



Our Precision, Your Advantage

Environmental and Social Report

# 2013

A society of smiles through manufacturing



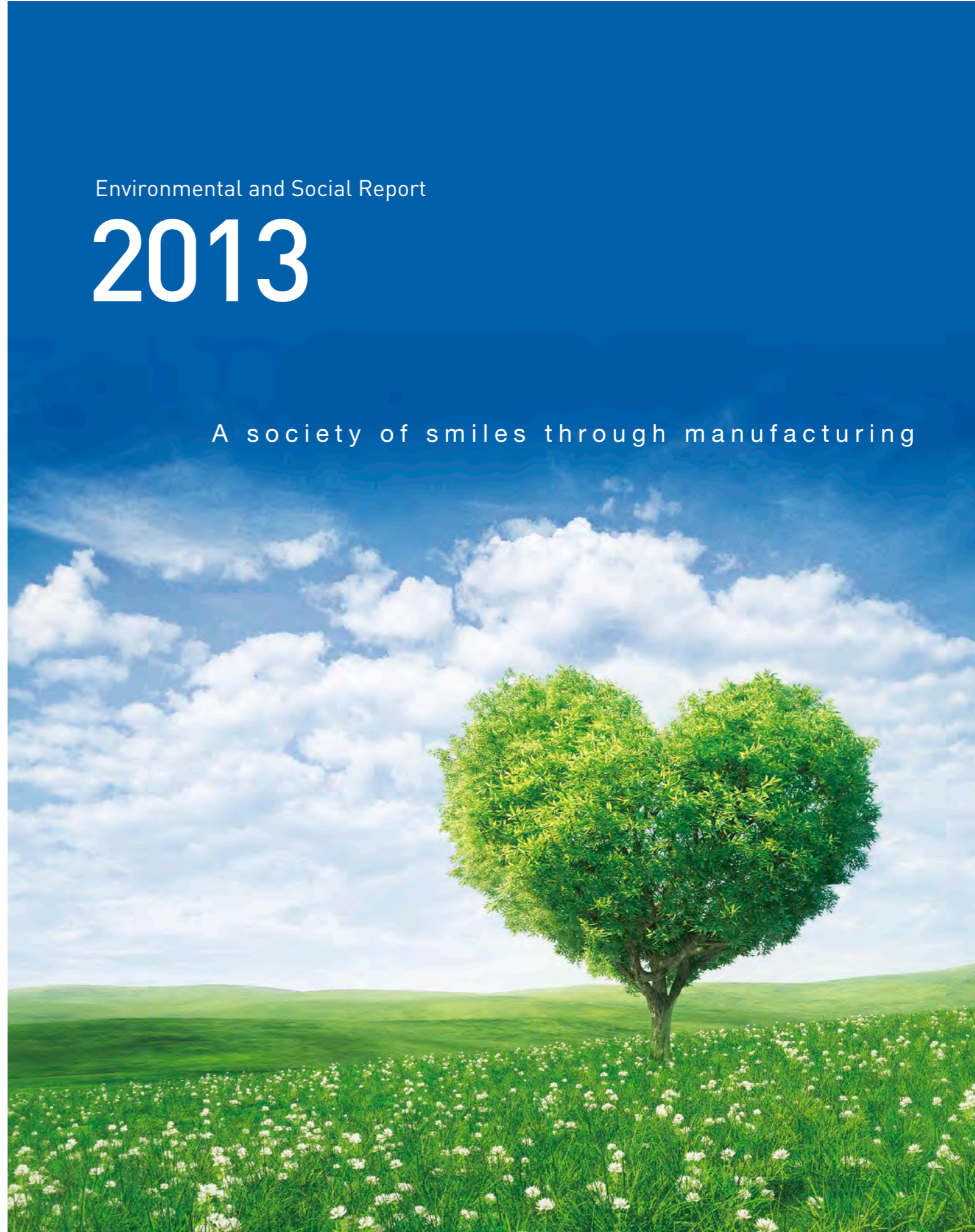
Our Precision, Your Advantage

URL: [www.kyb.co.jp](http://www.kyb.co.jp)

## KYB Corporation

Environment & Safety Control Department

World Trade Center Bldg. 4-1, Hamamatsu-cho 2-chome Minato-ku,  
Tokyo 105-6111 Japan  
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## Company Overview

Company Name	: KYB Corporation (official corporate name: Kayaba Industry Co., Ltd.)
Founded	: Kayaba Research Center, November 19, 1919
Established	: Kayaba Manufacturing Co., Ltd. March 10, 1935
Incorporated	: November 25, 1948
Head Office	: World Trade Center Bldg., 2-4-1, Hamamatsu-cho, Minato-ku, Tokyo 105-6111, Japan
Chief Representative	: Representative Director, President Masao Usui
Capital	: ¥19,113,680,000 (As of March 31, 2013)
Plants	: Sagami, Kumagaya, Gifu North, Gifu South, Gifu East
Laboratories	: Basic Technology R&D Center, Production Technology R&D Center

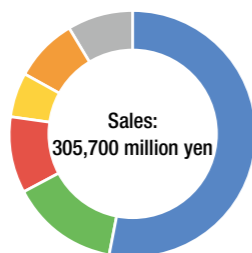
## Affiliated Company Production Bases

<b>Japan</b>	Kayaba System Machinery Co., Ltd. KYB Kanayama Co., Ltd. KYB-CADAC Co., Ltd. TAKAKO Industries, Inc. KYB Trondule Co., Ltd. KYB-YS Co., Ltd.
<b>Overseas</b>	KYB Americas Corporation TSW Products Co., Inc. KYB-Mando do Brasil Fabricante de Autopeças S.A. KYB Advanced Manufacturing Spain S.A. KYB Suspensions Europe, S.A. KYB Steering Spain, S.A. KYB Manufacturing Czech, s.r.o. KYB Industrial Machinery (Zhenjiang) Ltd. KYB Hydraulics Industry (Zhenjiang) Ltd. Wuxi KYB Top Absorber Co., Ltd. Changzhou KYB Leadrun Vibration Reduction Technology Co., Ltd. KYB (Thailand) Co., Ltd. KYB Steering (Thailand) Co., Ltd. KYB-UMW Malaysia Sdn.Bhd. KYB-UMW Steering Malaysia Sdn.Bhd. P.T. Kayaba Indonesia KYB Manufacturing Vietnam Co., Ltd. TAKAKO VIETNAM Co., Ltd. KYB Manufacturing Taiwan Co., Ltd.

## Sales by Region (Fiscal 2012) [Consolidated]

Sales: 305,700 million yen

● Japan	53.1% (162,300 million yen)
● Europe	14.2% (43,600 million yen)
● America	10.0% (30,600 million yen)
● China	5.9% (17,900 million yen)
● Southeast Asia	8.4% (25,600 million yen)
● Others	8.4% (25,700 million yen)



## 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

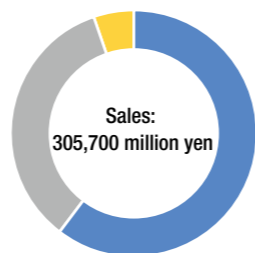
### Others (Special-purpose vehicles and other products)

Concrete mixer trucks, granule carriers, special-purpose vehicles, simulators, hydraulic systems, stage mechanisms, marine equipment, tunnel boring machines, environmental devices, earthquake-resistant and vibration insulation dampers, electronic control systems

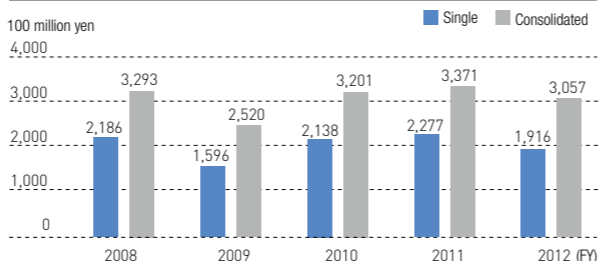
## Sales by Segment (Fiscal 2012) [Consolidated]

Sales: 305,700 million yen

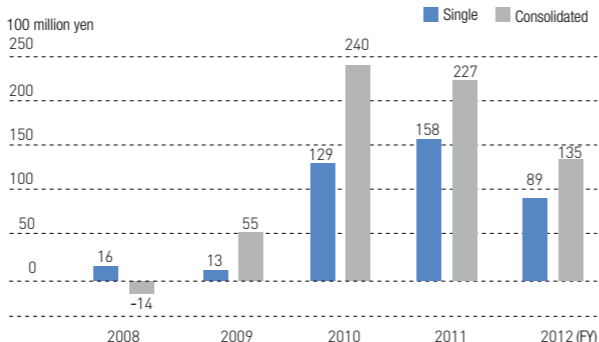
● AC operations	60.4% (184,800 million yen)
● HC operations	34.4% (105,100 million yen)
● Others	5.1% (15,800 million yen)



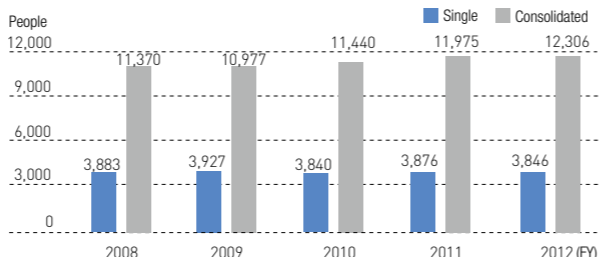
## Shift in Sales



## Shift in Working Profit



## Shift in Employees



## Editorial Policy

The KYB Group prepares this report for the purpose of making all stakeholders understand easily how we do our business duty for the environmental and social issues in our business activities.

In 2013 edition, we focus on new KYB technologies, LT50 activities<sup>\*1</sup> and human asset development<sup>\*2</sup> as the highlights of the KYB Group activities, and introduce them as the feature articles.

Also, we introduce our efforts as the KYB Group that has bases all over the world in all over pages. In the article "Globally Expanding KYB Group", you could see the activities carried out by each overseas company altogether.

Moreover, in order to send the messages from the employees of the KYB Group directly, we introduce their steady, but very important activities in the article "INSIDE" in their own words.

In the KYB Group, this report is also utilized as an internal communication tool to promote environmental and social activities.

\*1: Activity to halve the lead time required from material procurement through product delivery to the customers

\*2: At KYB we consider human resources as company assets and prefer to call them "human assets"

## Period covered

From April 2012 to March 2013 (Including the contents partially out of this period)

## Compilation range

KYB Corporation and the affiliated companies inside and outside of Japan are an object. Regarding each environmental data, it shows the data of 5 plants in Japan (Sagami plant, Kumagaya Plant, Gifu North plant, Gifu South plant and Gifu East plant) unless otherwise annotated.

## Time of publication

July 2013 (Next one is scheduled to be published in July 2014, previous one published in July 2012)

## Referenced guidelines

This report was edited and published referring to the following guidelines:  
- "Environmental Reporting Guidelines" by Ministry of the Environment  
- GRI (Global Reporting Initiative)

This Environmental and Social Report is also available on the website.  
<http://www.kyb.co.jp>

## Third-party audit

Regarding the Environmental and Social Report 2013 prepared on the responsibility of KYB Corporation, we hereby certify that the environmental performance values, other environmental data and descriptions included in the report were properly collected, tallied and released and there was no important item to revise.

Hidehiko Obata  
ISO14001 judge  
KYB Systemerit Co., Ltd.



## About the design of cover page

The KYB Group has adopted a business strategy to cherish nature and care for the environment. On the cover page of 2013 edition, the people's thought and the symbiosis of the society and the environment to realize a lasting society are expressed by the one tree standing in the middle of Mother Nature.

We hope, this becomes a chance, for you who read this report, to ask yourself what to do to protect the beautiful environment and move to act.

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~ Seismic retrofitting of the Marunouchi side of Tokyo Station ~

**Provide better feeling to riders through the weight saving by 10%**

~ Development and productization of PSF ~

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## Improvement of Technological Capabilities and Human Asset to Support Monozukuri Company

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# Utilizing the power of the KYB Group to and the development of society as a



Masao Usui  
KYB Corporation  
Representative Director, President

*Masao Usui*

**Q** What are your impressions when looking back over the 2012 fiscal year company performance?

**A** It was a year of which our performance was greatly affected by the delay in the economic recovery and the boycott of Japanese products in Chinese markets.

The Consolidated sales for the KYB Group in the 2012 fiscal year was 305.7 billion yen, which is below the 335.0 billion yen target set at the beginning of the period due to the affects of the decrease in Chinese economy. Current profit was 13.5 billion yen, which is below our target of 17.5 billion yen.

In the automotive components operations, we almost achieved the target. In the hydraulic components operations, we failed to achieve the target, due to the delay in the construction machinery market recovery and the boycott of Japanese products in China. In the special-purpose vehicles operations, we achieved the target through Tohoku reconstruction needs and replacement needs.

It is indispensable to enhance our management practices to deal with demand fluctuation in order to meet the demands of stakeholders in the future.

Therefore, we have promoted activities including maintenance of the system for global product development, LT50 activity that aims to halve the lead time required from material procurement through product delivery to the customers, improvement of efficiency for on-sight procurement, and manufacturing of products within the KYB group.

**Q** The 2013 fiscal year is the final year of the current mid-term management plan (2011-2013). Please tell us about the important pillars of this year.

**A** In the 2012 fiscal year, we concentrated on the implementation of strengthening the development system and the maintenance of the production system on a global level, placing the year as a year to reinforce the foundation for growth and development from the 2013 fiscal year. The 2013 fiscal year is a year in which we start strengthening the system and the growth strategy for the next mid-term target.

