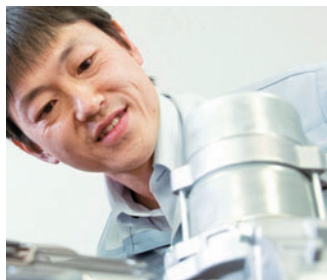




Building value that exceeds expectations  
P6



Global  
P12



CSR Report 2015

# PICK UP 2014

This section introduces the major activities and results from FY 2014, centered on the JTEKT GROUP VISION. We have added to our selection “Disaster Recovery Support”, which we continuously address.

Industrial safety  
P14

Disaster Recovery Support  
P17



Prevention of global warming  
P16



Intra-company CSR familiarization  
P15

## JTEKT GROUP VISION

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

**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.

**Redundant design column type electric power steering (C-EPS) system**

JTEKT GROUP VISION

Building Value

**Pursuing a higher level of safety through the usage of the world's first redundant design in EPS**

**Developed with a process compliant with Functional Safety standard ISO26262**



Automotive Systems Business Headquarters  
Central JAPAN Technical Center  
System Design Office 1  
Design Group 4

**Tatsuya Kawai**

Automotive Systems Business Headquarters  
Electronics Engineering Dept. 3  
Development Office 1  
Design Group 1

**Tsukasa Murase**

In 2011, our company created a development process in conformance with the international Functional Safety standard ISO26262 for electronic control systems equipped on automobiles. We also organized a system where an internal auditing agency can perform safety audits independent from the design and development departments, and rolled out this system on a global basis. The recently developed C-EPS system is our first product developed and mass-produced using the audit system. This C-EPS system is utilized in Toyota Motor Corporation's redesigned Alphard and Vellfire, and is scheduled to be deployed to automakers both in and outside of Japan.

"We want to continue to give the world even more excellent products by pursuing further miniaturization, weight-saving and comfort while answering ever-increasing demands for safety. This is how we wish to contribute to the future automobile society." (Murase)

Electric power steering (EPS) is equipped on automobiles throughout the world. In 1988, JTEKT succeeded in the first ever development and mass production of column type EPS (C-EPS), and today boasts the top global share in EPS. As a pioneer and leading company in EPS, JTEKT has always regarded the improvement of safety as a top priority in further evolving its technologies and products. In 2014, JTEKT developed a C-EPS system with a redundant design in order to achieve a higher level of safety. Mass production of this new system began in January, 2015.

**Assuring a high level of safety through redundant design**

A redundant design has two components with the same role, so that even if one of the components fails, the other can continue its job. Our newly developed C-EPS system employs the world's first redundant design in EPS, within the torque sensor which detects driver operations, and the motor which generates assist torque. If a problem arises in one of the systems during driving, assistance will continue to be supplied to the handle, guaranteeing a high level of safety.

Furthermore, with three-dimensional arrangement of the motor drive integrated circuit, we have achieved a smaller size and weight for the system. Quietness has also been improved through the adoption of a new motor design. "By fusing ideas for both electric and mechanical design, we have optimized the entire system and achieved a high level of quietness and comfort." (Kawai)



Development project members



**Assist continuation rate at failure**

Compared with conventional

Approx. **55%** increase

**Volume**

Compared with conventional

Approx. **28%** smaller

**Quietness**

Compared with conventional

Approx. **40%** reduction

High-pressure hydrogen gas valve and regulator for fuel cell vehicles

JTEKT GROUP VISION

Building Value

Contributing to the birth of hydrogen fuel cell vehicles for the public through unique technology

Automotive Systems Business Headquarters  
FC Business Dept.  
FC Design Office  
Engineering Group 1

Takuya Suzuki



Amidst society's excessive dependence on fossil fuels and escalating environmental problems such as global warming, fuel cell vehicles are greatly anticipated as the ultimate eco car due to the fact that they run on hydrogen fuel and emit no CO<sub>2</sub> or air pollutants. In December 2014, Toyota Motor Corporation became the focus of much publicity when it released its fuel cell vehicle MIRAI for purchase by general consumers. A high-

pressure hydrogen gas valve and regulator developed by JTEKT are equipped on the Toyota MIRAI.

Achievement of a high sealing capability to seal 700 bar high-pressure hydrogen

Mounted on the tank storing high-pressure hydrogen fuel, the high-pressure hydrogen gas valve bears the task of stopping and supplying hydrogen.

"Since hydrogen is the smallest element, it can escape through incredibly small gaps. We therefore realized a high sealing capability to seal hydrogen packed at the high-pressure of 700 bar. Furthermore, we implemented safety measures to prevent hydrogen from leaking to the outside air by designing the solenoid valve

to close automatically in the event of an emergency, such as a collision."

The regulator, on the other hand, is a component which depressurizes the highly pressurized hydrogen, supplied by the high-pressure hydrogen gas valve, to a pressure which can be utilized by the fuel cell stack of the power generator.

JTEKT receives the Project Prize from Toyota Motor Corporation

As this was the development of a completely new product rather than the improvement of an existing one, a considerable amount of time was spent on trial and error before the product was ready for mass production.

