KYB
Our Precision, Your Advantage

# Environmental and Social Activity Report

# 2016


KYB
Our Precision, Your Advantage

https://www.kyb.co.jp/english/


Contact

## KYB Corporation

Environment & Safety Control Dept.

World Trade Center Bldg. 4-1, Hamamatsu-cho 2-chome Minato-ku,
Tokyo 105-6111 Japan
TEL.+81-3-3435-6465 FAX.+81-3-3436-6759



Considerations made for paper use

森の町内会 間伐に寄与する紙 www.mori-cho.org

**Forest Neighborhood Association**
Paper used for this printing is useful for the effective use of thinning and timber from forest thinning that revive forests.

FSC www.fsc.org MIX Paper from responsible sources FSC® C017928

**Use of FSC certified paper ®**
We used paper made of timber from adequately managed forests.

Considerations made for printing

GREEN PRINTING JFPI P-A10004

**Green Printing**
Environmentally friendly printing materials and printing methods were used to produce this report.

Vegetable oil INK for waterless printing Non VOC INK Version 2

**Use of Non-VOC ink**
We used environmentally friendly 100% vegetable oil ink free from VOC (volatile organic compound).

Waterless Printing Naturally.

**Waterless printing**
We adopted waterless printing with organic materials that generate less waste.

# We will contribute to the realization of a sustainable society by promoting vigorous activity of human resources and by innovation in skilled manufacturing.

Yasusuke Nakajima
Representative Director and President Executive Officer
KYB Corporation

## Introduction

KYB attained the 80th anniversary of its founding in March 2015. In October 2015, we changed the official company name and trade name from Kayaba Industry Co., Ltd., to KYB Corporation in order to further strengthen our brand image. We want to express our heartfelt gratitude to all of you who have given your generous support in various forms to the KYB Group over these many years. We see the 80th year as a juncture from which the KYB Group will continue to meet the expectations of our customers and of society with sincerity. By means of skilled manufacturing, we will contribute still more toward realization of a society of prosperity and safety. We look forward to receiving your continuing support.

## Looking back at fiscal year 2015

In looking back at the KYB Group's performance in fiscal year 2015, we see that while sales increased with the support of healthy demand for automotive products, at the same time there were other factors, such as the unanticipated sharp drop in the construction machinery market in China, and the protracted economic slump in the emerging countries, that resulted in consolidated sales reaching ¥355.3 billion, which fell ¥21.7 billion short of the ¥377.0 billion forecast at the start of the period. Meanwhile, despite management streamlining in China and our Nagano region bases, and structural reform initiatives by the entire Group in the form of emergency measures such as reducing fixed overhead, our ordinary income was ¥14.2 billion, a shortfall of ¥200 million from the ¥14.4 billion forecast at the start of the period.

Fiscal year 2016 is the final year of the medium-term business plan that started for the KYB Group in 2014. In fiscal year 2015, we carried out a drastic business restructuring due to the downturn in the construction machinery market. In fiscal year 2016, we intend to take thorough measures to strengthen our business performance in order to assure profits. In this way we will be certain to reap the effects of that restructuring and close the gap between our current circumstances and our plans.

## KYB Group initiatives for society

### 1) Compliance education

Last year, KYB reached an agreement with the United States Department of Justice to pay a fine of approximately 7.4 billion Japanese yen for violation of U.S. antitrust laws. This was recorded as an extraordinary loss. This is the kind of thing that must not be allowed to happen, and I extend our profound apology to stakeholders for causing such concern and inconvenience. Taking into account our lessons learned to date, we are committed to further strengthening our systems for promoting internal control and compliance with a view to preventing recurrence of the problem and recovering the confidence of stakeholders. We will also convey to every individual employee that compliance with laws, regulations, and accepted practices while engaging in good-faith activity is the very foundation of the company's continuing existence. This also, by extension, leads to our making a contribution to society. In this way we will seek to reform the consciousness of our personnel.

### 2) "Jinzai" (human resource) development

In order for a corporation to achieve sustained growth and development, and contribute to the prosperity of society, it is important to facilitate activity by its human resources. In the KYB Group, we promote the creation of a workplace environment that makes it possible for diverse personnel to function in positions suited to their capabilities and that is employee-friendly.

## KYB Group environmental initiatives

At the KYB Group, we take the view that the links between energy, waste matter, and water are crucial to the realization of a sustainable society. Therefore, we provide products that contribute to environmental protection, and we promote innovative skilled manufacturing that is oriented to a structural transition to unprecedented perspectives and thinking. We are engaged in the global deployment of a variety of programs, including environmentally friendly technology development for the reassessment of product construction, for achieving lighter weight by changing materials, and other similar purposes; activities for saving energy by improving methods for using the energy consumed in factories; reduction in waste generation by improving waste processing methods; and improvement in water quality by introducing waste water processing equipment.

I will be very pleased if KYB Group initiatives for society and the environment become better understood through this report so that we can continue receiving support from increasing numbers of stakeholders. I also look forward to receiving your comments on this report, and hope that you will express your frank opinions regarding the KYB Group.

*Contents*

# Eight Decades of KYB Group History

We will introduce the 80 years of KYB Group history by dividing it into company history and product history.

## History

### Column 01 KYB History

The origins of KYB can be traced back to the Kayaba Research Center, which was founded in 1919.

The Research Center was started by Shiro Kayaba when he was 21 years old. He was an inventor of extraordinary talent and originality who loved freedom and avoided relying on others.

The free and creative spirit of Shiro Kayaba was the motivational force underlying the founding of KYB.

"All the things that are currently in use are things of the past that are in the course of development, and the world never stops demanding more new things."
Words of founder Shiro Kayaba.

Shiro Kayaba, founder

Kayaba Seisakusho around the time of its founding

**1919** Founded Kayaba Research Center
**1927** Established Kayaba Seisakusho
**1935** Established Kayaba Manufacturing Co., Ltd.
**1943** Established Gifu Works (presently Gifu South Plant)
**1948** Incorporated Kayaba Industry Co., Ltd.
**1956** Established Kayaba Auto Service Co., Ltd. as a sales subsidiary (presently KYB Engineering and Service Co., Ltd.)
**1959** Company stock listed on the Tokyo Stock Exchange
**1968** Established Gifu North Branch Plant (presently Gifu North Plant)
**1970** Capital participation in KMT (Taiwan) Moved head office to the World Trade Center Building
**1971** Established the Kumagaya Plant and Mie Plant (presently KSM)
**1974** Established KCA as sales subsidiary (presently KAC (America))
**1975** Established Sagami Plant
**1976** Established P.T. KYBI (Indonesia) joint venture
**1981** Unified production system under KPS name
**1983** Established KMSB (Malaysia) joint venture
**1985** Changed trade name to Kayaba Industry Co., Ltd.
**1987** Established Kayaba Industries (currently KAC (America))
**1989** Established sales subsidiary KGE (Germany)
**1992** Set up the Environment and Safety Committee
**1993** Held first company-wide sports and culture interactive event
**1996** Established Siam Kayaba (presently KYBT (Thailand)) joint venture
Established KHMSB (presently KSMSB (Malaysia))
Established TKI (presently KST (Thailand)) joint venture
Established KSS (Spain) joint venture
**1998** All KYB plants acquired ISO 9001 certification
**1999** Formulated the Corporate Guiding Principles

Test course on the grounds of the Developmental Experiment Center

Interior of anechoic chamber at the Electronics Technology Center

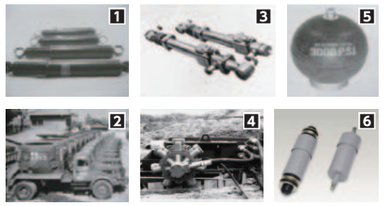
**2000** Established Arvin-Kayaba Do Brazil LTDA (presently KMB (Brazil))
**2001** All KYB plants acquired ISO 14001 certification
**2002** Established Kayaba Vietnam (presently KMV (Vietnam))
Established KIMZ (China)
**2003** Established KMCZ (Czech Republic) joint venture
**2004** Established KYB Trondule Co., Ltd. (presently KYB-TD) as subsidiary
Established KYB Technical Center (KTCT (Thailand))
Established KSM Co., Ltd.
Established KTS (China) sales company
Established KLA (Mexico) sales company
**2005** Established KYBA (Thailand) sales company
Formulated new management principals and management vision
Reorganization (integrated each business under automotive (AC) or hydraulic (HC) component segment)
Established KMF (UAE) sales company
Adopted "KYB" as a shared corporate name
**2006** Takako Industries, Inc., made a subsidiary
**2008** Established Gifu East Plant
Held company's first robot contest
Established KWT (China) joint venture
Established KLRC (China) joint venture
Established KAMS (Spain) joint venture
**2009** Established KEH DE (Germany) supervisory company
**2010** Established KCI (China) supervisory company
**2011** Yanagisawa Seiki Manufacturing Co., Ltd. (presently KYB-YS) made a subsidiary
Established Developmental Experiment Center, started operating test course
**2012** Established KEH NL (Netherlands) supervisory company
Established KER (Russia) sales company
Established KMEX (Mexico)
Established KMSI (India) joint venture
**2013** Established KCME (Czech Republic) joint venture
KCPL (India) made a subsidiary
Established KHMI (Indonesia) joint venture
Established KMS Co., Ltd., joint venture
Established KBR (Brazil) sales company
**2014** Established Chennai Branch (India)
**2015** 80th anniversary of founding
Changed trade name to KYB Corporation

## Products

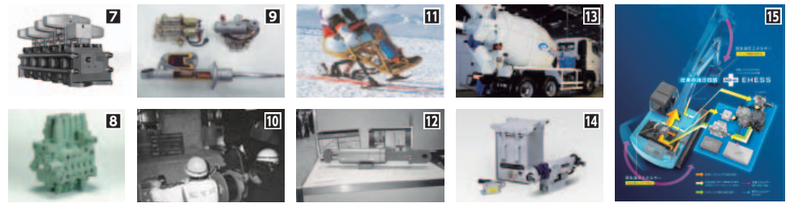
### Column 02 Product History

The spirit of creative development is the foundation of KYB technology.

Hydraulic buffers for aircraft use invented by Shiro Kayaba. This hydraulic technology served as the core concept for vibration control technology and power control technology, which continued to develop with the times. We provide technology and products for safety and comfort, such as integrated system technology, electronic control technology, and other such technologies, to customers in a variety of different fields.




**1927** Started production of oleo struts for aircraft
**1946** Started production of automobile shock absorbers 1, hydraulic jacks, agricultural machinery
**1947** Started production of centrifugal pumps
**1951** Developed oil damper for railcars
**1952** Developed front fork and oil cushion unit for motorcycles
**1954** Started production of "high-low" (high-quality and low-cost) mixer trucks 2
**1954** Jointly developed power steering with booster 3
**1959** Started production of inclined barrel mixer trucks
**1961** Developed Ceriani type front fork
**1962** Developed inclined axis piston pump, radial piston motor (star-type motor) 4
**1962** Started production of accumulators for aircraft use 5
**1963** Started production of gear motors
**1963** Started production in Japan of granule carriers
**1964** Oil dampers of all types for Shinkansen "bullet train" use 6
**1964** Developed and started production of rear oil cushion units
**1965** Developed integral power steering
**1967** Started mass production of strut shock absorbers, developed vane pump for automotive use
**1969** Started mass production of stay dampers
**1971** Developed hydrostatic continuous variable transmission (HST) with separate pump and motor
**1971** Developed ganged valve for hydraulic use and MS valve series 7
**1977** Developed trailer-type cement truck, suction pressure transport-type truck
**1981** Developed compact vane pump
**1982** Developed directly-driven servo valve
**1983** KVM series for construction equipment 8
**1983** Developed low to medium pressure and high-pressure cylinders
**1987** Jointly developed electronically-controlled suspension 9
**1986** Jointly developed tunnel boring machine




**1989** Developed system to correct for uneven settlement 10
**1990** Jointly developed electromagnetic proportional directional control valve
**1991** Jointly developed large tunnel boring machine (boom header)
**1996** Developed semi-active dampers for railroad use
**1998** Developed shock absorber for chair skiing 11
**1999** Developed semi-active suspension for automobiles
**2001** Received Good Design Award for seismic isolation damper (brace damper) for use in buildings 12
**2002** Developed motorcycle front fork with DLC coating
**2004** Started production of vane pumps for continuously variable transmissions (CVT)
**2004** Started production of electronically controlled mixer trucks (e Mixer) 13
**2005** Jointly developed semi-active suspension system for Shinkansen train cars 14
**2005** Developed DRE-100 drive recorder for on-board automotive use
**2009** Developed frequency-dependent shock absorber (HARMOFREQ)
**2011** Developed electrically adjustable front fork and rear cushion unit, and pneumatic spring fork for motocross use
**2011** Developed Electro-Hydraulic Energy Saving System (EHESS) 15
**2011** Developed rotational inertia damper
**2013** Developed load sensing shock absorbers
**2013** Developed direct adaptive steering (DAS) system 16
**2015** Developed lightweight electronically-controlled mixer truck
**2015** Developed flow control valve-less vane pump for CVT use

What KYB Aims to Be

# Our Precision, Your Advantage

The KYB Group aims to satisfy its stakeholders at a time of increasing focus on corporate social responsibility. Based on KYB's management philosophy, each employee will maintain an awareness of our responsibility as a business, and manifest that awareness through actions that will always comply with the law. We will moreover work to enhance our corporate value so that our company continues to be a trusted.

## Management principles

**The KYB Group contributes to society providing technologies and products make life safe and comfortable.**

1. Challenge higher objectives and construct livelier corporate cultural climate.
2. Maintain grace and good faith, and pay attention to nature and the environment.
3. Always seek creative ideas and contribute to the progress of customers, shareholders, suppliers and society.

