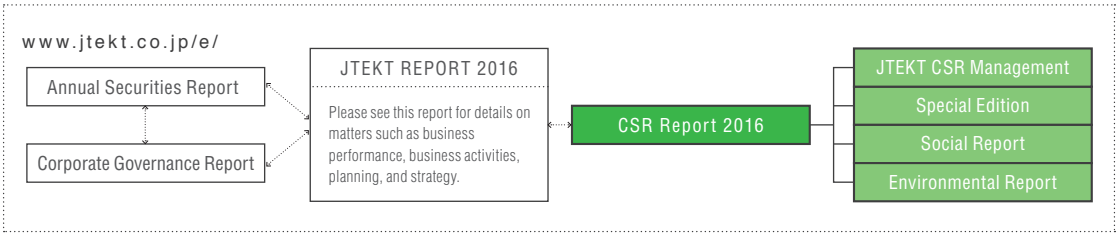
CSR Report 2016

Orientation of this report

The structure of the two-part JTEKT CSR Report which was used up until FY 2015,
and which contained a Message (printed booklet) and a Details & Data section (online PDF file),
has been integrated into an online PDF file as the CSR Report 2016,
in conjunction with the publishing of the JTEKT REPORT 2016.
The structures of the Social Report and Environmental Report follow those of the FY 2015 report to preserve continuity.
In addition, we have newly established a Special Edition/Values Which JTEKT Provides
section to complement the explanation of our business model and introduce concrete initiatives.

* Renewal period differs according to each interactive tool, and therefore their respective target periods for renewal may vary.



Editing policy

- This report aims to inform our stakeholders in straightforward language of JTEKT's concept and activities surrounding CSR.
- This report is comprised of four sections which include JTEKT CSR Management,
  the Special Edition/Values Which JTEKT Provides, the Social Report, and the Environmental Report.
- For related articles:
  M = JTEKT CSR Management F = Special Edition S = Social Report E = Environmental Report J = JTEKT REPORT 2016

Target period and target organizations/scope

Target period

FY 2015 (April 2015 - March 2016) * Some items include content from other periods.

Target organizations and scope

All activities of the JTEKT group

For items for which there is no criteria uniform across the JTEKT group, the unconsolidated results of JTEKT are displayed.
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 2013 (G4)"
◎ 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 actions begun in FY 2015 and information disclosed for the first time in this year's report.
* This mark is omitted for the Special Edition.

CONTENTS

JTEKT

JTEKT CORPORATION

JTEKT CSR Management

- The CSR Report 2016 PDF is published with the aim of conveying the concept and activities pertaining to JTEKT's CSR in an easily understood manner. This report emphasizes objectiveness, completeness and continuity.
- Please refer to the JTEKT REPORT 2016 for information about JTEKT's business performance, business activities, planning, and strategy.
- For related articles:

M = JTEKT CSR Management F = Special Edition
S = Social Report E = Environmental Report
J = JTEKT REPORT 2016

- This JTEKT CSR Management section summarizes the mindset for CSR and important matters within corporate governance.

Target period and target organizations/scope

Target period

FY 2015 (April 2015 - March 2016)
* Some items include content from other periods.

Target organizations and scope

All activities of the JTEKT group

For items for which there is no criteria uniform across the JTEKT group, the unconsolidated results of JTEKT are displayed. 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 2013 (G4)"
◎ ISO26000 (International Standard for corporate responsibility)
◎ Corporate governance code

New! This mark is used to indicate new actions begun in FY 2015 and information disclosed for the first time in this year's report.

Message from the President

Aiming to be a company that continues to grow with the development of society

JTEKT Corporation Company President
Tetsuo Agata

The JTEKT WAY as a driving force for growth

In January 2016, JTEKT marked its 10th year anniversary since its formation from the merger of Koyo Seiko and Toyoda Machine Works. In these 10 years, the sales of the JTEKT group have surpassed one trillion yen, and our employee population has reached 44 thousand people, three-fourths of whom are outside of Japan. JTEKT has attained a scale that can be called a global company.
In 2016, to promote future growth as a true global company, we rebuilt our set of guiding principles so that they can be shared easily on a global basis, and formulated the JTEKT WAY as the bottommost step of these principles, as a set of values that should be shared throughout the JTEKT group.

Message from the President

To create the JTEKT WAY, over the span of a year and a half we collected sets of values from Koyo Seiko, Toyoda Machine Works, the Toyota Group, and those from around the world established since the formation of JTEKT, and examined all of these values to see which would be necessary for our future sense of values. With solid determination, we plan to enforce the familiarization of the JTEKT WAY as the cornerstone of the growth of the JTEKT group, for the next 10, or even 100, years.
With the driving force of our shared sense of values, we will boldly work to resolve diverse social issues and achieve breakthroughs, and aspire to be a company that continues to grow with the development of society.

Enhancing risk countermeasures

For our CSR activities in FY 2015, we naturally worked to enhance initiatives for safety, quality, compliance and environmental conservation, all of which are issues we have traditionally committed ourselves to. We also enhanced points that are viewed as high-risk by the JTEKT group, such as countermeasures against large-scale earthquakes which are extremely likely to occur, and plans to nurture next-generation business managers that will fight to the end during times when there is no annual economic growth.
In particular, regarding countermeasures against large-scale disasters, we understand the obvious importance of taking responsibility for the supply of commodities as a supplier, and believe that our ability to do so is because our employees can guarantee safety for their families and arrive at work without worry. We therefore focus on a “Home Disaster Mitigation Record” within our activities.
We ask for your continued support for our efforts.

Actions to enforce compliance

The JTEKT group underwent an inspection by the Fair Trade Commission in July 2011, and was consequently recognized as having violated the Anti-Monopoly Act. We, JTEKT, take this very seriously, and are engaging in policies to strengthen our compliance framework and raise awareness in each and every employee. The operational status of each policy is periodically checked and ascertained, and improvements are implemented through the reflection of opinions from work sites within the policies.

Activity progress

[Implementation of immediate notification rules]
To avoid delayed response to compliance-related incidents, in April 2015 we began implementation of reporting compliance violations (including possible violations), in principle, within 24 hours of their occurrence or discovery.

[Summarization and presentation of compliance violation case examples]
Each month, we summarize case examples of compliance violations (accidents/near misses) that occurred within the JTEKT group, and report these at a meeting attended by top-level management. We also present these case examples to group companies in an effort to prevent recurrence.

[Compliance check]
Inquiries which investigate the status of management regarding compliance are implemented periodically and include management of group companies.

[Reports concerning contact with competitors]
It is mandatory for all employees to submit an application before contact with competitors as well as a report after contact to the Legal Department.

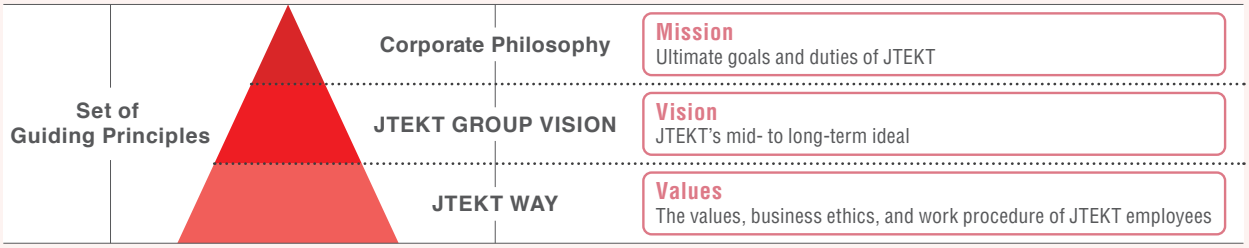
[Training and educational activities]
In addition to conducting testimonies (signatures) on the observance of laws and internal company regulations, we also implemented officer and director compliance training (twice a year) and rank-based education, as well as education for our sales division. We also enforce awareness to prevent corruption (bribery).

Set of Guiding Principles

M_01～02 Related article

Set of Guiding Principles

We, JTEKT, have defined the JTEKT GROUP VISION as our ideal and
the JTEKT WAY as our common set of values in order to exemplify our corporate philosophy.
This is our set of guiding principles, which acts as the compass and driving force behind new challenges.



Corporate Philosophy

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

JTEKT GROUP VISION

This is our ideal: to continue building value that surpasses the expectations of customers, building excellent products that astonish the world, building professionals who think and act autonomously, and producing No.1 & Only One products and services, in order to shape a better future.

Shaping a Better Future through the Spirit of
"No.1 & Only One"

We will be an invaluable partner with our customers, our suppliers, and our team members.
We will deliver "No.1, Only One" products and services through
"Building Value," "Building Excellent Products," and "Building Professionals."

Building Value
Provide value to customers by delivering products and services that exceed their expectations.

Building Excellent Products
Astonish the world with "*Monozukuri*," the art of refined craftsmanship and superior quality.

Building Professionals
Develop a team composed of individuals working together, acting with initiative, confidence, pride, and passion as global members of JTEKT.

JTEKT WAY

These are the values shared by all JTEKT members.
We engage ourselves in all work with absolute ambition, supported by these five values.

Customer first
We are committed to perceiving matters from our customer's viewpoint, and sincerely responding to customer's requests.
We are committed to creating values that are new to the world, and to delivering products and services that exceed customer's expectation.

Ownership
We are committed to taking everything as our own business.
We are committed to grasping the essence of things and taking prompt action.

Continuous Kaizen
We are committed to going and seeing for ourselves to thoroughly understand the situation, and identify root causes.
We are committed to, with enthusiasm for imaginativeness and inventiveness, diligently continuing Kaizen challenges.

Teamwork and self-discipline
We are committed to being self-disciplined, and performing any task with a sense of urgency.
We are committed to actively communicating to unite the power of each other.

Aspiration for innovation and for technique
We are committed to limitlessly heightening our technology and skills to become a front runner in innovation.
We are committed to fostering a culture to keep each of us humble in learning things and developing each other.

Corporate Social Responsibility

About CSR (Corporate Social Responsibility)

We JTEKT formulated our CSR Policy in February 2009, and have been engaged in a wide range of activities for CSR, based on honest business activities. In April 2016 we organized the concept of our corporate social responsibility and our Corporate Activities Standards, and further strengthened our activities as a true global company.

→ M_01～02 Related article

Concept of CSR

The JTEKT group focuses on fulfilling its mission of "Seek to contribute to the happiness of people and the abundance of society through product manufacturing", and engages in business activities in harmony with the economy, society and the environment based on our Corporate Activities Standards.
As a good corporate citizen, we work to resolve social issues together with our customers and suppliers who share this mindset in order to continue contributing to the sustainable development of society and the world.

Corporate Activities Standards

Responsibility to our customers and business partners

- We follow proper business practices and engage in fair, transparent and free competition based on a respect for the law.
- We derive concepts from the market, provide the best in quality, technology and service, and obtain the satisfaction and trust of customers.

Responsibility to our shareholders

- We maintain close communication not only with shareholders but also with society at large and disclose corporate information properly, while at the same time working to improve our corporate value on a continuous basis.

Responsibility to our employees

- We 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.

Contributing to regional societies and to global society

- As a good corporate citizen, we aggressively pursue activities that contribute to society.
- We follow international rules, observe the laws, cultures and customs of countries and regions where we have operations, and seek to contribute to their growth.
- We carry out global environmental improvement activities proactively and aggressively with deep awareness of their being an important corporate mission.

CSR Promotion

Systematic promotion of CSR activities

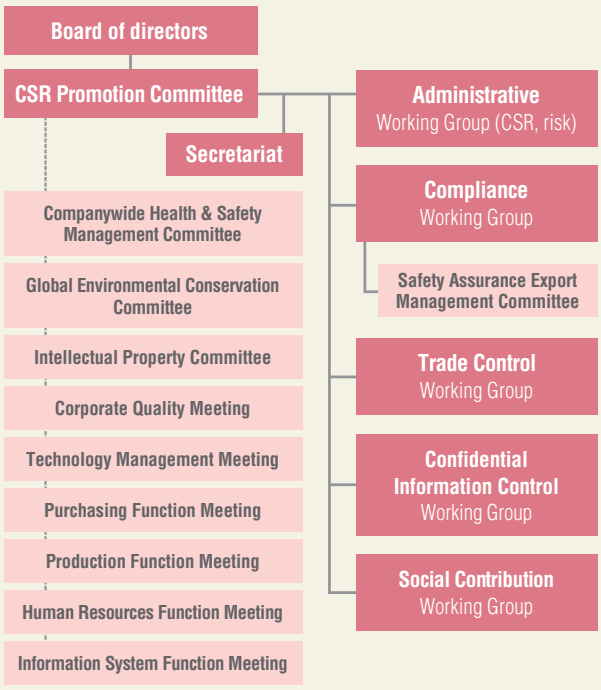
Regular inspections of CSR activity status are conducted by the CSR Promotion Committee. The CSR Promotion Committee is chaired by the company president and was established to systematically promote CSR activities on a companywide and group-wide basis. This committee also discusses how best to accomplish the missions of fulfilling the corporate philosophy and controlling risk through CSR activities from many angles. We, the JTEKT group, formulated the JTEKT GROUP VISION and the mid-term management plan (*1) in April 2014. In these, we defined CSR as one of our business foundations and engaged in activities throughout 2015 as well.

***1 Mid-term Management Plan** Implements an evaluation of results and a scheduled renewal each year through constant anticipation of the next five years. The FY 2015 plan corresponds to the period until FY 2019, and the FY 2016 plan corresponds to the period until FY 2020.

Specialized working groups

Specialized working groups are established to create and promote activity plans for compliance, trade control, confidential information control, and social contribution, all of which are important themes.

Outline of the CSR promotion structure



Administrative Working Group	Plan and monitor the progress of CSR activities, regularly assess risk management status and evaluate risks.
Compliance Working Group	Raise awareness and reinforce the need for compliance with laws, internal rules and business ethics.
Trade Control Working Group	Propose and promote 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.
Social Contribution Working Group	Promote social contribution and volunteer activities.

Companywide CSR activities in each department

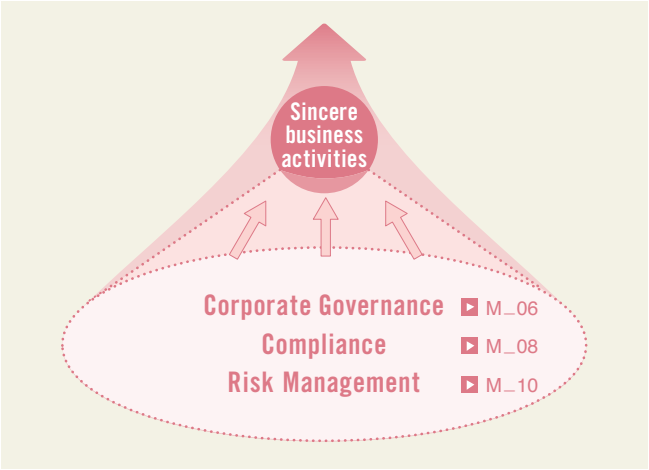
JTEKT promotes CSR activities through an expert committee belonging to the "CSR Promotion Committee" and specialized working groups. For our fiscal year goal, we plan to incorporate our CSR objectives into each company department, and promote CSR activities consistently by implementing the PDCA cycle (*2). Through the construction of this type of system, we aim to jumpstart and enhance CSR activities throughout JTEKT and JTEKT group companies. In FY 2015, activities emphasizing CSR were incorporated into global company policies and performed by each department as part of their annual action plan.

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

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.



Corporate Governance

Basic concept

Engage in continuous enhancement

In order to fulfill our social responsibility and continuously improve our corporate value, we JTEKT engage in proactive support for the corporate governance code first applied by the Tokyo Stock Exchange, and the continuous enhancement of corporate governance. We strive to improve our management transparency and secure ample accountability for all our stakeholders.

Promotion structure

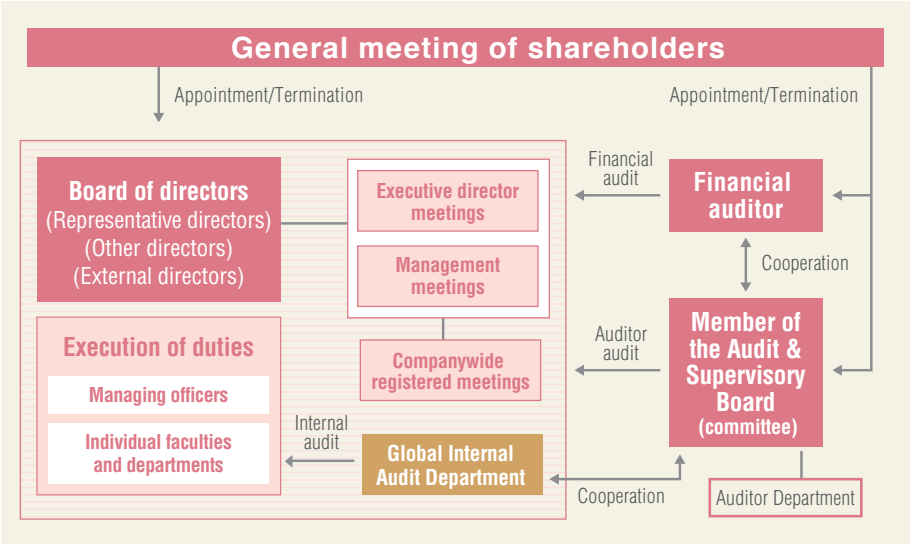
Build an adequate structure

At JTEKT, the board of directors meets every month to make management decisions and supervise directors’ performance of duties. Furthermore, two independent directors outside the company were appointed in June 2015 so as to strengthen the supervising function of the board of directors. In addition, sub-mechanisms of board meetings such as executive director meetings, management meetings, and companywide registered meetings are held to fulfill deliberations on individual matters and supervise the performance of duties by managing officers. As a way of monitoring management, we have adopted an auditing system to inspect directors’ performance of duties, which consists of five members of the Audit & Supervisory Board, three of whom are outside personnel.

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 conferences when necessary (Fig. 01).

In addition, we maintain and operate an internal control system in line with both the Companies Act and the Financial Instruments and Exchange Act.

Figure-01



Board of directors
Makes decisions about important matters within management, and supervises directors’ performance of duties.

Executive director meetings
Supplement the board of directors, deliberate important matters within management, and determine fundamental policies.

Management meetings
Supplement the board of directors, and manage the progress of policies within the performance of duties. In addition, these meeting enable problem points and issues within performance of duties to be shared extensively among directors and officers.

Audit & Supervisory Board
Inspect the appropriateness of methods and results of audits of the directors’ performance of duties, and of audits performed by financial auditors.

Companywide registered meetings
The board of directors, executive director meetings, and management meetings delegate authority to companywide registered meetings to examine the policies and direction of the company through specialized and sufficient deliberations from the standpoint of duty performance.

Corporate Governance

Outside directors

Figure-01

JTEKT appoints outside directors who fulfill requirements for independent directors (*) and possess experience and insight within their field. They are also selected based on the excellence of their character and viewpoints, and for their high ethical standards, in accordance with the JTEKT policy for appointing directors.

Furthermore, JTEKT conducts the appointment of outside members of the Audit & Supervisory Board from a perspective of audit neutrality and objectivity. These members are also selected based on their experience and viewpoints, as shown in Fig. 01.

*Refers to outside directors or outside members of the Audit & Supervisory Board for whom there is no possibility of conflict of interest with general shareholders. This is determined based on an internal company standard created in line with the guideline for the governance of listed companies, an independent standard of the Tokyo Stock Exchange.

Remuneration for directors and members of the Audit & Supervisory Board

Remuneration for directors consists of monthly amounts and bonuses, and is conducted through a remuneration system that reflects the work responsibilities and performance, and is linked to company performance.

Bonuses are paid based on the consolidated operating income of each term, and are determined by comprehensively taking into account dividends, the level of bonus for employees, the trends of other companies, mid- to long-term business performance, and amounts paid in the past. A concrete plan for remuneration is deliberated by the Executive Remuneration Meeting, which is comprised of representative directors and outside directors.

Remuneration for members of the Audit & Supervisory Board consists of monthly payments, and does not include bonus payments. This system for remuneration is not greatly influenced by company performance and is therefore ensured independence from management.

Monthly amounts of remuneration for directors and officers and other remuneration are set within the upper limit for total remunerations based on the decision of the Annual Meeting of Shareholders on June 27th, 2012. Monthly amounts of remuneration for each director are decided by the board of directors, and monthly amounts of remuneration for each member of the Audit & Supervisory Board are decided through consultation with the members.

The total amount paid for director bonuses is approved by the Annual Meeting of Shareholders which meets regularly, after which the bonus amount paid to each director is decided by the board of directors in consideration of the performance of their individual duties and responsibilities.

Figure-01

Position	Name	Main reasons (experience, insight, etc.) for appointment	Independent director	Attendance record in FY 2015 (attended/held)	
				Board of directors	Audit & Supervisory Board
Director, Member of the Board	Takao Miyatani	Abundant experience and high level of insight regarding *monozukuri*, obtained as a manager within the manufacturing industry and chairman of a trade organization	○	12/12	—
Director, Member of the Board	Iwao Okamoto	Held key positions within the Ministry of Economy, Trade and Industry, and for an incorporated foundation, obtaining ample experience and a high level of insight regarding industry and economic activities within Japan and overseas.	○	12/12	—
Member of the Audit & Supervisory Board	Koichi Fukaya	Possesses abundant experience as a manager within the manufacturing industry, and broad insight into corporate governance		13/14	14/15
Member of the Audit & Supervisory Board	Masaaki Kobayashi	Possesses substantial expertise in finance and accounting as a certified public accountant	○	14/14	15/15
Member of the Audit & Supervisory Board	Koei Saga	Possesses abundant experience as a manager within the manufacturing industry, and broad insight into corporate governance		11/14	12/15

Compliance

Basic concept

Each individual behaves and makes correct decisions according to Corporate Ethics

JTEKT regards compliance as the premise and foundation supporting CSR, and essential to the realization of the corporate philosophy. Without limiting compliance to mere law observance, JTEKT has established an "Ethics Code for Directors and Officers" and "Compliance Standard" in order to fulfill corporate ethics and societal obligations.

Promotion structure

Timely and appropriate reporting to top management

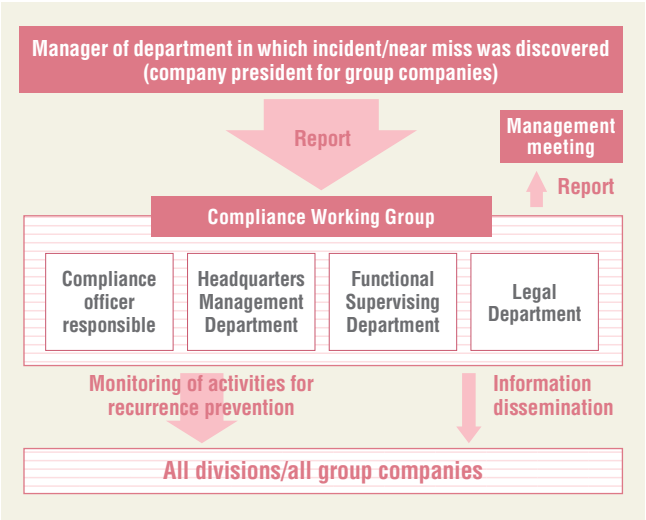
We have a system of working groups for which our managing officers act as compliance leaders. Compliance violations including near miss case examples are reported promptly at management meetings held several times a month, and we swiftly handle these violations as top-level management issues and conduct recurrence prevention.

Establishing "bad news first" as an official rule

In FY 2015, we established "bad news first" as an official rule (*) to ensure that compliance violations which occur at the JTEKT group are, as a rule, reported within 24 hours after discovery. We are strengthening countermeasures to ensure that no cases go unreported.

*Standard on internal reporting and compliance violation management.

Procedure for reporting compliance violations



Education and inquiry by compliance officers

We JTEKT appoint compliance officers, whose role is to promote business activities in line with compliance. Compliance officers, who are chosen mainly from among JTEKT managing officers, perform periodic compliance checks on the departments and facilities they supervise, and must also understand compliance familiarity, risks and issues, and engage in efforts towards compliance improvement.

Promotion structure of group companies

Compliance promotion structures are also established at group companies in Japan and overseas to roll out activities in line with the characteristics of each country, region and business. It is within these structures that compliance officers are placed.

Training and educational activities

Looking back on the violation of the Anti-Monopoly Act

Within compliance training for JTEKT directors and officers, a briefing on the series of violations of the Antimonopoly Act that occurred at JTEKT was held by the attorney in charge of the case. The briefing reexamined what acts were problematic to raise awareness so that these acts will not recur or be forgotten.

◎ Compliance Strengthening Month

JTEKT has designated July as "Compliance Strengthening Month", in which educational activities are provided for all employees. In FY 2015, we deployed the message from the president in eight languages (*) to group companies in Japan and overseas. Compliance-related messages were also displayed within the company newsletter and on computers at startup, and we set up daily tear-off calendars relating to compliance and implemented training workshops for directors and officers.

*English, Chinese, French, Thai, Romanian, Czech, Portuguese, and Spanish

Officer and director compliance training held in July

◎ Compliance Letter

The Legal Department provides a Compliance Letter each month so that employees at each workplace can discuss everyday compliance problems.

◎ Rank-based compliance education

Training programs for directors and officers, new managers, personnel promoted to managerial positions, and newly recruited employees were held in the form of group discussions.

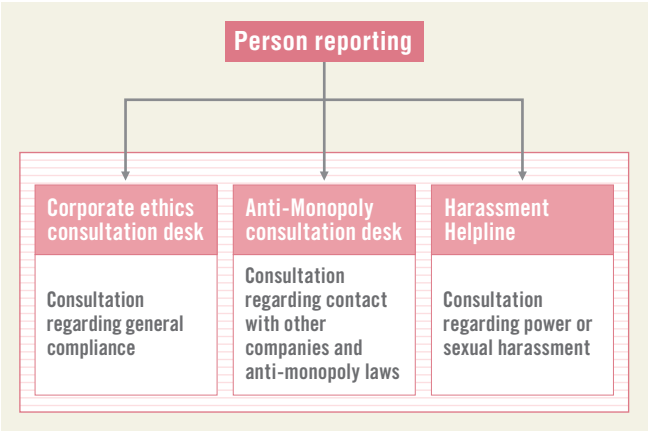
Compliance

Internal reporting consultation desks

Establishment of three consultation desks specializing in different fields of problems

To provide a more comprehensive response to each case, a "corporate ethics consultation desk" (employee opinion box run by the Legal Department, and a "JTEKT helpline" run by an external lawyer), an "anti-monopoly consultation desk", and "harassment helpline" (run by the Personnel Department) have been established as the three main pillars of the internal reporting system.

Role of the internal reporting consultation desks



Mizuki Otomo
Personnel and General Administration Division
Legal Dept.
Compliance Administration Office

My CSR

I want to support the creation of a workplace where it is easy to do work

Here at the Compliance Administration Office, we provide support from the aspect of compliance regarding the creation of a workplace where it is easy for employees to do work. We provide all types of consultation desks so that employees do not have to be burdened with workplace troubles by themselves. We have also designated July as Compliance Strengthening Month to enforce awareness about compliance among all employees. I will continue to put all my effort into creating a workplace where it is easy to do work in order to raise the value of the JTEKT brand.

Elaborate and proactive publicizing of the consultation desks

We aimed to create internal reporting consultation desks that anyone can easily consult, and posted impressionable posters and distributed daily tear-off calendars relating to compliance geared towards engineering workplaces. We devised methods of publicizing the consultation desks so that employees can easily and quickly understand which desk to consult.

FY 2015 breakdown

Corporate ethics consultation desk	Violation of laws and rules	3
	Personnel system	10
	Workplace communication	2
	Harassment	5
	Health and safety	1
	Other	6
	Total	27
Anti-monopoly consultation desk	Contact with competitors	18
	Collection and handling of information	13
	Total	31
Harassment Helpline	Consultation on sexual harassment	0
	Consultation on power harassment	22
	Consultation on other types of harassment	2
	Total	24

* No events corresponding to those that must be reported

Number of reports received at the corporate ethics consultation desk and harassment helpline in the past five years

	2011	2012	2013	2014	2015(FY)
Corporate ethics consultation desk	21	28	33	39	27
Harassment Helpline	—	—	17	12	24
Total	21	28	50	51	51

Risk Management

Basic concept

Responding to the expectations of society

JTEKT is working to strengthen management in order to minimize damage due to the occurrence of accidents and incidents. Strengthening management will also enable JTEKT to conduct business activities in harmony with the economy, society and the environment by preventing risks which disturb these three elements.

Promotion structure

Promote countermeasures based on a companywide organization

Figure-01

The CSR Promotion Committee, a companywide cross-functional organization, also considers the external environment when evaluating risks that may influence business activities, society or the environment. Each working group and department responsible for risk management formulates plans to prevent risk occurrence and plans for recovery, and promotes these measures.

As large-scale disasters greatly influence continuation of business activities, the Large-scale Disaster Prevention Office, headed by the company president, was established in FY 2015 to strengthen activities for countermeasures against such disasters.

Stepping up approaches to risks at each department

Figure-02

At JTEKT, each department and headquarters formulate an annual action plan based on the Global Company Policy and adopt a policy control system for regularly checking the progress of achievement. Since FY 2013, individual departments and headquarters have described in their annual plans factors that would hinder the plans as risks, and have begun activities to consider measures at the planning stage in case of risk occurrence.

Figure-01

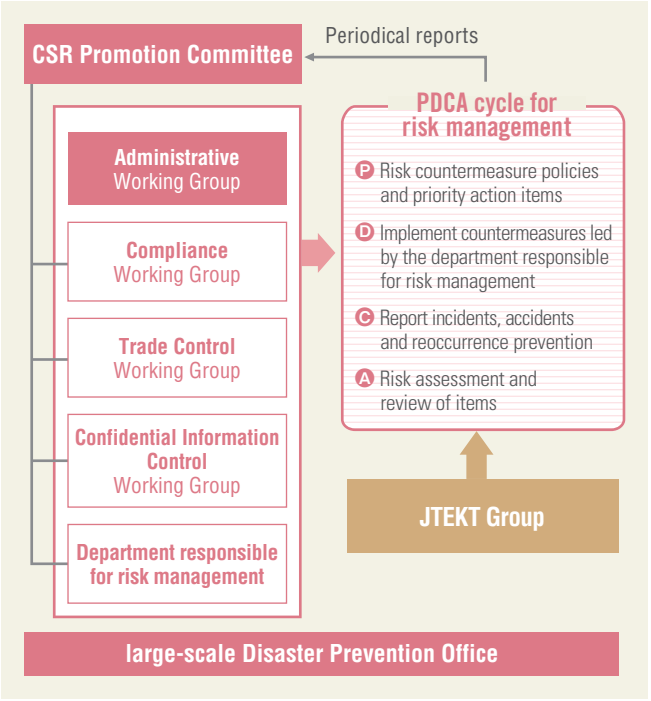


Figure-02 Ongoing revision of risk management

Implemented in FY 2014

- Rolled out Corporate Management Guidelines for the entire JTEKT group
- Enacted a basic policy for the JTEKT group BCP (Business Continuity Plan)

Implemented in FY 2015

- Enhance risk management within group companies based on management control guidelines.
- Promote measures to reduce large-scale disasters and initial measures (in the technical/human aspects)

FY 2016 plan

- Support and track group companies based on management control guidelines.
- Education and implementation of countermeasures in order to raise risk awareness among employees.

Risk Management

Countermeasures against large-scale disasters

Enacted a basic policy for the JTEKT group BCP (Business Continuation Plan) New!

JTEKT verifies disaster risks at all workplaces based on hypothetical disasters contrived by our Cabinet Office (Central Disaster Management Council), and in April 2015 we established the basic policy for the JTEKT group BCP (*). We designed countermeasures from the technical and human aspects to minimize damage even in the event of a large-scale disaster, and are working to ensure continuance of our business activities.

M_01～02 Related article

*BCP: Abbreviation of Business Continuity Plan.

Ⅰ. Visualization of disaster risks at each workplace in the JTEKT group

The Cabinet Office (Central Disaster Management Council) has introduced the "disaster simulation system"(*) of Nomura Research Institute, Ltd., which is utilized in estimating the damage caused by large-scale earthquakes. The Cabinet Office uses this system to verify disaster risks and the ability of employees to convene in the event of a disaster.

*Hereafter referred to as the "disaster SS".

Ⅱ. Basic policy for the JTEKT group BCP (Business Continuation Plan), established April 1st, 2015

The common, universal policy of the JTEKT group which acts as the "foundation" for making the ultimate decision when the "tradeoff phenomenon", in which choosing one direction requires sacrificing another, occurs during an earthquake disaster.

〈 Countermeasures on the human side 〉

Ⅲ. Disaster mitigation / Initial phase	Ⅳ. Phase of mutual support between bases	Ⅴ. Production recovery phase
A. Rules of the BCP basic policy		
(1)"Guidelines" (Shared values / concept, procedure)		
①Complete*	②Complete*	③Under development (Scheduled for completion in March 2017)
(2)"BCP Prevention Manual" (Organizational system, roles / action procedures)		
①Complete*	②Complete*	③Under development (Scheduled for completion in March 2017)
*Conduct continuous improvements and renewals when necessary		
B. BCP core system		
①Disaster SS ②Safety confirmation system	③Emergency calling system	
C. Disaster drill system		
①Company-wide safety confirmation drill		
②Disaster drill by workplace		
③Companywide Emergency Response HQ disaster drill (HQ for emergency response to disasters at all workplaces)		
*In the final stage, conduct all types of training throughout the entire group		④Production Recovery HQ disaster drill (Function division of the BCP)

〈 Countermeasures on the technical side 〉

Ⅵ. Mid-term disaster-prevention investment plan (including processing of expenses)

A. Measures to reduce disaster risks

- Seismic diagnosis and reinforcement of buildings
- Countermeasures against overturning and falling of plant buildings
- Countermeasures against overturning and falling of offices
- Implement measures to reduce disaster risk
- Verify/ implement liquefaction countermeasures
- Countermeasures against heavy rains, etc.
- Shatterproof countermeasures
- Countermeasures against long-period ground motion, etc.

B. Disaster mitigation / Initial countermeasures

- Home Disaster Mitigation countermeasure
- Deploy Home Disaster Mitigation Record
- Create and develop booklet on disaster prevention
- Renew satellite phones
- Renew portable batteries
- Introduce / deploy transceivers
- Introduce iPhones for large-scale disasters
- Inspect cellphone batteries
- Earthquake early warning
- Promote acquisition of Special Building Investigation License

C. Emergency supplies

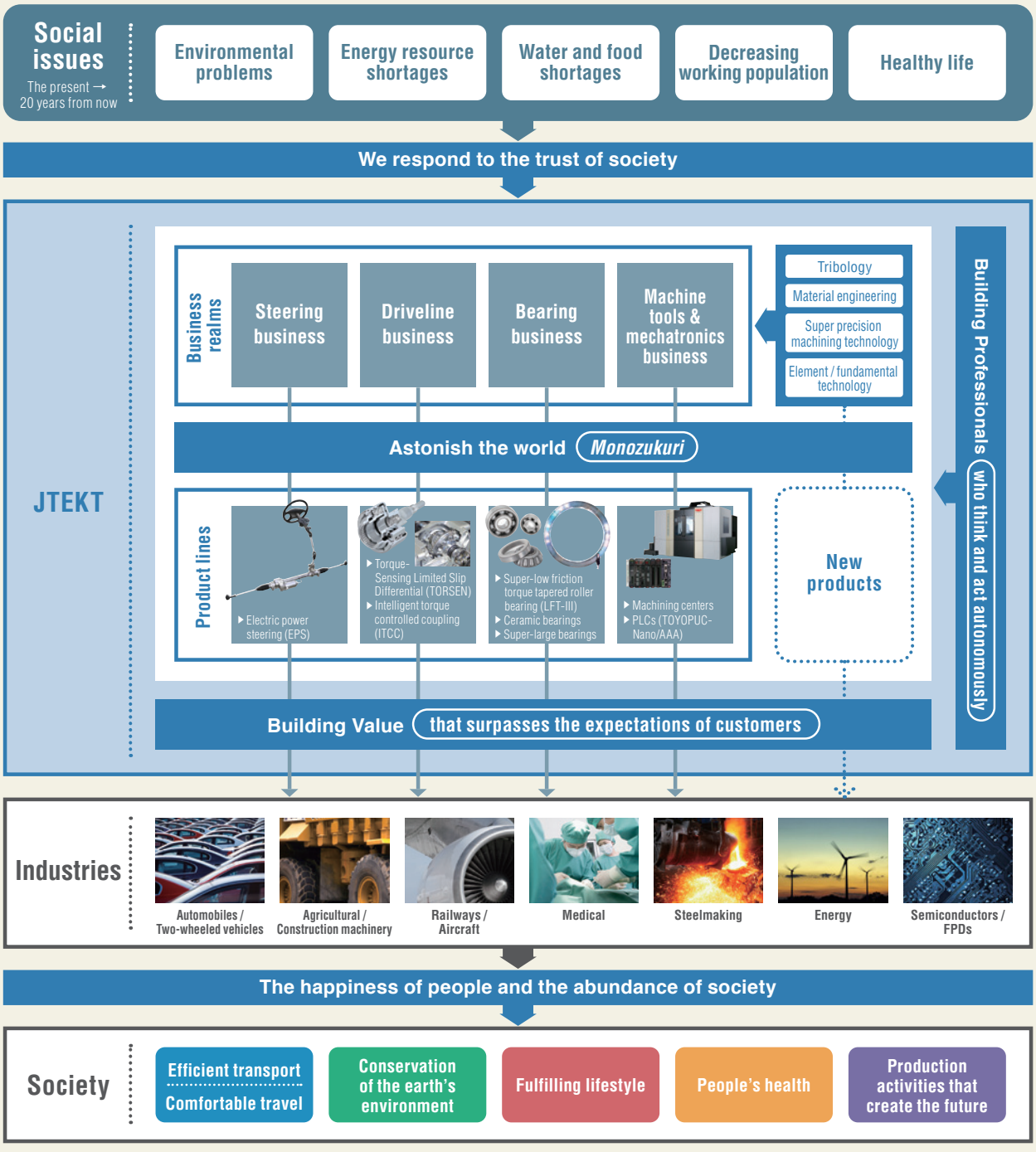
- Install disaster prevention warehouse
- Renew catalog for standard emergency supplies
- Requests for, approval, and ordering of emergency supplies
- Plan and examine in-car emergency supplies

The Values Which JTEKT Provides

We, JTEKT, create new values through
No.1 & Only One technologies and *monozukuri*
that seeks superior quality, and contribute to resolving
various issues within society.
This Special Edition introduces seven concrete
examples of our contributions.

