

Environmental and Social Activity Report

2017















Top Message

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

Yasusuke Nakajima

Representative Director and President Executive Officer **KYB** Corporation

1. notrepoll

Introduction

KYB has grown globally since its foundation in 1935 as a leading manufacturer based on its core vibration/power control technology with the generous understanding and support of all stakeholders. Today, KYB products support people in every corner of the world and, thereby, provide safety, security, and comfort. Fiscal year 2017 is the first fiscal year of the 2017 medium-term plan. Subsequently, KYB continues to serve as a reliable brand contributing to the creation of an affluent society, through monozukuri (development/manufacturing) for human happiness and will take a strong step towards dramatic improvement in the next three years with a sense of mission and joy. We look forward to your continued support as we pursue our mission.

Looking back at fiscal year 2016

Looking back at the KYB Group's performance in fiscal year 2016, we see that because of business environment changes, such as the economic slowdown in China and economic downturn in emerging countries, a variety of different measures were implemented, including management integration or other dramatic structural reforms in China and the Nagano region and the reduction of fixed overheads. Meanwhile a global sales expansion policy was promoted through aggressive marketing activities. Accordingly, the Group's consolidated performance started to recover in the second half of fiscal year 2016, in conjunction with the effects of structural reforms and signs of the bottoming out of the construction machinery market in China. In fiscal year 2017, we will vigorously seek and provide definitive solutions to any problems not solved by the previous medium-term plan, and in our efforts to create a management system and earnings foundation that can flexibly respond to abrupt changes in the business environment, we will further accelerate and promote our drastic structural reforms in all aspects, including organization, production, and bases.

KYB Group initiatives for society/environment

The KYB Group returns to the basics of skilled manufacturing by giving priority to the sites in the 2017 medium-term plan and strives for quality improvement, productivity improvement, response to customers, cooperation with suppliers, business contributions, and fair trade (legal compliance) in the collaborative activities of the production, sales, and technical departments. Depending on reforms from giving priority to the sites, we intend to be a corporate group that continues to contribute to the sustainable growth of society by providing the highest level of technology, quality, and credibility to our customers and society. The KYB Action Guidelines specifically provide that every employee should be aware and act as a good



corporate citizen who contributes to the healthy growth of society by acknowledging that society is the basis of the company's continuing existence, always valuing the sense of community, and working to actively absorb different cultures and information outside the company. We intend to cooperate with the community by hosting and supporting community events in which many of our employees participate every year.

For the purposes of the protection of the natural environment, the KYB Group develops a number of domestic and international activities for global environmental protection during business development. The company's attitudes towards learning about nature and respecting the environment are reflected in our product manufacturing that contributes to environmental protection or reduces the environmental load.

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

Contents

- 2 Top Message / Contents
- 4 What KYB Aims to Be
- 6 Outline of KYB Group
- KYB Here and There

10 2016 Action Highlights

Environmental Report

14 **Environmental Management**

Basic environmental policy Environmental conservation objectives Chemical substance management

16 **Initiatives to Reduce Environmental Burden**

Activities at plants

Social Report

Side by side with the customer 18

Activities for customer satisfaction improvement

With Business Partners 20

Establishment of partnership

21 For the Community

Social Support Activities

24 With Employees

> Human resource utilization and work environment improvement in cooperation

Human resource development and technical capability improvement

Employee communications

Creation of Safe and Comfortable Workplaces 27

Occupational safety and health

Management Report

28 Corporate Management

Corporate governance

- 29 Internal control / Compliance
- 30 **Environmental data compilation**
- **Editorial Policy** 30

The content of this report has been posted on our website, so please take

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

Our Precision, Your Advantage

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

Management principles

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

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

Management Vision

Human Resources Development

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

Technology and Product Development

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

Monozukuri (Japanese manufacturing expertise)

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

Management

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

Society Contribute to the community Coexistence with suppliers and local communities