## Management Vision

**Human Resources Development**
To cultivate the talent to achieve the objectives with a thorough understanding of the principles and the strategy.

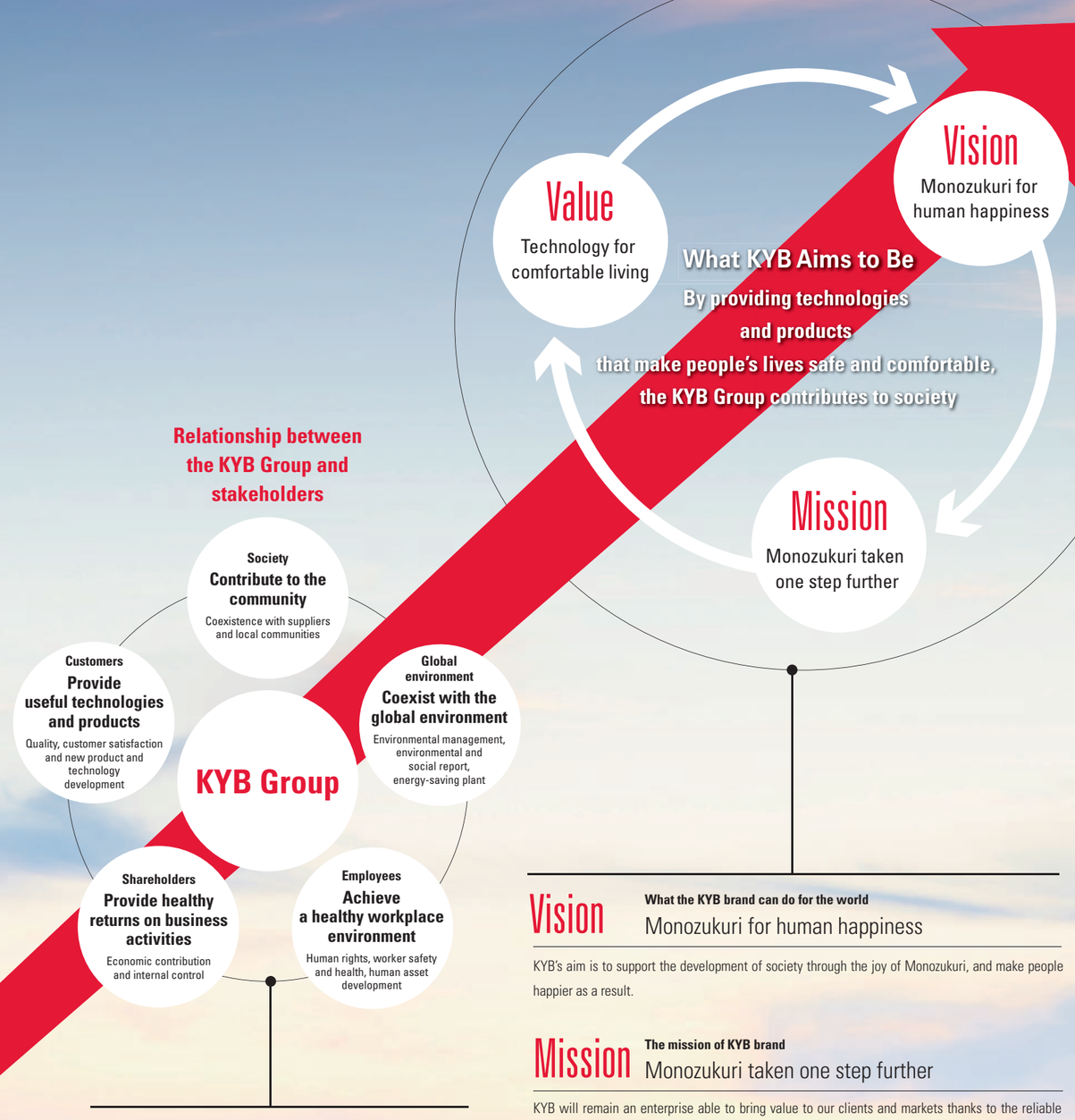
**Technology and Product Development**
To provide products that are impressive, comfortable and reliable to customers throughout the world.

**Monozukuri (Japanese manufacturing expertise)**
To make our plants enjoyable, dynamic places to work, and at the same time full of discipline based on the field priority doctrine, in order to produce products satisfactory to the customer.

**Management**
Always keep social responsibilities of the corporation in mind and provide efficient group management.

## Guiding Principles

( 1 ) Establishment and its practice of the corporate ethics
( 2 ) Thorough implementation of slogan of "Customers First"
( 3 ) Pursuit of product safety
( 4 ) Appropriate accounting and account settlement
( 5 ) Disclosure of corporate information
( 6 ) Compliance with laws and order
( 7 ) Dealing with our customers
( 8 ) Dealing with our suppliers
( 9 ) Prompt dealing with customers' complains
(10) Participation in activities of industry circles and other related organization.
(11) Breaking connection with anti-social power or groups
(12) Prohibition of insider trading
(13) Protection of intellectual property rights
(14) Retention of trade secret
(15) Protection of personal information and data
(16) Protection of other company property
(17) Coexistence with local communities
(18) Preservation of natural environment
(19) Labor - management cooperation
(20) Safety and health
(21) Education and Training and career development
(22) Prohibition of discriminatory actions
(23) Prohibition of harassment actions
(24) Prohibition of child labor and forced labor
(25) Maintenance and improvement of good and healthy workplace environment




## Social Responsibility in the KYB Group

Through our business activities, the KYB Group aims to contribute to the development of our customers, shareholders, suppliers and society through the constant pursuit of creativity.
Following our Corporate management philosophy and vision, units of the KYB Group incorporate CSR initiatives into their yearly action plans and put them into practice. They then follow up on these actions as part of an ongoing cycle of improvement and reform.
Employees carry the KYB Group's Action Guidelines with them to deepen their awareness of the importance of CSR (Corporate social responsibilities).




## Vision

**What the KYB brand can do for the world**

Monozukuri for human happiness

KYB's aim is to support the development of society through the joy of Monozukuri, and make people happier as a result.

## Mission

**The mission of KYB brand**

Monozukuri taken one step further

KYB will remain an enterprise able to bring value to our clients and markets thanks to the reliable technical expertise we have built up over the years.
Through our own efforts, we take Monozukuri one step further to provide our clients with new value and greater satisfaction than they have ever known.

## Value

**Value made possible by the KYB brand**

Technology for comfortable living

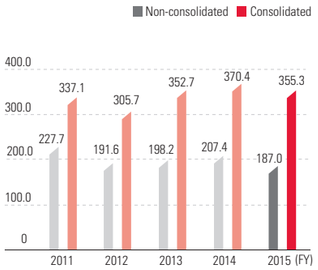
Sensory value : comfortable living, the joy of Monozukuri
Functional value : reliable quality
The value KYB promises its end users is a higher level of "comfortable living" that comes from creative technology and sincere product development.
The value KYB promises its clients is the "reliable quality" that comes from thinking of the end user as "our client".
The value KYB promises each employee is "the joy of Monozukuri" that comes from knowing he or she is changing the world.

# Outline of KYB Group

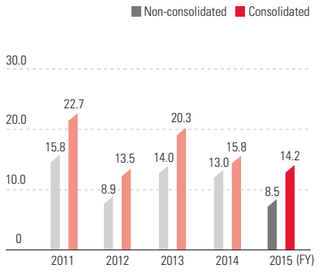
## Company overview

| | |
|---|---|
| Company Name | KYB Corporation |
| Founded | Kayaba Research Center, November 19, 1919 |
| Established | Kayaba Manufacturing Co., Ltd. March 10, 1935 |
| Incorporated | November 25, 1948 (KYB Corporation) |
| Head Office | World Trade Center Bldg., 2-4-1, Hamamatsu-cho, Minato-ku, Tokyo 105-6111, Japan |
| Chief Representative | Representative Director, President Yasusuke Nakajima |
| Capital | 27,647,600,000 yen (As of the end of March 2016) |
| Plants | Kumagaya, Sagami, Gifu North, Gifu South, Gifu East |
| Laboratories | Basic Technology R&D Center, Production Technology R&D Center, Developmental Experiment Center, Machine Tools Center, Electronics Technology Center |
| Number of Employees | 13,796 persons (As of the end of March 2016, consolidated)<br>3,679 persons (As of the end of March 2016, non-consolidated) |

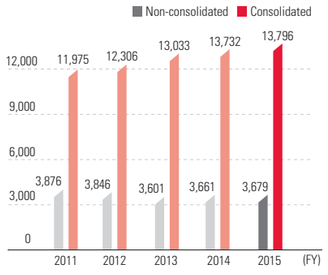
**Net sales** (billion yen)




**Ordinary income** (billion yen)




**Number of employees** (persons)



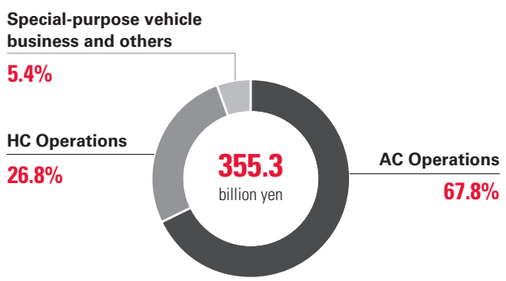

## Major Products

**AC (automotive components) operations**
Shock absorbers, suspension systems, power steering systems, vane pumps, front forks, oil-cushion units, stay dampers, free locks

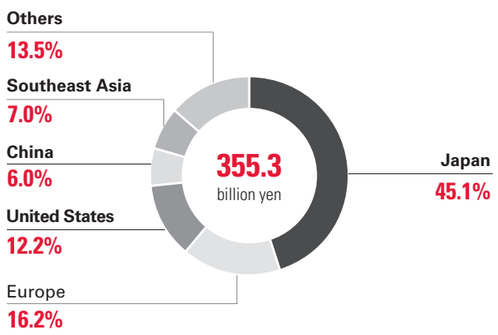
**HC (hydraulic components) operations**
Cylinders, valves, oil dampers for railroad, collision bumpers, pumps, motors, aircraft landing systems, aircraft pilot systems, aircraft control systems, aircraft emergency systems

**Special-purpose vehicles, system products and electronic equipment**
Concrete mixer trucks, granule carriers, special-purpose vehicles, motion simulators, hydraulic systems, auditorium and stage control systems, naval ship equipment, tunnel boring machines, environmental devices, earthquake-resistant and vibration insulation dampers, seismic isolation systems and vibration control dampers, electronic applications

Net sales by business segment in fiscal 2015 (Consolidated)



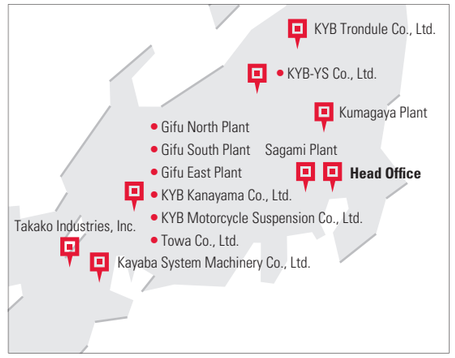

Net Sales by geographic region in fiscal 2015 (Consolidated)




* For details on sales figures and applicable range, please refer to our financial reports.

## Affiliate companies in Japan

Kayaba System Machinery Co., Ltd.
KYB Trondule Co., Ltd.
KYB-YS Co., Ltd.
KYB Kanayama Co., Ltd.
KYB Motorcycle Suspension Co., Ltd.
Towa Co., Ltd.
Takako Industries, Inc.




## KYB Group production bases


## Overseas affiliate companies

**Americas**

| | |
|---|---|
| KAC | KYB Americas Corporation |
| TAC | Takako America Co., Inc. |
| KMEX | KYB Mexico S.A. de C.V. |
| KMB | KYB-Mando do Brasil Fabricante de Autopeças S.A. |

**Asia**

| | |
|---|---|
| KIMZ | KYB Industrial Machinery (Zhenjiang) Ltd. |
| KWT | Wuxi KYB Top Absorber Co., Ltd. |
| KLRC | Changzhou KYB Leadrun Vibration Reduction Technology Co., Ltd. |
| CKMZ | CHITA KYB Manufacturing (Zhenjiang) co., Ltd. |
| KMT | KYB Manufacturing Taiwan Co., Ltd. |
| KST | KYB Steering (Thailand) Co., Ltd. |
| KYBT | KYB (Thailand) Co.,Ltd. |
| KHMI | PT.KYB Hydraulics Manufacturing Indonesia |
| PT. KYBI | PT. Kayaba Indonesia |
| PT. Chita | PT. Chita Indonesia |
| KMV | KYB Manufacturing Vietnam Co., Ltd. |
| TVC | Takako Vietnam Co., Ltd. |
| KMSB | KYB-UMW Malaysia Sdn. Bhd. |
| KSMSB | KYB-UMW Steering Malaysia Sdn. Bhd. |
| KMSI | KYB Motorcycle Suspension India Pvt. Ltd. |
| KCPL | KYB-Conmat Pvt. Ltd. |

**Europe**

| | |
|---|---|
| KYBSE | KYB Suspensions Europe, S.A.U. |
| KSS | KYB Steering Spain, S.A. |
| KAMS | KYB Advanced Manufacturing Spain, S.A.U. |
| KMCZ | KYB Manufacturing Czech s.r.o. |
| KCME | KYB CHITA Manufacturing Europe, s.r.o. |

# Safe, comfortable products that are friendly to people and to the Earth

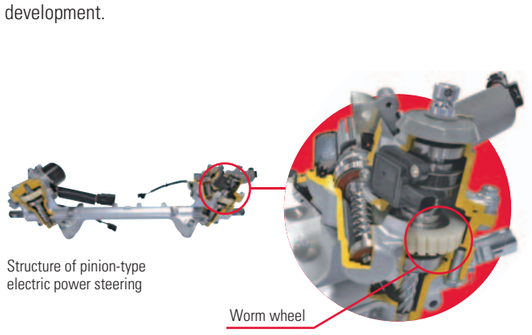
We pursue excellence in advanced manufacturing technologies in order to give people happy smiles and comfortable lives.
Here we will introduce the safe and environmentally friendly family of KYB Group products.