On a global level, we constructed a timely development system for customers through the maintenance of the development system by the introduction of product evaluation equipments (America), and the

# materialize a high growth sustainable company.

increase of personnel who engages in the development (China/Thailand).

On a domestic level, we constructed a production line to increase the production of extra-large cylinders at the Gifu South Plant, and gathered the production lines for medium-sized cylinders at the Gifu East Plant. Also, we constructed a new plant in KYB-YS, and in these three cylinder plants, we realized the improvement of the productivity by rectifying production line flow, with a major reduction of industrial wastes through the introduction of volume reduction equipment for waste fluid and the recycling of plating wastewater. And, we have been implementing activities to reduce environmental burdens alongside the maintenance of the production system.

In KYB-CADAC, we launched a new plant, aiming to become a "world No.1 monoblock valve casting plant", and we will not only improve productivity, but also materialize a clean plant that is free of smoke, odious smell, steel chips on the floor and sand spillage.

Regarding the production system of the vane pump for transmission CVT for vehicles, we are constructing new plants in Thailand and Mexico in addition to China and Japan, whose operation will be starting from the 2013 fiscal year, in order to keep up with overseas expansion by customers.

Furthermore, we newly established a manufacturing and sales company of special purpose vehicles and motorcycle parts in India. Although the economic growth of India is slowing down at the moment, we judged that, for the growth of our company, it is necessary to advance into the Indian market where high economic growth is expected in the medium and long term.

**Q** KYB declared to give priority to all aspects of safety in the 2012 fiscal year. Please explain the activity situations.

**A** We established safety experience DOJO in bases both in Japan and overseas, and prepared the facilities in which people can experience simulation. We have been pursuing the education for safety by explaining dangerous points to workers and having them experience hazardous situations.

As a result of implementing improvements focused especially on thrashing out dangerous sources that exist in work, the number of industrial accidents is decreasing. However, it is not yet "zero". While the improvements are plain homespun activities, thanks to these activities, employees' knowledge of safety has increased, and the workplaces are becoming places with the sense of tension.

We will continue these measures this year.

**Q** Finally, please tell us about the roles that the KYB group will play in the 2013 fiscal year.

**A** Not only do we have high growth in our business mission, we will contribute to the development of society through the creation of eco-friendly products, adherence to compliance, Jinzai training, etc. as a sustainable company.

Jinzai<sup>1)</sup> are the most important factor in order to become a sustainable company. It is important to ensure that our work environments are employee-friendly, regardless of sex, nationality and disability. In order to realize this, it is important for our company to enhance the education program and to create a place for the KYB group members to communicate with each other, as well as, to adhere to compliance.

The themes of the 2013 fiscal year company policy are "achieving a comeback to reach the current medium-term targets and strengthen our operations" and "taking on challenges to set the stage for growth in our next medium-term plan". These themes are also targeted at raising awareness and a change in the way of thinking of employees as our challenge for the growth. In order to achieve these, we need to change our current company system to one that is strong against variables by resisting any kind of risks. And, we consider that the employees who realize these goals are the assets of the KYB group and the strength of the KYB group.

Regarding environmental problems, the KYB group aims at becoming a company where the awareness and actions of employees come in forms within the KYB group as every environmental measure, and moreover, as these spread to the whole society. And, we see them as social contributions.

I sincerely hope that this report has provided a clear understanding of the initiatives the KYB Group is adopting with regard to the environment and society, and I hope that all stakeholders will continue to provide us with their support. I also look forward to receiving not only your comments with regard to this report but also your frank opinions on the KYB group.

<sup>1)</sup>: At KYB we consider human resources as company assets and prefer to call them "Jinzai"



At an interview



# 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.



■ Relationship between the KYB Group and stakeholders

**Customers**  
**Provide useful technologies and products**  
 Quality, customer satisfaction and new product and technology development

**Shareholders**  
**Provide healthy returns on business activities**  
 Economic contribution and internal control

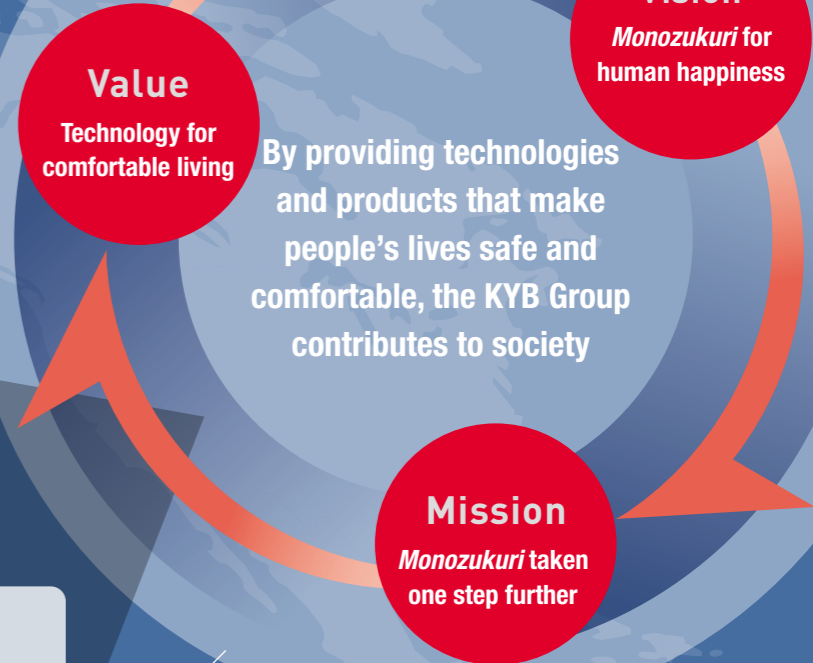
**Society**  
**Contribute to the community**  
 Coexistence with suppliers and local communities

**Global environment**  
**Coexist with the global environment**  
 Environmental management, environmental and social report, energy-saving plant

**Employees**  
**Achieve a healthy workplace environment**  
 Human rights, worker safety and health, human asset development



■ What KYB Aims to Be



## 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

- 1. Human Resources Development**  
To cultivate the talent to achieve the objectives with a thorough understanding of the principles and the strategy.
- 2. Technology and Product Development**  
To provide products that are impressive, comfortable and reliable to customers throughout the world.
- 3. Monozukuri (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.
- 4. Management**  
Always keep social responsibilities of the corporation in mind and provide efficient group management.

Guideline Principles

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

## 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.

## 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.

## 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.

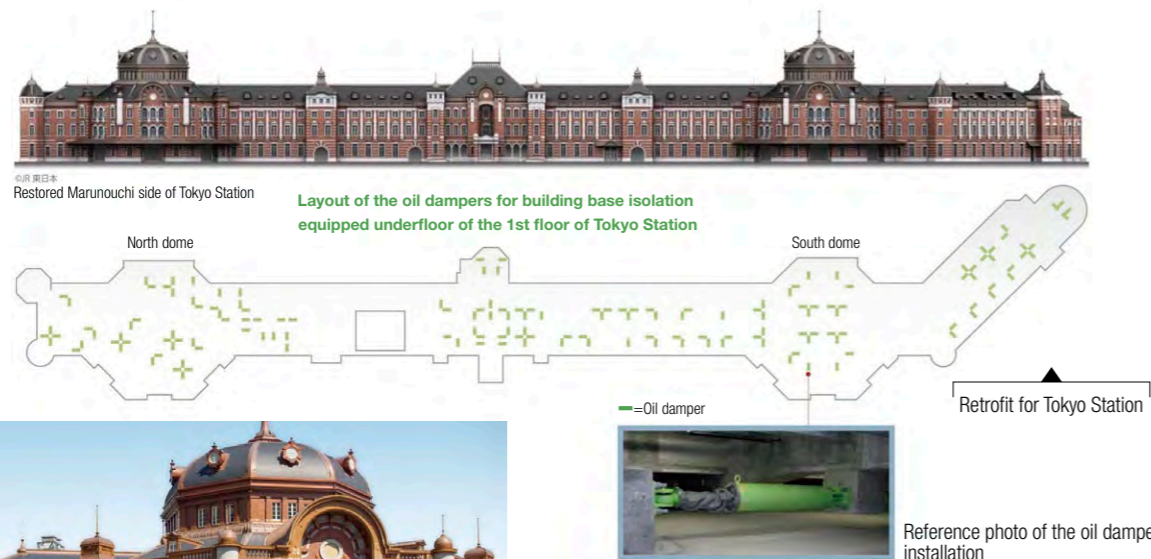


# 2012 Action Highlights

Highlight 1

## Seismic isolation retrofit that transforms an existing building into a seismic isolated building

~ Seismic retrofitting of the Marunouchi side of Tokyo Station ~



The Marunouchi side of Tokyo Station, designated as an important cultural property in Japan, is a building that has been used over 90 years. Because the building is getting older, it requires preservation construction and seismic retrofitting construction, and the building has been under construction since 2007.

In the seismic retrofitting construction, a "seismic isolation retrofit" to quakeproof existing buildings has been adopted. In order to achieve the base isolation of a building, it is necessary to install equipment with combination of a quake-absorbing support and a damper (seismic isolated device) between a building and its foundation insulated from each other. The quake-absorbing support prevents horizontal motion on the ground from transmitting to the building during an earthquake, while the damper limits the relative story displacement between the ground and the building to absorb the earthquake shock.

For this construction, the KYB's oil dampers for building base isolation was adopted. The installation of a large number (158 units) of the oil dampers made it possible to improve the quake-resistance of the Marunouchi side of Tokyo Station, while preserving and utilizing the main part of the station as they are.

### INSIDE

#### Contribute to the vibration control of buildings through the improvement of vibration control technologies

Japan has experienced many large earthquakes in the past, and the earthquake-resistant standards have been strengthened in each time. It is often the case that the historic buildings such as the Marunouchi side of Tokyo Station do not satisfy the earthquake-resistant standards of the present, and these buildings have a high possibility of being damaged severely in an earthquake. We need to implement seismic retrofitting of buildings in order to protect people and buildings, however, the initiative has been showing slow progress as the vibration control for existing buildings requires large-scale construction. Therefore, we will keep working to improve the vibration control technologies to make the current construction process simpler and less expensive, so that we can contribute to the vibration control of buildings.



**Tomoki Ando**  
KAYABA SYSTEM MACHINERY CO., LTD.  
Engineering Dept.  
Production Headquarters

Highlight 2

## Provide better feeling to riders through the weight saving by 10%

~ Development and productization of PSF ~



The KYB newly developed PSF (Pneumatic spring fork). In this product, we achieved the productization of a lightweight front fork. The PSF, a suspension (front fork) holding a front wheel axis, has been adopted for racing motorcycles for motocross. Instead of ordinary metallic spring, the PSF adopts air spring utilizing elasticity of compressed air to reduce its weight by approximately 10%, which was impossible to achieve with the conventional structure. Furthermore, we reduced the number of its parts from 89 to 81.

Regarding the performance, the PSF allows riders to do the cornering operation more comfortably, thus the circuit lap time improves, which is highly valued. Also, the PSF can easily adjust repulsive force by adjusting the charged pressure of the air. It allows riders to manage the changes of course and road conditions flexibly, which means it is a product that can meet wide range of users' demand.



Motocross competition (Motorcycle cross-country)



# Improvement of Technological Capabilities and Human Asset to Support *Monozukuri* Company

KYB products are manufactured and distributed to customers all over the world. Differences in quality and productivity in different locations will lead to a loss of trust in the KYB Group as a whole. To maintain the same level of quality regardless of where the product is manufactured, we implement “global engineer training”. In addition, we are promoting “LT 50 activity” on a global scale to improve Q (quality), C (cost), D (delivery), S (safety), M (morals), and E (environment) in our *Monozukuri*.



## To provide products of the same quality everywhere in the world

### “Global engineer training”

“Global engineer training” has been implemented since 2006. In 2012, we provided 4 training courses for 40 participants from 12 overseas bases of 9 countries and regions. They received a month of training that was supported by three pillars of “interactive lectures,” “experience practice” and “tours of advanced plants,” then we devised an improvement plan at the end of the training. So far, the total number of people who has attended has been 232 trainees and they are playing an active role as a core engineer at their home base. We will set up advanced courses and operate it continuously along with the existing basic courses, in order to enhance *Monozukuri* ability of overseas bases.



## For the evolution of *Monozukuri* and enhancement of business quality

### “LT50 activity”

“LT50 activities” will reduce manufacturing lead time by 50%. This activity covers not only production itself but also procurement of parts, transportation to customers, and even improvement of operational efficiency. By thoroughly eliminating unnecessary activities, it will be possible to reduce cost, improve quality, as well as preserving the environment.

#### Improvement Case 1 Reduction of handling time in the gear blanking line

##### Before improvement

Parts after heat treatment were reloaded on a special pallet to carry to the next process (a stand-by lane for straightening).



As a result of a fresh approach...



##### After improvement

The conveyance lane for heat-treated parts was extended to the next process, so that the parts can be carried directly without being reloaded on the pallet.

#### Improvement Case 2 Reduction of handling time in the gear machining line

##### Before improvement

Parts processed at the automatic machining line were placed temporarily by robot, and then replaced into a special box manually.



Overcame the functional difficulty of equipment



##### After improvement

Partition for the special box was improved so that the robot could put the parts directly into the box.

### INSIDE

#### “Pleasure and confidence” gained through improvements based on “LT50 activity”

As the improvement advances, we found that scenes in the plant were changing drastically. As the result of these improvements, in-process inventory that had been 7.6 days worth was reduced to 1.5 days worth. However, the biggest benefit “LT 50 activity” brought to us was that we could grasp what the problem or task was as our line got well organized and material flow became easy to see. Through the improvement this time, we learned that we could acquire a result by “starting from awareness in our daily work, and accomplishing our task with passion”. We will keep improving with confidence and a spirit of teamwork.



