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Introduction

From the very start, the THK Group (usually referred to in these pages simply as THK) has always conducted its operations faithfully and conscientiously, with the aim of contributing to society through its core business activities.

This year's *THK CSR Report* includes a feature section focusing on THK's efforts to honor its corporate social responsibilities in two key areas. The first part, which recounts the experiences of people who rely on THK's seismic isolation systems, stresses the vital importance of being prepared for the ever-present danger of a major earthquake. The second part examines various measures adopted by THK in order to conserve electricity in the aftermath of the Great East Japan Earthquake, and the results achieved. The feature section ends with a look at the experiences of THK employees who have volunteered to help with post-quake reconstruction work.

The section entitled "Management system" includes a discussion of risk management efforts, while "Involvement in society" focuses on THK's relationships with its various stakeholders. "Harmony with the environment" examines THK's environmental initiatives in fiscal 2011 and presents some quantitative results.

The *THK CSR Report* is an essential tool for communicating with everyone who is connected in any way to THK and its activities. Reader comments and feedback will be greatly appreciated—please take the time to fill out the enclosed questionnaire.

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Reporting period

This report focuses mainly on activities from April 1, 2011, through March 31, 2012, although activities occurring shortly before and after this period are also discussed.

Scope

This report is based on information provided by THK Co., Ltd., and its consolidated subsidiaries and affiliated companies. The full scope of the data reported in the environmental section, apart from that presented in the sections "Environmental impact: The big picture" and "Environmental preservation: Costs," comprises THK's five manufacturing plants in Japan, in YAMAGATA, KOFU, GIFU, MIE, and YAMA-GUCHI; THK NIIGATA Co., Ltd.; and two manufacturing plants owned by THK INTECHS Co., Ltd., in SENDAI and MISHIMA.

Target readership

This report is addressed to a broad range of stakeholders, including THK's customers, shareholders, investors, partner businesses (cooperating companies and suppliers), and employees, as well as government administrators and residents of local communities.

Reference resources

Reference information used in the preparation of this report has been drawn from the Global Reporting Initiative's *Sustainability Reporting Guidelines 2006 (G3)* and the Ministry of the Environment's *Environmental Reporting Guidelines 2007*.

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Message from the top



Akihiro Teramachi President and CEO THK CO., LTD.



A look back at 2011

The year 2011 was marked by a rash of natural disasters occurring around the globe, including flooding in Australia in January, a major earthquake in New Zealand in February, the Great East Japan Earthquake in March, torrential rains in Japan's Niigata and Fukushima Prefectures in July, and flooding in Thailand in October. The events of the year left us all painfully aware of the need for business continuity planning. I sincerely hope the affected areas recover as quickly as possible. We will continue to strive to provide long-term assistance where it is needed.

Widespread economic woes continued in 2011. Japan struggled with an electric power shortage caused by the deactivation of its nuclear power plants, as well as with a decline in exports and a resulting shift of manufacturing overseas caused by a drastic rise in the value of the yen. Meanwhile, the financial crisis that began in Greece threatened to engulf the rest of Europe, and a drop in exports to Europe triggered an economic slowdown in China and elsewhere in Asia, as well as in the United States. Facing an uncertain future, businesses were pressed to take action.

40th anniversary

Amid the aforesaid difficult circumstances in Japan and around the world, THK celebrated its 40th year in business on April 10, 2011. We achieved this milestone thanks entirely to the loyal support of our customers and our partner businesses, to whom I offer my sincere gratitude.

Providing innovative products to the world and generating new trends to contribute to the creation of an affluent society—this is THK's corporate philosophy. From the time it was founded, THK has endeavored to contribute to technological innovations in the industrial world as a pioneer in linear motion systems. We have worked hard to meet the needs of our customers, develop and grow along with our customers, and do whatever we can to help bring about a prosperous society.

With natural disasters striking in rapid succession and the European financial crisis looming on the horizon, however, it is imperative that THK rapidly expand its business into new markets, establish a presence at optimal sites of production throughout the world, and penetrate rapidly growing local markets, in addition to helping Japanese industries become more competitive.

THK is moving quickly to meet these challenges and will continue to make every effort to pursue further growth.