## PRODUCT _ 01

**Reduced material and power consumption on resin injection molding line**

We built an injection molding line to produce KYB's first resin mechanical parts for use in worm wheels. This achieves a balance between high productivity and the strength and durability required for worm wheels used in electric power steering.

This line incorporates measures and devices throughout to reduce the amount of waste material and shorten the time it is out of operation, enabling skilled manufacturing with less waste of time and resources. We also added a quality inspecting function to the robot that transports work between processes, making it possible to conduct production and quality management completely automatically. This is an innovative line that can provide a stable supply of high-quality products for our customers. Going forward, we intend to continue implementing environmentally friendly production technology development.




Structure of pinion-type electric power steering


External view of injection molding equipment

## PRODUCT _ 02

**HVFD-42F with manual servo for driving tractor**

HVFD-42F

Agricultural machinery demands high levels of operability and energy saving. Therefore we have developed the HVFD-42F as a hydraulic continuously variable transmission for tractor driving with improved response and higher efficiency, and we have started mass production of this model. We achieved a balance between stable holding in place when stopped and standing start performance, thereby heightening vehicle operability, by adopting the KYB original mechanism for maintaining a neutral position relative to the angle of a sloping surface. Both hydraulic pumps and hydraulic motors also incorporate newly developed rotary components for efficiency improvement up to a maximum of approximately 5% (compared to KYB products). Improved transmission efficiency contributes to the vehicle's energy saving performance.


## PRODUCT _ 03

**Lightweight electronically controlled mixer truck**

MR5040EL

Recent years have brought demand for mixer trucks with greater raw concrete transportation efficiency to support urban redevelopment. In the MR5040EL lightweight electronically controlled mixer truck, we achieved a significant weight reduction over the previous model MR5020L by updating the frame construction. This further increased the load capacity by 150 kg over the previous model, giving this model a maximum load capacity of 11,600 kg, the largest in its class. Applying electronic control to the hydraulic equipment also realized a reduction in noise and exhaust gases as well as energy saving. We will continue providing environmentally friendly mixer truckers in the future.

## PRODUCT _ 04

**Developed four-axis vibration tester for use with bicycles**

Recent years have brought increasing reports of bicycle frame damage in accidents resulting in injury to humans. One of the main causes is fatigue failure due to road surface impact. When existing test equipment was used, structural factors meant that the tires would suffer damage before the frame, so that fatigue failure of the frame could not be reproduced. Therefore KSM developed a four-axis vibration tester for use with bicycles. In the future, we intend to use the results obtained with the three-axis vibration tester for motorcycles and the technology obtained from the four-axis vibration tester for bicycles to launch products on the multi-axis test equipment market.

# 2015 Action Highlights

We combine our core competence in vibration control technology and power control technology with systems technology and electronic technology to respond to our customers' wide-ranging needs in a variety of different fields.

The highlights in this edition will introduce products developed with consideration for safety and the environment, programs for global human resource development, and more.

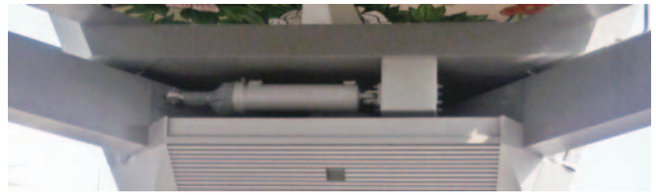
Highlight **01** > Product development

## Adoption of a semi-active suspension system on the Hokuriku Shinkansen line

Photo courtesy of East Japan Railway Company

The Hokuriku Shinkansen segment from Nagano to Kanazawa entered operation on March 14, 2015. This opened up a trunk line that could link Tokyo and Kanazawa in 2 hours and 28 minutes at the shortest. KYB's semi-active suspension system had been installed on Shinkansen lines and conventional lines of various railroad companies up to that point, and the record of performance of those systems as well as the high marks accorded them for quality and other factors led to their adoption by the Hokuriku Shinkansen line as well. The system is made up of acceleration sensors, control devices, and variable damping force dampers. A fusion of electronic and hydraulic technologies, the product detects the train car swaying using acceleration sensors, and implements control electrically to limit vibration. It controls swaying that results from going around curves at up to 260 kph, from passing trains going the opposite direction, and from wind pressure when entering tunnels, assuring ride comfort and stability. The Hokuriku Shinkansen line has marked its first anniversary in service, and it has experienced a growth in passengers. Going forward, we intend to continue providing safety and comfort to passengers on the Shinkansen lines, which are the epitome of Japanese technology.

Semi-active suspension (KYB standard item)



Highlight **02** > Product development

## Seismic isolation dampers installed during Tsutenkaku Tower renovation

Amid concerns about earthquakes occurring directly below major cities and the predicted Nankai Trough earthquake, renovation work was done on the Tsutenkaku Tower, one of the main sightseeing destinations in Osaka Prefecture, to make it a seismic isolation structure and protect the safety of visitors. The design and construction were carried out by Takenaka Corporation. Renovation involved installing KYB products, which have a record of actual use in numerous high-rise buildings.

Seismic isolation devices were installed between the steel frame members that support the observation deck, making this the world's first observation tower to be a seismic isolation structure. The seismic isolation dampers used in the tower have hydraulic circuits that are opened and closed by electric signals. These products have circuits that ordinarily remain closed, but when the sensors are activated by the occurrence of an earthquake, the circuits are released.

Models of the seismic isolation devices installed in the Tsutenkaku Tower and models of our company's oil dampers have been on display on the second observation deck of the tower since July 21, 2015.

The need for seismic countermeasures on existing buildings has been increasing year by year. Therefore we will continue to provide products that make effective use of our capabilities in hydraulic technology as a contribution to people's peace of mind and safety.

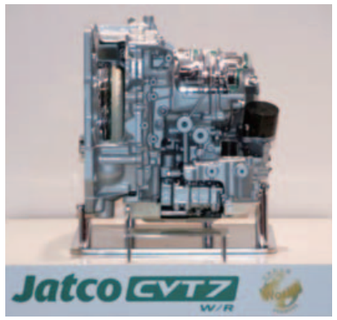
Highlight **03** > Product development

# Flow control valve-less vane pump installed in CVT

Continuously variable transmissions (CVT), which enable use of gear ratios that allow greater engine efficiency, have vane pumps installed as a hydraulic power source that creates the control pressure used to make the CVT change gears, shift between forward and reverse, and so on. The vane pump we developed here is for use in the new model CVT (photo (1)) from JATCO Ltd., which has eliminated the flow control valve (photo (2), drawing (1)). Eliminating the need for flow control valve operating pressure makes it possible to lower the pump's drive torque (drawing (2)), and this simultaneously contributes to further heightened fuel economy as well as to reduced weight and cost. Eliminating the flow control valve necessitates anti-cavitation* measures. KYB succeeded in developing a flow control valve-less vane pump that is cavitation-resistant by optimizing the hydraulic fluid intake duct and the internal pressure.

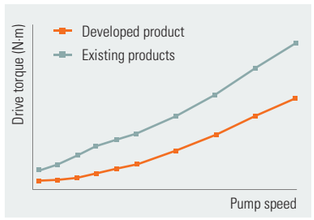
We started production of these pumps at KIMZ (China) in July 2015.

* Cavitation: The phenomenon wherein bubbles form and disappear in a short time due to pressure differences in the flow of a hydraulic fluid. The disappearance of bubbles can generate a jetting flow that causes erosion.

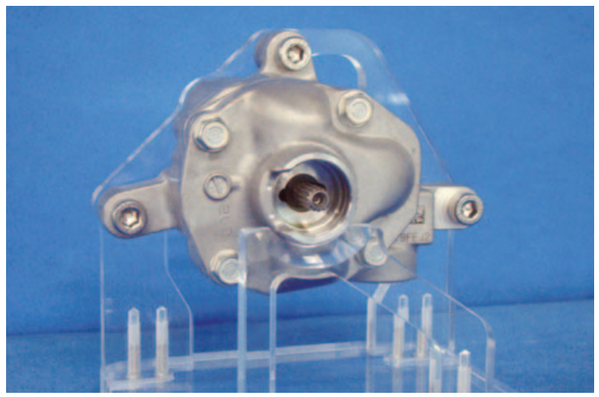



Photograph (1) External view of new model CVT

Drawing (1) Conceptual interior view showing vane pump




Drawing (2) Drive torque characteristics of existing products and developed product



Photograph (2) External view of new model vane pump that has eliminated the flow control valve



Highlight **04** > Global human resource development

Friends together in a language school classroom

# ACTIVE overseas trainee dispatch system

As the global expansion of business advances further and further, there is a need for global "jinzai" (human resources) who can play active roles anywhere in the world. At KYB, we have been implementing an overseas trainee dispatch system called ACTIVE since fiscal year 2011 for the purpose of global human resource development. ACTIVE stands for Ambitious and Challenging Traineeship for Intercultural Value added Experience.

ACTIVE is now a program that combines language training and practical training at bases in other countries. It is aimed at younger employees, and it gives them early on-site experience while cultivating communication skills and the ability to deal with foreign cultures.

Up to fiscal year 2015, 24 trainees have been dispatched to other countries under ACTIVE. The trainees have a very hard time at first with an unfamiliar language and environment, but after completing the training, they return home greatly matured. We will go on promoting the ACTIVE program in the future, and continue developing human resources capable of playing active roles anywhere in the world.

VOICE

## About the ACTIVE experience

After receiving language training in England for half a year, I went through practical training at the Spain branch of KEH for one year.

When I first started the language training, I had a terrible time every day because I didn't know how to say what I wanted to say. Then I realized that if I didn't talk about something, it was absolutely certain not to be understood by others, so I made it a point to just go ahead and at least try to talk, and I think from that point I started to make some progress.

In the practical training, I worked with local staff members on testing and measurement. The customers were automobile manufacturers from many different nationalities, so it was a multilingual workplace where I would hear people speaking English, Spanish, French, German, and Japanese around me. Here again I made it a point to just go ahead and talk, and I tried my best to actively engage in conversation.

The work I did up to that had almost no points of contact with other countries, so the fact that I could receive language training and then work in another country in the practical training was a very valuable experience for me. I am deeply grateful to everyone who supported my training.

**Maya Hasebe**
Suspension Experiment Department
Developmental Experiment Center,
AC Business Headquarter

Environmental Report

# Environmental Management

## Basic environmental policy

### Slogan

**Protect the Green Earth and Create Products Gentle to the Environment**

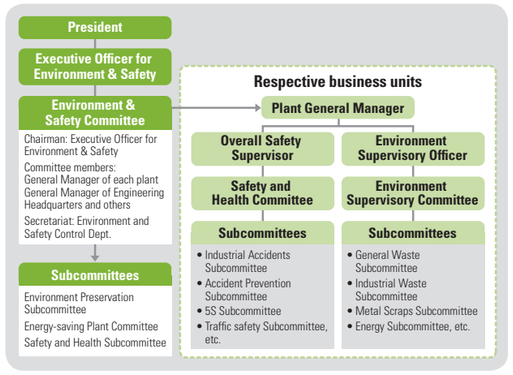
### Basic Environmental Policies

The KYB Group creates products gentle to both people and the earth. We are dedicated to the promotion of environmental activities as an important tool for evaluating management.

1. Coordinates and builds up productive and corporate activities based on the recycling to reduce impacts on the environment.
2. Strive to ensure long-term and sustainable operations throughout the entire KYB Group.
3. Work to promote harmony with society and contribute to the global community as a good corporate citizen.
4. Clarify every employee's role so that all employees can participate fully.

### Environment & Safety Management system

The "Environment & Safety Committee" was organized with directors responsible for environment & safety as leaders to harmonize our intentions regarding environment and safety related approaches. The Committee has three working groups respectively specialized in the Environmental Conservation, Energy Saving Plant and Safety and Health to promote activities from a professional point of view. In addition, it regularly makes an internal environment & safety audit and confirms the situation.




### Mid-term policy

**Mid-term policy regarding the environment and safety**

We have been formulating Phase 2 of our mid-term policy since fiscal year 2014. The new mid-term policy we have formulated applies the keywords "compliance with rules, speed, and challenge" to environmental matters and safety as well, and we have started implementing activities.

**Environmental/Safety Mid-term Policy (2014 to 2016) Abstract below**

1. **Creation of factories aiming to minimize the energy consumption and waste**
   Reduce energy consumption per unit by 1% per year relative to 2013 levels, and reduce amounts of industrial waste per unit by 3% per year relative to 2013 levels.
2. **Creation and expansion of industrial accident free production bases**
   The employees' awareness about the safety will be improved and critical hazards eliminated.

