Corporate Philosophy

CSR Report 2013

PICK UP 2012

Corporate Purpose

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

Management Stance

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

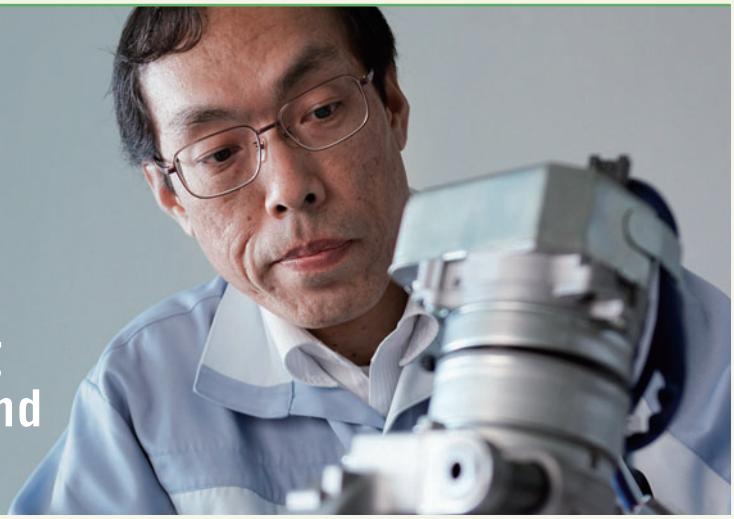
This section introduces some of the major activities
from FY2012 centered on 5 keywords.
4 of the 5 keywords are based on our management stance,
which is part of our CSR policy.
We have added "Disaster Recovery Support" to these,
as we think it is an important issue in present day Japan.

KEYWORDS

KEYWORD

Creating new value

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



1

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

Integrated motor/ ECU for electric power steering systems

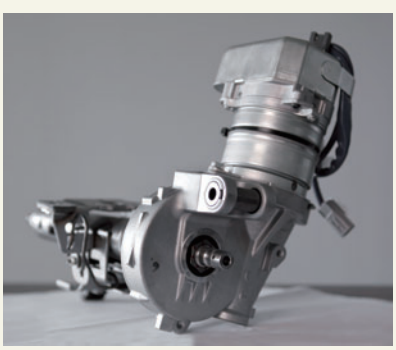
"Integration" contributing to better fuel efficiency and a more spacious interior

Toyota Auris

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

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

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

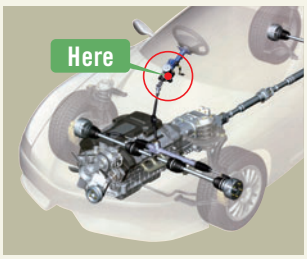


In the development of this new product, a "Big Room Activity" approach was taken, whereby issues such as design, testing, product engineering and so on were shared between all divisions from the initial stages. This improved the efficiency of the development by providing the opportunity for any issues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

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

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

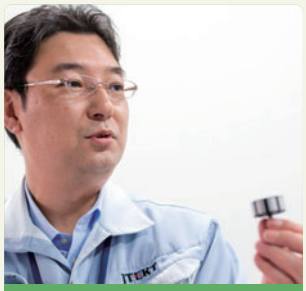
"We feel pride and responsibility in the fact that we have created a product which has never been created before. We will not stop here due to being content with what we have achieved, but continue to seek an even smaller, lighter, more efficient product and contribute to better fuel efficiency and improved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



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

* Auris is a registered trademark of Toyota Motor Corporation.

KEYWORD **Creating new value**



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

Until the day when it becomes a given

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

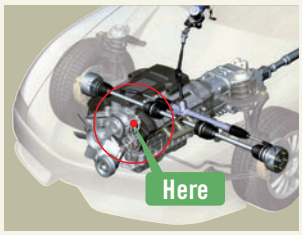
2 Electric oil pump for the idle reduction mechanism

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

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

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

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



Volume Approx. **30**% smaller compared to the conventional

Power consumption Approx. **47**% less compared to the conventional

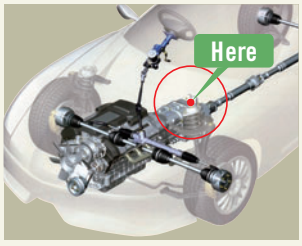
3 TORSEN Type C

Groundbreaking friction control technology improving the quietness of hybrid 4WDs

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

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

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



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

I want to do work that will bring people happiness

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

KEYWORD **Creating new value**

4

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

Low torque hub unit for light cars

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

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

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

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

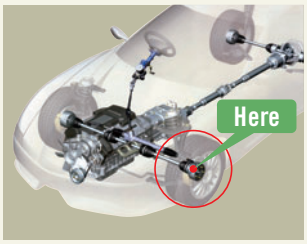
"The short development timeframe was what we struggled with. To respond to our customers' requests of getting cars with better fuel efficiency out on the market as soon as possible, we had to achieve mass production of the part in a short period."

