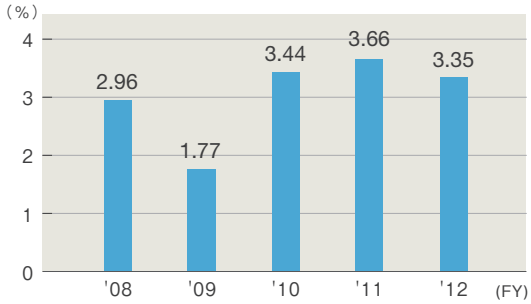
- Would like superiors to be more approachable with issues
- Appropriate allocation of work and assignment of people
- Promote cooperation and liaison with other groups

Figure-01

Transition of average stress levels (*1)

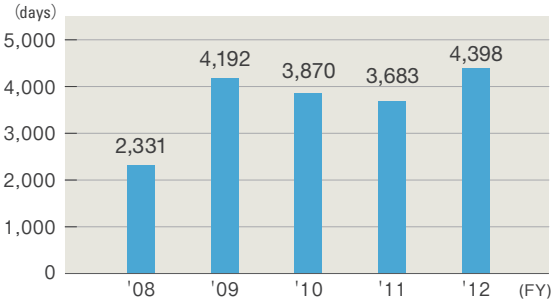


High-stress individual ratio yearly transition (*2)

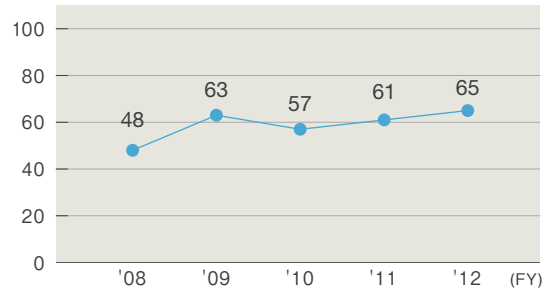


Number of work absences due to mental disorders

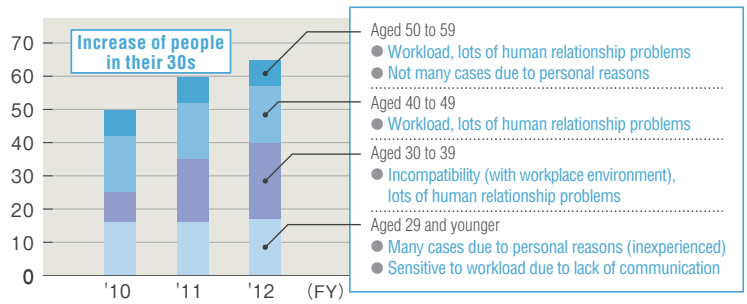
New number of missed work days



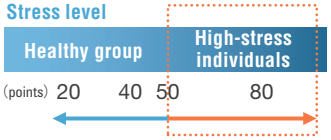
Number of newly absent employees



No. of new people taking time off work and reason by age New!



Stress level



*1 **Stress level** Stress level = depression scale. Indicates the mental state and stress at the time the survey was conducted. Individuals with a stress level of 50 points or over are classed as "high-stress". Individuals with 60 points or over are suspected of suffering from depression.

*2 **High-stress individual ratio** Number of high-stress individuals against the total number of employees who submitted stress surveys.

Together with employees

Implementation of mental health training 3 for management

New!

Mental health training was held for management in series. Level 1 mental health training for management taught basic knowledge and attentive hearing (practical skill) relating to mental health. Level 2 discussed the themes of response to new type depression and support for employees returning to work". In recent years, the number of people incompatible with their workplace are increasing, therefore Level 3 of the training looked at the theme of preventing and responding to incompatibility with the workplace. From October to November, this training was held in a lecture-style (via video conference) and of the total management population (1,508), 1,200 people completed the course.

Content

- Reporting results of mental health workplace diagnosis
- Response to young employees (twenties)
- Preventing workplace incompatibility and responding to sufferers of such
- Peer counseling, coaching (practical skill)

Transition of excessive work measures

It is a company's obligation to have employees working long hours interviewed by a doctor to ensure health maintenance. During interviews, an industrial physician checks their degree of fatigue and work situations. Employees diagnosed to have accumulated fatigue are given guidance on overtime work restrictions for the next month and from a lifestyle perspective.

Awareness activities

There is a high possibility that excessive work could lead to cerebral vascular disturbance and ischemic heart disease. As such JTEKT considers the health risks related to working long hours and engages in awareness activities which raise the points to observe of "correction of frequent overtime, working weekends, non-stop working stretch" and "assessing and controlling work time".

Transition of number of employees receiving checkup for working long hours

	Managers		Staff
FY2009	Approx. 2,092 (Average : 174/month)	FY2009	Approx. 316 (Average : 26/month)
FY2010	2,558 (Average : 213/month)	FY2010	1,898 (Average : 158/month)
FY2011	2,511 (Average : 210/month)	FY2011	2,231 (Average : 186/month)
FY2012	2,523 (Average : 210/month)	FY2012	1,563 (Average : 130/month)

* Health checks for employees who work long hours apply to employees who have worked over 45 hours a week for 3 months consecutively, including management and general employees as well as employees who have worked over 70 hours in a single month.

Achieving physical health

Beginning with lifestyle-related diseases, we focus on the prevention, early detection and early treatment of illnesses, and actively support the health management of our employees.

Special health guidance

The program that JTEKT began in April 2008 of special health checkups and healthcare guidance is gradually taking hold. We are taking assertive action towards our objective of eradicating metabolic syndrome.

In FY2012, weight control training was held for employees under 40 years of age with a BMI of 25 or higher.

FY2012 healthcare guidance implementation

		Special health checkups	Special healthcare guidance
No. of those applicable [a]		1,059	886
People screened, people participated [b]		1,059	584
% of total	Result [b/a]	100%	66%
	Target	45%	60%

The voice of participants in weight control training

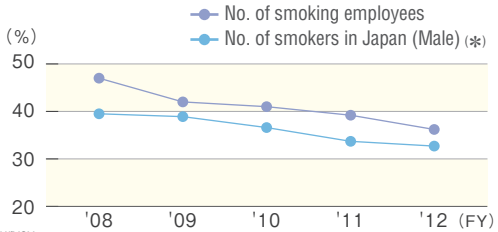
- Since I turned 30, I have gained weight and I was feeling threatened.
- I became interested in health.
- I want to revise my life-style patterns so I don't get metabolic syndrome.

Quit Smoking campaign

From July 1st to August 31st, we ran a Quit Smoking campaign to support those people who wanted to quit smoking. We established two courses. Course A providing anti-smoking aid and Course B for quitting smoking by one's own strength alone. With detailed assistance from an industrial doctor and nurse, 57.6% of people successfully quit. The overall number of employees who smoke is decreasing year by year. However, compared with the average number of Japanese males who smoke, the number is still high so we will continue to support action to quit smoking.

Transition of percentage of smokers

New!



* According to a JT survey

My CSR

Miki Tsuruta
Safety & Health Control Dept.
Production Engineering Headquarters

It is important that employees are aware of their own health

I take care of check-up appointments, managing the schedule for health check-ups for each operations center, health-related enquiries and health consultations. I feel a sense of achievement with my work when the people who come see me say "I'm glad I asked", "That really helped" and "I feel reassured". Employee health is the strength of the company. Each employee should be aware of their own health and maintain it, both physically and emotionally, and I work to help them achieve this.

Together with local communities

Social background

The concept that companies are also citizens who make up the local community, in other words "corporate citizens" is taking root in Japan. Also, the importance of participating in and contributing to the local community is raised as one of the seven core themes of ISO26000. In addition to business activities such as job creation which have economic benefits, companies are expected to contribute to the local community from a wide range of aspects including environmental countermeasures and people-nurturing.

JTEKT's concept

Promoting social contribution activities as a good corporate citizen

Figure-01

In JTEKT's Corporate Activities Standards we state that as a good corporate citizen, we will aggressively pursue activities that contribute to society. Based on this policy, we promote various activities with the objective of growing as a company while being trusted and appreciated by local communities.
The Social Contribution Working Group beneath the CSR Promotion Committee leads these activities and works to further enrich them.

What we want to achieve

Based on the below interpretation of a "good corporate citizen", JTEKT promotes social contribution activities and aim to grow together with the community.

Major activities in FY2012

A questionnaire relating to volunteer activities

JTEKT employees are proactively participating in various regional contributing activities. The Social Contribution Working Group conducted a questionnaire survey relating to volunteer activities, targeting all JTEKT employees. The results showed that a total of 4,717 volunteer activities were carried out in FY2012 by employees. The results of the survey will be used to create an environment where volunteering is easier and build a framework which encourages volunteer activities.

[Pick-Up] P17 Related article

Introduction of volunteer insurance New!

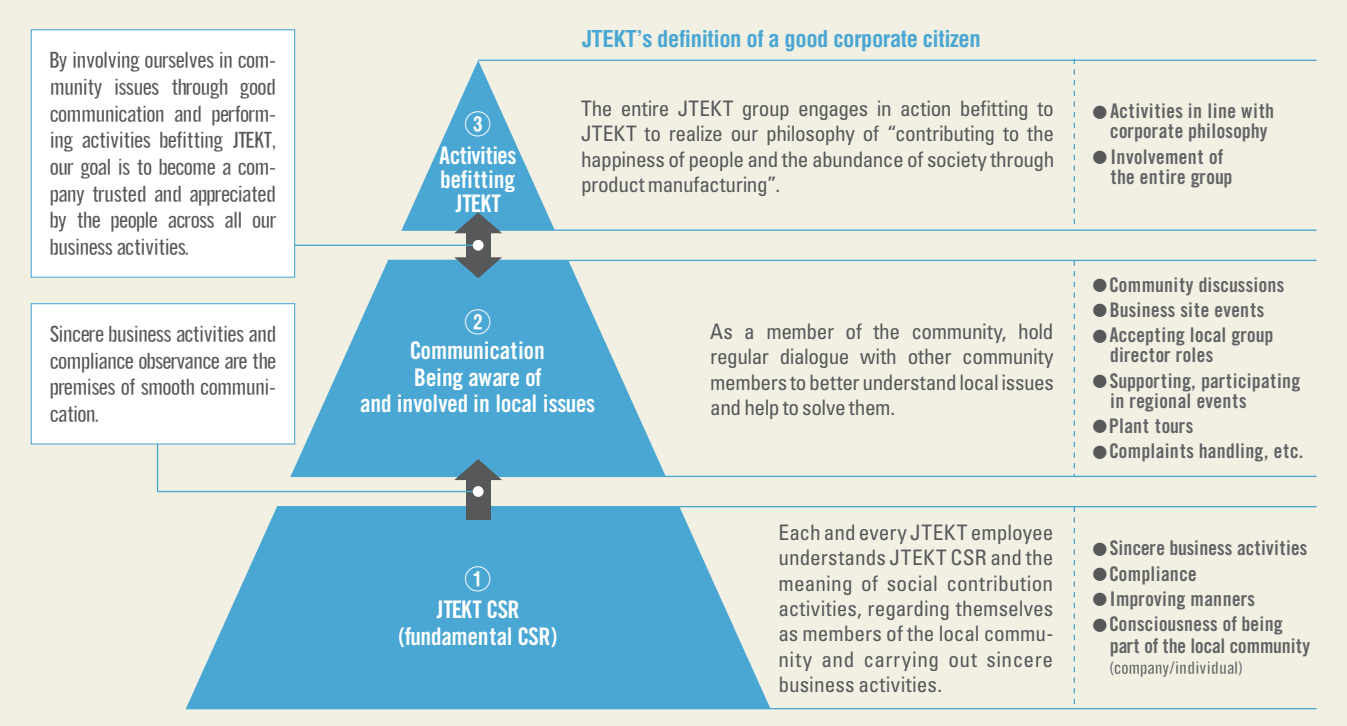
Volunteer insurance was introduced as part of encouraging activities rooted in the community. As insurance when participating in social contributing activities, both individual and operation base membership has been introduced, and is supported and promoted.

[Communication]

Holding community discussions at all plants

We periodically invite local residents to participate in community discussions at each plant. At these discussion sessions, we report achievement and exchange opinions concerning environmental conservation activities and do plant tours, etc., to build a good relationship with the local community. In FY2012, a total of 373 people participated at all 12 plants and the Higashi-kariya operations center.

Figure-01



Together with local communities

Introduction of activities

Exchanging opinion with administrative evaluation committees

New!

Kokubu plant (Kashiwara city, Osaka)

On January 19th, 2013, Kokubu plant invited the Kashiwara Administrative Evaluation Committee (8 committee members, 6 administrative staff), to their plant and took them on a tour of the facility. After the evaluation committee saw the production lines, opinions were exchanged regarding what was necessary to vitalize Kashiwara city. Afterwards, we received a message of thanks from the committee members commenting that "The Kokubu plant's operation, maintenance and quality control was of the highest standard and we were very impressed".

Deepening friendships through plant festivals

Each of JTEKT's plants hold festivals every year, with stage shows, games, stalls and more. The aim is to promote friendship between employees, families and the local community. Festivals were held at 10 plants in FY2012, with a total of 7,045 visitors.

Introduction of activities

Local PR booths also featured

Nara plant (Kashihara city, Nara)

On May 19th, Nara plant held "Family Festival in Nara". The festival featured booths promoting Kashihara city, a magic show and so on, with approximately 800 visitors enjoying the event.

[Social contribution activities]

Promoting activities which aim to contribute to the community

JTEKT strive to engage in activities meeting the expectations and requests of the surrounding regions.

Introduction of activities

A stall for a disabled persons support shop

Kariya plant (Kariya city, Aichi)

New!

This year for the first time, a stall was set up at the Kariya plant festival for the disabled persons' shop, "Wa", which is a specified non-profit organization operating close to the Kariya plant. The stall sold grilled squid, fragrant soaps and other handmade goods. 2 disabled people along with 2 others from the organization participated on the day and had a great time with JTEKT employees.

Introduction of activities

Offered a location for a movie shoot "Takahama Monogatari"

New!

Tadomisaki plant (Takahama city, Aichi)

Tadomisaki plant offered use of its grounds for shooting of a movie called "Takahama Monogatari". The filming went for 5 days from May 3rd. JTEKT employees volunteered by guiding the film crew's shuttle bus, cleaning up the site and so on. On May 4th, as well as the movie shoot, JTEKT Tadomisaki also held a joint event with "Onimichi Matsuri", a local festival held in Takahama city each year.

My CSR

Tomoyuki Morikawa
General Affairs Section
Administration Dept.
Hanazono Plant
Automotive Systems Business Headquarters

To make more JTEKT fans!

Of course we need to have an awareness of ourselves as members of the community and always be sincere in our business activities, but in addition, in order to deepen friendship with locals, JTEKT holds a plant festival each year. Through this kind of activity, I will continue to exert every effort to make even 1 more JTEKT fan who considers us a pride of the community.

Together with local communities

Introduction of activities

Visits to Hansen's disease recovery patients

Overseas group company KLF (China) New!

KLF has been backing a group called "House" since 2009, which engages in support activities for people recovering from Hansen's disease. As well as collecting donations from their employees, KLF also donates 5,000 CNY (a little over 800 USD) each year as a company. From 2011, some KLF employees expressed the desire to visit the people who had recovered from Hansen's disease. A total of 28 people paid 7 visits by June of 2012.

[Road safety and fire prevention]

To continue being a company trusted by the community

JTEKT actively promotes a number of road safety activities including "risho" (*). We also believe that fire prevention is very important to maintaining a trusting relationship with the community and as such implement thorough fire prevention measures.

* **Risho** A practice unique to Japan where, on the morning of a set day every month, employees of automotive-related companies promote road safety awareness amongst drivers. This activity aims to reduce the number of road accidents.

Introduction of activities

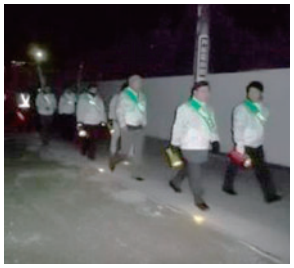
STINGS players are policemen for a day New!

On September 21st, 5 members of JTEKT's volleyball team, STINGS, acted as policemen with the Kariya Police Department for one day and propagated road safety to citizens waving around fans nicknamed "Road Accident Okoshima Sensu" on the walkways leading to Kariya train station.

Introduction of activities

Night patrol in the plant vicinity New!

Kariya plant (Kariya city, Aichi)



Crime prevention is a key element to creating a safe and secure community. From November 2012 to March 2013, Kariya plant conducted special alert patrols together with the Kariya Police Department. This patrol walked around a set course in the vicinity of the plant at night. The patrol has been carried out 9 times, with a total of 47 employees participating.

[Community clean-up, beautification]

Co-existence with the community through cleanups and beautification

Every year JTEKT holds community beautification activities to raise company environmental awareness. Employees proactively participate in cleaning up around plants and co-exist with the community. In FY2012, all 12 plants and the Higashi-Kariya operations center implemented such activities.

Introduction of activities

Participating in cleaning activities in front of the station New!

Tokyo plant (Hamura city, Tokyo)

In Hamura city, an ordinance came into effect prohibiting littering and smoking in the street, and in line with this, a clean-up activity was held on June 29th in from of Hamura station as a citizen-awareness campaign. 10 JTEKT employees participated from the Tokyo plant together with several other participants from industrial parks, the shopping mall, citizen's organizations and so on.

TOPICS

Donated land for road expansion to the city New!

Kokubu plant (Kashiwara city, Osaka)

At the request of Kashiwara city, Kokubu plant donated part of their employee car park to expand a city road. The related city road is designated as a route for school children however the pathway running alongside it is narrow, and there was a request from locals to secure the safety of pedestrians, in particular school children. In order to cooperate in building a safe and secure community, Kokubu plant cooperated in all aspects with the city road expansion project. On March 29th, 2013, we received a letter of thanks from Mayor Nakano of Kashiwara city.

Awarded a Certificate of Appreciation
(Left: Mayor Nakano,
right: Plant Manager Shimaura)

My CSR

Hirofumi Yoshikawa
General Affairs Section
Administration Dept.
Sayama Plant
Automotive Systems Business Headquarters

For vitalization of the local community

The other day I participated in a local council meeting. Most of the members of this council were employees of companies in the industrial park and each of them represented their companies and proactively participated in this activity to vitalize the local community. In June we plan to plant Begonias along the railway tracks in cooperation with the neighboring council. I would like to continue proactively engaging in activities for the vitalization of the local community.

Together with local communities

[Environmental preservation activities]

Diverse environmental preservation activities

JTEKT considers environmentally-orientated social contributions to be of particular importance. Each workplace engages in a diversity of environmental preservation activities with community members.

Introduction of activities **Participation in forest-building projects**
Tokushima plant (Itano ward, Tokushima)

Tokushima plant is involved in a forest-building project called "Tokushima Kyodo-no-morizukuri Jigyo" promoted by Tokushima prefecture. This project is a carbon offset action aiming to absorb the CO_2 released by general households and company through vitalization of forests. On May 30th, 9 JTEKT employees participated in an event held in the forest near Sanagochi, Myodo District carrying out thinning work and setting up a JTEKT panel.

[People-nurturing]

Contributing to the nurturing of young community members

Through activities such as monozukuri classes and sporting events, JTEKT contributes to the nurturing of young community members.

Introduction of activities **First ever soccer class**

Every year, JTEKT holds "JTEKT Challenge Cup", a soccer tournament which aims to nurture young people. In FY2012, on February 2nd and 9th of 2013, a total of 450 children from 15 elementary schools in Kariya city made up 32 teams and had fun battling it out on the playing field at Kariya City General Athletic Park. JTEKT's own soccer team cooperated with the running of the tournament, in such ways as having 8 of its members act as referees and so on. Also, following the tournament, as a new experiment, the soccer team held the first JTEKT Challenge School. The 24 elementary school children who participated enjoyed the 1-hour program together with the 15 JTEKT soccer team members.

VOICE **Thanks to the cooperation of many people**

Yuuya Yotsuda
Production Section 3 Production Dept.
Okazaki Plant Automotive Systems Business Headquarters

I was a referee at our soccer tournament and volunteered in Challenge School. It was the first time for us to hold Challenge School so we did struggle with some things but thanks to the cooperation of many people, I felt it was a good tournament. Watching the children chase the ball with all their strength was really motivating.

Introduction of activities **A workshop on "Aichi Hatsumei-no-hi"** New!

In Aichi prefecture, August 1st is established as "Aichi Hatsumei-no-hi" (Day of Invention), and many events are held around this time. As part of that, on July 28th, at the Kariya Industrial Research Center, a workshop was held for children and the JTEKT Technician Group participated for the first time. On the day, around 600 children visited. In the "Making a Pet Bottle" corner set up by the JTEKT Technician Group, a long line was formed immediately after the start and around 200 children tried their hand at monozukuri.