GP Manufacturing Sect., Sagami Plant (stationed at Kumagaya Plant)  
Group Leaders: (from left) Kobayashi, Kato, Kawaguchi, Ishikawa



# Corporate Governance

## Fundamental idea

The KYB Group, in order to enhance its corporate value under the ongoing globalization of market, puts a great emphasis on strengthening the corporate governance. Also, we implement continuous measures to realize management philosophy and regard the contribution to society including the development of all stakeholders as our mission.

As the internal system for management monitoring, we have auditors including outside company auditors, as well as an establishing Audit Dept. that is an exclusive division to assist the auditors.

## Corporate governance system

With the aim to increase the speed of decision-making and efficiency of work operation, we have introduced the executive officers system.

The Board of Directors that consists of seven people 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, organizations including the Board of Executive Officers, which is in charge of deliberating important matters concerning the management backbone, the Japanese Affiliates Management Conference, which is in charge of deliberating important matters concerning management practices of Japanese affiliated companies, and the Global Strategy Committee, which is in charge of deliberating 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 the KYB Group management. Such as, the President Follow-up Meeting 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.

The Board of Auditors consists of four standing auditors including two outside company auditors. We recognize that the audit by those outside

company auditors secures workable management monitoring and effective governance system.

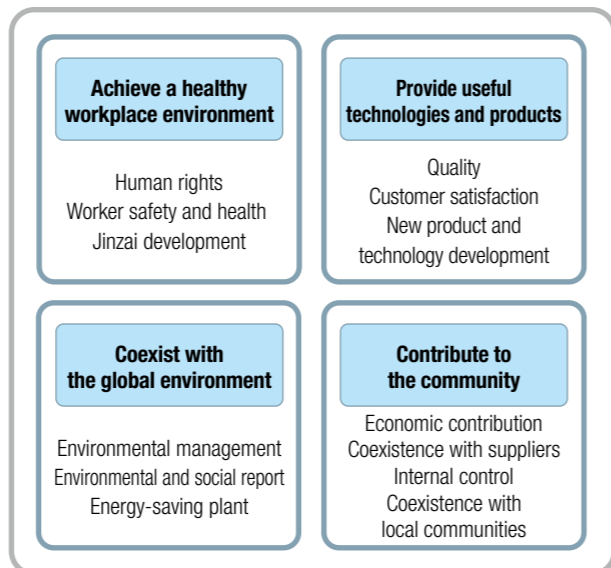
Moreover, from the view of the external check, one of the outside company auditors is set as an independent officer, so that the management monitoring can be more objective.

## Corporate social responsibility

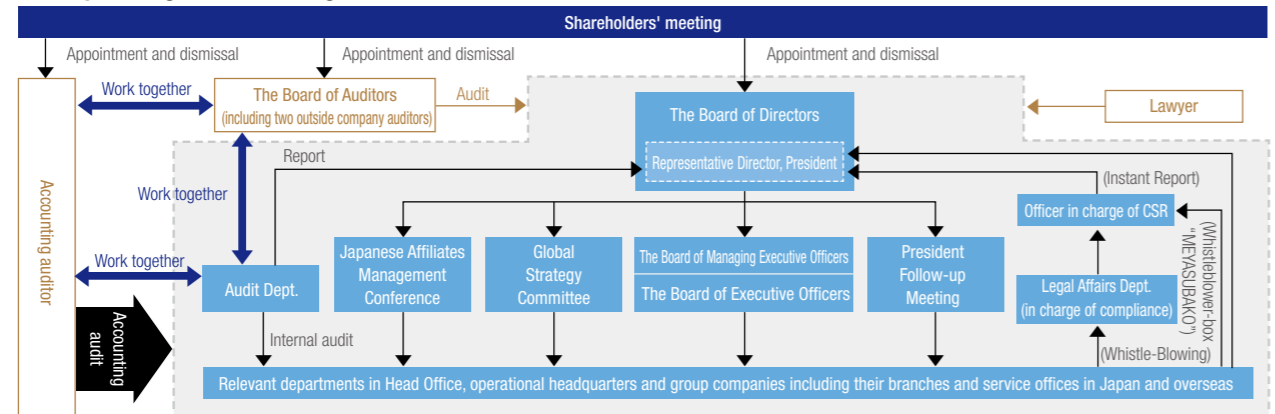
Through our business activities, the KYB Group aims to contribute to the development of our customers, shareholders, suppliers and society through the constant pursuit of creativity. And, good relationship with our stakeholders is vital to the survival of our business activities.

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 governance organization



# Internal control

Corporate governance functions effectively on the premise of ensuring the reliability of financial reports increase the 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 the internal control capability.

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

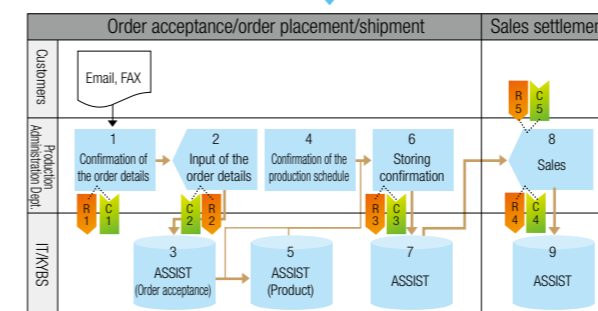
## Self-managing by visualization

Our business rules and procedures, which are defined in the company rules, regulations and instructions, are schematized to be a flowchart to document the workflow. This helps to visualize work that used to be only understood by a person in charge of it. Thus, employees other than the person in charge are also able to understand the work contents and so the check function to detect risk works well, which enables us to confirm and share the work and control situations.

Pursuant to the internal control reporting system due to Financial Instruments and Exchange Act issued in April of 2008, the Audit Dept. of KYB is promoting the documentation for the processes that may affect the KYB Group's account closing, and conducting an assessment of it.

### Flow chart of work 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	ASSIST (Order acceptance)	*Handle with the sales management system
4	Confirmation of the production schedule	The person in charge confirms the production schedule required by customers
5	APISS (Product)	*Handle with the production information control system
6	Storing confirmation	Confirm the storing contents after the part arrives from supplier
7	ASSIST	*Receive the shipment data
8	Sales	The person in charge accesses the system and records the sales
9	ASSIST	*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.

- As the rule for the execution of business activities by directors and employees, we have developed a Corporate Guiding Principle and are focusing on the establishment of legal compliance and corporate ethics.
- We are implementing the compliance of education through training sessions by job titles and sections, including directors.
- We have prepared the whistle-blowing system ("Instant Report" and whistleblower-box called "MEYASUBAKO") covering all companies of the KYB Group. Besides that, we have exclusive contact points to accept whistle-blowing and consultation in accordance with the Whistle-Blower Protection Act.
- 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 a contact desk which responds to inquiries from outside of the company.
- There has been a strong demand for the company's initiatives for the 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

### Three policies of compliance are disclosed on the website.

In the 2012 fiscal year, three policies are newly added; Social Media policy, Anti-monopoly Law Compliance Policy and Bribery Prevention Policy. They are disclosed on the website. Training of workers is scheduled in the future.

<http://www.kyb.co.jp/english/category/compliance>



# KYB Group Environmental Policies

In order to tackle environmental preservation activities as a whole, we have developed a basic environmental policy.

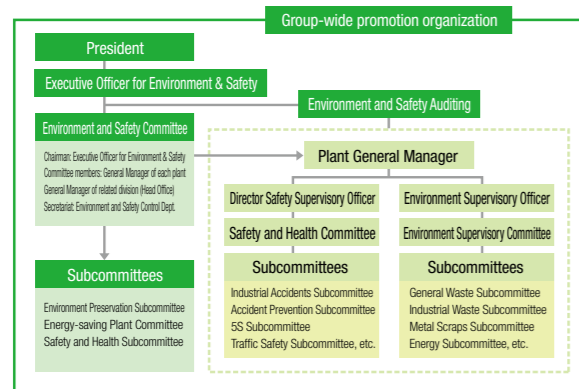
## Slogan

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

## Environmental management organization

The KYB group has established an Environment and Safety Committee under the executive officer for Environment & Safety who controls the whole company for the promotion of environmental and safety activities. The committee meetings are held twice a year, and environment and safety audits for all plants are held once a year to unify understanding of policies and activities related to the environment and the safety of each plant on a group-wide scale.

### KYB's Environmental management organization



## Basic Environmental Policies

The KYB Group creates products gentle to both people and the earth. As a company that provides power and comfort, we are dedicated to the promotion of environmental activities as an important tool for evaluating management.

1. Strive to ensure long-term and sustainable operations throughout the entire KYB Group.
2. Work to promote harmony with society and contribute to the global community as a good corporate citizen.
3. Clarify every employee's role so that all employees can participate fully.

The KYB Group established a new mid-term plan in fiscal 2011. Based on this plan, we will implement environmental and safety activities based on our basic policy.

Environmental/Safety Mid-term Policy (2011 to 2013) (Abstract below)

1. Creation of energy-saving plants:  
Reduce CO<sub>2</sub> basic unit by 1% each year and reduce CO<sub>2</sub> emissions by 25% compared to 1990 by 2020
2. Creation of waste-free plants:  
Reduce final disposal amount of industrial wastes by 65% compared to fiscal 2000 by 2015
3. Creation of accident-free plants:  
Create a workplace that is safe, pleasant and accident-free

## From Executive Officer for environment and safety

### Activities to reduce environmental burdens and the creation of a workplace where people can work safe

KYB has implemented environment preservation activities, especially on the reduction of industrial waste and the suppression of peak electricity. In the 2013 fiscal year, we will spread volume reduction equipment of waste fluid and bio-treatment technologies, which have been introduced on a trial basis, to the whole company, while continuing to improve lighting and reduce standby electricity in the activities to reduce greenhouse gas emission. Also, by utilizing a unique evaluation method incorporating "error root mean square"<sup>\*1</sup> in quality engineering, we will clarify the point of our main focus and raise the speed of the activities.

In the 2012 fiscal year, we worked to consolidate a foothold of the risk elimination of workplaces under the company policy "Safety is the highest priority". We considered that we needed to thrash

out dangerous sources to reduce risks of industrial accident. Thus, we have done the reviews of evaluation criteria and the education of employees to achieve the company policy. As a result, the number of industrial accidents is on a declining trend. In the 2013 fiscal year, we will continue the attempts to make equipment intrinsic safety and to educate employees, in order to realize further reduction of industrial accidents.

Finally, let me thank you for your interest in this report. I welcome your input on how we can improve in the future.



Executive Officer  
**Shigeo Kidokoro**

\*1 "Error root mean square": One of the MT system to evaluate the subject which brings several measurement data into one comprehensive measure.

# Activity Plan Related to Environmental Preservation

We are promoting activities on a company-wide scale by defining goals every year according to the "Activity Plan Related to Environmental Preservation."

In the 2012 fiscal year, we were not able to achieve the goal for reduction of CO<sub>2</sub> basic unit, but attained that of CO<sub>2</sub> emission volume.

### Activity results of 2012

Activity items		Fiscal 2012 goals	Fiscal 2012 activity results	
Prevention of global warming	CO <sub>2</sub> emission volume	82,479 tons-CO <sub>2</sub> /year or less	78,702 tons-CO <sub>2</sub> /year	Yes
	CO <sub>2</sub> basic unit	0.365 tons/million yen	0.410 tons/million yen	No
Energy saving	Energy usage volume (basic unit)	206 ℓ/million yen or less	230 ℓ/million yen	No
Improvement of resource recovery and recycling rate	Recycling	88% or higher recycling rate	87.3% recycling rate	No
	Zero emission	3% or less landfilled waste	4.3% landfilled waste	No
Reduction of waste	General waste	551 tons/year or less	505 tons/year	Yes
	Industrial waste	4,091 tons/year or less	3,719 tons/year	Yes
	Metal scraps	19,791 tons/year or less	16,318 tons/year	Yes

Note: • Discharge generated from our production activities are treated as wastes and categorized into general wastes, industrial wastes and metal scraps.  
• For energy, crude oil equivalent is calculated for electricity and fuel and the total value is displayed as total energy.  
• Basic unit is calculated based on the production shipment.

### Activity plan Fiscal 2013 goals

**CO<sub>2</sub> energy**  
Planned saving of energy by changing fuels, cutting standby power consumption, introducing LED lighting system, etc.  
  
Conversion of polluted sludge into valuable substance, volume reduction of waste fluid and paint sludge, etc.

# Environmental accounting

In order to quantitatively assess the involvements regarding environmental preservation, environmental costs have been calculated since 2000.

### Environmental preservation cost

This report is compiled by using categories of invested amount and cost according to the environmental accounting guidelines indicated by the Ministry of the Environment.