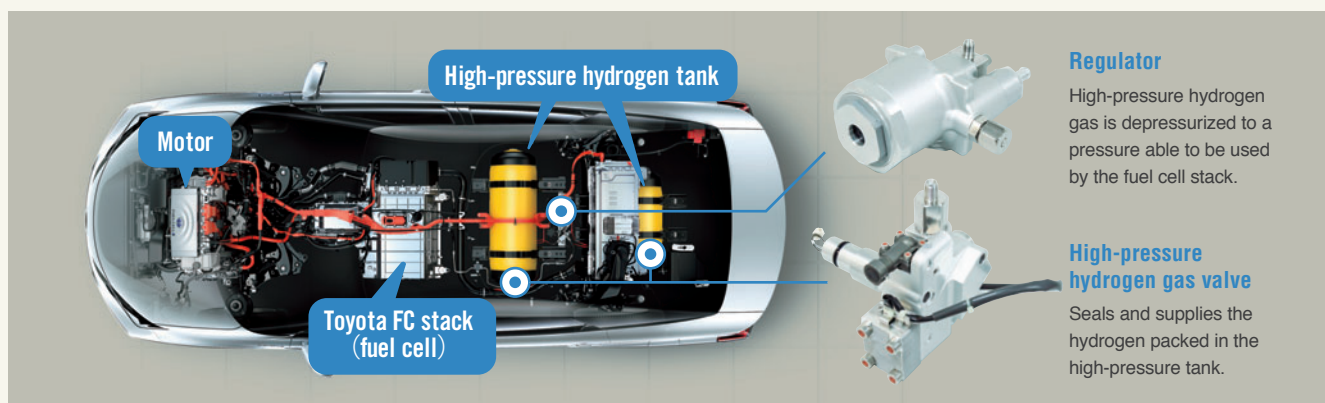
"Because there was no previous technology, we were constantly groping in the dark. I even consulted researchers in related fields. It was a lot of work, but as an engineer it was fun to try my hand at a cutting-edge field. More than anything, I am deeply moved by the thought that we were able to create an entirely new product within JTEKT. It is the result of our determination as a team to never give up."

The high-pressure hydrogen gas valve and regulator were recognized by Toyota Motor Corporation as unique technologies contributing to the improved product competitiveness of the MIRAI, and thus were awarded the Project Prize (in engineering).

"Fuel cell vehicles will become a familiar type of vehicle to everyone, in the near future. We intend to contribute to the widespread usage of these vehicles by continuing to evolve JTEKT products."



Toyota MIRAI



\* MIRAI is a registered trademark of Toyota Motor Corporation.

## Heat-resistant full-time sliding intermediate shaft



### Usage of heat-resistant resin on slide part

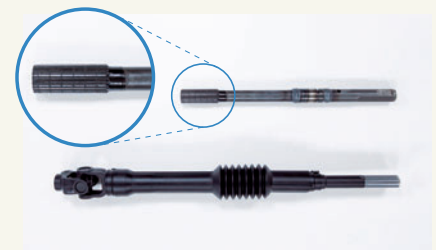
The intermediate shaft is a component which connects the handle side with the tire side and transmits handle operating force to the steering gear. Amidst rising demands for quietness

and comfort within the vehicle interior, JTEKT has developed a product with suppressed noise generation and enhanced steering feeling by coating the slide part with resin. After countless improvements, the product began mass production. Moreover, in March 2015, JTEKT developed and began mass production

of a new intermediate shaft which utilizes heat-resistant resin as the coating.

### Enabling application within the engine room

The resin applied to the new intermediate shaft is a unique product developed through the cooperation of all JTEKT divisions, including research, design, and production. By raising the heat resistance of the resin, its application has been expanded to include automobiles utilizing an intermediate shaft in the engine



Manufactured by Koyo Machine Industries Co., Ltd.

## Needle roller bearing for high speed rotation planetary gears

→ E\_10 Related article



### Resolving challenges through cooperation with group companies

In 2014, our company finished development of a needle roller bearing to be used in planetary gears within automatic transmissions (AT). The strength of the bearing is compatible with conventional high speed rotation, despite its smaller size. This size allows for a

more compact AT, which in turn leads to increased fuel efficiency of the vehicle. Centrifugal force is applied to the bearings of planetary gears. To support high speed rotation, the material of the cage must be thick to increase strength. However, this would cause the cage to become heavier, resulting in an even larger centrifugal force. Therefore, we solved the problem by increasing the thick-

ness only in the necessary portions in order to maintain a light weight. The manufacturing method for the new bearing was developed through cooperation with group company Utsunomiya Kiki, and uses unique machining technology created by the JTEKT group.

“Although the new needle roller bearing is small, its effect is great because of its use in multiple places within the AT. We will work to further evolve and improve this technology.”



JTEKT GROUP VISION **Building Value**

room, such as FR vehicles and SUVs. In addition, the resin is lighter than the conventional type, contributing to reduced fuel consumption of the vehicle.