My CSR

Koji Nagai
Sales Section 3
Nagoya Branch Office
Sales & Marketing Headquarters

Social contribution and regional coexistence through volleyball!

JTEKT's volleyball team, STINGS, has been participating in the highest league for adults "V Premier League", since 2013. In the future, we not only want to show everyone our top level play, but we also wish to cooperate in social contribution and regional coexistence as one with the government authorities and citizens. In concrete terms, this would involve proactive participation in regional vitalization events and holding volleyball classrooms in regions across Japan targeting elementary and junior high school children, as well as mother's, etc. The STINGS players are also really looking forward to meeting a lot of people and making them smile.

Together with shareholders and investors

Social background

The transparency of company management is scrutinized, making it increasingly more important to disclose accurate, well-timed company information. Moreover, in the finance sector as well, when assessing a company's value it is becoming more commonplace to emphasize ESG (*) information, and not only is a company's earning power important, but also the balance with business continuity.

* **ESG** Abbreviation for Environment, Social and Governance. The items a company is expected to consider as their responsibility when conducting their business activities.

JTEKT's concept

Aiming for highly transparent management

At JTEKT we make "communication with not only shareholders but also the community at large and the fair disclosure of corporate information" part of our Corporate Activities Standards. Based on this concept, we make management transparent, and strive to construct a long-term relationship of trust with shareholders and investors.

Major activities in FY2012

Information disclosure and IR activities

JTEKT not only observe rules on legislated disclosures and timely disclosures. We also strive to increase transparency of our management and, in order to deepen understanding of JTEKT and the JTEKT group from our shareholders and investors, we also actively disclose information that is both well-timed and appropriate voluntarily and in a fair manner, through various IR activities.

Machine tools and mechatronics business information session

In August of 2012, a machine tools and mechatronics business information session was held for analysts and institutional investors. We explained about JTEKT's activities and deepened their understanding of machine tools and mechatronics through a tour of the Kariya plant.

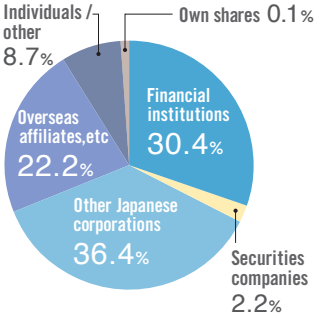
Main IR activities

- Held IR results briefing and small meetings
- Individual interviews
- Company information sessions for individual shareholders and investors
- Conduct plant tours
- Issue annual reports
- Disclose information on HP

Shareholder status

Current at end of March, 2013, the number of shares issued were 342,186,000 and the breakdown of shareholders is as follows.

Shareholder distribution status



Financial institutions	104,110	thousand shares
Securities companies	7,555	thousand shares
Other Japanese corporations	124,411	thousand shares
Overseas affiliates, etc	75,842	thousand shares
Individuals /other	30,012	thousand shares
Own shares	254	thousand shares
Total	342,186	thousand shares

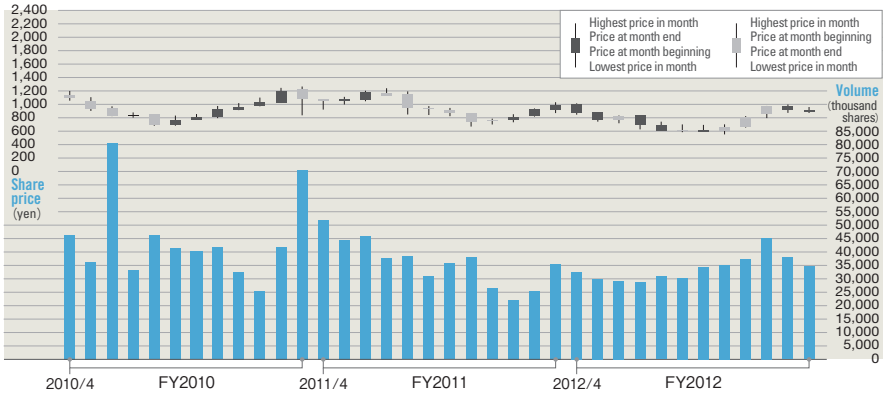
As at end of March, 2013
(anything less than 1,000 rounded down)

Business performance and return of profits ▶ Figure-01

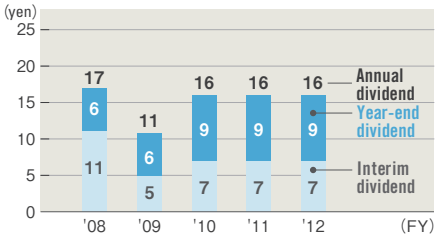
Our consolidated sales for FY2012 were 1 trillion 67.5 billion yen, 1.4% higher than the previous year. Our consolidated operating profit was 29.1 billion yen (35.6 billion yen for the previous year), while our combined ordinary income was 34.2 billion yen and combined current net earnings were 13.8 billion yen. Consequently, we maintained our annual dividend to 16 yen per share, the same as last period.

In FY2013, it is still difficult to predict what lies in store, but we will continue efforts to establish a strong foundation not susceptible to change and shift from "quantity" to "quality" as a business model which can provide our customers with even more value. We wish to establish ourselves as a company which can achieve both stability and growth.

▶ Figure-01 Transition of JTEKT share price



Transition of dividend per share



JTEKT bond ratings

Rating institution	Long-term rating	Short-term rating
Japan Rating Agency	A+	J−1
Rating & Investment Information, Inc	A	

Details & Data

Environmental Report

- This report aims to inform our stakeholders in straightforward language of JTEKT's concept and activities surrounding CSR.
- In FY2013, we have made major changes to the format of the report to make it easier to comprehend, dividing it into a Pick-Up section (leaflet) and a full online report combining both the Pick-Up and a Details & Data section.
- The Details & Data section emphasizes objectiveness, completeness and continuity.
- This section, the Environmental Report, summarizes environmental aspects of FY2012 based on the JTEKT 2015 Environmental Action Plan.

Target period and target organizations/scope

Target period

FY2012 (April 2012 - March 2013)

* Some items include content from other periods.

Target organizations and scope

All JTEKT Corporation activities

Management of the JTEKT group is carried out on a group-wide basis and includes elements such as environmental data measurement and control based on a uniform standard. Some items also show the performance of our domestic affiliated companies and overseas local affiliates. As a general rule, if there are changes in the tallying scope, we revise data dating back to the past.

Reference guidelines

- ◎ GRI (Global Reporting Initiative)
  "Sustainability Reporting Guidelines 2011 (3.1 edition)"
- ◎ Japan's Ministry of the Environment
  "Environmental Reporting Guidelines" (2012 edition)
- ◎ ISO26000 (International Standard for corporate responsibility)
- ◎ A calculation standard stipulated by GHG Protocol Initiative
- ◎ Ministry of the Environment and Ministry of Economy, Trade and Industry
  "Basic Guidelines relating to Calculation of Greenhouse Gas Emissions in Supply Chains"

New! This mark is used to indicate new action begun in FY2012 and information disclosed for the first time in this year's report.

Environmental data for each operation base of the JTEKT group can be viewed on the JTEKT website.

http://www.jtekt.co.jp/e/csr/env_data.html

Environmental management

Social background

As environmental issues grow more serious, the expectation for corporate activities to consider the environment has intensified. In particular, expectations of society towards companies who operate on a global level are intensifying year after year.

JTEKT's concept

For sustainable development of the planet

To realize our corporate philosophy of "contributing to the happiness of people and the abundance of society through product manufacturing, the JTEKT group has positioned the environment as one of the main management issues and is involved in action which contributes to the sustainable development of society and the planet. Also, we are exerting our efforts to widen our understanding of the impact corporate activities have on the environment.

JTEKT Group Environmental Vision

▶ Figure-01

Based on the CSR policy, JTEKT established the JTEKT Group Environmental Vision comprised of an environmental philosophy and policy defining global environmental conservation action. We aim to achieve a sustainable society, establishing an action plan and promoting activities to achieve this goal.

JTEKT Group Environmental Vision = Environmental Philosophy + Environmental Policy

Promotion structure

Under the Global Environmental Conservation Committee

▶ Figure-02

JTEKT engages in environmental management led by the Global Environmental Conservation Committee chaired by our company president. The committee is divided into six specialized environmental subcommittees to address issues relating to business activities. These subcommittees set targets based on companywide policies as well as discuss and decide upon measures and control progress.

New organizational structure for specialized environmental subcommittees

In order to strengthen our response to priority issues relating to the environment, in August, 2012, we changed the organizational structure of specialized environmental subcommittees. The main change was that we integrated resource-saving and waste reduction activities, which were previously carried out by separate subcommittees, with the aim of effectively utilize resources, and newly added a water usage reduction activity to form a "Resource Recycling Subcommittee". Also, a "Pollution Subommittee" was newly established to manage chemical substances such as PRTR and PCB.

Environmental management

Figure-01 JTEKT Group Environmental Vision

Environmental Philosophy

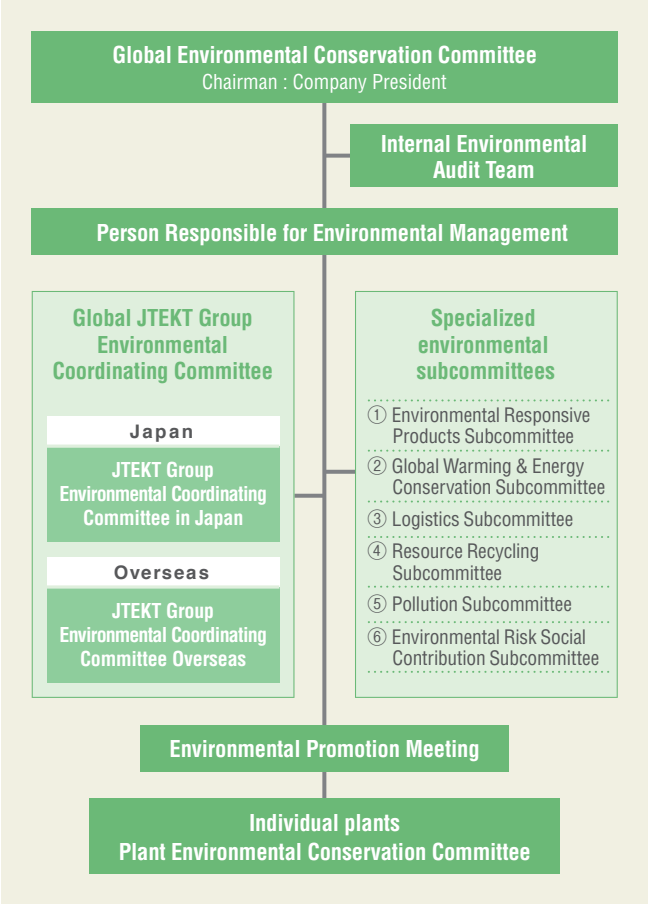
The JTEKT group is aiming to reduce the environmental load of our business activities and products throughout their life-cycle in order to conserve the global environment for future generations and realize a sustainable society.

Environmental Policy

JTEKT, based on a deep awareness of the importance of global environmental conservation, will proactively pursue environmental conservation in all business activities in the fields of bearings, driveline components, steering systems, and machine tools & mechatronics at all plants, head offices and sales offices with the active participation of all employees.

1. Continuously improve our environmental management system to harmonize our business activities with the environment and promote the cooperation of all suppliers of raw materials, etc.
2. Comply with all requirements of environmental laws, regulations, treaties, agreements, etc., related to our business activities and strive to prevent environmental pollution. Also, contribute to society by accurately grasping technical needs related to global environmental conservation and developing products to meet such needs.
3. Raise the environmental awareness of all employees and pursue the following as important environmental management objectives in relation to all our business activities, products and services
   (1) Develop and design environmentally friendly products
   (2) Reduce CO_2 emissions through effective energy utilization
   (3) Reduce waste
   (4) Thoroughly control chemical substances and reduce environmentally burdensome substances
   (5) Reduce primary materials and secondary materials
   (6) Reduce CO_2 emissions in logistics
   (7) Maintain and improve community environments
4. Maintain an environmental conservation promotion structure, clarify the purposes and targets of environment conservation activities, conduct periodic reviews, and pursue environmental conservation activities with the participation of all employees.
5. Maintain an awareness of the community surrounding each business site, maintain good communication with concerned government agencies and local residents, and publicly disclose information on our environmental management activities as necessary.

Figure-02 Organizational chart



Promotion of global environmental management

Figure-03

JTEKT has set up a Global JTEKT Group Environmental Coordinating Committee comprising of 17 affiliated companies within Japan and 32 overseas affiliates. This committee works to further strengthen environmental management.

Figure-03 The scope of consolidated environmental management

Europe

● 9 production companies

JTEKT AUTOMOTIVE UK LTD. (England)
KOYO BEARINGS (EUROPE) LTD. (England)
JTEKT TORSEN EUROPE S.A. (Belgium)
JTEKT HPI S.A.S. (France)
JTEKT AUTOMOTIVE LYON S.A.S. (France)
JTEKT AUTOMOTIVE DIJON SAINT-ETIENNE S.A.S. (France)
JTEKT AUTOMOTIVE CZECH PLZEN, S.R.O. (Czech Republic)
JTEKT AUTOMOTIVE CZECH PARDUBICE, S.R.O. (Czech Republic)
KOYO ROMANIA S.A. (Romania)

China

● 11 production companies

JTEKT AUTOMOTIVE (TIANJIN) CO., LTD.
JTEKT AUTOMOTIVE (FOSHAN) CO., LTD.
JTEKT STEERING SYSTEMS (XIAMEN) CO., LTD.
JTEKT DALIAN INNOVATION AUTOMOTIVE CO., LTD.
WUXI KOYO BEARING CO., LTD.
DALIAN KOYO WAZHOU AUTOMOBILE BEARING CO., LTD.
KOYO BEARING DALIAN CO., LTD.
KOYO LIOHO (FOSHAN) AUTOMOTIVE PARTS CO., LTD.
KOYO AUTOMOTIVE PARTS (WUXI) CO., LTD.
TOYODA MACHINERY (DALIAN) CO., LTD.
YUBEI KOYO STEERING SYSTEMS CO., LTD.

Japan

● 13 JTEKT bases
● 17 domestic group production companies(*)

*Koyo Machine Industries Co., Ltd. (Osaka)
Toyooki Kogyo Co., Ltd. (Aichi)
Koyo Sealing Techno Co., Ltd. (Tokushima)
CNK Co., Ltd. (Aichi)
Koyo Thermo Systems Co., Ltd. (Nara)
Koyo Electronics Industries Co., Ltd. (Tokyo)
Daibea Co., Ltd. (Osaka)
Utsunomiya Kiki Co., Ltd. (Tochigi)
HOUKO Co., Ltd. (Aichi)
Toyoda Van Moppes Ltd. (Aichi)
Koyometaltec Co., Ltd. (Mie)
KJK Co., Ltd. (Tokushima)
NIPPON NEEDLE ROLLER MFG. Co., Ltd. (Mie)
Koyo Heat Treatment Co., Ltd. (Osaka)
FORMICS Co., Ltd. (Aichi)
Taiho Co., Ltd. (Kagawa)
NAKATETSU Co., Ltd. (Osaka)

North America/South America

● 8 production companies

JTEKT AUTOMOTIVE TENNESSEE-VONORE LLC (America)
JTEKT AUTOMOTIVE TENNESSEE-MORRISTOWN, INC. (America)
JTEKT AUTOMOTIVE TEXAS, L.P. (America)
JTEKT AUTOMOTIVE SOUTH CAROLINA, INC. (America)
KOYO BEARINGS NORTH AMERICA LLC (America)
JTEKT AUTOMOTIVA BRASIL LTDA. (Brazil)
TOYODA KOKI DO BRASIL INDUSTRIA E COMERCIO DE MAQUINAS, LTDA. (Brazil)
JTEKT AUTOMOTIVE ARGENTINA S.A. (Argentina)

ASEAN

● 4 production companies

JTEKT (THAILAND) CO., LTD. (Thailand)
JTEKT AUTOMOTIVE (THAILAND) CO., LTD. (Thailand)
KOYO MANUFACTURING (PHILIPPINES) CORPORATION (Philippines)
JTEKT AUTOMOTIVE (MALAYSIA) SDN. BHD. (Malaysia)

*Toyoda-koki Automotive Torsen Co. merged with JTEKT Corporation on October 1, 2012, therefore the target scope of consolidated environmental management for domestic group companies has been changed from 18 companies to 17 companies.

Environmental management

Targets and results

JTEKT Environmental Action Plan 2015 Environmental Action Plan

▶ Figure-01

JTEKT established a 2015 Environmental Action Plan which stipulates action policies and specific targets in order to promote environmental conservation activities which involve the entire JTEKT group and suppliers. We conducted activities as step 1 up until FY2012. In FY2012, we set FY2015 targets as step 2, and will strengthen activities aimed at achieving these targets.
Regarding greenhouse gases, in the 5 years between FY2008 and FY2012 which is stipulated as the 1st commitment period of the Kyoto Protocol, we achieved a 10% reduction in average CO_2 emissions compared with FY1990, achieving our target. Moving forward, we will conduct activities to achieve a 25% reduction in greenhouse gases from what they were in 1990 by the year 2020 and contribute to the realization of international society's goal of cutting greenhouse gases to half of what they were in 2000 by the year 2050.

▶ Figure-01 2015 Environmental Action Plan

Area	Action items	Targets and initiatives	FY2012 results of activities	Evaluation	Related pages
Environmental management	(1) Strengthen and promote consolidated environment management	(1) Share the JTEKT Group Environmental Vision	(1) Continued activities with group companies in Japan and overseas (2) Held Environmental Coordinating Committee sessions	○	E_01 E_02 E_07
	(2) Promote environmental activities in cooperation with business partners	(1) Further promote green purchasing (2) Roll out environmentally friendly purchasing guidelines to business partners	(1) Expanded Green Purchasing Guidelines		S_03
	(3) Promote sustainable plant activities	(1) Introduced of reusable energy (2) Promoted plant greenification	(1) Introduced solar power generation (total of 101 kW) in our Nara, Hanazono and Tadomisaki plants, as well as our Iga test course.		E_12
	(4) Promote environmental education activities	(1) Promote education with the objective of improving environmental awareness	(1) Environmental education in Environmental Month (2) Rank-specific education		E_08 E_09
Develop and design environmentally friendly products	(1) Develop new technology and new products leading to environmental burden reduction	(1) Reduce the environmental burden of new products through an environmental efficiency basic formula (2) Promote recycle design (3) Promote life cycle assessment (LCA) activities	(1) Steering ● Developed an integrated motor/ECU for electric power steering systems (2) Bearings and drive ● Developed an electric oil pump for idle reduction ● Developed a low-torque hub unit for light vehicles ● Developed a thrust needle roller bearing for use in low viscosity lubrication conditions. (3) Machine tools and mechatronics ● Developed a super energy-saving mini-size hydraulic unit	○	Pick-Up 6-11 E_10
	(2) Reduce resource consumption				
	(3) Promote recycle design considering effective resource use				
	(4) Roll out environmental assessments in the design and development phases				
	(5) Control and reduce environmentally burdensome substances contained in products	(1) Promote response to chemical substance regulations	(1) Response to individual country's chemical substance regulations		E_19

Environmental management

＊ Values in square brackets are comparisons with the base year

Area	Action items	Targets and initiatives	Results of activities	Evaluation	Related pages
Reduce CO_2 emissions	(1) Reduce CO_2 in production and logistics ● Global reduction of CO_2 ● Reduction of CO_2 in logistics	Production (1) Promote CO_2 reduction activities through the development and introduction of low CO_2 production technologies and daily improvements (2) Horizontal deployment of energy-saving improvement cases (3) Visualization of energy **Item / FY2015 target / FY2012 target value** CO_2 emissions: FY2015 basic unit target × production volume / 236,367 t-CO_2 Emissions by in-house production volume: 145.0 t/100 mill yen, Down 7% from FY2008 / 149.7 t/100 mill yen Globally Emissions by in-house production volume: 96.1 t/100 mill yen, Down 7% from FY2008 / 99.2 t/100 mill yen	**Results** 230,896 t-CO_2 [—] 147.7 t/100 mill yen [Down 4.0%] 91.4 t/100 mill yen [Down 12%]	○	E_11 E_12
		Logistics (1) Reduce CO_2 through transportation improvements **Item / FY2015 target / FY2012 target value** CO_2 emissions: 13,300 t-CO_2, Down 16% from FY1990 / 13,485 t-CO_2 Emissions by sales: 2.39 t/100 mill yen, Down 15% from FY2006 / 2.48 t/100 mill yen	**Results** 13,994 t-CO_2 [Down 12%] 2.25 t/100 mill yen [Down 20%]	△	E_13
	(2) Promote reusable energy	(1) Introduction of reusable energy	(1) Introduced solar power generation (total of 101 kW) in our Nara, Hanazono and Tadomisaki plants, as well as our Iga Proving Ground .	○	E_12
Reduce waste	Production (1) Promote thorough reduction of waste through countermeasures focusing on the source of the waste (2) Achieve zero emissions in all JTEKT group plants (JTEKT itself achieved zero direct landfill waste in FY2009 and is continuing to aim for zero waste production in other areas)	Production (1) Reduction of emissions through countermeasures focusing on the source (2) Promotion of a shift to valuable resources (3) Reduction of emissions through using less and reusing **Item / FY2015 target / FY2012 target value** Emissions by in-house production volume: 7.1 t/100 mill yen, Down 15% from FY2008 / 7.5 t/100 mill yen Direct land-fill waste: Zero	**Results** 6.9 t/100 mill yen [Down 18%] Zero	○	E_15 E_16
	Logistics (1) Reduce packaging material consumption through simpler packaging, using more returnable containers, etc.	Logistics (1) Transition to returnable (2) Simplification of packaging by changing packing style **Item / FY2015 target / FY2012 target value** Emissions by sales: 0.84 t/100 mill yen, Down 15% from FY2006 / 0.87 t/100 mill yen	**Results** 0.81 t/100 mill yen [Down 18%]	○	E_17
Effective use of resources New!	(1) Reduce waste in production/ water usage and effectively use resources	Waste (1) Reduce stock removal and improve yield through design and technique changes (2) Countermeasures targeting point of origin, reduction Water usage (1) Promote recycling, water conservation and waste reduction	Waste by in-house production volume: **Results** 36.1 t/100 mill yen Waste by water usage: **Results** 1.79 t/100 mill yen	—	E_14 E_18
Reduce primary materials and secondary materials	(1) Reduce environmentally burdensome substances in production activities	(1) Substitution with products that don't contain substances subject to PRTR	(1) Release and transfer of substances subject to the PRTR: 42.1 t	△	E_19
Preserve and improve the global environment, forge communication	(1) Enforce preventative measures for environmental problems and observe regulations	(1) Ongoing efforts for zero environmental regulation violations and claims from residents through the strengthening of daily control tasks	(1) Zero environmental violations and claims from residents	○	E_08 E_19
	(2) Build good relationships with local residents	(1) Promote environmental conservation activities around plants (2) Build good relationships with local residents and councils	(1) Clean-up activities around plant (2) Held environmentally-related discussions with local community		E_19 S_12 S_14 S_15
	(3) Proactive disclosure of environmental information and enhancement of communication activities	(1) Enhance and continue issuance of CSR reports (2) Provide more environmental information	(1) Issued CSR report 2012		S_12
	(4) Action for biodiversity	(1) Promote activities based on our Biodiversity Conservation Action Guidelines	(1) Participated in a forest development project		E_20

Environmental management

Environmental impact on business activities

Reduction of environmental burden in all stages

JTEKT strives to quantitatively grasp resource and energy amounts used (input) and amounts discharged into the environment (output) and reduce environmental burden in all business activity stages.