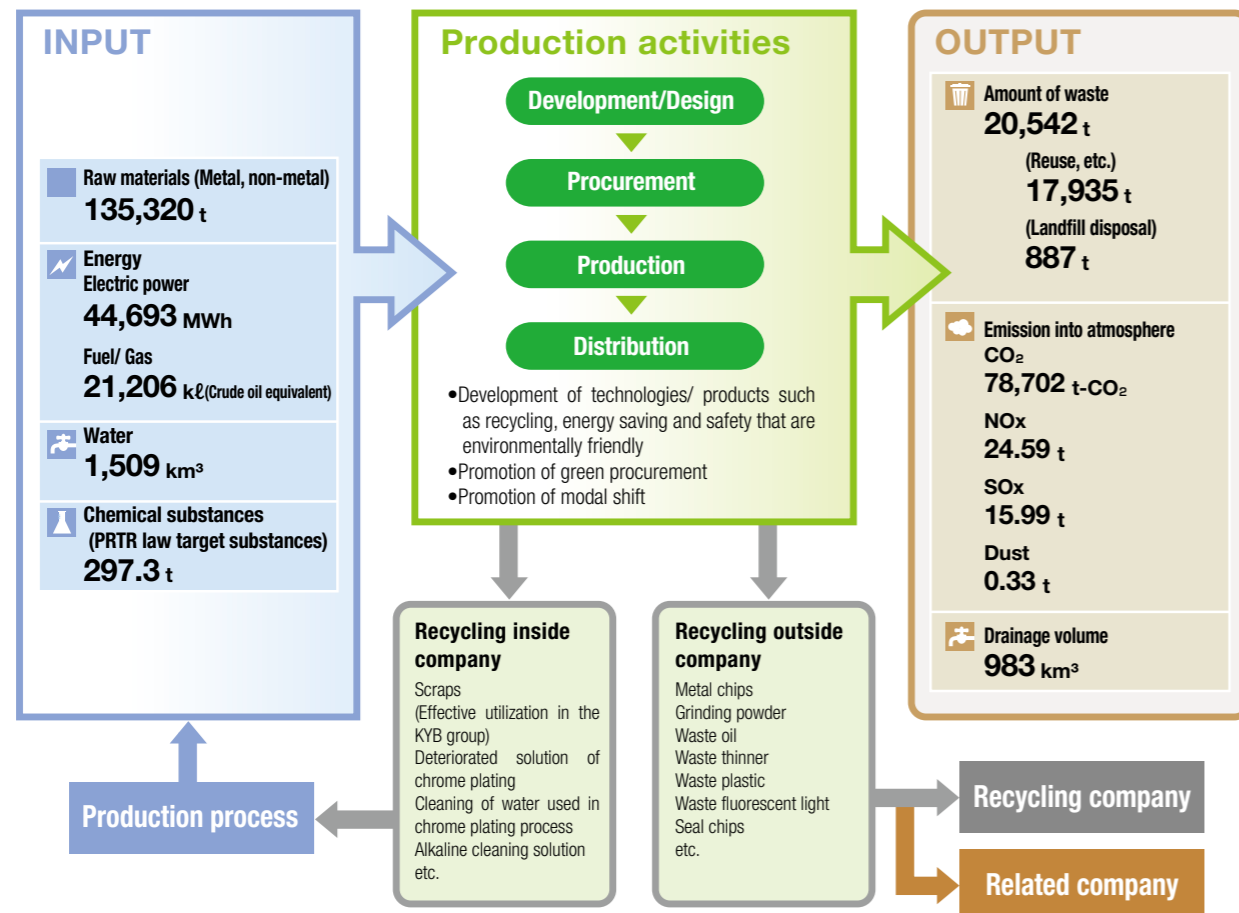
Activity items		Description of main activities	Invested amount	Cost
(1) Environmental preservation cost to suppress environmental impact occurring within the area of operation due to main business activities (cost within operation area)	[1] Pollution prevention cost	○Atmospheric pollution and water pollution prevention activities ○Maintenance and inspection of pollution prevention facilities ○Analysis and measurement of atmosphere and water quality	220.9	135.7
	[2] Earth's environment preservation cost	○Shift from use of fossil fuel to city gas ○Installation of photovoltaic generation facilities	166.8	18.3
	[3] Resource circulation cost	○Recycling of plant wastes ○Reduction of industrial wastes	40.6	223.4
(2) Cost for suppressing environmental impact generated at upstream or downstream from main business activities (upstream/downstream cost)			0.0	0
(3) Environmental preservation cost for management activities (management activity cost)			0.0	83.3
(4) Environmental preservation cost for research and development activities (R&D cost)			0.0	81.7
(5) Environmental preservation cost for social activities (social activity cost)			8.8	14.4
(6) Cost for handling environmental damage (environmental remediation cost)			2.5	0
(7) Internal environment preservation cost			0	70.8
<b>Total</b>			<b>439.6</b>	<b>627.6</b>
<b>Grand total</b>			<b>1,067.2</b>	

Categories and definitions of environmental preservation cost  
[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.



## Influence to environment associated with business activities

In the KYB group, we implement production activities by using various resources such as energy and water. We work on recycling of resources inside and outside the company in order to manufacture products efficiently with the lowest possible resources and energy.



### 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 environmental management system. Also, we are trying to gain an international standard of ISO14001 certification to improve business transparency and reliability to/ outside company.

#### Japan

Plant name	Certification registered year	Range of review registration	Fiscal 2012
Gifu South Plant	2000.2	Gifu East plant, Production Technology R&D Center	Periodical review
Kumagaya Plant	2000.12		Renewal review
Sagami Plant	2000.12	Basic Technology R&D Center	Periodical review
Gifu North Plant	2001.2	KYB Kanayama Co., Ltd.	Renewal review
KSM Mie Plant	2000.12		Renewal review
KYB-YS	2004.4		Periodical review
Takako Industries, Inc. (Shiga Plant)	2003.2		Periodical review
KYB Trondule Co., Ltd.	2008.11		Periodical review

#### Overseas

Plant name	Certification registered year
KSS (Spain)	2001. 6
KYBSE (Spain)	2001.12
KMT (Taiwan)	2001. 8
KYBT (Thailand)	2001.12
KAC (America)	2002. 5
KST (Thailand)	2003. 8
P.T.KYBI (Indonesia)	2004. 2
KMSB (Malaysia)	2004. 9
KMB (Brazil)	2007.3
TVC (Vietnam)	2007.1
KMCZ (Czech Republic)	2009.8
TSW (America)	2013.2

## Preventing Global Warming

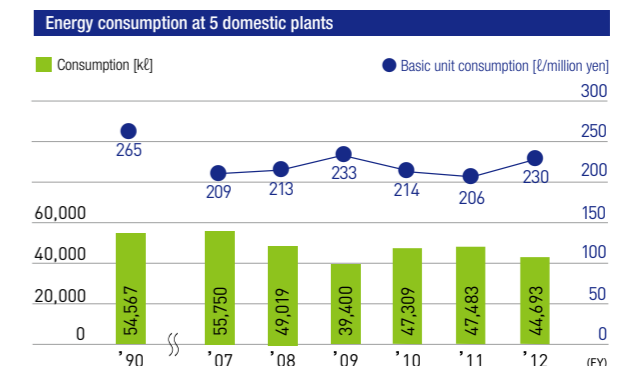
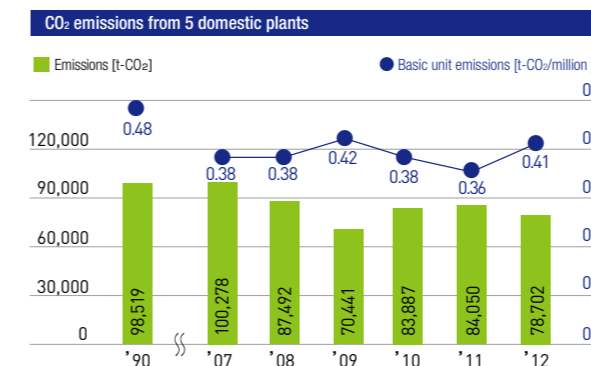
As a production center for a business combining hydraulic technologies to provide society with "comfort and strength", the KYB group works to protect the environment by developing and manufacturing products that are eco-friendly and people-friendly.

We also work to coexist harmoniously with the local and international community and maintain a better natural environment.

### Goals for reducing CO<sub>2</sub> emissions and energy use

Reduction of both basic units of CO<sub>2</sub> emissions and total energy usage by 2% compared to fiscal 2010 by the end of fiscal 2012

In fiscal 2012, the KYB group could not accomplish the target of a 2% reduction of CO<sub>2</sub> basic unit emissions from fiscal 2010. In fiscal 2013, we will strain to improve lighting, further changing of fuels and cutting standby power consumption in order to recover this loss.



Note: Conversion factor used for calculating CO<sub>2</sub> emissions  
 • Source of CO<sub>2</sub> emissions conversion factor: Japan Automobile Manufacturers Association, Inc.  
 Electric power: 0.3817kg-CO<sub>2</sub>/kWh; Kerosene oil: 2.5308kg-CO<sub>2</sub>/ℓ; Diesel oil: 2.6468kg-CO<sub>2</sub>/ℓ; Bunker A: 2.7000kg-CO<sub>2</sub>/ℓ; LPG: 3.0094kg-CO<sub>2</sub>/ℓ; City gas: 2.3576kg-CO<sub>2</sub>/m³  
 • Energy consumption: total electricity and fuel converted to crude oil basic units are calculated based on the shipment volume of production. (Basic unit = energy consumption ÷ production/ shipment volume)

### TOPICS

#### Utilization of the Photovoltaic System (System capacity: 80kWh) as the Energy for the Plant

Sagami Plant, from the aspect of the use of natural energy, has introduced the photovoltaic system (System capacity 80kWh) and it has been delivering electricity generated by the system (Monthly mean amount: 7,436 kWh, total yearly amount: 89,232kWh in fiscal 2012) to the plant.



The newly introduced solar panel

#### Countermeasures Against the Summer Energy Peak

Gifu North Plant is working on the reduction of electricity use during on-peak times from July to September every year. In fiscal 2012, the lunch break of the first shift was changed from "12:00-12:45" to "10:30 - 11:15". In addition to this, through stopping some lines for 1-2 hours and making use of engine compressors as power sources, the plant accomplished to cut the electricity consumption during on-peak times by approx. 1,000kW in total.



The engine compressor installed

### INSIDE

The most important thing is that "everyone stops wasting energy in one's behavior"!

Our environmental preservation activities include environmental arrangement/ pollution control/ control and reduction of energy consumption and wastes. The power generation system utilizing natural energy (Sunlight) that we are using in Sagami Plant is a very "eco-friendly" way to generate electricity, as it does not dissipate resources or emit CO<sub>2</sub>. We will keep promoting power generation with the use of natural energy and actions for energy saving, so that we are able to contribute to the suppression of global warming.

Through the activities, we have realized that great energy saving can be accomplished by that everyone stops wasting energy in one's behavior.

#### Norio Nakayama

Sagami Plant  
 Production Engineering Dept.  
 Equipment Maintenance Sect.  
 Leader of the Environmental Activity Group





## Eco-Friendly Plants

The KYB Group has been constructing new plants in order to meet customers' requests and needs. The construction works have been conducted on a "safety first" policy with a great deal of cooperation in security control system by constructors. As the concepts of the plants

themselves, we give our first priority to "plants that customers trust", and also try creating a human-friendly plant that allows people work safe by adopting techniques for *Monozukuri* system to eliminate unnecessary activities, realization of plants that are green and clean, and so on.



Production line by clean room technology (KYB Trondule Co., Ltd.)



Eco-Friendly Plant (KYB Trondule Co., Ltd.)

## Awarded as the Excellent Energy Conservation Manager

With February being Energy Conservation Month in Japan, the Tokai Region Awards were held in Nagoya.

At the awards, the individuals and enterprises/ business establishments having made outstanding efforts for energy management for many years are recognized.

This year, Masahiro Takechi of the Environment & Antidaster Control Sect., Gifu North Plant, was awarded by Director-General of Chubu Bureau of Economy, Trade and Industry's Award as the excellent energy conservation manager. He was chosen as a representative from among the 39 winners, and delivered a speech and resolution.



Tokai Region Awards

### INSIDE

#### Impressions of receiving the award for "Excellent Energy Conservation Manager"

It is a great honor for me to have been awarded Director-General of Chubu Bureau of Economy, Trade and Industry as the excellent energy conservation manager. I consider that it is because Gifu North Plant has been tackling energy savings, which deserves this prize.

After the Great East Japan Earthquake on March 11th, 2011, the Japan's energy policy is faced with significant shift. Being put in the situation that both enterprises and individuals are required to save more energy, I have been stepping up daily efforts, thinking of what to do. I will continue to improve my skills in this area to achieve further results, and at the same time, devote myself to training junior fellows.



**Masahiro Takechi**  
Senior Staff Manager  
Environment & Antidaster Control Sect.  
General Affairs Dept.  
Gifu North Plant

### TOPICS

#### Registered as Eco-friendly Business Establishment of Gifu Prefecture

Gifu North and South Plants have registered themselves as eco-friendly business establishments of Gifu Prefecture, as part of collaborative communication with the prefectural government. This registration system was established in order to "reduce environmental load due to business activities as well as promote voluntary and proactive efforts for environment conservation, aiming to enhance the local environment eventually". The business establishments that conduct countermeasures such as pollution control, proper management of chemicals, waste/ recycling managements, and global environmental preservation comprehensively and continuously are allowed to apply for registration.

A list of registered establishments are available at the prefectural government's website.