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

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

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

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



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

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

Suzuki Alto Eco

* Alto is a registered trademark of Suzuki Motor Corporation

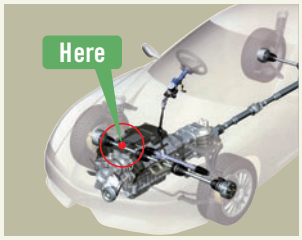
KEYWORD **Creating new value**

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

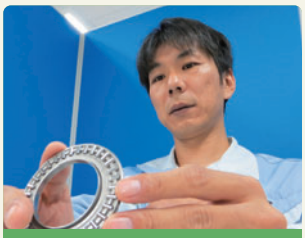
Supporting improvement of car AC performance – a one-of-a-kind product

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

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



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



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

Solved difficult problems through repeated discussion with customers

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

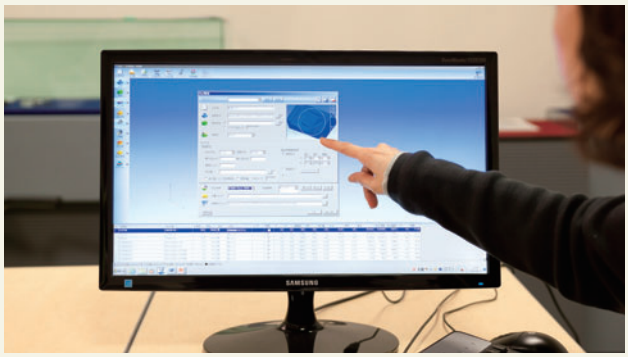
Cutting Group
Machining & Process Development Office
Advanced Unitized Product Engineering Dept.
Machine Tools & Mechatronics Operations Headquarters
Ayako Yamada

Messages of appreciation from customers

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

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

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



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

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

Example of installation results

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

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

KEYWORD **Creating new value**

7

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

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

Machine tool/crankshaft grinding flexible cell

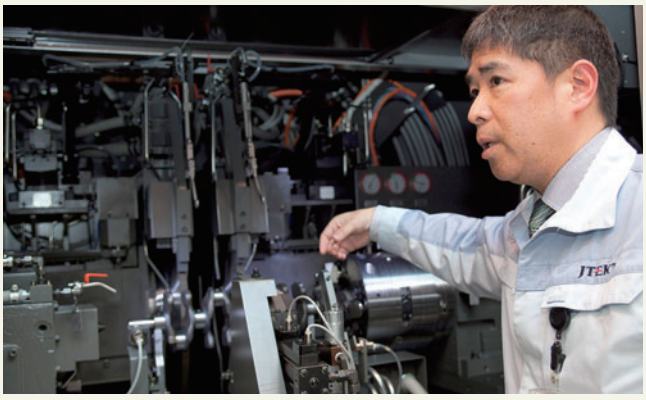
Responding to diversifying needs with the highest level grinding technology in the world

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

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

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

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



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

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

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

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

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

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

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

KEYWORD **Creating new value**

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

The future issue is global deployment

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

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

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

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

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

By operating the motor intermittently, significant power consumption reduction was achieved. Moreover, by making the motor and capacity of the tank smaller, etc., a significant size reduction was achieved. The hydraulic unit has been reduced to a size allowing it to be installed near the device which secures workpieces.

Toyooki Kogyo will continue to contribute to society through development of products which foresee the next generation.

Ultra-energy-saving small hydraulic unit

Toyooki Kogyo Co., Ltd.