Resource and energy input versus environmentally burdensome substance output New! Figure-01

The table below shows the resource and energy input versus environmentally burdensome substance output for FY2012. To minimize the impact our business activities have on global warming, JTEKT is working to reduce the amount of energy used in all our processes, including casting, forging, heat treatment, machining processes and so forth. We also make efforts to convert to more efficient energy such as electricity and city gas. We have revised the tallying scope in an effort to give more detailed descriptions.

Figure-01 Resource and energy input versus environmentally burdensome substance output

INPUT

Resource and energy input			
Raw materials (metal, nonferrous metals) Total: 322,000 t (–)			■
Resource recycling volume	17,700 t	(–)	■
Energy Total: 14,861,918 GJ (+8.8%)			■
Electricity	1,219,225 MWh	(+2.4%)	■
City gas	61,060,000 Nm³	(+8.6%)	■
LPG	5,094 t	(–9.0%)	■
Kerosene	1,483 kℓ	(+5.3%)	■
Heavy oil A	1,310 kℓ	(–20%)	■
Water Total: 9,594,000 m³ (–)			■
Recycled water volume	581,000 m³	(–)	■
Chemical substances (amounts of substances subject to PRTR) Total: 128 t (–)			■
Logistics			
Packaging and packing materials	5,062 t	(+5.0%)	■

Manufacturing

Casting

Forging

Heat treatment

Machining

Painting

Assembling

Products

Automotive parts
Bearings
Machine tools
Mechatronics products

OUTPUT

Environmentally burdensome substance output			
Released into the atmosphere			
CO_2	605,100 t-CO_2	(+3.8%)	■
SOx	3.3 t	(–)	■
NOx	83.1 t	(–)	■
Toluene, Xylene	68.6 t	(–)	■
Other substances subject to PRTR	17.7 t	(–)	■
Discharged to waterways / sewage			
Wastewater	7,754,000 m³	(–)	■
COD	22.9 t	(–)	■
Nitrogen	14.0 t	(–)	■
Phosphorus	0.5 t	(–)	■
Release/transfer of substances subject to PRTR	0.14 t	(–)	■
Discharge leaving the company			
Waste	18,400 t	(+23%)	■
Recycling for a fee	17,300 t	(+0.3%)	■
Recycling for profit	125,600 t	(+5.0%)	■
Transfer of substances subject to PRTR	14.6 t	(–)	■
Logistics			
CO_2 emissions relating to product transfer	13,994 t-CO_2	(+4.5%)	■

■ Tally of the 17 JTEKT and domestic group companies and the 32 overseas group companies
■ Tally of the 17 JTEKT and domestic group companies
■ JTEKT independent

*Values in parenthesis are comparisons with the previous year

*Notes on the [Resource and energy input versus environmentally burdensome substance output]

CO_2 conversion coefficients to calculate CO_2 emissions volume

Electricity	0.3707 kg-CO_2/kWh
Heavy oil A	2.6958 kg-CO_2/ℓ
Kerosene	2.5316 kg-CO_2/ℓ
Propane gas	3.0040 kg-CO_2/kg
City gas	2.1570 kg-CO_2/Nm³

The CO_2 conversion coefficients were set by Japan Federation of Economic Organizations (1990) and are used in Japan. Regions outside of Japan use 2001 published values. We fixed electrical conversion coefficients so that the results of our improvements could be evaluated.

Heavy oil A: Among the three classes (A, B, C) of heavy oil, heavy oil A is the closest to kerosene and is used as fuel for boilers or heating.
GJ: Giga-joule (heat quantity unit), G=10^9
PRTR regulation: "PRTR" is an abbreviation for Pollutant Release and Transfer Register, which is a system announced by the government for reporting the amount of chemical substances released or transferred.
COD: Chemical Oxygen Demand (water quality index)
Charged recycling: Pay a processing fee to recycle.

Environmental management

CO_2 emissions for the overall supply chain New!

▶ Figure-02

From FY2012, in order to reduce CO_2 in all areas of company activities, JTEKT began calculating CO_2 emissions in the overall supply chain. The below table estimates "Self-produced emissions" (Scope (*1) 1&2) and "Other indirect emissions (Scope 3) upstream and downstream of JTEKT based on guidelines established by the Ministry of the Environment and Ministry of Economy, Trade and Industry (*2). Moving forward, JTEKT will work to increase the accuracy of CO_2 emissions calculation as well as reduce CO_2 emissions in the overall supply chain relating to all business activities, including development/production, usage, disposal and recycle.

*1 **Scope** The calculation scope for greenhouse gas emissions stipulated by the GHG Protocol Initiative which prepares the global guidelines for calculating and reporting greenhouse gas emissions.

TOPICS

Reducing CO_2 produced by commuting through the "Eco-Commuting Scheme"

In October of 2008, JTEKT implemented an Eco-Commuting Scheme, with the objective of reducing CO_2 produced during commuting. Under this scheme, employees living 2km or more and 10km or less from operation bases are encouraged to bicycle or walk to work by being offered an eco-commuting allowance. Currently, more than 600 employees utilize this scheme. As a result, employees either walk or bicycle a combined total of 1.1 million kilometers annually, amounting to a 260t reduction in the CO_2 produced through commuting.

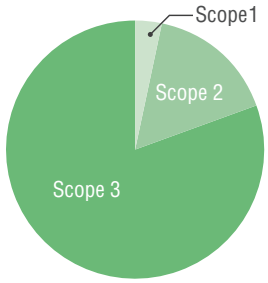
*2 **Guidelines established by the Ministry of the Environment and Ministry of Economy, Trade and Industry** Basic guidelines relating to calculation of greenhouse gas emissions produced in the supply chain.

▶ Figure-02

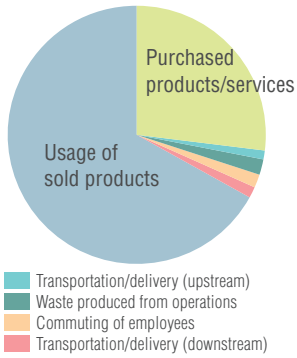
CO_2 emissions for the overall supply chain

Scope	Emissions(t-CO_2)	Remarks
Scope 1 (Self-produced direct emissions)	41,700	Self-produced emissions through using city gas and other fuels
Scope 2 (Indirect emissions produced by own energy source)	189,200	Emissions produced due to using electricity purchased by JTEKT
Scope 3 (Other indirect emissions)	943,400	Emissions produced by related activities such as raw material purchasing, disposal and distribution

CO_2 emissions by scope



Scope 3 CO_2 emissions (percentage) by category



Scope 3 CO_2 emissions by category

*1 Calculated based on the amount of steel material purchased *2 Calculated based on steering, drive parts and machine tools

Classification	Category	Emissions	Remarks	Calculation criteria	JTEKT action
Upstream	Purchased products/services *1	255,800	Only some raw materials covered	CO_2 due to the purchased raw materials, parts manufacture, etc.	Making products smaller/lighter and improving yield
	Capital goods	—	Calculation method under investigation	CO_2 due to the construction and manufacturing of capital goods	—
	Fuel and energy-related activities not included in Scope 1 and 2	—	Out of scope	CO_2 due to usage of fuel necessary for heat, etc., purchased by other parties	—
	Transportation/delivery (upstream) *1	10,400	Only some raw materials covered	CO_2 due to purchasing/logistics of raw materials, parts, etc.	Making products smaller/lighter and improving yield
	Waste produced from operations	19,400		CO_2 due to transportation/processing of waste	Reducing waste
	Business trips	—	Calculation method under investigation	CO_2 due to employee business trips	Utilizing TV/Web conference systems
	Commuting of employees	14,800		CO_2 due to employees commuting to operation bases	Utilizing the Eco-Commuting System
	Leased assets (upstream)	—	Calculated in Scope 1 and 2	CO_2 due to operation of leased assets	
Downstream	Transportation/delivery (downstream)	14,000		CO_2 due to transportation/storage and retail of products	Improving the shape in which products are transported in, combining transportation routes, model shift
	Fabrication of sold products	—	Calculation method under investigation	CO_2 due to processing of products by the customer	
	Usage of sold products *2	629,000		CO_2 due to usage of products	Developing environmentally-friendly products
	Disposal of sold products	—	Calculation method under investigation	CO_2 due to transportation/processing upon disposal of products	Making products smaller/lighter
	Leased assets (downstream)	—	Calculation method under investigation	CO_2 due to operation of leased assets	
	Franchise	—	N/A	CO_2 produced by franchise members	—
	Investment	—	N/A	CO_2 relating to investment operation	—
Total		943,400 (t-CO_2)			

Environmental management

Environmental accounting

Cost and results appraisal

By quantitatively appraising the cost and results of environmental conservation activities, JTEKT is constantly making improvements effectively and efficiently. We use environmental accounting to provide information to our stakeholders on JTEKT's environmental conservation activities. The tally system is in accordance with the Ministry for Environment's Environmental Accounting Guideline.

Environmental conservation costs

(Million yen)

Type	Details	Investment	Cost
[1] Business on-site costs ① Pollution prevention costs	● Service & upkeep of environmental equipment	158	236
② Environmental conservation costs	● Measures for energy conservation	305	52
③ Resource recycling costs	● Waste processing,recycling	90	399
[2] Upstream and downstream costs	● Green purchasing	—	42
[3] Management activity costs	● Environmental monitoring, measurements, etc.	2	151
[4] R&D costs	● R&D of environmentally friendly products	931	2,258
[5] Social activities costs	● Disclosure of environmental information, greenification, etc.	—	62
[6] Environmental damage costs	● Soil and groundwater restoration	3	5
Total		1,489	3,205
Gross amount		4,694	

Economic benefit of environmental conservation measures

(Million yen)

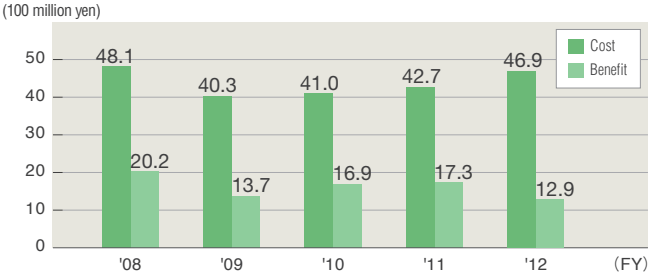
Details of benefits	Economic benefit
Profit from recycled material sales	654
Energy-cost reduction from promoting energy conservation	616
Reduction of waste processing costs	19
Total	1,289

Benefits towards material amount reduction from environmental conservation measures

Details of benefits	Benefits towards material amount reduction
Energy consumption (t-CO_2)	22,800
Waste output (t)	954

Cost and benefits of environmental conservation measures

(100 million yen)



It is not possible to calculate the economic benefits brought about by environmental conservation measures such as increased product value, avoiding environmental risk and improving corporate image. We have only calculated items which can be accurately appraised such as energy-savings benefits, etc.

Calculated area : JTEKT Corporation (including some group companies within workplaces)

Calculated period : FY2012 (April 2012 to March 2013)

Environmental accounting results for FY2012

Environmental conservation costs for FY2012 were 1.49 billion yen in investments and 3.2 billion yen in management costs, adding up to a total of 4.69 billion yen. This was an increase of 430 million yen (10%) from the previous year. Updates to air conditioning units, visualization of energy, etc., were the main investments made with the objectives of preventing underground seepage of oils and establishing energy-saving countermeasures.

Major activities in FY2012

JTEKT Group Environmental Coordinating Committees

In FY2012, JTEKT held an Environmental Coordinating Committee for both domestic and overseas group companies. At these sessions, "All JTEKT 2015 Target Guidelines" were rolled out based on target values produced in the 2015 Environment Action Plan. Action policies for the overall group and targets where shared in an effort to proceed with activities.

Domestic JTEKT group Environmental Coordinating Committee

JTEKT holds Environmental Coordinating Committees twice a year with participation by all 17 domestic group companies. In these committees, activities for CO_2 and waste reduction as well as environmental disturbance prevention are advanced. In June of 2012, in addition to reporting and discussing the previous year's results and current year's actions, on the plant tour, environmental risk countermeasures such as environmental equipment and an underground tank were confirmed in an effort to improve environmental conservation countermeasures. In December of 2012, a committee session was held for the executives in charge of the environment at domestic group companies and in addition to new action items, actions to achieve the 2015 Environmental Action Plan were begun.

A domestic JTEKT group Environmental Coordinating Committee session was held December 7th

Overseas JTEKT group Environmental Coordinating Committee in Japan

In February of 2013, an Environmental Coordinating Committee session was held in which the representatives of JTEKT overseas group companies participated. As with the domestic committee gathering, action policies and goals aimed at achieving the 2015 goal were shared and activities started.

February 2nd – Overseas JTEKT Group Environmental Coordinating Committee

Environmental management

Reducing environmental risk

Environmental accident prevention activities

To prevent environmental accidents, we share countermeasures implemented in response to incidents occurring both internally and externally for similar equipment. Moreover, we have set internal standards (*1) more stringent than regulations in order to observe environmental legislation, treaties and convention levels and manage these standards thoroughly.

Also, we have prepared and begun operating an "On-site Pre-work Environmental Instruction Checklist". This checklist is used by the JTEKT department managing the work and the subcontractor performing the work to make checks before carrying out work in plants in order to prevent the occurrence of an environmental disturbance.

***1 Internal standards** JTEKT's final affluent internal standards are 80% of regulatory requirements.

Legal compliance with environmental legislation

In FY2012, there were no cases of exceeding environmental regulation values and zero environmental accident complaints. There were also no environmentally-related lawsuits (fines, penalties). However, there were 5 environmental close-calls (*2) including a case where we went over our internal standard. We will continue our effort to identify the cause and complete corrective action while at the same time roll out countermeasures to other plants.

***2 Number of environmental near-miss incidents** Incidents that had only a slight impact on the environment and were handled within the area they occurred in.

Environmental patrols by the plant manager

As part of our Environmental Month every June, managers of each plant conduct environmental patrols. In FY2012, we confirmed whether or not we could respond to unlikely risks in facilities, etc., with waste sites, etc., where there is a possibility of oil leaks.

Environmental patrol (Okazaki plant)

Emergency drills

In preparation for various environmental accidents, emergency training is carried out regularly at each plant. Following on from FY2011, in FY2012 also, emergency training assuming abnormal occurrences such as tank oil leaks, etc. was carried out. Emergency training was also carried out for night-shift workers assuming that emergency situations could also occur at night.

Emergency drills (Kameyama plant)

Environmental audits

Internal audits

JTEKT conducts internal audits annually to confirm the operational status of our environmental management system and observance of legislation. We always correct the issues identified in this audit.

External audits (ISO14001)

JTEKT was subjected to an ISO14001 surveillance inspection in April of 2013. As a result, there were 0 cases of non-conformity, and our environmental management system conformed to standard requirements and was deemed as being carried out effectively. However, 3 cases were identified as having room for improvement, therefore the departments which should handle these were specified and corrections are being made.

Specialized environmental subcommittee inspection

Environmental education

Environmental awareness education

During Environment Month in June of 2012, environmental awareness training was held for all employees utilizing e-learning. The theme this year was "Implementing countermeasures to save electricity in the workplace and responding to environmental risk". Around 4,040 employees took part in this training.

My CSR

Hirofumi Oribe
Kameyama Plant
Bearing Operations Headquarters

Be prepared for the unlikely occurrence of an environmental accident

Emergency training is critical to ensure that damage is kept to a minimum in the unlikely event of an environmental accident. Environmental accidents could occur either at day or night and this training focused on a night scenario. Because it is night, the surrounds are dark, and it is important to check places where, although are safely visible during the daytime, could hold danger at night. Through this training, we were able to give more specific instructions for correction, such as revising the number and location of generators and light-projecting devices, as well as changing flashlights to headlights so that both hands would be free to work with. I will continue to promote preventative activities to ensure environmental accidents do not occur.

Environmental management

Overseas activities

Overseas group company	JALY (France)

Training employees how to handle waste

JALY is promoting activities by establishing chemical handling, enforcement of waste separation and disposal methods, raising awareness through environmental training and so on as priority items of their environmental policy.

In FY2012, JALY carried out training concerning separation and disposal methods for paint and disposal method for used equipment washing agent. JALY will continue to make ongoing improvements by enforcing adherence to rules and reducing the impact on the environment.

Safety, Health & Environment Manager, F. Pignier, provides instruction relating to the environment at an intra-plant meeting.

VOICE Raise awareness and support implementation

At JALY, environmental training involves introducing the environmental conservation activities for each division and instructing employees on what specifically they should implement in the future.

I would like to see each and every employee raise their awareness towards the environment and move even one step closer to implementation.

F. Pignier - Safety, Health & Environment Manager (right)
D. Mellet - Environment Assistant Manager (left)

Overseas group company	JATJ (China)

Environment Month activities by all employees

At JATJ, July and August of 2011 were Environment Months, and activities were carried out with the goal of "Be gentle on the planet – more energy conservation". Based on the theme of the activity, "Show your heart, try to do", JATJ will improve all employees' awareness of the environment, promote energy conservation and reduction of disposal and water usage and continue to engage in action to prevent environmental disturbances.

Main measures

- Thorough reduction of power usage during non-moving time
- Inspections for oil/water leakages on the production line and countermeasures
- Strengthening waste separation training and on-site checks of waste sites
- Reward cases of workplace improvement
- Have all employees wear badges, put up posters, etc.

There were 23 entries received for the 1st poster competition. The poster to the left was awarded "Most Outstanding" status, while the poster to the right stood out among the 7 "Outstanding" posters.

Environmentally considerate development and design

Social background

There is growing expectation for the environment to be taken into consideration across the entire product lifecycle. More importance is placed on action from the development and design phases such as technological developments which alleviate environmental burden and product design which makes reusing and recycling easy.