## Initiatives at Production Bases

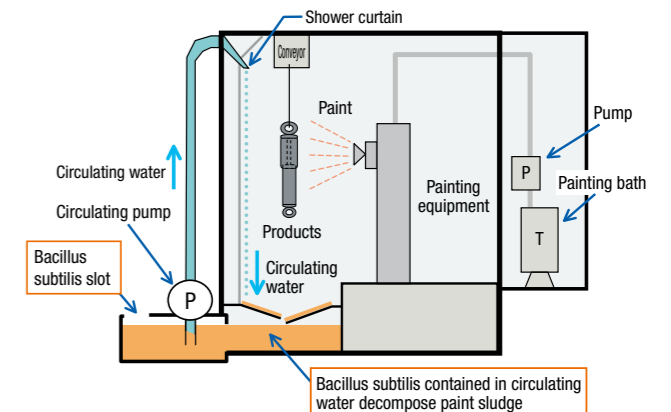
### Gifu North Plant Reducing industrial waste by utilizing *Bacillus subtilis*

We are required to reduce emissions of industrial waste, including paint sludge and waste fluid. To tackle this, we have adopted microbiologic agent (*Bacillus subtilis*). This agent helps reducing paint sludge, also reducing waste fluid as water in the booth can be reused due to the effect of odor suppression. Through this action, it is expected to achieve savings of 25% compared to the past.

(*Bacillus subtilis*: An agent that secretes various kinds of enzyme and decomposes organic materials by them efficiently. It is largely tolerant because it lives by forming spore, adapting to environmental changes.)



Biomass decomposition equipment



Mechanism of reducing paint sludge at a paint booth

### KYBSE Heat recovery of air compressors

KYBSE (Spain) has eight air compressors, and the heat generated in them had been lost in the atmosphere.

In six of them, we recovered 80% of the heat energy to be lost to save natural gas. We are also utilizing this recovered energy to heat water to 75 degrees and the paint bath to 55 degrees.

**Annual savings** Electric energy 1.7 Gwh  
CO<sub>2</sub> emissions 300 tons/ year



KYBSE Maintenance team



Heating the painting bath



Air compressors



# Control and reduction of chemicals

Chemicals are absolutely necessary for the modern society. However, quite a lot of them are harmful to the environment. KYB is tackling the reduction of the substances subject to Law concerning Pollutant Release and Transfer Register (PRTR Law) and replacement of them with substituting substances.

## Approaches to environmental regulations

The KYB Group has been promoting the total abolition of the four substances specified by ELV Directive since it was issued in Europe in 2000.

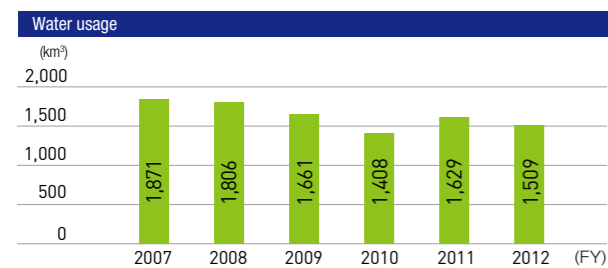
We completed the elimination of Mercury, Cadmium and Hexavalent chromium in fiscal 2005, and currently working on the abolition of the use of lead for soldering, etc. In addition, we are also promoting the compliance with RoHS to regulate the use of chemicals and REACH to regulate the high-risk chemicals.

## Introduction of new wastewater treatment system

In KYB-YS Co., Ltd. that produces hydraulic equipments, automobile parts, etc., the waste fluids emitted from each process is purified by treatment facility in the plant and released outside of the premise. Currently, the quality of the purified water meets a standard adequately, however, in order to raise the level of it, they have conducted the replacement of this facility in their investment plan of fiscal 2012. Through this replacement, they succeeded in reducing drastically the wastewater generation itself both from plating and coating equipments and general water use. They further enhanced interlock mechanism as well for the prevention of wastewater outflow into soil and groundwater.



Full view of the new wastewater treatment facility



## Compliance with REACH

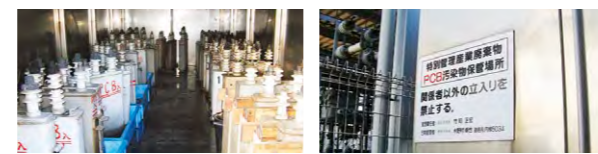
We completed the preliminary registry of the substances subject to the registration as required by REACH in fiscal 2008. From fiscal 2009, we started investigating whether SVHC (Substances of Very High Concern) is contained or not, and the contained amount if it is. The investigation was finished promptly due to our precise information sharing, and we could complete the notification by the designated date of June, 2011.

## Initiatives to produce lead-free products (Bearing for hydraulic cylinder)

Lead is one of the environmentally burdensome substances that are controlled by ELV and RoHS in Europe. So, KYB has been tackling abolition of the use of lead for all products. It, however, requires advanced techniques. For example, bearing for hydraulic cylinder must resist abrasion as it works to assist the reciprocating motion of piston rod that transmits a force generated by hydraulic mechanism to an object, and lead helps it gain good abrasion quality. In KYB, we are working to ensure a good product quality of lead-free bearing by conducting material selection and test and evaluation several times.

## Measures for PCB problem

PCB (Polychlorinated biphenyl), that used to be utilized for insulation of electric devices because of its excellent insulation properties and flame retardation, is now designated as a prohibited substance. In our company, 436 units of PCB waste such as condenser are put in exclusive depository and strictly controlled until they are accepted by the specified disposing facility. A part of PCB disposal will start from fiscal 2013.



PCB waste

Indication of the manager's contact information of the depository

■ Investigation on the substances subject to PRTR Law (By Sagami Plant, Kumagaya Plant, Gifu North Plant, Gifu South Plant) Unit [t/year]

Designated chemical substance type	Cabinet order	List of chemical substances	Usage
Specific Class 1	88	chromium(VI) compounds	43.7
	309	nickel compounds	2.4
	400	benzene	1.0
Class 1	1	zinc compounds(water-soluble)	4.1
	20	2-aminoethanol	0.3
	53	ethylbenzene	59.4
	57	ethylene glycol monoethyl ether	2.0
	80	xylene	90.4
	133	ethylene glycol monoethyl ether acetate	2.7
	297	1,3,5-trimethylbenzene	3.6
	300	toluene	86.2
	304	lead	1.0
	354	di-n-butyl phthalate	0.3
	407	poly(oxyethylene)=alkyl ether	0.1
412	manganese and its compounds	0.1	

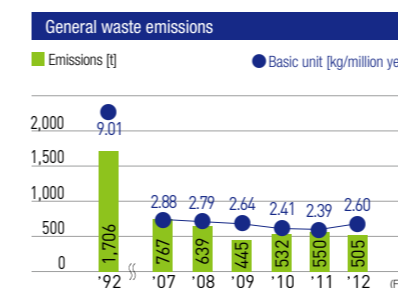
As part of our approaches to chemical substance control, we will reduce the usage of chemicals consist of substances subject to PRTR Law.

# Initiatives to Reduce Waste

KYB practices resource savings (reduce, reuse, recycle) during product design, production, sale and logistics in order to cut waste. In our offices, we are introducing ID authentication type multifunction printers and greatly reducing paper waste. We will take further steps including sludge recycle, efficient use of metal scraps and volume reduction of waste fluid in the future.

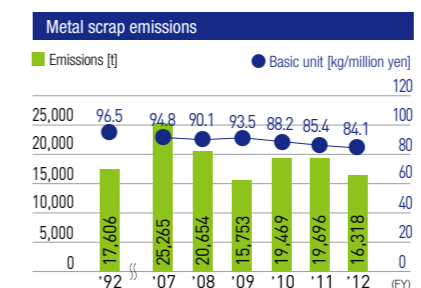
## Reduction target for general waste

Reduction of emission by 2.0% by the end of fiscal 2012 compared to fiscal 2010



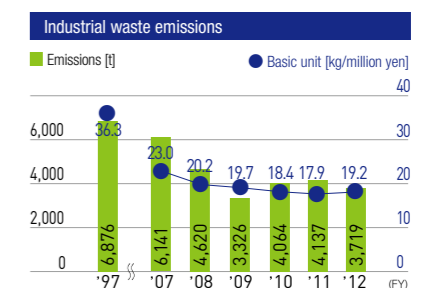
## Reduction target for metal scraps

Reduction of emission by 2.0% by the end of fiscal 2012 compared to fiscal 2010



## Reduction target for industrial waste

Reduction of emission by 6.0% by the end of fiscal 2012 compared to fiscal 2010



## Recycle of Ni-containing sludge

Gifu South Plant is working to recycle "sludge" generated by treating plating wastewater. The idea "urban mines" of reusing metals contained in waste discharged mainly from urban areas is brought in this initiative in addition to the use of ores taken from mines.

The "sludge" after treating plating wastewater is recyclable because it contains nickel and so it is in demand as raw material for making stainless steel.

Accordingly, an average of about 5 tons a month of industrial waste can be reduced.



Sludge containing Ni

## Effective use of metal scraps (Metal scrap generated during production)

A great deal of metal scrap (16,318 tons in fiscal 2012) is generated in our production activities. The KYB group has studied ways to use resources effectively, and in May 2011, KYB Cadac Co., Ltd., began using this metal scrap as casting material. To ensure the quality of cast products, the company prepared special boxes for each type of metal scrap and keeps them in designated areas to prevent mixing.



Briquette turnings (Chip compression scrap)

Metal scrap after cutting, etc.

Special boxes for collection

## Introduction of volume reduction equipment for alkali waste fluid

The amount of waste liquid emitted from Gifu East Plant has been increased due to the increase in production of hydraulic cylinder since its new plant building launched. The waste liquid emitted from production lines consists of water, machining oil, cleaning liquid, and so on, but it is inefficient to ask waste disposal firm to dispose the whole waste liquid including harmless water as industrial waste. Thus, the plant installed volume reduction equipment for waste fluid to extract the water and reduced the whole amount of waste liquid to about one-twentieth.

This is one of examples how KYB works on initiatives to reduce industrial waste.



Volume reduction equipment for waste fluid in Gifu East Plant

### INSIDE

#### Introduction of heat pump type evaporative concentration equipment

This new equipment is a little complicated and at first we struggled to produce a result, but after the test run had finished, it began to yield satisfactory concentration factor. We will make continuous efforts in waste reduction and energy-saving operation just as we did with this equipment, so that Gifu East Plant will be able to be a front runner of KYB's green action.

**Yoshitaka Hayakawa**  
Gifu East Plant



# New Technology for Harmony with the Global Environment

KYB has focused on harmony with the global environment as one of the main issues of management. Here are our new environment-friendly technologies for reducing the burden on the environment and developing the products for environmental conservation.

## Electro-Hydraulic Energy Saving System "EHES"

KYB is developing a one-of-a-kind hybrid system for construction machinery. KYB's electro-hydraulic energy saving system (EHES) allows to reduce the engine load by making effective use of high-pressure oil that is generated due to breaking during the operation of hydraulic power excavators.

In this way, fuel consumption is reduced and so can CO<sub>2</sub>.

Besides, the excavators can continue to work, even if this system is down, since this system can be installed on mother machines without compromising their existing hydraulic function and does not affect their basic function.

KYB will continue to apply the technique to provide more energy-saving products.



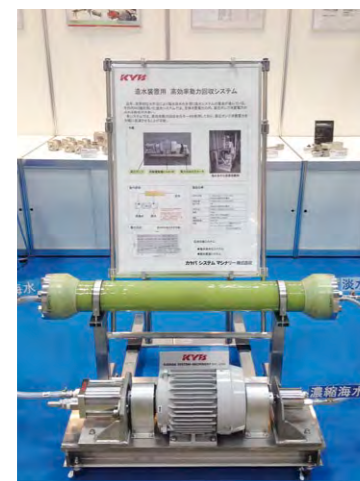
## Efficient Power-Recovery System Generating Energy from Drainage

Companies have been required to utilize limited resources and contribute to a sustainable society as environmental and resource depletion problems have been social issues.

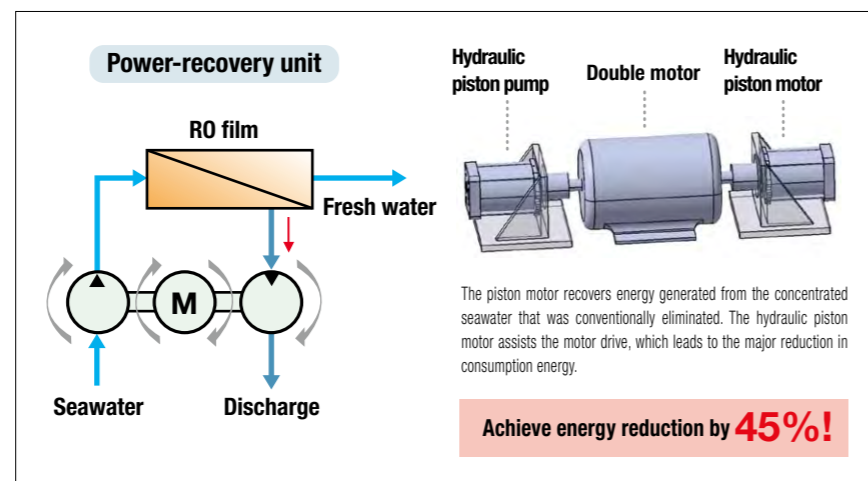
KYB developed the "efficient power-recovery system" installed to the small distilling plant to meet such social challenges. The conventional small distilling plant had no energy recovery system and eliminated concentrated seawater discharged to make fresh water

from seawater.

Our newly developed system helps the hydraulic piston motor recover power generated from discharged concentrated water and enables energy reuse to assist the drive of the high-pressure pump required to convert seawater to fresh water. As a result of adoption of the system, consumption energy could be reduced by 45 percent.



Compact power-recovery unit equipped with KYB hydraulic pump and motor in double motor



Energy savings can be achieved by reusing energy on the lines to eliminate concentrated seawater and assisting the pump drive motor.

# Consideration of Biodiversity

KYB has made biodiversity-conscious efforts to protect rich and unique "lives" of various types of creatures and plants and bequeath them to the next generation.