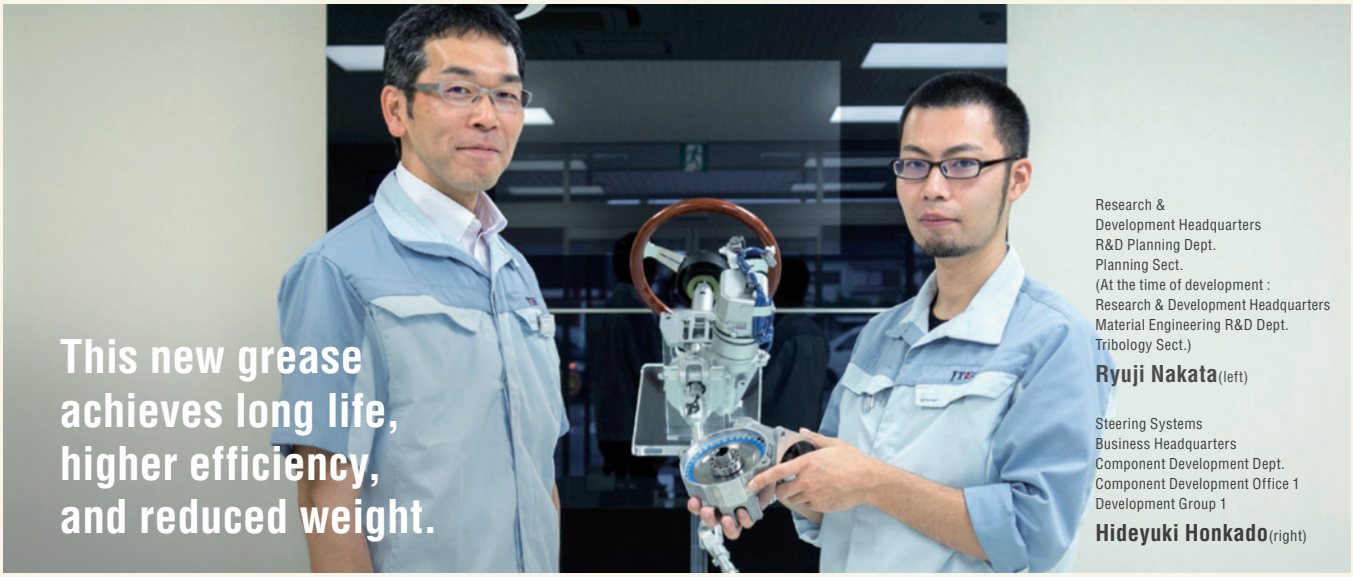
Helping to resolve social issues through the evolution and fusion of our technologies

Business model



Low-friction reduction gear using new grease

E_14 Related article



This new grease achieves long life, higher efficiency, and reduced weight.

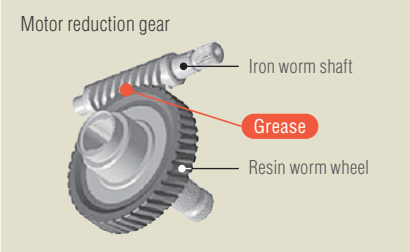
Research & Development Headquarters
R&D Planning Dept.
Planning Sect.
(At the time of development : Research & Development Headquarters
Material Engineering R&D Dept.
Tribology Sect.)
Ryuji Nakata(left)

Steering Systems Business Headquarters
Component Development Dept.
Component Development Office 1
Development Group 1
Hideyuki Honkado(right)

We have developed a new type of grease for the reduction gear of electric power steering (EPS) that resolves numerous automobile issues such as energy saving, reduction of CO_2 emissions, and improved quietness.

Achieves a superior low friction characteristic and improved compatibility with resin

Contributions to energy saving and cutting CO_2 emissions is a major theme within the automotive industry. To improve fuel economy, demands for lighter parts and the popularization of electric and hybrid vehicles are rising, alongside demands for quietness. Due to this, resin materials have become widely used for the sliding components (that move while rubbing together) of gears and other parts. The effects of using resin parts are lighter weight and less noise. However, since heat generated by sliding can lead to deformation or damage, grease used as lubrication must have an excellent low-friction characteristic. Furthermore, the grease must be compatible with the resin so as not to cause deterioration.



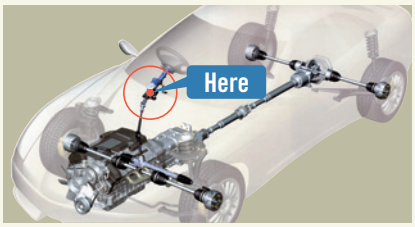
In 2012, JTEKT developed grease for the EPS reduction gear that achieves both a superior low friction characteristic and high compatibility with resin. This grease greatly improves the performance and reliability of resin wheels by increasing service life by roughly 1.8 times and raising reduction gear efficiency by 16.5 percent.

Contributing to the environment by cutting grease usage

In the development process, we worked to elucidate the mechanism of lubrication inside the reduction gear, using element analysis and other methods. We investigated not only how to improve the low-friction characteristic of grease and its compatibility with resin, but also how we could reduce the amount of grease used. As a result, we reduced the amount of grease used by roughly 50 percent, achieving both resource saving and a lighter reduction gear. We were awarded the JAPANESE SOCIETY OF TRIBOLOGISTS Technology Award in recognition of these accomplishments.

"EPS utilizing this new grease is already installed on many different car models. We would like to focus our efforts into future proposals to customers to expand utilization to an even wider range of models, since this would greatly extend the effects of improved fuel economy further throughout society." (Honkado)

"I want to lead the research division in a direction where engineers and researchers engage in development themes that enable JTEKT to contribute to future society." (Nakata)



Achieves low friction characteristic and improved compatibility with resin
Resin wheel life compared with that of conventional product
Approx. **1.8** times longer life

Amount of grease used
Compared with conventional
Approx. **50**% reduction

Reduction gear efficiency
Compared with conventional
16.5% higher

Pursuing further EPS evolution in anticipation of automated driving

Steering Systems
Business Headquarters
Electronics System Planning Dept.
Planning Group
Toshihiro Takahashi

Automotive manufacturers are accelerating their technical development to actualize automated driving. As the supplier with the world's top share in electric power steering (EPS), JTEKT has worked to support this trend since early on in its history.

Products requiring top-level safety

EPS is an important product that bears the task of "turning", one of the basic functions of a vehicle besides "driving" and "stopping". EPS development is required to comply with the topmost safety level of the functional safety standard ISO26262.

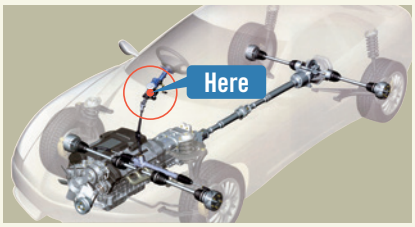
We, JTEKT, constructed a development process in 2011 that complies with ISO26262. From this process we developed the world's first EPS system with redundant design in 2014, and began mass production of this system in 2015.

Redundant design is a fail-operational design where two systems with the same function exist so that assistance can be maintained for handle maneuvers if a problem occurs in one of the systems during operation. Our EPS product for which we began mass production in 2015 utilizes redundant design in its torque sensor and motor drive.

Our goal is a "complete fail-operational function"

We, JTEKT, have taken the concept of the fail-operational function we wish to achieve within the development of EPS, and classified it into five stages which we have determined as 0 through 4 of JFOPS (JTEKT Fail-Operational System). Our fail-operational function has achieved JFOPS 3. We are promoting development to achieve JFOPS 4, which represents a complete fail-operational function, in anticipation of the sophistication of driving assistance systems and the introduction of automated driving systems in all countries. We estimate that mass production for such an EPS system will begin around 2020.

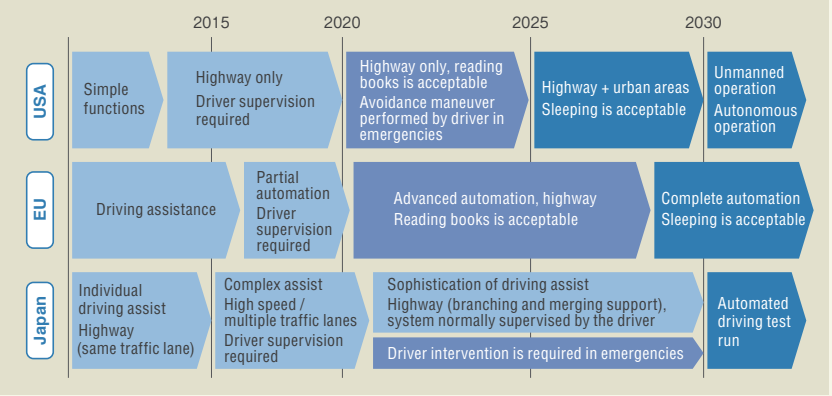
"Driving is a cycle of perception, judgment, and maneuvering, and from here on out we will move into an era where cars support a part of this cycle. I hope to bring about an era with better convenience and safety where riding in cars enriches people's lives, by using JTEKT technologies to provide high-level driving support." (Takahashi)



JFOPS (JTEKT Fail-OPerational System)

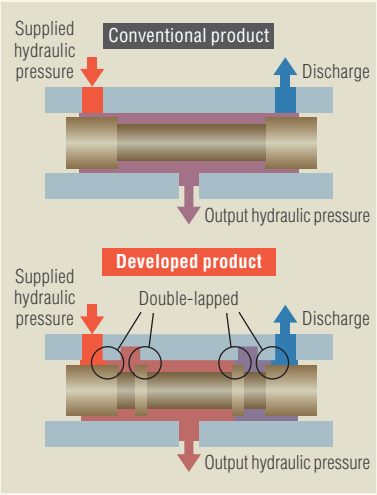
JFOPS	Concept	Method
JFOPS 4	Complete fail-operational function	Complete redundancy of electronic hardware of the EPS system, including electric power supply of vehicle
JFOPS 3	Fail-operational function	Redundancy of electronic hardware of the EPS system
JFOPS 2 And JFOPS 1	Partial fail-operational function	Backup via software
JFOPS 0	Stops the system in the event of failure	Conventional EPS

Roadmap of introduction of automated driving systems in each country



Resolving conflicting issues concurrently with unconventional ideas

Driveline Systems Business Headquarters
Hydraulic System Engineering Dept.
Hydraulic Engineering Office 2
Design Group 2
Kaori Fujita



Vehicle automatic transmission (AT and CVT) contains a product called a solenoid valve. We have conceptualized an unconventional and original structure which we have adopted for this product, achieving substantial results.

Achieving both leakage reduction and downsizing

Vehicle automatic transmissions (AT and CVT) shift the clutch through hydraulic pressure. The solenoid valve controls the hydraulic pressure generated from the pump to enable smooth gear shift without shock.
The solenoid valve controls the flow of oil by opening and closing the valve via magnetic force. Our challenge in improving the product was to see how much leakage (leakage into the transmission) could be reduced, as well as how much smaller we could make it. Leakage reduction and downsizing are usually conflicting themes for the solenoid valve, with one of the two being sacrificed to improve the other. However, JTEKT has developed a solenoid valve with an original structure of two serial laps (valve throttles) on both the supply side and the discharge side, where conventionally there was only one lap. This has achieved both a reduction in leakage and downsizing of the solenoid valve. This solenoid valve with a "double-lapped structure" enables downsizing of the pump (which draws in leaked oil), and this in turn improves vehicle fuel economy.

Awarded the Aichi Prefectural Grand Prize for Invention

JTEKT began mass production of the double-lapped solenoid valve in 2012. The valve is already installed on numerous car models produced by Toyota Motor Corporation, who recognized it for its effects in improving fuel economy and awarded it the Project Award. In addition, the Aichi Institute of Invention and Innovation awarded this technology the Aichi Prefectural Grand Prize for Invention in 2015.
"With the progression of multiple stages in AT and expansion of ratio coverage (range of gear ratio) in CVTs in recent years, the number of solenoid valves installed on a single vehicle is increasing. This will increase the effect of replacing solenoid valves with our product, and so we expect that it will be adopted on many more models. We hope to go one step further and work on unitizing this technology with other related products in our desire to contribute to reducing fuel consumption even more." (Fujita)

Volume
Compared with conventional
Approx. **47%** smaller

Leakage
(oil leakage into the transmission)
Compared with conventional
Approx. **27%** reduction

Bringing high stability and controllability to even more people

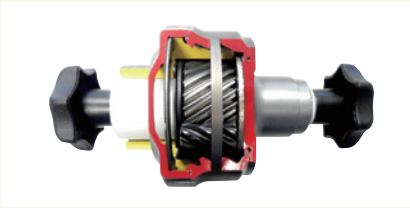
JTEKT TORSEN Europe S.A.
Product Development,
European Technical Center-Belgium
Tomoki Yoshihama(left)

JTEKT TORSEN Europe S.A.
Product Development,
European Technical Center-Belgium
Nicolas Poulet(right)

The tires are the only parts of the car that touch the road. The way in which engine torque is distributed to the four tires is extremely important for raising stability and controllability. JTEKT's TORSEN type C optimizes torque distribution to the front and rear wheels of four-wheel drive vehicles instantaneously according to driving conditions, enabling not only a safe driving experience, but also a comfortable one.

Cooperating across businesses to achieve a new structure

For many years since 1985, TORSEN had held 100 percent of the share of center differentials (a device that resolves the rotational difference between the front and rear wheels) for four-wheel drive vehicles produced by Audi AG. However, when competitors entered the market in 2008, JTEKT developed a product, based on the TORSEN type C, in order to largely improve our product competitiveness. This product, the TORSEN type Csm (sm: smart module), has been equipped on four-wheel drive vehicles produced by Audi AG since 2012. TORSEN type Csm features, first of all, the elimination of large parts and bolts, and instead employs laser welding. This accomplishes a smaller size and lighter weight, contributing to better installability and reduced fuel consumption. In addition, the carbon-based material for the friction disc, a main component, has been modified to enable support for high loads, achieving both quietness and durability. Furthermore, the new structure of this product increases the level of freedom in setting torque distribution. To lower the cost of the TORSEN type Csm, the TORSEN Engineering Division of JTEKT in Belgium and the Machine Tools & Mechatronics Operations Headquarters of JTEKT in Japan cooperated in pursuing increased performance of equipment for machining compound gears. As a result of their efforts, JTEKT introduced the gear skiving center (*) into the market.

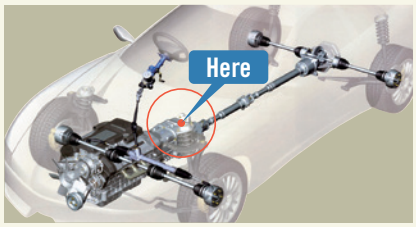


Achieves the lightest weight in the history of TORSEN

Another feature of TORSEN Csm is that through part commonization, it facilitates development and production for compatibility with numerous other transmissions. The product adopted on the Audi A4 2.0 TFSI quattro in 2015 achieves the lightest TORSEN weight to date.

"The entry of competitors into the market raised our awareness towards improving our product competitiveness. It was a good opportunity for us to work on raising product competitiveness with a constant sense of urgency." (Poulet)
"We will continue to utilize products that exemplify JTEKT and engage in development with regard to a wide range of products in order to offer society cars that are safer and more enjoyable." (Yoshihama)

*** Gear skiving center** This JTEKT product integrates the processes for gear production into a single unit, and is the first machining center in the world to adopt, and perform mass production through, the skiving technique.



Volume Compared with conventional	Approx. **37%**	smaller
Mass Compared with conventional	Approx. **34%**	reduction
Part commonization rate Conventionally 18% in the developed product	**73%**	

Suppresses wear through an unprecedented structure

Bearing Operations Headquarters
Bearing Engineering Dept.
Bearing Engineering Office
Ball Bearing Group
Yasuhiko Ishii

How do we ensure durability of bearings while designing them to be smaller and lighter? To solve this issue, JTEKT has developed a bearing with an innovative structure.

Prevents creep without altering size

In bearings with large unilateral applied loads such as those used in vehicle transmissions, a phenomenon called creep (where the outer ring rotates in a position that has slipped relative to the housing) occurs now and then due to strain on the outer ring (Fig. 1). Creep causes wear to progress between the bearing and housing, eventually causing the center of the rotation axis to deviate, which may lead to defects within the overall transmission. Conventionally, this has been prevented by thickening the outer ring to suppress strain, however this method increases the size and weight of the entire bearing. Therefore, we at JTEKT have developed an "anti-creep ball bearing" where strain is suppressed through a shallow groove on the outer ring, thus preventing creep without changing the bearing's size (Fig. 2).

Figure 1

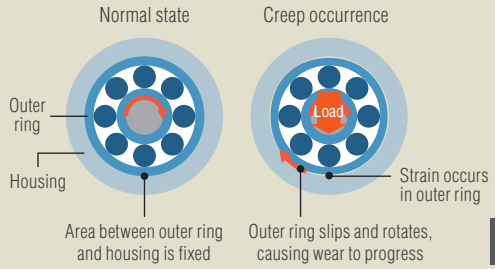
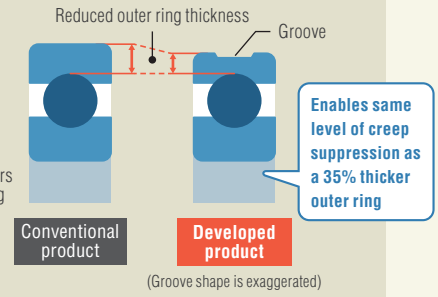


Figure 2



Contributing to a compact, lighter transmission

This product is the world's first bearing employing a structure and shape with a groove to prevent creep due to strain in the outer ring (according to JTEKT research). Without the need for a thicker outer ring as in the past, the transmission can be made more compact and lightweight, thus improving fuel economy. The development of the anti-creep ball bearing was completed in March 2016, and proposals are already being made to automakers and transmission manufacturers in Japan and overseas.

"We consulted with those in production engineering about the optimal width, depth and shape of the groove and, after much trial and error, achieved commercialization of the bearing. When we explained the mechanism at an exhibition, many people from the automotive industry were interested, which made me realize just how necessary creep suppression is. I want to continue my involvement in development that will lead to better fuel economy in vehicles in order to help resolve environmental and energy issues." (Ishii)

Weight (Compared with conventional) — Approx. 12% lighter

Amount of housing wear (Compared with conventional) — Approx. 50% reduction

A new material to prevent abnormal noise and maximize life

Bearing Operations Headquarters
Industrial Machinery
Application Engineering Dept.
Industrial & Construction Machinery
Bearing Engineering Office
Agricultural & Electrical Machinery Group
Yasuhiro Sakamoto (left)

Bearing Operations Headquarters
Industrial Machinery
Application Engineering Dept.
Advanced Precision Machinery
Bearing Engineering Office
Machine Tools & EXSEV Group
Kazuma Okada (right)

For motor bearings, the issue is how to prevent a phenomenon called electric corrosion, which damages the inside of the bearing. As a countermeasure against this phenomenon, JTEKT has developed and begun mass-producing a bearing that uses a new ceramic material.

Ceramic bearings: A bearing used in a variety of fields

Electric corrosion is a phenomenon where electrical discharge occurs inside

a bearing, damaging areas such as the rolling contact surface. As this phenomenon progresses, it can lead to abnormal noise and reduced life of the bearing, and therefore bearings used within motors must be insulated.

The most reliable method of insulation is to make the rolling elements (balls) ceramic, instead of the usual metal. Since their first-ever successful mass production in the world in 1984, JTEKT's silicon nitride ceramic bearings have been utilized in numerous fields, which currently include aviation and space, medical equipment, semiconductor manufacturing equipment, railway vehicles, and wind power generation.

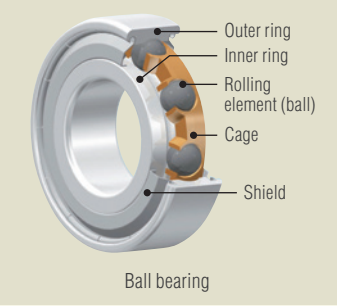
Utilizes a new ceramic material used for the first time in Japan

The new ceramic ball bearing for motors that we have developed is targeted for use within air conditioners. For air conditioners, preventing abnormal noise due to electric corrosion is a major issue. Although silicon nitride has traditionally been used for this bearing, we have adopted a new ceramic material that has never before been seen in Japan. This material has allowed us to reduce the variations in the clearances between the balls and the outer and inner rings, enabling usage within a wider range of temperatures. We began mass production of this bearing in June of 2016, and are considering proposals within a broader spectrum of fields, such as in servo motors used in robots.

"Bearings are known as the "backbone of industry", and are used extensively within all types of machinery that exist in

society, although they aren't usually seen by the general population. I want to keep making improvements and send out products with higher reliability into the world to help build a more abundant society." (Sakamoto)

"I want to raise our engineering capability to firmly answer the needs of our customers, which continue to increase in sophistication with each passing year. For example, if we can develop a bearing that spins with less force, it can suppress energy consumption in the machines on which it is installed, which will contribute to resolving environmental and energy problems. To me, responding to demands one at a time in this way is important to engineers." (Okada)



Ball bearing

Quality improvement through IoE (Internet of Everything)

Machine Tools & Mechatronics Operations Headquarters
Machine Tools & Mechatronics Engineering Dept.
Machining & Process Engineering Office
Grinding Group
Masaya Hikita (left)

Machine Tools & Mechatronics
Operations Headquarters
IoE Promotion Office
Group 1
Koichi Kato (right)

The development of IoT (Internet of Things), in which all things are connected by the internet, is causing a massive revolution within the manufacturing industry. Following this trend, JTEKT has proposed the concept of IoE (Internet of Everything) which incorporates not only things, but people and services as well, and through which we aim to create new value.

Developing a system that detects grinding burn

We, JTEKT, develop and manufacture both the machine tools and the control devices necessary for achieving IoE. As a *monozukuri* manufacturer, we also possess a production line to evaluate and verify the effects of IoE. Leveraging this advantage, we have made it our policy to propose to customers the creation of a smart factory through IoE within production, quality, and maintenance.

For "IoE for Quality", we are furthering the development of a system that detects grinding burn. Grinding burn is a defect where the structure of a metal degenerates and softens due to heat. This defect is difficult to see and there are many cases where it is first discovered in the inspection process. When grinding burn occurs, it is necessary to stop the machine and inspect the workpieces both upstream and downstream of that machine, drastically impacting production efficiency.

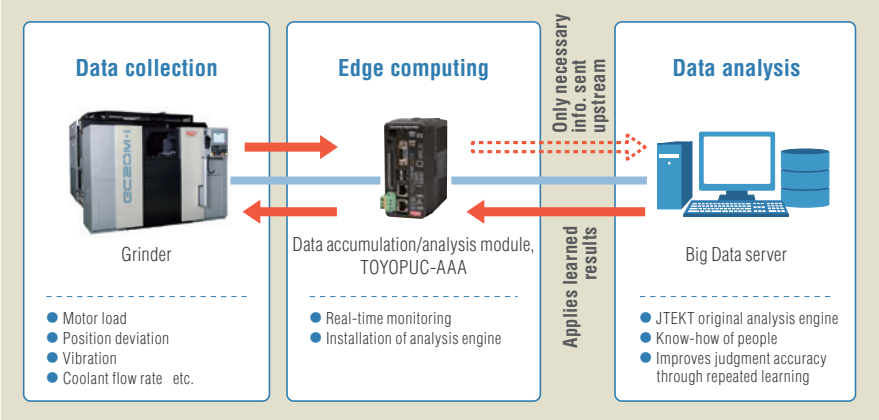
A system that develops through repeated learning

In the system currently being developed, data collected from each sensor installed in the grinder is accumulated and analyzed through a data accumulation and analysis module to determine the presence of grinding burn. Analysis is performed using original JTEKT software while incorporating the know-how of people. Another feature of this system is that analysis results are fed back in a repeated learning process to improve judgment accuracy.

"We are still at the stage where judgment is performed after machining, but through further accumulation of data and expertise, we will in the future achieve a system that notifies the user of symptoms of grinding burn and other defects before machining to prevent machining abnormalities. Through this, we hope to contribute to preventing quality defects for our customers who utilize this system." (Kato)

"By preventing quality defects, equipment can be run efficiently, thereby saving energy and cutting production costs. We will continue working to create a technology with high added value that combines "machinery", "machining technology", and "control technology", so that we can contribute to higher productivity." (Hikita)

Proposal for equipment on which no machining defects occur, through monitoring of grinding status



*TOYOPUC is a registered trademark of JTEKT Corporation.

Social Report

- The CSR Report 2016 PDF is published with the aim of conveying the concept and activities pertaining to JTEKT's CSR in an easily understood manner. This report emphasizes objectiveness, completeness and continuity.
- Please refer to the JTEKT REPORT 2016 for information about JTEKT's business performance, business activities, planning, and strategy.
- For related articles:

M = JTEKT's CSR Management F = Special Edition
S = Social Report E = Environmental Report
J = JTEKT REPORT 2016

- In this Social Report section, we have summarized the overall activities for FY 2015 by stakeholder. This report has been consistently configured in the same way since the 2008 CSR Report, in order to make it easy to read on a continuous basis.

Target period and target organizations/scope

Target period

FY 2015 (April 2015 - March 2016)
* Some items include content from other periods.

Target organizations and scope

All activities of the JTEKT group

For items for which there is no criteria uniform across the JTEKT group, the unconsolidated results of JTEKT are displayed. 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 2013 (G4)"
◎ 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 actions begun in FY 2015 and information disclosed for the first time in this year's report.

Together with customers

Social background

Awareness of consumers' rights is rising on a global scale, exemplified by the ISO26000 positioning consumer issues as one of the central themes, and the GRI Sustainability Reporting Guidelines (G4 Guidelines) establishing a section on product responsibility. Moreover, there is a trend emerging which emphasizes dialogue with stakeholders amidst an expectation of corporations to incorporate sustainable interaction with society into their management strategies and business models.

JTEKT's concept

Considering the entire society as customers

In order to provide customers with the highest quality products, JTEKT naturally searches for value as a supplier but at the same time aims 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. We 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 the society at large.

→ F_01～08・J_06～07 Related article

Quality policy and quality assurance system

Figure-01

Establishing a quality policy with the motto of "Customer First", we are involved in a variety of quality improvement activities. We also maintain and constantly improve a quality assurance system based on this policy.
In 2013, the wording of the quality policy was partially changed. The phrase "product quality" was changed to a more specific expression, "design quality and manufacturing quality". We believe that seeking quality at each stage of design and manufacturing allows us to improve overall product quality and gain our customers' trust.

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
- Improving design and manufacturing quality through the ingenuity of all members

Together with customers

Major activities in FY 2015

[Quality]

Elimination of Major Quality Problems

In September of 2014, the Quality BR (Business Revolution) Office was established as an organization which reports directly to top management. This section aims to eliminate the root causes of major quality problems and revise systems. From FY 2015, this office has been engaging in activities to establish the optimal floor management vision and improve quality upon launch of new products.

Implemented QG (*) -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.

* **QG** QG is the abbreviation for Quality Gates.

Improvement through periodic inspections

JTEKT actively pursues the obtainment of reviewed quality management system certification through third parties. JTEKT continues to receive periodic 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)
- JIS Q 9100 (Quality management system for the aviation/aerospace industries)

Initiatives to reform company culture and raise customer satisfaction levels New!

For the purpose of raising quality awareness, we have set May and November as “quality months”. During these months, we engage in various activities such as collecting and displaying posters and quality slogans, and discussing improvements for each department.

21st quality month poster in May 2016

Moreover, from November to December, the first Quality Exhibition was held in 17 locations throughout Japan. This was an opportunity to introduce the status of JTEKT’s quality and improvement initiatives to many customers and trade partners, as well as for JTEKT executives and employees to speak with customers and renew their appreciation of the importance of quality.


1st Quality Exhibition

[Training]

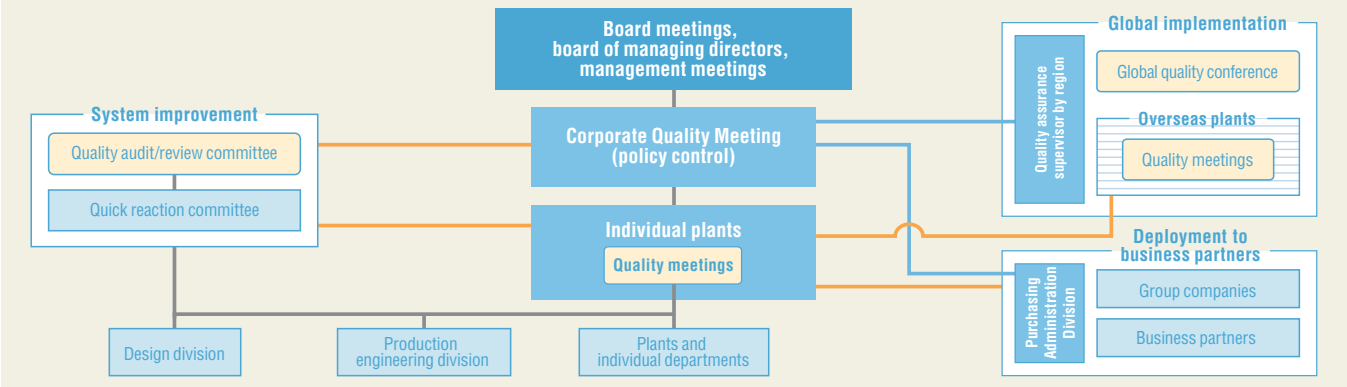
A group of technicians who proactively consider JTEKT’s development

In FY 2012, the JTEKT Engineers Association was formed to provide an opportunity for engineers of JTEKT’s respective areas to work hard together to improve their technical ability and leadership abilities in the name of solving societal issues.

In FY 2015, the fourth year since its formation, each association focused on initiatives to enhance the tours and events held by the respective committees and branches in east, west and central Japan as well as further stimulate communication between engineers. JTEKT Technical Presentation is also held annually. It is alternated between Kariya Plant and Kokubu Plant in order to secure a high attendance of engineers. In FY 2015, it was held at Kariya Plant on November 23rd. The session was divided into the three specialty fields of electric/electronics, material/tribology/mechanical elements, and machining/production engineering, and live connection to each of our operating centers enabled a total of approximately 700 people companywide to engage in discussion on 18 themes.


JTEKT Technical Presentation (Kariya Plant)

Figure-01 Quality assurance system



Together with customers

Launch of problem-solving training

In order to spread the concept of problem-solving as a basis to all work, JTEKT began conducting problem-solving training in FY 2014. The aim is for employees to acquire problem-solving skills which they can utilize to assist our customers. In FY 2015, a program to develop company trainers was launched.

S_09 Related article

Activities to improve engineering and quality at each workplace

Each workplace is working to improve engineering and quality by promoting TQM activities and implementing the SQC method.

S_10 Related article

[Communication]
Conducting a customer satisfaction survey

As in previous years, in FY 2015 we conducted customer satisfaction surveys targeting our main customers. In order to improve satisfaction in the five areas of quality, delivery, technical response capability, cost response capability and technical/sales service, we shared the issues revealed by these surveys and are exerting efforts to solve them promptly and appropriately.

Exhibitions in Japan and abroad and opening of a showroom

Each year, our company exhibits at many exhibitions both in Japan and abroad in order to enhance communication with customers other than those we do business with on a regular basis. We also opened a showroom in order to introduce JTEKT's technologies and products to even more customers.

The 44th Tokyo Motor Show 2015

At the Tokyo Motor Show held at Tokyo Big Sight from Oct. 29th to Nov. 8th, JTEKT stressed the benefits of many No.1 & Only One technologies and products and introduced the history of JTEKT products.

We also exhibited JGOGGLE, which allows the wearer to see panoramic views of Iga Proving Ground, JTEKT's test course, as well as the simulator, SODA, in which people can experience futuristic automated driving technology. Both of these technologies stirred the interest of many visitors.

JTEKT DRIVING SIMULATOR SODA

Opening of Tokyo showroom, JTEKT ROOM Ginza New!

The ground floor of JTEKT's east Japan branch was renovated to create JTEKT ROOM Ginza, a showroom to introduce the No.1 & Only One technologies of JTEKT's various businesses which was opened on April 1st, 2016.

At an event held on the eve of the opening, kabuki performer Ebizo Ichikawa made a special guest appearance and received great attention with coverage by around fifty media companies.

Moving forward, JTEKT will enhance the content of this showroom, hold several events and use it as a space to increase the public's awareness of JTEKT and gain understanding of our products and businesses.

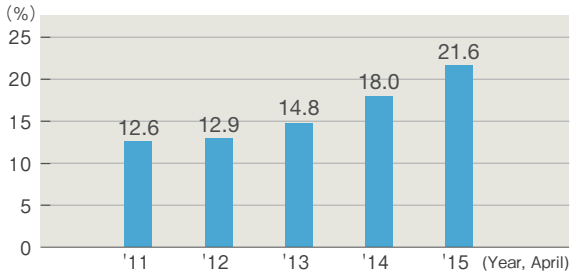
Together with customers

Increase awareness through company and business advertisements New!

JTEKT disseminates information through a company advertisement campaign in newspapers and other media. In 2016, we ran a 10-year anniversary campaign based on the concept of a "Young Company with Rich History". JTEKT also began running a new advertisement campaign for its businesses to disseminate product information relating to our bearing and machine tool businesses. Both advertisement campaigns received positive feedback, with comments like "The ads had impact." and "The ads convey JTEKT's quality."

Moreover, the general public's awareness of JTEKT went from 18.0% in 2014 to 21.6% in 2015.

Transition in company awareness



10-year anniversary campaign New!

An ad campaign was launched focusing on JTEKT's 10-year anniversary in January 2016. Because it was the 10-year anniversary of JTEKT, which was conceived in 2006 by the merging of two companies with a combined history of 150 years (Koyo Seiko with 85 years and Toyoda Machine Works with 65 years), the catch cry of a "Young Company with Rich History" was adopted. Kabuki actor, Ebizo Ichikawa, was chosen as the face of the advertising campaign, and ads were run in newspapers, on television, online, etc.

Newspaper advertising

Television commercials

Business advertisement New!

JTEKT launched a new business advertising campaign in order to strengthen the Koyo bearing brand and the TOYODA machine tool brand and promote sales. "Key of your operation Koyo" was established as the concept for the bearing business in order to strengthen sales in the industrial machinery and commercial sales areas and stressed the advantages of JTEKT bearings from both the performance and technological aspects. As a continuation of this, we will launch an advertising campaign for our machine tool business in FY 2016.

Business advertisement for the Koyo bearing business brand

Awards from customer companies

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

Major awards in FY 2015

Customer name	Award	Awarded company
Yamaha Motor Philippines Inc.	Supplier Excellence Award	KMP (Philippines)
Toyota Motor Corporation	Supplier Quality Excellence Award Special Prize	JTEKT
AW North Carolina, Inc.	Quality & Supply Excellence Award	KBNA (U.S.A.)
U.S.A.: Hino Motors Manufacturing U.S.A., Inc.	Quality Excellence Award	KBNA (U.S.A.)
Hino Motors Manufacturing (Thailand) Ltd.	Quality Excellence Award Gold Prize Supply Excellence Award Silver Prize	JATH (Thailand)
TOYOTA ARGENTINA S.A.	Award of Excellence for Quality	JAAR (Argentina)

My CSR

Senri Kawasaki
Sales & Marketing Headquarters
Corporate Sales Management Dept.
Management Office 1
Sales Promotion Group

Strengthening brand appeal

Our department is responsible for identifying customer needs and further enhancing sales promotion tools and exhibitions through exhibiting in fairs and exhibitions, issuing catalogs and pamphlets, etc. We are currently promoting steps to strengthen JTEKT's brand appeal such as standardizing the exhibition booth design, etc. Moving forward, we will continue striving to gain the understanding of more and more customers regarding JTEKT's environmental and technological initiatives.

Together with business partners

Social background

Interest in CSR is rising on a global scale. In addition to QCD (quality, cost and delivery), a company's purchasing activities are expected to also take into account human rights, labor practices, fair business practices, the environment and other core issues slated by ISO26000.

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. On the company website, JTEKT has outlined procedures for becoming a business partner, 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.

[CSR Activity Item Guidelines]

We issued the CSR Activity Item Guidelines for our business partners, in order to share with them the purpose of our CSR Policy and clarify items that we would like our business partners to observe. We request our business partners deploy these guidelines upstream as well.

Moreover, in order to maintain fair trade, we ensure that all departments which interact with business partners respect the various industrial fair trade guidelines and, in order to improve communication with business partners, utilize every opportunity to disseminate information and gather opinions.

1. Management-related initiatives

- Legal compliance
- Risk management

2. Initiatives for stakeholders

- Securing quality
- Fair trade
- Good labor-management relations
- Protection of human rights/respect for diversity
- Observance of corporate ethics
- Initiatives for local communities

3. Initiatives for the global environment

- Environmental management
- Environmentally friendly business activities

Green Purchasing activities

Our company promotes companywide Green Purchasing activities in order to contribute to the creation of a sustainable recycling-based society. For this purpose, we have 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 burdensome substances
- Improve environmental performance by reducing CO_2 emissions, etc.
- Promote actions to conserve biodiversity

Together with business partners

Major activities in FY 2015

Purchasing Policy Briefing

On April 19th, 2015, the Purchasing Policy Briefing was held at the Hotel New Otani Osaka, attended by 253 companies and 277 people. As FY 2015's purchasing policy, we requested the strengthening of CSR and thorough safety, which are major premises of 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 Implementation Items for FY 2015

- Strengthen efforts to solve significant quality problems
- Achieve superior international cost competitiveness
- Respond to global optimal production

A procurement policy briefing in China New!