## Message from the director responsible for environment and safety

### Aiming to be a corporation that can contribute to achieving a sustainable society

Initiatives for environmental conservation have become a worldwide issue, and corporations are also being called on to promote a sustainable society. The KYB Group has been promoting energy-saving activities through a variety of unprecedented conceptual transitions that resulted, for example, in the LT50 program (reducing Lead Time by 50%) and the adoption of ingenious automaton-like "karakuri" mechanisms. We are also taking steps to reduce our environmental impact by introducing large compressors that incorporate energy-saving technology, for example, and waste water treatment equipment with high processing capacity. Beyond that, we will pursue improvements to hydraulic fluid and compressed air leaks in production facilities, the management of temperature settings on air conditioning equipment, and other such steady, step-by-step activities as we keep pressing forward with continuing measures to achieve our environmental impact objectives.

We consider activities that contribute to society to be important in terms of conducting corporate activity, as well. In addition to providing assistance to disaster-stricken areas, we also intend to engage actively in other measures such as participating in local joint emergency training to strengthen our solidarity with local communities, promoting athletics, and providing support to university students.

In conclusion, I would like to express my gratitude to you for your interest in this report. We are committed to further expanding and improving the content, and hope to receive your continuing support and guidance in our efforts.

Kazuhiro Ogata
Managing Executive Officer

## Environmental conservation objectives

An "environment management plan" was made at each production site according to corporate policies regarding the environment to carry out various activities aiming to achieve the goals. We promote reducing energy consumption, productivity improvement, and recycling.

### Activity results of 2015

○: Goal attained ×: Goal not attained

| Theme | | Fiscal 2015 goals | Results of 2015 | Evaluation | Publication page |
|---|---|---|---|---|---|
| Prevention of global warming | $CO_2$ emission volume | 91,759t-$CO_2$ or less | 92,709t-$CO_2$ | × | P35 |
| Energy saving | Energy usage volume basic unit | 0.65kL/million yen or less | 0.69kL/million yen | × | |
| Improvement of resource recovery and recycling rate | Recycle rate | 90.6% or higher | 93.0% | ○ | |
| | Zero emission | 3.5% or less | 3.6% | × | |
| Reduction of waste | General waste | 524t or less | 539t | × | |
| | General waste per unit | 2.98 kg/million yen or less | 2.31 kg/million yen | ○ | |
| | Metal scraps | 18,545t or less | 16,998t | ○ | |
| | Metal waste per unit | 245.59 kg/million yen or less | 240.6 kg/million yen | ○ | |
| | Industrial waste | 3,505t or less | 3,506t | × | |
| | Industrial waste per unit | 29.3 kg/million yen or less | 25.8 kg/million yen | ○ | |

(Note) Basic units are calculated on the basis of marginal profit.
For energy, crude oil equivalent is calculated for electricity and fuel and the total value is displayed as total energy consumption.
$CO_2$ emissions and energy consumption are calculated using methods determined by KYB.

**Overview of major approaches in the fiscal year of 2016**

**Global warming prevention**
Replacing lights with LED, LVD (electrodeless light), or other high-efficiency lighting, reducing the level of compressed air consumption in our plants, buying export steam, air conditioning burden reduction activities, etc.

**Waste material reduction**
Reducing amount of waste paint by bio processing, improving waste liquid and waste oil processing, treating sludge to recover substances of value, etc.

## Chemical substance management

### Support for environmental controls on products

A variety of different laws and regulations are in place, including the REACH laws, which are said to be the most rigorous in the world, as well as the ELV directives, the RoHS directive, and so on.

Given the regulatory trends in each country concerned, we have been receiving directions from automobile manufacturers and other customers regarding the enactment of regulations or other controls on environmental impact substances well in advance of enforcement deadlines. In order to meet our customers' requirements, we have created a database of the chemical substances used in our products, and we are operating a system that allows us to respond promptly to inquiries about whether or not any controlled substances are contained in a product.

Another use for this database is when a new chemical substance becomes subject to controls. Our system will identify products containing that substance so that we can switch to alternative substances in a short time.

We will continue with activities that enable us to provide products that conform to the needs of our customers and of the market.

### Risk assessment of chemical substances

Chemical substance risk assessment was made mandatory in Japan as of June 2016. We acted in advance of that, and had put in place a method of risk assessment regarding the health impact of chemical substances by checking against our database of chemical substances that was implemented at all of our bases in Japan in fiscal year 2015.

The workplaces at the Gifu South Plant and Gifu East Plant involve risks that are relatively higher, so we conducted measurements of the work environments in those places. Using those measurement values, we are reevaluating the risk assessment so as to improve our grasp of the risks to workers in greater detail. Risk assessment regarding explosion and fire due to chemical substances was also implemented in some of our divisions. We are making every effort to prevent accidents involving chemical substances before they can happen by having the people who use the chemical substances themselves perceive the risks.

### PCB disposal

Transformers and other electrical equipment containing PCBs are held under rigorous controls at each business establishment concerned, and KYB has contracted with a company specializing in detoxification processes to dispose of these items. Disposal began in fiscal year 2012. Disposal of the transformers held at the Mie Plant of KSM was completed in fiscal year 2015. We are proceeding with disposal according to plan.

PCB waste removed from KSM

# Initiatives to Reduce Environmental Burden

## Activities at plants

An effort has been made to reduce greenhouse gases as part of activities to reduce impacts on the environment. Various activities are promoted to reduce the energy consumption by eliminating the wasteful use of energies, changing fuels and improving the distribution efficiency.

### Improvement of compressed air blower nozzle on dryer for coating equipment

Ordinarily, 20% of electric power used is for powering compressors, and one-half of that is said to go to compressed air blowers. The Gifu North Plant has an extremely large number of production machines installed, and the proportion of power for compressors is at the ordinary level or even greater. We focused on the compressed air blowers for coating, therefore, and changed the compressed air blower nozzles to a type that works using only compressed air while losing less pressure. The reduction in compressed air loss made it possible to reduce the discharge pressure and the number of nozzles. Dewatering performance has also gotten better, and these measures are contributing to improved quality, as well.


Coating equipment and compressed air blower nozzles

### Reducing air conditioning load in the summer

The Gifu East Plant is located adjacent to a residential area, and we keep the windows closed so that our work will not affect the living environment. For this reason, we see increased electric power consumption and peak power due to the use of air conditioning in the summer. The annual contract for electric power is sometimes affected by the maximum value for peak power in the preceding year, so we carried out a reexamination of the air conditioning load. We turned off the air conditioning that was lower priority and measured the temperatures. The results confirmed that there was no effect on the work environment. We are explaining this to the employees, posting the operating conditions for each item of equipment, and taking steps to save electricity. We are also monitoring the changes in electric power consumption in the plant as a whole, and broadcasting plant announcements asking that air conditioning be turned down or turned off just before consumption peaks. As a result, we have succeeded in reducing electric power consumption by 26% year on year.

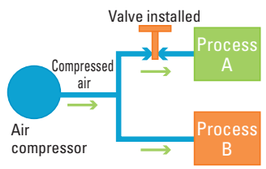
### Purchasing export steam

The Gifu South Plant has decided to buy export steam that is generated in the course of biomass power generation at a paper manufacturing company next door. The steam piping from the paper manufacturing company and the steam piping at the Gifu South Plant were connected together and steam began being supplied in February 2015. This has made it possible to limit the use of city gas, which is fossil fuel, and to reduce $CO_2$ emissions by approximately 700 tons/year. This is something that was accomplished not just by KYB but through the cooperation of the adjoining paper manufacturing company, to which we are very grateful. Both companies have been able to reduce their $CO_2$ emissions and make a contribution to the members of the local community.

### Energy saving by installing compressed air valves on the line KMSB (Malaysia)

One compressor was simultaneously supplying air to two processes, A and B. Even when Process A was not engaged in production, Process B was engaged in production, so compressed air was being supplied constantly to both. We installed a valve in front of Process A, so that the valve could be closed to stop the compressed air supply when no production was underway there. As a result, compressed air consumption was cut back, achieving a reduction in annual electric power consumption by approximately 6%.

This improvement, which appears to be simple in its substance, is something that was raised by the system under which each employee makes one suggestion each month. KMSB intends to continue with this kind of improvement activity with the participation of all its employees.




### VOICE

Katsuki Fujimoto
Environment and Anti-Disaster Control Section, Gifu South Plant

#### Gifu East Plant: Reducing the air conditioning load during the summer

Electric power consumption reaches a maximum during a period of several minutes on the hottest days of summer when the use of air conditioning increases. With the cooperation of our employees, we can cut back on consumption during these several minutes and so make a significant reduction in electric power used. A key point in our effort, therefore, was a reassessment of air conditioner operating methods, which can be controlled relatively easily.

There are still many wasteful energy practices lurking in the Gifu East Plant that we can find if we look for them.

We are committed to continuing with our energy saving activities.


Air conditioners differentiated by color coding

### Reduction in electric power consumption by a compact through-flow boiler

At the Sagami Plant, we took steps to cut back on the electric power consumed using a compact through-flow boiler as a way of addressing global warming and reducing our environmental impact.

The compact flow-through boiler that supplies waste heat to air conditioning equipment, plating process tanks, and so on, has a blower fan that had been previously driven by a belt. Because of this, the blower was experiencing power transmission losses due to slipping and other such factors. By changing the drive method and driving the fan directly using a high-efficiency electric motor, we succeeded in reducing power consumption by approximately 25%.


Compact flow-through boiler in its entirety


High-efficiency electric motor

### Installation of equipment for reclaiming deteriorated chrome plating solution

The Gifu North Plant has 12 chrome plating lines that generate 144 kL of deteriorated plating solution every year. We process the deteriorated solution in reclamation equipment and reuse the reclaimed solution in the manufacturing process. The existing reclamation equipment used batch processing that involved adding chemicals for the process of removing metallic impurities, so one worker was assigned exclusively to the work of chemical processing. We therefore installed a device for removing metallic impurities (automated reclamation device using an ion exchange resin method) that has automated the addition of chemicals. This has not only eliminated the need for a painstaking manual job, but it has also improved the quality of the reclaimed solution.


Full view of equipment for reclaiming deteriorated chrome plating solution

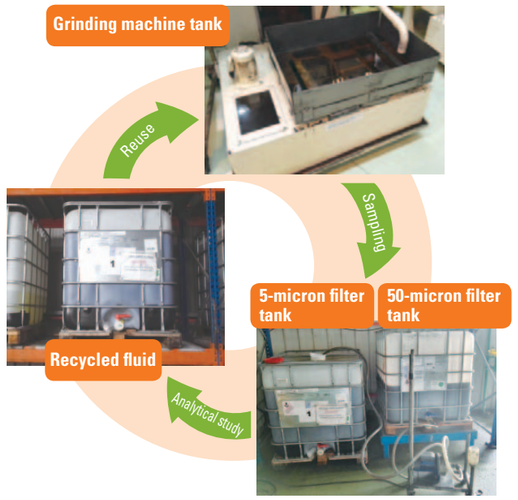
### Installation of equipment for treating waste water containing phosphorus

Restructuring the production line at the Gifu South Plant resulted in emission of waste water containing greater quantities of phosphorus than before, and at higher concentrations. For this reason, we installed equipment that was better at treating waste water containing phosphorus. This equipment comprises a system that processes highly concentrated waste water in small quantities at a time, and processes low-concentration waste water continuously. This reduced the load on the equipment while increasing its efficiency and providing stable processing. At present we are able to reduce the phosphorus concentration to 1% or less by purification. This value satisfies the pollution prevention agreement we made with Kani City, which sets a stricter standard than the legal requirement.

### Recycling grinding fluid at KSS (Spain)

At KSS, the used grinding fluid that had been used in grinding machines was being disposed of as waste liquid. Putting the fluid through a specialized filter and reusing it achieved a 40% reduction in the amount used, compared to before. The recycled fluid is being checked each time by a fluid refiner and manufacturer, where the components are studied and performance is confirmed to be on a par with the new liquid.

**Conceptual image of the recycling of grinding fluid**



# Initiatives to Reduce Environmental Burden

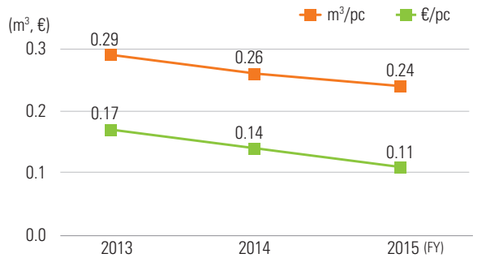
## Activities at plants

### Gas consumption reduction activity: KAMS (Spain)

At 2014 study at KAMS showed that 50% of energy consumption there was in the form of LP gas. We estimated the consumption by boilers and steam devices and reduced the number of boilers in use from two to one. We also added steam traps and overhauled deteriorated portions to increase efficiency. In the future, we plan to install steam consumption measurement devices and study the places where consumption is greater so that we can move forward with improvements. We are also considering the installation of devices for reusing heat that is discharged from the boiler.

KAMS steam equipment

**Basic unit of annual LP gas consumption at KAMS**

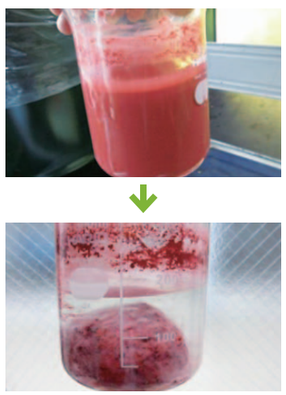



### Reducing paint effluent

The hydraulic cylinder assembly line at the Gifu East Plant uses water-based paint out of consideration for the environment.

In addition, plant personnel themselves take the effluent that is discharged during color changes and washing, and put it through a dewatering process that makes effective use of unnecessary material and acid waste liquid. They also take measurements of the work environment and conduct risk assessments, and use work methods that keep the hazards to workers below statutory levels.