Striving for sustainable growth

Business continuity planning

At THK, we have long understood the importance of effective business continuity planning, and we have prepared accordingly. In the aftermath of the March 2011 Great East Japan Earthquake, however, we are all too aware of how important it is to formulate a thorough business continuity plan. Among other things, this involves creating a framework for restoring operations at damaged plants, securing lines of communication and independent sources of power, ensuring the availability of multiple distribution routes, arranging for the transfer of headquarters functions to alternative locations, securing reserve supplies, and ensuring the safety of the supply chain. It is also essential to ascertain the safety of not only employees but their families as well, and for this the company must provide the requisite training and guidance. THK has steadily addressed all these challenges based on the conviction that we need to be prepared for a long-anticipated major earthquake occurring directly beneath the Tokyo metropolitan area, a major earthquake in the Tokai, Tonankai, or Nankai region, or the simultaneous occurrence of more than one of these calamities.

Arrangements have been made for the transfer of headquarters functions to the GIFU Plant, YAMAGUCHI Plant, and NAGOYA Branch. Preparations are underway to enable identical products to be manufactured at multiple plants, both here in Japan and overseas. With the assistance of our suppliers, we will continue to make every effort to ensure that there are no interruptions in the supply chain.

In closing

We present this year's *CSR Report* with a renewed awareness of a manufacturer's vitally important responsibility to maintain supply. In normal times a business can simply pursue stable expansion of its own business activities. Amid the unprecedented crises of recent months, however, we have recognized anew that by honoring our responsibility to maintain a stable flow of products, not only directly to our customers but to downstream suppliers as well, we help maintain the calm pace of ordinary economic activity and encourage progress toward a rapid recovery.

THK has launched a groupwide effort to ensure that we are prepared for unanticipated situations that arise even in normal times and to ensure that, whatever the circumstances and whenever they occur, we will uphold our responsibility to maintain a steady supply of products. We humbly request your support for this endeavor.

The THK Group

Profile

THK, the pioneering firm that introduced the world's first Linear Motion Guide, is the world's foremost manufacturer of machine elements and components. As a creative, development-oriented company, THK has developed a broad range of products since its establishment in 1971. THK's LM Guides and other products are used in machine tools, industrial robots, and semiconductor production equipment. THK products are essential components in these devices, enhancing precision, increasing speed, and reducing labor, and have contributed to advances in many industries. In recent years, applications for THK products have expanded to include CT scanners, MRI devices, and other advanced medical instruments; safer and more environmentally friendly automobiles and railway cars; and seismic isolation and vibration-damping devices that protect human life and property.

Corporate name	THK CO., LTD.
Date established	April 10, 1971
Address	3-11-6 Nishi-Gotanda, Shinagawa-ku Tokyo, Japan 141-8503
Capital	¥34,606 million*

As a milestone for continuous growth, THK has set a goal of achieving consolidated sales of ¥300 billion. To attain this goal, the company has embraced a two-pronged strategy focusing on full-scale globalization and the development of new areas of business, to increase its geographical presence and expand the range of applications for which THK products are used. Full-scale globalization, based on the idea that the site of demand is the optimal site for production, represents an effort to further strengthen the unified producer-retailer system in THK's four territories: Japan, the Americas, Europe, and the rest of Asia. The development of new areas of business entails the deployment of newly established specialized departments, to expand the range of product applications into the domain of consumer products, including automobiles and housing.

End of fiscal year	March
Employees, consolidated	8,628*
Employees, non-consolidated	3,392*
Subsidiaries, consolidated	Japan: 7; overseas: 24*
	*As of March 31, 2012

THK personnel, non-consolidated (as of March 31, 2012)

Status	Number	Average age	Average years of service
Employees, male	2,829	38.4	15.6
Employees, female	500	32.4	11.1
Employees, total	3,392	37.5	14.9
Board members	20		
Advisers	2		
Part-time employees	6		
Personnel from affiliates	132		
Temporary personnel	6		







The THK Group: Major locations

THK is pursuing full-scale globalization to strengthen its unified producer-retailer system in four territories: Japan, the Americas, Europe, and the rest of Asia.



Feature section: Providing needed support

Experience and achievements guide the evolution of seismic isolation technology

People have to be prepared for crisis situations, since earthquakes pose a danger to all of us.