On May 15th, 2015, the Chinese group company, JCC held the JTEKT China 2015 Procurement Policy Briefing. 88 business partners attended and the event aimed to promote understanding of JTEKT's procurement policy in China as well as build and reinforce relationships of trust.

Quality control tournament of the JTEKT Supplier Association

The Quality Management Convention was held on November 17th, 2015 at Osaka Matsushita IMP Hall, and was participated in by around 390 people from all 251 member companies of the JTEKT Supplier Association(*). Five companies presented improvement case studies and in addition to a presentation by Kokubu Plant's QC circle, there was a lecture relating to QC circles and a talk from a visiting lecturer.

* **The JTEKT Supplier Association** The JTEKT Supplier Association is comprised of 251 companies (as of FY 2015). It is intended to foster mutual trust among members and raise their capabilities through activities such as quality control tournaments, workshops, and lectures.

JTEKT Supplier Association Workshop

The JTEKT Supplier Association participated at the Midland Hall in Nagoya on January 27th, 2016. Training focused on the three themes of trade control, substances of concern management and the Antimonopoly Act.

Initiatives for the conflict minerals issue

The survey regarding conflict minerals conducted since FY 2013 was continued in FY 2015. With the cooperation of our business partners, we confirmed the status of conflict minerals all the way up the supply chain and appropriately responding to related customer enquiries.

Fukuo Fukudome
Purchasing Headquarters
Purchasing Dept. 1

My CSR

Negotiations amidst solid relationships of trust

The fundamentals of the purchasing operation are to purchase the best product at the lowest cost in a timely manner. As such, the Purchasing Department strives daily to increase JTEKT's competitive edge in the building of excellent products and contribute to the realization of our corporate philosophy.
We will be sufficiently aware that purchasing activities directly impact upon a company's management and that, from the customer's perspective, the Purchasing Department is the face of JTEKT. We will ensure we are well-versed in relevant laws and engage in daily negotiations with business partners amidst solid relationships of trust.

Together with employees

Personnel-related actions

Social background

Amidst heightened interest in the role of corporations within society and sustainable management, various standards and targets are being vigorously established such as the Ten Principles of the United Nations Global Compact, ISO26000, GRI "Sustainability Reporting Guidelines (G4), the International Integrated Reporting <IR> Framework and Sustainable Development Goals (SDGs). As clearly indicated by the repeated reference to human rights and labor in many standards and targets, corporations are now strongly expected to place more emphasis on observance of human rights in their business activities.

JTEKT's concept

Creating a friendly work environment for all

JTEKT promotes 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. Our company believes 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.

Respect for human rights and utilization of diverse human resources

JTEKT's Corporate Activities Standards states the following; "Respect the individuality of employees, create safe 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 persons with disabilities
- Changing fixed-term employees to permanent employees
- Providing assistance for those engaged in childcare or family care
- Reduction of work outside regular hours and encouragement of paid leave usage
- Providing post-retirement employment opportunities
- Various education concerning human rights, etc.

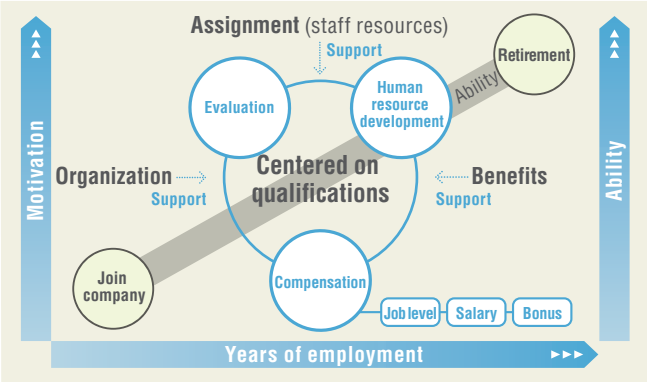
Direction of human resource development

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 have confidence, pride, and passion, think for themselves, and act as a member of the JTEKT group.
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 FY 2015

[Labor-management relations and employment] Emphasizing labor-management communication

JTEKT places importance on labor-management communication and facilitates 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 stabilizing/improving employee quality of life and strive to deepen mutual trust and understanding by building even firmer relationships.

Labor-management discussion opportunities (held in FY 2015)

- Central Production Subcommittee Meetings (annual)
- Central Labor-Management Meetings (annual)
- Labor-Management Meetings (4 times)
- Labor-Management Committee Meetings (10 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)

Together with employees

Actions to improve the paid leave usage rate

JTEKT aims to create a workplace in which employees find it easy to use paid leave. Labor and management cooperate together to periodically check the usage status of paid leave in order to improve the usage rate.

Labor condition transition (Average per each workers union member)

	2011	2012	2013	2014	2015 (FY)
Total work hours (hours)	2,077.2	2,074.7	2,115.3	2,107.2	2,089.8
Work outside of regular hours (hours)	321.8	316.0	351.7	345.7	334.9
Percentage of paid leave consumption (%)	62.1	63.2	65.6	67.4	71.6

Maintain employment

In FY 2015, JTEKT continued to exert efforts to maintain employment through various measures such as reassignment from the perspective of effectively utilizing resources. JTEKT observed the relevant laws and internal regulations for managing the employment of fixed-term workers. In FY 2015, 91 fixed-term workers were appointed as permanent employees.

Transition from fixed term workers to permanent employees

	2011	2012	2013	2014	2015 (FY)
Number of transitions made (people)	205	167	184	99	91

Composition of employees as of end of March, 2016

	Male	Female	Total
Permanent employees	10,382	878	11,260
Fixed-term employees (*1)	2,930	512	3,442
Total	13,312	1,390	14,702

	Male	Female	Average
Years of employment	15.7	11.2	15.4

Job turnover rate (*2)	0.7%
Job turnover rate within the first 3 years (*3)	3.7%

*1 Total fixed-term, part-time, reemployed, and temporary employees *2 Voluntary early retirement rate *3 Permanent employees, seasonal recruits, voluntary early retirement

[Human resource development]

Formation of a global human management/development framework

Figure-01

Around 60% of the approximate 44,000 employees of the JTEKT group work overseas. JTEKT promotes the formation of a global human management/development framework so that we may create the optimal environment for employees and the company alike so that motivated and capable people, regardless of nationality or race, may perform to their fullest transcending national and regional borders.

In FY 2015, we graded the major posts of both our Japanese and overseas bases (a process of ranking the scale of the post and responsibility based on a global standard), then sorted and appraised the career, capabilities and so forth of the employees currently assigned to these posts and potential successors. In addition, we established Succession Committees in each region as a committee to discuss the discovery, development and appropriate assignment of human resources who could succeed each post.

From FY 2016, candidate successors at overseas bases nominated by the Succession Committees will complete selection training held at JTEKT Head Office. Furthermore, a common evaluation system will be introduced for employees currently assigned to major posts at overseas bases.

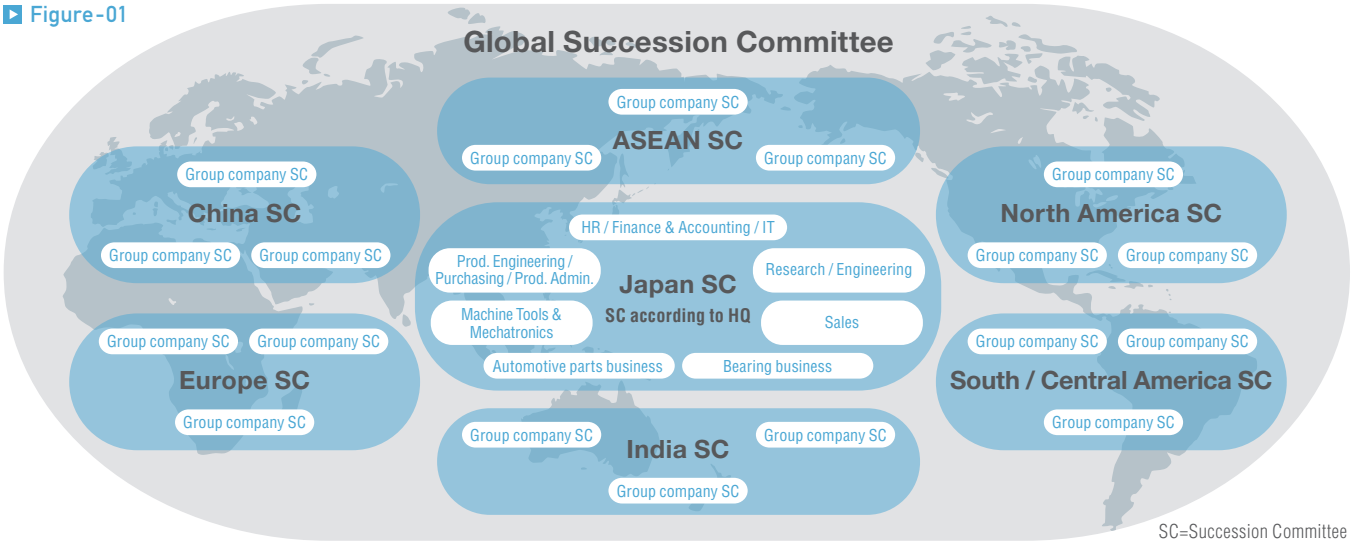
Hiring and utilization of foreign employees New!

Even within Japan, JTEKT is proactively hiring and utilizing excellent human resources regardless of nationality.

Foreign employee hiring results (general office/engineering)

	2011	2012	2013	2014	2015 (FY)
Seasonal hiring no.	1	2	6	3	14
Mid-career hiring no.	7	11	3	0	0

Figure-01



SC=Succession Committee

Together with employees

Strengthening of employees' English abilities, bidirectional employee interaction between Japan and overseas

New!

JTEKT also strives to strengthen the English ability of its employees overall in order to develop professionals capable of working globally. In addition to providing motivation-raising strategies such as an internal TOEIC exam and self-study courses (company-subsidized), as part of our overseas trainee system, we also arrange for young employees who are willing to work at JTEKT's overseas group companies at an early stage in their careers, so that they may improve their language ability and cross-cultural communication skills.

Moreover, from FY 2016, JTEKT will fully promote training in Japan for employees of its overseas group companies by utilizing an inter-company transfer visa. Rather than the conventional one-way pattern of sending employees from Japan to overseas, we will begin bidirectional employee interaction between Japan and overseas.

Human resource development for office and engineering staff

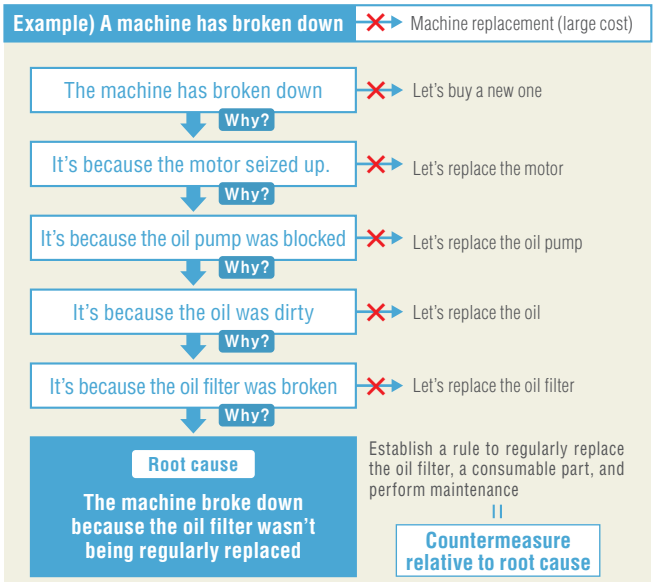
The JTEKT training system is composed of four pillars: rank-based training, job title-based training, age-based training and selection/theme-based training. We also focused on supporting the acquisition of qualifications and self-study efforts. From FY 2014, we have implemented special rank-based training to enhance problem-solving skills. From FY 2015, we began training by company trainers. This is where senior employees act as trainers to instruct junior employees and we will continue efforts to promote a culture where seniors convey information to juniors. We plan to expand this training program to our bases in each region of the world.

Problem-solving training

New!

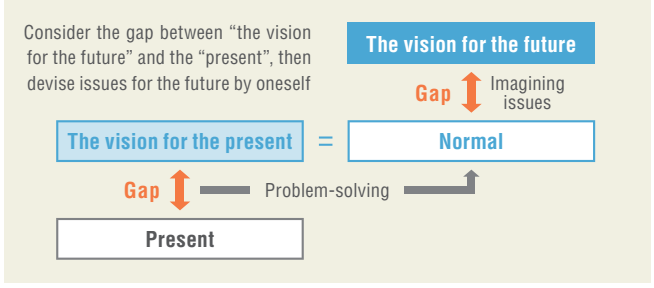
JTEKT holds problem-solving training so that employees can grasp the substance of matters and foster the ability to identify the root cause. The aim is for participating employees to obtain a skill which enables them to solve problems for customers.

Repeatedly ask "Why?" regarding a problem and find the root cause



Gain the ability to imagine issues

There may not be any problems now, but environments do change. JTEKT plans to commence training particularly for managers to imagine future issues and take preemptive measures in order to respond to customer needs five/ten years from now.



Expand targeted employees

Moving forward, JTEKT will spread the problem-solving concept for all levels on an ongoing basis.

Currently advancing in the 3-year plan

FY 2014 Problem-solving training began

Target expansion

FY 2014	Line manager
FY 2015	Managers other than line managers Company trainer development (future shift to in-house) Office/engineering staff R4 (lecturers of company trainer development class) Employees temporarily transferred domestically/overseas
FY 2016	Office/engineering staff R5 (lecturers of company trainer development class) Global trainer development Advanced refinement to rank-based training (office/engineering staff R4)
FY 2017 and beyond	Refinement to individual rank-based training

Roll out to all employees

Together with employees

Human resource development for production staff

The JTEKT training system is composed of the three pillars of companywide training, workplace-based training and self-study. Regarding companywide training, apart from a career development program (rank-based) which is based on training at the JTEKT Technical Training Center (*1), we carry out supervisor training, 10 specialized skill training courses, TWI supervisor trainer development courses (*2) and TWI 10-hour courses. Regarding workplace-based training, we implement OJT training (*3) covering the specialized skills necessary to pass down to future generations, as well as special training and skill courses for the obtainment of certifications necessary in the line of work. We support the self-study of employees so they may attempt the National Trade Skills Test, QC Test, Voluntary Conservation Officer recognition, etc. In FY 2015, we launched floor management education, which involves workshops for leaders and supervisors. This will be rolled out overseas from FY 2017.

***1 JTEKT Technical Training Center** Provides vocational training approved by the prefectural governor of Aichi. Focuses on developing excellent production personnel.
***2 TWI supervisor trainer development course** TWI is an abbreviation for "Training Within Industry". It is internal training for supervisors.
***3 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	43
	R3 training for new managers	CSR, policy management, daily task control	105
Office & engineering staff	R4 training for new office & engineering staff	CSR, leadership, planned fulfillment of tasks	195
	R5 training for office & engineering staff	Business communication skills	228
	R6 training for office & engineering staff	Problem solution methods and concepts	200
	Training for mid-career new employees	CSR, JTEKT employee basic knowledge and mindset	44
	Training for office & engineering new employees	CSR, JTEKT employee basic knowledge and mindset	138
Production staff	Training for newly appointed production managers	Acquisition of an internal human resource development framework and JPS (*4) production system	9
	Training for new Chief Leaders	CSR, Management basics and planned fulfillment of tasks	59
	Training for new KLs	Basics of workplace improvements and acquisition of production systems	69
	Training for new Group Leaders	Problem solutions based on QC concept	149
	Training for new production employees	CSR, JTEKT employee basic knowledge and mindset	109

***4 JPS** JTEKT Production System

Promoting TQM activities

JTEKT promotes TQM (Total Quality Management) activities based on the three pillars of "Customer First", "Endless Improvements" and "Participation by All". 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).
On June 11th, the Delivery Circle of our Nara Plant participated in the Clerical, Sales and Service Section of the 8th All Japan QC Circle Conference. Furthermore, JET2 Circle and Kizuna 2012 Circle of Kokubu Plant and Kagawa Plant respectively participated in the 45th All Japan QC Circle Conference held at Tokyo Big Sight on November 10th.

SQC (*5) Improvement Case Study Companywide Presentation

In R&D, design, production activities and so on, JTEKT proactively incorporates the SQC method to be able to make scientific judgments based on data and consider the variation of materials, parts and properties. In order to share case studies which utilize SQC throughout the company and learn from one another to improve skills, JTEKT holds a SQC Improvement Case Study Companywide Presentation each year. In FY 2015, approximately 460 members attended the event.

***5 SQC** SQC is the abbreviation for Statistical Quality Control.

TOPICS

3rd QC Circle Kaizen Activity Global Convention

On September 10th, the 3rd QC Circle Kaizen Activity Global Convention was held at the JTEKT Corporate Pension Fund Hall [Wiz] in Kariya city, Aichi. Daily activity results were presented by seven selected circles from a total of 49 overseas group companies representing the six regions of Europe, North America, Central/South America, China, ASEAN and India. The convention served as a valuable opportunity for each of the participating circles to take back with them what they had learnt, deploy such knowledge to their respective regions and further vitalize QC circle activities.

First prize – China representative (JSSX) Wisdom of Unity Circle

Presenter Zeng dang xiang (left) and interpreter Zou zhi hong (right)

Together with employees

Creative ideas proposal exhibitions

From June until September, we held creative ideas proposal exhibitions at a total of 22 locations including JTEKT's head office, nine branches and 12 plants. These were participated in by approximately 8,300, which exceeded the FY 2014 turnout of 6,700. The exhibitions introduced outstanding proposals which had been awarded Creative Ideas Merit Awards from the Minister of Education, Culture, Sports, Science and Technology. Detailed explanations of focus points and creative ideas were given so that other employees may leverage proposals to improve their own work. In FY 2015, 30 employees were awarded the Creative Ideas Merit Awards from the Minister of Education, Culture, Sports, Science and Technology and two employees were awarded the Osaka Governor's Prize

[Respect for diversity]
Promoting diversity

In the midst of an ever-changing management environment, represented by globalization, accepting and utilizing personnel with diverse values irrespective of gender, nationality, age, culture and so on is essential for a company to continue growing. JTEKT positions the promotion of diversity as an important management strategy for the achievement of the JTEKT GROUP VISION and engages in various initiatives accordingly.

Reform awareness of all employees and encourage a diversity mindset New!

In order to promote diversity, first, all employees must understand the necessity and the purpose, change their awareness and their conduct. To this end, JTEKT takes the approach of including the theme of diversity in the president's message, e-learning for all employees and incorporating a diversity component in our rank-based training.

Assisting female employees in developing their careers New!

In order to accelerate female participation in the workplace, JTEKT conducted an actual condition survey targeting all female employees and all management personnel in FY 2014. We investigated the environment surrounding female employees, awareness of female employees' work and the development/assessment by superiors of subordinates. Based on the issues brought to light through this survey we established the following four elements which have been focused on since FY 2015.

1. Reform consciousness	We implement training for all administrative positions on understanding diversity management from the aspects of eliminating stereotyped perception of gender roles, and the nurturing of female subordinates.
	We conduct career training for women in all positions on long-term career design and network formation.
2. Dual support	Creation of systems and environments enabling employees with limitations to continue working
	Introduction of systems aimed at supporting career development
3. Strengthen hiring	Proactive hiring of women who are strongly career-oriented
4. Foster culture	We foster a corporate culture that enables all employees to flourish, regardless of gender, based on diversity education for all employees as well as other methods.

No. of females hired/appointed managers (*1)

	2011	2012	2013	2014	2015 (FY)
Total no. of women hired through seasonal recruitment	20	20	27	26	36
(Total no. of employees hired through seasonal recruitment)	(289)	(326)	(316)	(309)	(344)
No. of women managers	11	12	13	16	16
(Total no. of managers)	(1,785)	(1,804)	(1,870)	(1,937)	(1,976)
No. of women assistant managers	20	22	32	37	49
(Total no. of assistant managers)	(1,290)	(1,303)	(1,328)	(1,410)	(1,486)

*1 Based on company registration (includes employees temporarily transferred to domestic or overseas group companies and excludes employees from other companies temporarily stationed at JTEKT)
*1 Values differ from last year's report due to a revision to the calculation method.
*2 Subsection chief equivalent

Formulation of an action plan based on the Act of Promotion of Women's Participation and Advancement in the Workplace New!

Based on a law relating to promoting women in the workplace (the Act of Promotion of Women's Participation and Advancement in the Workplace), JTEKT formulated an action plan.

Plan period	Apr. 1st 2016 – Mar. 31st 2020
Issues	● Low percentage of women in managerial positions (0.8% or 16 women as of Jan. 31st 2015)
	● Low percentage of women in full-time positions (7.3% or 857 women as of Jan. 31st 2015)
Target	● By Mar. 31st 2020, increase the number of women in managerial positions by 2.5 times the number as of Jan. 2015
	● By Mar. 31st 2020, increase the number of women in managerial positions by 1.3 times the number as of Jan. 2015

Management diversity training (1 day)

Career training for female employees (2 days)

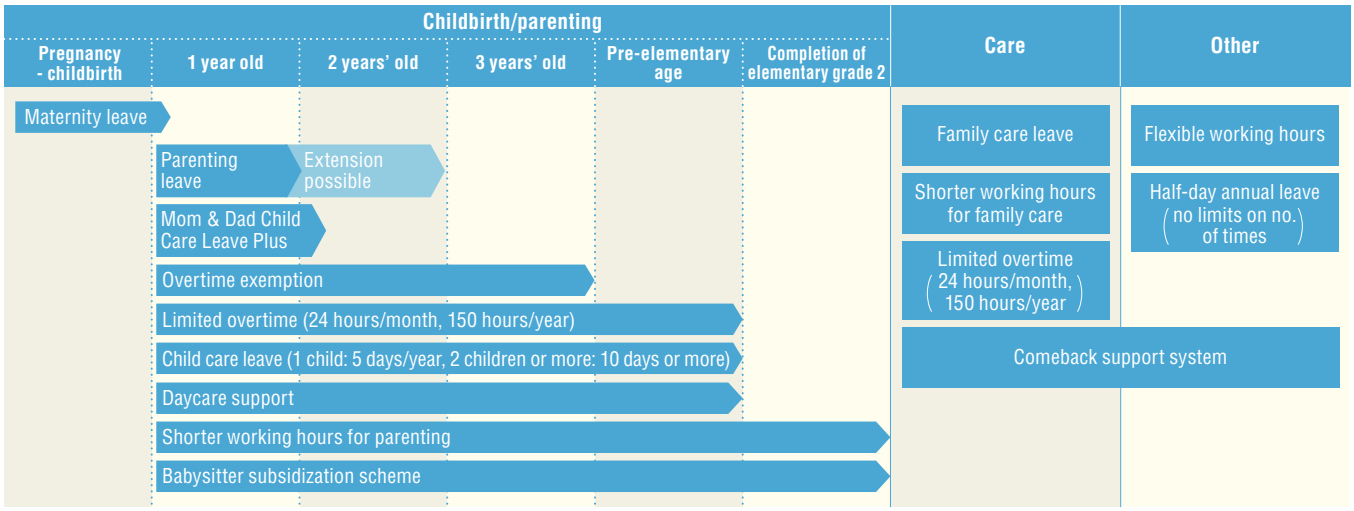
Together with employees

Enhancement of the dual support system

New!

JTEKT is exerting efforts to support all employees, regardless of gender, to balance child-raising or caregiving with work. To this end, we are enhancing the systems and creating workplace environments in which employees can easily utilize such systems.

Overview of dual support system



Description of major schemes

Parenting leave [revised in FY 2015]	Available until child turns one. (if unable to secure spot in daycare center, can be extended until the child turns 2)	
Mom & Dad Child Care Leave Plus	Available until child is 14 months old if both parents take parenting leave.	
Shorter working hours for parenting [revised in FY 2015]	Parents can shorten the hours they work in one day until the end of March in the year that the child completes grade 2 of elementary school.	
Daycare support [revised in FY 2015]	Aichi prefecture	Four Toyota Group companies jointly operate Cooperative nursery school "Tacchi House" primarily concentrated in the Mikawa region of Aichi prefecture. Tacchi House provides a childminding service during company operational hours.
	Other regions	If parents work on public holidays, a room in the workplace is used by a professional to provide child-minding services. * Available at Nara Plant and Kokubu Plant as of March 2016
Babysitter subsidization scheme [revised in FY 2015]	Employees can arrange babysitters for their children subsidized by the company when they have work commitments. The company covers 50% of babysitting costs with an annual limit of 240,000 yen/person	
Family care leave	A total of 365 days leave available for each family member in need of care.	
Shorter working hours for family care	A total of 365 days leave available (includes the family care leave period) for each family member in need of care.	
Comeback support system	A system where employees who have had no choice but to resign due to their spouse being transferred or the need to care for a family member can return to work (comeback) if they have registered to do so upon their resignation and their circumstances allow it. In principle, this system is available for up to 5 years after resignation.	

Number of employees who took childcare leave and number of employees who took family care leave

	2011	2012	2013	2014	2015 (FY)
Number of employees who took childcare leave	19	25	24	38	30
Number of employees who took family care leave	4	4	3	5	1

Together with employees

Reemployment of retired employees

To allow highly motivated retired employees with abundant knowledge and experience to continue working, JTEKT established a post-retirement reemployment system in April 2006. As of the end of March 2016, 736 persons reemployed by JTEKT and related companies were working at various workplaces and training younger employees who will one day become the leaders of JTEKT.

Application of the post-retirement reemployment system in FY 2015

Number of those who are applicable			232
Number of applications [a]			205
Number of re-employed [b]	JTEKT	191	205
	Group companies	14	
Rate of employment [b/a]			100%

Provision of training and tools to consider asset building New!

A re-employment system clarifying expectations and roles was launched in FY 2014 aimed at employees who return to work after retirement. In FY 2015, an Asset Building Exploratory Labor-Management Committee was established to discuss pre-retirement asset building so that employees may retire with a sense of reassurance. In FY 2016, the committee organized an increase in the amount JTEKT contributes to the Defined Contribution Plan and confirmed it would be providing training and tools for asset building aimed at raising employee awareness.

Enhancement of career/life training

JTEKT had already been holding career/life training for employees aged 50 and 55 as an opportunity to think about their career and post-retirement life design, including their health. From FY 2015, JTEKT began holding individual career consultation interviews with employees in managerial positions as an opportunity for them to consult with someone about their post-retirement workstyle.

Career/life training participants (FY 2015)

50 years old Career 50 training participants	103
55 years old Career/life 55 training participants	202
Total	305

Employment of people with disabilities

JTEKT actively participates in joint-employment seminars aimed at people with disabilities and strives to provide as many people as possible with interviews and opportunities to apply. We assign such employees to workplaces where they can work comfortably and which suit the specific characteristics of their disability in order to better support their participation as fellow employees.

Number of disabled persons employed (Average for 2015)

No.of employees with disabilities	307
No.of employees according to legislation	274
No. over or short	+33
Employment rate	2.23%

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

[Employee satisfaction improvement]

Workplace management questionnaires

Every December, JTEKT conducts a workplace management questionnaire for all employees. In FY 2015 as well, we collected comments from employees in both managerial and non-managerial positions at each workplace through questions regarding the “understanding of the workplace mission”, “common perception of the upper management policies”, and “understanding of the connection between the upper management policies and personal themes”, etc. This allowed us to understand management status, such as whether the progress of daily operations is properly controlled and whether company policies are steadily communicated. We aim to create a better workplace by incorporating issues found through this questionnaire into the plan for the following fiscal year.

Confirming the level of satisfaction through morale surveys

JTEKT conducts a morale survey in December each year, along with a workplace management questionnaire, in order to confirm the level of employee satisfaction/dissatisfaction towards the organization and policies, and their associated reasons. Incorporating the results into the plan for the following fiscal year will lead to improvement in employee satisfaction.

Adoption of Cafeteria Plan for benefits

JTEKT has adopted a selection-based benefit program (Cafeteria Plan). Employees can freely select from the benefit menu, including food, travel, and family care, according to points received. In FY 2015, the point usage rate was 96.4 percent.

We support our employees in having a fulfilling life through various programs and facilities such as the employee savings scheme, employee shareholding association, dormitories, and gym.

Together with employees

Safety and health-related initiatives

Social background

The ISO26000 positions work habits as one of its central themes, and as such safety and health at work has been raised as an issue, and corporate safety and health management has been set in detail. Moreover, according to the Ministry of Health, Labor and Welfare, the number of people who take four days or more off work due to injury or illness has reached 110,000 per year and companies are now expected to find feasible solutions to this problem.

JTEKT's concept

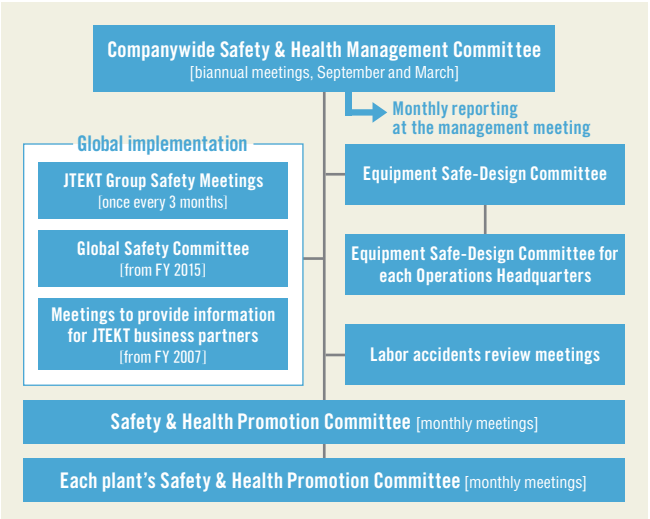
Aiming to create a safe and comfortable workplace environment

All JTEKT employees unite to engage in safety and health activities and create a comfortable workplace environment under our Companywide Safety & Health Policy.

Promoting activities under a centralized control system

In order to systematically and consistently promote the formation of a safe and comfortable workplace environment, we established a Companywide Safety & Health Management Committee and have formed a centralized control system which covers group companies both in Japan and overseas. JTEKT is rolling out its safety and health activities on a global scale.

Safety, health control system



Major activities in FY 2015

[JTEKT's safety activities]

Activities based on the safety & health management system

By FY 2007, 11 plants and the Higashi-kariya Operation Center had acquired "JISHA OSHMS Standards Certification", certification by the Japan Industrial Safety & Health Association concerning occupational safety and health management systems with an emphasis on risk management. Since then, activities have been ongoing in accordance with the management system. In FY 2014, the Sayama Plant also acquired certification.

JISHA OSHMS Standards Certification

FY 2015	Renewals at Okazaki Plant, Tokyo Plant and Kariya Plant
FY 2016	Renewals are planned for Nara Plant, Toyohashi Plant, Hanazono Plant, Tadomisaki Plant, Higashi-kariya Operation Center and Tokushima Plant.

Aiming for zero work-related accidents

▶ Figure-01

At JTEKT domestic plants and operation centers, we continuously promote various safety and health activities aimed at achieving zero work-related accidents. Such activities include establishing 6 Major Accidents (*1) which can easily lead to death or impairment and the establishment of safety dojos (*2) to prevent work-related accidents through improving work and equipment. Since FY 2011 we have placed particular emphasis on countermeasures for "Failure-to-Stop Accidents" (*3) and continued in FY 2015 to focus on eradicating these as an issue of utmost importance. As a result, we were able to reduce the number of failure-to-stop accidents from 10 in FY 2014, to 9 in FY 2015; however unfortunately, we were unable to fully eradicate them. Also, pedestrian accidents seem to be increasing and the total number of accidents has plateaued (no. of lost-day accidents has fallen). We are working to thoroughly identify the reasons for such accidents and achieve our Safety Vision of "'Safety First' No. 1 JTEKT - We can eliminate all accidents!" by accelerating our efforts in developing safety personnel and safe workplaces. In FY 2016, we will first aim to halve the total number of accidents.

*1 **6 Major Accidents** Accidents arising through pinching/entanglement, heavy objects, vehicles, falling, electric shock and hot surfaces.
*2 **Safety Dojo** A place where accidents on actual machinery are simulated and employees learn the importance of observing work rules through physical experience.
*3 **Failure-to-Stop Accidents** Accidents which occur when troubleshooting work or repairs are conducted without first stopping the machine.

"Safety Vision" as the pillar of safety activities

"Safety First" No.1 JTEKT
-We can eliminate all accidents!-

● Safety takes priority over everything
● Strong ambition for ZERO accidents ● Aiming for ZERO risks

We need to become a company which employees and their families are happy with and proud of.

Safety personnel	Safe workplace
① Can protect him/herself	① Equipment is intrinsically safe
② Does not let others get injured	② 4S is continuously and actively carried out
③ Improves unsafe actions and conditions	③ The workplace is improved on a daily basis

Together with employees

Figure-01

[Safety activities of domestic group companies]

Trimonthly Safety Meetings

Trimonthly safety meetings are held on a rotation-basis at JTEKT group companies in Japan in order to share a variety of information. The company who hosts the meeting picks up safety hazards through a safety patrol and then follows through on their improvement. Moreover, accidents which occur frequently during set-up changeover work are identified from past accident analysis results and all of the companies worked together on promoting countermeasures for frequently-stopping equipment. As a result, a total of 919 cases were identified and countermeasures are being rolled out.

Special support activities for companies with frequent accidents

Failure-to-Stop Accidents are the greatest concern for not only JTEKT, but also JTEKT group companies in Japan, and these have been increasing in number since FY 2012. However, JTEKT has continuously conducted special support activities through the *genchi genbutsu* approach for those companies with a high number of accidents, including Failure-to-Stop Accidents. As a result, the number of accidents at the targeted group companies is declining.

Figure-01

[Safety activities of overseas group companies]

Global safety meeting New!

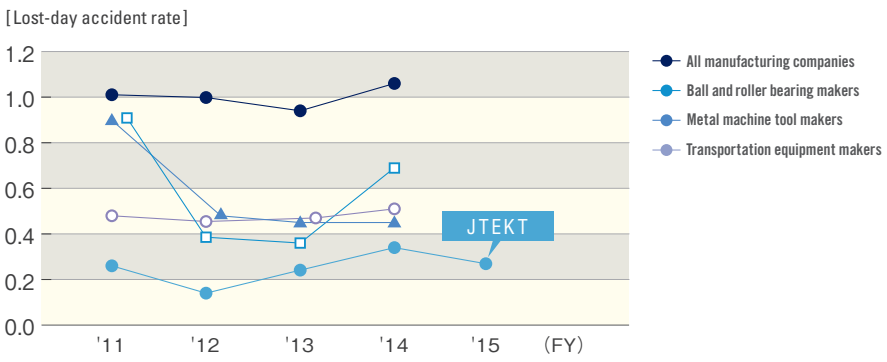
Since FY 2015, JTEKT has been holding global safety meetings with the aim of having all JTEKT companies unite in the pursuit of safety through information exchange with overseas group companies and mutual stimulation. The first of these meetings was held on July 21st at Wiz, JTEKT's Corporate Pension Fund Hall in Kariya city, Aichi prefecture. The four presiding companies for each region participated in this meeting, introducing their respective initiatives and 5-year safety activity plan then participating in a factory tour specifically to look at safety initiatives.

Improving safely level on a global basis

Regarding the status of work-related accidents occurring at overseas group companies, 26 accidents occurred in 2015, compared to a total of 96 accidents in 2011. However, Failure-to-Stop Accidents have been on the rise since 2012, demonstrating that overseas group companies faced the same problem as JTEKT domestic group companies. We will proactively assess conditions using the *genchi genbutsu* approach and implement support activities in order to raise the safety level globally and achieve zero accidents across JTEKT.

Figure-01

Change of industrial accident frequency rate

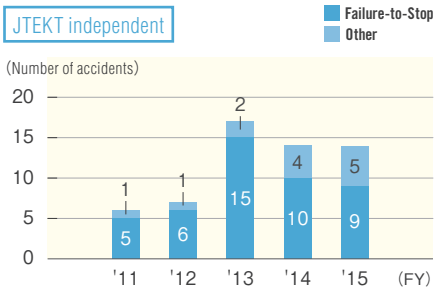


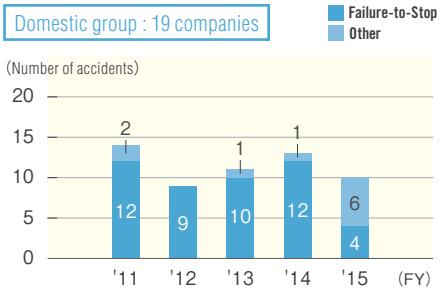
∗ The FY 2015 section of the graph only shows the lost-day accident rate for JTEKT.

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

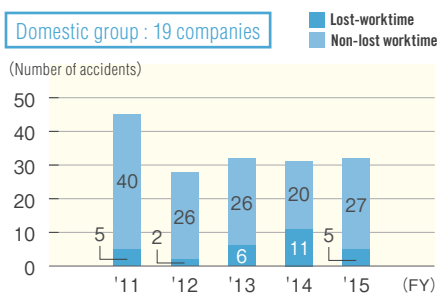
∗ **Lost-day accidents** : JTEKT defines lost-day accidents as work-related accidents resulting in work absence of 1 day or more.

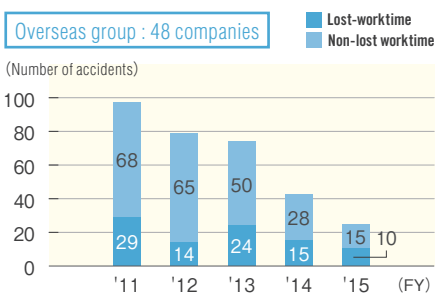
Trend of the 6 Major Accidents

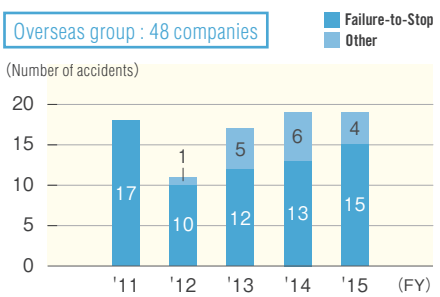




Trend of total number of accidents







∗ The consolidated management scope differs between the Safety & Health Activities Report and Environmental Report. As such, the number of group companies in individual graphs also changes.
∗ Some values differ from last year's report due to revising tallying to not include occupational diseases.