When KYB Developmental Experiment Center, our test course, was constructed in a mountainous area rich in nature in Kawabe Town and Minokamo City in Gifu prefecture, we provided environmental impact assessment in the construction zone and surrounding area and prepared the Nature Conservation Agreement that was a conservation program.

For this assessment, the site was surveyed by a professor at Gifu Pharmaceutical University. The results of the survey confirmed the presence of *Lespedeza tomentosa*, a species listed in the red data book of Gifu prefecture (Category: Vulnerable, Near Threatened), in the area. Then, we transplanted the species to protected areas, and are continuing to protect the plant.

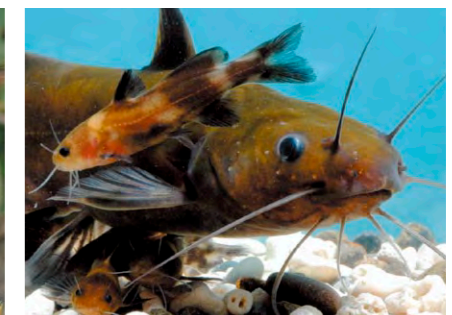
In addition, the Kawaura River, which flows along the north side of the site, is inhabited by nekogigi (Siluriformes: Bagridae), a protected species, and is also famous for fireflies. Therefore, at the time of start of construction, the

flow end of all drainage pathways from the plant were created on the test course side to prevent wastewater from flowing out of the plant to have no impact on the clear stream.

To protect this natural environment, we plant trees in an empty space on the test course and conduct the water quality surveys and the noise measurement regularly in the water shed areas in consideration of maintenance of the biodiversity and environmental preservation.



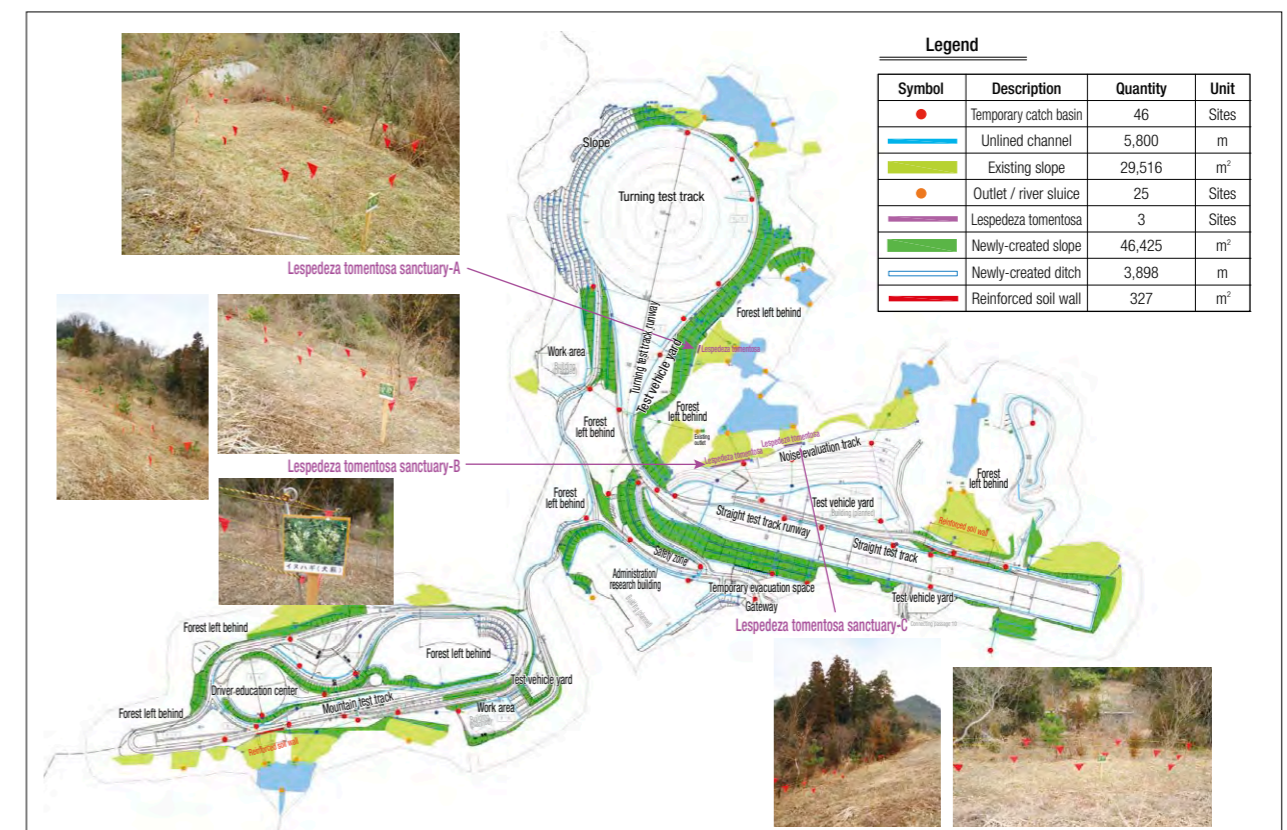
Lespedeza tomentosa



Nekogigi

(Photo courtesy of: Shima Marineland)

## Map of the Lespedeza tomentosa sanctuary





# Quality Policy

## Management Philosophy and Policy Development

Based on our motto "Good quality is our company's life", at KYB, we incorporate our management philosophy into our action plans and policies for *Monozukuri* and service sites, and strive to contribute to the development of customers and society.

### From Development to Mass Production

KYB conducts product and technology development using a 3-step evaluation process, from the planning stages to the start of mass production in order to deliver products with performance and quality that meet the needs of the market and our customers in a timely manner. We are contributing to society by promoting the development without loss due to reproduction.

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

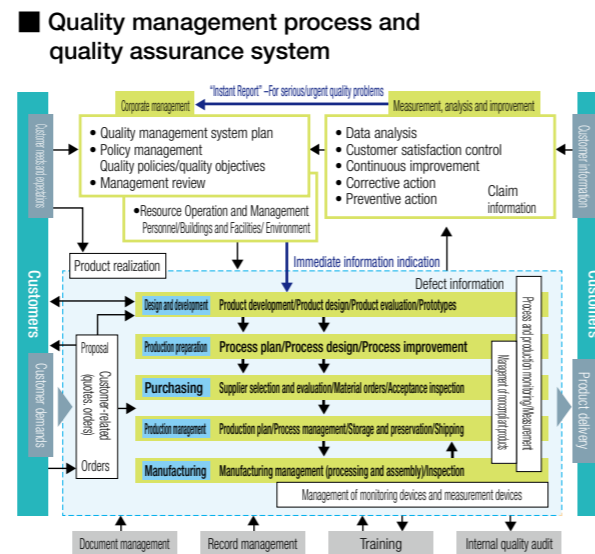
Step	Goal of the 3 steps	Quality assurance steps
Prior/Model development	Proof of possibility (*Description/evaluation of developed quality)	Development quality
Order development	Proof of mass production (*Actual proof/evaluation of developed quality)	Start quality
Mass production development/ Production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

**Declaration of Quality and Safety**  
Prior to the start of actual production, clarifying that quality is being implemented reliably in mass-produced products made by relevant processes and equipment

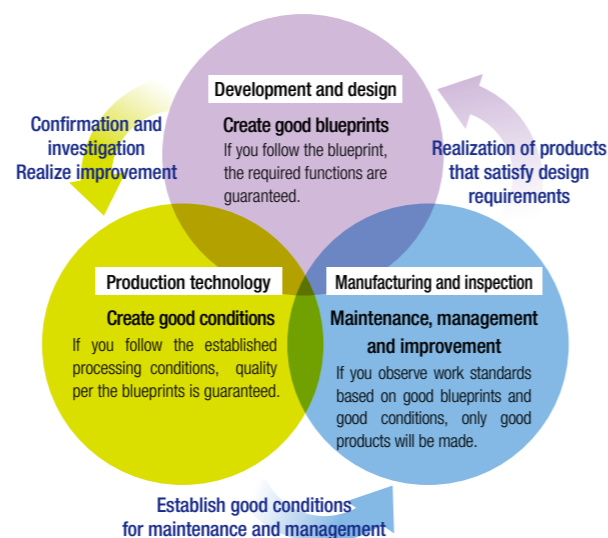
### Quality Assurance System

At KYB, we believe that work process quality is important as well as product and service quality. We are trying to improve the institutional quality assurance system, including obtaining international quality management ISO9001.

Also, we are enhancing the quality assurance activity, working with our customers and business partners to stabilize management and reduce environmental burdens by eradicating product defects from the market and decreasing or eliminating production process problems globally.



### KYB's objective: Cycle of quality defect prevention



# The products which contribute to people's security and safety

KYB is pursuing *Monozukuri* technology in order to provide a comfortable life for people through our business. Here, let us introduce safe/secure and people-friendly products that symbolize the KYB vision.

## An electric carrier cart that reduces the burden for working people "Rakuda-kun"

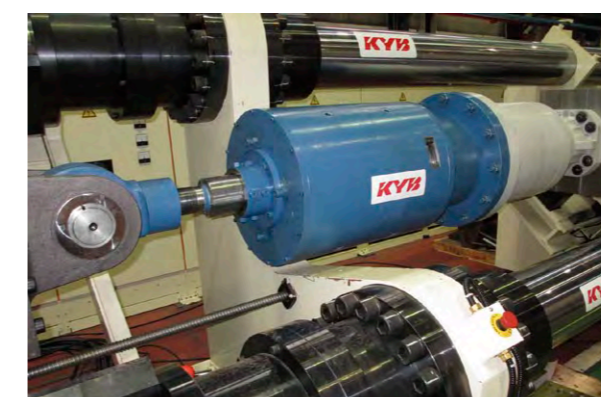
Rakuda-kun, the electric carrier cart developed by KYB is a transfer cart with a built-in shock absorber to absorb vibration and impact, also equipped with steering gear for power-assisted driving and a hoist unit for a loading platform. Although a maximum superimposed load of Rakuda-kun is 500kg, it suppresses the vibration during transfer to 1/10 of a conventional one, which has less of an effect on loads and workers, and can reduce the hard work that used to be conducted by manpower only.

This power-assisted driving function becomes extremely effective on slopes at the doorway of the plant and other such locations. Usually it requires a great power to hold a cart when transferring a 500kg load downhill, but the operation lever of this electric carrier cart makes it possible to operate the cart as if you were walking on flat ground.

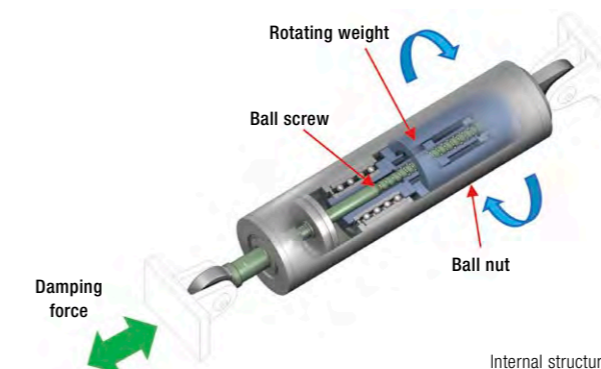


Rakuda-kun was exhibited at INTERNEPCON JAPAN

## Protects lives and property from an earthquake Rotational inertia mass damper

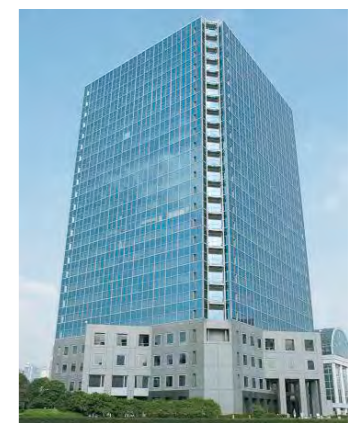


Rotational inertia mass damper (middle of the picture)



In Japan, where a lot of earthquakes occur, it always has been needed to improve earthquake-resistance of buildings and houses, and KYB has promoted the development of the technology for quake isolation and vibration control. Rotational inertia mass damper (Dynamic screw), which was marketed in 2011, is a vibration control device that reduces shaking of buildings. It produces the mass effect of thousands of tons, rotating weights by utilizing ball screw mechanisms. This device allows conducting earthquake-resistant repair work without interrupting the use of buildings. Besides, it provides a high level of vibration control by setting proper inertia mass for each building.

Also, our new vibration control device is effective with fewer units than the conventional one, which will help by reducing the cost by shortening the work period and the burden for the building users, such as construction noise.



SEAVANS AMALL S-bldg.

(Associate developers: SHIMIZU CORPORATION, NSK Ltd.)

Corporate Management

Environmental Report

Social Report

For Our Customers

Corporate Management

Environmental Report

Social Report

For Our Customers



# Social Support Activities

## Participation in the Kani City Environmental Festival

The Kani City Environmental Festival was taken place on February 24, 2013 in Kani City, Gifu where Gifu North, South and East Plants are located. At the festival, KYB held a hands-on Chipping Vehicle for Pruned Branches exhibition and a panel exhibition to introduce its products to the community people.

On February 16, the Kani River Clean-up was held as a preliminary event for the festival. 25 KYB employees took part in it to work for the local environment preservation together with the community people.



Hands-on Chipping Vehicle for Pruned Branches exhibition at the festival

## Reconstruction assistance for the Great East Japan Earthquake Disaster

As the support for victims of the Great East Japan Earthquake and the earliest possible reconstruction of the affected areas, KYB has donated a part of the sales of concrete mixer trucks in the Tohoku region during the first half of the 2012 fiscal year to the Red Cross.