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

Date of establishment
February 1, 1958

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

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

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

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

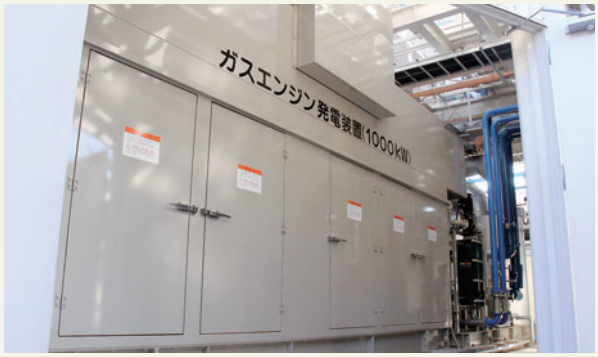
Power consumption at pressure hold Conventional part 0.55kW→ **Zero**

9 Installation of Kokubu plant cogeneration system

Dispersed layout of small equipment to accomplish less wasteful energy usage

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

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



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

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

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

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

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

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

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

KEYWORD

Safety, Peace-of-mind, Comfort

Introducing the newly opened Iga Proving Ground New!

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

1

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

Maintaining an environment where various evaluation tests can be performed

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

Promoting the spread of safer, more comfortable automobiles

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

→ S_02 Related article


Proving Ground member

We want to promote the joy and pleasure of driving

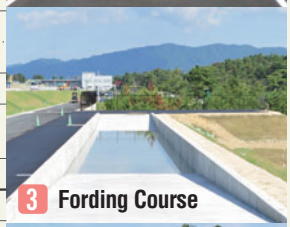
JTEKT is a specialty maker, well-versed in "drive" and "turn". We are currently working towards perfecting the test environments essential to creating more efficient, higher quality products. With the application of the Iga Proving Ground, we will thoroughly pursue the safety and operability of products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

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

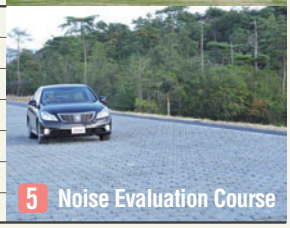
1 Winding Course (Main Track)

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


2 Straight Course (Main Track)


3 Fording Course


4 Dynamics Pad


5 Noise Evaluation Course

2 Establishment of a "Safety Dojo" A new location for strengthening safety awareness through simulated danger experiences

New!

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

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

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

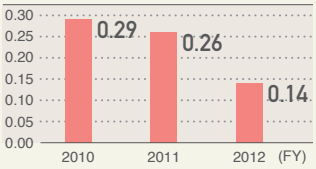
→ S_08 Related article

Ratio of Failure-to-Stop Accidents within all accidents

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

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

Percentage of lost-day accidents



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

Percentage of lost-day accidents = (Number of lost-day accidents / Hours of field work) × 1,000,000

What we can do as colleagues to stop injuries

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

Safety & Health Control Dept.
Production Engineering Headquarters
Makoto Terada

KEYWORD

Spreading CSR internally

1 FY2012 Activities to Spread CSR within the Company
Each and every employee must consider and apply CSR within their daily work

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

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

◎ Results Report

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

Points of Consideration

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

Revised CSR Hand Book

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

Continuation of the CSR Policy Comprehensibility Survey

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

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

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

2 CSR familiarization strengthening in group companies
Working to contribute to the creation of a better society through the whole of JTEKT

New!

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

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

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

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

It is important to always be conscious of your actions

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

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

Regional collaboration for the "South Library Festival"

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

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

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

Supporting employees both inside and outside the workplace

Koyo Machine Industries Co., Ltd.
Tadanobu Ishibashi

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

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

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

As a member of the company and the regional society

Compliance is the first step to gaining trust

Koyo Electronics Industries Co., Ltd.
Murohashi Kenji

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

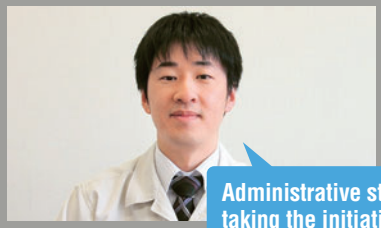
Toyooki Kogyo Co., Ltd. **Shingo Kondo**

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

Fully exercising knowledge each day to aim for zero emissions

A message from JTEKT group companies

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



Administrative staff taking the initiative to promote CSR activities

Koyo Thermo Systems Co., Ltd.
Yoichi Kita

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

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

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

Each person's contribution is important

Building a culture of safety and a zero-accident company

Toyoda Van Moppes Ltd. **Tukasa Iwase**

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

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

CNK Co., Ltd.
Syuhei Nagasaka

I want to strengthen confidential information control awareness throughout the company