Together with employees

Summary of safety activities for FY 2015

Major items

- Eradication of frequently-stopping equipment
- Promotion of red equipment (*1) countermeasures
- QC activity with safety themes
- Prevention of pedestrian accidents
- Refresher training for troubleshooting

Promotion of various equipment countermeasures

- Red equipment countermeasures: Completed for 3,901 machines
- Frequently-stopping equipment countermeasures: Completed for 2,316 machines
- Oil-leak countermeasures: 1,547 machines

Created 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 percent execution.
- Promoted proposals for near misses (*2).
  → Countermeasures were completed for all 103,254 proposals.
- Actions during safety reinforcement months.
  → Conducted a safety awareness survey in the form of a questionnaire twice during the year for half of the employees at a time. Analyzed the questionnaire results and shared the contents with other plants.
- Promoted training in safety dojos and shop-based safety dojos (*3).
- Conducted an actual-condition assessment through a safety diagnosis by DuPont.

Global deployment

- Rolled out domestically deployed items to our overseas group companies.
  → Held investigations when accidents occurred and promoted countermeasures. Promoted monthly safety themed activities. Conducted autonomous safety audits, promoted establishment of safety dojos.

***1 Red equipment** Equipment without covers which still have the risk of trapping hands.
***2 Near misses** A safety and health activity involving gathering and sharing of information on near misses and the devising of reoccurrence prevention measures.
***3 Shop-based Safety Dojo** A safety dojo targeting risk sources and equipment specific to a certain workplace or production line.

Nobuaki Hibino
Safety & Health Control Dept.

My CSR

Reducing employee traffic accidents

One of my job responsibilities is concerned with road safety. If I receive information about an accident, I send communication to the department affiliated with the employee involved in the accident cautioning them and urge accident prevention measures are implemented. This makes me more aware of safe driving practices myself. I would like to promote activities which lead to reforming employee awareness towards driving and contribute to the elimination of traffic accidents.

Improving awareness and knowledge through safety & health education

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

***4 Basic KYT 4R training** KYT stands for Kiken (danger), Yochi (recognition), and Training. The term "4R" means "4 rounds." This is danger-recognition training through 4 phases.

Main training types (number of attendees in FY 2015)

Rank-based training	Safety management training	84
	Group Leader training	149
	New employee training	137
	Training Center student training	76
Special training	Grinding wheel replacement	74
	Low-voltage handling	74
Others	All-Toyota training for those overseeing outside workers	385
	All-Toyota training for those overseeing construction	112
	Elevated-work training	762
	Electric shock prevention training	649
	Education for risk assessment trainers	269
		2,771

[Creating a comfortable workplace environment]

Workplace noise countermeasures

JTEKT has been engaging in improvements to eliminate all Noise Level 3 Classification areas (90 dB or higher) however has still not succeeded in achieving this goal. We are promoting improvement activities as per plan, without delay.

Creating a workplace environment considerate of senior and female workers

In order to promote the creation of a workplace environment considerate of senior and female workers, JTEKT introduced our own original ergonomics assessment in FY 2015 and has rolled this out to all domestic plants.

Improving high temperature workplaces

From the perspective of worker protection, JTEKT revised work environment measurement standards and began WBGT-based (*5) assessments in FY 2010. JTEKT's index is WBGT 30°C. We will continue implementing countermeasures in FY 2016.

***5 WBGT (Wet-Bulb Globe Temperature)** An indicator incorporating humidity, radiant heat and temperature, which significantly impact 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.

Together with employees

Health-related initiatives

Social background

In line with rising health insurance costs and a declining working-age population, companies are expected to proactively engage in health management to maintain and promote the health of their employees. Also, with the revision to the Industrial Safety and Health Act amidst rising emphasis on mental health measures, stress checks became obligatory from December 2015.

JTEKT's concept

Promoting healthy minds and bodies for every employee

JTEKT values the health of each and every one of its employees and as such, conducts health management activities so that employees may enjoy and go about their daily work with vitality. As an initiative to promote healthy minds and bodies, we proactively promote mental health activities and activities for the prevention of lifestyle-related diseases.

Major activities in FY 2015

[Achieving mental health]

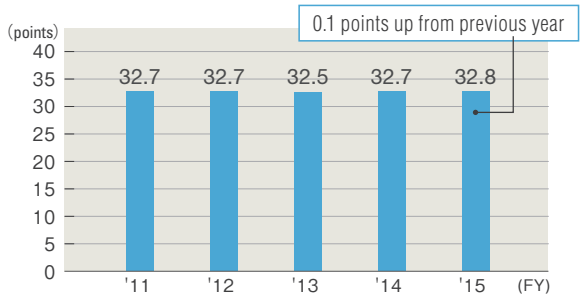
Ongoing promotion of mental health countermeasures

Figure-01

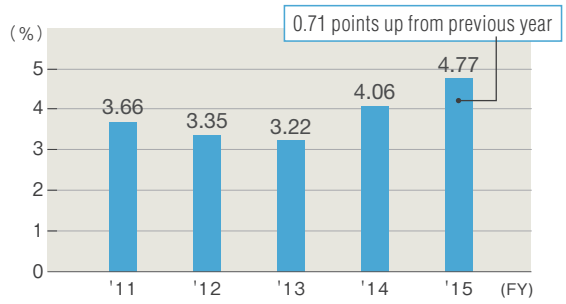
JTEKT continued to promote mental health countermeasures which focused on preventing depression in FY 2015. As a result, while the number of employees in their twenties and thirties who took time off for mental reasons merely levelled off, the number dropped significantly for those in their forties. From FY 2015, JTEKT introduced communication enhancement training as rank-based training due to the relatively high number of managers and supervisors in their forties taking time off of work for mental health reasons in FY 2014. It is believed the number of employees in their forties taking time off work dropped significantly due to a heightened awareness of the importance of workplace harmony and alleviation of interpersonal anxiety.

Figure-01

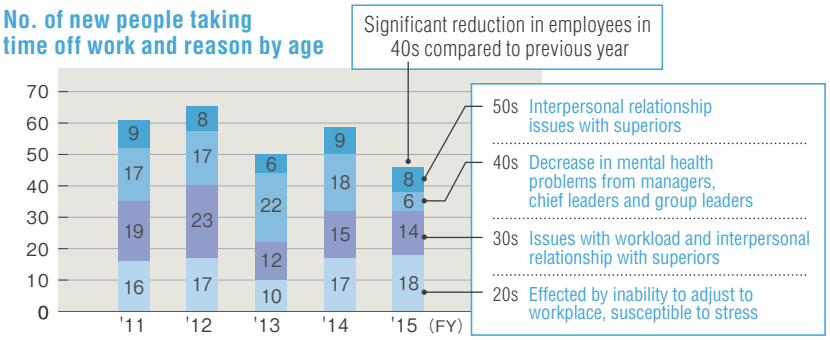
Transition of average stress levels (*1)



High-stress individual ratio yearly transition (*2)

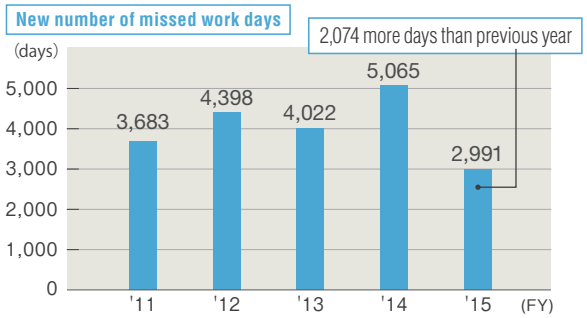


No. of new people taking time off work and reason by age

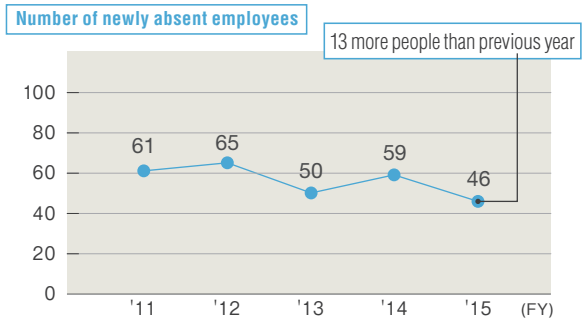


Number of work absences due to mental disorders

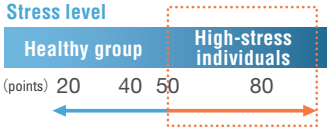
New number of missed work days



Number of newly absent employees



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

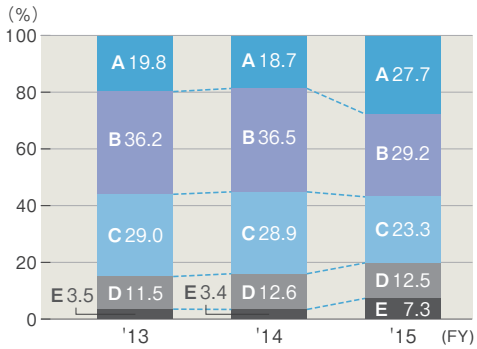
Implementation of stress checks New!

JTEKT conducts stress checks as part of health checkups so that employees may be aware of their own stress levels and know their level of psychological burden. People found to have high stress levels have the option of receiving face-to-face counseling if they require it. The percentage of employees with high stress levels who requested counseling are 17.6 and 13.1% for office/engineering workers and production workers respectively. Assuming that the number of production workers who requested counseling was low as they find it difficult to leave their stations, in FY 2016, we will improve the counseling method to attract as many people to the service as possible.

Workplace improvement activities based on stress check results

In order to ascertain stress levels in one's own workplace and leverage this to make improvements, employees analyze stress check data in line with workplace units (departments, offices, sections, groups) and report the results to the division head.
Compared with FY 2015, Rank A (workplaces full of positive energy) workplaces had increased however Rank D and E workplaces (where stress is being felt) had also increased. As such, JTEKT would like to focus on improving Rank D and E workplaces in FY 2016.

Stress check results



*Values differ from last year's report due to a revision to the calculation method.

Ranks

- A Extremely good (workplaces full of positive energy)
- B Good (lively workplaces)
- C Normal
- D Poor (workplaces where stress is felt)
- E Extremely bad (high stress levels. Workplace improvement is necessary)

Mental health training for managers New!

JTEKT held mental health training for managers.

Mental health training for managers

Theme: Anger management to prevent power harassment

- Held in a lecture style (via video conference)
- Attended by approximately 1,300 people

Content

1. About power harassment
2. What is anger?
3. The difference between "to scold" and "to get mad"
4. 3 methods of controlling anger
5. Assertive (good) communication

Support for employees taking off work due to mental disorders in returning to work

JTEKT supports the return of employees taking off work due to mental disorders, based on the Guidelines for Maintaining and Improving Workers' Mental Health established by the Ministry of Health, Labor and Welfare. Our return to work support program focuses on reoccurrence prevention and cooperates with external organizations such as vocational centers for persons with disabilities. The reoccurrence rate dropped from 0.34 percent in FY 2009 to 0.25 percent in FY 2015.

Implementation of a "one word from each person" activity

We have been promoting an activity where everyone gives a few remarks according to a monthly theme during morning or afternoon assembly in the workplace. The aim of this activity is to create an opportunity for sharing each other's feelings and thoughts within the workplace and supporting one another. We have received positive feedback from the various workplaces such as "The workplace is cheerier.", "I am in a department which provides overseas support so I gave a speech in English and it helped improve my language ability.", "Workplace communication got better." and "It was an opportunity to get to know one another."

Trend 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 the interview, an industrial physician checks the employee's degree of fatigue and work situation. Employees diagnosed to have accumulated fatigue are given guidance on overtime work restrictions for the next month and on lifestyle.

Together with employees

Awareness activities

There is a high possibility that excessive work may lead to cerebral vascular disturbance and ischemic heart disease. As such, JTEKT took into account the health risks related to working long hours and engaged in awareness activities which emphasize points to observe concerning “correction of frequent overtime, working weekends, and non-stop working stretches” and “assessing and controlling work time”.

As a result, we were able to reduce the number of general employees who received long-hour worker health checkups in FY 2015. However, unfortunately the number of employees in managerial positions who received the long-hour worker health checkup rose. In FY 2016 we will continue engaging in activities to make duties more efficient and improve management methods of equalization countermeasures and long hour workplaces.

Transition of number of employees receiving checkup for working long hours

	Managers	Staff
FY 2011	Approx. 2,511 (Average : 209/month)	Approx. 2,231 (Average : 186/month)
FY 2012	Approx. 2,523 (Average : 210/month)	Approx. 1,563 (Average : 130/month)
FY 2013	Approx. 2,767 (Average : 231/month)	Approx. 1,753 (Average : 146/month)
FY 2014	Approx. 3,004 (Average : 250/month)	Approx. 2,312 (Average : 193/month)
FY 2015	Approx. 4,451 (Average : 371/month)	Approx. 1,854 (Average : 155/month)

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

[Achieving physical health]

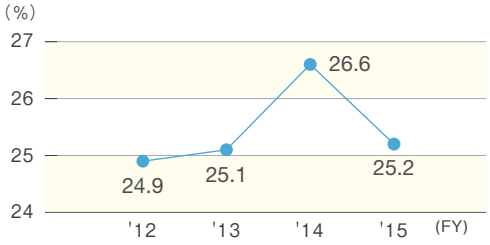
Reducing the risk of lifestyle disease New!

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.

With BMI (∗) as one index to measure the risk of contracting a lifestyle disease, JTEKT established the goal of reducing the percentage of employees with a BMI of 25 or higher (excluding fixed-term employees) to 20% or less and are engaging in various activities towards achieving this.

∗**BMI** BMI is calculated by dividing body weight (kg) by height (m) squared. The Japan Society for the Study of Obesity (JASSO) stipulates that people with BMI of 25 or higher are obese.

Percentage of employees with BMI 25 or higher



Special health guidance

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

In FY 2015, with the aim of improving the level of satisfaction of employees who completed the program, we improved the teaching material used for giving guidance to make it more straight-forward. As a result, the level of satisfaction rose from 70% the previous year to 88%. We will continue enhancing the content of the program to increase satisfaction levels even further and realize highly effective health guidance which leads to the improvement of lifestyle habits.

FY 2015 healthcare guidance implementation

No. of those applicable [a]	1,327
people participating [b]	889
% of total [b/a]	67.0%

Special health guidance teaching material

New, overnight stay-based health guidance New! (Smart Life Stay)

In FY 2015, JTEKT participated in the overnight stay-based health guidance (Smart Life Stay) trial program introduced by Japan’s Ministry of Health, Labour and Welfare as a new initiative to prevent lifestyle diseases. This program utilizes local tourism resources and accommodation facilities and is offered through the collaboration of many occupational types, including welfare workers, nutritionists and fitness instructors. JTEKT participated in the program held for two nights and three days from August 24th at Kaminoyama city, Yamagata. The nine JTEKT employees that participated in this experience said their health awareness improved significantly and their lifestyle habits are improving on an ongoing basis. All nine achieved their goals after six months. JTEKT will continue utilizing this program while increasing the number of employees targeted in order to improve the lifestyle habits of as many employees as possible.

Content of the 2 night/3 days stay


Stretching class


600 kcal diet


Healthy walking


Making wine labels with goals written on them

Change in average weight of nine participants after six months
−4.3kg
Change in average abdominal girth
−5.1cm

Results of Participant F after three months
Weight −4.4kg
Abdominal girth −6.0cm

Feedback from participating employees

- I was able to concentrate on learning about exercise and diet in an environment that differed to my every day one.
- Thanks to having support over the six-month period I was able to keep going to the end without giving in and achieve my goal.

Together with employees

Walking campaign

JTEKT held walking campaigns aimed at encouraging employees to adopt better daily exercise habits. A map for participants to record the number of steps they took while walking was distributed as an insert in the company newsletter.

Participants filled in the squares on the map depending on the number of steps they'd taken and gradually near their goal. The first round was held in March 2015 and the second in November. Due to the small number of participants in the first round (232 employees) we made various creative improvements for the second round including 1. Improving awareness-raising of the upcoming campaign, 2. Setting different courses to suit various participant levels, and 3. The addition of a team participation option. As a result of these efforts, 700 employees participated in the second round, a significant increase, allowing even more employees to experience the joy and benefits of walking first-hand. In FY 2016, we are investigating new ways to increase participation so that even more JTEKT employees will take up good exercise habits.

Team awarded for the team category

Hideko Sugimoto
Personnel and General Administration Division
Personnel Dept.
Personnel Office
Health Promotion Group

To be energetic and vital every day

My CSR

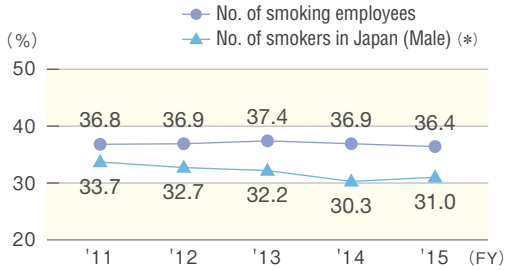
It is my hope that all JTEKT employees can be energetic and vital every day. At the Health Promotion Group, we provide special health guidance, mental health countermeasures and health-enhancement activities from the perspective of disease prevention. I get such joy out of my work when I receive feedback such as "I'm so glad I spoke with you", "I feel like a weight has been lifted" and "I became positive", and see the employee's smile return. I'd like to continue health management activities so employees can experience the joy of working in good health.

Quit Smoking campaign

With a goal of reducing the percentage of JTEKT employees who smoke to 32% or less by the year 2020 (excluding fixed-term employees) the Quit Smoking Challenge is an ongoing activity whereby industrial medical practitioners positively support employees who wish to quit smoking.

In FY 2015, a questionnaire on smoking was completed by 2,531 employees with a focus on managerial positions. The result showed that of all the smokers, only 11% wanted to quit smoking. In the future, we will not only continue the Quit Smoking Challenge, but also strengthen anti-smoking education stressing the risks involved with smoking. Moreover, we will strive to reduce the percentage of smokers and prevent passive smoking by focusing not only on individuals but also smoking environments and workplaces.

Transition of percentage of smokers



*From an investigation by JT

Together with local communities

Social background

The importance of participating in and contributing to the local community is one of the seven core themes of ISO26000. The 4th version (G4) of the GRI Guidelines touches on local community development programs based on the needs of local community. As "corporate citizens", companies are expected to contribute to the local society in a variety of ways.

JTEKT's concept

"Social contribution activities" as one of the Corporate Activities Standards

One of JTEKT's Corporate Activities Standards is "As a good corporate citizen, aggressively pursue activities that contribute to society." The Social Contribution Working Group under the CSR Promotion Committee leads in expanding a variety of social contribution activities, supported by activities rooted in the local community, proactive individual activity towards building nature and culture, and activities to support the affected areas of the Great East Japan Earthquake.

What we want to achieve

▶ Figure-01

JTEKT promotes activities for social contribution as a good corporate citizen, with the aim of developing alongside the local community.

For activities befitting JTEKT, each base actively interacts with their local communities, aims to solve regional issues and engages in actions rooted in the local community.

Major activities in FY 2015

[Communication]

In FY 2015, there were a total of 657 cases of social contribution activities (of which 123 were new) reported by domestic bases. At JTEKT, we believe that identifying the needs of the community through interacting with its members is the first step in achieving activities rooted in the local community therefore community discussions, plant festivals, etc. were held at each base to deepen communication with the region.

Holding community discussions at all plants

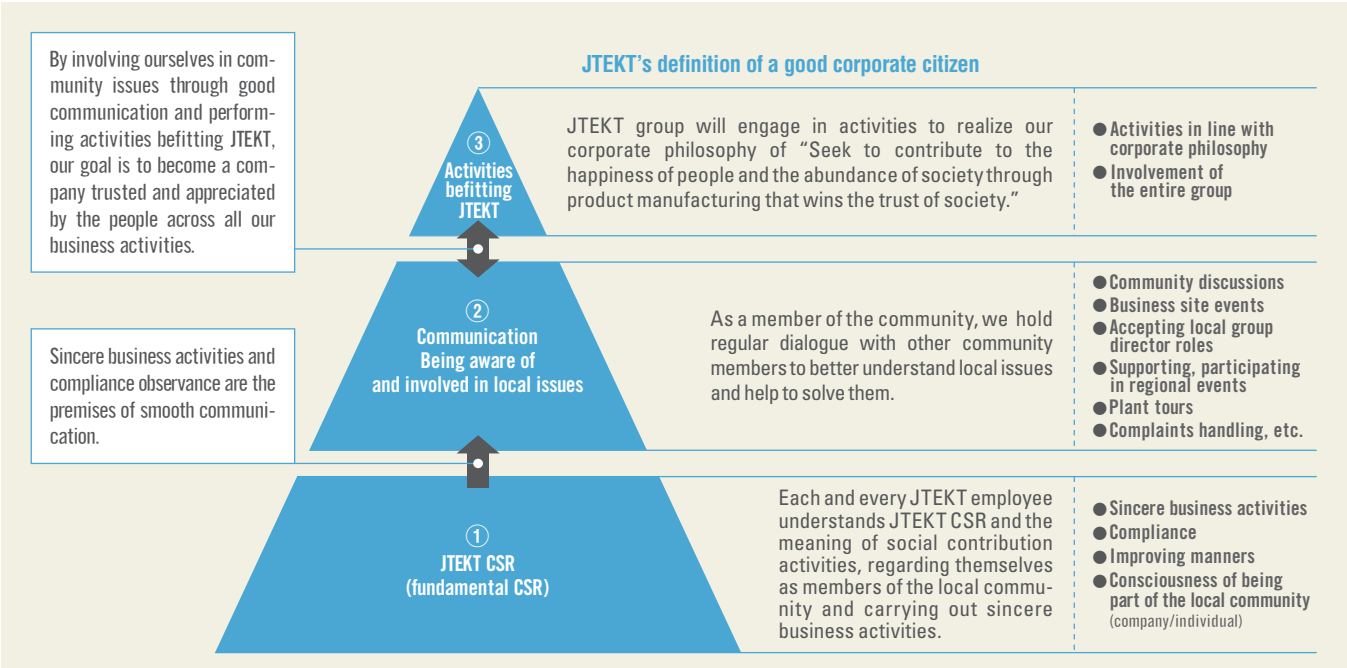
We periodically invite local government officials and community members to participate in community discussions at each plant and operation center. At these discussion sessions, we report achievements and exchange opinions concerning environmental conservation activities, and conduct plant tours, etc., to build a good relationship with the local community. During FY 2015, sessions were held at all 12 plants and at the Higashi-kariya Operation Center.

→ E_12・24 Related article

Deepening friendships through plant festivals

Each of JTEKT's plants and operation centers hold festivals every year, with stage shows, games, employee-run stalls and more. The aim is to promote friendship between employees, families and the local community. Festivals were held at 12 plants and at the Higashikariya Operation Center in FY 2015, counting a total of 8,720 visitors.

▶ Figure-01



Together with local communities

Introduction of activities

Holding a community discussion

Kokubu Plant (Kashiwara city, Osaka)

On February 13th, 2016, Kokubu Plant invited eight members of the local community to participate in a community discussion. This occasion involved a plant tour, exchange of views and a Q&A session, with the aim of deepening the guests' understanding of JTEKT. There were no complaints or requests made relating to the environment.


Feedback from a participating local resident Mr. Kadotani, Kokubuhiganjocho

We listened to JTEKT's requests and then they listened to the thoughts of the town assembly. On behalf of the town assembly, it is my hope that we continue to cooperate and get along well.

Introduction of activities

Around 1,300 visitors to a plant festival

Nara Plant (Kashihara city, Nara prefecture)

Nara Plant held a plant festival which attracted around 1,300 visitors, including employees and their family, concerned parties and community residents. Local government also participated and much fun was had to mark our 10-year anniversary, including a performance by the Unebi junior high's brass band and an inter-workplace quiz contest.


Introduction of activities

"No texting while walking" campaign at train station New!

Higashi-kariya Operation Center (Kariya city, Aichi)

Together with the neighboring Brother plant, Higashi-kariya Operation Center held a "No texting while walking" campaign at JR Noda-shinmachi station on June 1st and 15th. Four people from each company participated, handing out pocket tissues and raising awareness.


[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

Workplace experience for junior high school students New!

Hanazono Plant (Okazaki city, Aichi)

On August 3rd and 20th, workplace experience was held for ten Year 2 students from Sinkayama junior high and two Year 2 students from Iwatsu junior high, respectively. The content covered pouring melted aluminum into molds and making a transistor radio.


Introduction of activities

Volleyball lesson by players

Kagawa Plant (Higashikagawa city, Kagawa), Tokushima Plant (Itano ward, Tokushima)

Four players from JTEKT's volleyball team, STINGS, gave volleyball lessons in Kagawa prefecture and Tokushima prefecture on August 4th and 5th, respectively. The Kagawa lesson was participated in by around 100 volleyball club members ranging from local elementary students to senior high students. After practice, the players offered an autograph session and commemoration photo and smiles aplenty lit up the children's faces. A total of 62 people attended the Tokushima lesson, including local elementary and junior high school students as well as children of JTEKT employees. The participants seemed to have great fun at the same time as practicing with sincerity under thorough guidance tailored to suit individual age and experience.


Introduction of activities

Awarded by Thai government for education support New!

JTC (Thailand)

JTEKT received an award in recognition of proactively accepting interns as part of an initiative by the Thai government to educate and raise the status of college students (3-year college). We will exert even more effort to develop professionals so that we may continue contributing to the advancement of the Kingdom of Thailand.

Together with local communities

[Welfare support]

JTEKT supports the socially vulnerable, such as sick persons and those with disabilities, in many ways.

Introduction of activities

Promoting volunteer activities with welfare support goods New!

All domestic bases

JTEKT strives to create a corporate culture in which its employees proactively engage in volunteer activities. In FY 2015, JTEKT held a "Once a year, volunteer" activity in which novelty items were distributed to employees who volunteered. Novelty items were selected for each base in consideration of supporting persons with disabilities, disaster-affected areas and contributing to the surrounding community.

(Examples)

Kagawa Plant novelty item

Nagoya Head Office novelty item

Tokai Branch Office novelty item

Distributing job-seeker support facility cookies to each base as a novelty item

Local water products were Tokyo Plant novelty items

Introduction of activities

Contemplating welfare through experience New!

Toyota Branch Office (Toyota city, Aichi)

Toyota Branch Office held an event simulating what it felt like to be elderly, pregnant and bound to a wheelchair. 69 people participated. Responses to a questionnaire completed after the event included "I realized how hard it was to be pregnant." And "Next time I see someone having trouble around town, I'll call out to them.", showing that this event was significant in urging people to think about how they can be involved in the welfare of others.

[Road safety and fire prevention]

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

* **Risho** A practice unique to Japan where, on the morning of a specific 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

Proclaiming road safety as a citizen representative New!

Kariya Plant (Kariya city, Aichi)

On September 25th, as part of the nationwide road safety awareness campaign held every autumn, the Traffic Safety Council of Kariya City hosted a traffic safety rally at the JR Kariya station's south exit square. The mayor, precinct chief and chairman of Kariya city, along with around 200 people from related organizations and Toyota group companies participated in the rally, and a JTEKT employee served as a representative of Kariya citizens, powerfully reading aloud a proclamation hoping for the elimination of road accidents. After the proclamation was read out, all rally participants carried out road safety risho.

Introduction of activities

Players become police officers for a day New!

STINGS

On April 12th, 2016, four JTEKT employees had the experience of being police officers for a day at Kariya Police Station, in Kariya city, Aichi. As part of the nationwide road safety awareness campaign held every spring, the four raised awareness for the prevention of road accidents at Kariya Highway Oasis and distributed a keyholder depicting this theme. Afterwards, the four participants conducted awareness-raising activities for JTEKT employees at Kariya Plant.

Together with local communities

[Community clean-up and beautification]

Employees proactively participate in cleaning up around plants to enhance coexistence with the community.

Introduction of activities

Cleanup activities at all domestic bases

All domestic bases

Every year JTEKT holds community beautification activities to raise company environmental awareness. In FY 2015, these activities were held at all twelve plants, the Higashi-kariya Operation Center and all head offices and branches.

Tokyo Plant: Cleanup Tama River Campaign

Okazaki Plant:
Cleanup Route 1 hosted by Okazaki City

Kawai Distribution Center:
Cleanup Otsukayama Tombs

Higashinihon Branch Office: Gathering of fallen gingko tree leaves in Ginza

My CSR

Katsushi Fujiwara
Yasuhiro Hosoda
Toshiaki Yamamoto
Takahiko Akamatsu
Yuuji Hitomi
Kazunori Kondou
Tetsuya Oonishi
Koyo Sealing Techno Co., Ltd.

Building an abundant society together with communities

Koyo Sealing Techno works hand in hand with the community to keep the town tidy. We have been participating in the Tokushima Adopt Road Program which aims to keep Tokushima prefectural roads clean and around thirty employees participate in a concentrated cleanup activity held by the community seven times a year. We also collaborate with local police to hold road safety awareness activities and received an award from the Ministry of Health in November 2015 for its blood donation activity. Koyo Sealing Techno would like to continue engaging in activities closely affiliated with the local community and help to vitalize it even further.

[Environmental preservation]

JTEKT considers environmentally-orientated social contribution to be of great importance. Each plant and operation center engages in a variety of environmental preservation activities with community members.

Introduction of activities

140 participants in a dragnet haul and coastline cleanup activity

Toyohashi Plant (Toyohashi city, Aichi)

Since its beginning in FY 2013, the third Sandy Beach Fureai Walk was held on November 7th. Toyohashi Plant employees and their families participated with local elementary school students and their families, making up a total of 140 people who took part in the event, which involved a dragnet haul and cleaning up of the coastline. Approximately 60kg of rubbish was collected from the coastline, contributing to the beautification of the area. JTEKT volunteers carried out an environment-related quiz.

E_25 Related article

Feedback from participating employees

Toshie Takeshita
Steering Systems Business Headquarters
Toyohashi Plant Process Engineering Dept.

I was so glad I could participate with my children because apart from the actual cleanup itself, there was a dragnet haul and plenty of other fun things to do!

My CSR

Akira Michifusa
Takashi Yamaji
Takako Miyake
Koyo Machine Industries Co., Ltd.

What each individual can do today for a better future

The head office of Koyo Machine Industries is located in Osaka, while the plant is located in Nara. The Yamato River runs through both Osaka and Nara and on the first Sunday of every March, a concentrated cleanup day is held to keep the river beautiful and improve water quality. Koyo Machine employees and their families participate in this event. It is uplifting that the amount of rubbish seems to be decreasing year after year. We would like to continue engaging in activities which place importance on harmony with the community.

Together with local communities

Introduction of activities

Participation in a natural lake cleanup activity New!

Tadomisaki Plant (Takahama city, Aichi)

Aburagafuchi is Aichi prefecture's only natural lake located approximately 3km east from Tadomisaki Plant. The fourth Sunday of every July has been proclaimed Aburagafuchi Purification Day and on this day the four surrounding cities of Hekinan, Anjo, Takahama and Nishio make a concentrated cleanup effort. As part of a new biodiversity activity, five employees of Tadomisaki Plant participated in an activity to cleanup Hieta River, which is a tributary river to Aburagafuchi. We wish to continue participating in the monthly monitoring of Aburagafuchi's water quality.

E_25 Related article

Feedback from participating employees

Shogo Asai
Environment Control Dept.

Tadomisaki Plant believes that interacting with local residents and contributing to coexistence with nature are also extremely important for JTEKT itself. We will continue proactively engaging in such initiatives, including joint activities with other plants.

My CSR

Yoshinobu Ohta
Toyooki kogyo Co., Ltd.

Environmental promotion together with Hacchi River

Toyooki Kogyo is nestled amongst the natural beauty of Okazaki city's east. Okazaki city aims to become a city which coexists with the environment and is abound with water and greenery. As part of this, we contribute to the creation of a regional society where people can live comfortably in a way that is gentle on the environment. Every year, the river that runs immediately beside our company building lights up with the Luciola cruciate, a type of "flashing" firefly. Toyooki Kogyo would like to protect this environment together with local residents.

[Disaster area support]

It has been five years since the Great East Japan Earthquake, yet devastated areas are still in the midst of recovery and reconstruction. JTEKT has designated the support for disaster areas as a pillar of our societal contribution activities, and our employees continue to participate in support activities. JTEKT also supports the areas devastated by the Kumamoto Earthquake.

Introduction of activities

Donation to the Kesennuma Asobiba Community Organization New!

Toyohashi Plant (Toyohashi city, Aichi)

JTEKT's Toyohashi Plant donated 1.1 million yen to Kesennuma Asobiba, a community organization in Kesennuma, Miyagi prefecture that provides children with somewhere to play. At a ceremony held in Kesennuma on September 25th, Kesennuma Asobiba's representative, Miwako Suzuki expressed her appreciation, saying "The children still have rubble in their hearts from the earthquake/tsunami disaster. We will use the money carefully so that Asobiba can continue providing children with a place to play."

Introduction of activities

Volleyball lesson in Kesennuma

STINGS

On September 26th, JTEKT's volleyball team, STINGS, held a volleyball lesson as a part of disaster area support at Motoyoshi-hibiki High in Kesennuma city. This time they received a banner from the students with a heartfelt message which deeply touched the players.

Together with local communities

Introduction of activities

Charity caravan supporting disaster areas

All domestic bases

Continuing on from last year, JTEKT ran charity caravans supporting disaster areas at all of its domestic bases as a companywide support activity utilizing the cafeteria menu and vending machines. The "matching gift" scheme was also carried on from previous years. This scheme involves JTEKT contributing to the overall donation amount by an amount equivalent to the donations from employees themselves. Together with the independent charity projects of each base, we collected a total of 3,302,973 yen in donations.

Donations

Ongoing in FY 2016!

FY 2013 → 2,314,976 yen
FY 2014 → 2,620,525 yen
FY 2015 → 3,302,973 yen

Achieved the goal of 3 million yen set at the outset in the third year!

Game invitation and donation ceremony New!

JTEKT invited a total of 170 people to watch its volleyball team, STINGS, play in Iwate prefecture on January 9th. Invitations were extended to senior high school students from Minamisanriku town, Kesennuma city (Motoyoshi district), elementary/junior high school students from Otani and Omose districts, Kesennuma Asobiba, a community organization providing children with a place to play, and so on. After the game, a social gathering and donation ceremony from JTEKT's charity caravan took place. A total of 3 million yen was provided in the form of volleyball goods and cash to the senior high school volley ball team from Motoyoshi district and 300,000 yen was donated to Kesennuma Asobiba.

Introduction of activities

Donation of 3 million yen to areas affected by the Kumamoto Earthquake New!

JTEKT and all JTEKT groups

JTEKT and all JTEKT groups donated 3 million yen to areas affected by the Kumamoto Earthquake that occurred in April 2016. Moreover, between April 18th and June 23rd, we also accepted machine tool service requests on a 24-hour basis in order to help customers affected by the earthquake resume production.

Together with shareholders and investors

Social background

The transparency of company management is scrutinized, making it increasingly important to disclose information in an accurate and timely manner and establish accountability. Moreover, in the financial sector as well, it is becoming more commonplace to emphasize ESG (*1) information when assessing a company's value. Therefore, it is important for a company to be able to balance earning power with business sustainability.

***1 ESG** Abbreviation for Environment, Social and Governance; the matters a company is expected to consider as their responsibility when conducting business activities.

JTEKT's concept

Aiming for highly transparent management

One of JTEKT's Corporate Activities Standards is "Maintain close communication not only with shareholders but also with society at large, disclose corporate information properly, and strive continuously to improve company value." Based on this concept, we guarantee transparent management, and strive to construct a long-term relationship of trust with shareholders and investors.

Major activities in FY 2015

Information disclosure and IR activities

JTEKT not only observes rules on legislated disclosure and timely disclosure, but also strives to increase the transparency of its management. In addition, in order to deepen understanding of JTEKT and the JTEKT group by shareholders and investors, the company also actively discloses information that is both well-timed and appropriate voluntarily and in a fair manner, through various IR activities.

End-of-period IR results briefing

At the end-of-period IR results briefing for analysts and institutional investors held in May 2016, direct dialogue was had regarding the status of each JTEKT business with the general manager of each business headquarters in attendance. We incorporate feedback received through such dialogue in the annual review and revision (*2) of our mid-term management plan and strive to reflect it in our business activities.

***2 Review and revision** Regularly revising a plan to suit changes in the management environment.

Main IR activities

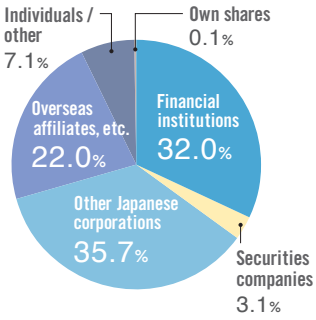
Target	IR activity
Domestic institutional investors/stock analysts	● Hold IR results briefing and small meetings ● Individual interviews ● Conduct plant tours ● Issue annual reports
International institutional investors	● Individual interviews ● Participate in stock company-hosted conferences ● Issue annual reports
Individual shareholders/ individual investors	● Notify business reports and summons of General Meeting of Shareholders

Shareholder status

Current as of end of March, 2016, the number of shares issued was 343,286,000 and the breakdown of shareholders is as follows.