“Since we hold the number one share, our products greatly influence the automobile society. I hope to continue unfolding products with superior functionality and quality to the entire world.”



**Durability**  
Amount of increased rattle in rotational direction at high temperatures  
Compared with conventional **Approx. 50% reduction**

**Mass**  
Compared with conventional **Approx. 18% lighter**

JTEKT GROUP VISION **Building Value**



Utsunomiya Kiki Co., Ltd.  
Production Engineering Dept.  
Production Engineering Group

**Hajime Kuriki**

The shape of the cage for the bearing was based on a proposal from the manufacturing division with consideration to “creation”, coinciding with demands from the design division for better performance. I feel proud that our proposals lead to the happiness of our customers. I will devote myself to providing the world with even better products.”

Manufactured by **Utsunomiya Kiki Co., Ltd.**

Head office  
585, Suzumenomiya-cho, Utsunomiya, Tochigi

Date founded October 1, 1953

Number of employees  
274 (As of end of March 2015)

Business activities  
Manufacturing/sales of needle roller bearings

**High speed**  
Compared with conventional **5~15% higher**

**Bearing width**  
Compared with conventional **Approx. 10% smaller**

**Hyper coupling (torque limiter)**

JTEKT GROUP VISION **Building Value**



**Supporting the steelmaking industry while nurturing our bond with customers**

Bearing Operations Headquarters  
Industrial Machinery Application Engineering Dept.  
Drive Shaft Engineering Office  
**Akihide Nagayama**

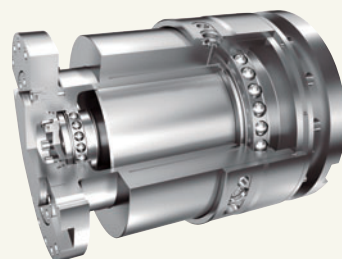
**Safety device which immediately interrupts overload**

In a steel rolling mill, rolled material is sent through the space between the upper and lower rolls, where it is stretched very thinly. When biting occurs in multiple places on rolled material, excessive torque is placed on the entire device, causing breakage in the motor or drive shaft which transmits motor rotation.

In 2014, JTEKT completed development of a safety device which interrupts the load immediately upon the occurrence of overload. Developed for steel rolling mills with large size drive shafts, this new device enables JTEKT to support all drive shaft sizes, as JTEKT has already developed safety devices for small and medium size drive shafts.

**Top share in drive shafts for steelmaking equipment**

The safety device developed by JTEKT employs a hydraulic expansion type method which, compared with the conventional device,



boasts “no need for regular replacement of parts”, “reduction of recovery time”, and “smaller recovery parts”.

In 1967, JTEKT was the first Japanese drive shaft manufacturer to produce and deliver a drive shaft for steelmaking equipment, and to this day maintains the domestic top share.

“I think that our bond with customers is what decides the share of our company. We will continue to listen to the needs of our customers in order to provide them high-quality products and keep contributing to the development of the steelmaking industry.”



Manufactured by **Koyo Machine Industries Co., Ltd.**

Head office 2-34, Minamiuematsu-cho, Yao, Osaka

Date founded August 8, 1961

Number of employees 1,209 (As of end of March 2015)

Business activities Manufacturing/sales of automotive parts, machine tools, precision devices, and FA systems

**Man-hours needed for recovery operation**  
Compared with conventional devices that work by pin-shearing **1/4**

Horizontal machining center FH630SX-i

→ E\_10 Related article

JTEKT GROUP VISION

Building Value



Research & Development Headquarters  
Advanced Process Innovation R&D Dept.  
Processing Elements Sect.

Yuji Sasaki

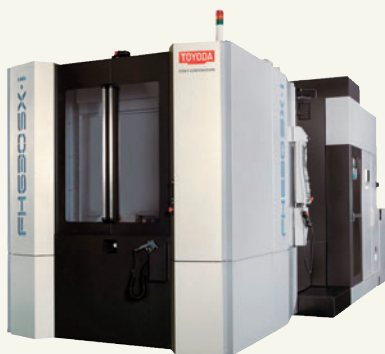
Machine Tools & Mechatronics Operations Headquarters  
Machine Tools Development Dept.  
Standard Machine Development Office  
Cutting Machine Group

Yuji Oka

Contributing to the *monozukuri* of the world through easier machining with higher accuracy

More efficient, higher accuracy, and easier machining of larger workpieces—demands for equipment which manufacture mid-size components used in automobiles, aircraft, agricultural and construction machinery, and energy-related equipment continue to diversify and

increase in sophistication year after year. In response to these demands, we have developed and launched the FH630SX-i. Based on the past FH630SX, the FH630SX-i has greatly increased machining area and load capacity while improving productivity and workability in 2013. Furthermore, we added new functions to the FH630SX-i in 2014 to enable easier machining with higher accuracy.