KEYWORD

Global

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

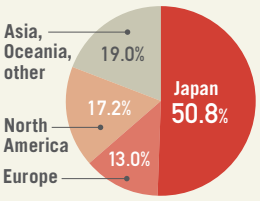
1 Management Framework
Strengthening the foundation for growth in countries around the world

The JTEKT group has established managing companies in the major regions around the world and maintains a global management framework. In order to strengthen our auditing framework, we established regional audit offices in North America, Europe, ASEAN, India, China and Central and South America in 2011.

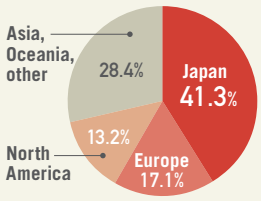
In 2012, we reorganized our North American operations and strengthened our management foundation. In monozukuri, we are advancing action to deploy and build a framework to make good products well on a global basis. We will exert efforts to enhance management with an awareness that the strengthening of the foundation for growth around the world will increase our impact upon society.

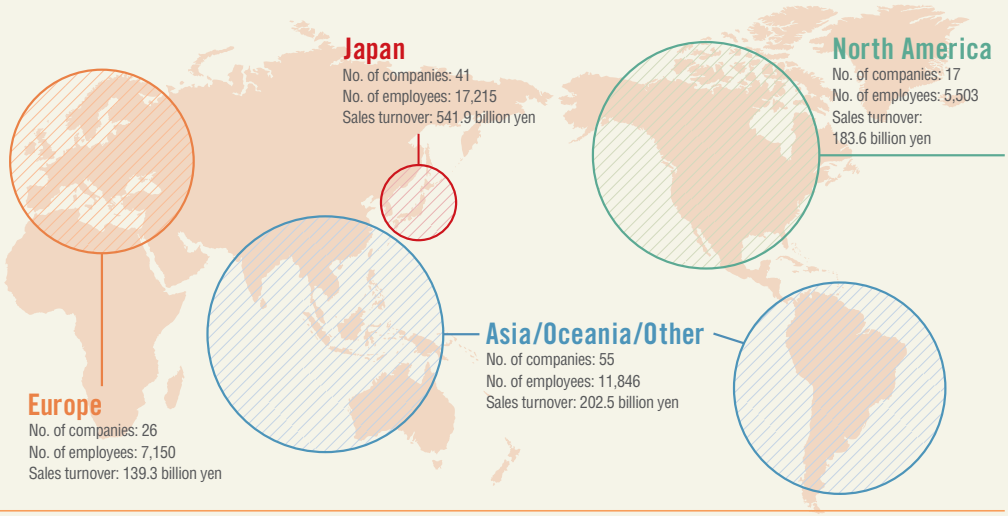
E_02 Related article

Sales turnover share by location
(FY2012 consolidated net sales)



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





2 Global standard line
Training sessions to spread the concept

In FY2010, JTEKT began building a global standard line to roll out the leading production lines of our domestic plants to our local affiliates around the world.

The objective is to secure an equal level of quality in our products, regardless of where they are manufactured in the world, and build a competitive monozukuri framework. We believe this will lead to stable employment in the region and the development of human resources, as well as contribute to the vitalization of the region.

Koushi Yoshida lecturing at the ASEAN training session.

Training sessions (Europe)

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

We will continue to take steps forward, seeking high ideals for a global standard line.

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

3 2012 Topics
Various other actions

Establishment of a bearing plant in South Korea

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

KJKC building

New China plant completed

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

Opening of an integrated website for European bearings

New!

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

Homepage

KEYWORD

Disaster Recovery Support

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

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

New!

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

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

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

●BUS+AID
http://bus-aid.com

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

Participation in Toyota group's recovery support volunteer activities

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

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

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

Regional needs vary from hard to soft

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

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

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

An experience like no other that will remain with me

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

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

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

Volunteers are still needed

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

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

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

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

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

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

New!

Cooperation in "Oiden! Fukushima-ko!"

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

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

4 2012 Topics

Support of various accidents, etc.

Recovery support for southern Nara prefecture disaster

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

Support for northern Kyushu, affected by torrential rain

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

*3 A social contributing support group formed by Keidanren.

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