JTEKT's concept

Improve each product from every angle

JTEKT, in line with our corporate philosophy of "contributing to the happiness of people and the abundance of society through product manufacturing", develop and design environmentally friendly products. We believe that JTEKT's products and technologies provide environmental countermeasures for our customer's products and manufacturing processes and as such, greatly contribute to the environment. Therefore, we engage in activities to improve the environmental performance of all products and are producing results which will contribute to prevention of global warming and effective resource use.

Promotion structure

Promotion by the Environmental Responsive Products Subcommittee

Under the guidance of the Global Environment Conservation Committee, which unites companywide environmental conservation activities, in order to strengthen activities, the Environmental Design Subcommittee became the Environmental Responsive Products Subcommittee from FY2012 and is promoting the development of environmentally-friendly products together with domestic group companies. Innovative technology is used in the development and design stages to make products smaller, lighter, more efficient, and reduce the amount of environmentally burdensome substances and raw material usage. In this way, JTEKT is engaging in environmental conservation on a global scale.

Toshimitsu Enoki
Engineering Planning Office
Engineering Planning Dept.
Automotive Systems Business Headquarters

My CSR

Helping improve the environment in a car-orientated society

JTEKT engages in monozukuri with small environmental burden throughout the entire lifecycle of our products. Even in our department, in order to help improve the environment in a car-orientated society, we consider the entire lifecycle of products and concentrate on developments with small environmental burden, particularly focusing on CO_2 reduction.
Moreover, as the overseeing department of engineering divisions, we promote and manage the reduction of environmentally burdensome substances in the product development stage and also exert effort to distribute information which will contribute to the environment through market investigations.

Assessment method

JTEKT has established an original environmental efficiency basic equation to serve as an index in quantitatively assessing environmental load reduction benefit. The larger the value, the greater the environmental load reduction benefit is. Each year JTEKT sets higher environmental efficiency targets and works to reach them while monitoring progress.

Environmental efficiency basic equation and environmental efficiency value calculation

Environmental efficiency is a value calculated based on the degree of lightness, compactness, energy-savings, etc. The environmental efficiency value is calculated by dividing the environmental efficiency of the assessed product by that of the standard product.

Environmental efficiency

$$\frac{\text{Product performance}}{\text{Product environmental load}} = \frac{1}{\sqrt{W^2+T^2+E^2}}$$

W : Mass T : Loss E : Energy

Calculation of environmental load reduction effect

As the environmental load reduction effect, it is possible to seek environmental load reduction ratio more than the environmental efficiency value. For example, if the environmental efficiency value was 1.25, that product's environmental load reduction benefit would be 20%.A reduced environmental load is sought as the reverse of the environmental efficiency value.

Environmental efficiency value

$$\frac{\text{Environmental efficiency of assessed product}}{\text{Environmental efficiency of standard product}}$$

Environmental load reduction ratio

$$\left(1 - \frac{1}{\text{Environmental efficiency value}}\right) \times 100$$

Evaluation of the 5 products shown in "Pick-Up"

→ [Pick-Up] P6-10 Related article

Developed product name	Environmental burden reduction percentage
Integrated motor/ECU for electric power steering systems	39.0%
Electric oil pump for the idle reduction mechanism	31.9%
Low torque hub unit for light cars	23.4%
Working with diluted lubricant – the low torque thrust needle roller bearing	13.4%
Super energy-saving mini-size hydraulic unit (small pack)	52.0%

3R (*) activities

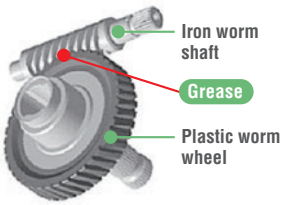
JTEKT conducts environmental design activities with intimate interaction between each operation's headquarters and group companies. Through creative ideas from the design stage, JTEKT group's products are contributing to the effective use of resources.

*3R Originating from the first letters of Reduce, Reuse and Recycle, 3R is a concept expressing the order of priority for waste handling.

Main measures

Reducing usage of worm reducer grease

Reducers used in electric power steering are made from an iron worm shaft and plastic worm wheel and grease is used on the sliding surfaces of these parts. JTEKT develops the grease used here, and in addition to achieving low-friction between the iron and plastic sliding surfaces, increasing plastic compatibility and improving performance and reliability, has also made it possible to reduce the amount of grease used through optimization such as high viscosity base oil and so on. This achievement was recognized and awarded by the Japanese Society of Tribologists in FY2012.



Motor reducer

Prevention of global warming

Social background

In 2012, the Ministry of the Environment and Ministry of Economy, Trade and Industry announced new criteria for the calculation of greenhouse gas (GHG) emissions. The background to this is that there was a global demand to assess and control the total emissions in the overall supply chain, not just the GHG emissions of the company in isolation, and in doing so reduce the risk of climate fluctuation.

→ E_06 Related article

JTEKT's concept

Reducing CO_2 emissions across all processes

In order to help prevent global warming, JTEKT engages in activities to reduce CO_2 emissions in the production and transportation of products. All group companies, both in Japan and overseas, promote energy-saving methods and the use of reusable energy throughout all processes from product design to delivery.

Stabilization of power supply and demand

In order to continuously countermeasure power shortages, JTEKT proactively engages in energy-saving activities such as introducing even better energy-saving equipment in addition to introducing our own power generation based on a plan up until 2015. By supplying our own power, we can continue stable business activities, suppress demand for purchased power, as well as contribute to the stabilization of supply and demand.

→ [Pick-Up] P11 Related article

Reducing CO_2 emissions in production

Reducing domestic CO_2 emissions

▶ Figure-01

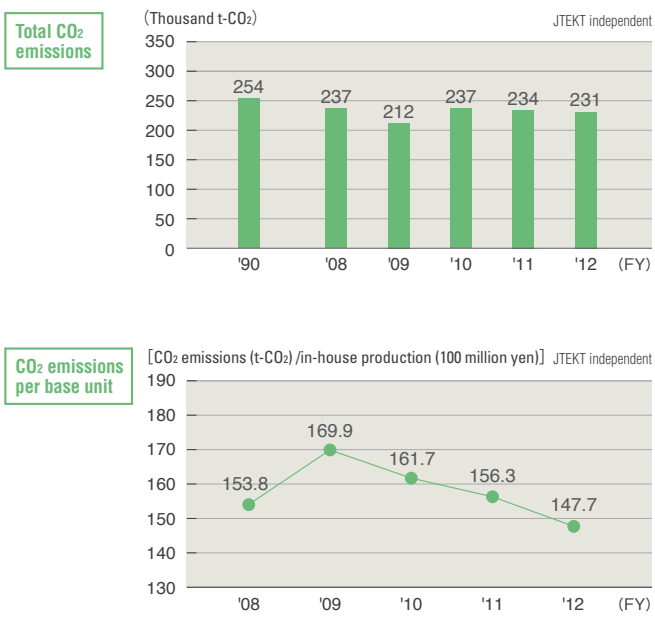
In the Kyoto Protocol, Japan made an international promise to reduce greenhouse gas emissions by 6% compared with FY1990 in the 1st commitment period (between FY2008 and FY2012).
In the 2015 Environmental Action Plan, JTEKT set a target of 7% compared with FY1990, which is higher than the Kyoto Protocol target. As a result of engaging in energy-saving improvements, a 1% reduction compared with FY2011 was achieved in FY2012 with an average of 10% compared with FY1990 between FY2008 and FY2012, meaning that step 1 targets were achieved.
Moving forward, we will promote activities to achieve the FY2015 step 2 targets.

Reduction of global CO_2 emissions

▶ Figure-02

With an aim to minimize the impact of our global production operations on global warming, JTEKT is working to reduce CO_2 emissions not only within JTEKT but also at its group companies in Japan and overseas.
In FY2012, we achieved a 9% base unit reduction. We will continue to improve productivity in order to prevent global warming and improve production efficiency as a group on the whole.

▶ Figure-01 Transition of total and per base unit CO_2 emissions in production



▶ Figure-02 CO_2 emissions (global and base unit)

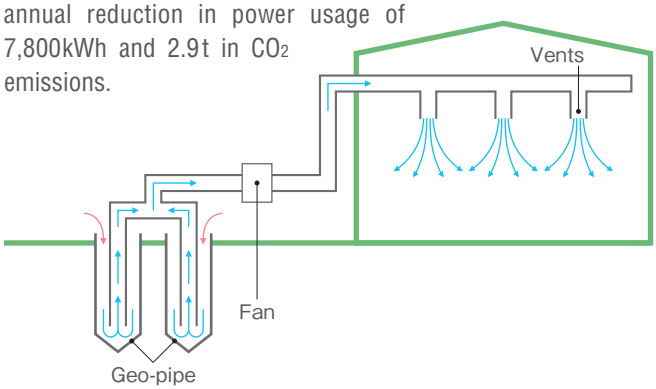
*JTEKT + 17 domestic group companies + 32 overseas group companies

Prevention of global warming

Main measures

Introduction of a ventilation system utilizing geo-heat

The temperature 5 meters underground is practically constant the entire year round. Temperature remains cool in summer, and warm in winter. JTEKT's Kariya plant has introduced a ventilation system which utilizes this geo-heat for air-conditioning and was able to stop using the existing air-conditioning system (7.5kW). This resulted in an annual reduction in power usage of 7,800kWh and 2.9t in CO_2 emissions.



In-house power generation activities

JTEKT has introduced in-house power generation focused on cogeneration in order to stabilize the supply and demand of power and provide an off-grid power source for emergencies. In FY2012, the Kokubu plant installed a 1,000kW cogeneration system as the first phase.

The total in-house power generation capacity for all plants has reached 15,828kW and the in-house power generation percentage* has become 4.6% (Overall generated power: 24.5 million kWh). Moving forward, JTEKT will promote the installation of cogeneration systems in plants with heat treatment processes. In FY2013, a 1,000kW cogeneration system has been introduced and is in operation at Kokubu plant as the 2nd phase and there is a plan to introduce a 1,000kW system in the Tokyo plant also.

***In-house power generation percentage** In-house power generation/power usage (purchased power + in-house power generation)

Efforts towards renewable energy

JTEKT is proactively introducing renewable energy with small environmental burden. In FY2012, a total of 101kW in solar power generation was introduced at the Nara, Hanazono and Tadomisaki plants, as well as the Iga test course administration block. This reduces CO_2 by approximately 38t per annum.

Solar power generation (Nara plant)

The generated power is used in the administration block, the janitor's room and the effluent treatment area, and supplies power to the security, safety and administration blocks as independent energy during states of emergency.

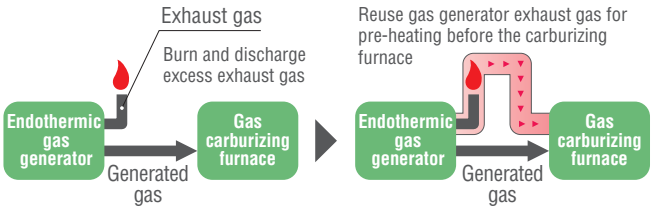
Moving forward, JTEKT will continue the planned introduction of reusable energy with a goal of a total of 500kW or more by the year 2020, and promote harmony between our production plants and nature.

Main measures

Domestic group company	CNK Co., Ltd.

Making carburization process exhaust gas reusable

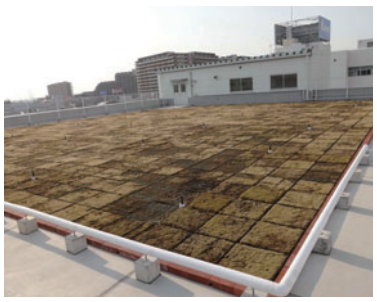
CNK has made it possible to reuse excess exhaust gas from the gas generator, which was previously burned then discharged, for the pre-heating before the carburization hardening furnace, and as such reduce gas consumption. The plan is to reduce annual CO_2 emissions by 8.9t through increasing thermal efficiency. Meanwhile, the carburizing furnace produces more exhaust gas than the gas generator, but could not be reused due to significant fluctuation. CNK will conduct a study into reusing the exhaust gas of the carburizing furnace for additional furnace heat and further improve thermal efficiency.



Domestic group company	Koyo Machine Industries Co., Ltd.

Energy-saving measures utilizing the rooftop

Koyo Machine Industries is implementing multiple energy-saving measures. One of these involves planting moss, which is maintenance-free and heat-proof, on the rooftops of buildings at their head office and Yao operation base. Moss serves to keep the rooftop surface temperature under 26°C in summer, which saves energy and contributes to the suppression of the heat-island phenomenon. Moreover, a 100kW solar power generation which reduces annual CO_2 emissions by 30.9t has been installed. Both of these measures also lead to the securement of green areas.



Moss planted on rooftops

Solar power generation

Prevention of global warming

Utilization of green electricity New!

Tradable Green Certificates are tradable energy commodities that represent proof as environmental value that renewable energy generation has been effective in reducing CO_2. JTEKT, with the belief that purchasing green electricity will lead to the expansion of renewable energy, is also utilizing green power. In FY2012, JTEKT used a tradable green certificate to cover electricity consumed in exhibitions as electricity generated using renewable energy.

Tradable Green Certificate

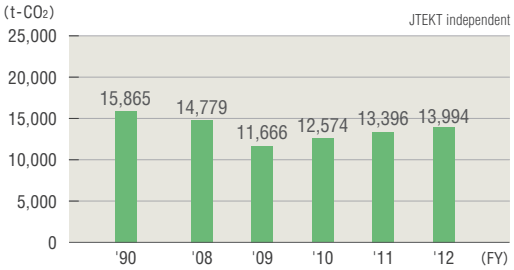
Reducing CO_2 emissions in logistics

Reduction of CO_2 through integrating product delivery shipments

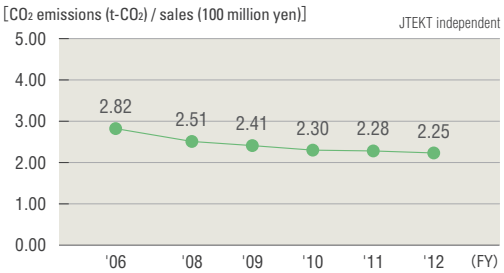
In FY2012, the CO_2 emission base unit was approximately 2% less than the previous year at 2.25 t/100 million yen. CO_2 emissions were slightly higher due to an increase in production volume however through integrating product delivery shipments, JTEKT reduced annual CO_2 by 190 t. We will continue to reduce CO_2 in the future through further integration.

Transition of total and per base unit CO_2 emissions in logistics

Total CO_2 emissions



CO_2 emissions per base unit



Effective use of resources

Social background

The shift to a recycle-based society is required more so in Japan than other countries for reasons such as limited space for waste disposal and the possibility of resource depletion.
Ultimately, these same problems will spread to the rest of the world and there is an intensifying demand to increase efforts such as the suppression of waste generation and reuse, recycle of parts, etc.

JTEKT's concept

Responsibility as a manufacturer

At JTEKT, we consider the effective use of resources as one of the responsibilities of an environmentally friendly manufacturer. Through making improvements and devising ideas for the production processes of each product, we strive to reduce material usage and waste output, reuse and save resources.

Saving resources in production

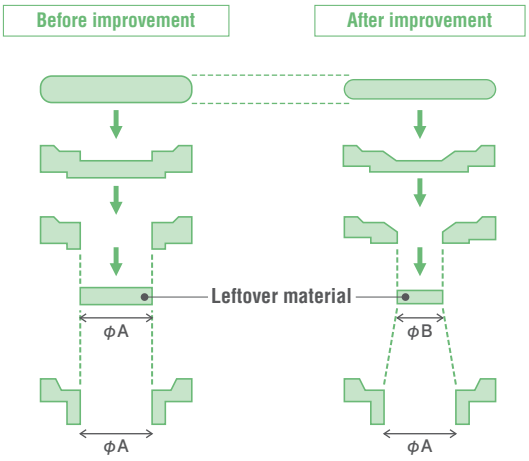
Reduction of primary material consumption

JTEKT do our best to reduce material consumption through changing product design and techniques and reducing stock removal. For example in the forging process, we reuse the material left over when products are removed from dies to make other parts and engage in activities to reduce the amount of leftover material itself, as well as many other improvements.

Main measures

Improving material yield rate through changed forging processes

In the forging of taper roller bearings, conventionally the drilling diameter was made the same as the inner raceway internal diameter and the leftover material was pushed out with a forward-backward motion upon drilling. JTEKT has made the drilling diameter smaller than the inner raceway internal diameter and developed a "bend-push" technique whereby the material on the inside is pushed out as it is bent, while widening the diameter. By revising the processing method, the weight of the leftover material was reduced and yield improved.



Material consumption 13% reduced

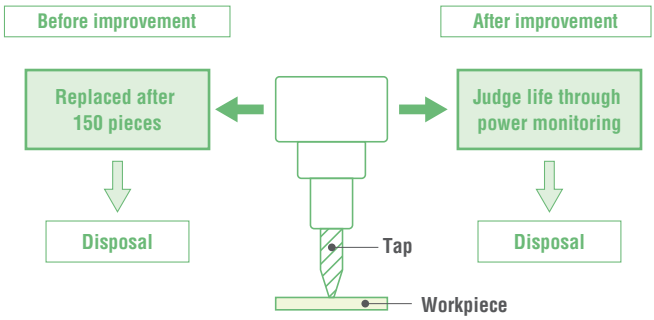
Reduction of secondary material consumption

We succeeded in reducing consumption by revising the material, shape, hardness and other specs of secondary material such as grinding wheels, cutting tools and dies and further increasing their durability. Also, we strove to promote recycling by reusing oil, grinding wheels, cutting tools and jigs.

Main measures

Reducing consumption through monitoring threading tap condition

The flange of the hub unit is threaded using a tap. Conventionally, taps were disposed of after they had threaded 150 pieces, however by monitoring the condition of the tap through spindle power, it has become possible to replace the tap appropriately according to its lifespan, rather than the number of pieces it has processed, reducing the number of taps consumed.



Tool consumption 38% reduced

Effective use of resources

Waste reduction

Aiming for overall waste reduction

Figure-01

In order to effectively utilize waste as resources, JTEKT is taking action to recycle 100% of waste. We have succeeded at this for direct landfill waste from FY2009 and for incinerated waste from November of 2012. We will continue to further promote 3R, including material and secondary material, and continue to engage in activities to reduce overall waste output, including those products recycled for a profit.

Main measures

Reusing die lubricant in the forging process

The forging process uses a large amount of soluble die lubricant. If foreign matter or oil mixes with this die lubricant, its performance deteriorates, therefore periodical inspection is required and approximately 48 m^3 of die lubricant is discharged each year. However, by adopting a method in which the die lubricant is filtered after replacement to remove foreign matter and oil, then reused, JTEKT has succeeded in reducing the amount of lubricant discharged by 90%. Furthermore, we have successfully reduced the amount of die lubricant concentrate and water by 90%. We will roll out this improvement case to all departments so it leads on to further 3R.

Amount of discharged lubricant	Before improvement = 48 m^3/year	→	After improvement = 4.8 m^3/year

My CSR

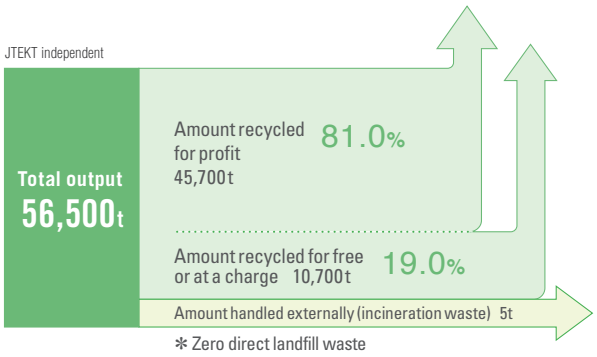
Kazumasa Tomiya
Process Engineering Section
Process Engineering Dept.
Tadomisaki Plant
Automotive Systems Business Headquarters

Recycling activities participated in by all

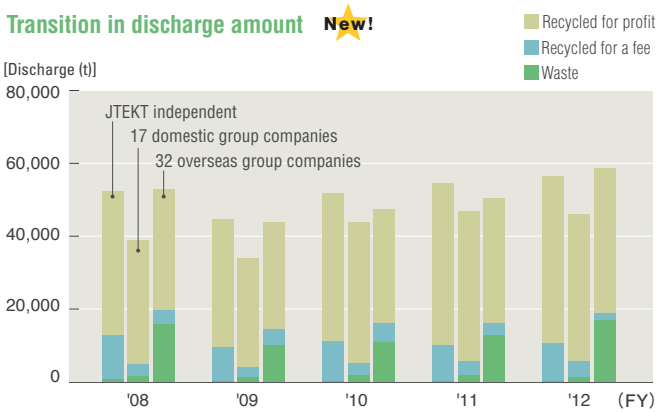
At Tadomisaki plant, where drive unit parts are manufactured, metal waste such as chips and rejects parts account for the majority of waste. As such, we are exerting our efforts to prevent reject parts caused by wear and breakage by cleaning and maintaining not only jigs, but also dies and high frequency quenching coils. We also reduce resource consumption by engaging in activities to reuse die lubricant in the forging process. We promote the reduction of waste by putting our heads together and thinking about whether there are still areas which are being overlooked and what we can do to reduce waste even further in the "Big Room Activity" which involves all concerned plant departments.