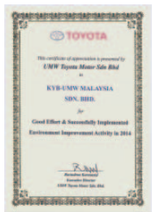
Activities like these not only keep down the cost of treating effluent, but they have also achieved a reduction of approximately 7% in the weight of industrial waste generated by the Gifu East Plant as a whole.



Waste paints and their water content are separated, and the water is treated appropriately and then discharged.

### Environmental Convention: KMSB (Malaysia) receives commendation from UMW Toyota Motor Sdn. Bhd.

A commendation was received from UMW (United Motor Works) Toyota Motor at the Environmental Convention 2014 held by the Toyota Supplier's Club. A total of 76 projects involving environmental conservation were presented by the companies concerned. The 10 companies, including KMSB, that remained after the first selection received commendations for their activities. In the course of its plant restructuring, KMSB replaced a part of the coolant circulation system it is using with inverter-equipped pumps. The resulting 53-ton reduction in annual $CO_2$ emissions was rated very highly.




Certificate of appreciation from UMW Toyota Motor

### Installation of turbo compressor

When upgrading a large compressor at the Gifu North Plant, a new turbo compressor from IHI Corporation was introduced. The turbo compressor with three-stage compression is more efficient than screw compressors with two-stage compression. It has realized a 7% reduction in the annual power cost. The equipment has fewer parts, so a reduction in maintenance costs can also be anticipated. Going forward, we will gradually upgrade screw compressors to turbo compressors and continue taking steps to reduce our energy costs.

The newly introduced turbo compressor





Social Report

# Side by side with the customer

## Activities for customer satisfaction improvement

### Basic quality policy

At KYB, we believe that good quality is our company's life, and we therefore make every effort to provide skilled manufacturing and services of the quality that will satisfy our customers and society. We do this by a variety of activities for quality improvement, including actively promoting the sharing of quality information and faster information delivery within the group.

### Quality Assurance System

We have built a quality assurance system that complies with the ISO 9001 standard, which places emphasis on the quality of work processes as well as quality of products and quality of services, and we have this system in operation. We also strive on an everyday basis to make improvements in those aspects of quality.

Quality at the development design stage, which includes the development of manufacturing methods and processes for producing our products, are determining factors in the market quality of our products. Furthermore, the degree of completeness of production shop floor work procedures and other such rules, together with the level of perfection in operation, will contribute to a reduction in process defects and other such quality losses that occur in skilled manufacturing.

At KYB, we implement what is called a three-step evaluation process for methods of developing and mass producing products, technologies, manufacturing methods, and so on. We make every effort for higher quality throughout the product life cycle, from the product planning stage to improvement of defects and change management after mass production and shipment. At our production bases, we take a variety of quality improvement measures under the leadership of the base managers and plant managers, and we are working to promote the unerring operation of our three-step evaluation system.

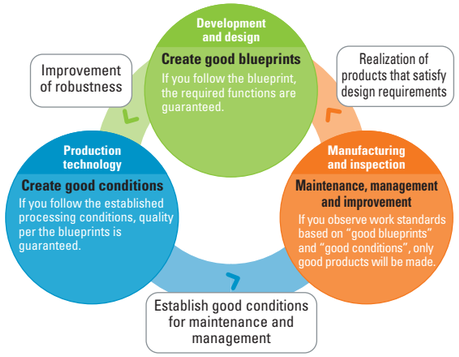
**Development of products and technology through a 3-step evaluation process and the Declaration of Quality and Safety**

| Step | Goal of the 3 steps | Quality assurance steps |
|---|---|---|
| Prior / Model development | Proof of possibility (Description / evaluation of developed quality) | Development quality |
| DR0 evaluation meeting | | |
| Order development | Proof of mass production (Actual proof / evaluation of developed quality) | Start quality |
| DR1 evaluation meeting | | |
| Mass production development / Production preparations | Proof and serialization of applicability (Actual proof / evaluation of start evaluation) | Mass production quality |
| DR2 evaluation meeting | | |

Mass production

**Declaration of Quality and Safety**
There will be confirmation before the start of regular production that the mass product quality has been built into the design.

**What KYB Aims to Be: Quality problem prevention cycle**




### Study group for reforming business structure

At every base in the KYB Group, we address quality issues in our policy and implement continuing improvement activities. The base managers exercise leadership so that we can act promptly to create a quality status that will further satisfy stakeholders. We use cases of activities at bases where improvement activities have yielded a certain degree of results as the main instructional material, and bring together all the base managers to study and learn from each other.

This activity is implemented for base managers (at the president and plant manager level) of all our production bases in Japan and other countries.

A meeting of the study group for reforming business structure (presenting the Gifu North Plant case)

# Side by side with the customer

## Activities for customer satisfaction improvement

### Stop, call out, and wait

In order to provide thorough compliance with the rules and standard procedures when an abnormality occurs on the production shop floor, we have made "Stop · Call · Wait" campaign badges in nine languages for distribution to 12 bases in Japan and 23 bases in other countries. The badges make all of our employees aware that they need to carry out these basic actions: Stop work, call your superior, and wait for instructions. The purpose is to assure employee safety and to prevent defects from flowing to downstream processes, especially when an abnormality occurs.

"Abnormality" refers to a state other than normal when equipment is stopped or something happens to prevent quality from being up to standard.




Left: "Stop, call out, and wait" badges in nine languages (Japanese in the upper left, to the right, Vietnamese, Thai, English in the middle left, to the right, Spanish, Chinese, Portuguese in the lower left, to the right, Czech, and Indonesian)
Right: "Stop, call out, and wait" badge being worn on-site (Gifu South Plant )

### Examples of main supplier commendations received

| Base name | Name | Description | Customer |
|---|---|---|---|
| KYB (Japan) | Letter of thanks | Achieved six consecutive months with zero supply defects | Mazda Motor Corporation |
| KYB (Japan) | Global Quality Award | Zero complaints over the past 15 months | JATCO Ltd. |
| | Special Global Award | Contribution to skilled manufacturing | |
| KYBSE (Spain) | Best Brand Prize | Achieved target quality and delivery schedule figures | PSA Groupe |
| KMSB (Malaysia) | Environmental Convention | Limit $CO_2$ emissions | UMW Toyota Motor Sdn. Bhd. |
| KMEX (Mexico) | Supplier Commendation | Reduced total delivery cost | JATCO Mexico |
| KMSB (Malaysia) | Outstanding Supplier Award | Contribution to quality, delivery schedule, and price cooperation | Hong Leong Yamaha Motor Sdn. Bhd. |

### Received letter of thanks from Mazda Motor Corporation

A letter of commendation for achieving six consecutive months with zero supply defects was presented at the 3rd Supplier Quality Award Ceremony for the second half of fiscal year 2014, held at Mazda Motor Corporation in April 2015. Going forward, we will continue to take measures aimed at achieving zero supply complaints.


感謝状

Received letter of thanks from Mazda Motor Corporation

### Information supply to customers

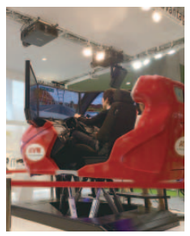
We think that exhibitions are precious opportunities to directly hear customers' opinions. We will continue to positively participate in exhibitions.

| Exhibition | Exhibit | Venue |
|---|---|---|
| 40th Japan Meat Industry Fair in 2015 | Piston pump motor for hydraulic drive meat processing machinery, etc. | Tokyo Big Sight, Japan |
| Automotive Engineering Exposition | Drive recorder, communications terminal for vehicles, etc. | Pacifico Yokohama, Japan |
| Earthquake Technology Expo Osaka | Seismic isolation damper unit to prevent furniture toppling | Congrès Convention Center Osaka, Japan |
| 51st International Paris Air Show | Electric brakes for compact air frames, etc. | Le Bourget Airport, France |
| China International Agricultural Machinery Exhibition | HST, electric power steering, etc. | Qingdao International Convention Center, China |
| 4th Mass-Trans Innovation Japan International Trade Fair for "Railways" Technology | Active damper system, etc. | Makuhari Messe, Japan |
| 44th Tokyo Motor Show 2015 | Driving simulator, automotive shock absorbers, etc. | Tokyo Big Sight, Japan |
| Automechanika Dubai 2015 | Automotive shock absorbers | Dubai International Convention and Exhibition Centre, United Arab Emirates |
| Automec 2015 | Automotive shock absorbers | São Paulo Expo Exhibition & Convention Center, Brazil |

### 44th Tokyo Motor Show 2015

The 44th Tokyo Motor Show 2015 was held at Tokyo Big Sight over a 12-day period starting October 28, 2015. The KYB Group was there introducing a variety of different products, from a driving simulator to a lightweight, electronically controlled mixer truck that is environmentally friendly, a motorcycle suspension that saw service in the eight-hour endurance road race at Suzuka, and so on. The KYB booth attracted large numbers of visitors, and the opinions we obtained from them are valuable to us. Going forward, we intend to continue developing products that are responsive to our customers' needs.


Lively crowds at the KYB booth



Driving simulator

# With Business Partners

## Establishment of partnership

### Basic policy for procurement

KYB is making an effort to take the corporate social responsibility (CSR) and continue to be a company relied upon by the society. Suppliers are important partners for us to continuously develop through craftsmanship and help realize a wealthy society.

Our basic policy for procurement is described below: For detail, see our website.

http://www.kyb.co.jp/company/csr.html

**Activity results of 2015**

1. Procurement activities aiming at the coexistence and mutual prosperity of KYB and our suppliers
2. Legal compliance
3. Quality First
4. Safety and health, human rights and labor
5. Continuous cost reduction activities
6. Timely delivery
7. Protection of natural environment
8. Construction of global procurement system
9. Risk management
10. Classified information management
11. Prevention of corrosion

### Meeting held to explain KYB's fiscal year 2015 procurement policy

In fiscal year 2015, we again held a KYB Procurement Policy Briefing in order to strengthen the collaboration between KYB and our suppliers. (It was held at the Hilton Nagoya, Naka-ku, Nagoya, Aichi Prefecture.) On the day of the meeting, we welcomed suppliers from 210 companies, 14 more companies than in the previous fiscal year, to whom we presented explanations of company policy and procurement policy. We also presented commendations to outstanding suppliers who had achieved results from their QCD awareness activities. After that, we also held a social reception for the suppliers as an occasion for friendly exchange.

### Action against conflict minerals

Four kinds of minerals (tantalum, tungsten, tin and gold) produced in conflict areas, including the Democratic Republic of Congo and its neighboring counties in Africa, are defined as conflict minerals. We have been required to confirm that purchasing or using the minerals extracted there will not fund armed conflicts or contribute to the infringement of human rights in the conflict area.

The KYB Group is well aware of the CSR perspective and of the import of financial regulatory reforms (the Dodd-Frank Act) in the United States. We are acting on that basis to create our own corporate guidelines, and we are collaborating with our customers and suppliers on measures to prevent the use of conflict minerals that have been extracted illegally.

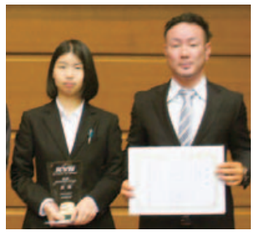
### Supplier QC Circle Conference held

We hold a Supplier QC Circle Conference once every year for the purpose of vitalizing our suppliers' improvement activities. In 2015, we held the 45th of these conferences. We brought together suppliers from 147 companies, and six companies were selected from 33 applicants to give improvement case presentations. The gold prize was awarded to Hekikai Kouki Co., Ltd., the winner for two years running.

**Words from our suppliers**

On receiving the Gold Prize: Hekikai Kouki Co., Ltd.

For the activity recognized here, we used methods for achieving issue goals to address the themes of quality and productivity improvement. Our aim was a line with stable output. Perhaps the most demanding part of our effort was when we were going after the success scenario and we had to go to the production site over and over again to make a detailed analysis of the current situation there. Because we did this, the individual measures we were taking brought a big payoff, and without having to do any work on days off. We gained a great sense of accomplishment because we were also able to contribute to an energy savings. Our team members got to experience what it is to obtain major results by an accumulation of minor improvements, and this further heightened the ongoing everyday motivation to make improvements. Everyone in our workplace will go on making every effort in the future to realize improvements through QC circle activities in order to increase customer satisfaction.



Mr. Tomohiro Tatematsu (on right)
Presenter
Ms. Kaori Ozaki (on left)
Assistant Presenter

### Survey of status of business continuity plan (BCP) activities

In light of the lessons of the Great East Japan Earthquake, we think it is important to prepare for the triple linked earthquakes (in the Tokai, Tonankai, and Nankai regions) that people are concerned will strike Japan in the future, by determining the status of business continuity plan (BCP) activities among suppliers. Focusing on our main suppliers, we therefore conducted a questionnaire survey covering these seven areas in which we asked for self-evaluations: (1) Protection of employees in the event of an earthquake; (2) prevention of secondary disasters; (3) safe evacuation routes; (4) earthquake bulletins and emergency stockpiles; (5) response for early recovery; (6) readiness systems; and (7) response regarding suppliers affected by disaster. Reports were sent in from 67 companies and 74 business units, allowing us to grasp the status of measures being taken. We provided the survey results to our suppliers as feedback, together with the request that they steadily pursue readiness activities so as to give priority to the respect for human life.

# For the Community

## Social Support Activities

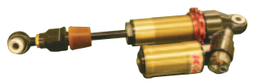
### Support for the National Alpine Ski Team of the Ski Association of Japan for the Disabled

In August 2015, the KYB Group became the official sponsor and official supplier of the National Alpine Ski Team of the Ski Association of Japan for the Disabled. We accompanied the team to its training camp activities and World Cup events in various countries, and we have been directing our energies to support for product and technical development of a damper for the Japan team to use in chair skiing.