Relationship between

Provide useful technologies and products

Customers

Quality, customer satisfaction and new product and technology development

KYB Group

Global environment Coexist with the global environment

Environmental management, environmental and social report, energy-saving plant

Shareholders Provide healthy returns on business activities

Economic contribution and internal control

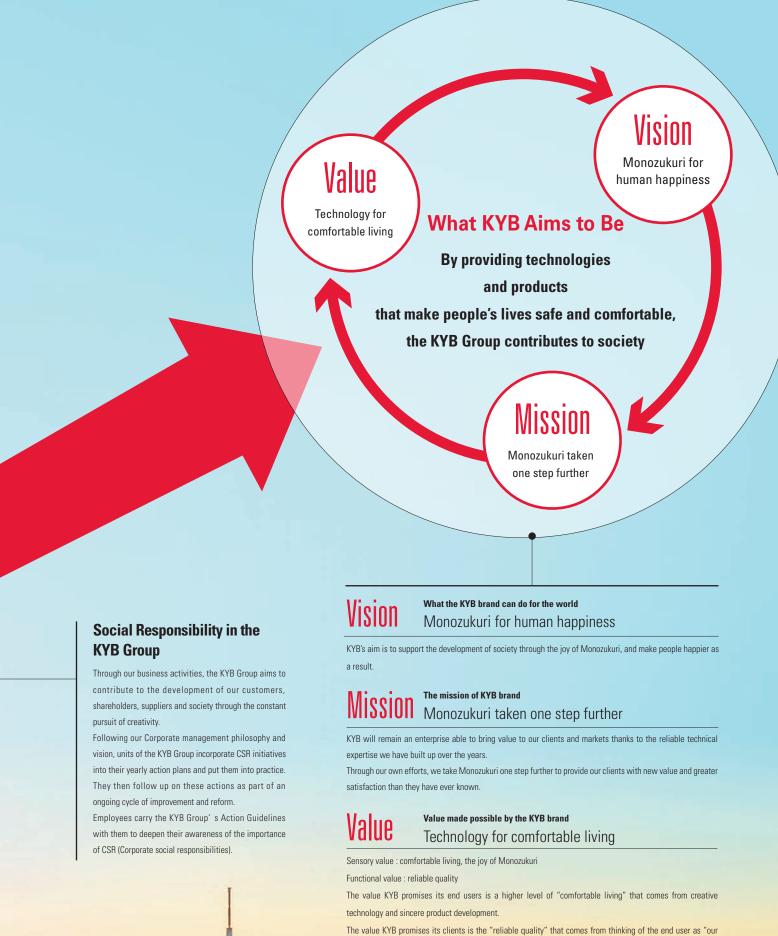
Achieve
a healthy workplace
environment

Human rights, worker safety and health, human asset development

Guiding Principles

- (1) Establishment and its practice of the corporate ethics
- (2) Thorough implementation of slogan of "Customers First"
- (3) Pursuit of product safety
- (4) Appropriate accounting and account
- (5) Disclosure of corporate information
- (6) Compliance with laws and order
- (7) Dealing with our customers

- (8) Dealing with our suppliers
- (9) Prompt dealing with customers'complains
- (10) Participation in activities of industry circles and other related organization.
- (11) Breaking connection with anti-social power or groups
- (12) Prohibition of insider trading
- (13) Protection of intellectual property rights
- (14) Retention of trade secret
- (15) Protection of personal information
- (16) Protection of other company property
- (17) Coexistence with local communities
- (18) Preservation of natural environment
- (19) Labor management cooperation
- (20) Safety and health
- (21) Education and Training and career development
- (22) Prohibition of discriminatory actions
- (23) Prohibition of harassment actions
- (24) Prohibition of child labor and forced
- (25) Maintenance and improvement of good and healthy workplace environment



changing the world.

The value KYB promises each employee is "the joy of Monozukuri" that comes from knowing he or she is

Outline of KYB Group

Company overview

Company NameKYB CorporationFoundedKayaba Research Center, November 19, 1919EstablishedKayaba Manufacturing Co., Ltd. March 10, 1935IncorporatedNovember 25, 1948 (KYB Corporation)

Head Office World Trade Center Bldg., 2-4-1,

Hamamatsu-cho, Minato-ku, Tokyo 105-6111, Japan

Chief Representative Representative Director, President Yasusuke Nakajima

Capital 27,647,600,000 yen (As of the end of March 2017)

Plants Kumagaya, Sagami, Gifu North, Gifu South, Gifu East

Laboratories Basic Technology R&D Center,

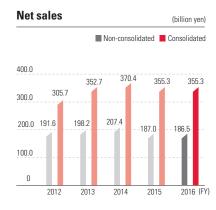
Production Technology R&D Center Developmental Experiment Center

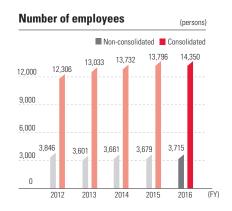
Machine Tools Center

Electronics Technology Center

Number of Employees 14,350 persons (As of the end of March 2017, consolidated)

3,715 persons (As of the end of March 2017, non-consolidated)