Professor Nobuo Fukuwa, Dr. Eng. Director Disaster Mitigation Research Center Nagoya University

The combined population of Iwate, Miyagi, and Fukushima, the three prefectures that bore the brunt of the Great East Japan Earthquake, is approximately 5.6 million, which is roughly 4% of all the people in Japan. This is a region where earthquakes occur fairly frequently, so there were hardly any fragile structures among the buildings that were destroyed. This is also a region where people tend to be acutely aware of the danger of natural disasters and where old stories and personal experiences of tidal waves and earthquakes are commonplace, as reflected in the local saying tsunami tendenko ("in a tsunami, every man for himself"). Despite the fact that northeastern Japan is not densely populated and despite the heightened awareness of danger, the region incurred nearly 20,000 casualties. If a series of earthquakes struck the Tokai, Tonankai, and Nankai region, the destruction would likely be many times more extensive.

In large metropolitan areas such as Tokyo and Osaka, many high-rise structures have been built on old riverbeds, reclaimed land, landfill, and other fragile foundations, and these buildings would be severely affected by long-period seismic waves. The Great East Japan Earthquake was surely a very frightening experience for many people on the top floors of these high-rise buildings. Although the vibrations may not be that strong at ground level, long-period seismic waves cause strong, slow shaking on the upper floors that continues well after the ground-level vibrations have subsided. Structures erected in accordance with current building codes are not adequately equipped to withstand such forceful and protracted shaking.

The most essential part of preparing for a massive, terrifying earthquake of this sort is recognizing that the danger is a matter of concern to everyone. Many Japanese people mistakenly believe that they live in a safe country and that their safety is somehow being maintained by others. Each of us, however,



must be responsible for our own safety. In the past, it was taken for granted that everyone had to protect himself or herself. People learned how to live while coping with disasters and the whims of nature, and these lessons were passed on from one generation to the next. Unfortunately, this is not true of the present generation.

Even so, new means of protection exist: techniques such as damping and seismic isolation. These amazing technologies, newly available to us, were not available when major earthquakes occurred in the past. However, it costs money and takes time and effort to incorporate seismic isolation equipment and other such devices, so these techniques are not yet widely used.

Even when they have an intellectual understanding that a need exists, people often fail to take action unless they are physically confronted with that need. I have concluded that people need to experience the horror of an earthquake in order to realize that it's in their own interest to be prepared. For that reason, in cooperation with THK, we have developed a series of earthquake-simulation devices. One such device is BiCURI, or the Bi-directional shaker and Computed Ultra-Response Integration environment. This device provides a simulated experience of the major earthquakes expected to occur someday in various locations in Japan, including the different tremors that would occur in each region and each type of ground as well as the different levels of vibration on lower and higher floors.

We need people to understand what it actually means to endure a major earthquake. Once they have had a convincing physical experience, people awaken to the realization that the threat of an earthquake is everyone's business. This inspires a determination to be prepared and prompts people to take real action by incorporating earthquake resistance and seismic isolation devices, to protect themselves against disaster. THK's seismic isolation systems incorporate two of its principle products, LM Guides and ball screws. There are two basic types of systems, one designed to protect buildings and one designed to protect equipment. Once they are installed, seismic isolation systems can deflect earthquake vibrations, safeguarding buildings and equipment.

Seismic isolation devices for buildings



Strong local interest in seismic isolation to protect large buildings

When we rebuilt our house, our first concern was to make it safe. Our old house was made of wood and it was quite comfortable, but that kind of construction is out of date. Plus, the city of Toyota and the surrounding area are in the Tokai earthquake zone, so we always worried whenever there was an earthquake.

When I was working in Nagoya, they started doing seismic isolation work on the western building of the prefectural government complex, and that got me thinking about seismic isolation for our house. They were using seismic isolation devices from THK. Later on I visited a model house and saw and heard about another company's seismic isolation system, but it seemed kind of one-dimensional. We had hired a builder that there are no running costs is big plus. We're using the same system they use in huge buildings like the prefectural government offices, so we feel very safe.

While the construction work was being done, neighbors who saw the seismic isolation units laid out on the foundation congratulated us on building such a sturdy house and told us that, if an earthquake struck, they'd be heading for our house. In a way our house has probably become an advertisement for THK's seismic isolation systems. I hope that helps motivate more people around here to equip their own homes with seismic isolation, because it will bring peace of mind to the whole area.

called Haneda Construction, and they showed us some sample seismic isolation devices that THK had loaned them. We both decided that this was what we were looking for. The THK units use LM Guides, so they can handle vertical tremors quite well, and the fact



Foundation for a residence, built by Haneda Construction.



Homeowner Yasuo Haneda (second from left) with Kazumi Haneda of Haneda Construction (far right).

Seismic isolation systems for protecting equipment

Seismic isolation systems for protecting equipment provide spot coverage—seismic isolation only where it is needed, such as under a server computer or precision instrument, or under the entire floor of a data center or an operational command center.