→ J_47 Related article

Shareholder distribution status



Financial institutions	109,845	thousand shares
Securities companies	10,741	thousand shares
Other Japanese corporations	122,458	thousand shares
Overseas affiliates, etc.	75,574	thousand shares
Individuals /other	24,397	thousand shares
Own shares	269	thousand shares
Total	343,286	thousand shares

As of end of March, 2016
(anything less than 1,000 rounded down)

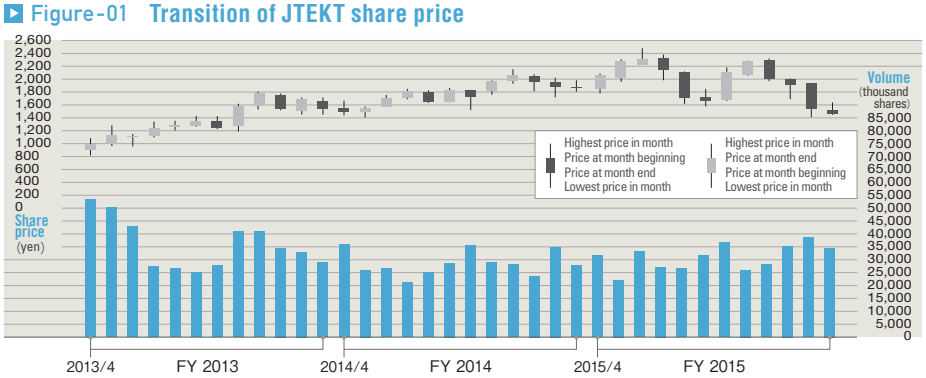
Business performance and return of profits

Figure-01

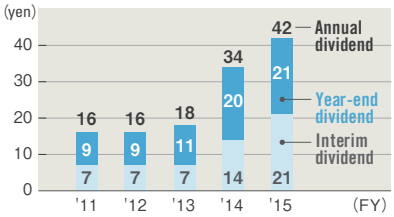
JTEKT considers ongoing stable dividends a basic premise and comprehensively considers performance and payout ratio in order to satisfy the expectations of our shareholders. Based on this policy, the dividend per share for FY 2015 was 42 yen, an increase of 8 yen from last year's amount.

→ J_17・47 Related article

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	

Environmental Report

- The CSR Report 2016 PDF is published with the aim of conveying the concept and activities pertaining to JTEKT's CSR in an easily understood manner. This report emphasizes objectiveness, completeness and continuity.
- Please refer to the JTEKT REPORT 2016 for information about JTEKT's business performance, business activities, planning, and strategy.
- For related articles:

M = JTEKT's CSR Management F = Special Edition
S = Social Report E = Environmental Report
J = JTEKT REPORT 2016

- This section, the Environmental Report, summarizes environmental aspects of FY 2015 based on the JTEKT 2016 Environmental Action Plan.

Target period and target organizations/scope

Target period

FY 2015 (April 2015 - March 2016)
* Some items include content from other periods.

Target organizations and scope

All activities of the JTEKT group

For items for which there is no criteria uniform across the JTEKT group, the unconsolidated results of JTEKT are displayed. 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 2013 (G4)"
◎ 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
"General Guidelines on Supply Chain GHG Emission Accounting"

New! This mark is used to indicate new actions begun in FY 2015 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

In September 2015, Sustainable Development Goals (SDGs) were adopted at the United Nations Sustainable Development Summit. Of the 17 goals aimed to be realized by 2030, the majority are environment-related. Corporate business activities have various effects on the global environment. As raised by the GRI Sustainability Reporting Guidelines (G4 Guidelines) and environmental reporting guidelines, companies are expected to consider the environment from a comprehensive perspective and disclose information from both positive and negative aspects.

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 that wins the trust of society." we as a group have positioned the environment as one of our main management issues and are involved in actions which contribute to the sustainable development of society and the planet. We are greatly aware of the impact corporate activities have on the environment, and are working proactively to tackle matters of high importance.

JTEKT Group Environmental Vision

▶ Figure-01

In March 2011, JTEKT established the JTEKT Group Environmental Vision, comprising of an Environmental Philosophy and Environmental Policy, which sets out our initiatives towards conserving the global environment. 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, which is chaired by the company president. The Committee sets goals based on company policy, discusses and determines measures, and manages the progress thereof. In FY 2016, we newly formulated a Production Engineering Innovation for CO_2 Reduction Subcommittee aimed at developing, introducing and diffusing innovative techniques and equipment through production engineering innovation in order to help create a low-carbon society. JTEKT is proactively engaging in activities to achieve the goals slated in our Environmental Challenge 2050.

Promotion of global environmental management

We are working to further strengthen our environmental management for 19 group companies in Japan, and 38 group companies overseas.

→ E_27 Appendix

Environmental management

Figure-01 JTEKT Group Environmental Vision

Environmental Philosophy

The JTEKT group is aiming to reduce the environmental load of 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

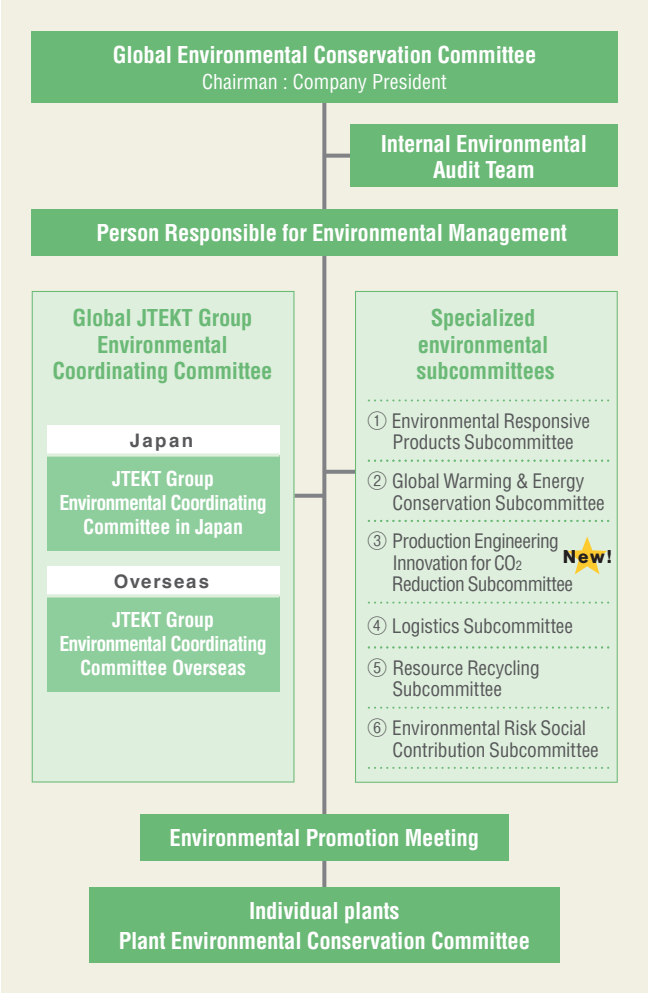
(Date of establishment: June 26th, 2013)

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

→ J_29 Related article



Environmental management

New initiative guidelines for the year 2050

Formulation of Environmental Challenge 2050 New!

Figure-01

In May 2016, in line with the slogan of "for future children ", JTEKT formulated and announced Environmental Challenge 2050 and Environmental Action Plan 2020 as new initiative guidelines to minimize environmental burden by the year 2050.

In addition to our existing daily improvements, we will endeavor to achieve production engineering innovation and proactively promote reusable energy such as wind power and hydrogen energy that incorporates JTEKT's bearing business technologies and aim to minimize the amount of CO_2 emitted throughout the entire life cycle of our products, from manufacture to use and disposal.

J_30 Related article

Figure-01 Guidelines of Environmental Challenge 2050

Area	Guidelines
Product/ Technology	Contribute to an environmental society using our capabilities in the development of products and technologies ・Proactively promote development of products, such as parts for fuel cell vehicles, anticipated to contribute to reducing environmental burden.
Creation of a low-carbon society	Minimize the amount of CO_2 emitted throughout the entire life cycle of our products, from material/part procurement to design and manufacture, and even including disposal.
	Minimize the CO_2 emitted from plants when products are manufactured by the year 2050 ・Develop, introduce and diffuse innovative processes and equipment ・Daily improvement and higher efficiency equipment at plants ・Switch to reusable energy, hydrogen energy, etc.
Creation of a recycling-based society	Minimization of discharged materials and expansion of recycling in the production phase ・Implement countermeasures targeting point of origin (improve yield, etc.), improve value of waste material through strengthened separation practices, etc. (creating valuable resources) ・Utilize recycled materials, increase company recycling
	Recycle water used at plants, minimize water consumption Make water cleaner before discharging from plants
Society in harmony with nature, biodiversity	In addition to JTEKT-wide activities, promote activities to achieve society in harmony with nature and protect the ecosystem through collaborating with the Toyota group, government offices and NPOs.
Environmental management	Build a corporate culture and professionals to proactively promote global environment conservation ・Improve employee environmental awareness and develop human resources able to contribute both internally and externally to the company ・Expand environmental activities on a global basis

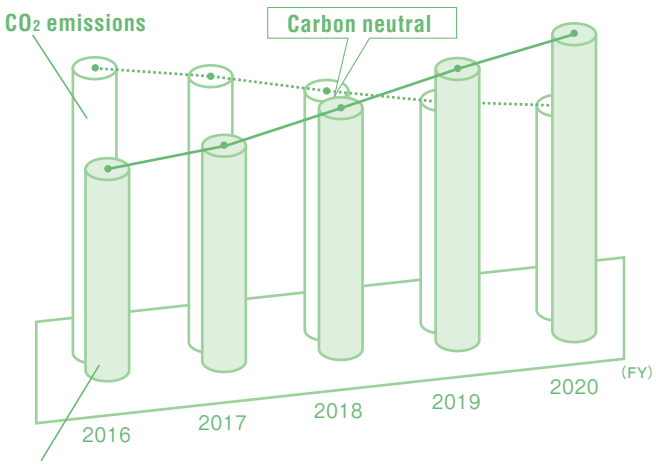
Contribution to CO_2 reduction through products New!

Figure-02

In accordance with our Environmental Action Plan 2020, JTEKT has established the new environmental guidelines of improving product efficiency, reducing CO_2 emissions during product usage, and contributing to the prevention of global warming throughout the product life cycle. This action plan states that by 2020, JTEKT aims to have made a contribution to CO_2 reduction through products either equivalent to or greater than the current CO_2 emissions of the entire JTEKT group.

J_31 Related article

Figure-02 Contribution to CO_2 reduction through products



* CO_2 emissions refer to global emissions including both domestic and overseas group companies
* Contribution to CO_2 reduction through products figures are the contribution calculated globally for each fiscal year

Environmental Action Plan 2020 New!

Figure-03

Environmental Action Plan 2020 is a 5-year activity plan established as the first step to achieving Environmental Challenge 2050. It sets out the specific numeric targets that the JTEKT group is endeavoring to achieve by the year 2020.

J_31 Related article

Environmental management

Figure-03 Environmental Action Plan 2020

<table>
<tr><th colspan="2">Area</th><th>Action items</th><th>Specific items to be implemented/targets</th></tr>
<tr><td rowspan="5">Product / Technology</td><td rowspan="5">Develop and design environmentally friendly products</td><td>(1) Develop new technology and new products leading to environmental burden reduction</td><td>① Evaluate all JTEKT products using the environmental efficiency formula set by JTEKT and aim to improve</td></tr>
<tr><td>(2) Promote 3R (reduce, reuse, recycle) design considerate of effective resource utilization</td><td>① Design products which are easily recycled
② Reduce resource consumption by making products smaller, lighter and longer-lasting</td></tr>
<tr><td>(3) Control and reduce environmentally burdensome substances contained in products</td><td>① Promote groupwide response to worldwide chemical substance regulations</td></tr>
<tr><td>(4) Roll out environmental assessments in the design and development phases</td><td>① Promote improvements to product performance and conduct life cycle assessments (LCA)</td></tr>
<tr><td>(5) Contribute to CO_2 reduction through products</td><td>① Develop and design environmentally-considerate products which contribute to reducing CO_2 emissions
② Contribute to reduction of CO_2 emissions from product usage by 800,000 t or more by the year 2020</td></tr>
<tr><td rowspan="2">Creation of a low-carbon society</td><td rowspan="2">Reduce CO_2 emissions</td><td>(1) Reduce CO_2 in production and logistics
• Global reduction of CO_2
• Reduction of CO_2 through improvements to logistics</td><td>Production
① Promote CO_2 reduction through daily improvement activities at plants
② Develop and introduce low-CO_2 production technologies through production engineering innovation (Seek to improve productivity, roll-out activities including offices, etc.)
<table><tr><th></th><th>Item</th><th>Base year</th><th>Target (2020)</th></tr><tr><td rowspan="2">JTEKT</td><td>CO_2 emissions</td><td colspan="2">FY 2020 basic unit target x production volume</td></tr><tr><td>Emissions by in-house production volume</td><td>2008</td><td>Down 15%</td></tr><tr><td>Global ＊1</td><td>Emissions by in-house production volume</td><td>2012</td><td>Down 10%</td></tr></table>Logistics
① Reduce CO_2 emissions by improving logistics efficiency and enhancing fuel economy
<table><tr><th>Item</th><th>Base year</th><th>Target (2020)</th></tr><tr><td>Emissions by sales</td><td>2012</td><td>Down 8%</td></tr></table></td></tr>
<tr><td>(2) Promote reusable energy</td><td>① Promote reusable energy that considers the unique characteristics of each individual area and region</td></tr>
<tr><td rowspan="3">Creation of a recycling-based society</td><td rowspan="2">Reduce waste</td><td>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 FY 2009 and is continuing to aim for zero waste production in other areas)</td><td><table><tr><th></th><th>Item</th><th>Base year</th><th>Target (2020)</th></tr><tr><td rowspan="2">JTEKT</td><td>Emissions by in-house production volume</td><td>2008</td><td>Down 18%</td></tr><tr><td>Direct landfill waste</td><td colspan="2">Zero</td></tr><tr><td rowspan="2">Global ＊1</td><td>Emissions by in-house production volume</td><td>2012</td><td>Down 8%</td></tr><tr><td>Direct landfill waste</td><td colspan="2">Accomplishment of Zero Emissions ＊2</td></tr></table>＊2 Make direct landfill waste less than 1% of emissions</td></tr>
<tr><td>Logistics
(1) Reduce use of one-way packaging material</td><td>① Reduce packaging material consumption through simpler packaging, using more returnable containers, etc.
<table><tr><th>Item</th><th>Base year</th><th>Target (2020)</th></tr><tr><td>Emissions by in-house production volume</td><td>2012</td><td>Down 8%</td></tr></table></td></tr>
<tr><td>Effective use of resources</td><td>(1) Reduce waste in production</td><td>① Reduce stock removal and improve yield through design and technique changes
② Countermeasures targeting point of origin, reduction</td></tr>
<tr><td rowspan="2">Society in harmony with nature, biodiversity</td><td>Enforce chemical substances controls and reduce environmentally burdensome substances</td><td>Reduce environmentally burdensome substances in production activities</td><td>① Reduce the discharge and transportation of PRTR substances
• Reduce through promoting substitute materials</td></tr>
<tr><td>Biodiversity conservation</td><td>Action for biodiversity</td><td>① Promote activities based on our Biodiversity Conservation Action Guidelines
② Promote conservation of biodiversity through “connecting activities” in the JTEKT group and across all Toyota group companies</td></tr>
<tr><td rowspan="6">Environmental management</td><td rowspan="4">Environmental management</td><td>(1) Strengthen and promote consolidated environment management</td><td>① All affiliate companies to formulate and roll out their individual environment activity plans based on the JTEKT Group Environmental Vision
② Establish strategic environmental management which considers the management issues of business activities</td></tr>
<tr><td>(2) Promote environmental activities in cooperation with business partners</td><td>① Promote green purchasing by all parts/materials suppliers
• Control and reduce environmentally burdensome substances included in parts and materials
• Request the creation and operation of environmental management systems
② Promote purchasing of environmentally-considerate products</td></tr>
<tr><td>(3) Promote sustainable plant activities</td><td>① Promote plant greenification and plants which utilize and harmonize with nature</td></tr>
<tr><td>(4) Promote environmental education activities</td><td>① Promote environmental awareness education aimed at improving employee environmental awareness
② Promote rank-based education
③ Implement JTEKT Environment Month (June)</td></tr>
<tr><td rowspan="3">Preserve and improve the global environment, forge communication</td><td>(1) Enforce preventative measures for environmental problems and observe regulations</td><td>① Promote ongoing zero legal violations and complaints from residents by strengthening and improving daily management tasks</td></tr>
<tr><td>(2) Build good relationships with local residents</td><td>① Promote environmental conservation activities around plants
② Build good relationships through discussions with local residents and local government</td></tr>
<tr><td>(3) Proactive disclosure of environmental information and enhancement of communication activities</td><td>① Promote release of the JTEKT Report
Establish communication with government agencies and local residents
② Improve the JTEKT brand image and external evaluation through proactive disclosure of information</td></tr>
</table>

＊1 JTEKT + 19 domestic groups + 38 overseas groups

Environmental management

Targets and results

JTEKT Environmental Action Plan
2015 Environmental Action Plan

In order to promote environment conservation activities throughout the entire JTEKT group, JTEKT had formulated the 2015 Environmental Action Plan, which sets out our initiative policies and specific targets, and shared this throughout the group. In FY 2015, the final year of the action plan, JTEKT group's overall global CO_2 emissions basic unit had improved 5.0% compared with FY 2012. While we had accomplished our target, JTEKT's individual CO_2 emissions basic unit fell short of the target with only a 1.0% improvement compared with the previous year (6.3% compared with FY 2008). Since 2016, in order to realize the newly formulated Environmental Challenge 2050, JTEKT is aiming to minimize CO_2 emitted throughout the entire life cycle of its products and is promoting and strengthening activities on a groupwide scale.

2015 Environmental Action Plan

Area	Action items	Targets and initiatives	FY 2015 results of activities	Evaluation	Related pages
Environmental management	(1) Strengthen and promote consolidated environment management	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_09
	(2) Promote environmental activities in cooperation with business partners	(1) Further promote green purchasing (2) Roll out environmentally friendly purchasing guidelines to business partners	Expanded Green Purchasing Guidelines		S_05
	(3) Promote sustainable plant activities	(1) Introduce reusable energy (2) Promote plant greenification	Amount of reusable energy introduced: 676 kW (cumulative)		E_16
	(4) Promote environmental education activities	Promote education with the objective of improving environmental awareness	(1) Environmental education during Environmental Month (2) Rank-based education		E_11 E_12
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) Low-friction reduction gear for EPS using new grease (2) New design anti-creep ball bearing (3) New ceramic ball bearing for motors	○	E_13 E_14 F_02 F_06 F_07
	(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	Promote response to chemical substance regulations	Response to individual country's chemical substance regulations		E_23

Environmental management

＊ Values in square brackets are comparisons with the base year

<table>
<tr><th>Area</th><th>Action items</th><th>Targets and initiatives</th><th>FY 2015 results of activities</th><th>Evaluation</th><th>Related pages</th></tr>
<tr><td rowspan="3">Reduce CO_2 emissions</td><td rowspan="2">(1) Reduce CO_2 in production and logistics
● Global reduction of CO_2
● Reduction of CO_2 in logistics</td><td>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 case examples
(3) Visualization of energy
Item | FY 2016 target value
CO_2 emissions | FY 2015 basic unit target × production volume
Emissions by in-house production volume | 145.2 t/100 mill yen | Down 7% from FY 2008
Global emissions by in-house production volume | 172.2 t/100 mill yen | Down 3% from FY 2012</td><td>Results
230,090 t-CO_2 [—]
146.2 t/100 mill yen [Down 6.3%]
163.8 t/100 mill yen [Down 5.0%]</td><td>△</td><td>E_08
E_15
～17</td></tr>
<tr><td>Logistics Reduce CO_2 through transportation improvements
Item | FY 2016 target value
CO_2 emissions | 13,300 t-CO_2 | Down 16% from FY 1990
Emissions by sales | 2.39 t/100 mill yen | Down 15% from FY 2006</td><td>Results
13,810 t-CO_2 [Down 13%]
2.17 t/100 mill yen [Down 23%]</td><td>△</td><td>E_17</td></tr>
<tr><td>(2) Promote reusable energy</td><td>Introduction of reusable energy</td><td>Amount of reusable energy introduced: 676 kW (cumulative)</td><td>○</td><td>E_16</td></tr>
<tr><td rowspan="2">Reduce waste</td><td>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 FY 2009 and is continuing to aim for zero waste production in other areas)</td><td>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 | FY 2016 target value
Emissions by in-house production volume | 7.1 t/100 mill yen | Down 15% from FY 2008
Direct landfill waste | Zero</td><td>Results
7.34 t/100 mill yen [Down 12%]
Zero</td><td>△</td><td>E_18
E_19</td></tr>
<tr><td>Logistics
Reduce packaging material consumption through simpler packaging, using more returnable containers, etc.</td><td>Logistics (1) Transition to returnable
(2) Simplification of packaging by changing packing style
Item | FY 2016 target value
Emissions by sales | 0.84 t/100 mill yen | Down 15% from FY 2006</td><td>Results
0.77 t/100 mill yen [Down 20%]</td><td>○</td><td>E_20</td></tr>
<tr><td>Effective use of resources</td><td>Reduce materials discarded in production/water usage and effectively use resources</td><td>Materials discarded (1) Reduce stock removal and improve yield through design and technique changes
(2) Countermeasures targeting point of origin, reduction
Water usage Promote recycling, water conservation and waste reduction</td><td>Materials discarded by in-house production volume
Results 38.1 t/100 mill yen
Water usage by in-house production volume
Results 1.56 t/100 mill yen</td><td>—</td><td>E_18
E_21
E_22</td></tr>
<tr><td>Reduce primary materials and secondary materials</td><td>Reduce environmentally burdensome substances in production activities</td><td>Substitution with products that do not contain substances subject to PRTR</td><td>Release and transfer of substances subject to PRTR: 39 t</td><td>○</td><td>E_23</td></tr>
<tr><td rowspan="4">Preserve and improve the global environment, forge communication</td><td>(1) Enforce preventative measures for environmental problems and observe regulations</td><td>Ongoing efforts for zero environmental regulation violations and claims from residents through the strengthening of daily control tasks</td><td>Environmental accidents: 0</td><td rowspan="4">○</td><td>E_10
E_11</td></tr>
<tr><td>(2) Build good relationships with local residents</td><td>(1) Promote environmental conservation activities around plants
(2) Build good relationships with local residents and councils</td><td>(1) Clean-up activities around plant
(2) Held environmentally-related discussions with local community</td><td>E_24
S_21
～26</td></tr>
<tr><td>(3) Proactive disclosure of environmental information and enhancement of communication activities</td><td>(1) Enhance and continue issuance of CSR reports
(2) Provide more environmental information</td><td>Issued CSR report 2015</td><td>S_21</td></tr>
<tr><td>(4) Action for biodiversity</td><td>Promote activities based on our Biodiversity Conservation Action Guidelines</td><td>(1) Activities for preservation of woodland areas
(2) Tree planting</td><td>E_25
E_26
S_24
S_25</td></tr>
</table>

Environmental management

Environmental impact on business activities

Reduction of environmental burden in all stages

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

Resource and energy input versus environmentally burdensome substance output

The table below shows the resource and energy input versus environmentally burdensome substance output for FY 2015.

In order to minimize the impact of business activities on global warming, JTEKT strives to reduce energy consumption with a focus on those processes with high energy consumption, such as casting, forging, heat treatment and machining.

Resource and energy input versus environmentally burdensome substance output

INPUT

Resource and energy input		
Raw materials (metal, nonferrous metals) **Total:** 338,000 t		■
Resource recycling volume	25,000 t	■
Energy **Total:** 17,788,556 GJ *1		■
Electricity	1,443,944 MWh	■
City gas	68,080,000 Nm³	■
LPG	4,835 t	■
Kerosene	931 kℓ	■
Heavy oil A *2	644 kℓ	■
Water **Total:** 6,871,000 m³		■
Recycled water volume	823,000 m³	■
Chemical substances (amount of substances subject to PRTR *3) **Total:** 117 t		■
Logistics		
Packaging and packing materials	5,000 t	■

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	764,000 t-CO_2	■
SOx	1.4 t	■
NOx	89 t	■
Toluene, Xylene	74 t	■
Other substances subject to PRTR	10 t	■
Discharged to waterways / sewage		
Wastewater	2,579,000 m³	■
COD *4	19 t	■
Nitrogen	8 t	■
Phosphorus	0.2 t	■
Release/transfer of substances subject to PRTR	0.5 t	■
Discharge leaving the company		
Waste	27,000 t	■
Recycling for a fee *5	18,000 t	■
Recycling for profit	145,000 t	■
Transfer of substances subject to PRTR	5 t	■
Logistics		
CO_2 emissions relating to product transfer	14,000 t-CO_2	■

■ Tally of the 19 JTEKT and domestic group companies and the 38 overseas group companies
■ Tally of the 19 JTEKT and domestic group companies
■ JTEKT independent

*1 **GJ** Giga-joule (heat quantity unit), G=10^9
*2 **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.
*3 **PRTR regulation** "PRTR" is an abbreviation for Pollutant Release and Transfer Register, which is a system created by the government for reporting the amount of chemical substances released or transferred.
*4 **COD** Chemical Oxygen Demand (water quality index)
*5 **Recycling for a fee** A processing fee is payed in order to recycle.

Environmental management

CO_2 emissions for the overall supply chain

Based on guidelines established by the Ministry of the Environment and Ministry of Economy, Trade and Industry (*1), JTEKT calculates then endeavors to reduce the amount of CO_2 emitted through its business activities, including its supply chain, as well as the use and disposal of products sold. Results for the entire JTEKT group in FY 2015 are shown in the below table.

→ E_15 Related article
→ E_27 Appendix

*1 **Guidelines established by the Ministry of the Environment and Ministry of Economy, Trade and Industry** General Guidelines on Supply Chain GHG Emission Accounting.

CO_2 emissions for the overall supply chain

Scope (*2)	Emissions (t-CO_2)	Remarks
Scope 1 (Self-produced direct emissions)	115,000	Self-produced emissions through using city gas and other fuels
Scope 2 (Indirect emissions produced by own energy source)	649,000	Emissions produced due to using electricity purchased by JTEKT
Scope 3 (Other indirect emissions)	7,377,000	Emissions produced by related activities such as raw material purchasing, disposal and distribution

*2 **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.

Environmental accounting

Assessment of cost and results

▶ Figure-01

By quantitatively assessing the costs and results of environmental conservation, we continue to make both effective and efficient improvements. We use environmental accounting to help familiarize our stakeholders with our environmental conservation activities, and publicly disclose related information. The tally system is in accordance with the Ministry of the Environment's Environmental Accounting Guideline.

Environmental accounting results for FY 2015

Environmental conservation costs for FY 2015 were 1.61 billion yen in investments and 3.88 billion yen in management costs, adding up to a total of 5.49 billion yen. This was an increase of 480 million yen (9.6 percent) from the previous year. In order to promote PCB waste processing, we implemented measures for PCB ballasts and low-concentration PCB. As a result, recycling cost increased by 130 million yen compared with the previous year.

▶ Figure-01

Environmental conservation costs

(Million yen)

Type	Details	Investment	Cost
[1] Business on-site costs ① Pollution prevention costs	● Service & upkeep of environmental equipment	318	265
② Environmental conservation costs	● Measures for energy conservation	142	119
③ Resource recycling costs	● Waste processing, recycling	90	493*
[2] Upstream and downstream costs	● Green purchasing	—	39
[3] Management activity costs	● Environmental monitoring, measurements, etc.	7	151
[4] R&D costs	● R&D of environmentally friendly products	1,056	2,730
[5] Social activities costs	● Disclosure of environmental information, greenification, etc.	—	81
[6] Environmental damage costs	● Soil and groundwater restoration	—	0
Total		1,613	3,877
Gross amount		5,489	

*Includes PCB waste processing cost

Economic benefit of environmental conservation measures

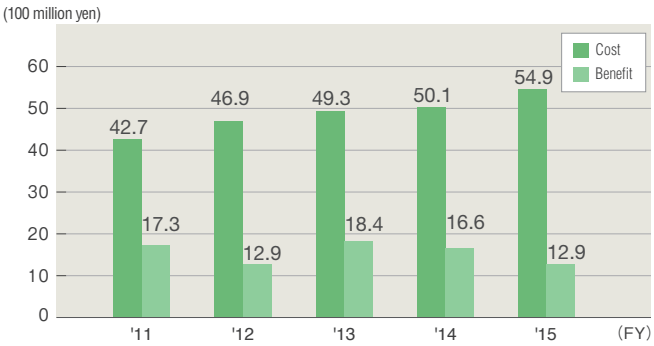
(Million yen)

Details of benefits	Economic benefit
Profit from recycled material sales	618
Energy-cost reduction from promoting energy conservation	632
Reduction of waste processing costs	43
Total	1,293

Benefits towards material amount reduction from environmental conservation measures

Details of benefits	Benefits towards material amount reduction
Energy consumption (t-CO_2)	23,400
Waste output (t)	2,162

Cost and benefits of environmental conservation measures



*We have not calculated 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.
*Depreciation costs are not included. Expenses with multiple purposes are proportionately distributed.
*Scope of calculation: JTEKT independent (including some group companies working at JTEKT)
*Calculated period: FY 2015 (April 2015 to March 2016)

Environmental management

Major activities in FY 2015

JTEKT Group Environmental Coordinating Committees

In order to share policies and targets with the entire group and strengthen initiatives, the JTEKT Group Environmental Coordinating Committee is held every year and is attended by representatives of both domestic and overseas group companies.

Domestic JTEKT Group Environmental Coordinating Committee

The Environmental Coordinating Committee is held three times a year with all 19 group companies in Japan to promote activities for CO_2 reduction, waste reduction, and environmental disturbance prevention. In April 2015, a Coordinating Committee was held by environment managers from domestic group companies and discussion was had regarding the status of each company's FY 2014 environment initiatives and plans for FY 2015. In July and December of 2015, in addition to reporting and discussing our performance up until now and future efforts, risk countermeasures for environmental equipment and the like were checked during plant tours as a means of improving environmental conservation countermeasures.

JTEKT Group Environmental Coordinating Committee in Japan held on July 24th

Overseas JTEKT Group Environmental Coordinating Committee

In February 2016, an Environmental Coordinating Committee was held in which the representatives of JTEKT overseas group companies participated. As with the committee gathering in Japan, the participants bolstered improvement activities for achieving 2015 targets and continued with the consolidated environmental audit system to bring the enforcement of compliance to a new level. Moreover, the Environmental Challenge 2050 and next mid-term management plan, Environmental Action Plan 2020, are being rolled out and their respective targets shared throughout the JTEKT group.

ASEAN Management Meeting

In January 2016, the ASEAN Management Meeting was held by the management executives of group companies in the ASEAN region. The meeting was attended by representatives of JTEKT group companies in the ASEAN region and the Environmental Challenge 2050 and Environmental Action Plan 2020 were rolled out. Together with ASEAN group companies, JTEKT will continue to achieve its groupwide environmental targets and observe environmental legislation.

China Safety and Health Environment (EHS) Section Meeting

JTEKT held a meeting in China concerning safety, health and the environment during June 2015 and January 2016. Participants reported environmental activities and issues at each group company in China, and case examples of improvement were rolled out to each company. By implementing inspection tours both inside and outside of plants, we enhanced the specialized knowledge and skills of employees and improved mutual environmental awareness.

China EHS Section Meeting

Environmental management

Jens Benson
JEU/JEO(France)

My CSR

Initiatives for zero accidents and alleviation of environmental impact due to the manufacture of JTEKT products

In 2015, with the aim of alleviating and improving environmental impact through the effective utilization of resources in Europe, JTEKT established a Production Support Team which included safety health and environmental conservation divisions. In order to comprehensively ascertain the status of plants, all plants in the European area were subjected to an audit in accordance with JEO (*1) standards and after the initial audit, tools were utilized which enable sharing between JTEKT plants both within and without Europe of information such as workplace accidents and best practice. In regards to safety and health, and environment conservation, employee-focused activities are being promoted and the training program is undergoing improvement in order to deepen understanding of the importance of HSE (*2) management in daily life and at work, and an internal HSE standards and prevention program is being established. The European branch of the JTEKT group believes a corporate culture of openness and trust is important in order to achieve targets. Through initiatives to reduce landfill waste, increase recycling percentages and reduce and analyze energy and water consumption, the Production Support Team is protecting natural resources and reducing JTEKT's environmental footprint. While still a newly formed team, it serves an important role for plants and intends to exert every effort to achieve ongoing improvements. The team believes that securing a safe work environment for employees and achieving environmentally-sustainable production are important points requiring attention and, with this in mind, we go about our daily tasks with a sense of responsibility towards our generation and the generations to follow.

*1 **JEO** JTEKT Europe Operation. An organization to support production established within JTEKT's European headquarters (JEU)

*2 **HSE** Health, Safety and Environment. Initiatives for industrial health and safety and environment.

Reducing environmental risk

Environmental accident prevention activities

To prevent environmental accidents, we share countermeasures implemented in response to incidents occurring both inside and outside the company for similar equipment. Moreover, in order to comply with environmental legislation, treaties and convention levels, we have set internal standards (*1) more stringent than regulations, which we manage thoroughly.

*1 JTEKT's internal effluent standards are 80 percent of regulatory requirements.

Legal compliance with environmental legislation

In FY 2015, JTEKT received zero complaints regarding exceeding environmental regulatory requirements, environmental incidents and the environment in general. However there were 20 environmental near-miss incidents (*2) , including cases of exceeding internal standards. In addition to investigating causes and implementing countermeasures for each incident, JTEKT also shares information and countermeasures with all plants through the Cooperative Study Group on Environmental Disturbances and Near Misses mentioned hereinafter in an effort to prevent recurrence of similar cases.

*2 Incidents that had only a slight impact on the environment and were handled within the area they occurred in.

Cooperative Study Group on Environmental Disturbances and Near Misses

Once every two months, JTEKT holds a Cooperative Study Group on Environmental Disturbances and Near Misses in order to highlight environmental near-miss incidents that have occurred other than environmental accidents and thoroughly share countermeasure content and implementation items companywide. In this study group, environmental managers from all JTEKT plants gather at the plant where the near miss occurred and discuss the incident using the *genchi genbutsu* approach. Then, the efficacy of countermeasures is examined, and items to be rolled out companywide are discussed with all employees as a means of recurrence prevention.

Cooperative study group on environmental disturbances and near misses (Kameyama Plant)

Environmental management

Environmental patrol by the plant manager

As part of our Environmental Month every June, managers of each plant conduct environmental patrols. FY 2015 environmental patrols involved confirming the management status of rainwater drains and oil-water separation tanks, the status of countermeasures for oil leakage from waste laydown areas and dormant machinery storage areas, and oil contamination on plant roads and floors.

Environmental patrol (Tokushima Plant)

Emergency drills

JTEKT performs regular emergency drills to prepare for the occurrence of various environmental accidents. Every plant also conducts emergency drills for nightshift workers, assuming the occurrence of an accident at night.

Emergency drills (Tadomisaki Plant)

Environmental audits

Internal audits

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

External audits (ISO14001)

JTEKT was subjected to an ISO14001 surveillance audit in April 2016. As a result, there were zero cases of non-conformity, and our environmental management system was deemed as congruent with standard requirements and having been effectively implemented. However, nine cases were identified as having room for improvement, and therefore the departments in charge of handling these cases have been specified and corrections are being made. In response to the revision made to ISO14001 in September 2015, JTEKT plans to have a recertification audit to the revised standard conducted during FY 2017.

ISO14001 external audit

Environmental audits of overseas group companies

The JTEKT group has constructed a consolidated auditing system and since FY 2014 has been conducting environmental audits on overseas group companies, focusing on legal compliance activities aimed at preventing environmental disturbances and complaints. In FY 2015, audits were conducted at three European bases, seven Chinese bases and four ASEAN bases.

Environmental audit (KBVM: France)

Environmental audit (JADS: France)

Environmental audit (JTC: Thailand)

Environmental education

Environmental awareness education

During Environment Month in June of 2015, environmental awareness training was held for all employees through e-learning. The theme this year was “Let’s abolish environmental disturbances and near-misses” and was completed by 6,699 employees.

Environmental management

Environmental communication New!

Interaction with other companies

JTEKT promotes environmental communication activities through interaction with other companies aimed at being mutually beneficial by serving as opportunities to both acquire skills and know-how, and leverage solutions to environmental issues as well as introduce other companies to JTEKT's environmental initiatives. In FY 2015, this interactive activity was held with Konica Minolta Inc. JTEKT visited Konica Minolta's Seishin site and observed environmental activities in the field. In turn, Konica Minolta visited JTEKT's Tokyo and Kokubu plants and meaningful interaction was had through the exchange of opinion on energy-saving items and improvement areas.

Plant tour (Konica Minolta's Seishin site)

Community discussions

All JTEKT plants regularly invite local residents and government members to community discussions. This is an opportunity to introduce JTEKT's environmental initiatives, have participants take a plant tour and voice their opinions in order to facilitate communication with the local community.

→ S_22 Related article

VOICE ISO14001 certification

In November 2015, Nakatetsu Co., Ltd. obtained ISO14001 certification. In order to achieve this goal, the people in charge at each plant worked together to establish an environmental management system. As a result, they were able to achieve their goal as planned. Facing many unknowns, in order to prepare even one document, each member had to investigate a broad spectrum of legislation and through this process, renewed their awareness of the importance of observing environmental legislation. We believe that through this activity, we accomplished a system to identify and observe the environmental legislation that applies to our company. Moving forward, we will carry out environmental training for our employees and engage in initiatives as one united entity.

Norihiko Arimura
NAKATETSU Co.,Ltd

ISO14001 certification

Environmentally considerate development and design

Social background

The influence of product usage on the environment is deeply related to the development and design phases of the product. To lower our environmental burden, our company must oversee products from material purchase through usage by the customer, all the way until disposal. We must also work on developing environmentally friendly designs which can be easily reused and recycled.

JTEKT's concept

Improve each product from every angle

We JTEKT, in line with our Corporate Philosophy of "contributing to the happiness of people and the abundance of society through product manufacturing that wins the trust of society. " develop and design environmentally friendly products. We believe that our products and technologies provide environmental countermeasures for our customer's products and manufacturing processes and as such, greatly contribute to the environment. Therefore, we strive to improve the environmental performance of each product throughout the entire product life cycle, and are producing results which will contribute to the prevention of global warming and the effective use of resources.