Major Products

AC (automotive components) operations

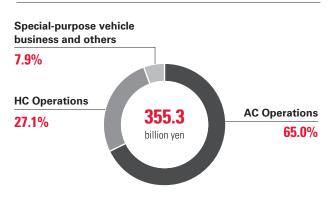
Shock absorbers, suspension systems, power steering systems, vane pumps, front forks, oil-cushion units, stay dampers, free locks

HC (hydraulic components) operations

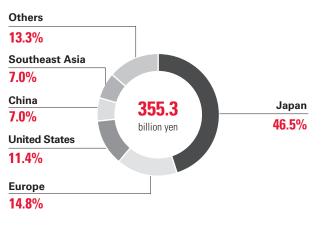
Cylinders, valves, oil dampers for railroad, collision bumpers, pumps, motors

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

Net sales by business segment in fiscal 2016 (Consolidated)



Net Sales by geographic region in fiscal 2016 (Consolidated)



^{*} For details on sales figures and applicable range, please refer to our financial reports. Major Products

Affiliate companies in Japan

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



KYB Group production bases



History

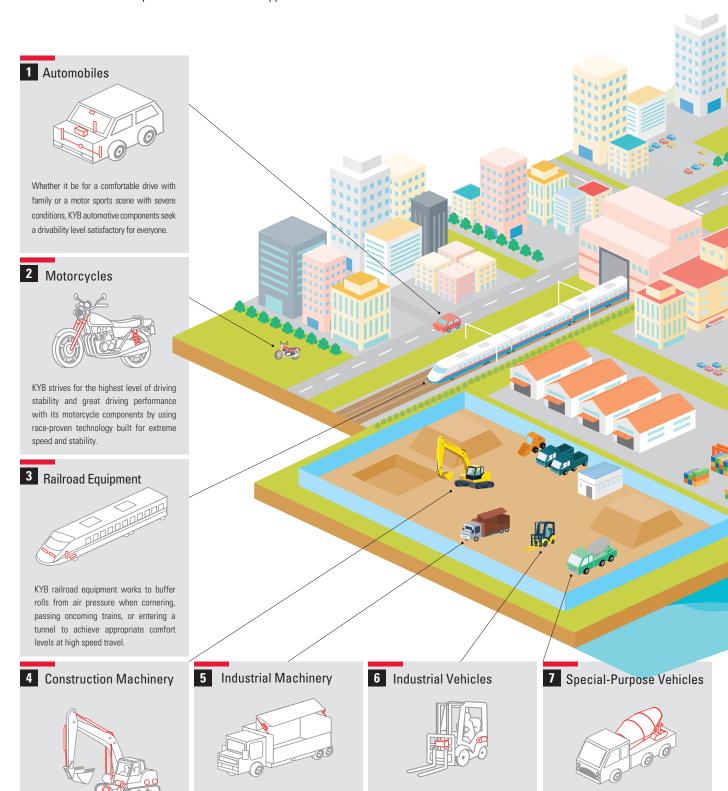
| 1919 | Founded Kayaba Research Center | 1999 | Formulated the Corporate Guiding Principles |
|------|---|------|--|
| 1927 | Established Kayaba Seisakusho | 2001 | All KYB plants acquired ISO 14001 certification |
| 1935 | Established Kayaba Manufacturing Co., Ltd. | 2005 | Formulated new management principals and management vision |
| 1948 | Incorporated Kayaba Industry Co., Ltd. Kayaba Seisakusho around the time of its founding | | Adopted "KYB" as a shared corporate name |
| 1959 | Company stock listed on the Tokyo Stock Exchange | 2008 | Held company's first robot contest ✓ Interior of anechoic chamber |
| 1981 | Unifi ed production system under KPS name | | at the Electronics Technology Center |
| 1985 | Changed trade name to Kayaba Industry Co.,Ltd. | | Test course on the grounds |
| 1992 | Set up the Environment and Safety Committee | | of the Developmental Experiment Center ► |
| 1993 | Held fi rst company-wide sports and culture interactive event | 2011 | Established Developmental Experiment Center, started operating test course |
| 1998 | All KYB plants acquired ISO 9001 certification | 2015 | Changed trade name to KYB Corporation |

KYB Here and There

KYB products support different types of monozukuri.

They help with the everyday life of the people and provide safety and comfort.

Listed below are the KYB products used in various applications.



KYB demonstrates its hydraulic technology

on forklifts and other industrial vehicles to

provide the powerful support for improved

operational efficiency.

KYB special-purpose vehicles offer support

for comfort in all living environments. KYB

concrete mixer trucks hold the highest

market share in Japan.