Dramatic reduction of heat-related machining errors using unique technology

One of the functions newly added in 2014 is a real time thermal displacement compensation function. In the machining of metal components, temperature changes inside the plant

and heat from the machine greatly influence machining accuracy. Therefore, temperature stabilization using warm-up operation and air conditioning, and compensation machining after operation are conducted at manufacturing sites in order to maintain accuracy. The new function of the FH630SX-i renders these troublesome tasks unnecessary by analyzing thermal displacement within the CNC (computer numerical control) unit based on a 3D model of the machine and temperature data of each part of the machine, measured with a temperature sensor. Tool tip displacement is then calculated so that the position can be controlled in real time, dramatically reducing the number of machining errors caused by heat.

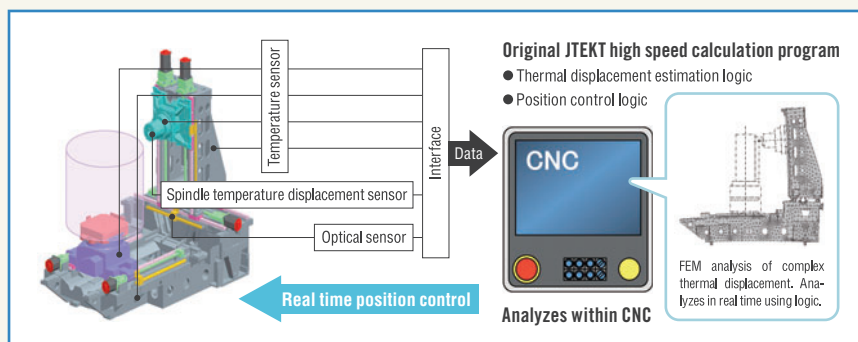
Warm-up operation and compensation unnecessary Achieves improved productivity and energy conservation

Compared with conventional machines, the FH630SX-i has improved machine specifications, machining accuracy, and workability. In addition, it achieves better productivity and energy conservation since warm-up operation and compensation are not needed.

“Stable, high accuracy machining can be performed by operators even without veteran technology such as compensation, or in plant environments with a large amount of temperature change. We will continue to develop machine tools which contribute to people throughout the world who are involved in *monozukuri*.” (Oka)

“Using an unprecedented idea, we have developed a technology which analyzes complex thermal distortions of a machine at top speed, thereby reducing the number of heat-related errors. This enables easy, highly accurate machining. We aim to create machine tools with which any operator can achieve *monozukuri* more easily.”(Sasaki)

● Real time thermal displacement compensation system



Machining errors cause by room temperature changes  
Compared with conventional **88%** reduction  
Approx.

Power consumption  
Compared with conventional **19%** reduction  
Approx.

Production management system TIPROS-Es100

JTEKT GROUP VISION

Building Value



Machine Tools & Mechatronics Operations Headquarters  
Mechatronics Control Engineering Dept.  
Mechatronics Control System Engineering Office  
Group 1

Satoshi Kato

Supports production improvement by visualizing the entire plant

Our company has developed numerous control system devices with which we have continued to support *monozukuri* sites. These devices include a programmable logic controller (PLC) to control equipment movements, a direct monitor which visualizes equipment status, a specialized PLC for improved safety, and a CNC unit which numerically controls machining processes using a computer. Then, in 2014, we developed the TIPROS-Es100 production management system. This system allows not only visualization of each individual unit of equipment, but realizes the visualization of the entire production line and plant to help support

the further improvement of production.

Unseen weak points are visualized, enabling the reduction of wasted time through countermeasures

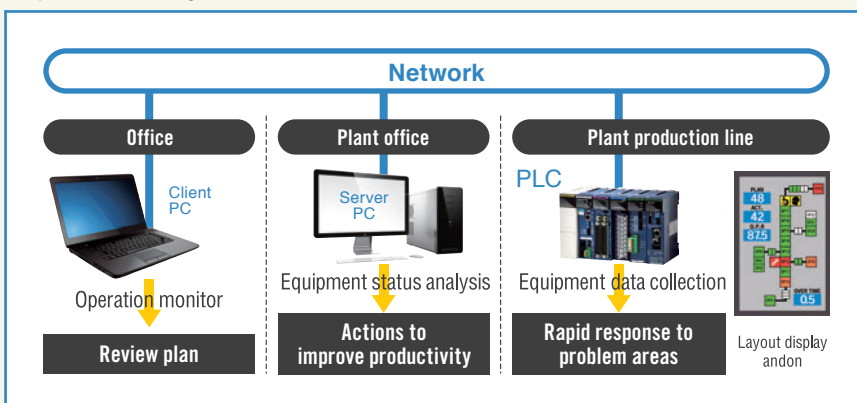
For some reason, the production volume is less than expected. Equipment stops frequently, but it is unclear why. At any *monozukuri* site, we are faced with these kinds of problems, which appear unresolvable. JTEKT has therefore developed the TIPROS-Es100 production management system to aid in the resolution of such problems. With this system, the user can confirm what is happening on which machine using the layout