Promotion structure

Promotion by the Environmental Responsive Products Subcommittee

Under the guidance of the Global Environment Conservation Committee, which unites companywide environmental conservation activities, the Environmental Responsive Products Subcommittee is promoting the development of environmentally friendly products together with group companies in Japan. Innovative technology is used in the development and design stages to make products smaller, lighter, and 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.

Yoshihiko Nishida
Machine Tools & Mechatronics Operations
Headquarters Engineering Planning Office

My CSR

Promote the development of environmentally-responsive products

The Machine Tools & Mechatronics Operations Headquarters promotes product development with consideration to creating environmentally-responsive products from the concept phase. Amidst this, as the overseeing department for engineering divisions, our department participates in the Environmental Responsive Products Subcommittee and a Working Group for Investigation of Environmentally Burdensome Substances. The aim is to work together with engineering divisions to promote CO_2 reduction and 3R (*1) activities in order to disseminate designs conscious of CO_2 reduction and send a higher number of environmentally-friendly products out into the world.
As future initiatives, we intend to conduct product LCAs (*2) in order to quantitatively assess the environmental impact up to product disposal.

*1 **3R** JDerived from the first letters of Reduce, Reuse and Recycle. A concept regarding the order of priority for waste processing.

*2 **LCA** Life cycle assessment. A method to quantitatively assess resource consumption and environmental burden throughout product life cycle and determine the resulting impact on the planet and ecosystems.

Environmentally considerate development and design

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 within product development.

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

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

Assessment of products mentioned in the PICK UP section

Developed product name	Percentage of environmental burden reduction	
Low-friction reduction gear for EPS using new grease	17.8%	→ F_02 Related article
New design anti-creep ball bearing	4.0%	→ F_06 Related article
New ceramic ball bearing for motors	1.0%	→ F_07 Related article

Group company activities

JTEKT conducts environmental design activities with intimate interaction between each operations headquarters and all group companies. Through creative ideas from the design stage, products of the JTEKT group are contributing to the world environment.

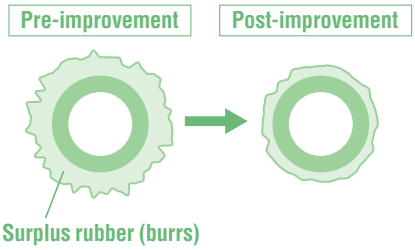
Main measures

Group companies in Japan	Koyo Sealing Techno Co.,Ltd.

Reduce rubber consumption through change to oil seal mold structure

In the forming of oil seals through vulcanization, the basic design focuses on ensuring gas removal from the mold cavity and stable rubber filling quantity by having the excess rubber (burrs) that have melted of the mold parting, expelled outside the mold. These burrs are removed after vulcanization and disposed of as waste however by changing the mold structure, JTEKT succeeded in reducing the number of burrs. As a result, we reduced consumption of rubber, which is a material, by 15%.

Oil seal



Prevention of global warming

Social background

In November 2015, at COP21 (21st session of the Conference of the Parties) held in Paris, the Paris Agreement was adopted as an international framework to countermeasure global warming. One of the global long-term goals set out by the Paris Agreement is to keep a global temperature rise well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius . Companies are also required to strengthen initiatives to reduce both direct and indirect CO_2 emissions.

→ E_08 Related article

JTEKT's concept

Reducing CO_2 emissions within all processes

In order to help prevent global warming, JTEKT engages in activities to reduce emissions of CO_2, a major greenhouse gas, 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.

Reducing CO_2 emissions in production

Reducing domestic CO_2 emissions

Figure-01

JTEKT set the target of reducing our CO_2 emissions basic unit to 7% compared to FY 2008 by FY 2015 and engaged in activities to achieve this. Although we reduced our CO_2 emissions by 7,000 t during FY 2015 due to improved energy saving methods, we did not reach our target basic unit of CO_2 emissions, achieving only 146.2 t/100 million yen. In March 2016, JTEKT formulated Environmental Challenge 2050 as an environment action plan to minimize CO_2 emitted from our plants during production. In order to proactively promote CO_2 reduction during production, we achieved visualization of energy consumption on each line in our plants and are engaging in activities to reach our goal such as having variable fixed costs and reducing standby power during non-operating times.

Reduction of global CO_2 emissions

Figure-02

With an aim to minimize the impact of global production operations on global warming, JTEKT is working to reduce CO_2 emissions not only within the company but also at all JTEKT group companies in Japan and overseas. The CO_2 emissions basic unit for FY 2015 was 5.0% less than the FY 2012 level, meaning that we had met our target. We will continue to improve productivity in order to prevent global warming and improve production efficiency as an entire group.

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

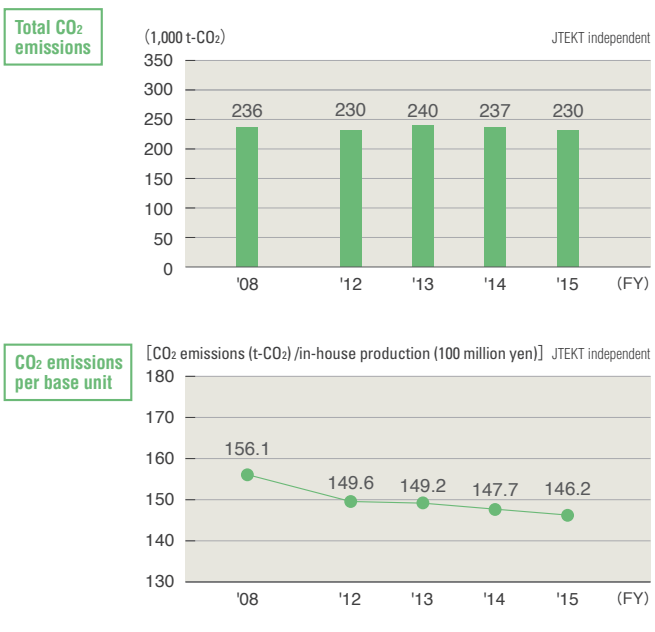


Figure-02 CO_2 emissions (global and base unit)

*JTEKT + 19 domestic group companies + 38 overseas group companies

Prevention of global warming

Main measures

Group companies in Japan	Eiko Seimitsu Co.,Ltd.

Initiatives to introduce energy-saving equipment

As part of improving employee work efficiency and workplace environment, JTEKT is utilizing the Japanese government's subsidization scheme for energy-saving equipment to update our aged air-conditioning equipment. We have also made the switch from kerosene to LPG. Furthermore, we have introduced a demand monitoring unit to keep track of electricity consumption. These initiatives have resulted in reducing contract electricity by 110 kW and reducing costs by 250,000 yen per month. Moreover, CO_2 emissions have been reduced by 0.066 t (*). We will continue to effectively utilize national and prefectural energy-saving subsidization schemes and promote energy-saving activities such as switching to LED lighting in plants.

*Average from Jan. to Mar. 2015 (compared to the average from Jul. to Sep. 2014)

Tadashi Nagata
Eiko Seimitsu Co.,Ltd

Initiatives for energy-saving diagnosis New!

In order to reassess our energy-saving activities in recent years, JTEKT requested that Konica Minolta, with whom we interacted in FY 2015 through an environmental activity, to perform an energy-saving diagnosis. As a result, despite our efforts to renew existing equipment with high-efficiency equipment, it was revealed that we were weak in the aspects of equipment maintenance and operational management, therefore we revised the management items of daily inspections. In FY 2016, JTEKT plans to work towards achieving our Environmental Challenge 2050 by creating new energy-saving items, developing human resources able to conduct energy-saving diagnoses, and having energy-saving diagnoses performed by external consultants.

My CSR

Syunsuke Kumagai
Bearing Operations Headquarters Tokyo Plant
Process Engineering Dept.
Facilities & Equipment Maintenance Section

Initiatives for the prevention of global warming

JTEKT's Tokyo Plant engages in various activities with the aim of improving productivity and reducing CO_2 emissions through efficient energy use.
To date, Tokyo Plant has introduced high-efficiency equipment such as solar power and cogeneration systems as well as such as LED lighting, and makes ongoing improvements to these. It also conducts energy-saving patrols to raise and thoroughly establish workplace awareness of energy-saving. The city of Tokyo has executed an ordinance requiring stringent CO_2 emission reductions and employees at Tokyo Plant will unite in achieving further improvements and targets by receiving energy-saving diagnoses by external parties, etc.

Initiatives for production engineering innovation New!

Establishment of the Production Engineering Innovation for CO_2 Reduction Subcommittee

In 2016, JTEKT newly established the Production Engineering Innovation for CO_2 Reduction Subcommittee. In order to realize the low-carbon society aimed for by our Environmental Challenge 2050, JTEKT is promoting energy-saving and CO_2 reductions through investing in production equipment and developing innovative equipment and production techniques. As an initiative to improve productivity, we have established energy-saving guides for all production equipment investment and aim to reduce CO_2 emissions per product by 30% of existing levels. As initiatives for production engineering innovation, we aim to promote innovation themes to half CO_2 emissions, pursue a shift to 3SCF (*1) for equipment and production techniques as well as build smart factories (*2) which utilize reusable energy.

→ J_32 Related article

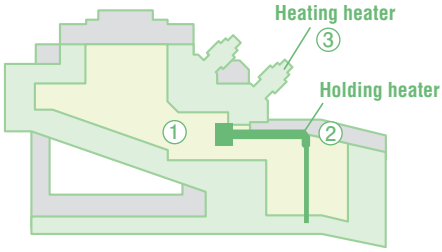
*1 **3SCF** An abbreviation for "simple, slim, smart, compact, flexible"
*2 **Smart factory** All devices and equipment in a plant are connected to the Internet and information such as quality and status are appraised in detail and utilized to achieve a plant where equipment vs. equipment and equipment vs.humans work in harmony.

Main measures

Development of the hybrid melting and holding furnace

JTEKT newly developed a hybrid melting and holding furnace for use in the casting process and introduced it to its production lines in April 2016. The developed furnace has succeeded in reducing CO_2 emissions by 50% of conventional models through efforts such as reducing heat release through a smaller furnace body and improved heat insulation and changing the heating/holding temperature energy from gas to electricity to create an exhaust gas-free design.

Hybrid melting and holding furnace



① Reduced heat release through a smaller furnace body and improved heat insulation
② Reduced heat release through a smaller pumping port
③ Changing the heating/holding temperature energy from gas to electricity to create an exhaust gas-free design

CO_2 emissions	50% decrease

Prevention of global warming

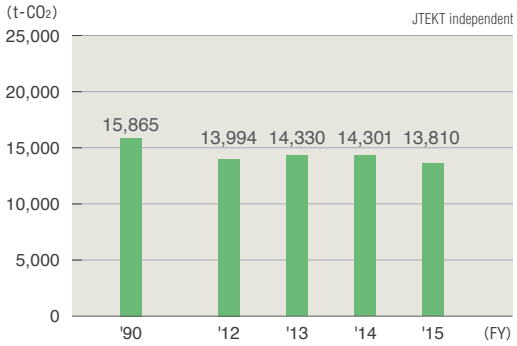
Reducing CO_2 emissions in logistics

Reducing CO_2 by integrating product delivery shipments

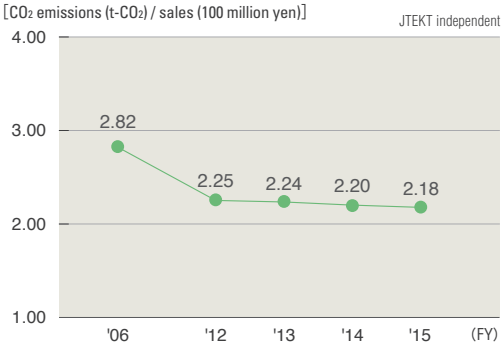
In FY 2015, JTEKT reduced the basic unit for CO_2 emissions by around 1% compared to the previous year, or 2.18 t/100 million yen by integrating product delivery shipments. In FY 2016, we will continue our efforts to reduce CO_2 through further integrating product delivery shipments and shift to using electric fork lifts in plants, etc.

Transition of total and per base unit CO_2 emissions in logistics

Total CO_2 emissions



CO_2 emissions per base unit



VOICE

Eco drive initiative

In November 2015, JTEKT's Toyota Branch Office held an Eco Drive Week to raise awareness of CO_2 reduction and safe driving. This was based on the eco drive (*) initiatives promoted by the National Police Agency, etc. A briefing was held and all Toyota Branch Office employees watched a DVD produced by the Ministry of the Environment called "Top 10 Recommended Points for Eco Driving". The campaign was run the following week, and the 76 participants were emailed daily to maintain awareness levels. In a questionnaire held after the campaign, many participants responded that their awareness of eco driving had risen as a result of Eco Drive Week. JTEKT would like to continue raising awareness of eco driving by showing employees the abovementioned DVD before holidays, etc. when people are more likely to drive.

*Eco Drive A way of driving a car by being mindful of alleviating environmental burden. This is spread and promoted by the Spread Association of Eco-Drive run by the National Police Agency, the Ministry of Economy, Trade and Industry, the Ministry of Land, Infrastructure, Transport and Tourism, and the Ministry of the Environment.

(From the left)
Yuko Kondou,Rie Nakabayashi,Yuji Bora,Hanao Mori
(All from the Sales & Marketing Headquarters
Toyota Branch Office(Automotive)Sales Control Dept.
Sales Control Section)

Eco Drive Week poster

Effective use of resources

Social background

Preservation of the world's resource foundation is a major theme of ISO26000, the GRI Guidelines (G4) and Sustainable Development Goals (SDGs) and is the objective of the many sustainability strategies of the companies which comprise the board of directors for the Organization for Economic Co-operation and Development (OECD). These strategies strongly demand that companies lessen their usage of raw materials and recycle parts.

JTEKT's concept

Responsibility as a *monozukuri* company

At JTEKT, we consider the effective use of resources as one of the responsibilities of an environmentally friendly *monozukuri* company. By making improvements and devising ideas for the production processes of each product, we strive to reduce material usage and waste output, as well as recycle and save valuable resources.

Saving resources in production

Reduction of primary material consumption

JTEKT is working to transition to net shape (reduction of machined portions) by improving forging and casting formation technologies, and reduce the amount of materials used.

Main measures ▶ Figure-01

Reduction of material by applying a friction weld technique

In the manufacture of hydraulic distributors, which are a machine tool component, JTEKT has applied a friction weld technique to integrate material with differing diameter sizes and reduce portions requiring cutting and other forms of machining. This has significantly reduced material consumption.

Reduction of secondary material consumption

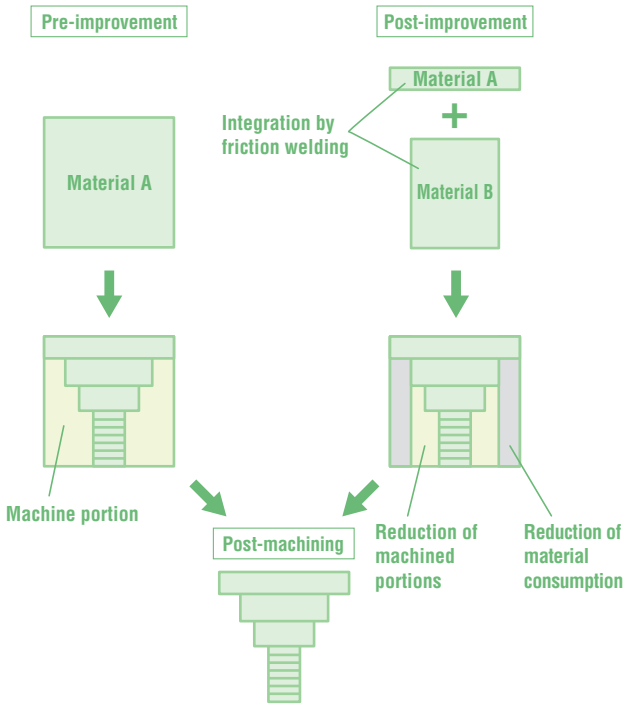
We succeeded in reducing consumption by revising the material, shape, hardness and other specs of secondary material for products such as grinding wheels, cutting tools and dies and further increasing their durability. Also, we strove to promote recycling by reusing oil, grinding wheels, cutting tools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

Main measures

Extended mold life by applying a new coating ▶ Figure-02

In the forging process, the mold and products rub up against each other repeatedly, causing the contact portions to wear and the mold coating to gradually peel away. As such, JTEKT changed the coating to one with excellent heat and wear resistance and began the regular application of new coats to extend mold life.

▶ Figure-01 Reduction of material by applying a friction weld technique



Material consumption	Approx. 40% decrease

▶ Figure-02 Extended mold life by applying a new coating

Mold life	5 times

Effective use of resources

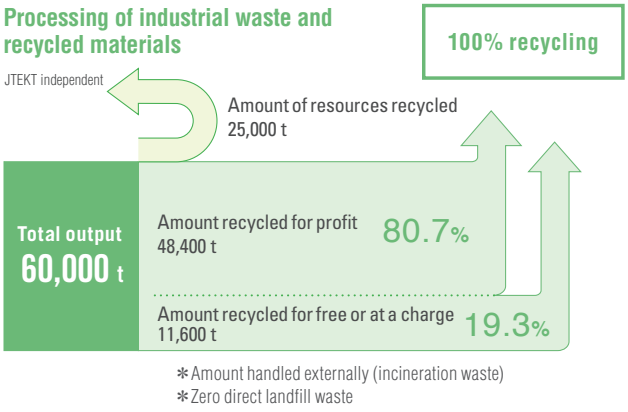
Waste reduction

Initiatives for achieving Zero Emissions

JTEKT has been engaging in activities based on 3R (Reduce, Reuse, Recycle) to achieve a 100 percent recycling rate for the effective use of resources regarding all discharged materials, including waste. The result was the achievement of a 100 percent recycling rate in November 2012, which has been maintained ever since. We are currently promoting various initiatives to achieve Zero Emissions (*) at all JTEKT group plants.

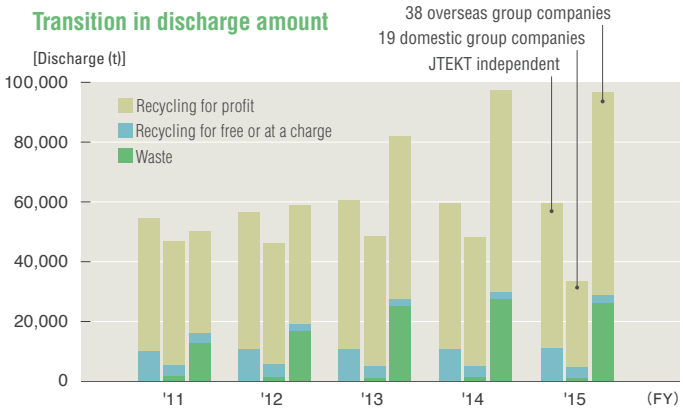
*Zero Emissions The practice of utilizing waste and byproduct created through industrial activities as resources for other industries in an attempt to avoid releasing waste into the natural world on the whole. Proposed by the United Nations University in 1994.

Processing of industrial waste and recycled materials



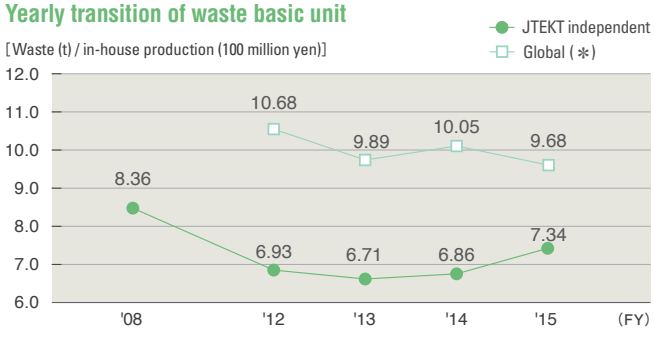
*Amount handled externally (incineration waste)
*Zero direct landfill waste

Transition in discharge amount



* 21 domestic group companies prior to FY 2014
* JTEKT's independent direct landfill waste has remained at 0 tons since FY 2009.
* JTEKT independent incineration waste has been 0 t since FY 2013

Yearly transition of waste basic unit



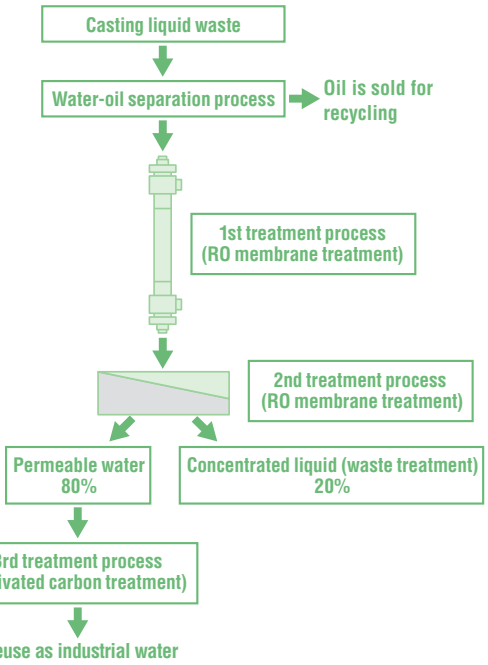
*JTEKT + 19 domestic groups + 38 overseas groups

Main measures

Initiatives to reduce industrial liquid waste

The casting process uses large quantities of soluble mold separating agent which becomes liquid waste after it is used and accounts for the majority of industrial liquid waste produced in JTEKT plants. This type of industrial liquid waste has a high COD value and is extremely difficult to treat, therefore JTEKT had previously outsourced all treatment to an external company. However, in FY 2015, Hanazono Plant installed a liquid waste condenser using UF/RO membrane technology. This achieved an 80% reduction in the amount of liquid waste created in the casting process. JTEKT will continue to engage in activities with the aim of further reduction while adopting new technologies.

Liquid waste condenser using UF/RO membrane technology



Amount of industrial liquid waste **80% decrease**

VOICE

Promotion of industrial liquid waste reduction through a working group

Hanazono Plant conducts integrated production, from casting and machining to assembly. The casting and machining processes in particular create large quantities of waste compared to the assembly process. As such, JTEKT not only engages in activities to reduce the amount of industrial waste created by casting, but also endeavors to achieve net shape through reducing swarf generated in the casting and machining processes. We will continue to gather wisdom with the concerned departments cooperating in a working group and promote further waste reductions.

(From the left)
Kengo Okudaira
Steering Systems Business Headquarters Hanazono Plant Process Engineering Dept. Facilities & Equipment Maintenance Section
Daishi Hirabayashi
Steering Systems Business Headquarters Hanazono Plant Administration Dept. General Affairs Section
Hidehiko Umezu
Steering Systems Business Headquarters Hanazono Plant Process Engineering Dept. Engineering Section 1

(All from the Hanazono Plant at the Steering Systems Business headquarters)

Effective use of resources

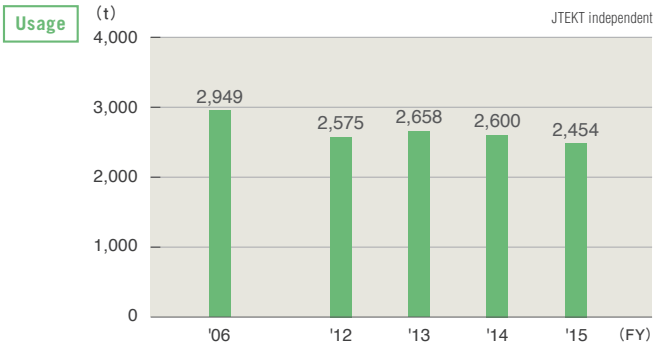
Reduction of packaging material

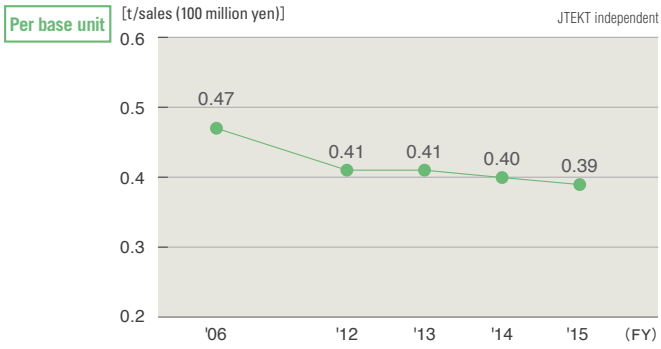
Reducing packaging and packing material

In order to effectively use resources, our company has established targets for packaging and packing material for both wood and paper, and promotes simpler, returnable and reusable packaging. For wooden packaging and packing material, we expanded the scope of returnable pallets and simplified wooden boxes, and for paper packaging and packing material, we switched from disposable cardboard to returnable plastic cases.

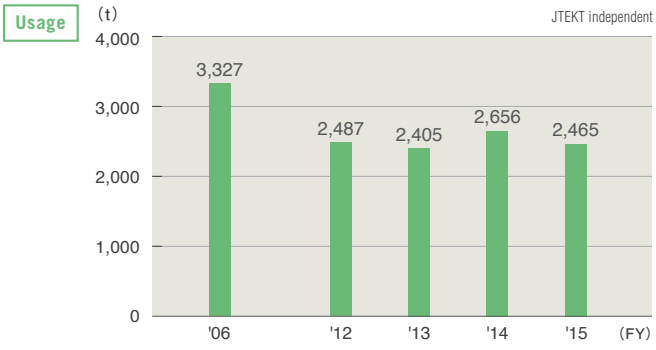
We also promote various initiatives, such as reviewing excessive packaging, using carboard boxes to suit product size to reduce cushioning material, etc. In FY 2015, JTEKT reduced our annual consumption of packaging and packing material on the whole by 12 t through reduction of wooden boxes for exporting products.

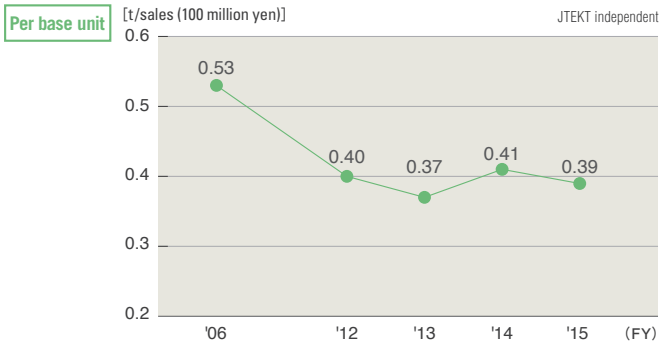
Transition of wood packaging usage and per base unit





Transition of paper packaging usage and per base unit





Effective use of resources

Reduction of water usage

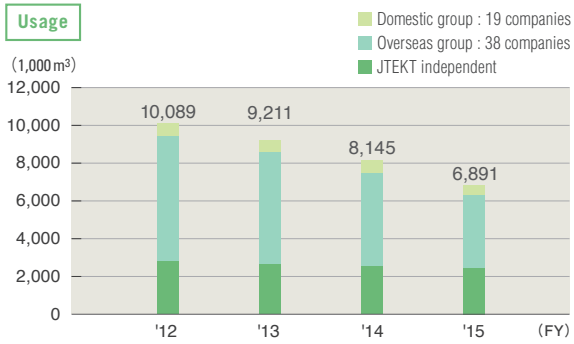
Promoting efficient water usage

To reduce the usage of water, a precious resource, we engage in internal activities to decrease wasteful usage and recycle water. In FY 2015, we had at first planned on improving our basic unit and usage amount of water by more than 3 percent compared with FY 2012, however we achieved this goal ahead of schedule in FY 2014. Therefore, we set our sights on improving FY 2014 figures by 0.5 percent or more. As a result, we achieved a 1.1 percent (20 m^3/100 million yen) improvement in basic unit and reduced usage by 3.0 percent (76,000 m^3).

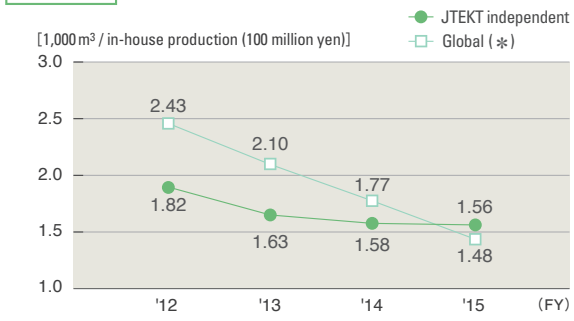
We have already achieved our planned target for FY 2016, an improvement 4 percent higher than FY 2012. We will therefore continue activities toward a target of 0.5 percent or higher improvement compared with FY 2015 results.

Water usage / Basic unit transition / Amount of recycled water

Usage

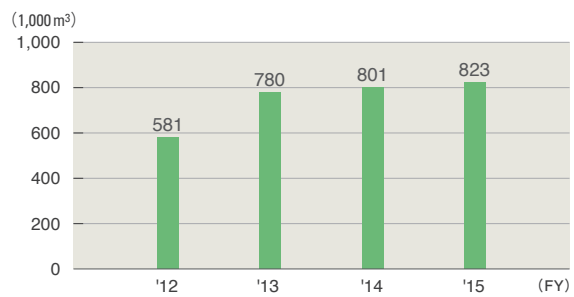


Per base unit



*JTEKT + 19 domestic groups + 38 overseas groups
21 domestic group companies prior to FY 2014

Amount of recycled water (JTEKT independent)



Main measures

Overseas group companies	JAUK (U.K.)

Initiatives for recycling rainwater

JAUK has introduced a rainwater storage system which utilizes rainwater, an abundant natural resource in the U.K. The system involves storing rainwater in a tank, removing bacteria with a UV filter where necessary, then reusing this water in the coolant systems of machining centers. Compared to when the company used city water, it was able to reduce annual water usage by 70% (980 m^3) and cost by 3,010 pounds. JAUK will continue promoting rainwater utilization initiatives, such as using it for washing processes and plant amenities.

Rainwater storage system (JAUK, U.K.)

Effective use of resources

Main measures

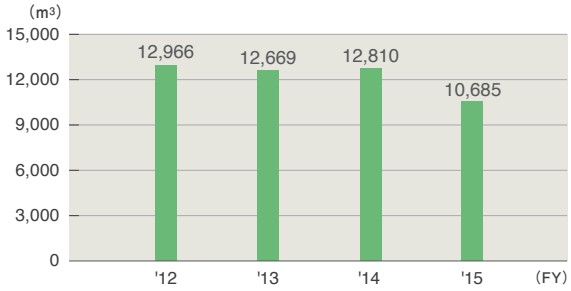
Overseas group companies	KBVM (France)

Initiatives for reducing water usage

KBVM's Maromme Plant engages in ongoing initiatives to reduce water usage with the aim of effectively utilizing water resources and reducing cost. Through improvements such as consolidating cooling towers, changing cooling towers to dry coolers and changing washing processes to drying, the plant reduced its 2015 water usage by approximately 3,000 m³. This was an 18% reduction compared with FY 2012. Maromme Plant will continue aiming for further cost reductions through initiatives such as reusing water within processes and renewing washing machines in response to water-related risk which is predicted to grow in the future.

Transition in plant water usage

Usage



Dry cooler

Cooling tower

VOICE Aiming for sustainable water resources

In Europe, water is available at a relatively low cost however it is a resource essential to people's lives and something which manufacturers cannot do without. We recognize water to be a common cyclic resource and understand our responsibility to protect it for future generations. In France, strict regulations have been put in place to prevent water pollution and health issues have arisen due to legionella as a result of inappropriate cyclic usage of water. As such, KBVM Maromme Plant believes sustainable initiatives relating to cyclic water of cooling towers are its basic responsibility in order to avoid jeopardizing the health of its employees. Through the effective operation of an environment management system, Maromme Plant will continue working to further reduce environmental burden.

Pascal Froissard (Left)
Jean-Paul Clement (Right)
KBVM Maromme (France)

Control and reduction of environmentally burdensome substances

Social background

There are restrictions on the usage and release of environmentally-burdensome substances which adversely impact ecosystems and human health. Companies are expected to implement measures to thoroughly control and reduce environmentally-burdensome substances in all stages of production and observe all regulations.

JTEKT's concept

Reducing environmentally burdensome substances

As we JTEKT aim to be an "environmentally friendly *monozukuri* company", the reduction of environmentally burdensome substances throughout the entire product life cycle is one of our social responsibilities. It goes without saying that we will lower consumption and discharge amounts, in addition to assessing and controlling environmentally burdensome substances within products.

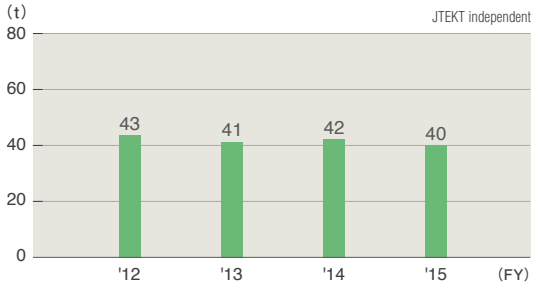
Control and reduction of chemical substances within production

Reduction of substances subject to PRTR

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. In FY 2015, we succeeded in reducing the amount of PRTR substances (*) released and transferred through promoting control of paint coating efficiency, etc.

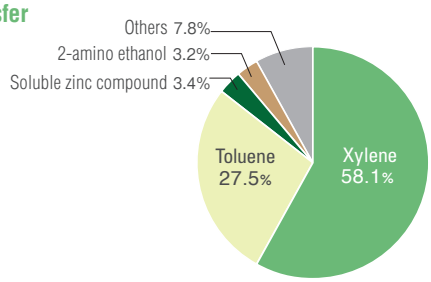
* **PRTR** A system to collect and disseminate information on environmental release and transfer of toxic chemicals reported to government agencies. PRTR is an abbreviation of "Pollutant Release and Transfer Register".

Yearly transition release and transfer breakdown of substances subject to PRTR



*Past results have been partially revised after reconfirming release and transfer amounts.

Release and transfer breakdown of substances subject to PRTR for FY 2015



Proper storage and control of PCB devices

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. Here at JTEKT, we properly store such devices and notify government agencies in accordance with this act. In addition, with the exception of one that could not be treated due to breakage, all high-pressure condensers with highly concentrated PBC levels in storage were rendered harmless at PCB treatment facilities of JESCO (Japan Environmental Storage & Safety Corporation) by FY 2014. In FY 2016, JTEKT plans to treat the one condenser that was not operating, to complete its high-pressure condenser treatment. Moreover, in regards to ballasts, following Tokushima Plant in FY 2014, a total of 1,126 ballasts were rendered harmless at Kariya Plant, Okazaki Plant and Higashi-Kariya Plant in FY 2015.

PCB ballast treatment status (Kariya Plant)

Measures for devices with low PCB concentration

In addition to devices with highly concentrated PCB levels, JTEKT properly stores electrical devices that have been previously judged as not containing PCB, but in which minute amounts of PCB have been detected.

In FY 2015, Kokubu Plant and Kagawa Plant removed insulating oil from its low-concentration PCB devices and began treatment at facilities certified to perform treatment for rendering such devices harmless.

Kokubu Plant

Control and reduction of environmentally burdensome substances

Measures for soil and groundwater (continued report)

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 detergents and other materials. They do this using a pumping and aeration system (*1). In addition, since FY 2004, the Okazaki Plant has used a microbial purification system (*2) which injects nutritional supplements as part of their purification measures. JTEKT reports groundwater measurement results to government agencies and provides local residents with explanations in community meetings.

→ S_22 Related article

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

*2 **Microbial purification system** 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: 0.03 mg / ℓ (mg / ℓ)

Plants	Maximum measurement value in groundwater		
	FY 2014	FY 2015	Status
Kariya	0.996	0.939	Purifying
Okazaki	0.019	0.016	Purifying

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

My CSR

Nichaphat Jaipong
JTC(Thailand)

Control and reduction of environmentally burdensome substances

Soil is the foundation for a diversity of living creatures and the basis of plant operation. JTEKT believes soil monitoring to avoid burdening the soil environment and checking for pollution is very important when utilizing land for plant operations. Thailand has laws in place regarding environmental standards for soil used for purposes other than residential and agricultural. JTC implements measures to protect against soil contamination and continuously carries out periodic monitoring of toluene, benzene and lead levels in the soil within plant grounds.

Biodiversity conservation

Social background

The diversity of living creatures on this planet is rapidly depleting, for reasons such as habitat loss resulting from the spreading destruction of nature. Corporate activities are made possible thanks to the blessings of nature, but at the same time impact biodiversity greatly. This is why it is important that corporations are proactively involved in biodiversity conservation activities such as protecting the natural habitat.

JTEKT's concept

Initiatives leveraging regional characteristics

JTEKT believes biodiversity conservation to be a critical social issue supporting life and lifestyle. Based on the JTEKT Group Environment Vision, each plant promotes initiatives which leverage the regional characteristics of its location and broaden the scope of activities aimed at conservation of biodiversity.

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 be mindful of biodiversity, our company established a Biodiversity Conservation Action Guideline in March of 2011 based on the 2015 Environmental Action Plan of our JTEKT Group Environmental Vision. This guideline was established with reference to the Ministry of the Environment's Guidelines for Private Sector Engagement in Biodiversity. We will continue to investigate quantifiable evaluations relating to biodiversity conservation into the future.

Map of JTEKT biodiversity conservation activities

New!

Figure-02

Due to operating plants across a broad area in both Japan and overseas, JTEKT endeavors to expand our biodiversity conservation initiatives through connecting the activities of individual plants. We will continue promoting activities to broaden such connection both domestically and internationally.

S_24・25 Related article

Figure-01 Biodiversity Conservation Action Guideline

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 assess the impact our business activities have on biodiversity.
Product development	● Based on life-cycle assessment approach, JTEKT develops and designs top-class environmentally friendly products and reduces impact on biodiversity.