THK offers two types of seismic isolation devices for protecting equipment: the model TSD Seismic Isolation Table and the model TGS Seismic Isolation Module.

The model TSD Seismic Isolation Table is a simple device that can provide seismic isolation wherever it is placed. It is easy to assemble and extend and can be used for existing as well as newly installed equipment. It is used to protect a wide range of equipment and the like, including server computers, optical instruments, medical devices, precision equipment, and art objects.

The model TGS Seismic Isolation Module can be freely arrayed in

multiple-unit configurations to accommodate heavy loads, such as semiconductor production machines and other massive equipment, or even the entire floor of a data center.

The module performs the three crucial functions of support, reduction, and recovery. It also provides an analysis of its predicted response to an earthquake, based on the location where it is installed, the weight of its load, and the anticipated seismic motion, enabling the most effective possible use of its seismic isolation functions.

As part of its business continuity planning effort, THK is installing these modules to help protect three-dimensional precision measuring devices located in various plants from being damaged in an earthquake. Installation was done at the YAMAGATA Plant in February 2012 and is scheduled to be carried out at the MIE, KOFU, and YAMAGUCHI Plants as well.



At left, a model TSD Seismic Isolation Table; at right, multiple tables support a rack of servers.

At left, a model TGS Seismic Isolation Module; at right, multiple modules support a three-dimensional measuring device at the YAMAGATA Plant.

Nikkan Kogyo Shimbun Ltd. The Best 10 New Products Award

In 2011 THK's model TGS Seismic Isolation Module was selected to receive one of the main prizes at the 54th The Best 10 New Products Awards sponsored by the newspaper *Nikkan Kogyo Shimbun Ltd.* The awards are presented for products that are developed and put into use during the current year and that contribute to the advancement of monozukuri and help make Japan more competitive in the international marketplace. The criteria state that products receiving the award must:

(1) be creative inventions that have a major impact both within Japan and overseas;

(2) meet the world's highest standards for performance through improved

research and ingenuity, even if the product is not foremost in originality; (3) represent the resolution of highly difficult technological issues and constitute a notable contribution to Japan's industrial technology from the standpoint of product value; and

(4) be seen to play a prominent role in facilitating progress in industry and society.

THK officials were presented with a commemorative certificate and plaque at an award ceremony held in January 2012.



A configuration of coupled model TGS Seismic Isolation Modules.



(From left) Vice President Murao, ACE Division, THK; THK President Teramachi; *Nikkan Kogyo Shimbun* President Imizu.

Optimal seismic isolation for measuring devices

Nano-level measurements are the norm at our company, and we have instruments capable of even more precise measurements denominated in angstroms as well. In the aftermath of the 2011 Great East Japan Earthquake, some of our clients reported that their instruments had been destroyed by the violent tremors. The measures we had taken to prepare for an earthquake protected the equipment only to a limited extent, so we decided to install seismic isolation devices for greater protection, to enable our clients to resume operations quickly after an earthquake.

When measuring equipment is seismically isolated, it is important to avoid any adverse effects on normal measurement functions. Protective

devices may prevent the equipment from severe shaking in an earthquake, but if it's routinely subjected to vibrations the equipment can't function properly. Vibrations were a real concern when we first loaded measuring equipment onto seismic isolation devices. In controlled trials, low-level vibrations were detected



with seismic isolation devices made by other companies, but no vibrations were detected with the THK devices, so in the end we decided to use the THK units. Our measuring equipment comes in a variety of sizes, and THK's model TSD isolation tables, while simple in structure, are designed to accommodate many different kinds of equipment.

Our devices make measurements that go way beyond anything that can be seen with the naked eye, and considering the price, it would be unthinkable to have to replace them again. From the standpoint of business continuity, seismic isolation provides the kind of peace of mind that money can't buy.



NATSUME OPTICAL CORP employees: (from left) Kazuhiko Shirota, Section Chief, Manufacturing Department, Quality Control Section; Hidenori Honda, Senior Manager, General Affairs Department.

Auto-recovery offers reassurance amid aftershocks



Revisions to our business continuity plan led us to employ seismic isolation for our data servers. Manufacturing automobile-related products is more than 90% of our business, so we really need to avoid defects and maintain traceability. We use information technology not just to manage data on product quality but to design unique metal molds and run the whole product quality system. All of our measurements are stored in servers at our manufacturing sites. If the servers went down, we couldn't continue to do business, and that would be the end of the company. Thus, we absolutely have to take countermeasures to prevent any breakdowns. Before the Great East Japan Earthquake occurred, our servers were sit-

ting right on the floor. Considering how important they are, this issue took the highest priority.