Figure-01

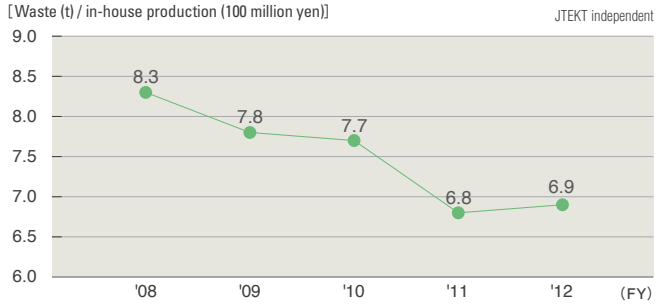
Processing of industrial waste and recycled materials



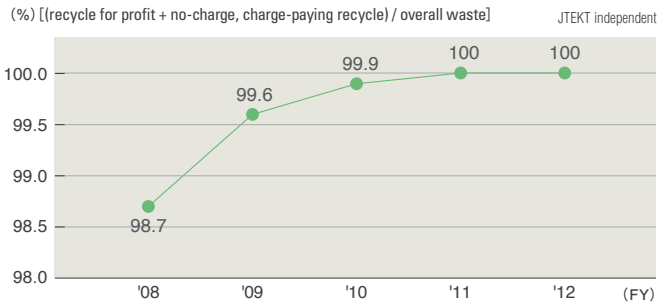
Transition in discharge amount New!



Yearly transition of waste base unit



Transition of recycle percentage



Effective use of resources

Overseas activities

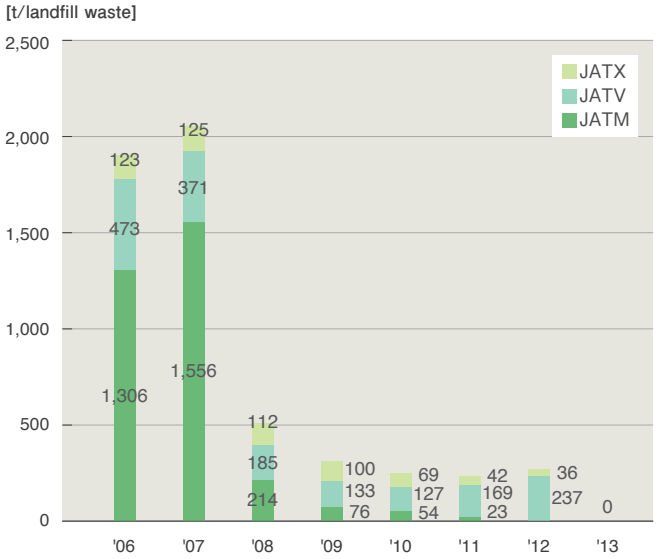
Overseas group company	JATM, JATV, JATX (America)

Challenge to achieve zero waste

At the 3 plants of JATM, JATV and JATX, a "recycle-up" concept which involves converting waste into products with value is added to thorough separation and 3R activities.

In 2007, JATM formed a "Green Team" which specifically focuses on waste reduction, and this team achieved zero landfill waste in December of 2011. The improvement cases of JATX were rolled out by JATM and JATV too and by January of 2013, we achieved zero landfill waste. We will continue to maintain zero landfill waste, improve separation methods and further cost reduction.

Activity to reduce landfill waste at 3 North American steering plants



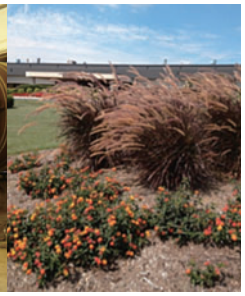
Main measures

Overseas group company	JATM (America)

Recycling biodegradable waste

In a joint effort with the local recycle compost center, biodegradable waste is being recycled as fertilizer. That compost is used to grow flowers within plant grounds and for landscaping purposes.

Recycle compost center

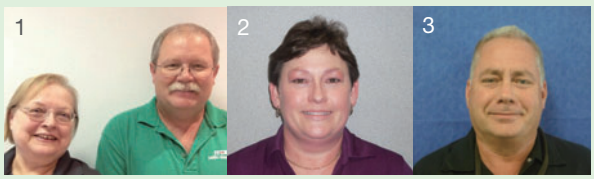


Plant surrounds

VOICE Turning waste into valuable resources

The sustainable environment we hand down to future generations depends on our recycle activities. Based on JTEKT's concept, we have passionately continued with zero waste activities as a team. The results of these activities was improved awareness of the environment for each team member and achieving our goal of zero landfill waste. On top of this, we were able to turn waste into valuable resources.

Also, we have improved our waste management framework by assessing all waste generating sources. We will continue to search for methods which impact positively on the environment and exert efforts to consider the environment in our day-to-day conduct.



1 Keith Johnson JATM Supervisor Planning and Environmental
Priscilla Maynard JATM Environmental Specialist
2 Sandra Henry JATV Team Leader Health, Safety and Environmental
3 Ernie Bloebaum JATX Supervisor Health, Safety and Environmental

Effective use of resources

Reduction of packaging material

Reducing packaging and packing material

Figure-01

In order to effectively use resources, JTEKT has established targets for packaging and packing material individually for wood and paper, and promotes simpler, returnable and reusable packaging. In wooden packaging, we have increased our use of returnable pallets and are promoting use of simpler wooden boxes. In paper packaging, we are engaging in various action such as shifting from disposable cardboard to returnable plastic containers, revising excessive packaging and reducing the amount of cushioning material used by changing to cardboard boxes appropriate for the product size.

Main measures

Revising excessive packaging of bearing products

By using boxes sized appropriately for the number of pieces held, we have reduced cushioning material consumption by 7t per annum.

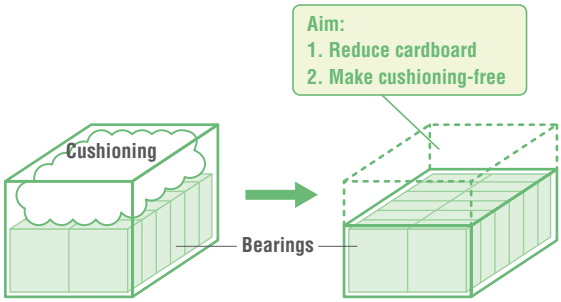
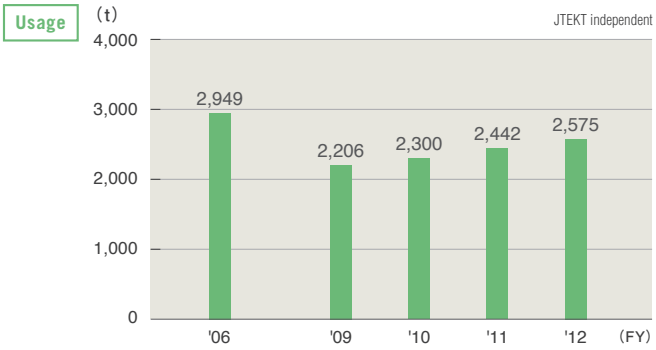
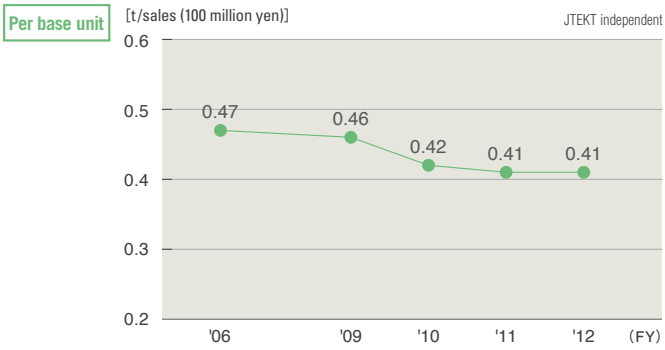


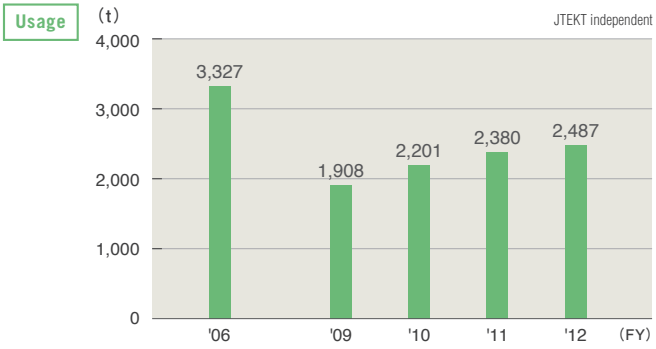
Figure-01

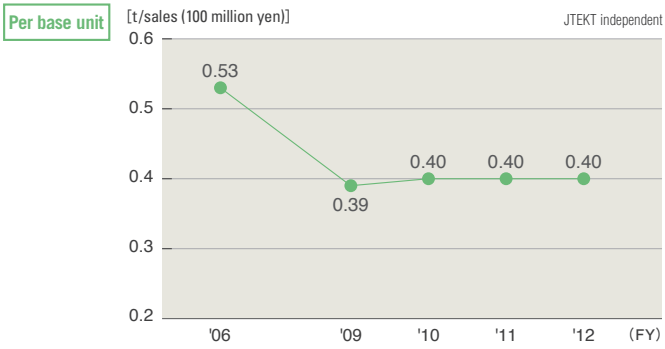
Transition of wood packaging usage and per base unit





Transition of paper packaging usage and per base unit





Effective use of resources

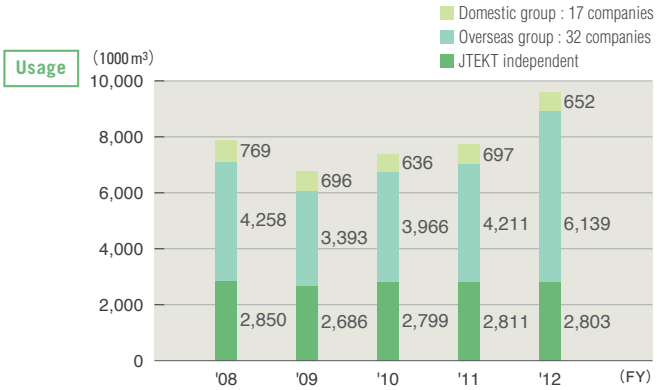
Reduction of water usage

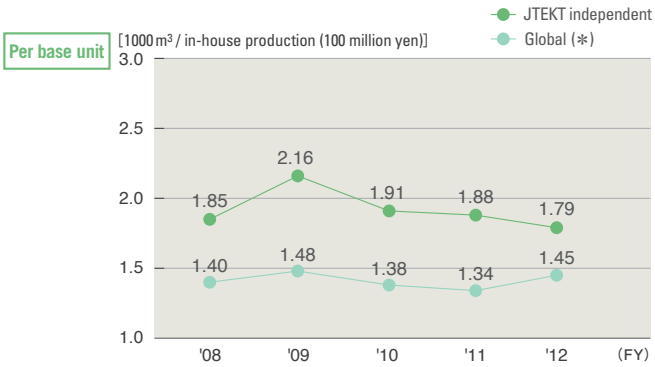
Promoting effective water usage

Figure-01

JTEKT engages in activities to reduce wasteful usage of water, which is a precious resource, and reuse wastewater. In FY2012 we engaged in activities to improve water usage base unit by more than 1% annually, and achieved a 4.8% improvement, as well as a 0.3% reduction (8000 m^3) in water usage compared with the previous year. In FY2013, regardless of the production volume, we will continue activities towards our target of 1% or higher improvement compared with FY2012 results.

Figure-01
Yearly transition of overall and base unit water usage





*JTEKT + 17 domestic group companies + 32 overseas group companies

Overseas activities

Overseas group company	WKB (China)

Reducing water usage by using a wastewater-free system

WKB believes that environmental conservation is the responsibility of all employees. In FY2012, WKB improved their wastewater processing system in order to contribute to the water quality environment of the Wuxi region and effectively utilize water resources. Taking the relocation of the plant as an opportunity, WKB introduced a high efficiency sewage processing system and a RO (reverse osmosis) wastewater-free system based on the collection and recycle of production-generation wastewater. These efforts achieved a reduction in annual water usage by approximately 10,800 m^3. Moving forward, WKB will aim to further improve wastewater collection from the existing 80% and achieve effective utilization of water.

VOICE — Feeling the effects of effective equipment utilization

While saving on equipment costs through utilization of existing equipment, we have reduced water usage and are really able to feel how significant the effects are. In the future, we will prepare a maintenance plan based on the operational status of equipment and exert our efforts into appropriate maintenance control.

WKB
Facilities & Equipment Maintenance Section
Zhibin Gu,
Manager (left)
Yidong Ji,
Assistant Manager (right)

Control and reduction of environmentally burdensome substances

Social background

More and more action is being taken to reduce the usage and discharge of environmentally burdensome substances which can negatively impact the planet's environment and people's health. Society demands that corporations not only abide by various laws and regulations concerning environmentally burdensome substances but also take autonomous action.

JTEKT's concept

For the reduction of environmentally burdensome substances

For JTEKT, who aims to be a "monozukuri company gentle on the planet", reduction of environmentally burdensome substances in production activities is one of our greatest social commitments. It goes without saying that we will respond to and observe revised regulations as promptly as possible, but we are also working to reduce output of environmentally burdensome substances to alleviate our impact on the environment as much as possible.

Control and reduction of chemical substances

Reduction of substances subject to PRTR

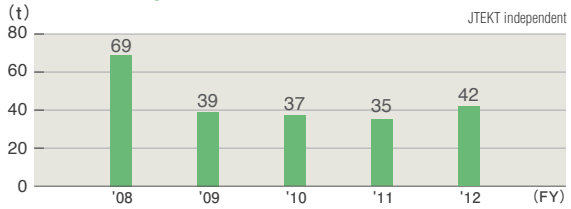
Figure-01

JTEKT is taking action to reduce the impact of chemical substances released into the environment from production activities on people's health and the environment. By promoting substitution to paint, grinding fluid, cleaning agent and so on that do not contain PRTR (*1) substances (low content) JTEKT is promoting reduction of the release and transfer of PRTR recognized substances.

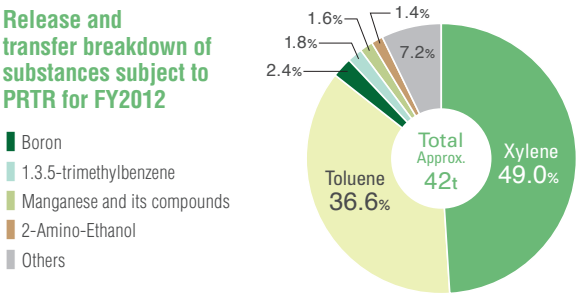
*1 **PRTR** Pollutant Release and Transfer Register is a system to collect and disseminate information on environmental releases and transfer of toxic chemicals from industrial and other facilities.

Figure-01

Yearly transition release and transfer breakdown of substances subject to PRTR



Release and transfer breakdown of substances subject to PRTR for FY2012



Soil and groundwater measures (continued report)

S_12 Related article

Since 1998, JTEKT's Kariya and Okazaki plants have implemented ongoing measures to prevent external leaks and to purify groundwater of trichloroethylene, a substance previously used in detergent, etc. They do this using a pumping and aeration system (*2). In addition, since FY2004, the Okazaki plant has used a microbial purification system (*3) which injects nutritional supplement as part of their purification measures. JTEKT report our groundwater measurement results to government agencies and provide local residents with explanations in community discussions.

*2 **Pumping and aeration system** Groundwater is pumped up and sprayed and air is blown on it from below to aerate and separate organic solvents, which are made to adhere to activated carbon for removal.

*3 **Microbial purification system** This is a method of restoring contaminated environments by utilizing microbial function. The purification capability of microbes living in the environment is raised by injection of nutrients, etc.

Trichloroethylene measurement values

Environmental standard: 0.03mg / ℓ (mg / ℓ)

Plants	Maximum measurement value in groundwater		
	FY2011	FY2012	Status
Kariya	0.382	0.552	Purifying
Okazaki	Less than0.001	Less than0.001	Purifying

* For plants other than the above, no trichloroethylene was detected in measurements taken in wells around the plant borders.

Proper storage and control of PCB devices

Status of PCB device treatment (Tokyo plant)

The Act on Special Measures concerning the Proper Treatment of Polychlorinated Biphenyl Waste requires the storage and notification of devices containing PCB (polychlorinated biphenyl), widely used as an insulating oil. JTEKT appropriately stores such devices and notifies government agencies in accordance with this Act. In addition, by FY2012 we rendered 145 high pressure condensers with highly concentrated PCB levels harmless through PCB treatment at JESCO (Japan Environmental Safety Corporation). We plan to perform this treatment on another 53 units in FY2013 and complete this on the remaining 48 high pressure condensers by FY2014.

Response to devices with minute amounts of PCB

National and industrial group-led investigations have revealed that electrical devices, etc., which were previously judged not to contain PCB, may be contaminated with minute amounts of the substance. Disposal of PCB devices is taking longer than first assumed, and because the existence of discarded electrical devices contaminated with minute amounts of PCB came to light after the implementation of the Act on Special Measures concerning the Proper Treatment of Polychlorinated Biphenyl Waste, this act was revised in 2012 and the time limit to dispose of such items has been extended from July of 2016 to March of 2027.

JTEKT currently plans to complete treatment of high pressure condensers before FY2014, regardless of the revised Act. JTEKT also plans to treat stable devices, etc., in storage as soon as the framework to do so is in place and at the same time enforce thorough management of electric devices which may contain minute amounts of PCB.

Biodiversity conservation

Social background

As more and more nature is destroyed, the diversity of living creatures which can survive on this plant is rapidly depleting. Corporate activities are possible thanks to the blessings of nature but at the same time impact greatly upon biodiversity. That is why it is important that corporations are proactively involved in biodiversity conservation activities.

JTEKT's concept

Aiming for harmony with biodiversity

JTEKT believes conserving biodiversity to be a critical social issue supporting life and lifestyle. As such, based on the JTEKT Group Environmental Vision, we are making efforts to achieve harmony between our business activities and biodiversity through the actions of each and every employee.

Actions for Biodiversity Conservation

Under the Biodiversity Conservation Action Guideline

▶ Figure-01

In order to reduce the environmental burden created by our business activities and consider biodiversity, JTEKT established a Biodiversity Conservation Action Guideline in March of 2011 based on the 2015 Environmental Action Plan of the JTEKT Group Environmental Vision.

This guideline was established with reference to the Ministry for the Environment's Guidelines for Private Sector Engagement in Biodiversity and we will continue to investigate making quantifiable evaluations relating to biodiversity conservation in the future.

Major activities in FY2012

Overseas group company	KMP (Philippines)

Contributing to environmental conservation and the local community through tree-planting activities

KMP, in addition to environmental conservation through production activities, has engaged in tree-planting activities with nearby companies since the year 2000, with the goal of contributing to the prevention of global warming. Many employees, including the president, volunteer to participate in this activity and have planted 6,327 trees across a total of 485 ha up until now. Participants enjoy learning about the importance of forest-building and also contribute to the reduction of local disaster risk through tree-planting. KMP will continue this activity into the future, contributing to the planet and the region and improving employees' environmental awareness.

Tree-planting in the Philippines

VOICE Great fun with the team

The Philippines is a country which is proactive towards tree-planting and KMP also asked their customers to plant trees in their plants. Participating in this activity with other members of the team was a wonderful experience and I really felt I was contributing to both environmental conservation and the local community. The tree-planting activity also includes preparation of seedlings for the following year's planting. KMP will continue to spread the scope of this activity and contribute to the environment and region.

KMP staff and Takashi Ito, President (3rd from left),
Masahiro Uchida, Executive Vice-President (4th from right, back row)

▶ Figure-01

Biodiversity Conservation Action Guideline

Item		Description
Relationship with business activities	Raw material procurement	● Liaise with business partners to protect biodiversity.
	Soil usage	● Through greenifying our plants, etc., we are engaging in activities to protect ecosystems which contribute to biodiversity.
	Production activities	● With activities such as preventing global warming by developing innovative techniques and equipment, effective resource usage, reduction of environmentally burdensome substances and so on, we aim to succeed at both biodiversity and corporate activities. ● We work hard to quantitatively appraise the impact had by our business activities on biodiversity.
	Product development	● Based on life-cycle assessment approach, JTEKT develop and design top-class environmentally friendly products and reduce impact on biodiversity.
Promotion of socially contributing activities benefiting biodiversity conservation		● Proactively participate in socially contributing activities through cooperation with councils and affiliated companies.
Training, awareness activities and information-sharing		● Raise employee awareness of biodiversity conservation through environmental training. ● Use the CSR report as a tool to communicate our activities towards biodiversity conservation with our stakeholders and communities.