We also welcomed to KYB the athlete Takeshi Suzuki, gold medalist at the Sochi Paralympics. In addition to competing in all types of racing and working hard on training, he has been handling media affairs and doing public speaking.

The KYB Group is working enthusiastically on product development in preparation for the Pyeongchang Paralympics in 2018. With our aim on the gold, we are working as one with the athletes on efforts to improve products. As part of our future contribution to society, we will continue our active engagement in promoting athletics.

Champion skier Suzuki in competition



KYB dampers

**VOICE**

Aiming for successive championships at the Pyeongchang Paralympics

As a member of the Alpine Ski Team of the Ski Association of Japan for the Disabled, I am presently devoting myself to chair ski training and athletic activities.

In October last year, I visited the factory where the dampers for use on chair skis are assembled. I looked at the faces of the people making the dampers, and I received courage from them. In the future, I will be giving talks and handling media matters in order to promote the KYB brand as well as to do my best to make it possible to win successive championships at the Pyeongchang Paralympics, which are to be held in 2018.

<Profile>
1988 Born in Inawashiro-machi, Fukushima Prefecture
2014 Gold medalist in the Alpine sit ski slalom event at the Sochi Paralympics
2015 Joined KYB

Takeshi Suzuki
Public Relations Department, Corporate Planning Division

### World Solar Challenge 2015

The Bridgestone World Solar Challenge, the world's premier solar car race, is a competition for the best time over a 3,000-km course across the interior of the Australian continent. Held every two years, this was the 13th race, and there were 46 teams from 25 countries competing.

A request came from Tokai University, which won in 2009 and 2011, and took second place in 2013. This strong contender asked for, and KMS provided, a high-speed specification suspension based on a product for downhill bikes.

The Tokai University team made the most of cutting-edge technology in the attempt to win back its victor's crown, but regrettably finished in third place. Although this was unfortunate, the team also made progress and they feel well positioned for the next competition. We intend to continue providing them support in various ways.


Tokai University Team's solar car

### Higashihiroshima Environmental Fair 2015

We placed an exhibit at the environmental fair organized by Higashihiroshima City. On the day of the event, we put on a demonstration of reducing pruned branches and cuttings into chips, which we distributed to visitors at no charge. We explained that when the chips are spread in a yard, they prevent the growth of weeds and also eventually turn into compost. People were very happy to carry chips home with them. Young boys were fascinated, seeing it as a truck that eats trees, and there were some children who came to see our exhibit two days running. It was a very popular booth.

The Higashihiroshima Mayor, Deputy Mayor, City Council members, and other city executives made a very enthusiastic tour. Their comments indicated a very favorable attitude toward adopting the equipment.

Pruned branch shredder truck

### Top sponsor for J3 League team SC Sagamihara

KYB hopes to work through athletics to contribute to the revitalization of the Sagamihara region, where we have a plant, and so we became a sponsor for SC Sagamihara, a soccer team in the J3 League. Since 2012, we have supported the team by sponsoring to jersey and one of its official home games as the KYB Special Support Match.

For the 2016 season, the team welcomed Yoshikatsu Kawaguchi, a former Japan representative, as goalkeeper. Further team development is anticipated.

KYB employees are all united in their continuing support of SC Sagamihara into the future.

Yoshikatsu Kawaguchi joins the team.

All gather for a group portrait before the KYB Special Support Match.

### High school teachers tour the Sagami Plant

The Japan Auto Parts Industries Association (JAPIA) takes the position that the name recognition of leaders in the auto parts industry has to be improved in order to attract younger personnel to carry on skilled manufacturing in the Japan of the future. Therefore JAPIA promotes factory tours and exchanges of views with high school teachers. As a member of JAPIA, KYB invited industrial high school teachers to come for a tour of the Sagami Plant.

Teachers who took the tour shared their impressions: "It was brought home to me once again how necessary and important safety education is on the actual shop floor, and I also want to put this realization to work in the training we give in our classrooms and laboratories" and "It was a good opportunity to think about how we should teach these things in our classrooms in the future, including what safety education should be like, the environmental and energy problems of skilled manufacturing, and so on."

A scene of the factory tour

A group picture of the participating teachers

### Composting garbage

The volume of leftovers and garbage from the dining halls at the Gifu South Plant and Gifu East Plant are being reduced by the use of garbage disposal machines. However, we were disposing of the residue as general waste.

After some trial and error, we have learned to produce compost from the residue by mixing it with a fermentation accelerator and a certain proportion of weeds and plant trimmings from the plant campus. The mixture is put in a composting frame and allowed to ferment. The compost produced from this residue is applied to the green areas on the plant campus, where we have confirmed its effectiveness as fertilizer.

This initiative has allowed us to cut back on purchases of fertilizer and reduce the amount of general waste by four tons or more annually. We have also been sharing the compost with neighbors, which has been very popular.

Compost produced from garbage

### Contribution to monument memorializing historical kings of Thailand KST (Thailand)

Thailand has paid great reverence to its kings since ancient times. In 2014, a project to construct a monument to King Rama V was launched in the Phan Thong District. The monument was completed in October of that year.

King Rama V contributed to the modernization of Thailand, and the people's veneration is intended to bring corresponding good fortune and promote good social relationships. KST also contributed to the monument's construction. The pedestal is inscribed with the name of contributing corporations, and KST is among them.

In 2015, a monument to seven of the country's historical kings was built in Hua Hin in central Thailand. Figures 14 meters in height are a focus of worship, and as a symbol of the benevolence of the kings and Thailand's present-day prosperity, the monument creates public solidarity. KST contributed to construction of the monument together with other corporations located in the Amata Nakorn Industrial Estate. KST employees take great pride in the project.

Bronze figures of seven historical kings of Thailand constructed in Hua Hin

## For the Community

### Social Support Activities

#### KSS (Spain) supports a village of the Maasai tribe

Óscar Arroyo, a member of KSS, joined with colleagues from the company and fellow members of a Mt. Kilimanjaro summiting group to support a Maasai tribe village (called a boma) named Alkaria. They donated 1,000 euros for construction of a school and 400 euros for the purchase of livestock. They also donated medical supplies, children's slippers, and 110 kg of clothing.

The Alkaria village of the Maasai tribe is located in the Monduli District, and many residents are widows with children. In the face of AIDS, malaria, and other diseases, the children's survival rate is low, and when a dry period continues for half a year in their harsh environment, the livestock they depend on for their income will also die.

The municipality of Zizur Mayor in Spain, where Óscar Mayor lives, is home to a longstanding project to reach the summit of seven mountains of the world. The public talks given by the project to relate their mountain-climbing experiences occasioned a mention of this project to support the Maasai tribe near Mt. Kilimanjaro, and the story was taken up by a local newspaper.


Óscar Arroyo, cima en el Kilimanjaro y solidaridad con las viudas masai

Local newspaper
*Diario de Navarra*

#### 45th anniversary of the establishment of KYB Kanayama

An employee gratitude day was held to celebrate the 45th anniversary of our establishment.

In addition to employees and their families, former members, the Gero City Mayor, local residents, and suppliers in the area were invited. The number of guests at the event exceeded 600.

The event started with remarks by the Mayor of Gero City and former company presidents, followed by enjoyment of a water slide, goldfish scooping, and other attractions, including a popular song show, shows by performers, and so on. The wide range of enjoyable attractions included a fireworks show. There was much enjoyable reminiscing with former company members, and a very lively good time was had by all.


A view of the event venue

#### Environmental Conservation Organization of Sagamihara

The Environmental Conservation Organization of Sagamihara monitors changes in the environment every year through all four seasons in order to prevent pollution, protect the richness of nature, and create a comfortable environment. As a member of the organization, KYB participates in environmental conservation activities. In fiscal year 2015, these included a survey of riverine biota, observation of the endangered Aster kantoensis and other flood plain plants, and an inspection of enterprises that are advanced in environmental protection. We also received a certificate of commendation for KYB's achievements over many years.


Survey of riverine biota


Observation of the endangered Aster kantoensis and other flood plain plants


感謝状
KYB株式会社
相模工場殿
Certificate of commendation

#### Sponsor of Student Formula Japan competition

Student Formula Japan started in 2003. Members of the Sophia University car club, who were enthusiastic about starting up a competition, visited KYB to make a presentation, and that was when our support began. We reinstituted sponsorship in fiscal year 2015, and the Suspension Engineering Department also began providing technical cooperation and support to the Waseda University team.

Going forward, we intend to continue our technical cooperation and assistance activities to show our support for university students and their dreams.


Group photograph of the gathered participants

Waseda University race car

# With Employees

### Human resource utilization and work environment improvement in cooperation

#### Basic concept

We are engaged in priority initiatives for the development of global human resources, construction of a global platform, and promotion of diversity. These are steps we are taking in order to utilize our diverse human resources to best advantage and to maximize Group capabilities.

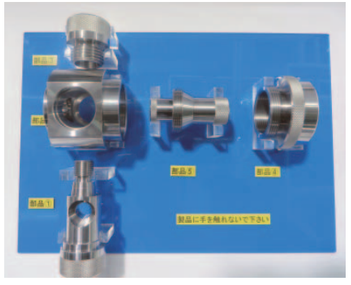
Specifically, we are pursuing investigation of themes such as the development of professional human resources, sharing values across the whole Group, strengthening the development of human resources for skilled manufacturing, promoting work-life balance, and managing psychological and physical health. These are to further the creation of a workplace environment that is easy to work in.

#### Entry in the International Vocational Training Competition

The National Skills Competition brings together people up to 23 years old to vie for the title of most skilled in Japan. The 2015 competition was held in Chiba Prefecture. Large numbers of young people entered the competition. The lathe operator category includes the most popular events, so this year a two-stage qualifying round was introduced, and about 50 contestants, which was one-half the number of applicants, appeared in the final event.
The two KYB members who entered from our Human Resource Training Center made it to the final competition.

The requirement in the main event was to fabricate five parts with part dimensions and assembly dimensions (15 locations) to a tolerance of ±0.02 mm. Our two members showed the results of their training and succeeded in fabricating the parts within the prescribed five hours.

The Human Resource Training Center will continue placing contestants in the International Vocational Training Competition both in order to develop the skills of our young technicians and to raise the level of machine work in the company.




#### Mental health

KYB held lecture meetings on mental health for the purpose of maintaining and improving the psychological health of employees. This time we invited Dr. Masahiko Saito, Chief Industrial Physician for Daido Steel Co., Ltd., to speak to supervisory personnel at our Gifu South Plant and Gifu North Plant. The lecture was titled "Mental Health Measures in the Workplace: Supervisory Personnel Duties and Practice." Dr. Saito spoke about trends in present-day society as well as his own actual experiences and related matters in a manner that mixed in humor so that members of the lecture audience enjoyed it greatly. One remarked, "It was easy to understand, and gave very useful pointers about having contact with subordinates and dealing with their issues."


Lecture at Gifu South Plant

**VOICE**

On being a contestant in the National Skills Competition


Ryota Amaike
Human Resource Training Center

By entering the National Skills Competition and taking on the challenge of extremely difficult problems, I was able to sharpen my skills and refine my inner resources. I also think that this experience ended up changing my own values. From this point on, I intend to make use of the lessons I learned here and engage actively in my work.


Yoshimasa Kagiya
Human Resource Training Center

It was my goal from high school to enter the National Skills Competition. Since joining the company, I have been training hard, and I'm extremely happy that I made it through the qualifying round to compete in the finals.

When the main event came, I trusted in my own skills and dealt with the competition, and it was disappointing that I didn't place among the winners. I'm going to do my best and aim to win in fiscal year 2016.

# With Employees

## Human resource development and technical capability improvement

### Global engineer training

We have been conducting global engineer training with the aim of upgrading skilled manufacturing capabilities at our production bases in other countries since 2006. This training is based on lectures in dialogue form, experiential exercises, and study tours of advanced plants, and is conducted on-site with actual equipment and materials for periods of two weeks to one month. After acquiring basic to applied techniques, trainees create proposals for improvements to their own bases and are assigned the implementation of those improvements on return to their countries.

We held three courses in fiscal year 2015, attended by 42 staff members from 15 of our bases. A new heat treatment course was added, and steps were taken to share knowhow with the aim of improving the technical capabilities of the bases.

We intend to continue conducting these training sessions in the future, and will promote strengthening of skilled manufacturing capabilities at our production bases in other countries.


Collected comments from training participants


Debating methods for confirming quality


Practical work on surface polishing

### KYB global production meeting

The KYB global production meeting for fiscal year 2015 was held over a three-day period from November 11 to 13. There were 49 participants from 23 overseas bases, and case presentations were followed by enthusiastic question-and-answer sessions.

On the first day, a KYB global improvement presentation session was held, and topics of improvement related to production and quality were presented from 12 bases. KMV won the top prize with its "New casting method for the FF* outer tube for an integrated line." We are making efforts to share information and issues related to safety, the environment, quality, and production at each production base, to raise the level at each base for each heading, and to continue our contributions to further growth in the future.

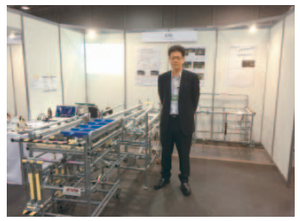
* FF: Front fork


Group photograph of participants

### Entry in the Karakuri Kaizen® Ingenious Solutions Exhibition

In October 2015, the Karakuri Kaizen® Ingenious Solutions Exhibition 2015 organized by the Japan Institute of Plant Maintenance was held at Port Messe Nagoya. KYB exhibited. The event brought together over 110 companies from every part of Japan to exhibit and introduce the "karakuri" automaton-like mechanisms they create. The exhibited mechanisms numbered 300 or more.