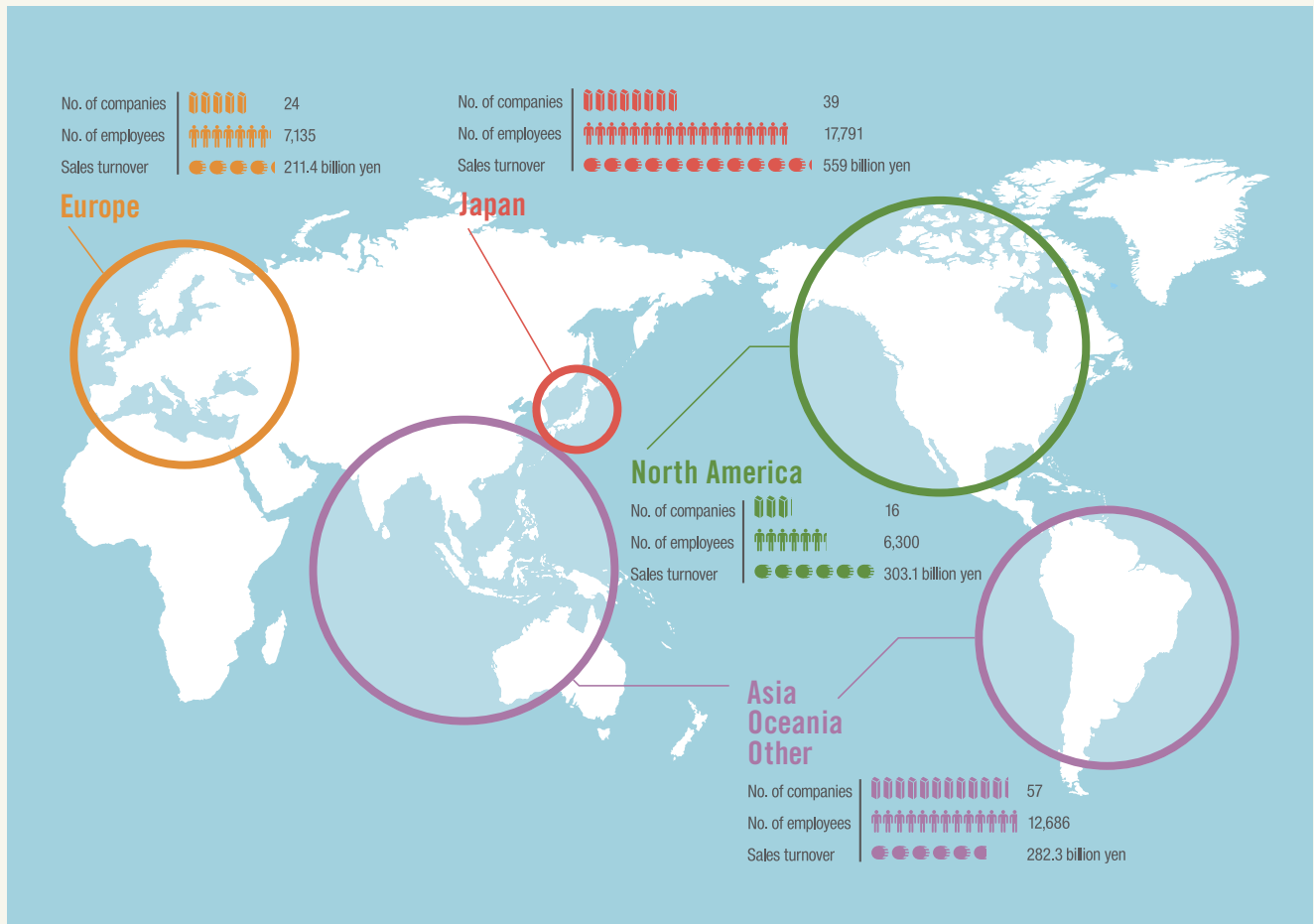
display andon to conduct the appropriate response. The system can also analyze weak points using PLC data accumulated in the server, and can be utilized to read the status of a production site at a remote office for the purpose of reviewing plans. The TIPROS-Es100 system provides a panorama of the entire production line and plant to enable visualization of weak points for countermeasures to reduce wasted time. Furthermore, the system maximizes the capability of all production equipment to contribute to improved productivity.

Utilizing our strength of developing both machine tools and control system devices

JTEKT is a manufacturer of components as well as machine tools, and also develops and manufactures control system devices. "To those of us involved in the development of control system devices, developing and manufacturing machine tools in-house is one of the great strengths of JTEKT. This is because we can listen directly to the detailed views and opinions of the makers of machine tools. I want to use this strength to firmly watch over *monozukuri* sites by developing a production management system that will further satisfy our customers and gain their trust. Our aim is to advance the system so that it will be able to not only respond instantly to equipment errors, but prevent the occurrence of errors altogether.

● System structural design





Global HR

## Organizing a framework where a variety of human resources can work across different countries and regions

### Introduction and acceleration of a global succession plan

The combined JTEKT group has approximately 44,000 employees, in Japan and overseas. Around sixty percent of that number works in overseas countries. We aim to build a global HR management and training system where motivated and capable personnel can work across different countries and regions in an environment most suitable for them, regardless of nationality or race. The introduction and application of a global succession plan is scheduled as one of the activities for achieving this goal.