CSR Report 2013

Third-party opinion on the JTEKT CSR Report 2013

Representative of the Workers Club for Eco-harmonic Renewable Society (NPO) **Tamio Yamaguchi**

Tamio Yamaguchi's profile

After 25 years at a newspaper company, Mr. Yamaguchi held a position as the manager of public relations at an environment venture company, chief editor of a publishing company's environmental magazine, and then freelanced. Now a part-time university lecturer he also works as a corporate trainer on CSR topics. Since 2005, Yamaguchi-san has analyzed and reported on over 350 companies CSR reports. (http://csr-project.jp/)

Workers Club for Eco-harmonic Renewable Society

A citizen's organization that considers from a global point of view how society and the natural ecosystem that should be passed on to future generations can live in harmony. The organization researches, supports and implements activities so that citizens, companies and government agencies will form a recycling-based society.Learning about true CSR and getting advice in CSR workshops. (http://www.nord-ise.com/junkan/)

CSR activities and information including CSR released by companies can be likened to a never-ending journey, in which for every step forward that is taken, the goal moves even further away. In the past couple of years this trend has intensified, and it is exactly as though one is trying to run up a descending escalator, as in, if you stand still, you will end up relatively going backwards. Given this state of affairs, it is extremely reassuring to hear JTEKT's assertion that their "CSR and CSR report consider the importance of observing and changing, advancing year after year".

I have 4 evaluation points and 1 request regarding this year's report.

The first point is that the report was divided into 2 versions, Pick-Up and Details & Data. All companies share a common wish to have their CSR report read by more people, and by creating two versions the way JTEKT has this year, I believe they can expect a higher number of readers. The issue is the separation of information for the respective versions. The general rule is to separate information with a firm awareness that Pick-Up should be a tool to promote communication with stakeholders, while Details & Data should be a tool to fulfill the responsibility of a company to provide explanations. In this year's report, information has been selected based on keywords, however as I will mention further in, the importance of information needs to be selected objectively.

The second point is the use of a "NEW" mark. This makes it plain to see that JTEKT's CSR is advancing. It is important that CSR reports both respond to society's concern while adhering to global standards and the NEW mark is likened to a "merkmal"(*) of these.

NEW items which leave an impression are "CO_2 emissions by scope" and "No. of new people taking time off work and reason by age". Regarding the former, there are a notable number of items for which the calculation method is under investigation, and as such, I look forward to future progress. JTEKT's mental health reporting has always been advanced but this year's report is more significant than that of any other company's report up until 2012. Unfortunately, at this stage, mental health illnesses are not on the road to improvement, however I am confident that through looking reality square on, analyzing, reporting and rolling out concrete measures, the situation will take a turn for the better.

The third point is the report on action to reinforce compliance. Regarding the 2010 price cartel for the sale of bearings, in March of 2013, each company involved was dealt with by either being forced to pay a penalty or being issued with a cease-and-desist order. JTEKT was ordered to pay a penalty and not forced to cease-and-desist, however they were judged as having committed a violation. Although my impression that last year's report did not sufficiently cover this matter has not changed, this year's report lists the compliance reinforcement measures implemented in rapid succession from June of 2011 to 2013. Moreover, during our conferral, I heard that various measures were being strictly applied in workplaces and JTEKT's firm resolve to prevent this type of incident from reoccurring was apparent.

Important points from the perspective of reoccurrence prevention are awareness-raising, strengthening systems and frameworks, and verification reports that rules, training and so forth are functioning adequately in workplaces. The inclusion of verification reports has been notable from around 3 or 4 years ago and I am of the understanding that reoccurrence prevention is being achieved so far at the companies who are taking such an approach.

The fourth point is spreading CSR internally. This is the first big hurdle that companies promoting CSR come up against, but once overcome, CSR will advance significantly. JTEKT has been exerting effort into spreading CSR internally since 2011 and their achievement is also apparent in the level-of-understanding surveys. Moreover, by reading their report, I can see that CSR has not only spread throughout JTEKT, but also JTEKT's group companies. I have expectations that, moving forward, JTEKT will hold CSR coordinating committee sessions with overseas group companies, successfully spread CSR throughout them as well, and incorporate messages and actions from overseas.

My request is the selection of important (material) information and the disclosure of that process. The international trend guides companies not to feature all information exhaustively, but select which information to report on based on importance.

Both the exposure draft of the International Integrated Reporting Framework released in April, 2013 and the G4 of GRI released in May of the same year raise the concept of importance. While these two differ slightly, they both seek explanations of how topics of importance were selected. I understand that one of the keywords of this report is "importance" however the selection process adopted is not objective.

From next fiscal year, I would like JTEKT to refer to the G4 and framework process for selecting information of importance when deciding on keywords.

* **Merkmal** German for "indicator" or "sign".

Response to the third-party opinion

Corporate Planning Dept.

We would like to extend our sincere thanks to Mr. Yamaguchi for providing us with his valuable opinion at the kick-off meeting when creation of this report began, the intermediate conferral and upon completion of the report.

For JTEKT, FY2012 was a year in which we set a goal of strengthening CSR amongst our global company policy and focused on establishing a strong foundation not susceptible to change as well as accelerating the roll out of our global operations. This year, FY2013, we are continuing the promotion of "Glocal CSR" which we received Mr. Yamaguchi's opinion on last year, and while engaging in actions rooted in the local community, we will contribute to vitalization of the region, take a leap forward and grow into a truly global company. Regarding CSR reporting, we will endeavor to indicate our internal importance (materiality) selection process with reference to global standards and the international integration reporting framework, and do our best to fulfill our responsibility of providing explanations, as demanded by society.

So that general readers can better relate to JTEKT CSR, in response to internal and external questionnaires, we have enhanced our report by featuring several messages from the people in charge of various areas in our Pick-Up edition, as well as information disclosure in the Details & Data edition.

Our goal is for our company's activities to be understood by our stakeholders and to remain a company trusted and appreciated by all.

JTEKT CSR Report 2013

Environmental Data by Operations Base ①

This page includes the environmental data for the Kokubu Plant and Kariya Plant, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Kokubu Plant

No. of Employees 2,150

Production items
- All types of ball bearings
- Roller bearings
- Ultra-large bearings
- Hub units
- High-accuracy bearings

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	1,152,944
		Water consumed	(m³)	501,148
		Chemical substances handled	(kg)	5,357
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	45,443
		NOx	(kg)	1,165
		SOx	(kg)	0
		Chemical substances released	(kg)	1,285
	Sewage	Wastewater	(m³)	222,703
		COD	(kg)	4,546
		Nitrogen	(kg)	—
		Phosphorus	(kg)	—
		Chemical substances transferred	(kg)	52
	Materials discarded	Recycled for profit	(t)	5,068
		Recycled at a charge	(t)	2,125
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	1,314

* Due to sewage disposal, there are no regulation values for COD, nitrogen, or phosphorus

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.4~8.6	7.4	7.0
BOD	480	50	21
SS	480	13	4.8
Oil content	4	3.6	2.0

Unit : mg/ℓ (Excluding Ph)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Annealing furnace)	Dust	0.08	0.003
	NOx	144	29
	SOx	—	—
Boiler (Hot and cold water generator)	Dust	0.08	0.003
	NOx	120	39
	SOx	—	—

Unit : Dust= g/Nm³ NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	59	56	49
	Afternoon	64	62	56
	Evening	59	56	51
	Night	54	53	48
Vibration	Daytime	68	44	34
	Nighttime	63	40	27

Foul odor

Unit : ppm

Measurement item	Regulation value	Measurement
Ammonia	0.8	0.27

* Malodorous substances (22 substances) were measured.
* All items not listed were below minimum determination limit.

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
1	Water-soluble zinc compounds	1,676	—	—	—	—	168	—	—	1,508
80	Xylene	3,202	3,202	—	—		—	—	—	—
412	Manganese and its compounds	1,133	—	—	—	23	408	—	—	702

Kariya Plant

No. of Employees 1,192

Production items
- Machine tools
- Mechatronics products

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	216,356
		Water consumed	(m³)	143,907
		Chemical substances handled	(kg)	3,669
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	8,434
		NOx	(kg)	967
		SOx	(kg)	0
		Chemical substances released	(kg)	3,083
	Waterways	Wastewater	(m³)	194,520
		COD	(kg)	694
		Nitrogen	(kg)	1,032
		Phosphorus	(kg)	6.0
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	847
		Recycled at a charge	(t)	283
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	0

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.4	7.1	6.7
COD	19	4.1	3.4
BOD	(20)	11	7.8
SS	(20)	2.8	2.1
Oil content	4	1.3	0.39
Zinc	1.6	0.03	0.03

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	4	ND	ND
Soluble manganese	1.6	ND	ND
Fluorine	4	0.15	0.13
Nitrogen	(16.1)	10	8.1
Phosphorus	(1.5)	0.05	0.04
Boron	8	0.04	0.02

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (for cafeteria use)	Dust	0.1	—
	NOx	104	66
	SOx	1.2	—
Boiler (Hot and cold water generator)	Dust	0.1	0.003
	NOx	104	47
	SOx	1.2	—

Unit : Dust= g/Nm³ NOx= ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	54	49
	Afternoon	69	62	53
	Evening	64	59	51
	Night	59	57	50
Vibration	Daytime	68	49	33
	Nighttime	63	33	27

Foul odor

Measurement item	Regulation value	Measurement
Odor index	12	Less than 10

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
300	Toluene	2,619	2,103	—	—	—	—	—	—	516

JTEKT CSR Report 2013

Environmental Data by Operations Base ②

This page includes the environmental data for the Tokushima Plant and Okazaki Plant, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Tokushima Plant

No. of Employees 1,247

Production items

- Ball bearings
- Water pump bearings
- Cylindrical roller bearings
- Special environment bearings
- Double row angular contact ball bearings

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	956,791
		Water consumed	(m³)	1,183,868
		Chemical substances handled	(kg)	18,944
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	37,699
		NOx	(kg)	45,412
		SOx	(kg)	1,627
		Chemical substances released	(kg)	3,922
	Waterways	Wastewater	(m³)	202,039
		COD	(kg)	5,620
		Nitrogen	(kg)	4,315
		Phosphorus	(kg)	14
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	7,000
		Recycled at a charge	(t)	1,555
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	0

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.2	7.6	6.6
COD	16	11	8.4
SS	24	16	3.8
Oil content	2.4	1.8	1.4
Nitrogen	25	7.7	4.5
Phosphorus	2.5	0.06	0.05

Unit : mg/ℓ (Excluding Ph)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Absorption type cold and hot water generator)	Dust	0.24	0.01
	NOx	144	65
	SOx	16.8	0.02
Diesel engine	Dust	0.08	0.03
	NOx	902.5	830
	SOx	16.8	0.12

Unit : Dust= g/Nm³ NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	59	52	46
	Afternoon	64	59	56
	Evening	59	52	50
	Night	54	51	47
Vibration	Daytime	63	56	51
	Nighttime	58	55	51

Foul odor

* Malodorous substances (22 substances) were measured.
* All items were below minimum determination limit.

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
80	Xylene	3,894	3,894	—	—	—	—	—	—	—
438	Methylnaphthalene	7,505	—	—	—	—	—	—	7,505	—

Okazaki Plant

No. of Employees 763

Production items

- 4WD coupling
- Linear solenoid valves for AT and CVT
- Oil pumps for AT and CVT
- Propeller shafts
- Cast parts

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	562,475
		Water consumed	(m³)	90,572
		Chemical substances handled	(kg)	5,234
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	23,121
		NOx	(kg)	18,418
		SOx	(kg)	0
		Chemical substances released	(kg)	3,399
	Waterways	Wastewater	(m³)	44,773
		COD	(kg)	121
		Nitrogen	(kg)	238
		Phosphorus	(kg)	0.7
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	6,446
		Recycled at a charge	(t)	2,272
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	0

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.4	8.1	7.7
COD	16	3.3	2.5
BOD	16	3.5	2.2
SS	16	3.0	1.3
Oil content	1.6	0.50	0.25
Zinc	0.8	0.05	0.05

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	2.4	0.50	0.50
Soluble manganese	2.4	0.25	0.25
Fluorine	0.8	0.10	0.10
Nitrogen	(12)	7.1	5.6
Phosphorus	(1.6)	0.10	0.05
Boron	8	0.02	0.02

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Electric furnace	Dust	0.1	0.002
	NOx	80	10
	SOx	6.1	—
Boiler (for air conditioning)	Dust	0.1	0.002
	NOx	104	38
	SOx	—	—
Heating furnace	Dust	0.1	0.002
	NOx	80	10
	SOx	6.1	—
Gas engine (cogeneration)	Dust	0.04	0.005
	NOx	160	115
	SOx	6.1	—

Unit : Dust= g/Nm³ NOx= ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	59	52
	Afternoon	69	63	56
	Evening	64	59	52
	Night	59	53	51
Vibration	Daytime	68	34	30
	Nighttime	63	39	31

Foul odor

Measurement item	Regulation value	Measurement
Odor index	12	Less than 10

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
300	Toluene	3,139	2,511	—	—	—	—	—	—	628

JTEKT CSR Report 2013

Environmental Data by Operations Base ③

This page includes the environmental data for the Tokyo Plant and Kagawa Plant, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Tokyo Plant

No. of Employees 559

Production items
- Needle roller bearings
- Constant velocity joints
- Drive shafts
- Propeller shafts

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	337,738
		Water consumed	(m³)	130,047
		Chemical substances handled	(kg)	12,160
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	13,048
		NOx	(kg)	1.6
		SOx	(kg)	4.5
		Chemical substances released	(kg)	8,715
	Sewage	Wastewater	(m³)	87,923
		BOD	(kg)	1,239
		Nitrogen	(kg)	1,323
		Phosphorus	(kg)	31
		Chemical substances transferred	(kg)	77
	Materials discarded	Recycled for profit	(t)	1,805
		Recycled at a charge	(t)	788
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	1,662

* Due to sewage disposal, there are no regulation values for COD

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.8~8.0	7.9	7.4
BOD	150	88	16
SS	200	30	16
Oil content	20	3.0	1.2
Nitrogen	96	84	18
Phosphorus	12.8	0.83	0.32

Unit : mg/ℓ (Excluding Ph)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Gas suction type boiler	Dust	0.1	0.003
	NOx	44	39
	SOx	0.3	0.01

Unit : Dust= g/Nm³ NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	59	59	57
	Afternoon	69	61	59
	Evening	59	58	57
	Night	54	54	52
Vibration	Daytime	58	41	31
	Nighttime	48	38	24

Foul odor

* Malodorous substances (22 substances) were measured.
* All items were below minimum determination limit.

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
1	Water-soluble zinc compounds	1,332	—	—	—	—	133	—	—	1,199
80	Xylene	1,610	1,610	—	—	—	—	—	—	—
300	Toluene	6,969	6,969	—	—	—	—	—	—	—

Kagawa Plant

No. of Employees 858

Production items
- Tapered roller bearings

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	946,329
		Water consumed	(m³)	364,695
		Chemical substances handled	(kg)	7,830
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	36,943
		NOx	(kg)	1,545
		SOx	(kg)	299
		Chemical substances released	(kg)	3,169
	Waterways	Wastewater	(m³)	257,270
		COD	(kg)	4,618
		Nitrogen	(kg)	2,311
		Phosphorus	(kg)	90
		Chemical substances transferred	(kg)	6
	Materials discarded	Recycled for profit	(t)	8,881
		Recycled at a charge	(t)	1,263
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	154

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.4	7.1	6.6
COD	40	33	28
BOD	40	38	36
SS	40	18	6.2

Index	Regulation value	Results	
		Maximum	Average
Oil content	2.4	2.3	2.1
Nitrogen	48	17	12
Phosphorus	6.4	4.5	1.6

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler	Dust	0.24	0.02
	NOx	208	79
	SOx	4.0	1.0
Private power generator	Dust	0.08	0.03
	NOx	902.5	810
	SOx	4.0	0.5

Unit : Dust= g/Nm³ NOx= ppm SOx= Value K
* Less than regulatory amounts (950)

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	59	56
	Afternoon	64	59	56
	Evening	64	59	56
	Night	59	58	53
Vibration	Daytime	49	34	30
	Nighttime	46	32	28

Foul odor

Unit : ppm

Measurement item	Regulation value	Measurement
Acetaldehyde	0.04	0.013

* Malodorous substances (22 substances) were measured.
* All items not listed were below minimum determination limit.

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
80	Xylene	3,051	3,051	—	—	—	—	—	—	—
438	Methylnaphthalene	2,240	11	—	—	—	—	—	2,229	—

JTEKT CSR Report 2013

Environmental Data by Operations Base ④

This page includes the environmental data for the Nara Plant and Higashi-kariya operations center, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Nara Plant

No. of Employees 1,787

Production items

- Electric power steering
- Hydraulic power steering
- Manual steering

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	215,888
		Water consumed	(m³)	70,823
		Chemical substances handled	(kg)	15,009
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	8,260
		NOx	(kg)	131
		SOx	(kg)	233
		Chemical substances released	(kg)	12,038
	Waterways	Wastewater	(m³)	37,578
		COD	(kg)	289
		Nitrogen	(kg)	550
		Phosphorus	(kg)	103
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	1,154
		Recycled at a charge	(t)	539
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	94

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.4	7.4	7.2
COD	12	12	8.2
BOD	12	2.0	1.1
SS	20	0.60	0.60
Oil content	2.4	1.3	1.3

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	0.8	0.09	0.05
Soluble manganese	0.8	0.05	0.03
Nitrogen	40	46*	17
Phosphorus	15	4.1	3.0

* Less than regulatory amounts

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
No. 1 Plant, No. 1 (Boiler)	Dust	0.24	0.008
	NOx	144	59
	SOx	1.6	0.031
No. 1 Plant, No. 2 (Boiler)	Dust	0.24	0.011
	NOx	144	56
	SOx	1.6	0.034
South No. 2 Plant (Boiler)	Dust	0.24	ND
	NOx	144	36
	SOx	1.6	ND

Unit : Dust= g/Nm³ NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	59	53
	Afternoon	67	61	56
	Evening	64	60	54
	Night	54	54	51
Vibration	Daytime	60	44	39
	Nighttime	55	42	37

Foul odor

* Malodorous substances (22 substances) were measured.

* All items were below minimum determination limit.