We opted to go with THK's model TGS Seismic Isolation Module because it has an auto-recovery function that restores the load to its original position once it has been protected from earthquake tremors.



Without auto-recovery, the equipment would be in danger if the earthquake were to continue, which is why we went with the THK unit. We are also impressed by the rigidity and precision provided by the LM Guide, which is an important component of the module. It's the same LM Guide used throughout the world in manufacturing equipment and industrial machinery, and that provides a lot of confidence. I used to get phone calls from General Affairs whenever there was an earthquake, even in the middle of the night, which always made me uneasy. Thanks to THK's seismic isolation system, with its auto-recovery function, now I can rest easy.



Makoto Komatsu, President, KOMATSUSEIKI KOSAKUSHO, CO., LTD., located in Suwa, Nagano Prefecture.

THK has already converted its operations to incorporate energy-saving production equipment and fixtures, conducted assessments of energy usage, and taken other steps to conserve energy. To cope with the shutdown of the country's nuclear-powered generators in the wake of the Great East Japan Earthquake in March 2011, special measures devoted to conserving electricity were implemented throughout the entire THK Group.

In the offices at THK Headquarters and its sales branches, electric lighting was reduced and restrictions were placed on air conditioning temperatures and hours of use. In addition, THK adjusted working hours, introducing a daylight-saving system, instituted a warm-weather clothing policy in keeping with the government's "Cool Biz" campaign, and coordinated employee summer vacations to achieve maximum energy savings. At THK Headquarters and the Technology Center, the group's two biggest office facilities, a system for monitoring the demand for electric power was introduced in an effort to reduce peak power consumption.

Article 27 of Japan's Electricity Business Act placed restrictions on electric power consumption within the Tohoku Electric Power and Tokyo Electric Power grids. Although only THK's YAMAGATA and KOFU Plants and the THK INTECHS SENDAI Plant were subject to the restrictions, THK launched an initiative to reduce peak power consumption and overall electric power usage at all of its production locations throughout Japan. Generators had been installed at each THK facility, but a concerted effort was made to refrain from using the generators whenever possible, through constant monitoring of power usage and tight controls on air-conditioning-related power consumption. As a result, electricity usage at the THK plants within the Tohoku Electric Power and Tokyo Electric Power grids never exceeded the legally prescribed level, and energy efficiency improved throughout the year.

Efforts at management and sales offices

- 1. Demand-monitoring equipment installed at THK Headquarters and Technology Center.
- 2. Fans and other air-circulation devices deployed.
- Heat-barrier film installed on windows at THK Headquarters and Technology Center.
- 4. Daylight-saving system introduced.
- 5. "Cool Biz" clothing policy moved up and extended.
- 6. Interior lighting reduced; air conditioning hours reduced.
- "Green curtains" deployed at NAGAOKA, SUWA, SHIZUOKA, and ATSUGI Branches.



Efforts at production facilities

- 1. Peak power consumption controlled.
- 2. Working hours adjusted.
- Air-conditioning equipment updated; hours of operation reduced and staggered.
- 4. Light fixtures updated and reduced.
- 5. Generators employed more efficiently.
- 6. Water heaters and vending machines reduced.
- 7. "Green curtains" deployed at YAMAGATA, KOFU, and MIE Plants.



Newly installed electric power generator at KOFU Plant.

Green curtains



At various THK locations, employees cultivated the shade plant *goya*, or bitter melon, as a part of summertime energy conservation measures. This was not a companywide initiative but a voluntary effort undertaken at individual THK locations.





Manager Mori, ATSUGI Branch

NAGAOKA Branch Sales office

ATSUGI Branch

We started growing goya in the hope that it would be an effective way of

offsetting the summer heat, but as time went on we also found it very

enjoyable just to watch it grow. At first these cute little sprouts appeared,

and several days later the plants began to send out tendrils. Less than a

month after that we had flowers blooming, and about ten days after the

flowers opened we had small melons. The plants grew and grew and

produced a lot of melons, thanks to the efforts and ingenuity of the em-

ployees who were involved in the project, and we were able to harvest the

fruit. It started as a way of conserving energy, but the pleasure of watch-



Production site

When we planted the *goya* seedlings, I doubted that they would ever grow into big plants. Contrary to my expectations, though, the plants grew larger and larger, day after day, and by the end there was a 5°C difference between the temperatures on either side of our "green curtain." This enabled us to reduce air-conditioning hours inside our office building, so it actually had an energy saving effect. Still, the most charming thing about our green curtain was the way it looked. I got a cool, pleasant feeling just looking at it. It took time and effort to water and take care of the plants every day, but they have had a very positive effect, and not just because they help us conserve electricity.