KYB will continue working to provide further support.



KYB Concrete Mixer Truck

## The environmental conservation organization in Sagamihara

The environmental conservation organization in Sagamihara is a group acting for the prevention of environmental pollution and the preservation of rich nature in order to create the comfortable environment, which is run by 108 enterprises and groups including plants and business establishments in Sagamihara City. Sagami Plant is a member of the organization and making positive efforts in it.



Environmental class held in July

## Sagamihara Environmental Festival

In September 2012, the Sagamihara Environmental Festival was held through collaboration between local activists, business operators, education institutions and the local government. This festival aimed at increasing public awareness of the environmental issues and promoting their environmental studies, so that activities for the preservation and the creation of the environment is stimulated. At the festival, Sagami Plant that is a member of the environmental conservation organization in Sagamihara exhibited the "Environmental & Social Report 2012", through which the community people understood KYB's environmental activities.

## Received the Medal with Dark Blue Ribbon

KYB received the Medal with Dark Blue Ribbon for its donations for the Christchurch Earthquake in New Zealand, the Great East Japan Earthquake and Thailand Floods through Japanese Red Cross Society. The Medal with Dark Blue Ribbon is given to individuals and organizations, for whose distinguished services of donating properties, from Japanese prime minister.

The KYB Group will contribute to the global society in the future, too.



At the Award Ceremony

## Coaching a local primary school marathon

~KYB marathoners and the children grow up together~

Members of KYB's track and field team have been visiting the gym class of Hiromi Primary School in Kani City, Gifu to coach the children's marathon. This activity, which is popular among children, has been carried out every year for the past eight years since 2005, and also it has become a meaningful activity for KYB's social contribution.



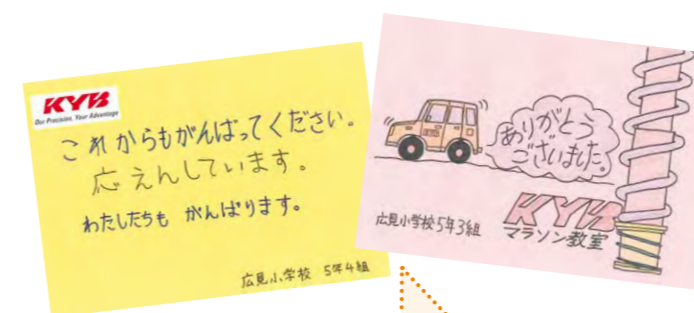
Running with the children



Giving the children tips on running



The children are so serious. "I want to run faster!"



### The children's voices after the class (5th graders of Hiromi Primary School)

- Thank you for giving us advice on how to run faster. I will swing my arms in the correct way when running.
- I was so happy to be able to run faster than the past by using the tips you gave us.
- Thanks to you all, I have become interested in running.
- Thank you for telling us in the class what to eat before running. I will make good use of what I learned this time.

## "KYB Special Support Match" by a local football club SC Sagamihara

KYB is an official sponsor of a football club SC Sagamihara

KYB officially sponsors a football club SC Sagamihara, based in Sagamihara City, Kanagawa, in the Kanto Football League upper division. In the 2012 fiscal year, a special match named "KYB Special Support Match" was held as a regular game. Despite of the rainy weather, a lot of local supporters, KYB employees and their family came to see the game. KYB employees also sold boxed meals and held an event, etc. outside the stadium, which pleased the visitors too. We will continue this activity as one of our contributions to the community.



Players and children marching in

\*S.C. Sagamihara was promoted to JAPAN FOOTBALL LEAGUE in 2013.

## Seminar for teachers of technical high school, aiming at the problem resolution and the development of expertise

KYB, the *Monozukuri* company, offers seminars for teachers who teach technical subjects in technical high schools in the community to acquire techniques and skills, in order to enhance their teaching ability.

Teachers who handle machines in their class participate the seminar and receive a basic training on general-purpose turning process. In the seminar, the teachers themselves operate a turning machine to learn about the safety operation and solutions to the problems and challenges they are usually facing to, which will be useful when they are back to their schools.



Guiding in *Monozukuri* techniques and skills

### VOICE Operation training of the turning machine

Seminar for the teachers, aiming at the problem resolution and the development of expertise, sponsored by the Gifu Prefectural Board of Education was held at the Human Resources Development Center. This seminar aims to ensure that teachers are able to instruct their students on the skills required for the *Monozukuri* contest for high-school students and the National Trade Test. In the seminar, on-site training by business people is available. As the result of the past two years, safety education has pervaded every school, which lead to the increase in the level of the *Monozukuri* contest and the number of persons who pass the National Trade Test.



Keita Fushimi  
Teacher of Kani Technical High School



## KYBSE (Spain) donates a thousand euros to senior residence every year

KYBSE has been making donations to a missionary's organization once a year for the past 30 years. This organization was established in 1839, and is serving in 32 countries covering five continents. Today, 170 years having passed since its foundation, they have 196 senior residences all over the world and one of them is in Pamplona, Spain. Elder people who are poor and without family live there, and missionaries' love radiates so that they can be unburdened by the feeling of loneliness and isolation.



Senior residence for the elderly without family

## Collection of used stamps

A volunteer group "Inago-kai" and a care facility for the blind aged "Hitomi-en" has been supporting nursing homes by collecting and selling used stamps. KYB sales division in the Head Office started assisting their activity in September, 2008. At the beginning it was being implemented only in the Head Office, but now it has expanded to be a major activity involving many people in the plants, the affiliated companies and the interested organizations.

In the 2012 fiscal year we could collect over 38 thousands stamps, although in the 2008 fiscal year only about 6 thousands stamps. Those used stamps are sold in worldwide markets and its profit is utilized for the operational expenses of nursing homes. We will continue the support in the future too.



Used stamps

## Joint evacuation drill with a Long-Term Care Health Facility

Gifu South Plant has concluded the "Agreement of Disaster Support" with a neighbor Long-Term Care Health Facility, and conducts a joint evacuation drill every year.



Joint evacuation drill with a Long-Term Care Health Facility

### VOICE

#### Evacuation drill with KYB

The joint evacuation drill has been conducted with support of KYB every year, based on the "Agreement of Disaster Support". The drill focuses on an evacuation in an earthquake so far, however, we may also need to prepare for water damage due to flood of the river in this area. At a drill for wheelchair users, we were able to carry them safe even in narrow staircase, by using equipment provided from the KYB plant. We trust the KYB's teamwork and ensure the security of the aging in our community.



Mikiharu Morita  
Manager, Management Division  
Gifu Social Insurance Long-Term  
Care Health Facility "Sante Vieux Kani"

## Supported the Japan national sports event as an official sponsor

KYB officially sponsored the 2012 Japan national athletic event, called the Gifu Seiryu Kokutai and Gifu Seiryu Taikai. We could contribute to the social sports development through the nation's largest sports festival. KYB received a letter of appreciation from the governor of Gifu prefecture for support provided for the event.



Supporting the 2012 Japan national athletic event

### For Our Employees

## Improvement of Employee Communication and Technological Capability

### Sports and Culture Interaction Event

The Sports and Culture Interaction Event was held in Sagami-hara in October 2012. About 800 people from all KYB Group companies gathered and enjoyed seven sports and three culture categories at the event. In futsal, one of the sports events held there, two overseas teams (Thailand and Indonesia) participated, and the employees promoted friendships with each other.



Futsal



Participants from overseas bases



The winning team of "creative cuisine" category

### The 5th KYB Robot Contest

## Promotion of the advancement of technology in a fun way



Participants of all 19 teams



Members of the team who won the 5th contest

With the aim of providing an opportunity for the employees to compete on their technical achievements each other, while communicating and having fun together at the same time, the "KYB Robot Contest" has been held. The competition was heated by the robots in which the contestants utilized the KYB Group's *Monozukuri* technologies and applied their unique tricks and ideas. The challenge for the fifth contest held in 2012 was the "ring toss". The robots competed by tossing a ring at a throwing

area after completing the uneven path with hurdles (rough road) and going over the bar. The level of tasks was higher than that of the previous year's "ball throw". Still, this year, a total of 19 teams from all KYB Group companies participated and competed on their technological capability. The spectators included everyone from top managements to employees and their families, totaling 480 people, and the atmosphere was full of excitement.



# Creation of Safe and Comfortable Workplaces

We are carrying out the establishment of various systems and activities, aiming to create a safe and comfortable workplace, where each person can exert one's ability enough, and people can grow by respecting each other.

## Establishment of a comfortable workplace environment

In the KYB Group, we are working on the establishment of personnel/welfare systems and the creation of a workplace environment in which people can work comfortably, in order to promote the work/ life balance that suits the employees' life style changes and the utilization of diverse Jinzai.

Regarding these issues, we established a Personnel/ Welfare System Exploratory Committee run by labor and management, and are advancing the consideration on the themes listed below, aiming at the creation of a comfortable workplace environment that matches the diverse needs of employees.

- Promotion of work/ life balance
  - Support system to balance work and family
  - Promotion of the use of women workers' abilities (Re-employment of female employees who have retired for childcare/nursing care, etc.)
- Personnel/ welfare systems that match the diverse needs
  - Effective utilization of company residences/ bachelor dormitories
  - Selectable welfare system (Cafeteria plan)

## KYB Prize (System to commend employees)

In KYB, we have a system in which we commend employees who made remarkable achievements for company or society. In fiscal 2012, Kouji Taniguchi received a KYB prize because he participated in Fukuoka International Open Marathon Championship for 20 years in consecutive years and completed the marathon all the time.

## Join in National Skills Competition -Contribute to level up the skills of young workers-

The National Skills Competition is held with the purpose to let young skilled workers under the age of 23 in Japan know about the importance and fun of "Monozukuri".

The 50th National Skills Competition was held in 13 cities including Matsumoto and Suwa in Nagano, and 1,097 skilled workers from all over the country participated and 40 types of competition were held.

From KYB, Shou Kawamura of Human Resources Development Center, Human Resources Div. participated in lathe competition.

This competition is very helpful to improve the level of skills of young workers, and we will try to participate in this competition continuously in the future for Jinzai development.



KYB employees participated in lathe competition

## Occupational Health and Safety Management System (OSHMS)

The KYB group adopted a slogan "safety is the highest priority" as a corporate policy in fiscal 2012 and we have been working on this slogan. We were mainly focused on the activities to prevent accidents beforehand by getting rid of hiding causes of industrial accident according to risk assessment of hazardous sources. Because the industrial accidents tend to occur when a working operation deviates from routine work, we promoted mainly the preparation of abnormal operation procedures, of which arrangement was delayed and its risk assessment.

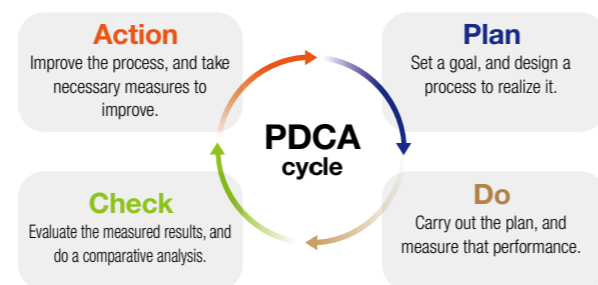
As a result, the occurrence of industrial accident was suppressed from the line where the risk assessment was implemented and the improvement measures were taken, so we confirmed effects. Also, the OSHMS, which has been developing in whole group since fiscal 2003, is continuously performing activities, while rotating PDCA cycle.



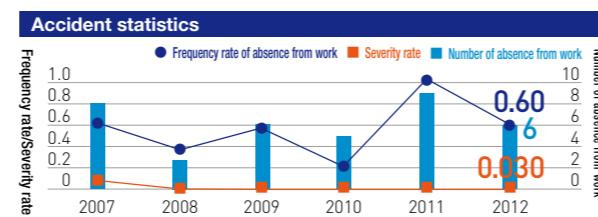
Risk assessment seminar (Gifu North Plant)



Scene of risk assessment (Gifu North Plant)



OSHMS acquisition record	Acquisition date	Plant
	March, 2004	Gifu North Plant KYB Kanayama
	July, 2005	Sagami Plant
	March, 2006	Gifu South Plant
	November, 2009	KYB-YS



\* Frequency rate of absence from work: Indicate accident frequency (Number of accidents requiring absence from work per 1 million working hours)  
 \* Severity rate: Indicate the level of accidents (Work loss days per 1,000 working hours)

## Fire fighting training in KIMZ (Zhenjiang, China)

In November 2011, an evacuation drill and a fire fighting training were implemented in KIMZ. The evacuation drill was implemented in 3 plants in KIMZ at the same time, and after that, all employees learned how to use a fire hydrant and a fire extinguisher. We will continue a fire fighting training to raise the awareness of employees for fire prevention.

All employees experienced fire fighting



## Implementation of mental health study for those who in supervisor position

As a measure for mental health, a "line care" in which a management supervisor notices and copes with the stress of junior staffs together with a "self-care" in which a management supervisor copes with the stress by oneself, play important roles.

The various mental health educations are implemented in each KYB base, and one of them is a "mental health study for those who in supervisor position" for assistant managers and group leaders, in order to promote self-care or line care. When a mental health study was implemented in Kumagaya Plant on April 19, 2012, we felt that the participants had high interests in mental health and enthusiastic attitudes. We will continue our activities to contribute to the creation of a lively workplace.