The exhibit from KYB was a parts conveyor device that the Gifu North Plant introduced to its strut assembly line. This included a cart that supplies parts and recovers empty cartons in a single trip together with a device that automatically feeds one part at a time to where a worker can pick it up then transports the assembly to the next process. This device does not use electricity, instead working only with compressed air and the automaton-like mechanisms known as "karakuri" in a manner that is safe and environmentally friendly. Although the KYB exhibit booth was small, therefore, this ingenious mechanism proved so popular that we ran out of prepared handout materials.


The booth exhibiting our "karakuri" mechanism

**VOICE**

On participating with a display in the Karakuri Kaizen® Ingenious Solutions Exhibition

This was the first time that KYB had an exhibit here, so it was one puzzling issue after another. We exhibited an automaton-like karakuri chute that we use in our workplace, but exhibiting involved unaccustomed preparation for transporting and installing the chute and creating explanatory materials, so it was a huge challenge. Many people came to see our exhibit, and I got so caught up in explaining the device that I would even forget to eat. What made an impression on me was the high level of the karakuri mechanisms shown by other companies, and the exchanges we had with the departments that actually implement them.

Katsunori Shibata
SA Fabrication Department, Gifu North Plant

### LT50 Activity

"LT50 Activity" is an activity to reduce manufacturing lead time by 50%. This includes not just methods of production, but also procurement of parts, transportation to customers, and improvement of operational efficiency. As the various departments move forward with LT50 activities, the effect is to contribute to reduced unit cost, improved quality, environmental conservation and even safety. We are treating this as an activity of the KYB Group as a whole, and therefore deploying it globally to bases in other countries, not just to affiliates in Japan.

**Improvement Case 1**

#### Activity to eliminate transportation waste by changing the packaging and the storage capacity

**Before improvement**

The packaging was large and placed directly on the floor, so implementing first-in first-out required frequent use of forklifts to rearrange packages. This was wasted work. Working with forklifts required larger spaces and fuel.

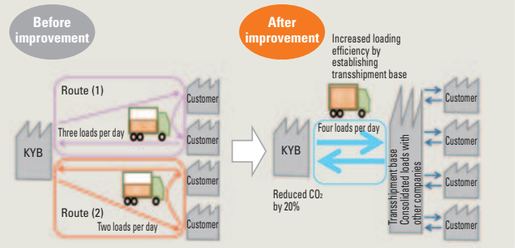
**After improvement**

The storage capacity was reassessed and the packaging was made smaller. This made it possible to transport the items by conveyor and it was no longer necessary to use a forklift to arrange for first-in first-out handling of parts. The same packaging was also used for pre-assembly items and completely assembled items. This made it possible to transport empty and loaded containers together for delivery and exchange, reducing wasteful transportation use and achieving a reduction in $CO_2$ emissions.

**Improvement Case 2**

#### Enshu District: Development of a main transportation route

We were transporting goods requiring five truck trips every day to customers in the Enshu district, about 130 km away from the Gifu South Plant (three loads by Route (1), two loads by Route (2)). We increased our loading efficiency by establishing a transshipment base closer to the customers, making it possible to eliminate one of the truck trips. This also secured time for transshipment so that we were able to consolidate loads with other companies, thereby maintaining our supply lead time while reducing $CO_2$ by 20% compared to before.




## Employee communications

### Cycling Sports Club

In the Cycling Sports Club we have about 50 members across a wide range of ages, from their 20s to their 50s. We enjoy cycling and competing in mountain biking and road racing.

The road racing members are training hard with the aim of winning the Shimano Suzuka Road Race. This is the largest amateur race in Japan, held in the summer at the Suzuka circuit. On weekends we arrange our timing to work out at places in Gifu Prefecture where the traffic is light, so the top priority is safety. The members also have a wide range of ability, and that difference shows more on steep roads and other difficult places. If any members who get delayed along the way run into trouble, we always help each other out. That has been handed down from preceding members of the club as one of the rules that build relationships of trust among members. Even when the going is tough, we all face the uphill slopes together, calling out to each other in encouragement, and the bonds that form then are the strength of the Cycling Sports Club.

We showed the bonds we cultivate in our regular practice when we took part in the two-hour endurance event in the Shimano Suzuka Road Race in August 2015, and we won a team victory. We hope to strengthen our bonds even more with our eyes on Suzuka in 2016.


At the races


Award ceremony

# With Employees

## 8th KYB Robot Contest held in 2015

The Robot Contest was held at the Gifu East Plant on November 14, 2015. The challenge problem this time was golf again, as in 2014. A total of 26 teams competed, with 17 from Japan and 9 from other countries, more than ever before. Spectators and participants together amounted to around 600 people, making it the greatest event so far in that respect, as well. The victory went to Takako's Rotary Pistons.

The level of robot competition rises every year. This is an event that gives a tangible sense of evolution in skilled manufacturing by KYB.

The robot entered by the winning team, the Rotary Pistons

Victorious members from Takako

**VOICE**

### About winning the robot contest

It was my fond hope to compete in a robot contest, and now I've won it. The previous year we came in last, so the team was united in single-minded determination: "This time we're gong to win, no matter what!" We put together our knowhow and our technology, reviewed what happened the year before, and built our robot on the concept of compactness and light weight. We also changed our team name from the Tanukeez to the Rotary Pistons, and that was our name when we signed up for the contest. Now we've been able to win the contest, and that is a great encouragement to us in our everyday work, as well. We will aim to win again next time, and we hope we can contribute to raising the level of the KYB Group's technical capabilities.

Kohei Doi
Team Leader
Development Department,
Takako Industries

## Celebrating the 80th anniversary of founding

We held a variety of special events to celebrate the 80th anniversary of our founding.

### (1) Commemorative ceremony

A commemorative ceremony to mark the 80th anniversary of the company founding was held at the KYB head office on March 10, 2015. Then Representative Director and President Executive Officer Usui (now Representative Director and Chairman) delivered a heart-felt speech of gratitude for the 80 years and of commitment to dramatic advance toward the future, and Chairman Asahi of the KYB Labor Union gave a congratulatory address to celebrate the 80th anniversary of the founding.

### (2) Ikkokudo family show

A family show was put on by the popular ventriloquist Ikkokudo in the Gifu and Kanto regions. Attendance at the two venues combined rose to 3,000 or more.

The Ikkokudo family show
(ventriloquist Ikkokudo)

The Ikkokudo family show
(audience is participating in a rock-paper-scissors game)

### (3) 80th anniversary commemorative 14th company-wide sports and culture interactive event

This time we held an expanded version of this event to commemorate the 80th anniversary of KYB's founding. There were 1,072 contestants in a total of 11 categories of competition. At the opening ceremony, participating teams from all the countries involved performed songs and dances marked by enthusiastic reunions with cohort members and friends. Teams from other countries were the main players in the futsal (five-player indoor football) games, and though the Thai team was aiming to seize an upset win, the Spain team blocked their attempt and achieved victory again this year.

**Venues:** Gifu region (Hana Festa Memorial Park, KYB Stadium, etc.)
**Games:** Softball, soft volleyball, futsal, bowling, tennis (played with regulation ball), table tennis, golf, tricycle endurance race, mini athletic meet, rambling, photo contest

### (4) Production and distribution of KYB 80-year history

We published a KYB 80-year retrospective of the history of KYB, combined with a look toward the centennial of KYB's founding.

### (5) New KYB Gallery set up

A special corner for exhibiting products was set up in the Gifu North Plant.

The main products of the KYB Group are exhibited here, and product explanations and other information are given by means of tablet computers and dioramas.

# Creation of Safe and Comfortable Workplaces

## Aiming for zero industrial accidents

With "Safety Takes Priority Over Everything" as our slogan, all the KYB companies have been working as one on safety activities since fiscal year 2012. An Environment and Safety Committee has been established as a company-wide organization chaired by the Executive Officer for Environment and Safety, and this is a focus for specific activities carried on at each KYB business establishment by its Safety and Health Committee. In fiscal year 2015, we adopted a slogan of "Eliminate the Three Main Industrial Accidents" and pursued industrial accident prevention as our principal initiative. The industrial accidents that happened most often involved being caught in machinery, and we promoted the installation of appropriate safety covers on equipment and other preventive mechanisms for being caught in machinery. As a result, we have achieved a reduction of exactly 50% in the number of industrial accidents in fiscal year 2015 compared to fiscal year 2014. We still have much to do before we reach the target of zero, and we are committed to continuing these activities in order to move toward zero industrial accidents in the future.



Install two-handed switches as a countermeasure to being caught in machinery

## Lecture on motorcycle driving safety at KMSB (Malaysia)

This driving safety lecture was oriented toward employees who commute to work at KMSB on motorcycles. It teaches proper traffic manners and safe driving techniques, and it is held for the purpose of preventing traffic accidents. An officer on the police motorcycle force was invited to give the lecture, and in addition to explaining the circumstances in which traffic accidents occur in Malaysia, he also gave guidance on safe driving techniques using an actual motorcycle. People who completed the course were supplied vests with reflective strips for better visibility, together with the obligation to wear the vests, as a further step toward assuring safety.

Scene from the driving safety lecture

Instruction using actual motorcycles

## Gateway to safety erected

As we see it, the number one way to assure safety is to transform employee awareness of the issue and to act always with a sense of urgent alertness. This awareness is something that has to be built up by each individual employee. We at KYB consider this building of awareness to be one of the most important issues we face. Our main activity in fiscal year 2015 was to erect a "gateway to safety" at the entrance to each of our business establishments. These gates represent entryways to safety, and they heighten employee awareness by reminding them, every time they pass through the gate, to maintain a sense of urgent alertness in what they do.

Gateway to safety erected at the Gifu North Plant

## Expanding the "Po·Ke·Te·Na·Shi" program

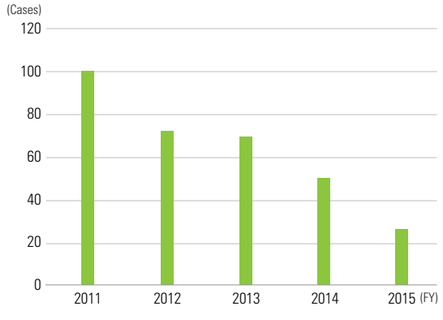
Every year several industrial accidents occur when people are walking or going up or down stairs. Almost all of these occurred because people neglected to check their safety while walking. We are conducting a safety campaign in the KYB Group with the Japanese word "Po·Ke·Te·Na·Shi" as the slogan. This has yielded a significant decline in falling down while walking, coming in contact with objects or machinery, and accidents on stairs.

A "Poketenashi" banner flying at the Sagami Plant

**The "Po·Ke·Te·Na·Shi" slogan is a Japanese mnemonic**

Po: Don't walk with hands in pockets.
Ke: Don't walk while using your mobile phone.
Te: Use handrails when going up and down stairs.
Na: Don't cross streets slantwise.
Shi: Use the finger pointing and naming technique.

### Numbers of industrial accidents



Management Report

# Corporate Management

## Corporate governance

### Principles

We are committed to fulfilling our corporate social responsibility as to contribution to society as well as to meeting shareholders' expectations by realizing sustainable and stable growth and increasing corporate value, and to that end we pursue a quick and efficient management structure, a highly fair and transparent management supervisory function, and continuous effort to strengthen and enhance our corporate governance by our corporate philosophy and the basic policies given below.

**<Basic Policies>**

1. We shall respect the rights of shareholders, and ensure the equal and fair treatment of all shareholders.
2. We shall take the benefits of shareholders and other stakeholders into consideration and endeavor to appropriately cooperate with those stakeholders.
3. We shall not only engage in information disclosure that is in compliance with the relevant laws and regulations, but shall also actively provide important or useful information to stakeholders for their well-informed decision making.
4. The Board of Directors shall be cognizant of its fiduciary responsibility and accountability to shareholders, and shall appropriately fulfill its roles and responsibilities in order to promote sustainable and stable corporate growth and increase corporate value, profitability, and capital efficiency.
5. We shall engage in constructive dialogue with shareholders, and make efforts to obtain shareholders' support regarding the Company's Business Policies while also incorporating shareholders' opinions and concerns in our efforts to improve management.

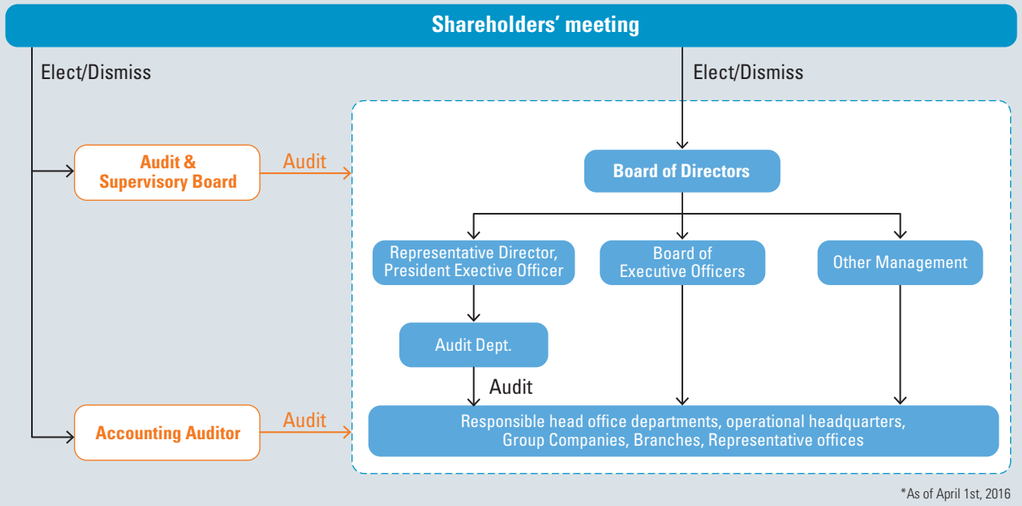
### Corporate governance system

We have adopted the executive officers system aiming at accelerating decision-making and improving business efficiency.