Manager Takii, KOFU Plant

Volunteer activities

ing our plants grow may have been the true harvest.



A number of employees have used THK's volunteer leave and leave of absence systems or used vacation time to take part in volunteer assistance efforts in areas that were ravaged in the Great East Japan Earthquake and its aftermath.

KOFU Plant employees Mitsuyoshi Aoyagi, Hayato Iijima, Erika Shiojima, Ryuichi Inoue, and Tomoko Watanabe

For three days, from October 29 to 31, 2011, these employees worked as volunteers in two areas in the city of Ishinomaki. They helped clear debris and served food at a temporary housing site in the city's Aikawa district and helped clean up a seaweed harvesting site in the Jusanhama district. Nearly seven months after the earthquake, the seriousness of the disaster had begun to fade from some people's minds, but problems remained, including high unemployment and a continuing exodus of residents from the area. The volunteers from the KOFU Plant felt they needed to view the situation in the disaster-stricken area with their own eyes and tell the world what they had seen.

In describing the experience, one employee remarked, "I realized how lucky we are to able to do the ordinary things in life—working, eating, sleeping. There's so little that one person can do, but if I can help people

in the disaster area achieve even a little bit of progress, help them get their hopes and dreams back, then I'll keep on doing this."



Clearing debris.

THK INTECHS SENDAI Plant employee Kyoko Honda

In early April 2011 I took part in a volunteer project to collect school supplies, educational materials, and athletic clothes and deliver them to elementary schools in the city of Kesennuma. In working to help children who were about to start a new school year but didn't have any of the things they needed, I received a tremendous amount of help from everyone at the SENDAI Plant, and I was able to deliver a lot of supplies. I also participated in an effort devoted to replanting flower beds damaged by seawater in the tsunami. Since last year, I've helped planted flower beds each season at Ohmagari Elementary School in the city of Higashi Matsushima, Kazuma Day Care Center in the city of Ishinomaki, the Ohharahama area on Ojika Peninsula, and the Shotaro Ishinomori Manga Museum. As the debris has been removed in the disaster area, the obstacles to communication have been cleared away as well. Through these assistance efforts, new communities are emerging. If my efforts can raise the

spirits of people in the disaster area, even a little, I'll continue to participate in these activities.



Planting flower beds.

Management system

Pages 15-17

As the concept of corporate social responsibility becomes more widely established, businesses are faced with increasingly demanding expectations from the society at large. At THK we feel that, as an enterprise engaged in *monozukuri*, our most essential duties are to maintain transparency in our operations and foster a corporate culture that is responsive to societal expectations. We have instilled a thorough awareness of our corporate social responsibilities and established a highly effective management system to ensure they are fulfilled.

In focus in 2011

- Self-assessment survey
- Business continuity planning

3 major areas of endeavor

Involvement in society

Pages 18-29

Faced with the need to assist in the recovery following the Great East Japan Earthquake, as well as the need to help rebuild Japan's long-struggling economy, THK and other *monozukuri* businesses are finding more opportunities to contribute to society than ever before. As we work to strengthen our relationships with our many stakeholders, we will continue to demonstrate the vital importance of *monozukuri* in everyday life.

In focus in 2011

- Multilingual websites
- ► Countermeasures against influenza
- Passing on technical skills
 National tree-planting event

Harmony with the environment Pages 30–37

Dramatic improvements in energy efficiency, increases in product longevity, and other technological advances play a major role in reducing energy consumption in everyday life. THK has helped propel further advances in Japanese environmental technology, which is already regarded as the best in the world. We continue to pursue a variety of initiatives in this field, convinced that, by passing these advances on to future generations, we are contributing to the preservation of the global environment.

In focus in 2011

- Efforts at the YAMAGATA Plant
- ► Commendation from the Kanto Bureau of Economy,
- Trade and Industry ► Green purchasing training



>> Corporate governance

Governance system

Fundamentally, THK views corporate governance as a means of making management more transparent to shareholders and ensuring appropriate and efficient operations, in order to maximize shareholder returns.