KYB industrial machinery components,

including opening/closing devices for trucks,

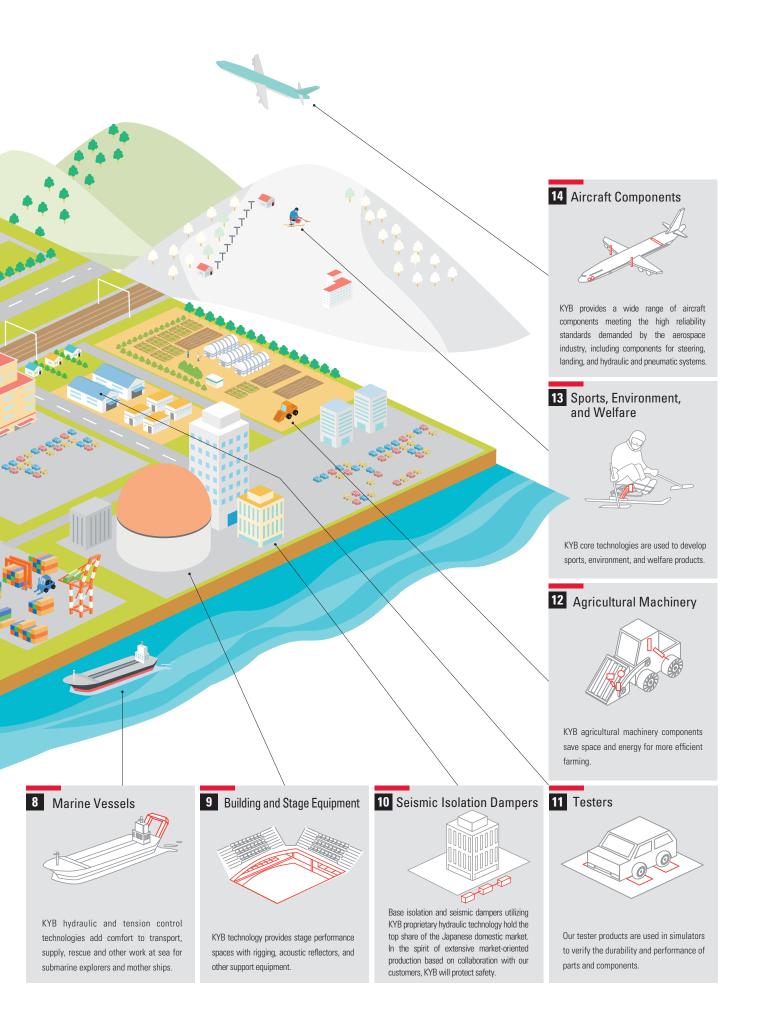
are used to improve the environments of the

plant, office, and home.

sites under severe conditions.

KYB components are widely used in

construction machinery at the construction



2016 Action Highlights

We combine our core competence in vibration control technology and power control technology with systems technology and electronic technology to respond to our customers' wide-ranging needs in a variety of different fields. The highlights in this edition will introduce products developed with consideration for safety and the environment, programs for global human resource development, and more.







Adjustable damping with a solenoid valve on Lexus LC

Our adjustable damping shock absorber with a proportional solenoid has been adopted for Toyota's Lexus LC, the company's new-generation platform for FR vehicles, followed by Prius, which first introduced the TNGA (Toyota New Global Architecture) platform. For this shock absorber, a new proportional solenoid valve has been adopted for use in the main mechanism where damping force is adjustable, which makes it possible to change the damping force using electric signals emitted from the ECU (engine control unit, a microcomputer that controls total operation of engine) installed in the vehicle. Shock absorbers are mounted

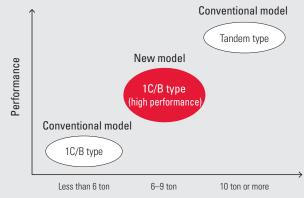
to absorb vibrations from the frame and largely contribute to improving the basic characteristics of comfort and steering stability. Compared with current adjustable damping shock absorbers, this product achieves much greater responsiveness when changing the damping force and is capable of controlling damping force characteristics from softer to harder modes in a continuous, smooth manner. Moreover, this shock absorber instantly generates the required damping force in response to input from the road surface, thus providing comfort and high steering stability in any situation. We will continue to develop products that provide comfort with the joy of driving to meet customer expectations.