"The Board of Directors", which consists of seven people, including one outside director, is held once a month in principle. This Board of Directors is regarded as a body for decision-making about critical matters related to corporate management such as company policies and monitoring to management practices, in addition to the functions defined by laws and regulations.

Accompanied with the introduction of the executive officers system, The Board of Executive Officers in charge of deliberating important matters concerning management backbone, "Management Conference by Affiliated Companies in Japan" in charge of deliberating important matters concerning management practices of Japanese affiliated companies and "Global Strategy Committee" in charge of deliberating important matters concerning important matters concerning management practices of overseas affiliated companies, have been established. There are also other committees for the enhancement of the monitoring system for KYB Group management, such as "Operations Review with President Nakajima" where the president himself grasps business challenges including the quality problems of each product on site in the plants and the worksites and follows up on them.

**Corporate governance structure**




*As of April 1st, 2016

## Internal control

Corporate governance functions effectively on the premise of ensuring the reliability of financial reports, increase of work efficiency and compliance. In order to promote them, we consider that it is absolutely essential to focus on the development of an internal control system and the enhancement of internal control capability.

For example, we have resolved the fundamental policy of internal control system at the board of directors in accordance with the Companies Act, and are promoting several measures such as the development of risk control system, group management system, internal compliance system, etc.

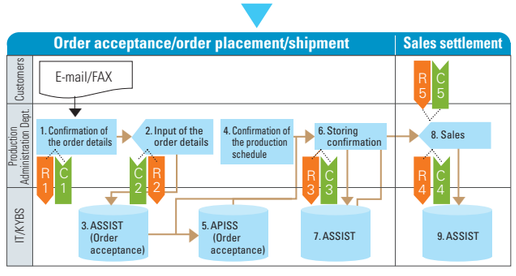
Also under the Financial Instruments and Exchange Act, we operate the development and the management assessment of "Internal Control Over Financial Reporting" by following the procedure specified in the act to secure the reliability of the financial reports, as well as ensuring appropriate information disclosure.

### Self-managing by "visualization"

KYB has applied Internal Control Over Financial Reporting pursuant to the Financial Instruments and Exchange Act since April 2008, whereby we promote the schematic expression and evaluation of operations that affect our financial statements. Our business procedures and rules are defined in the company regulations and instructions, and by representing the flow of business operations in more schematic form, we enable their visualization so that operations that were only understood by the people in charge of them could be made understandable to others. This visualization also makes apparent where business risks exist, and we have incorporated this as a scheme for self-management to determine how well the checking function that is supposed to reduce risk is operating.

**Flow chart of work operation (example)**

| Operation | |
|---|---|
| No. Title | Description |
| 1 Confirmation of the order details | The person in charge checks up if there is any error with item number, delivery time and quantity. |
| 2 Input of the order details | Input the order details according to its contents already confirmed |
| 3 Order acceptance system | * Handle using the sales management system |
| 4 Confirmation of the production schedule | The person in charge confirms the production schedule required by customers |
| 5 Production control system | * Handle using the production information control system |
| 6 Storing confirmation | Confirm the storing contents after the part arrives from supplier |
| 7 Shipping system | * Receive the shipment data |
| 8 Sales | The person in charge accesses the system and records the sales |
| 9 Sales system | * Tally the sales results |




## Compliance

We regard "the compliance" not only as "the adherence to laws, orders and rules", but also as to "company contracts, company rules and agreements, etc", associated with our business activities, furthermore, to "the corporate ethics" for the promotion of healthy business activities.

1. As the rule for the execution of business activities by directors and employees, we have developed Corporate Guiding Principle and are focusing on the establishment of legal compliance and corporate ethics.
2. We are implementing the compliance education through training sessions by job titles and sections, including directors.
3. We have prepared the whistle-blowing system (Instant Report and suggestion box) covering all companies of the KYB Group. Besides, we have exclusive contact points to accept whistle-blowing and consultation in accordance with the Whistle-Blower Protection Act.
4. We have set the policy of protection of personal information and data the company rules, developed the company rules and established the internal committee. We also have the contact desk to respond inquiries from outside of the company.
5. There has been a high demand for company's initiatives for elimination of anti-social power or groups. The KYB Group is working on this matter by confirming in writing that our suppliers have no relationship with anti-social power or groups, in case we need to terminate a contract as we know they do.

**TOPICS**

### Compliance education by e-learning

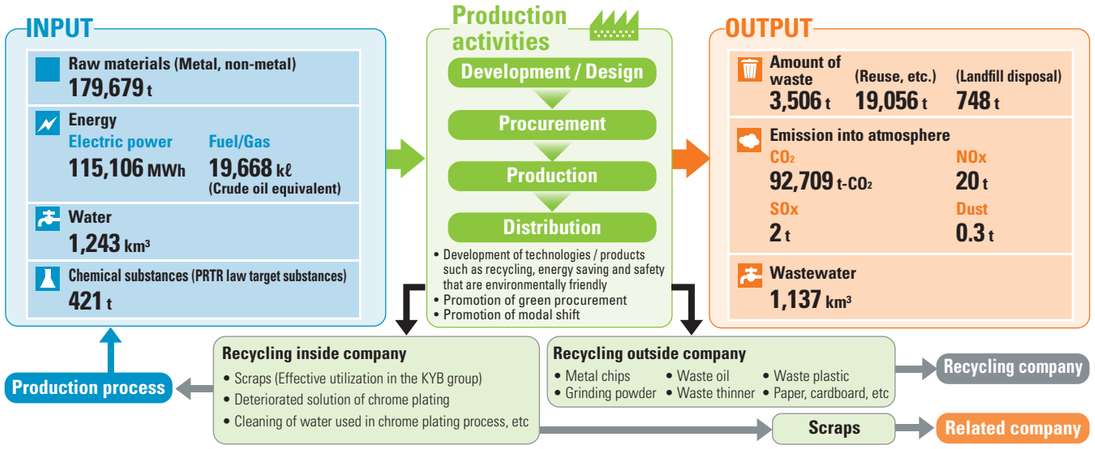
In light of globalization, we are implementing education (e-learning) on antimonopoly law for employees of the KYB Group working in Japan and other countries. We are implementing this program globally in nine languages, and our purpose is to have our employees deepen their basic understanding of antimonopoly law in Japan, the United States, Canada, the EU countries, China, and so on, and to realize anew the importance of compliance with antimonopoly law.

# Environmental data compilation

## Influence on environment associated with business activities

KYB uses energy, water, chemicals, and other such diverse resources. In order to make efficient use of limited resources in production, we take steps to reduce waste, $CO_2$, and other emissions.

### INPUT / OUTPUT




### State of ISO14001 certification acquisition

In order to develop our actions for environment preservation systematically, we are carrying out the introduction and the promotion of ISO14001 environmental management system.

#### Japan

| KYB | Certification registered year |
|---|---|
| Gifu South Plant (Including Gifu East plant, Production Technology R&D Center, Machining Tool Center, KMS) | 2000.2 |
| Sagami plant (Including the Basic Technology R&D Center, the Electronic Engineering Center) | 2000.12 |
| Kumagaya Plant | 2000.12 |
| Gifu North Plant (Including KYB Kanayama) | 2001.12 |
| **Affiliated companies in Japan** | **Certification registered year** |
| KSM Mie Plant | 2000.12 |
| Takako Industries, Inc. (Shiga Plant) | 2003.2 |
| KYB-YS | 2004.4 |
| KYB Trondule Co., Ltd. | 2008.11 |

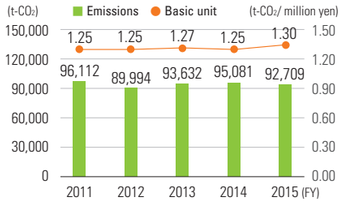
#### Overseas

| Company name | Certification registered year |
|---|---|
| KMT (Taiwan) | 2001.6 |
| KSS (Spain) | 2001.6 |
| KYBSE (Spain) | 2001.12 |
| KAC (United States) | 2002.5 |
| KYBT (Thailand) | 2003.7 |
| KST (Thailand) | 2003.8 |
| PT.KYBI (Indonesia) | 2004.11 |
| KMSB (Malaysia) | 2005.5 |
| KSMSB (Malaysia) | 2005.5 |

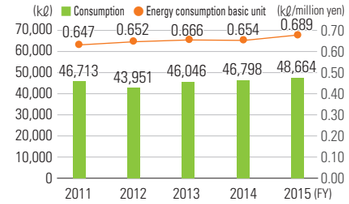
| Company name | Certification registered year |
|---|---|
| TVC (Vietnam) | 2007.1 |
| KMB (Brazil) | 2007.3 |
| KIMZ (China) | 2009.4 |
| KMCZ (Czech Republic) | 2009.8 |
| KLRC (China) | 2010.1 |
| KWT (China) | 2013.11 |
| TAC (United States) | 2013.2 |
| KMV (Vietnam) | 2013.5 |
| KAMS (Spain) | 2015.6 |

## Environment-related Data

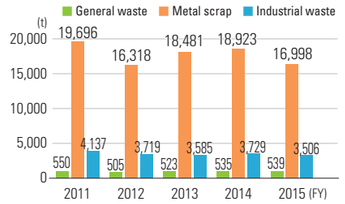
### $CO_2$ emissions



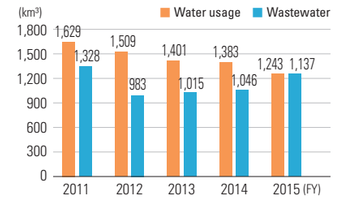

### Energy consumption



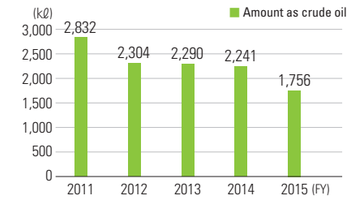

### Waste emissions volume




### Water usage/ Wastewater




### Energy consumption for transportation




## Environmental preservation cost

The amounts of investment and cost were separately calculated with reference to the Environmental Accounting Guidelines, 2005, presented by the Ministry of Environment.

Unit: million yen

| Cost type | | Major contents | Invested amount | Cost |
|---|---|---|---|---|
| (1) Cost within business area | (1)-1 Pollution prevention cost | • Atmospheric pollution and water pollution prevention activities<br>• Maintenance and inspection of pollution prevention facilities<br>• Analysis and measurement of atmosphere and water quality | 221.6 | 134.2 |
| | (1)-2 Earth's environment preservation cost | • Energy conversion<br>• Energy saving activities | 19.9 | 31.3 |
| | (1)-3 Resource circulation cost | • Recycling of plant wastes<br>• Reduction of industrial wastes | 177.0 | 195.0 |
| (2) Upstream/ downstream cost | | | 0 | 0 |
| (3) Management activity cost | | • Maintenance and periodic/ renewal screening of ISO14001<br>• Surveillance of impacts on environment | 1.4 | 66.3 |
| (4) R&D cost | | • Environment-friendly product development<br>• Light-weight products and products containing less hazardous chemical substances | 120.0 | 94.8 |
| (5) Social activity cost | | • Support of non-profit environmental protection<br>• Afforestation and maintenance of scenery surrounding plant | 0.2 | 9.5 |
| (6) Environmental remediation cost | | | 0.0 | 0.0 |
| (7) Other cost | | • Internal environmental conservation<br>• Welfare conservation | 0.0 | 119.4 |
| | | **Total** | **540.1** | **650.5** |
| | | **Grand total** | **1,190.6** | |

Categories and definitions of environmental preservation costs
[ Invested amount ] Expense for the purpose of environmental preservation during the target period with effect that continues for a number of terms and cost running for those periods. (Amount acquired during the current term of the depreciable asset)
[ Cost ] Cost or loss generated from expenditure of finance/service for the purpose of environmental preservation.

## Editorial Policy

We compile this report with reference to environmental reporting guidelines so that information regarding our business operations as relating to the environment and society can be conveyed to our stakeholders in readily understandable form. In addition to articles about the 80th anniversary of KYB, which is an important juncture, the fiscal year 2016 edition also introduces numerous specific cases of new environmentally-friendly technology, energy-saving programs, collaboration with local communities, and other such activities.

We will try to edit our reports to make them easier to understand. Therefore, our stakeholders' candid opinions will be much appreciated. The content of this report has been posted on our website, so please take a look.

http://www.kyb.co.jp/company/csr.html

**● Period covered**

From April 2015 to March 2016
(A part of our activities and reports outside of the period are also posted.)

**● Scope**

From April 2015 to March 2016
KYB Corporation and the affiliated companies inside and outside of Japan are included. Regarding environmental data, that of KYB Corporation (Sagami plant, Kumagaya Plant, Gifu North plant, Gifu South plant and Gifu East plant) is shown unless otherwise annotated.

**● Time of publication**

June 2016 (The next report is scheduled to be published in June 2017, with the previous one published in June 2015.)

**● Referenced guidelines**

- This report was drafted and edited using the Ministry of the Environment "Environmental Reporting Guidelines 2012"

**● Notes related to future prospects**

This report includes our plans and prospects as of the issued date, and future prospects based on our business plans and business policies. We evaluate these future prospects based on information obtained when the report is drafted and thus the prospects may differ depending on changes in various conditions. We appreciate your understanding of the statement above.