Promotion of social contribution activities benefiting biodiversity conservation

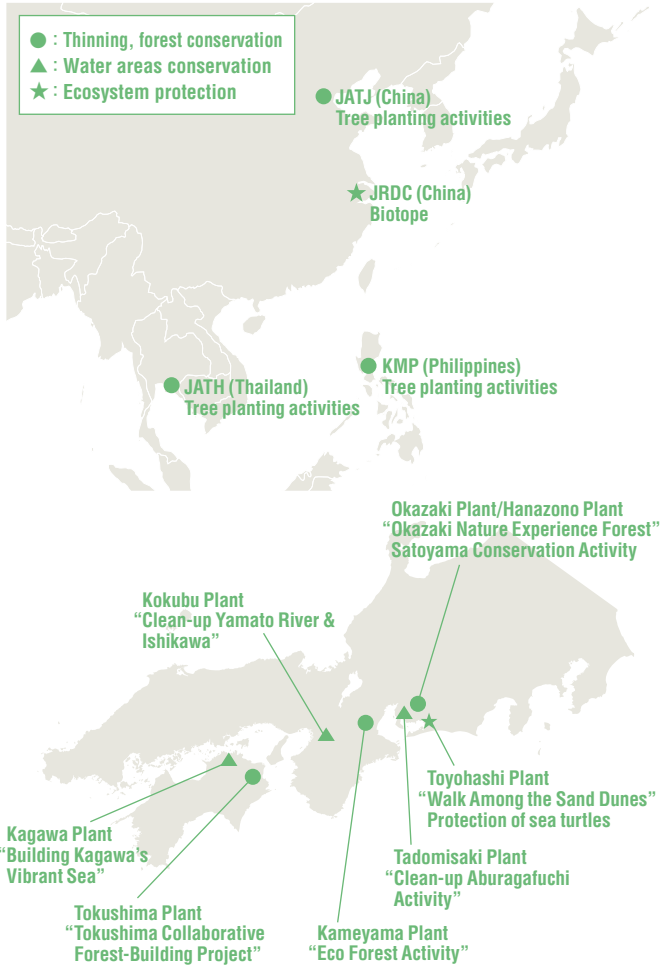
● Proactively participate in social contribution activities through cooperation with councils and affiliated companies.

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 with the community.

Figure-02 Map of JTEKT biodiversity conservation activities



Biodiversity conservation

Vibrant Sea Conservation Activity (Kagawa Plant) New!

From June 2015, Kagawa Plant has been participating in the "Building Kagawa's Vibrant Sea" activity as a part of its initiative to conserve biodiversity. This project is run by Kagawa prefecture citizens and citizen groups with the aim of turning the Seto Inland Sea, which suffers from environmental issues, into an abundant sea which provides not only a water resource, but many forms of bounty, such as scenery, a haven, food culture, tourism and so on. JTEKT's Kagawa Plant supported this activity's philosophy, and participated in the Vibrant Sea Tour held in Sakaide on June 27th. The tour involved collecting sea lettuce which had become problematic in recent years due to contaminating the sea. Kagawa Plant will continue this activity in order to contribute to the restoration of the Seto Inland Sea and biodiversity conservation.

Vibrant Sea Conservation Activity (Kagawa Plant)

Tree planting activities (JATJ: China) New!

JATJ has held tree-planting activities since 2012. It held its third such activity on Family Day in March 2016. 117 people, consisting of employees and their families, attended the event and planted one tree per household. Through this experience, participants gained a sense of fulfilment by contributing to the environment and enhanced their environmental awareness. The event was also an opportunity to teach children about the importance of protecting the environment. JATJ has planted 132 trees over approximately 2,000 m^2 to date through this activity.
It will continue to hold this event and contribute to protecting the regional environment.

Tree planting activities (JATJ: China)

Appendix

Appendix-01 The scope of consolidated environmental management

Europe
● 12 production companies

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

Asia / Oceania
● 8 production companies

JTEKT (THAILAND) CO., LTD. (Thailand)
JTEKT AUTOMOTIVE (THAILAND) CO., LTD.(Thailand)
KOYO MANUFACTURING (PHILIPPINES) CORPORATION (Philippines)
JTEKT AUTOMOTIVE (MALAYSIA) SDN. BHD. (Malaysia)
JTEKT SONA AUTOMOTIVE INDIA LTD. (India)
KOYO BEARINGS INDIA PVT.LTD (India)
PT.JTEKT INDONESIA (Indonesia)
KOYO JICO KOREA CO., LTD. (Korea)

China
● 10 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.
KOYO NEEDLE BEARINGS (WUXI) CO., LTD.

Japan
● 13 JTEKT bases
● 19 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)
Eiko Seimistu Co.,Ltd. (Kagawa Prefecture)
Tokio Seiko Corporation (Tokyo Prefecture)
Yamato Seiko Co.,Ltd. (Nara Prefecture)

North America / South America
● 8 production companies

JTEKT AUTOMOTIVE TENNESSEE-VONORE LLC (U.S.A.)
JTEKT AUTOMOTIVE TENNESSEE-MORRISTOWN, INC. (U.S.A.)
JTEKT AUTOMOTIVE TEXAS, L.P. (U.S.A.)
JTEKT AUTOMOTIVE SOUTH CAROLINA, INC. (U.S.A.)
KOYO BEARINGS NORTH AMERICA LLC (U.S.A.)
KOYO BEARINGS CANADA INC. (Canada)
JTEKT AUTOMOTIVA BRASIL LTDA. (Brazil)
JTEKT AUTOMOTIVE ARGENTINA S.A. (Argentina)

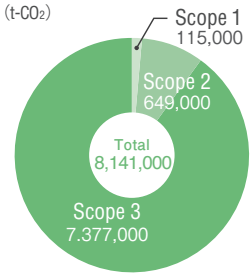
Appendix-02

CO_2 conversion coefficients to calculate CO_2 emissions volume

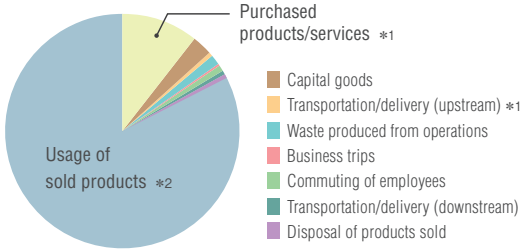
Electricity	0.3707 kg-CO_2/kWh
Heavy oil A	2.6958 kg-CO_2/ℓ
Kerosene	2.5316 kg-CO_2/ℓ
Propane gas	3.0040 kg-CO_2/kg
City gas	2.1570 kg-CO_2/Nm^3

The CO_2 conversion coefficients were set by the 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.

CO_2 emissions by scope



Scope 3 CO_2 emissions (percentage) by category



Scope 3 CO_2 emissions by category (FY 2015) *3

Classification	Category	Emissions	Calculation method
Upstream	Purchased products/services *1	680,000	Calculated based on the amount of steel purchased (price) multiplied by emissions per basic unit
	Capital goods	186,000	Calculated based on equipment investment amount related to capital goods multiplied by the cost per unit
	Fuel and energy-related activities not included in Scope 1 and 2	—	N/A
	Transportation/delivery (upstream) *1	26,000	Calculated as emissions due to purchasing/distribution of raw materials, parts, etc., based on the amount of steel purchased (price) multiplied by emissions per basic unit
	Waste produced from operations	96,000	Calculated based on amount of waste multiplied by emissions per basic unit
	Business trips	20,000	Calculated based on travel expenses multiplied by emissions per basic unit; estimated based on employee number for overseas group companies
	Commuting of employees	50,000	Calculated based on commuting expenses multiplied by emissions per basic unit; estimated based on employee number for overseas group companies
	Leased assets (upstream)	—	Leased assets calculated as Scope 1 and 2 emissions
Downstream	Transportation/delivery (downstream)	30,000	Calculated based on product transportation amount and distance multiplied by emissions per unit; calculated based on distribution expenses multiplied by emissions per unit for overseas group companies
	Fabrication of sold products	—	Due to the difficulty of calculating emissions due to the processing of products by customers using a reasonable method, this criteria has been excluded from the scope of calculation at this time
	Usage of sold products *2	6,258,000	Calculated based on the amount of energy consumption for annual production volume for steering, driveline components, and machine tools (calculated based on a 10-year usage period)
	Disposal of sold products	31,000	Calculated by deriving the masses of each material used from the material content of all steering, driveline parts and machine tools manufactured annually then multiplying this amount by the emissions basic unit.
	Leased assets (downstream)	—	N/A
	Franchise	—	N/A
	Investment	—	N/A
Total		7,377,000 (t-CO_2)	

*1 Calculated based on the amount of steel purchased *2 Calculated based on steering, driveline components and machine tools
*3 Calculated using the basic unit of emissions of the guidelines established by the Ministry of the Environment and Ministry of Economy, Trade and Industry

Third-party opinion on the JTEKT CSR Report 2016

Director 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 part-time university lecturer, after which he began freelancing. He has been researching CSR since 2000, each year analyzing and reporting the trends of over 350 companies' CSR reports.

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. Researching and Making Proposals regarding the Ideal CSR in CSR Workshops of Study Groups (http://junkanken.com)

Your company has begun publishing an integrated report, the "JTEKT REPORT", beginning with this year's 2016 edition.

Although the number of companies publishing integrated reports is rapidly increasing, there are concerns that CSR information may lag behind. The IIRC (International Integrated Reporting Council) views integrated reports as "concise primary reports", and imagines such reports to be consistent and relevant with past CSR reports. Although reports that follow this idea do not fall behind in CSR information, many times they are not consistent with previous reports. However, the pages of the Management, Society, and Environmental reports have increased since last year's CSR Report, and there is also much information in the report disclosed for the first time, therefore the stagnation of information is not a concern.

2015: A year where major CSR targets were presented

It can be said that, for companies actively implementing CSR, 2015 was a year where major CSR targets were presented. At the G7 Summit during June of the same year, a proclamation was made to improve the efficiency of resources, and in September, the United Nations adopted the "2030 Agenda for Sustainable Development". Then, at the COP21 in December, all nations cooperated in adopting the Paris Agreement, which stipulates to aim for zero actual emissions of greenhouse gases in the latter half of this century. Turning our gaze to affairs in Japan, we find the enactment in August of the Act of Promotion of Women's Participation and Advancement in the Workplace, and the mandate to perform stress checks from December onward in order to reduce the number of persons afflicted with mental health ailments. Companies' reports must be sensitive to these trends. The "Characteristics of information relating to social responsibility" section within ISO26000 also mentions "sensitive" matters, and readers expect reports to contain responses to the abovementioned trends.

Does the report observe trends in Japan and overseas?

Regarding the improvement of resource efficiency, promotion of women in the workplace, and mental health, the report responds to the expectations of readers in that it includes highly detailed information on JTEKT's concept, systems, and achievements, including quantified values. The "Social background" section contains words that convey JTEKT's awareness of the importance of the 17 targets (SDGs) within the "2030 Agenda". However, the report does not include what measures will be taken to fulfill these SDGs as targets within CSR. It would be wise to establish a relationship between the Values Which JTEKT Provides and the SDGs within the report.

With respect to the Paris Agreement which took effect this past November 4th, we can say that we have jumped into an era of a zero-carbon society, from merely a carbon-limiting society. JTEKT set the Environmental Challenge 2050 guidelines in May 2016 and presented the Environmental Action Plan 2020 as the first step to achieving these guidelines. Both of these establishments stipulate targets for CO_2 emissions aimed at building a low-carbon society. I therefore give high marks for setting forth such mid- to long-term targets, as they conform to the Paris Agreement. However, I am concerned as these targets are for the reduction of basic units, and the target for total emissions is "minimization" or "target basic unit × production volume". Hereafter will be an inevitable transition into an era where it is demanded that we decouple the increase in production due to various innovations and the increase in CO_2 emissions. I would like to see JTEKT proceed from carbon-neutral and set forth absolute values within their emissions targets, aimed at a zero-carbon society.

CSR has permeated each division

For the past few years I have been involved in JTEKT's CSR report, and it has conveyed that the company is steadily familiarizing its employees with CSR. I believe that this is the result of systematically proceeding with CSR activities by engaging profusely in CSR-related matters within rank-based training for managers, administrative positions, and technical positions, and implementing the PDCA cycle within each division. In particular, the remark that "I want to lead the research division in a direction where engineers and researchers engage in development themes that enable JTEKT to contribute to future society" within the Special Edition is one that conforms to the CSR, Mindset, and that I see as a symbol of CSR familiarization at JTEKT.

Response to the third-party opinion

**Corporate Planning Department,
Corporate Management HQ, JTEKT Corporation**

Thank you for your invaluable opinion of our complete CSR report, following our intermediate opinion exchange.

We published the JTEKT REPORT as the first step in establishing an integrated report from FY 2016 onward. While this CSR report expresses the details of the matters concerning ESG (*) that are included within the JTEKT REPORT, we are also working to enhance the provision of information regarding CSR activities.

As you have explained, demands concerning CSR are increasing by the year, a fact of which we are constantly aware. We will proceed with activities in consonance with the needs of our stakeholders, and work to cooperate with and contribute to worldwide movements that aim for sustainable development.

We, JTEKT, greeted the milestone of our 10th anniversary in 2016, formulating the JTEKT WAY as our set of values that can be shared afresh on a global basis. We also reshaped our set of guiding principles so that they can be shared and understood easily across the globe. These principles, augmented by the JTEKT WAY, serve to motivate us in facing new challenges as we strive to fulfill our Corporate Philosophy of "contributing to the happiness of people and the abundance of society through product manufacturing that wins the trust of society".

***ESG** Environment, Social, Governance

Non-financial data

Section	Item			Unit	FY 2013	FY 2014	FY 2015
Contributing through	**Products** [Individual]	Reduction of CO_2 as a result of building eco-friendliness into the design of each product	Total		457.1	466.0	724.2
		Example product groups	Steering (*1) C-EPS Powerassist steering system	10,000 tons	184.0	296.0	334.0
			Bearings Taper roller bearings for automobiles		87.0	89.5	90.5
	Environment [Individual]	Prevention of global warming	Amount of CO_2 emissions in production	tons	240,024	237,147	230,090
			Basic unit	t/hundred million yen	148.1	147.7	146.2
			CO_2 emissions in logistics	tons	14,330	14,301	13,810
			Basic unit	t/hundred million yen	2.24	2.20	2.18
		Effective use of resources	Basic unit of waste	t/hundred million yen	6.71	6.86	7.34
		Reduction of packaging usage		t/hundred million yen	0.78	0.81	0.77
		Water usage in production activities		t/hundred million yen	1.63	1.58	1.56
		Reduction and management of environmentally burdensome materials	Release/transfer of substances subject to PRTR	tons	39.9	40.4	40
		Number of environmental regulation violations		Incidents	2	2	0
	Regional contributions [Individual]	Number of plant festival goers		People	8,475	8,514	8,720
		Number of regional conferences		Place	13	13	13
		Number of participants in region cleanup activities		People	4,879	4,927	4,483
		Number of people attending plant tours		People	1,051	1,344	1,366
Establishment of a firm management foundation	**Employees** [Individual]	Percentage of women in administrative positions (*2)	Managerial positions	%	0.82	0.83	0.81
			Assistant managers		2.36	2.62	3.30
		Percentage of employees with disabilities		%	2.11	2.17	2.23
		Employees who took childcare leave (*3)		People	24	38	30
		Employees who took family care leave		People	3	5	1
		Percentage of lost-day accidents		%	0.27	0.34	0.27
		Lost worktime due to a new category for mental illness	Days	Day	4,022	5,061	2,991
			Number	People	50	59	46
		Percentage of employees with a BMI above normal		%	25.0	25.5	25.2
		Percentage of smokers		%	37.4	36.9	36.4
		Number of employees (Total permanent, fixed-term, part-time, reemployed, and temporary employees)	Total		14,696 (3,803)	14,842 (3,724)	14,702 (3,442)
			Men	People	13,322 (3,203)	13,442 (3,157)	13,312 (2,930)
			Women		1,374 (600)	1,400 (567)	1,390 (512)
		Average age	Total		38.9	38.9	38.9
			Men	Age	38.9	39.0	39.0
			Women		37.9	37.8	37.9
		Years of employment	Total		15.3	15.3	15.4
			Men	Years	15.6	15.6	15.7
			Women		11.7	11.2	11.2
		Number of employees who quit within 3 years of entering the company [permanent employees, seasonal recruits, quitting due to personal reasons]		%	3.01	3.68	3.70

Section	Item				Unit	FY 2013	FY 2014	FY 2015
Establishment of a firm management foundation	**Employees** [Individual]	Persons hired [Seasonal recruitment]	Total		People	316	309	311
			Men		People	289	283	280
			Women			27	26	31
			Administrative	Total		44	47	50
				Men	People	27	26	24
				Women		17	21	26
			Engineering	Total		94	89	87
				Men	People	90	89	86
				Women		4	0	1
			Technical	Total		178	173	174
				Men	People	172	168	170
				Women		6	5	4
		Rate of Senior Partner re-employment system application			%	100	100	100
		Percentage of employees realizing personal growth (*4)			%	32	32	33
		Percentage of employees feeling job satisfaction (*4)			%	34	36	37
		Percentage of employees happy with the company (*4)			%	24	27	28
	Governance	Number of incidents reported within the company [Individual] (*5)			Incidents	50	51	51

*1 Calculated using the volume of products designed by JTEKT. Includes approximately half of all products manufactured overseas.
*2 Values differ from last year's report due to a revision to the calculation method.
*3 FY 2013 shows the number of female employees. FY 2014 and FY 2015 show the total number of both female and male employees.
*4 From the workplace management questionnaire (6 options).
*5 Has included the number of reports received at the harassment helpline established in FY 2013 from this report.

Thank you for reading.

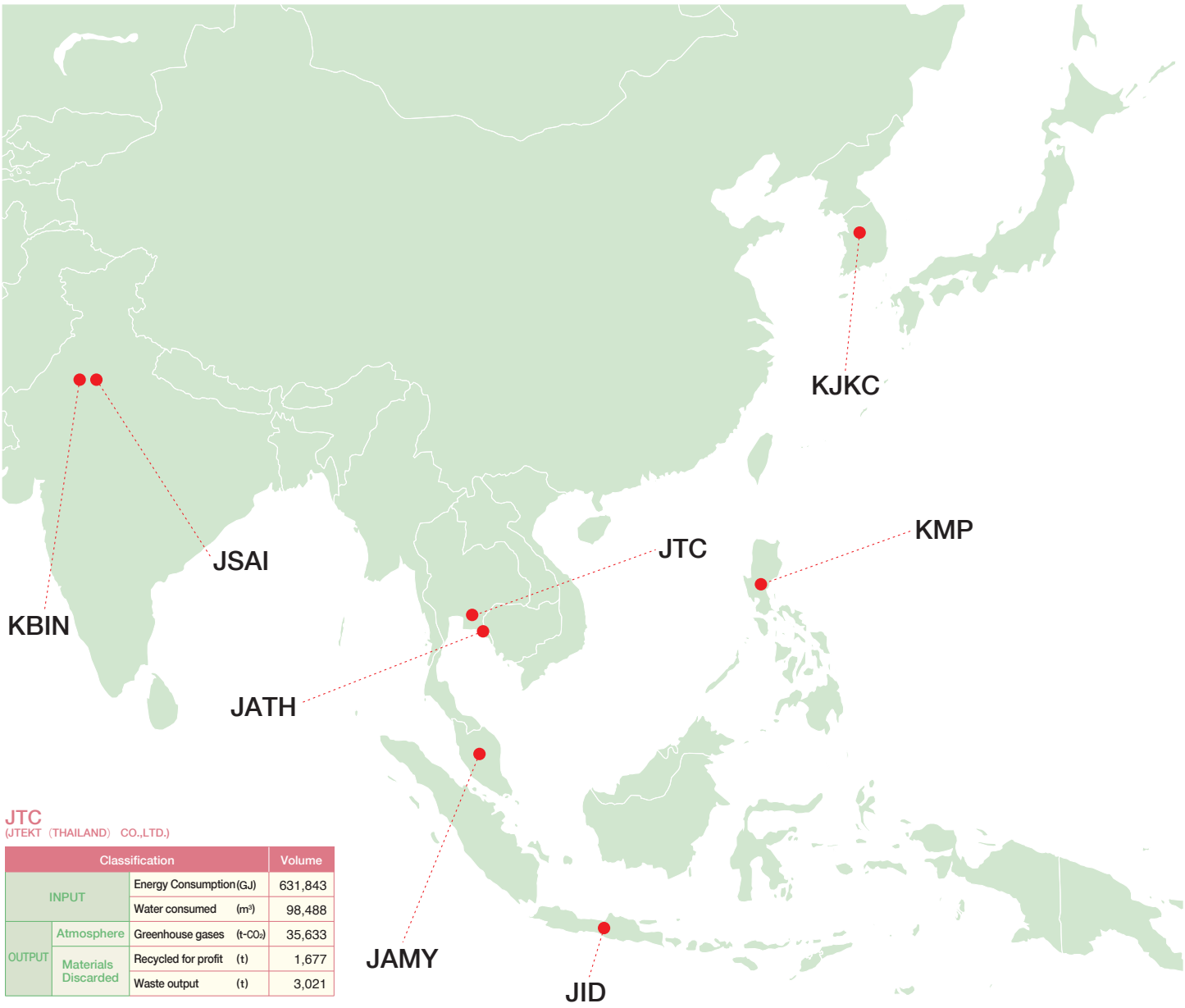
We would like to further improve the CSR initiatives and reports, listening to our stakeholders.
If you have any opinions or requests, please feel free to contact us.

Inquiries

Corporate Planning Department, Corporate Management HQ, JTEKT Corporation
15th Floor, Midland Square 4-7-1 Meieki, Nakamura-ku, Nagoya 450-8515 Japan
TEL: +81-52-527-1905 FAX: +81-52-527-1912

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

Global business sites [Asia/Oceania]



JTC
(JTEKT (THAILAND) CO.,LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	631,843
		Water consumed (m³)	98,488
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	35,633
	Materials Discarded	Recycled for profit (t)	1,677
		Waste output (t)	3,021

JATH
(JTEKT AUTOMOTIVE (THAILAND) CO.,LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	303,342
		Water consumed (m³)	82,974
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	17,113
	Materials Discarded	Recycled for profit (t)	4,108
		Waste output (t)	1,616

JSAI
(JTEKT SONA AUTOMOTIVE INDIA LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	38,346
		Water consumed (m³)	24,437
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	3,395
	Materials Discarded	Recycled for profit (t)	106
		Waste output (t)	4

KJKC
(KOYO JICO KOREA CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	18,676
		Water consumed (m³)	2,949
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	944
	Materials Discarded	Recycled for profit (t)	17
		Waste output (t)	106

JAMY
(JTEKT AUTOMOTIVE (MALAYSIA) SDN. BHD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	86,474
		Water consumed (m³)	13,517
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	4,656
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	198

KBIN
(KOYO BEARINGS INDIA PVT. LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	75,801
		Water consumed (m³)	13,057
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	5,719
	Materials Discarded	Recycled for profit (t)	593
		Waste output (t)	59

KMP
(KOYO MANUFACTURING (PHILIPPINES) CORPORATION)

Classification			Volume
INPUT		Energy Consumption (GJ)	97,899
		Water consumed (m³)	27,085
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	5,212
	Materials Discarded	Recycled for profit (t)	97
		Waste output (t)	339

JID
(PT.JTEKT INDONESIA)

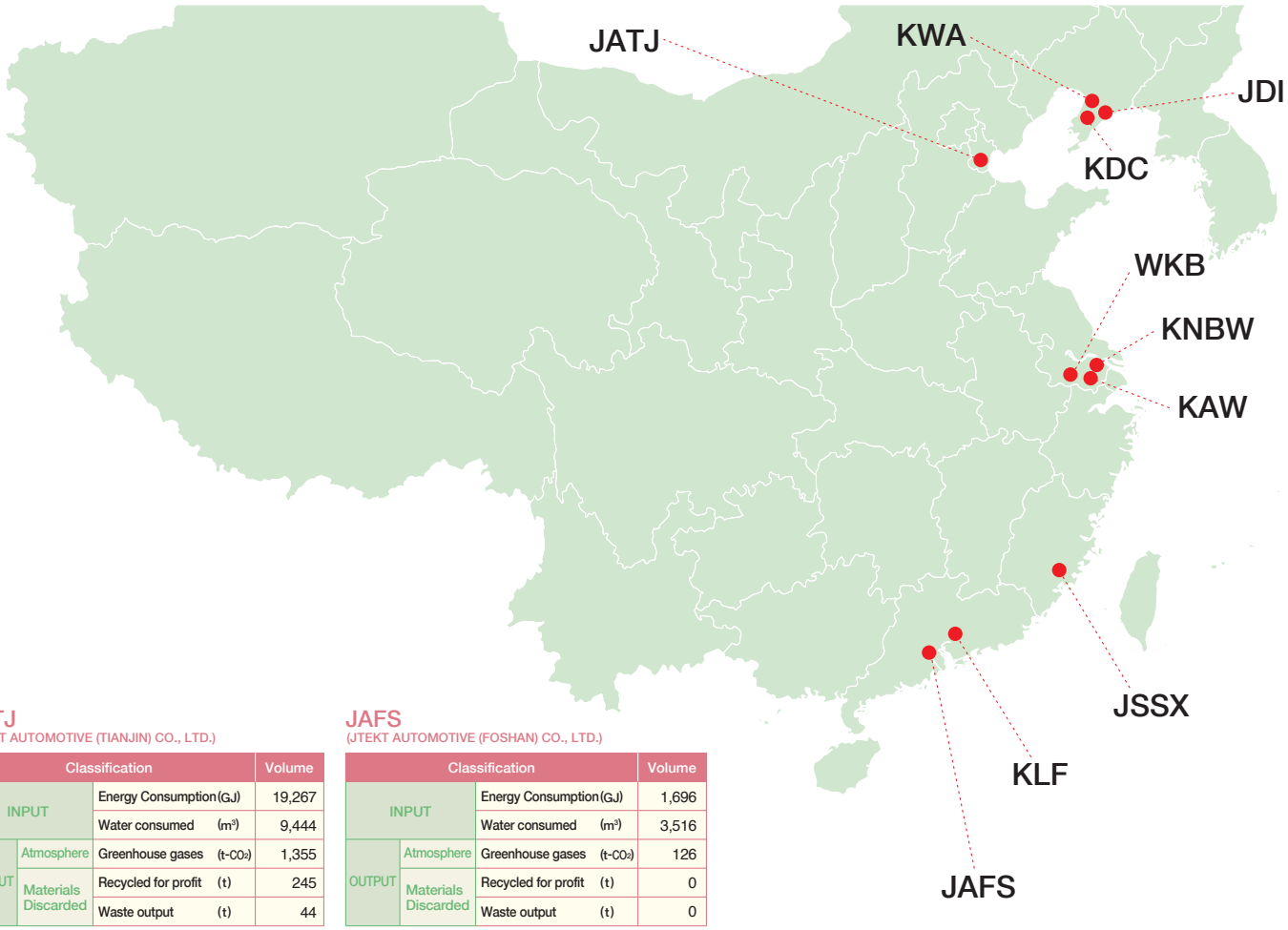
Classification			Volume
INPUT		Energy Consumption (GJ)	70,905
		Water consumed (m³)	23,666
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	5,230
	Materials Discarded	Recycled for profit (t)	813
		Waste output (t)	275

Asia/Oceania group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	1,323,286
		Water consumed (km³)	286
		Per base unit (km³/100 million yen)	0.26
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	77,902
		Per base unit (t-CO₂/100 million yen)	71.0
	Materials Discarded	Recycled for profit (t)	7,410
		Waste output (t)	5,617
		Basic emissions unit (t/100 million yen)	11.9

* 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)	19,267
		Water consumed (m^3)	9,444
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	1,355
	Materials Discarded	Recycled for profit (t)	245
		Waste output (t)	44

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

Classification			Volume
INPUT		Energy Consumption (GJ)	1,696
		Water consumed (m^3)	3,516
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	126
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	0

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

Classification			Volume
INPUT		Energy Consumption (GJ)	86,705
		Water consumed (m^3)	30,163
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	6,435
	Materials Discarded	Recycled for profit (t)	420
		Waste output (t)	12

WKB
(WUXI KOYO BEARING CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	47,651
		Water consumed (m^3)	11,190
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	3,499
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	132

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

Classification			Volume
INPUT		Energy Consumption (GJ)	43,633
		Water consumed (m^3)	14,984
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	3,121
	Materials Discarded	Recycled for profit (t)	533
		Waste output (t)	145

KDC
(KOYO BEARING DALIAN CO., LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	80,144
		Water consumed (m^3)	19,471
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	5,938
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	144

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

Classification			Volume
INPUT		Energy Consumption (GJ)	155,723
		Water consumed (m^3)	47,469
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	11,535
	Materials Discarded	Recycled for profit (t)	2,808
		Waste output (t)	2,912

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

Classification			Volume
INPUT		Energy Consumption (GJ)	158,447
		Water consumed (m^3)	33,435
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	11,539
	Materials Discarded	Recycled for profit (t)	180
		Waste output (t)	81

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

Classification			Volume
INPUT		Energy Consumption (GJ)	11,797
		Water consumed (m^3)	8,400
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	876
	Materials Discarded	Recycled for profit (t)	733
		Waste output (t)	8

KNBW
(KOYO NEEDLE BEARINGS (WUXI) CO., LTD.)

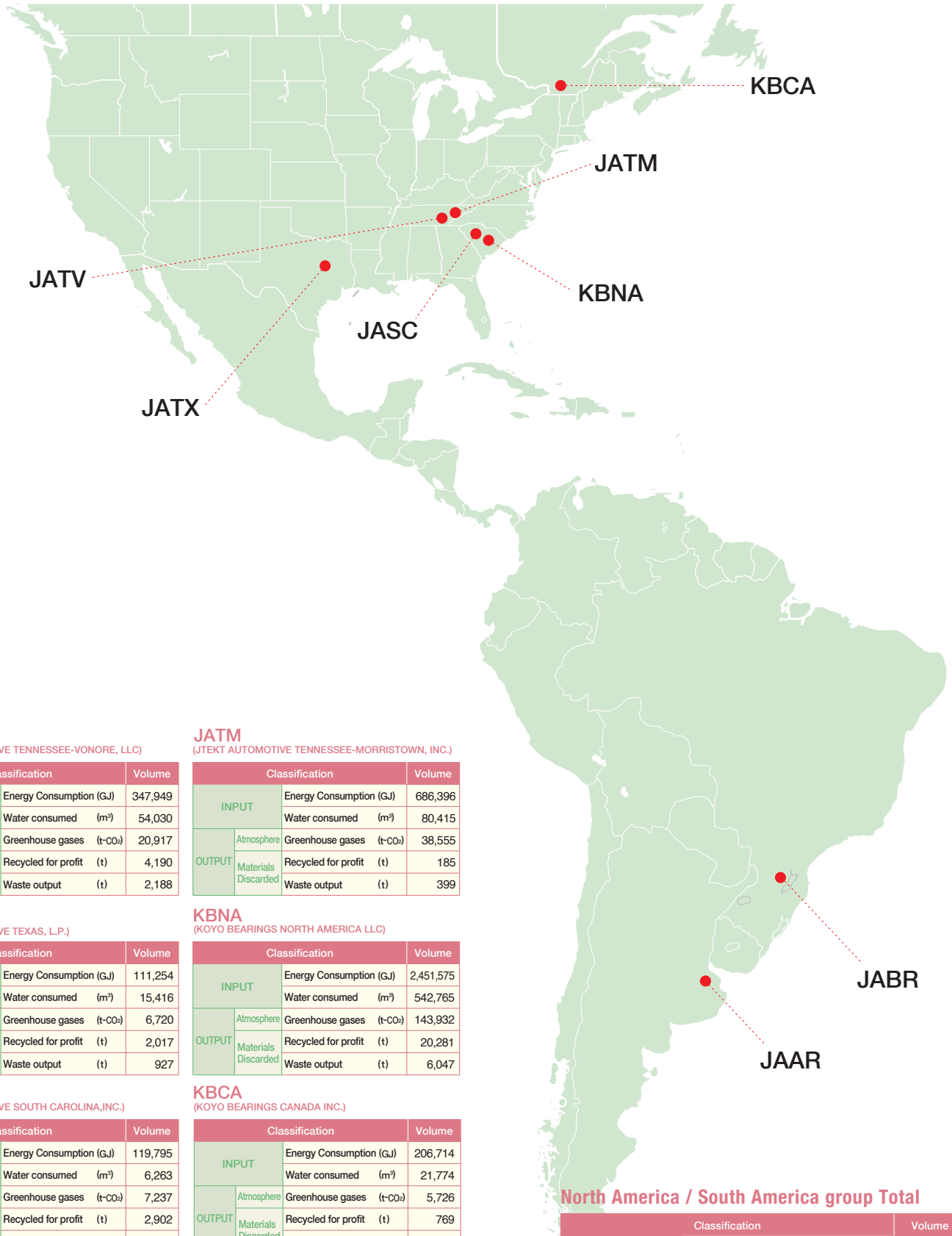
Classification			Volume
INPUT		Energy Consumption (GJ)	111,321
		Water consumed (m^3)	22,800
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	8,249
	Materials Discarded	Recycled for profit (t)	105
		Waste output (t)	278

China group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	716,384
		Water consumed (km^3)	201
		Per base unit (km^3/100 million yen)	0.25
OUTPUT	Atmosphere	Greenhouse gases ($t\text{-}CO_2$)	52,671
		Per base unit ($t\text{-}CO_2$/100 million yen)	64.6
	Materials Discarded	Recycled for profit (t)	5,024
		Waste output (t)	3,756
		Basic emissions unit (t/100 million yen)	10.8

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

Global business sites [North America/South America]



JATV
(JTEKT AUTOMOTIVE TENNESSEE-VONORE, LLC)

Classification			Volume
INPUT		Energy Consumption (GJ)	347,949
		Water consumed (m³)	54,030
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	20,917
	Materials Discarded	Recycled for profit (t)	4,190
		Waste output (t)	2,188

JATM
(JTEKT AUTOMOTIVE TENNESSEE-MORRISTOWN, INC.)

Classification			Volume
INPUT		Energy Consumption (GJ)	686,396
		Water consumed (m³)	80,415
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	38,555
	Materials Discarded	Recycled for profit (t)	185
		Waste output (t)	399

JATX
(JTEKT AUTOMOTIVE TEXAS, L.P.)

Classification			Volume
INPUT		Energy Consumption (GJ)	111,254
		Water consumed (m³)	15,416
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	6,720
	Materials Discarded	Recycled for profit (t)	2,017
		Waste output (t)	927

KBNA
(KOYO BEARINGS NORTH AMERICA LLC)

Classification			Volume
INPUT		Energy Consumption (GJ)	2,451,575
		Water consumed (m³)	542,765
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	143,932
	Materials Discarded	Recycled for profit (t)	20,281
		Waste output (t)	6,047

JASC
(JTEKT AUTOMOTIVE SOUTH CAROLINA,INC.)

Classification			Volume
INPUT		Energy Consumption (GJ)	119,795
		Water consumed (m³)	6,263
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	7,237
	Materials Discarded	Recycled for profit (t)	2,902
		Waste output (t)	259

KBCA
(KOYO BEARINGS CANADA INC.)

Classification			Volume
INPUT		Energy Consumption (GJ)	206,714
		Water consumed (m³)	21,774
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	5,726
	Materials Discarded	Recycled for profit (t)	769
		Waste output (t)	1,388

JABR
(JTEKT AUTOMOTIVA BRASIL LTDA.)

Classification			Volume
INPUT		Energy Consumption (GJ)	83,855
		Water consumed (m³)	11,442
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	888
	Materials Discarded	Recycled for profit (t)	964
		Waste output (t)	365

JAAR
(JTEKT AUTOMOTIVE ARGENTINA S.A.)