THK's primary management structure consists of its Board of Directors and Board of Auditors. To facilitate sound, timely, and strategically apt decision-making by the Board of Directors, THK has also established an Executive Council made up of the president, two managing directors, and an outside director.

The Executive Council sets basic management policy from a strategic perspective. With the cooperation of various departments, the council collects the data required to enable the Board of Directors to hold informed discussions, soliciting expert opinions from lawyers, accountants, and other third parties whenever necessary. The council meets for consultations and keeps track of important issues and information.

Internal controls

THK is working to improve its internal controls in order to further solidify its management infrastructure and ensure full compliance with all legal requirements.

In 2008 THK established regulations specifying internal controls on financial reporting. The entire THK Group, including subsidiaries and affiliates, is now taking part in an effort to establish a system that will ensure the reliability of financial reporting, in accordance with Japan's Financial Instruments and Exchange Law.

The Internal Control Audit Department, part of the Internal Audit Division, conducts an annual evaluation of the operational impact of THK's internal controls. Based on the findings, operational improvements are then implemented by the Internal Control Department, which serves as the secretariat of the Risk Management Division.

The 2011 evaluation found no serious deficiencies. The findings were presented in a report on internal controls submitted to the Prime Minister of Japan (via the Kanto Local Finance Bureau of the Ministry of Finance) in June 2012 and have been publicly disclosed.

Security-related trade controls

THK has improved its security-related trade controls by providing management tools and training for overseas sales divisions. This will help prevent inadvertent violations of the Foreign Exchange and Foreign Trade Control Law in dealings with overseas customers and countries from which products were not previously exported, in accordance with THK's midterm plan for increasing overseas sales.

THK has also improved its intranet- and Webbased parameter-sheet management system, to quickly provide accurate parameter sheets to customers exporting THK products, and is working to provide greater customer satisfaction and reduce the cost of preparing parameter sheets.



>> Compliance

Compliance system

THK has had a permanent Compliance Committee since 2005, chaired by its president and CEO. The Compliance Committee sets policy in relation to THK's compliance system and deals with violations of laws, regulations, and internal rules, as well as internal reports of such infractions. In addressing specific violations, the committee consults with legal advisers who attend its meetings as observers, to ensure that the response is appropriate and legally sound.

THK has also established the THK Helpline, an internal notification system designed to deter potential compliance-related violations by executives or employees and ensure that prompt and appropriate action is taken in the event that a violation occurs. Infractions can be reported by telephone or e-mail or by contacting the company's legal advisers, who provide an external channel for such notifications. In 2011 four reports were received via the helpline; all four were resolved with the cooperation of the departments involved.

Each business division has its own Compliance Panel, all of which are subordinate to the Compliance Committee. Compliance Panel members provide guidance and act as liaisons to help ensure observance of the compliance system at each business location and area. They play an important role, organizing workshops and other activities to help ensure full compliance with all legal and regulatory requirements.



Education and training

In December 2011 Compliance Panel members attended a periodic training session, conducted by a visiting legal expert, to improve their understanding of legal matters as well as their knowledge of and ability to address compliance-related issues. This session was devoted to harassment in the workplace. The participants examined case studies involving sexual harassment and power harassment as well as relevant judicial precedents, in order to become more aware of situations to watch out for in the workplace. After the session, the panel members organized voluntary study sessions at various locations in an effort to increase awareness of compliance-related issues.

To help employees understand the laws governing everyday conduct in the workplace and absorb other requisite knowledge, compliance-related study materials have been made available via THK's in-house e-learning program. In March 2012, 10 new short-answer study questions were added, bringing the total to 78. Employees can also review 30 compliance-related case studies via the e-learning program.



Training session for Compliance Panel members.

Self-assessment survey

To ascertain the effectiveness of compliance-related education and facilitate future efforts to improve its compliance system, THK conducted an anonymous survey in July 2011 via its intranet, in which employees assessed their own compliance preparedness.

Some 1,500 respondents took part in the survey, which consisted of 30 questions, 15 concerning personal behavior and 15 focusing on the workplace. The results were reported to the Compliance Committee, and prompt action was taken to make concrete improvements based on the survey findings. THK will continue to make periodic efforts to ascertain the status of and further improve its internal compliance system.