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
80	Xylene	9,163	9,163	—	—	—	—	—	—	—
300	Toluene	2,860	2,860	—	—	—	—	—	—	—
438	Methylnaphthalene	1,192	—	—	—	—	—	—	1,192	—

Higashi-kariya operations center

No. of Employees 103

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	23,335
		Water consumed	(m³)	4,321
		Chemical substances handled	(kg)	0
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	973
		NOx	(kg)	273
		SOx	(kg)	95
		Chemical substances released	(kg)	0
	Waterways	Wastewater	(m³)	3,838
		COD	(kg)	16
		Nitrogen	(kg)	25
		Phosphorus	(kg)	0.014
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	34
		Recycled at a charge	(t)	29
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	0

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	6.0~8.3	7.8	7.2
COD	(16)	6.4	3.9
BOD	(16)	3.2	1.4
SS	(16)	1.7	1.1
Oil content	4	1.1	0.22
Zinc	1.6	0.16	0.13

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	4	0.50	0.47
Soluble manganese	4	0.25	0.18
Fluorine	6.4	0.12	0.12
Nitrogen	48	32	12
Phosphorus	6.4	0.01	0.01
Boron	8	0.04	0.02

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Hot and cold water generator)	Dust	0.12	ND
	NOx	104	71
	SOx	0.456	ND

Unit : Dust= g/Nm³ NOx= ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	55	49
	Afternoon	69	52	49
	Evening	64	55	49
	Night	59	55	49
Vibration	Daytime	68	41	35
	Nighttime	63	42	32

Foul odor

Measurement item	Regulation value	Measurement
Odor index	12	Less than 10

Substances subject to PRTR

* No substances had handling amounts of over 1,000 kg /year

JTEKT CSR Report 2013

Environmental Data by Operations Base ⑤

This page includes the environmental data for the Toyohashi Plant and Tadomisaki Plant, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Toyohashi Plant

No. of Employees 862

Production items
- Hydraulic power steering
- Manual steering
- Safety handle column

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	345,552
		Water consumed	(m³)	58,499
		Chemical substances handled	(kg)	2,717
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	13,353
		NOx	(kg)	1,246
		SOx	(kg)	60
		Chemical substances released	(kg)	622
	Waterways	Wastewater	(m³)	15,871
		COD	(kg)	110
		Nitrogen	(kg)	282
		Phosphorus	(kg)	16
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	2,988
		Recycled at a charge	(t)	504
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	554

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	6.1～8.0	7.3	6.9
COD	16	10	6.2
BOD	16	4.9	1.8
SS	24	13	3.9

Index	Regulation value	Results	
		Maximum	Average
Oil content	4	1.0	1.0
Nitrogen	48	48	16
Phosphorus	6.4	2.9	0.94

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
No. 1 Plant (Boiler)	Dust	0.03	0.002
	NOx	120	34
	SOx	1.0	0.004
No. 2 Plant (Hot and cold water generator)	Dust	0.03	0.001
	NOx	120	35
	SOx	1.0	0.002
No. 3 Plant (Hot and cold water generator)	Dust	0.10	0.056
	NOx	140	64
	SOx	1.0	0.002

Unit : Dust= g/Nm³ NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	60	58	55
	Afternoon	65	64	59
	Evening	64	61	56
	Night	59	56	53
Vibration	Daytime	55	41	38
	Nighttime	50	34	34

Foul odor

Measurement item	Regulation value	Measurement
Odor index	14	10

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
453	Molybdenum and its compounds	1,318	–	–	–	–	–	–	–	1,318

Tadomisaki Plant

No. of Employees 1,182

Production items
- Drive shafts
- 4WD coupling

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	656,984
		Water consumed	(m³)	131,315
		Chemical substances handled	(kg)	877
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	24,943
		NOx	(kg)	1,348
		SOx	(kg)	17
		Chemical substances released	(kg)	74
	Waterways	Wastewater	(m³)	57,972
		COD	(kg)	494
		Nitrogen	(kg)	652
		Phosphorus	(kg)	5.0
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	9,295
		Recycled at a charge	(t)	626
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	31

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	6.1～8.3	7.6	7.3
COD	12	8.3	6.6
BOD	12	2.7	1.7
SS	24	3.0	1.3
Oil content	1.6	0.50	0.50
Zinc	4	0.08	0.08

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	2.4	0.10	0.10
Soluble manganese	1.6	0.10	0.10
Fluorine	6.4	0.10	0.10
Nitrogen	(34.8)	14	8.5
Phosphorus	(3.6)	0.34	0.23
Boron	8	0.10	0.10

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Hot and cold water generator)	Dust	0.1	0.001
	NOx	104	38
	SOx	0.6	0.001
Continuous carburizing furnace	Dust	0.1	0.001
	NOx	104	10
	SOx	0.6	0.001

Unit : Dust= g/Nm³ NOx= ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	61	57
	Afternoon	69	61	57
	Evening	64	60	57
	Night	59	59	56
Vibration	Daytime	55	44	41
	Nighttime	50	44	41

Foul odor

Measurement item	Regulation value	Measurement
Odor index	16	10

Substances subject to PRTR

* No substances had handling amounts of over 1,000 kg /year

JTEKT CSR Report 2013

Environmental Data by Operations Base ⑥

This page includes the environmental data for the Hanazono Plant and Kameyama Plant, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Hanazono Plant

No. of Employees 1,370

Production items
- Electric power steering
- Hydraulic power steering pump
- Control computer

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	284,574
		Water consumed	(m³)	92,941
		Chemical substances handled	(kg)	912
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	11,203
		NOx	(kg)	442
		SOx	(kg)	118
		Chemical substances released	(kg)	239
	Waterways	Wastewater	(m³)	78,662
		COD	(kg)	246
		Nitrogen	(kg)	876
		Phosphorus	(kg)	4.2
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	838
		Recycled at a charge	(t)	365
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	132

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.3	7.7	7.3
COD	8	3.8	2.7
BOD	8	4.0	1.5
SS	8	1.5	1.1
Oil content	1.6	1.0	1.0
Zinc	0.8	0.08	0.05

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	2.4	0.50	0.47
Soluble manganese	2.4	0.25	0.24
Fluorine	0.8	0.10	0.10
Nitrogen	(24)	17	12
Phosphorus	(2.4)	0.12	0.05
Boron	8	1.0	1.0

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Compact once-through boiler	Dust	0.08	0.002
	NOx	100	23
	SOx	6.07	0.01
Boiler (Hot and cold water generator)	Dust	0.08	0.002
	NOx	100	43
	SOx	6.07	0.01

Unit : Dust= g/Nm³ NOx= ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	60	51	45
	Afternoon	60	53	48
	Evening	60	46	44
	Night	56	45	45
Vibration	Daytime	60	53	40
	Nighttime	56	35	33

Foul odor

Measurement item	Regulation value	Measurement
Odor index	14	10

Substances subject to PRTR

* No substances had handling amounts of over 1,000 kg /year

Kameyama Plant

No. of Employees 302

Production items
- Ball bearings
- Clutch bearings

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	156,755
		Water consumed	(m³)	25,695
		Chemical substances handled	(kg)	5,210
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	6,099
		NOx	(kg)	417
		SOx	(kg)	185
		Chemical substances released	(kg)	748
	Waterways	Wastewater	(m³)	16,364
		COD	(kg)	49
		Nitrogen	(kg)	280
		Phosphorus	(kg)	2.8
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	711
		Recycled at a charge	(t)	259
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(kg)	746

Water quality measurement data

Unit : mg/ℓ (Excluding Ph)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.0	7.7	7.3
COD	8	6.0	2.6
BOD	8	2.0	1.3
SS	20	5.0	1.6
Oil content	1	0.50	0.50
Zinc	4	0.02	0.01

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	8	0.03	0.02
Soluble manganese	1.6	0.02	0.02
Fluorine	6.4	0.10	0.10
Nitrogen	50	28	18
Phosphorus	1	0.69	0.17
Boron	8	0.06	0.06

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
No. 1 Plant (Boiler)	Dust	0.1	0.005
	NOx	144	52
	SOx	1.65	0.11

Unit : Dust= g/Nm³ NOx= ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	55	51
	Afternoon	69	58	54
	Evening	64	50	49
	Night	54	50	50
Vibration	Daytime	63	52	48
	Nighttime	58	50	44

Foul odor

* Malodorous substances (22 substances) were measured.
* All items were below minimum determination limit.

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
438	Methylnaphthalene	1,818	9	–	–	–	–	–	1,809	–

JTEKT CSR Report 2013

Environmental Data by Operations Base ⑦

This page includes the environmental data for the Sayama Plant, out of our 13 locations, including 12 domestic plants and 1 operations center.

[Chemicals] Substances subject to PRTR **[Atmosphere]** Measured values are the maximum values **[Water quality]** pH: Hydrogen-ion concentration/ COD:Chemical oxygen demand/ BOD: Biochemical oxygen demand/ SS: Suspended solids in water/ Oil content: N-hexane extract content/ ND: Lower than determination limit/ Values in parenthesis show the daily average values **[Regulated value]** JTEKT internal standards (some more stricter than regulatory amounts) **[Substances subject to PRTR]** Shows substances which are handled in amounts of 1,000 kg/year or more. Substance number shows the legislative number for each of the No. 1 type chemical substances of the PRTR regulations. Removal processing amount is the amount of substances subject to PRTR which are incinerated, neutralized, broken down, put through reaction treatment, etc. within JTEKT premises. Consumed amount is the amount of substances subject to PRTR which are changed to another substance through reaction treatment, or removed from JTEKT premises in, or attached to, products. **[Target period] April 2012 to March 2013**

Sayama Plant

No. of Employees 67

Production items
- TORSEN

On October 1st, 2013, JTEKT will merger with Toyoda-Koki Automotive Torsen Co. and establish the Sayama Plant

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	33,583
		Water consumed	(m³)	5,283
		Chemical substances handled	(kg)	2,156
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	1,376
		NOx	(kg)	235
		SOx	(kg)	33
		Chemical substances released	(kg)	2,156
	Waterways	Wastewater	(m³)	3,012
		COD	(kg)	—
		Nitrogen	(kg)	60
		Phosphorus	(kg)	0
		Chemical substances transferred	(kg)	0
	Materials discarded	Recycled for profit	(t)	674
		Recycled at a charge	(t)	105
		Waste (incineration+landfill)	(t)	5
		Chemical substances transferred	(kg)	0

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.0～9.0	7.2	7.2
Oil content	3.5	ND	ND
Nitrogen	192	20	20
Phosphorus	26	ND	ND

Unit : mg/ℓ (Excluding Ph)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (for air conditioning)	Dust	0.1	0.003
	NOx	120	71
	SOx	3.3	0.005

Unit : Dust= g/Nm³ NOx = ppm SOx=Nm³/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	60	57
	Afternoon	69	62	57
	Evening	64	59	55
	Night	59	58	53
Vibration	Daytime	Unmeasured		
	Nighttime			

Foul odor

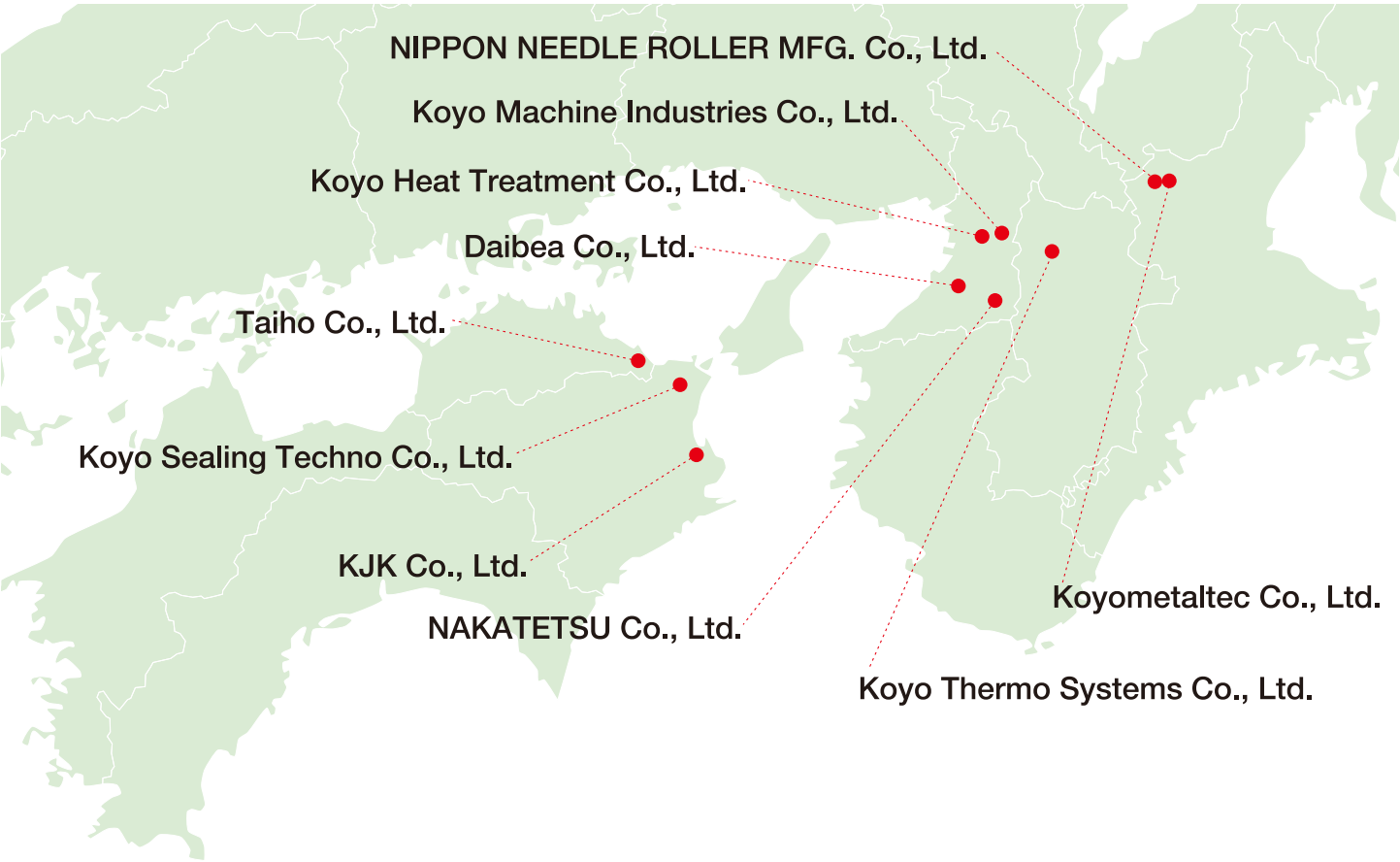
* Unmeasured

Substances subject to PRTR

Unit : kg/year

Substance number	Chemical name	Amount handled	Amount released			Amount transferred		Amount recycled	Amount Removed and treated	Amount consumed
			Atmosphere	Waterways	Soil	Sewage	Waste			
296	1,2,4-Trimethylbenzene	1,102	6	—	—	—	—	—	1,096	—

Global business sites [Domestic group production companies]



Koyo Machine Industries Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	214,941
		Water consumed (km³)	35.3
		Chemical substances handled (t)	8.4
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	8,241
		Chemical substances released (t)	4.8
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	2,464
		Waste output (t)	1,322
		Chemical substances transferred (t)	3.6

Koyo Sealing Techno Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	160,490
		Water consumed (km³)	137.8
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	6,933
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	507
		Waste output (t)	18
		Chemical substances transferred (t)	-

Koyo Thermo Systems Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	67,528
		Water consumed (km³)	15.3
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	2,683
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	115
		Waste output (t)	193
		Chemical substances transferred (t)	-

Daibea Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	317,577
		Water consumed (km³)	56.5
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	12,158
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	612
		Waste output (t)	1,119
		Chemical substances transferred (t)	-

Koyometaltec Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	598,374
		Water consumed (km³)	117.9
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	23,398
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	12,477
		Waste output (t)	693
		Chemical substances transferred (t)	-

KJK Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	47,354
		Water consumed (km³)	1.5
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	1,769
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	3,032
		Waste output (t)	5
		Chemical substances transferred (t)	-

NIPPON NEEDLE ROLLER MFG. Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	74,432
		Water consumed (km³)	40.7
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	2,942
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	128
		Waste output (t)	703
		Chemical substances transferred (t)	-

Koyo Heat Treatment Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	359,561
		Water consumed (km³)	34.4
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	15,418
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	289
		Waste output (t)	49
		Chemical substances transferred (t)	-

Taiho Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	99,936
		Water consumed (km³)	5.8
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	3,779
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	5,284
		Waste output (t)	0
		Chemical substances transferred (t)	-

NAKATETSU Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	311,823
		Water consumed (km³)	9.0
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	12,344
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	11,268
		Waste output (t)	430
		Chemical substances transferred (t)	-

Toyooki Kogyo Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	86,247
		Water consumed (km³)	25.0
		Chemical substances handled (t)	6.3
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	3,238
		Chemical substances released (t)	6.3
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	505
		Waste output (t)	244
		Chemical substances transferred (t)	0

CNK Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	271,529
		Water consumed (km³)	82.9
		Chemical substances handled (t)	16.5
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	10,743
		Chemical substances released (t)	10.1
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	101
		Waste output (t)	693
		Chemical substances transferred (t)	6.4

Koyo Electronics Industries Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	32,260
		Water consumed (km³)	8.4
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	1,228
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	42
		Waste output (t)	17
		Chemical substances transferred (t)	-

Utsunomiya Kiki Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	136,453
		Water consumed (km³)	64.1
		Chemical substances handled (t)	-
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	5,154
		Chemical substances released (t)	-
	Public water area	Chemical substances transferred (t)	-
	Materials Discarded	Recycled for profit (t)	2,458
		Waste output (t)	198
		Chemical substances transferred (t)	-

HOUKO Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	31,482
		Water consumed (km³)	4.4
		Chemical substances handled (t)	7.9
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	1,255
		Chemical substances released (t)	7.9
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	221
		Waste output (t)	37
		Chemical substances transferred (t)	0

Toyoda Van Moppes Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	25,084
		Water consumed (km³)	11.0
		Chemical substances handled (t)	2.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	935
		Chemical substances released (t)	2.3
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	132
		Waste output (t)	90
		Chemical substances transferred (t)	0

FORMICS Co., Ltd.

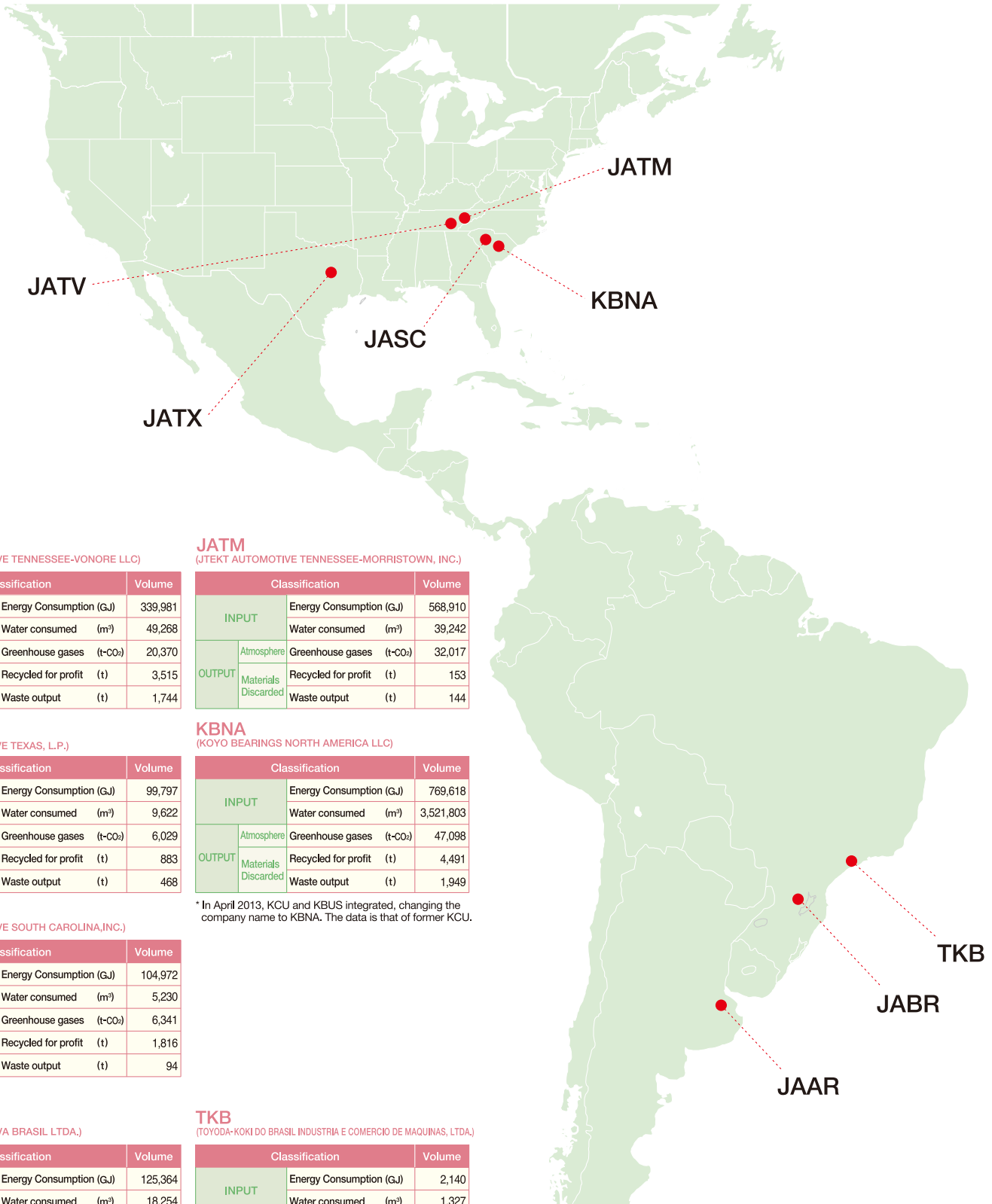
Classification			Volume
INPUT		Energy Consumption (GJ)	13,279
		Water consumed (km³)	1.7
		Chemical substances handled (t)	4.9
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	519
		Chemical substances released (t)	4.9
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	541
		Waste output (t)	29
		Chemical substances transferred (t)	0

Domestic group Total

Classification				Volume
INPUT		Energy Consumption	(GJ)	2,848,349
		Water consumed	(km³)	652
		Per base unit	(km³/100 million yen)	0.69
		Chemical substances handled	(t)	46.7
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	112,737
		Per base unit	(t-CO_2/100 million yen)	118.8
		Chemical substances released	(t)	36.4
	Public water area	Chemical substances transferred	(t)	0
	Materials Discarded	Recycled for profit	(t)	40,175
		Waste output	(t)	5,838
		Basic emissions unit	(t/100 million yen)	48.5
		Chemical substances transferred	(t)	10.0

* Emissions = Amount of recyclables sold + amount of waste disposed
* Includes chemical substances subject to PRTR which have a handling amount of 1000 kg/year or more.