### Examining the main posts of each global base by interview ★ **New!**

The first step was to examine and clarify what kinds of roles the main posts of each overseas base fulfilled by using discussions and conference calls in FY 2014. For the next step, we will organize and assess information on the careers and capabilities of employees currently holding main posts and employees who are possible candidates for succession, and use this information to discover, train and appropriately assign the successors for each post. Committee meetings are scheduled to be launched in each region for this purpose.

### Global HR meeting: Discussion on future policies

On December 11th and 12th, personnel in charge of HR in Japan and the six main overseas regions gathered for the second global HR meeting since December of last year, held in Kariya city, Aichi. The attendees discussed the progress and future policies of the global succession plan.

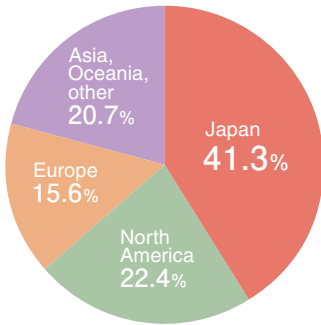


2nd Global HR Meeting



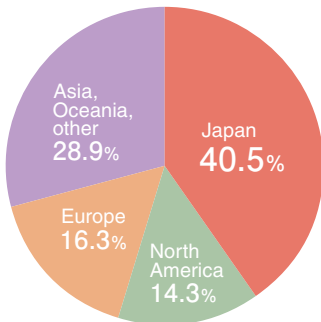
Sales turnover share by location

(FY 2014 consolidated net sales)



Employee percentage by location

(Current as of end of March, 2015)



JTEKT GROUP VISION

Building Professionals

Raising English ability as a part of global HR training New!

In FY 2014, we introduced training for strengthening problem solving ability as a means of developing human resources capable of working on a global basis.

We are also devoting much of our energy to raising English ability amongst all employees. An internal TOEIC test is conducted twice a year to provide periodic evaluation of English ability. In April 2014, 672 JTEKT members took the test, followed by 928 members in October. In addition, we have introduced a system where the company pays 30 percent of the course fee for all self-development English correspondences courses, if the employee taking the course achieves their target test score. This is designed to help raise motivation for English learning.

→ S\_03-08 Related article

Global management framework

JTEKT GROUP VISION

Building Excellent Products

Unfurling JTEKT quality throughout the world

Assignment of JTEKT directors to six major regions

The JTEKT group assigns directors to six major regions in the world to streamline its global management framework: North America, Europe, China, ASEAN, India, and Central/South America.

Production line creation methods and management systems developed in Japan are rolled out to overseas bases and utilized for worldwide *monozukuri* that guarantees the quality and cost expected by customers.

Enhancing production capability in each country

We believe that laying out a framework that can provide customers with products quickly and reliably is an important responsibility of all manufacturers. In FY 2014, our company raised productivity levels in each country to

respond to vigorous demands for automobiles throughout the world. In June we began local production of pinion type electric power steering (P-EPS) in China, and strengthened the production system for automotive hub units in North America during July.

Total global production volume of electric power steering tops 100 million units New!

JTEKT electric power steering (EPS), first developed and mass-produced in 1988, reached a total production volume of 100 million units in April 2015.

As our EPS systems are used by automakers throughout the entire world, we have established 14 EPS production bases in 10 different countries in order to respond swiftly and meticulously to the demands of each company.

Starting local production of pinion type electric power steering in China New!



In recent years, demands have diversified within China, the world's largest market within the automotive industry. In addition to the conventional column steering type (upstream), the production of pinion type electric power steering systems (P-EPS), which are rack assist type (downstream) systems with superior quietness and operability, began in June at group company JSSX in China. We will continue working to enhance our products and raise production capability.

Plant expansion, strengthening production and supply capabilities for hub units in North America New!



Expansion of the Richland Plant of group company KBNA in South Carolina was conducted during July of this year. The plant is the central base for bearing production in North America. The grounds and buildings of the plant were expanded and a new line was introduced, boosting production capability to approximately twice its original level. Our group aims to respond to vigorous automotive demands in North America by providing customers with excellent products.

Creation of a “safety culture”

→ S\_11・12・13 Related article

Shared belief that “we can eliminate all accidents”



President Tetsuo Agata speaking about safety during director safety training

Urgent need for further countermeasures against workplace accidents

At JTEKT, we believe ensuring the safety of our employees is our most important mission. From FY 2011 onward in particular, we have concentrated on countermeasures for the elimination of “Failure-to-Stop” accidents, which occur when troubleshooting work or repairs are conducted without first stopping the machine. To achieve this, we promoted the establishment of a “safety dojo”, where training is provided through simulated accidents on actual machines so that participants can feel the impor-

tance of obeying work rules. The construction of safety dojos at each plant was completed in FY 2013, and training was conducted for all employees who may possibly enter plants, including administrative personnel. As a result, the number of Failure-to-Stop accidents fell from 15 cases to 10 cases between FY 2013 and FY 2014. However, we have not yet achieved total elimination of this type of accident. On the contrary, the total number of workplace accidents rose from the high number of 36 cases in 2013 to 46 in 2014.