Scene of mental health study

## Development of Safety Experience Dojo

In Safety Experience Dojo, it is possible to experience simulation with real items, in order to raise awareness and understanding of not only new employees but also all employees for safety, with the slogan of "safety is the highest priority". The operators become careful of what they experienced in the Dojo when performing operations, and the unsafe behaviors are actually decreasing. In addition, an education corner for understanding of environment, energy conservation, etc. is also established.

A goal of Safety Experience Dojo in KYB Thailand

- To become a safety education center of the KYB group in Thailand.
- Educate all new employees
- Implement re-training of all employees (About 1,400 people) (Period: Within 6 months)
- Pass an understanding test after receiving education.



Scene of understanding test after education

## Expansion of equipments for safety simulation

In KYB-YS, a safety simulation DOJO was newly established in May, 2011. Since then, the safety education has been implemented to a total of 1,500 people including all employees and relevant workers, using 37 types of simulation machines.

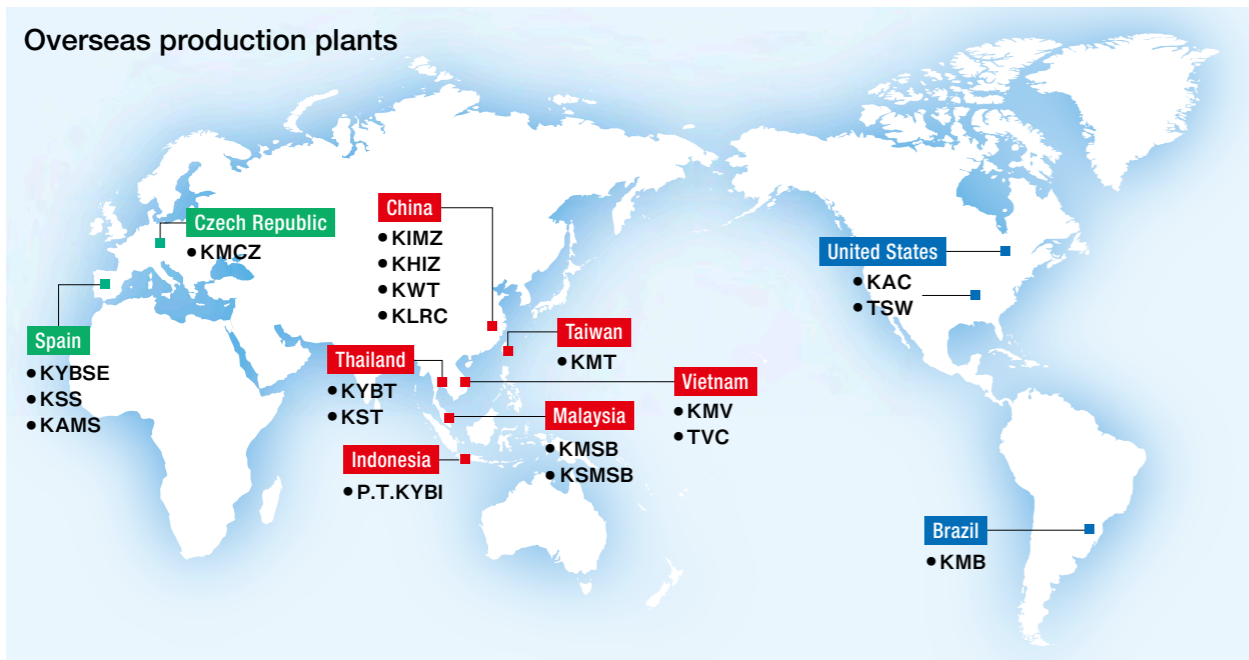
However, because there are many falling accidents and possibilities of danger to cause a big accident due to the use of a lot of organic solvent, this year, the simulation machines for falling and solvent explosion will be newly introduced, and we are aiming at no industrial accident, by continuously developing sensitivity to danger.



Solvent explosion danger simulation machine



# Globally expanding KYB group



## Environmental-friendly and operator-friendly plating process KMCZ (Czech Republic) ~ Recycling of automatic plating solution by ion exchange system ~

The chrome plating, which is used in the manufacturing process of a shock absorber for vehicles, contains hexavalent chromium as a major ingredient and is designated as a Specific Chemical Substances, putting high pressure on the human body and environment.

With plating line in a conventional form, the disposal treatment of the plating solution was entrusted to external contractors. The disposal treatment requires the application of new solution after removing waste solution from a plating bath periodically, and it was a dangerous work accompanied by the outflow of solution on the ground.

In the plating device introduced to the new piston rod line for SA that started operation in April, 2012, an automatic plating solution treatment function run by an ion exchange system has been equipped.

This system has two main functions that are completed inside the device: the automatic elimination of ferric by the ion exchange resin, and the automatic adjustment of each chemical concentration, etc. Thus, the manual solution exchange by operators became unnecessary and it became possible to eliminate dangerous works.



Ion exchange system    Ion exchange resin unit    Production Engineering Dept. Tomáš Jelínek

**INSIDE Environment improvement activities implemented by all employees**

In KMCZ, we pursue intermittent environment improvements through improvement proposals given by all employees. The employees in KMCZ understand the importance of giving consideration to the safety/environment field by the implementation of both internal/external audit including education training. The regulations and criteria within the Czech Republic and Europe are becoming stricter every year, and so we are facing the necessity to implement further improvements in the safety/ environment field by utilizing the newest technologies. And, those technologies must be of the utmost level regarding safe operation/ energy-saving/ energy collection/ the use of chemical substances friendly to the environment.

To examine/ invest in the newest technologies that are friendly to nature before any new construction or new establishment of a production line, in all KYB plans, will lead to customer satisfaction and a contribution to society, and it will become a mark of high quality of the KYB group as a member of an international corporation.

**Robert Frank**  
KMCZ President

## Receiving a 5S Silver Award in KST (Thailand) ~ Recognition of superior enterprises in 5S activities ~

In Thailand, the Technology Promotion Association (Thailand-Japan) has granted awards to superior enterprises in 5S activities, every year since 2002, in order to put 5S activities into practice. KST applied to "recognition of superior enterprises in 5S activities in the 2012 fiscal year", to sum up 5S activities we have implemented in the last 3 years and to proceed to the next step.

The audit process consists of 5 steps; documentary examination, presentation, 1<sup>st</sup>/ 2<sup>nd</sup> on-site examination, and final presentation. In presentation, we have learned good things in 5S activities from other companies, and in on-site examination, we could begin new activity based on the suggestions of the auditors. As a result of an audit, KST received a Silver Award.

Through the application of the 5S award for this time, we truly felt that our 5S activities were not sufficient and we need further improvement. We will implement 5S activities more actively in the future, aiming to receive the top award which is called the Diamond Award.



Companies that received recognition for superior enterprises in 5S activities in the 2012 fiscal year were given the award



The 5S award ceremony location

**INSIDE Creating workplaces where people can work safer and more comfortably.**

In Thailand, we do not have natural disasters such as earthquakes or typhoons, and the country is warm throughout the year, so we do not need to wear heavy clothes. But, in a plant, the employees are instructed to wear protective glasses and wear work clothes correctly for their safety.

However, the employees could not follow the rules because there is a gap in lifestyle between the inside and outside of the plant. For this reason, we promote 5S activities so that the employees can work safe.

Although we established a 5S Committee within the company and it has been implementing 5S activities since 6 years ago, we have only made a slow progress. Therefore, in order to improve on the 5S level, we applied a "Thailand recognition of superior enterprises in 5S activities", which has been hosted by the Technology Promotion Association (Thailand-Japan) since 11 years ago. In the "Thailand recognition of superior enterprises in 5S activities", we are required to make the employees understand them, and to achieve concrete results with them, which means that we must implement practical 5S activities.

During an on-site audit, 20% of our employees took paper tests to determine their comprehension of 5S activities. The points of the tests were also judged at an audit. Although, I myself took a paper test as the leader of 5S promotion, the test was not easy.

The keyword for our 5S activities is "home positions", which represents the fixed positioning.

In order to make a home position more visible, we indicated the storage spaces of shelves, pallets and cart that have a risk of moving in white line. In addition, because the oil leakage has not yet been eliminated, we are promoting improvements, in accordance with the idea that cutting oil should originally be within a device (Home positions are within a device), and it should not be spilled on the floor (the floor is not the home position).

From the 5S audit, we have learned that in fact there are some enterprises that implement 5S activities at high levels in Thailand, and those enterprises achieved results on improvements of the working environment, productivity and quality. We will work to implement 5S activities at a higher level to create safe and comfortable workplaces.

**Eiichi Nawa**  
KST President

Corporate Management  
Environmental Report  
Social Report  
Global topics

Corporate Management  
Environmental Report  
Social Report  
Global topics



## Malaysia Safety and environment improvement activities KMSB (Malaysia)

A successful safety and environment awareness program continually reminds employees to work safely while performing all tasks. In order to ensure that all employees are always ready for any emergency occurrence, we have trained our fire fighting team members on handling fire-fighting equipment. All members from high risk fire areas such as casting, painting Depts., buffing and the welding process are also trained on the use of a fire extinguisher.

As a part of activities to reduce the breeding area for aedes

mosquitoes, we have established a Dengue Squad at KMSB. This squad is responsible to conduct monthly inspections to ensure that the KMSB compound is free from any stagnant water, which may lead to the breeding of aedes mosquitoes.

We were given an acknowledgment for the achievements, and received the recertification of ISO 14001:2004 and OHSAS 18001:2007 in December, 2012 from Moody International Certification Malaysia Sdn Bhd. (Malaysia)



Training on how to handle fire and fire-fighting equipment.



Inspection of stagnant water

## Spain Activities to reduce the use of water KAMS (Spain)

Following the activities done in the 2011 fiscal year to reduce CO<sub>2</sub> emissions and wastes, in the 2012 fiscal year we have focused our activities on reducing the use of water. First, we investigated the relationship between the cleaning condition of painting parts and the amount of water used. Through the investigation, we have reduced the water usage by 33%, the operation of the clarification plant by 4 hours a day (25% of the total) and the filtration process with nano filter by 2.5 hours.

As a result, we have not only reduced waste water and chemicals usage, but also saved energy (electricity, compressed air, and water consumptions). Next year, we will classify current wastes and implement activities to reduce dangerous industrial wastes.



## Spain Improvements in safety and health KSS (Spain)

The container lift for final inspection of the steering pump did not meet the condition that the operators could perform the operation in their best physical posture. We had to lift the loader by using a pedal in a mechanical method. Also, it was difficult to reach the storage space in the inner most corners because the loader did not incline, therefore, operator's back used to get tired when performing this operation.

Thus, we introduced a new lift to reduce strain to the body and operation time. The new lift can be moved vertically, so it can reduce strain to the human body when performing this operation in the inner most corners, securing the safety and health of its operators.



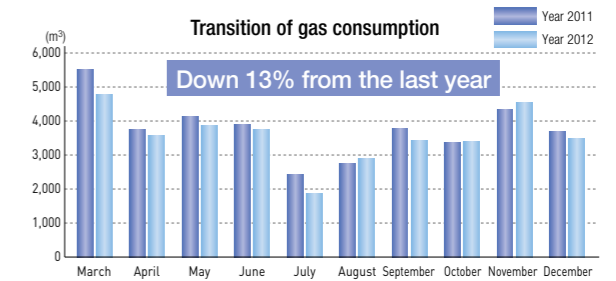
Before improvement



After improvement

## Spain Reduction of gas consumption KSS (Spain)

In KSS, we decreased the dimension of steam being supplied to heaters, washing machines, etc. by 0.1MPa in March, 2013. The range of use of pressure values is between 0.5MPa and 0.7MPa, and we have changed it from 0.67MPa to 0.57MPa. Although we lowered the target value due to the implementation of maintenance to the boiler, we have realized a stable supply. The main purpose is to reduce gas consumption of the whole plant as much as possible, while securing a stable supply of vapor.



## Indonesia Implementation of job training P.T.KYBI (Indonesia)

Currently, in P.T.KYBI, we are working on CSR activities under the following basic policies: "contribution to local society", "promotion of social welfare and environment protection", and "support for victims of natural disasters".

In recent years, Indonesia is keeping steady economic growth. But, on the other hand, there are many people who do not have the necessary skills and knowledge and who do not have employment opportunities. The unemployment rate that exceeds 6% is a big social problem. Therefore, our company is trying to contribute to local society by implementing job training for those who have difficulty getting jobs as a part of the CSR activities.

Regarding the contents of recent activities, we have implemented job training of catfish farming. In this training, our company provided a site and a facility necessary for it. And under a job training specialist from the Ministry of Labor, we trained various methods ranging from (1) how to feed, (2) how to ensure water quality, and (3) how to hatch, in order to help people gain the necessary skills and knowledge. In addition, because the demands for catfish are high, the activities lead to a secure stable income. We started fish farming with 4,000 fish. But now, the number of fish has grown up to 35,000 and the activities are taking hold. We will continue the activities to produce employment for local people and to secure stable income.



Training of fish farming



Job trainees



Site for fish farming

## United States Saves energy by reducing plant air pressure TSW (United States)

At TSW, increases in production were expected to lead to an increase in air usage. Thus, we performed an investigation of the equipment and air supply to find area where environmental improvements were achievable. The improvements resulted in the reduction of the use of electricity needed for the operation of air compressor in the 2012 fiscal year by 300,000kW per year.



Investigation of an air usage environment in the whole plant

## Brazil Improvement activities of the painting line (Pretreatment process) KMB (Brazil)

In KMB, we have reduced water consumption of painting line by approx. 52%, by recycling water that overflowed in the pre-treatment process.



Vilson Moraes  
KMB Painting Process Engineer