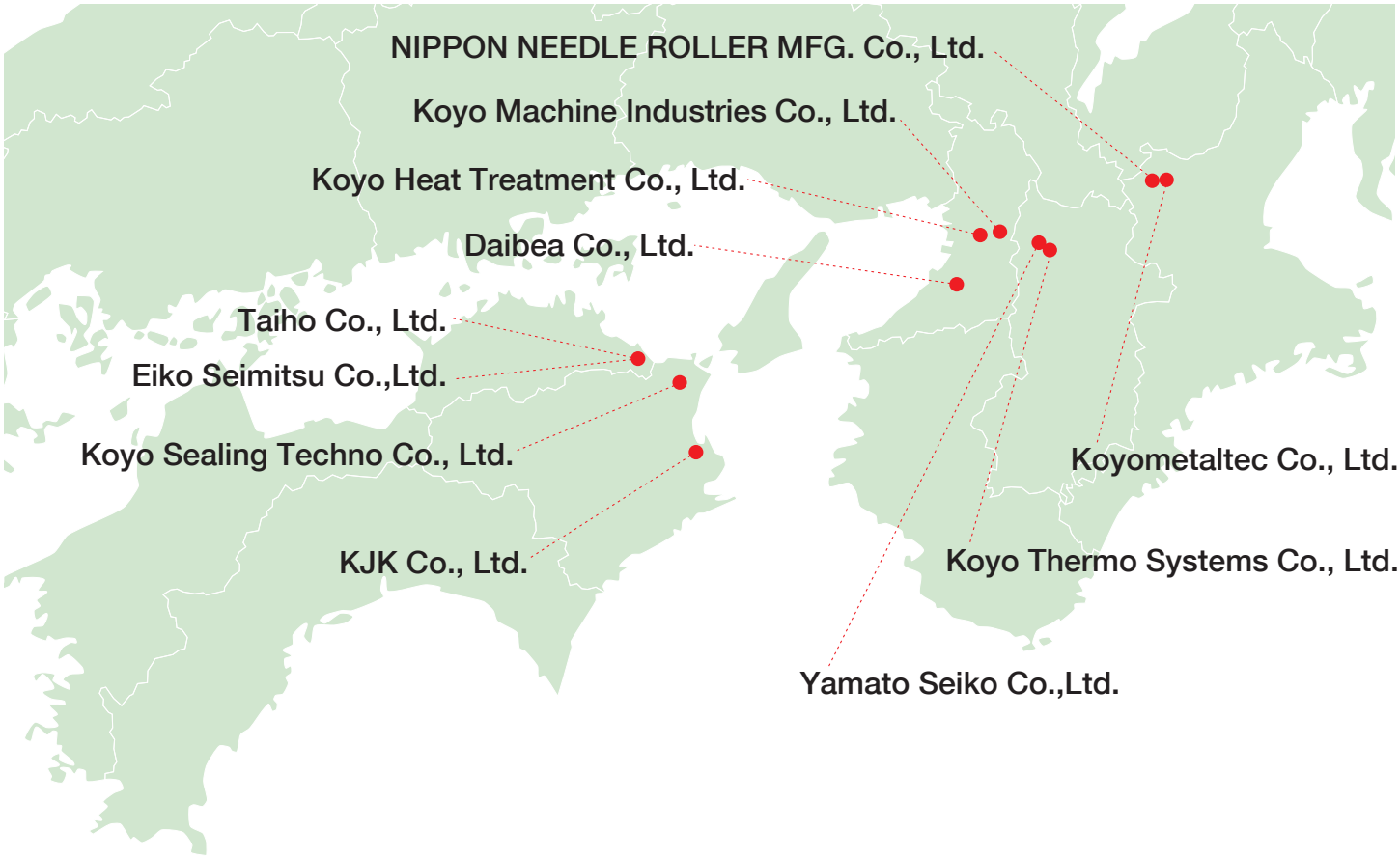
Classification			Volume
INPUT		Energy Consumption (GJ)	31,492
		Water consumed (m³)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,069
	Materials Discarded	Recycled for profit (t)	0
		Waste output (t)	0

North America / South America group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	4,039,212
		Water consumed (km³)	732
		Per base unit (km³/100 million yen)	0.3
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	225,045
		Per base unit (t-CO₂/100 million yen)	94.8
	Materials Discarded	Recycled for profit (t)	31,307
		Waste output (t)	11,575
		Basic emissions unit (t/100 million yen)	18.1

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

Global business sites [Domestic group production companies]



Koyo Machine Industries Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	223,868
		Water consumed (km³)	43.2
		Chemical substances handled (t)	10.8
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	8,477
		Chemical substances released (t)	9.5
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	2,232
		Waste output (t)	843
		Chemical substances transferred (t)	1.3

Koyo Sealing Techno Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	146,085
		Water consumed (km³)	132.5
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	6,158
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	379
		Waste output (t)	88
		Chemical substances transferred (t)	0

Koyo Thermo Systems Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	63,810
		Water consumed (km³)	11.6
		Chemical substances handled (t)	0.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	2,513
		Chemical substances released (t)	0.6
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	132
		Waste output (t)	183
		Chemical substances transferred (t)	0

Daibea Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	306,539
		Water consumed (km³)	54.1
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	11,687
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	673
		Waste output (t)	830
		Chemical substances transferred (t)	0

Koyometaltec Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	518,864
		Water consumed (km³)	65.9
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	20,211
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	12,462
		Waste output (t)	554
		Chemical substances transferred (t)	0

KJK Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	50,771
		Water consumed (km³)	1.5
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,889
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	3,066
		Waste output (t)	3
		Chemical substances transferred (t)	0

NIPPON NEEDLE ROLLER MFG. Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	72,176
		Water consumed (km³)	49.3
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	2,873
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	129
		Waste output (t)	644
		Chemical substances transferred (t)	0

Koyo Heat Treatment Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	380,420
		Water consumed (km³)	35.0
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	16,199
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	316
		Waste output (t)	34
		Chemical substances transferred (t)	0

Taiho Co., Ltd.

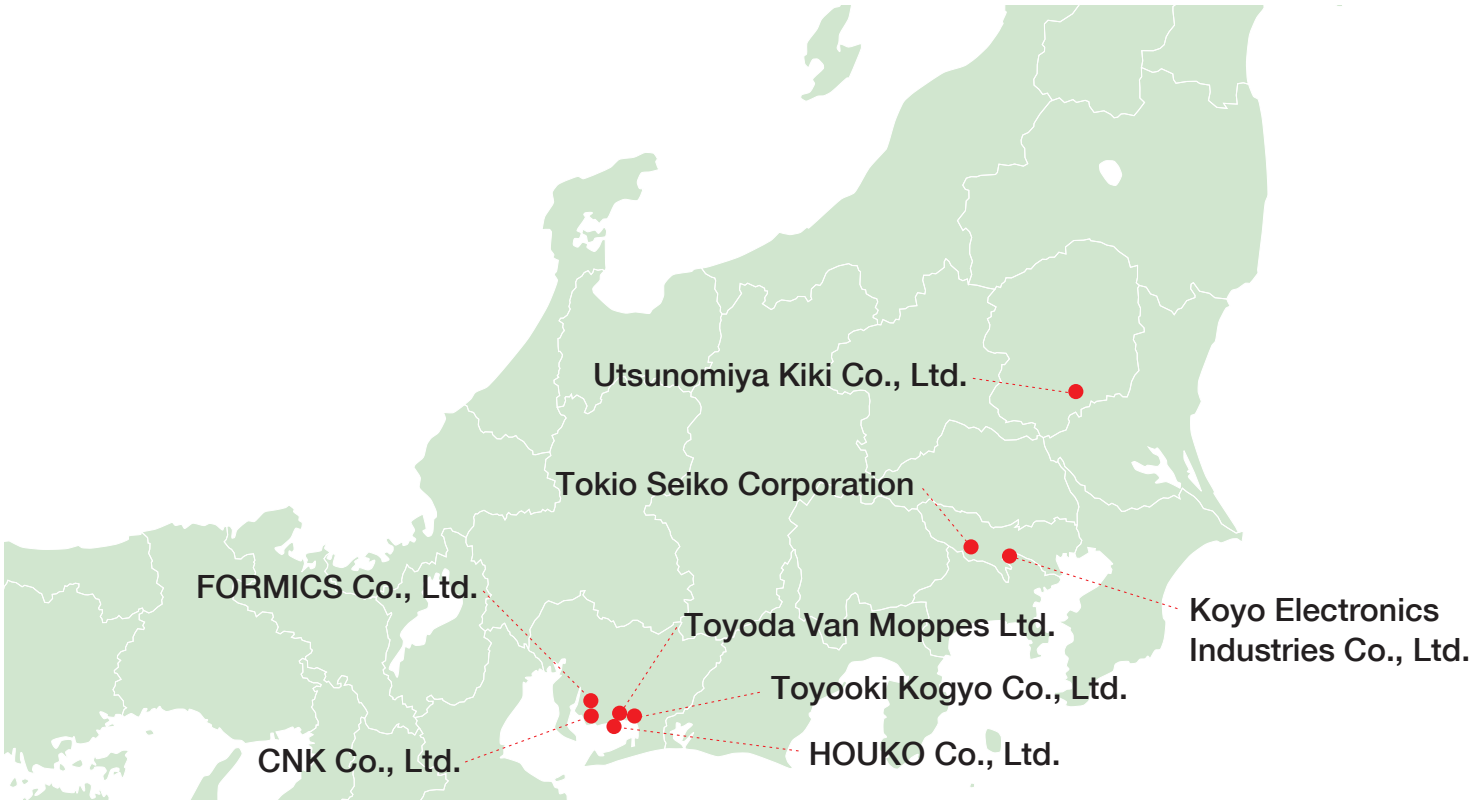
Classification			Volume
INPUT		Energy Consumption (GJ)	86,293
		Water consumed (km³)	4.5
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	3,250
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	4,539
		Waste output (t)	49
		Chemical substances transferred (t)	0

Yamato Seiko Co.,Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	47,781
		Water consumed (km³)	2.8
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,993
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	14
		Waste output (t)	136
		Chemical substances transferred (t)	0

Eiko Seimitsu Co.,Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	26,543
		Water consumed (km³)	4.5
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,079
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	564
		Waste output (t)	0
		Chemical substances transferred (t)	0



Toyooki Kogyo Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	93,174
		Water consumed (km³)	14.2
		Chemical substances handled (t)	7.7
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	3,481
		Chemical substances released (t)	7.7
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	507
		Waste output (t)	349
		Chemical substances transferred (t)	0

CNK Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	258,154
		Water consumed (km³)	96
		Chemical substances handled (t)	16.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	10,165
		Chemical substances released (t)	16.6
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	79
		Waste output (t)	640
		Chemical substances transferred (t)	0

Koyo Electronics Industries Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	33,169
		Water consumed (km³)	9.9
		Chemical substances handled (t)	0.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,252
		Chemical substances released (t)	0.2
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	40
		Waste output (t)	14
		Chemical substances transferred (t)	0

Utsunomiya Kiki Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	138,521
		Water consumed (km³)	73.6
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	5,214
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	2,998
		Waste output (t)	161
		Chemical substances transferred (t)	0

HOUKO Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	42,935
		Water consumed (km³)	4.3
		Chemical substances handled (t)	10.9
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,682
		Chemical substances released (t)	10.9
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	210
		Waste output (t)	41
		Chemical substances transferred (t)	0

Toyoda Van Moppes Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	25,546
		Water consumed (km³)	7
		Chemical substances handled (t)	2.6
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	953
		Chemical substances released (t)	2.1
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	137
		Waste output (t)	88
		Chemical substances transferred (t)	0

FORMICS Co., Ltd.

Classification			Volume
INPUT		Energy Consumption (GJ)	13,063
		Water consumed (km³)	1.5
		Chemical substances handled (t)	1.4
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	521
		Chemical substances released (t)	1.4
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	646
		Waste output (t)	33
		Chemical substances transferred (t)	0

Tokio Seiko Corporation

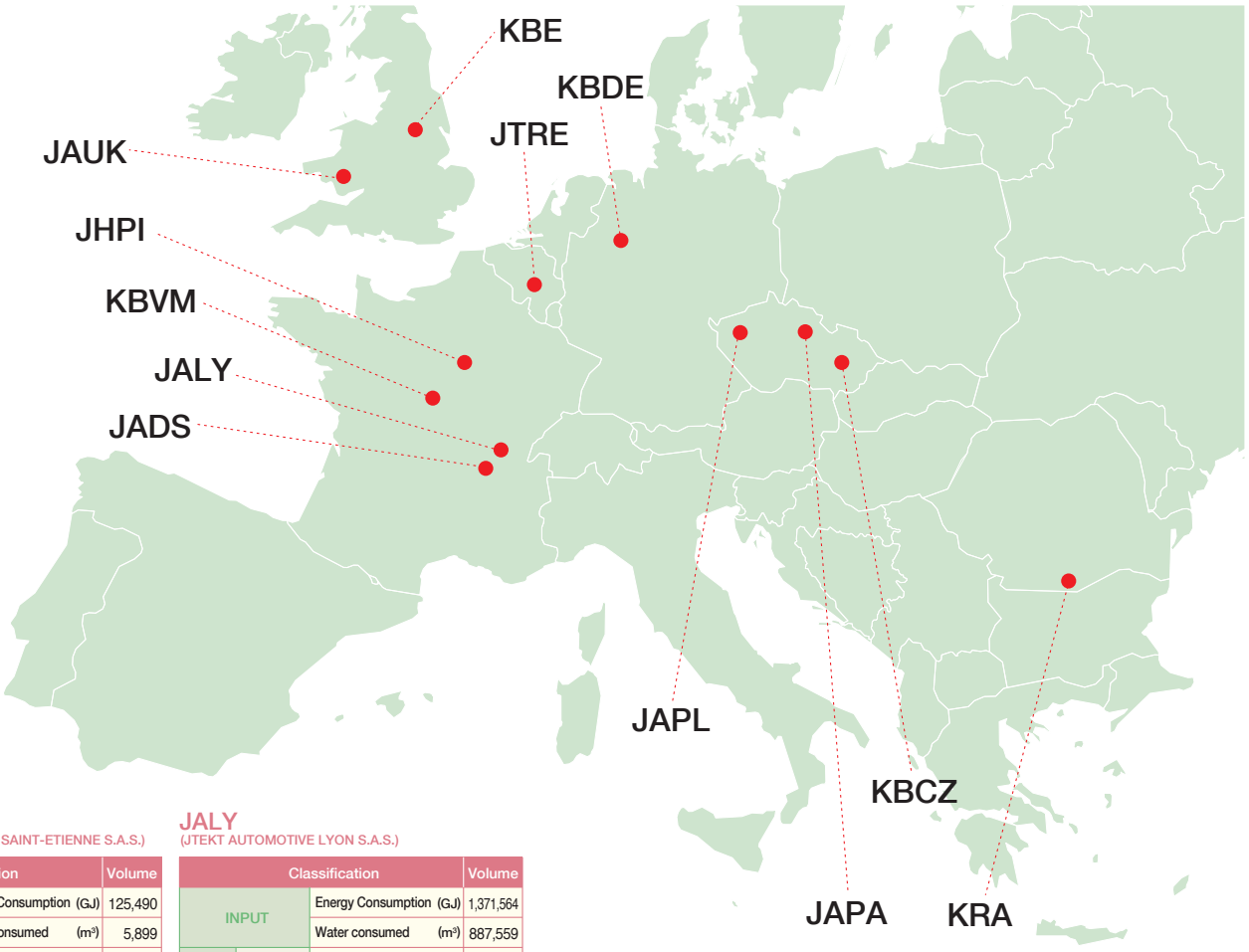
Classification			Volume
INPUT		Energy Consumption (GJ)	21,954
		Water consumed (km³)	1.1
		Chemical substances handled (t)	0
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	846
		Chemical substances released (t)	0
	Public water area	Chemical substances transferred (t)	0
	Materials Discarded	Recycled for profit (t)	693
		Waste output (t)	4
		Chemical substances transferred (t)	0

Domestic group Total

Classification				Volume
INPUT		Energy Consumption	(GJ)	2,549,666
		Water consumed	(km³)	613
		Per base unit	(km³/100 million yen)	0.63
		Chemical substances handled	(t)	51
OUTPUT	Atmosphere	Greenhouse gases	(t-CO₂)	100,444
		Per base unit	(t-CO₂/100 million yen)	104
		Chemical substances released	(t)	49
	Public water area	Chemical substances transferred	(t)	0
	Materials Discarded	Recycled for profit	(t)	29,252
		Waste output	(t)	4,692
		Basic emissions unit	(t/100 million yen)	35.1
		Chemical substances transferred	(t)	1.3

* 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 [Europe]



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

Classification			Volume
INPUT		Energy Consumption (GJ)	125,490
		Water consumed (m³)	5,899
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	884
	Materials Discarded	Recycled for profit (t)	801
		Waste output (t)	959

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

Classification			Volume
INPUT		Energy Consumption (GJ)	1,371,564
		Water consumed (m³)	887,559
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	6,445
	Materials Discarded	Recycled for profit (t)	1,911
		Waste output (t)	2,150

JHPI
(JTEKT HPI S.A.S.)

Classification			Volume
INPUT		Energy Consumption (GJ)	74,928
		Water consumed (m³)	3,895
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	433
	Materials Discarded	Recycled for profit (t)	124
		Waste output (t)	196

JAUK
(JTEKT AUTOMOTIVE UK LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	29,819
		Water consumed (m³)	1,988
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	1,426
	Materials Discarded	Recycled for profit (t)	495
		Waste output (t)	98

KBVM
(KOYO BEARINGS VIERZON MAROMME SAS)

Classification			Volume
INPUT		Energy Consumption (GJ)	171,847
		Water consumed (m³)	13,684
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	3,136
	Materials Discarded	Recycled for profit (t)	1,562
		Waste output (t)	1,039

KBE
(KOYO BEARINGS (EUROPE) LTD.)

Classification			Volume
INPUT		Energy Consumption (GJ)	177,136
		Water consumed (m³)	1,369,760
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	8,492
	Materials Discarded	Recycled for profit (t)	2,815
		Waste output (t)	753

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

Classification			Volume
INPUT		Energy Consumption (GJ)	79,042
		Water consumed (m³)	8,884
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	4,448
	Materials Discarded	Recycled for profit (t)	559
		Waste output (t)	327

KBCZ
(KOYO BEARINGS CESKA REPUBLIKA S.R.O.)

Classification			Volume
INPUT		Energy Consumption (GJ)	93,790
		Water consumed (m³)	6,807
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	5,256
	Materials Discarded	Recycled for profit (t)	615
		Waste output (t)	631

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

Classification			Volume
INPUT		Energy Consumption (GJ)	193,747
		Water consumed (m³)	14,322
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	10,114
	Materials Discarded	Recycled for profit (t)	291
		Waste output (t)	448

JTRE
(JTEKT TORSEN EUROPE S.A.)

Classification			Volume
INPUT		Energy Consumption (GJ)	82,403
		Water consumed (m³)	4,190
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	2,511
	Materials Discarded	Recycled for profit (t)	1,563
		Waste output (t)	638

KRA
(KOYO ROMANIA S.A.)

Classification			Volume
INPUT		Energy Consumption (GJ)	656,530
		Water consumed (m³)	186,768
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	26,092
	Materials Discarded	Recycled for profit (t)	11,167
		Waste output (t)	416

KBDE
(KOYO BEARINGS DEUTSCHLAND GMBH)

Classification			Volume
INPUT		Energy Consumption (GJ)	168,191
		Water consumed (m³)	76,986
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	8,379
	Materials Discarded	Recycled for profit (t)	1,761
		Waste output (t)	303

Europe group Total

Classification			Volume
INPUT		Energy Consumption (GJ)	3,224,489
		Water consumed (km³)	2,581
		Per base unit (km³/100 million yen)	1.3
OUTPUT	Atmosphere	Greenhouse gases (t-CO₂)	77,615
		Per base unit (t-CO₂/100 million yen)	39.5
	Materials Discarded	Recycled for profit (t)	23,662
		Waste output (t)	7,958
		Basic emissions unit (t/100 million yen)	16.1

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

JTEKT CSR Report 2016

Environmental Data by Operations Base ①

This page includes the environmental data for 2 locations, Kokubu and Kariya, out of our 13 locations; 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 2015 to March 2016**

Kokubu Plant

No. of Employees 2,077

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)	1,075,979
		Water consumed	(km^3)	433
		Chemical substances handled	(t)	17.4
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	42,733
		NOx	(kg)	9,412
		SOx	(kg)	0
		Chemical substances released	(t)	4.2
	Sewage	Wastewater	(km^3)	152
		COD	(kg)	8,171
		Nitrogen	(kg)	0
		Phosphorus	(kg)	0
		Chemical substances transferred	(t)	0.05
	Materials discarded	Recycled for profit	(t)	4,981
		Recycled at a charge	(t)	1,726
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	2.2

* 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	5.2～8.8	7.9	7.1
BOD	480	200	109
SS	480	33	7.3
Oil content	4	3.5	1.4

Unit : mg/ℓ (Excluding pH)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Annealing furnace)	Dust	0.08	0.002
	NOx	144	40
	SOx	—	—
Boiler (Hot and cold water generator)	Dust	0.08	0
	NOx	120	59
	SOx	—	—

Unit : Dust= g/Nm^3 NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	57	52
	Afternoon	69	62	54
	Evening	64	60	54
	Night	59	56	51
Vibration	Daytime	68	52	49
	Nighttime	63	49	47

Foul odor

Unit : ppm

Measurement item	Regulation value	Measurement
Ammonia	0.8	0.77
Methanethiol	0.0016	0.0005
Trimethylamine	0.0040	0.0004

* 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	10,833	0	0	0	0	1,083	0	0	9,749
80	Xylene	3,500	3,500	0	0	0	0	0	0	0
412	Manganese and its compounds	1,282	0	26	0	0	462	0	0	795

Kariya Plant

No. of Employees 1,283

Production items

- Machine tools
- Damper pulleys
- Machined parts

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	232,640
		Water consumed	(km^3)	132
		Chemical substances handled	(t)	2.5
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	8,932
		NOx	(kg)	650
		SOx	(kg)	0
		Chemical substances released	(t)	2.1
	Waterways	Wastewater	(km^3)	193
		COD	(kg)	719
		Nitrogen	(kg)	1,071
		Phosphorus	(kg)	8
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	507
		Recycled at a charge	(t)	217
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.9～8.5	7.2	6.9
COD	19	4.0	3.4
BOD	20	9.3	4.2
SS	20	3.3	2.1
Oil content	4	0.3	0.2
Zinc	1.6	0.1	0.0

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	4	0.5	0.5
Soluble manganese	1.6	0.3	0.2
Fluorine	4	0.1	0.1
Nitrogen	16.1	7.1	6.1
Phosphorus	1.5	0.1	0.1
Boron	8	0.04	0.03

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (for cafeteria use)	Dust	0.00	0
	NOx	0	57
	SOx	0.0	—
Boiler (Hot and cold water generator)	Dust	0.08	0.002
	NOx	104	53
	SOx	1.2	—

Unit : Dust= g/Nm^3 NOx= ppm SOx=Nm^3/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	57	48
	Afternoon	69	64	54
	Evening	64	61	49
	Night	59	57	49
Vibration	Daytime	68	49	33
	Nighttime	63	36	25

Foul odor

Measurement item	Regulation value	Measurement
Odor index	12	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	1,675	1,345	0	0	0	0	0	0	330

JTEKT CSR Report 2016

Environmental Data by Operations Base ②

This page includes the environmental data for 2 locations, Tokushima and Okazaki, out of our 13 locations; 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 2015 to March 2016**

Tokushima Plant

No. of Employees 1,186

Production items

- Ball bearings
- Water pump bearings
- Cylindrical roller bearings
- Special environment bearings
- Double row angular contact ball bearings
- Hub units
- Tensioner pulleys

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	891,350
		Water consumed	(km³)	950
		Chemical substances handled	(t)	8.2
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	34,353
		NOx	(kg)	30,815
		SOx	(kg)	707
		Chemical substances released	(t)	4.3
	Waterways	Wastewater	(km³)	219
		COD	(kg)	2,888
		Nitrogen	(kg)	2,309
		Phosphorus	(kg)	6
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	6,606
		Recycled at a charge	(t)	1,143
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.9～8.5	7.5	6.7
COD	16	12.0	10.0
BOD	24	15.0	4.4
SS	2.4	1.8	1.2
Oil content	25	6.9	4.4
Zinc	2.5	0.05	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	51
	SOx	16.8	0.03
Diesel engine	Dust	0.08	0.048
	NOx	902.5	762
	SOx	16.8	0.04

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

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	59	51	49
	Afternoon	64	58	56
	Evening	59	52	50
	Night	55	50	48
Vibration	Daytime	63	53	47
	Nighttime	58	48	45

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	4,219	4,219	0	0	0	0	0	0	0
438	Methylnaphthalene	3,934	0	0	0	0	0	0	0	3,934

Okazaki Plant

No. of Employees 848

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)	699,340
		Water consumed	(km³)	128
		Chemical substances handled	(t)	5.9
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	28,471
		NOx	(kg)	27,096
		SOx	(kg)	0
		Chemical substances released	(t)	3.8
	Waterways	Wastewater	(km³)	59
		COD	(kg)	31
		Nitrogen	(kg)	56
		Phosphorus	(kg)	0
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	10,226
		Recycled at a charge	(t)	3,158
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	6.6～8.4	7.6	7.2
COD	16	3.9	2.7
BOD	16	3.9	2.0
SS	16	1.3	1.0
Oil content	1.6	0.5	0.2
Zinc	2.4	0.05	0.05

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	4	0.5	0.5
Soluble manganese	2.4	0.3	0.3
Fluorine	0.8	0.10	0.10
Nitrogen	12	7.1	5.4
Phosphorus	1.6	0.11	0.04
Boron	8	0.02	0.02

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Electric furnace	Dust	0.12	0.011
	NOx	80	10
	SOx	6.072	—
Boiler (for air conditioning)	Dust	0.08	0.002
	NOx	104	43
	SOx	—	—
Heating furnace	Dust	0.12	0.002
	NOx	80	5
	SOx	6.072	—
Gas engine (cogeneration)	Dust	0.04	0.002
	NOx	160	64
	SOx	6.072	—

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	56	50
	Evening	64	53	49
	Night	59	53	50
Vibration	Daytime	69	35	31
	Nighttime	64	33	31

Foul odor

Measurement item	Regulation value	Measurement
Odor index	12	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			
80	Xylene	1,013	970	0	0	0	0	0	0	43
300	Toluene	3,522	2,828	0	0	0	0	0	0	694

JTEKT CSR Report 2016

Environmental Data by Operations Base ③

This page includes the environmental data for 2 locations, Tokyo and Kagawa, out of our 13 locations; 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 2015 to March 2016**

Tokyo Plant

No. of Employees 548

Production items

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

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	340,900
		Water consumed	(km³)	99
		Chemical substances handled	(t)	8.7
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	12,861
		NOx	(kg)	33
		SOx	(kg)	6
		Chemical substances released	(t)	5.5
	Sewage	Wastewater	(km³)	65
		BOD	(kg)	296
		Nitrogen	(kg)	611
		Phosphorus	(kg)	31
		Chemical substances transferred	(t)	0.001
	Materials discarded	Recycled for profit	(t)	1,729
		Recycled at a charge	(t)	987
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	1.2

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

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.9～8.6	8.0	7.5
BOD	240	8	4
SS	200	22	12
Oil content	24	1.0	1.0
Nitrogen	96	23	9.4
Phosphorus	13	1.4	0.5

Unit : mg/ℓ (Excluding pH)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Gas suction type boiler	Dust	0.08	0.005
	NOx	44	43
	SOx	0.33	0.01

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

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	59	57	55
	Afternoon	69	65	61
	Evening	59	57	56
	Night	54	52	50
Vibration	Daytime	58	48	39
	Nighttime	48	42	35

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	1,557	0	0	0	0	156	0	0	1,401
80	Xylene	1,543	1,543	0	0	0	0	0	0	0
300	Toluene	3,827	3,827	0	0	0	0	0	0	0

Kagawa Plant

No. of Employees 935

Production items

- Tapered roller bearings

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	1,020,293
		Water consumed	(km³)	378
		Chemical substances handled	(t)	6.0
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	39,399
		NOx	(kg)	2,259
		SOx	(kg)	80
		Chemical substances released	(t)	2.9
	Waterways	Wastewater	(km³)	274
		COD	(kg)	3,597
		Nitrogen	(kg)	2,030
		Phosphorus	(kg)	5
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	9,497
		Recycled at a charge	(t)	1,384
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.9～8.5	7.2	6.5
COD	40	29	18
BOD	40	38	30
SS	40	1.5	1.0

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
Oil content	2.4	2.1	1.6
Nitrogen	48	13	9
Phosphorus	6.4	0.4	0.1

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler	Dust	0.24	0.011
	NOx	208	66
	SOx	4	0.1
Private power generator	Dust	0.08	0.03
	NOx	902.5	820
	SOx	4	0.56

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

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	60	55
	Afternoon	64	58	53
	Evening	64	60	55
	Night	59	56	54
Vibration	Daytime	49	32	28
	Nighttime	46	31	27

Foul odor

Unit : ppm

Measurement item	Regulation value	Measurement
Ammonia	1.2	0.75

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	2,875	2,875	0	0	0	0	0	0	0
438	Methylnaphthalene	2,910	15	0	0	0	0	0	0	2,896

JTEKT CSR Report 2016

Environmental Data by Operations Base ④

This page includes the environmental data for 2 locations, Nara and Higashi-kariya, out of our 13 locations; 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 2015 to March 2016**

Nara Plant

No. of Employees 1,819

Production items

- Electric power steering
- Electric pumps for hydraulic-electric type power steering
- Hydraulic power steering
- Manual steering

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	202,181
		Water consumed	(km^3)	39
		Chemical substances handled	(t)	11
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	7,517
		NOx	(kg)	0
		SOx	(kg)	0
		Chemical substances released	(t)	10.4
	Waterways	Wastewater	(km^3)	20
		COD	(kg)	99
		Nitrogen	(kg)	291
		Phosphorus	(kg)	55
		Chemical substances transferred	(t)	0.001
	Materials discarded	Recycled for profit	(t)	1,269
		Recycled at a charge	(t)	961
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0.3

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9～8.5	7.4	7.2
COD	12	7.3	5.3
BOD	12	1.2	0.7
SS	20	0.8	0.1
Oil content	2	0.7	0.1

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	1	0.03	0.02
Soluble manganese	1	0.02	0.00
Nitrogen	40	26	17
Phosphorus	15	4.0	2.9

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
No. 1 Plant, No. 1 (Boiler)	Dust		
	NOx		
	SOx		
No. 1 Plant, No. 2 (Boiler)	Dust		
	NOx	Abolished	
	SOx		
South No. 2 Plant (Boiler)	Dust		
	NOx		
	SOx		

Unit : Dust= g/Nm^3 NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	57	54
	Afternoon	67	59	55
	Evening	64	62	56
	Night	54	52	51
Vibration	Daytime	59	55	43
	Nighttime	54	53	41

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	7,762	7,762	0	0	0	0	0	0	0
300	Toluene	2,649	2,649	0	0	0	0	0	0	0

Higashi-kariya operations center

No. of Employees 108

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	36,312
		Water consumed	(km^3)	3
		Chemical substances handled	(t)	0
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	1,392
		NOx	(kg)	0
		SOx	(kg)	0
		Chemical substances released	(t)	0
	Waterways	Wastewater	(km^3)	3
		COD	(kg)	0.34
		Nitrogen	(kg)	0.09
		Phosphorus	(kg)	0.003
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	144
		Recycled at a charge	(t)	30
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	6.0～8.3	7.8	7.4
COD	16	5.7	4.3
BOD	16	3.1	1.3
SS	16	1.5	1.1
Oil content	4	0.2	0.1
Zinc	2	0.1	0.1

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	4	0.5	0.5
Soluble manganese	4	0.3	0.2
Fluorine	5	0.13	0.10
Nitrogen	48	3.6	3.2
Phosphorus	6	0.18	0.09
Boron	8	0.04	0.03

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Hot and cold water generator)	Dust		
	NOx	Abolished	
	SOx		

Unit : Dust= g/Nm^3 NOx= ppm SOx=Nm^3/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	59	53
	Afternoon	69	56	50
	Evening	64	54	51
	Night	59	50	44
Vibration	Daytime	68	36	30
	Nighttime	63	33	29

Foul odor

Measurement item	Regulation value	Measurement
Odor index	12	10

Substances subject to PRTR

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

JTEKT CSR Report 2016

Environmental Data by Operations Base ⑤

This page includes the environmental data for 2 locations, Toyohashi and Tadomisaki, out of our 13 locations; 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 2015 to March 2016**

Toyohashi Plant

No. of Employees 712

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

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	257,297
		Water consumed	(km^3)	42
		Chemical substances handled	(t)	2.9
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	9,779
		NOx	(kg)	1,046
		SOx	(kg)	35
		Chemical substances released	(t)	0.5
	Waterways	Wastewater	(km^3)	13
		COD	(kg)	50
		Nitrogen	(kg)	68
		Phosphorus	(kg)	5
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	2,152
		Recycled at a charge	(t)	380
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0.1

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	6.1～8.4	7.4	7.0
COD	16	5.0	4.1
BOD	16	1.6	0.7
SS	24	1.0	1.0

Index	Regulation value	Results	
		Maximum	Average
Oil content	4	1.0	1.0
Nitrogen	48	6	4.1
Phosphorus	6	0.7	0.5

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
No. 1 Plant (Boiler)	Dust	0.03	0.001
	NOx	120	50
	SOx	1	0.001
No. 2 Plant (Hot and cold water generator)	Dust	0.03	0.001
	NOx	120	35
	SOx	1	0.002
No. 3 Plant (Hot and cold water generator)	Dust	0.03	0.001
	NOx	120	20
	SOx	1	0.002

Unit : Dust= g/Nm^3 NOx= ppm SOx= Value K

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	60	56	53
	Afternoon	65	57	54
	Evening	64	59	56
	Night	59	56	52
Vibration	Daytime	55	38	36
	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	2,335	0	0	0	0	0	0	0	2,335

Tadomisaki Plant

No. of Employees 994

Production items
- Drive shafts
- 4WD coupling

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	661,949
		Water consumed	(km^3)	138
		Chemical substances handled	(t)	1.1
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	24,750
		NOx	(kg)	745
		SOx	(kg)	64
		Chemical substances released	(t)	0.001
	Waterways	Wastewater	(km^3)	96
		COD	(kg)	308
		Nitrogen	(kg)	681
		Phosphorus	(kg)	16
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	9,177
		Recycled at a charge	(t)	853
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0.06

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	6.0～8.8	7.6	7.4
COD	18	23.0*	10.0
BOD	18	9.1	3.0
SS	24	8.0	3.9
Oil content	1.6	0.5	0.5
Zinc	0.8	0.04	0.04

* Exceeds internal standards but within legal standards

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	2.4	0.1	0.1
Soluble manganese	4	0.1	0.1
Fluorine	12	0.2	0.2
Nitrogen	24	7.9	4.8
Phosphorus	3.2	0.6	0.4
Boron	184	0.1	0.1

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Boiler (Hot and cold water generator)	Dust	0.05	0.001
	NOx	104	34
	SOx	0.6	0
Continuous carburizing furnace	Dust	0.05	0.002
	NOx	104	1.4
	SOx	0.6	0

Unit : Dust= g/Nm^3 NOx= ppm SOx=Nm^3/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	69	61	58
	Afternoon	69	61	58
	Evening	69	59	57
	Night	64	59	57
Vibration	Daytime	55	43	40
	Nighttime	50	43	40

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 2016

Environmental Data by Operations Base ⑥

This page includes the environmental data for 2 locations, Hanazono and Kameyama, out of our 13 locations; 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 2015 to March 2016**

Hanazono Plant

No. of Employees 1,216

Production items

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

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	313,734
		Water consumed	(km^3)	78
		Chemical substances handled	(t)	0.3
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	12,224
		NOx	(kg)	704
		SOx	(kg)	13
		Chemical substances released	(t)	0.2
	Waterways	Wastewater	(km^3)	76
		COD	(kg)	48
		Nitrogen	(kg)	135
		Phosphorus	(kg)	1
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	823
		Recycled at a charge	(t)	453
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0.02

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.5	7.4	6.9
COD	8	4.2	2.9
BOD	8	2.7	1.3
SS	8	2.5	1.5
Oil content	1.6	1.0	1.0
Zinc	0.8	0.42	0.08

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	2.4	0.5	0.5
Soluble manganese	2.4	0.3	0.2
Fluorine	0.8	0.10	0.10
Nitrogen	24	20.0	10.9
Phosphorus	2.4	0.1	0.0
Boron	8.0	1.0	1.0

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
Compact once-through boiler	Dust	0.08	0.001
	NOx	100	41
	SOx	6.07	0.003
Boiler (Hot and cold water generator)	Dust	0.08	0.001
	NOx	100	50
	SOx	6.07	0.001

Unit : Dust= g/Nm^3 NOx= ppm SOx=Nm^3/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	74	55	52
	Afternoon	74	59	53
	Evening	74	61	52
	Night	69	54	50
Vibration	Daytime	60	35	31
	Nighttime	56	33	31

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 305

Production items

- Ball bearings
- Clutch bearings
- Clutch pulleys for alternator

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	171,798
		Water consumed	(km^3)	34
		Chemical substances handled	(t)	1.7
OUTPUT	Atmosphere	Greenhouse gases	($t\text{-}CO_2$)	6,490
		NOx	(kg)	13
		SOx	(kg)	13
		Chemical substances released	(t)	0.9
	Waterways	Wastewater	(km^3)	14
		COD	(kg)	42
		Nitrogen	(kg)	251
		Phosphorus	(kg)	3
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	634
		Recycled at a charge	(t)	179
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0.8

Water quality measurement data

Unit : mg/ℓ (Excluding pH)

Index	Regulation value	Results	
		Maximum	Average
pH	5.9~8.5	8.0	7.5
COD	8	7.0	3.3
BOD	8	4.0	1.3
SS	20	7.0	1.9
Oil content	1.0	0.5	0.5
Zinc	4	0.05	0.02

Index	Regulation value	Results	
		Maximum	Average
Soluble iron	8	0.07	0.03
Soluble manganese	2	0.02	0.02
Fluorine	5	0.10	0.10
Nitrogen	50	20	15
Phosphorus	1.0	0.54	0.25
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	150	23
	SOx	1.65	0.01

Unit : Dust= g/Nm^3 NOx= ppm SOx=Nm^3/hr

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	60	56	55
	Afternoon	60	58	57
	Evening	60	58	56
	Night	55	52	51
Vibration	Daytime	58	36	34
	Nighttime	48	24	24

Foul odor

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

Substances subject to PRTR

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

Environmental Data by Operations Base ⑦

This page includes the environmental data for Sayama Plant out of our 13 locations; 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 2015 to March 2016**

Sayama Plant

No. of Employees 161

Production items

- TORSEN

Overall environmental data

		Classification		Volume
INPUT		Energy consumption	(GJ)	31,746
		Water consumed	(km³)	4
		Chemical substances handled	(t)	0.017
OUTPUT	Atmosphere	Greenhouse gases	(t-CO_2)	1,189
		NOx	(kg)	31
		SOx	(kg)	0
		Chemical substances released	(t)	0
	Waterways	Wastewater	(km³)	3
		COD	(kg)	0.83
		Nitrogen	(kg)	5.8
		Phosphorus	(kg)	0
		Chemical substances transferred	(t)	0
	Materials discarded	Recycled for profit	(t)	657
		Recycled at a charge	(t)	92
		Waste (incineration+landfill)	(t)	0
		Chemical substances transferred	(t)	0

Water quality measurement data

Index	Regulation value	Results	
		Maximum	Average
pH	5.2～8.8	7.7	7.7
Oil content	4	ND	ND
Nitrogen	192	36	36
Phosphorus	25.6	ND	ND

Unit : mg/ℓ (Excluding pH)

Atmosphere measurement data

Facility	Index	Regulation value	Maximum value
No.1 Plant (Boiler)	Dust	0.08	0.001
	NOx	120	69
	SOx	0.52	0

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

Noise / Vibration data

Unit : dB

Index		Regulation value	Maximum	Average
Noise	Morning	64	62	56
	Afternoon	69	63	57
	Evening	64	60	54
	Night	59	57	53
Vibration	Daytime	Unmeasured		
	Nighttime			

Foul odor

* Unmeasured

Vibration and foul odor are not measured as these items are not applicable within the scope of regulations.

Substances subject to PRTR

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