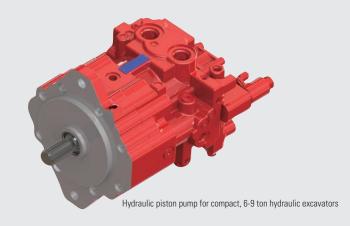
Hydraulic piston pump for small excavators

We developed a new hydraulic piston pump for compact, 6-9 ton hydraulic excavators. With an additional tandem pump for the 1 C/B* as the basic pump structure, the pump length has been shortened for this high-performance piston pump intended for compact hydraulic excavators. Equipped with a load-sensing control function to provide flow control, this product allows for flow control irrespective of the workload. In addition, the variable gain function added to load-sensing control makes it possible to maintain work speed even when the operator is saving energy by reducing engine speed, thus realizing energy savings and superior usability at the same time. We developed a special rotary part to improve the energy efficiency of the pump by about 4% compared to conventional models, which improves the workability of the excavators while saving energy.

*C/B: cylinder block



excavators class





T-S oil damper

After the Great East Japan Earthquake, the conventional expectations of the areas that would be affected by huge earthquakes in the Nankai Trough off the Pacific coast has been reviewed; now, the predictions are that the ground motion generated by such earthquakes would be much longer than previously expected for the conventional building design processes. Once such earthquakes occur, they can cause excessive deformation of the base-isolated floor,* which may lead to collisions with surrounding retaining walls* or damage to the seismic isolator. A solution to this problem is to suppress the deformation of the base-isolated floor by increasing the resistance of the damper. However, this method is problematic in that it blocks movement of the base-isolated floor during moderate earthquakes, which are the most typical type of earthquake, and degrades the seismic isolation effect. To address this issue, we developed a damper that satisfies the following two conditions in collaboration with Taisei Corporation.

- 1) Demonstrating high seismic-isolation performance with appropriate damping force in the event of moderate and small earthquakes.
- 2) Increasing the damping force in a huge earthquake or earthquake with unexpectedly long-period ground motion to suppress deformation of the



Installation of damper in building

base-isolated floor.

This prevents the collision of retaining walls, thus ensuring the safety of people and property in the building.

- *Base-isolated floor: Support members, such as seismic isolation rubber, and damping members, such as oil dampers, are installed in this floor. This floor is mainly located on the first floor of the basement.
- *Retaining walls: The side walls in the base-isolated floor. When viewed from the sides, the base-isolated floor has a concave shape, which is formed by these side walls.



Development of a large concrete mixer truck for India **MR8040X**



MR8040X

In response to the growing demand for large drums in the Indian market, KCPL developed a concrete mixer truck (hereafter mixer truck) with an 8 m³ load capacity. The mixer truck can load and transport a larger volume of Ready-Mixed concrete compared to the mixer truck with a 6 m³ load capacity, which had already been released since October 2013. While the conventional mixer truck with a 6 m3 load capacity uses a sub-engine mounted on the equipment side to drive the mixer, in addition to the engine installed on the chassis side to drive the drum, the newly developed MR8040X introduced a new

method where the power is directly transferred to the drum via the P.T.O (power takeoff, a device that takes power from the engine) instead of the sub-engine drive method. This eliminated the need for the sub-engine and reduced the product weight by about 500 kg. With the increased drum size and reduced weight, this mixer truck reduces the transfer frequency, transport period, and fuel cost. We will continue to develop products and environmentally friendly mixer trucks to meet customer needs.





comfortable work environment.



Highlight 05 | Human resource development

Enhancing opportunities for women

As part of our efforts as a company where human resources can achieve In fiscal 2016, we sponsored career training for women to change the their full potential to continuously create new value and competitiveness,

Four pillars to achieve this objective are as follows:

Capacity development and training to change awareness

we promote active participation by women in order to create a more

- Development of work environments more comfortable for everyone
- 3 Support for employees who take childcare leave
- 4 Support for various ways of working



*Childcare exchange meeting: This is an event to address the concerns of employees during childcare leave through communication with senior awareness of women employees we also sponsored training for managers of women employees to change the awareness of managers.



We convened the childcare exchange meeting* to reflect the voices of more women employees, and we asked each of the KYB's business sites and domestic group companies to choose a woman representative. The representatives chosen from each site formed a committee to discuss ways to enhance opportunities for women (Harmony Project) and to implement various measures to achieve the goals. We will continue to encourage diversity through the introduction of a work-at-home system, promotion of work-life balance, and an awareness survey for improvement of the work environment.



The first meeting of the Committee for enhancement of opportunities for women



Voices from the participants



"Instead of just taking superficial measures, I would like to think about what is needed to foster enthusiasm among employees."

Miho Shimada

CAE Promotion Sagami Branch Manager



"I would like to reflect the opinions of many employees in our projects to make our workplace more comfortable."

Hiromi Sanpei

Human Resources (Sagami resident)