Global business sites [North America/South America]



JATV
(JTEKT AUTOMOTIVE TENNESSEE-VONORE LLC)

Classification			Volume
INPUT		Energy Consumption (GJ)	339,981
		Water consumed (m³)	49,268
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	20,370
	Materials Discarded	Recycled for profit (t)	3,515
		Waste output (t)	1,744

JATM
(JTEKT AUTOMOTIVE TENNESSEE-MORRISTOWN, INC.)

Classification			Volume
INPUT		Energy Consumption (GJ)	568,910
		Water consumed (m³)	39,242
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	32,017
	Materials Discarded	Recycled for profit (t)	153
		Waste output (t)	144

JATX
(JTEKT AUTOMOTIVE TEXAS, L.P.)

Classification			Volume
INPUT		Energy Consumption (GJ)	99,797
		Water consumed (m³)	9,622
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	6,029
	Materials Discarded	Recycled for profit (t)	883
		Waste output (t)	468

KBNA
(KOYO BEARINGS NORTH AMERICA LLC)

Classification			Volume
INPUT		Energy Consumption (GJ)	769,618
		Water consumed (m³)	3,521,803
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	47,098
	Materials Discarded	Recycled for profit (t)	4,491
		Waste output (t)	1,949

* In April 2013, KCU and KBUS integrated, changing the company name to KBNA. The data is that of former KCU.

JASC
(JTEKT AUTOMOTIVE SOUTH CAROLINA,INC.)

Classification			Volume
INPUT		Energy Consumption (GJ)	104,972
		Water consumed (m³)	5,230
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	6,341
	Materials Discarded	Recycled for profit (t)	1,816
		Waste output (t)	94

JABR
(JTEKT AUTOMOTIVA BRASIL LTDA.)

Classification			Volume
INPUT		Energy Consumption (GJ)	125,364
		Water consumed (m³)	18,254
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	1,338
	Materials Discarded	Recycled for profit (t)	928
		Waste output (t)	439

TKB
(TOYODA-KOKI DO BRASIL INDUSTRIA E COMERCIO DE MAQUINAS, LTDA.)

Classification			Volume
INPUT		Energy Consumption (GJ)	2,140
		Water consumed (m³)	1,327
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	51
	Materials Discarded	Recycled for profit (t)	1
		Waste output (t)	27

JAAR
(JTEKT AUTOMOTIVE ARGENTINA S.A.)

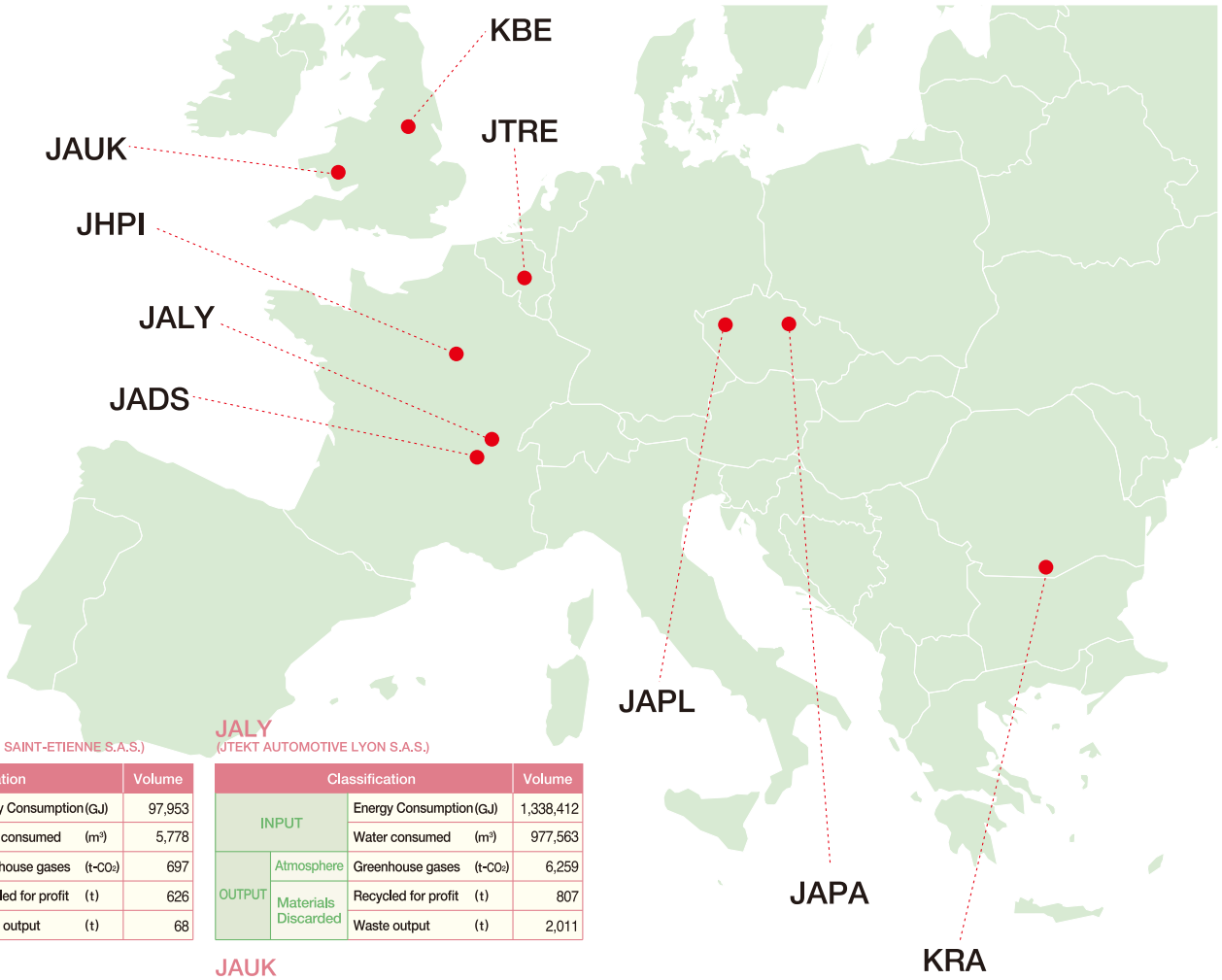
Classification			Volume
INPUT		Energy Consumption (GJ)	6,997
		Water consumed (m³)	1,666
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	209
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	29

North America / South America group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	2,017,779
		Water consumed (km³)	3,646
		Per base unit (km³/100 million yen)	2.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	113,453
		Per base unit (t-CO_2/100 million yen)	81.7
	Materials Discarded	Recycled for profit (t)	11,787
		Waste output (t)	4,894
		Basic emissions unit (t/100 million yen)	12.0

* Emissions = Amount of recyclables sold + amount of waste disposed

Global business sites [Europe]



JADS
(JTEKT AUTOMOTIVE DIJON SAINT-ETIENNE S.A.S.)

Classification			Volume
INPUT		Energy Consumption (GJ)	97,953
		Water consumed (m³)	5,778
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	697
	Materials Discarded	Recycled for profit (t)	626
		Waste output (t)	68

JALY
(JTEKT AUTOMOTIVE LYON S.A.S.)

Classification			Volume
INPUT		Energy Consumption (GJ)	1,338,412
		Water consumed (m³)	977,563
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	6,259
	Materials Discarded	Recycled for profit (t)	807
		Waste output (t)	2,011

JHPI
(JTEKT HPI S.A.S.)

Classification			Volume
INPUT		Energy Consumption (GJ)	117,813
		Water consumed (m³)	4,979
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	717
	Materials Discarded	Recycled for profit (t)	176
		Waste output (t)	258

JAUK
(JTEKT AUTOMOTIVE UK LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	31,475
		Water consumed (m³)	701
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	1,095
	Materials Discarded	Recycled for profit (t)	325
		Waste output (t)	46

KBE
(KOYO BEARINGS (EUROPE) LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	211,094
		Water consumed (m³)	948,067
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	11,590
	Materials Discarded	Recycled for profit (t)	1,375
		Waste output (t)	789

JAPL
(JTEKT AUTOMOTIVE CZECH PLZEN,S.R.O.)

Classification			Volume
INPUT		Energy Consumption (GJ)	56,308
		Water consumed (m³)	9,311
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	3,168
	Materials Discarded	Recycled for profit (t)	177
		Waste output (t)	282

JAPA
(JTEKT AUTOMOTIVE CZECH PARDUBICE, S.R.O.)

Classification			Volume
INPUT		Energy Consumption (GJ)	149,138
		Water consumed (m³)	8,205
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	7,784
	Materials Discarded	Recycled for profit (t)	288
		Waste output (t)	455

JTRE
(JTEKT TORSEN EUROPE S.A.)

Classification			Volume
INPUT		Energy Consumption (GJ)	46,865
		Water consumed (m³)	2,449
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	1,296
	Materials Discarded	Recycled for profit (t)	1,222
		Waste output (t)	346

KRA
(KOYO ROMANIA S.A.)

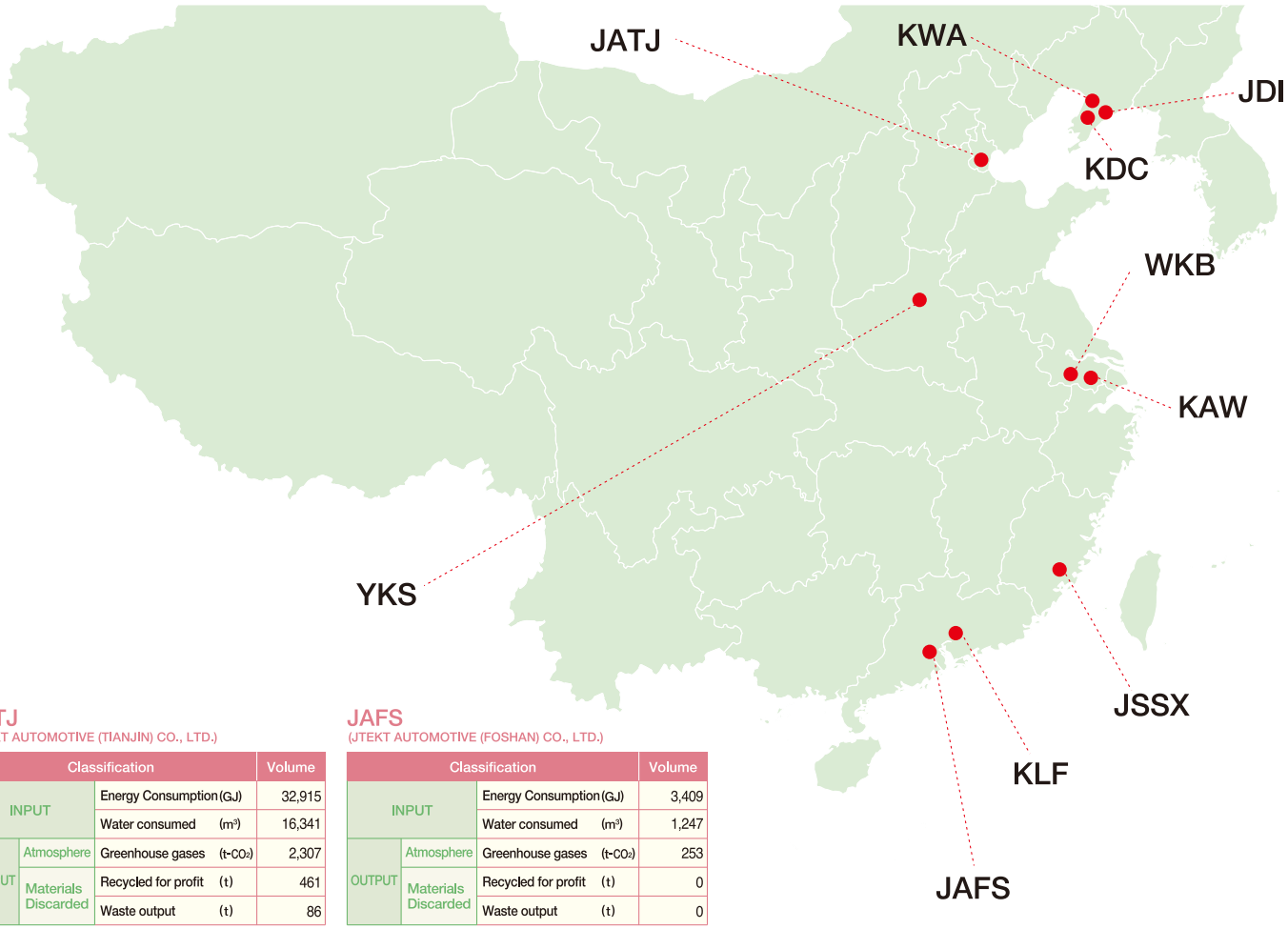
Classification			Volume
INPUT		Energy Consumption (GJ)	593,366
		Water consumed (m³)	166,838
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	23,137
	Materials Discarded	Recycled for profit (t)	11,586
		Waste output (t)	427

Europe group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	2,642,424
		Water consumed (km³)	2,124
		Per base unit (km³/100 million yen)	1.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	55,742
		Per base unit (t-CO_2/100 million yen)	41.6
	Materials Discarded	Recycled for profit (t)	16,582
		Waste output (t)	4,682
		Basic emissions unit (t/100 million yen)	15.9

* Emissions = Amount of recyclables sold + amount of waste disposed

Global business sites [China]



JATJ
(JTEKT AUTOMOTIVE (TIANJIN) CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	32,915
		Water consumed (m^3)	16,341
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	2,307
	Materials Discarded	Recycled for profit (t)	461
		Waste output (t)	86

JAFS
(JTEKT AUTOMOTIVE (FOSHAN) CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	3,409
		Water consumed (m^3)	1,247
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	253
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	0

JSSX
(JTEKT STEERING SYSTEMS (XIAMEN) CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	47,943
		Water consumed (m^3)	8,675
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	3,558
	Materials Discarded	Recycled for profit (t)	179
		Waste output (t)	9

WKB
(WUXI KOYO BEARING CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	66,467
		Water consumed (m^3)	42,017
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	4,866
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	121

KWA
(DALIAN KOYO WAZHOU AUTOMOBILE BEARING CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	41,130
		Water consumed (m^3)	7,281
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	2,925
	Materials Discarded	Recycled for profit (t)	727
		Waste output (t)	140

KDC
(KOYO BEARING DALIAN CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	83,567
		Water consumed (m^3)	21,119
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	6,184
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	172

KLF
(KOYO LIOHO (FOSHAN) AUTOMOTIVE PARTS CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	84,404
		Water consumed (m^3)	29,176
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	6,246
	Materials Discarded	Recycled for profit (t)	1,721
		Waste output (t)	1,777

KAW
(KOYO AUTOMOTIVE PARTS (WUXI) CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	168,023
		Water consumed (m^3)	24,186
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	12,222
	Materials Discarded	Recycled for profit (t)	122
		Waste output (t)	67

JDI
(JTEKT DALIAN INNOVATION AUTOMOTIVE CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	14,627
		Water consumed (m^3)	10,556
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	1,086
	Materials Discarded	Recycled for profit (t)	675
		Waste output (t)	10

YKS
(YUBEI KOYO STEERING SYSTEMS CO., LTD.)

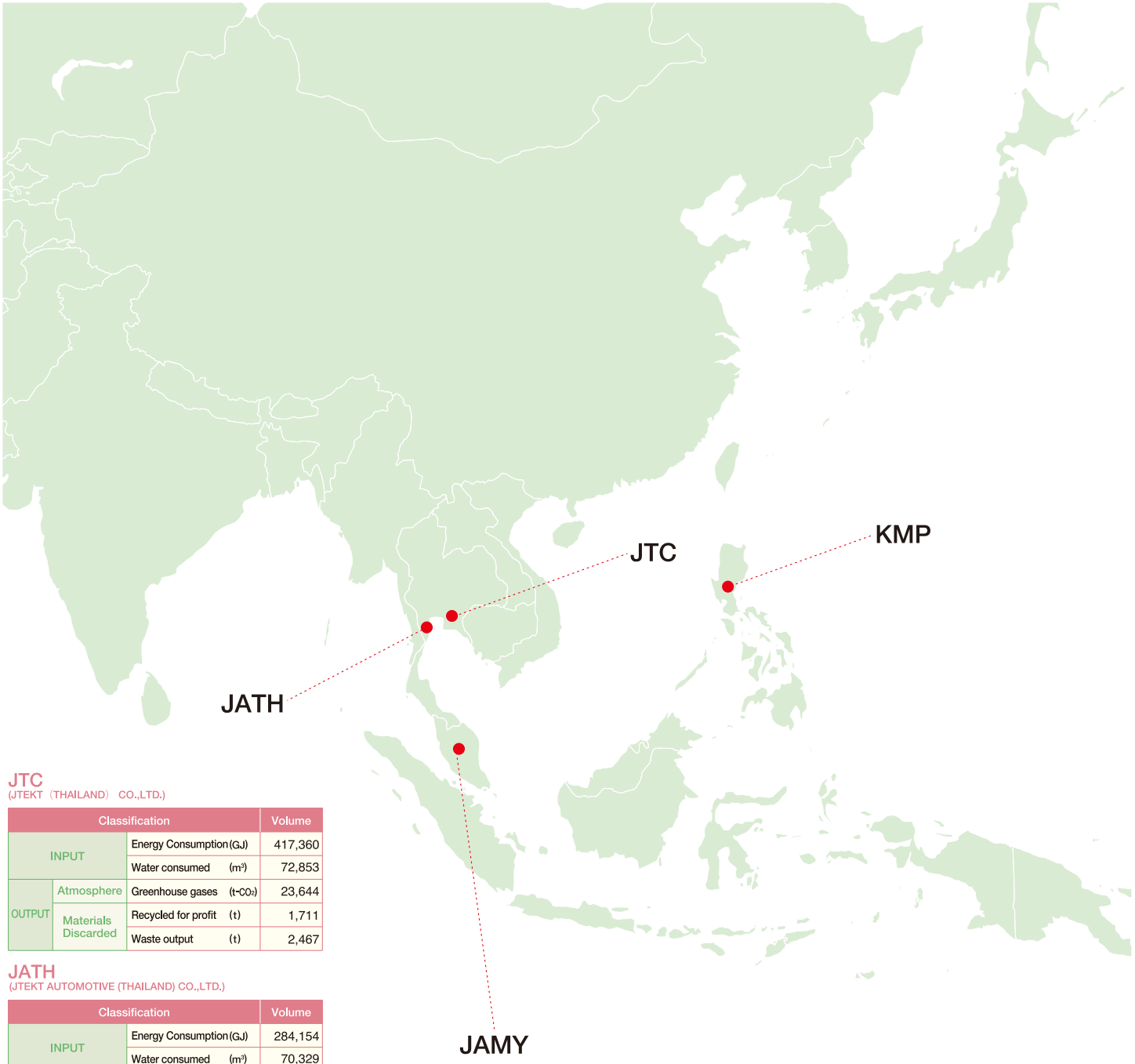
Classification			Volume
INPUT		Energy Consumption (GJ)	57,100
		Water consumed (m^3)	27,187
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	4,224
	Materials Discarded	Recycled for profit (t)	406
		Waste output (t)	80

China group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	599,585
		Water consumed (km^3)	188
		Per base unit (km^3/100 million yen)	0.39
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	43,870
		Per base unit ($t\text{-}CO_2$/100 million yen)	91.9
	Materials Discarded	Recycled for profit (t)	4,291
		Waste output (t)	2,462
		Basic emissions unit (t/100 million yen)	14.2

* Emissions = Amount of recyclables sold + amount of waste disposed

Global business sites [ASEAN]



JTC
(JTEKT（THAILAND） CO.,LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	417,360
		Water consumed (m³)	72,853
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	23,644
	Materials Discarded	Recycled for profit (t)	1,711
		Waste output (t)	2,467

JATH
(JTEKT AUTOMOTIVE (THAILAND) CO.,LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	284,154
		Water consumed (m³)	70,329
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	16,030
	Materials Discarded	Recycled for profit (t)	5,292
		Waste output (t)	1,740

JAMY
(JTEKT AUTOMOTIVE (MALAYSIA) SDN. BHD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	69,560
		Water consumed (m³)	13,096
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	3,774
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	2,468

KMP
(KOYO MANUFACTURING (PHILIPPINES) CORPORATION)

Classification			Volume
INPUT		Energy Consumption (GJ)	91,959
		Water consumed (m³)	24,588
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	4,924
	Materials Discarded	Recycled for profit (t)	61
		Waste output (t)	172

ASEAN group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	863,033
		Water consumed (km³)	181
		Per base unit (km³/100 million yen)	0.20
OUTPUT	Atmosphere	Greenhouse gases (t-CO_2)	48,373
		Per base unit (t-CO_2/100 million yen)	53.7
	Materials Discarded	Recycled for profit (t)	7,064
		Waste output (t)	6,847
		Basic emissions unit (t/100 million yen)	15.4

* Emissions = Amount of recyclables sold + amount of waste disposed

JTEKT CORPORATION

http://www.jtekt.co.jp/e/

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