Safety awareness survey for all employees

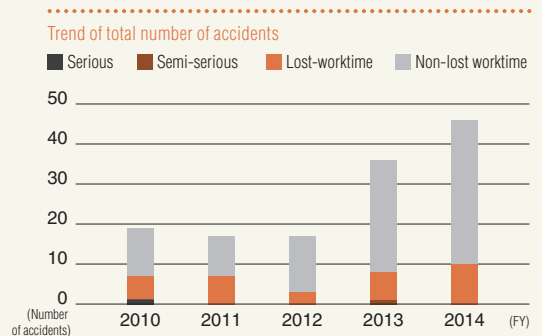
New!

The current trend of increasing work-related accidents at JTEKT is seen as a critical situation, and JTEKT has therefore been receiving consultation from U.S. company DuPont since October 2014, to investigate what is behind the accidents. A safety awareness survey for all employees and plant inspections were conducted. The results of these activities revealed that there is a problem with the safety awareness level of JTEKT employees. For the time being, a variety of actions are currently being taken at each plant and operations center with the aim of raising safety awareness to a state of mutual instruction where employees warn each other about unsafe behavior and are thanked for doing so.

Safety training with all directors present

New!

To exert the strong leadership of managerial personnel needed for creating a safety culture,



Case examples of actions for safety

PKTNS activities

Enforce “no hands in pockets while walking”, “no walking while operating a cellphone”, “using the handrail when going up or down stairs”, “do not cross diagonally”, and “point and call”.



Self-preservation/4S activities

Each Tuesday morning, the plant conducts self-preservation and 4S (Seiri, Seiton, Seiketsu, Seiso) activities in unison for 30 minutes.



Improvement activities against frequent stops

Operators are interviewed about frequent stops, which are mapped for conducting systematic improvement.



Safety guardian activities

An employee is designated to investigate safety activities each month. Workers and employers unite to protect safety with a sense of ownership.



“Ball catching” activities of safety meetings

The results of meetings at each workplace are summarized and displayed on a list. The list is sent to each workplace and information is shared to incite new realizations.



safety training was conducted on January 21st, 2015, with all directors attending. The participants studied and debated the Safety Vision targeted by JTEKT and the commitment to building a safety culture as managing executives. Each director declared their strong will to enforce common knowledge through *genchi genbutsu* and activities to improve motivation for safety.

### Formulating the JTEKT Safety Vision

★**New!**

In FY 2015, we created the basic concept for safety at JTEKT with the formulation of Safety Vision “Safety First’ No.1 JTEKT: We can eliminate all accidents!”. Under this vision, we will strengthen the building of safe personnel and a safe workplace in order to eliminate workplace accidents. In FY 2015, we will first aim for the realization of zero Failure-to-Stop accidents and zero accidents due to tripping and falling.

#### Safety Vision

### “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

- ① Can protect him/herself
- ② Does not let others get injured
- ③ Improves unsafe actions and conditions

#### Safe workplace

- ① Equipment is intrinsically safe
- ② 4S is continuously and actively carried out
- ③ The workplace is improved on a daily basis

## Creating opportunities for every employee to think about the connection between work and CSR

### Distributing tools for familiarization to each employee

Since FY 2011, a CSR report has been distributed to all employees and study sessions held at each workplace. In FY 2014, we issued the second round of the leaflet “CSR + YOU: Notes about your social responsibilities” to each employee together with the CSR Report, in order to convey that the ideal of the JTEKT GROUP VISION and the concept of CSR are the same. The leaflet contains information about how the ability to adapt to changes and evolution in society is imperative for companies, and how the workplace and each employee are connected to the three pillars of the JTEKT GROUP VISION. Results reports about the study ses-

sions included comments such as, “I learned that the VISION is important within the workplace as well”, and “it’s important to hold discussions periodically.”

### Continuing inspections concerning the comprehension of CSR policy

The results of the CSR policy comprehension survey in the workplace management questionnaire showed that in FY 2014, 86 percent of employees in administrative positions and 47 percent of general employees understand the CSR policy.

→ S\_10 Related article

### Percentage of people who “understood CSR satisfactorily” and “understood really well”

(Top 2 answers out of 6 options)

	FY 2012	FY 2013	FY 2014
Managers or above	79%	82%	86%
General employees	36%	38%	47%
All employees	43%	45%	53%

### CSR + YOU : Notes about your social responsibilities



First edition created in 2013; utilized at CSR study sessions conducted at all work sites.

→ E\_03·04·11·12·13 Related article

Walkthrough of global warming prevention activities

JTEKT GROUP VISION

Building Excellent Products

Production Engineering Headquarters  
Environment Control Dept.  
**Hiromu Takeuchi**

Pursuing measures for further improvement while emphasizing work sites and conversation



Establishing objectives and promoting scheduled and systematic energy conservation

Every five years, JTEKT formulates an Environmental Action Plan which promotes multiple environmental countermeasures with straightforward policies and objectives. The plan also establishes objectives for the reduction of CO<sub>2</sub> emissions in response to social circumstances and government policy trends. In addition, it has been promoting energy conservation in a scheduled and systematic manner within all processes, including production and logistics.

Perceiving and improving wasted resources through the visualization of energy

We have been accelerating the “visualization” of energy since FY 2011, with the reduction of CO<sub>2</sub> as our main focus. Eco-power meters,

which automatically measure electricity, have been installed in major production lines at all plants, and the data gathered from the meters has been utilized to reduce power for standby machines during stop time and manage basic units. Heat treatment furnaces in particular require a great amount of energy, and we are therefore focusing on energy conservation within furnaces. We are also continuing with scheduled remodeling and maintenance and the introduction of new furnace models at each plant.

Creation of energy conservation matrix and deployment of effective improvement case studies **New!**

From improvement case studies of the industrial associations and entire Toyota Group to which our company belongs, we have organized those deemed effective to our company into the three axes of “power/lighting”, “heat treatment/forging”,

and “manufacturing/assembly line”, and deployed these case studies to all plants. We call this the “energy conservation matrix”. Furthermore, we also provide information on our improvement cases created by each plant to industrial associations in order to share effective techniques with all of industry, while working to reduce our CO<sub>2</sub> emissions.

Towards the achievement of higher objectives

FY 2015 is the last fiscal year of the 5th Environmental Action Plan. Formulation has begun for the 6th plan, which designates FY 2020 as the target fiscal year.

“Since various countermeasures are already being implemented within all plants, it is not easy to further reduce the amount of CO<sub>2</sub> emissions. As the secretariat of the entire company, our department visits each work site to converse with employees and pursue measures for improvement.



Quality improvement and energy saving through the introduction of a new furnace model **New!**

In the roller (bearing rolling element) heat treatment process of the Kagawa Plant, a new model of furnace has been introduced which can further improve product quality while reducing energy usage. A smoke removal apparatus has also been installed in consideration to the environment. Specifications were selected by the Kagawa Plant together with the Bearing Production Engineering Dept. and Heat Treatment Business Revolution Dept. The plant and departments chose the optimal specifications based on their past experiences with improvement.

Process capability value **7.6% improvement**  
from conventional furnace

CO<sub>2</sub> per month **22.6% reduction**  
from conventional furnace

Charity caravan supporting disaster areas

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Provisional school building of Miyagi Kesennuma Koyo High School where the donation presentation ceremony was held

Connecting thoughts which convey feelings



Donation of a net support cover and team bags to Miyagi Kesennuma Koyo High School



Donation of a ball signed by STINGS members

“A yell for restoration” continued from FY 2013

Picking up from last year, JTEKT implemented the “charity caravan supporting disaster areas” support activity in FY 2014 at every plant, operations center, and branch office. All employees can participate in this activity, which uses cafeteria menus and vending machines. The catch phrase for this year was “Support is possible without visiting the devastated areas. Let’s send a yell to restoration now, during the fourth year.” JTEKT adopted the same “matching gift” system as last year, where the com-

pany donated the same amount as was donated by its employees.

Implemented at every plant, operations center, and branch office to further enliven independent projects

Each JTEKT location conducted active planning of unique ideas such as only using rice made in the Tohoku region for the menu during the activity period, and implementing a coffee charity at plant festivals regardless of the activity period. These independent projects, along with the matching gift from JTEKT,

raised a total of 2.62 million 525 yen in donations, roughly 300 thousand yen more than last year.

Donations FY 2013 → 2,314,976 yen  
FY 2014 → 2,620,525 yen

\\ Ongoing in FY 2015! /

Presentation ceremony at Kesennuma City : “Be a ray of hope”

The donation presentation ceremony was held on February 6th at Miyagi Kesennuma Koyo High School in Miyagi prefecture. Our company donated money and desired items to ten volleyball teams of six high schools. The school facilities at the high school were completely destroyed during the earthquake disaster, and classes are currently held in provisional buildings. However, the students are moving steadily forward towards the goal of reconstruction. Kazuma Saitoh, leader of the boys’ volleyball team, gave the powerful declaration that the team will “do our best to make our activities a ray of hope to our region.” JTEKT will continue activities to provide assistance to devastated areas hereafter as well.

STINGS volleyball class held once more in Kesennuma city

On September 13th, the JTEKT volleyball team STINGS held a volleyball class at Miyagi Motoyoshihikibi High School. In June of 2011, STINGS held a volleyball class in Kesennuma city, with which the team has long shared a bond, to hearten the devastated region. Since then, the team has held another class in July 2013, making this year the third round. A total of 90 students from six schools worked up a good sweat during the session.



Miyagi Motoyoshihikibi High School Girl's Volleyball Team manager Miku Komatsu



The polite way you taught us and the way you celebrated with us when we were successful really made me happy. To everyone at JTEKT, thank you for always supporting us.

Donations in FY 2014

- © JTEKT and group companies in Japan and China donated a total of 4.5 million yen (approx. 270 thousand yuan) in contributions for the earthquake disaster that occurred in Yunnan, China.
- © JTEKT donated 1 million yen in contributions for the torrential downpour disaster in Hiroshima.

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