Risk management and information security

Business continuity planning

To ensure that it is prepared for a major earthquake or other disaster, THK has been engaged in a groupwide effort to formulate business continuity plans. Continuity plans for the 10 major THK plants in Japan have been in existence for some time. Plans for 28 other locations in Japan, including THK Headquarters and its sales offices, were completed in 2011. Business continuity plans for all but four THK locations are expected to be finished by the end of 2012. A variety of measures have been taken to help ensure the effectiveness of these plans.

Headquarters backup plan

When the Great East Japan Earthquake struck last year, some the operations ordinarily conducted at THK Headquarters were temporarily relocated to the GIFU Plant, to reduce the earthquake's impact on business continuity. Since then telecommunications equipment has been installed and other steps have been taken to ensure that, in an emergency, headquarters functions can rapidly be transferred to other locations as well. A framework has been established enabling some of these operations to be conducted at the YAMAGUCHI Plant and NAGOYA Branch.

Securing critical servers

To protect critical server computers, THK formerly housed its actual servers and backup servers in data centers inside separately located earthquake-resistant buildings. To further ensure their safety in the event of an earthquake, THK's servers have now been relocated to buildings equipped with seismic isolation and vibration control. The private generators installed in these buildings have been upgraded to ensure that the servers will continue to operate in the event of a power outage.

Maintaining lines of communication

To ensure that lines of communication between different locations remain available even when ordinary telephone service is disrupted by a disaster or other calamity, THK locations have been equipped with satellite telephones. Training has been provided at each location in the use of these telephones, which differ somewhat from conventional phones. THK has also established a system for quickly ascertaining the safety of employees in the event of a disaster. When a disaster occurs, each employee is contacted and responds by indicating whether he or she, and any family members, are safe. Maintaining these lines of communication will assist THK in its efforts to reduce human casualties and rapidly assess the situation when a disaster occurs.

Training for a disaster

To prepare for an earthquake or fire, THK Headquarters has long conducted evacuation drills, firefighting exercises, and training in first aid. In 2011 the group also began providing training in the use of satellite phones, operation of power generators, assembly of

simple toilets, and effective use of relief supplies.



CPR training, part of the Headquarters business continuity plan.

Information security

To help ensure that a reliable information security system is in place throughout the THK Group, in 2011 the Information Security Committee Office conducted internal audits of information security arrangements at the THK KOFU Branch, HACHIOJI Branch, THK IN-TECHS MISHIMA Plant, and THK RHYTHM.

To further educate employees about the importance of information security, THK also conducted a groupwide self-assessment program via its intranet, providing a reality check of the state of information security at THK. Wherever problems are identified, improvements will be carried out.

In addition, THK has introduced a backup system for all internal e-mail, which will prevent the loss of data in the event of problems affecting the e-mail system. The backup system is an effective measure not only for information security but also for business continuity planning.



>> Together with our customers: Product quality

Improving quality globally

THK is constantly striving to provide the world's highest-quality products while maintaining uniform quality all over the world. In 2011 THK made concrete progress toward this goal by developing specialized testing equipment to evaluate the components it procures and the materials it uses throughout the world, in order to assess their performance with respect to each item's specific purpose and use. This will help improve the global material quality assurance system. By incorporating quality control techniques into the management of its production equipment and procedures, THK is minimizing variance and improving product quality.

THK also holds quarterly teleconferences involving its production facilities in Asia, Europe, and the United States, as well as other meetings, to discuss quality control techniques, ways of improving reliability, quality improvement, and other such topics. Meanwhile, the Quality Assurance Division conducts ongoing evaluations to assess product quality at THK's production facilities in Japan and overseas. The findings confirm that THK product quality remains consistent, even for products manufactured at different plants located all over the world.

THK will continue to actively pursue a variety of efforts to achieve global improvements in product quality.

Quality management

In order to manage product quality in a well planned, systematic manner, THK has obtained ISO 9001 certification for the quality management systems employed at all production sites in Japan, the United States, Europe, and the rest of Asia. THK has also obtained ISO/TS 16949 automobile production quality management certification for the quality management systems employed in its Future Automotive Industry Division and at THK Manufacturing of Europe and THK Manufacturing of America plants, enabling them to supply products to the automobile industry, which has highly demanding standards for quality control. THK NIIGATA acquired JIS Q 9100 certification for its quality management system for aerospacerelated products in 2009 and began supplying products to the aerospace industry thereafter.

To ensure that quality management is conducted more efficiently and effectively and that it satisfies the needs of customers and society, THK is reviewing and consolidating existing ISO 9001 certification for its plants in Japan and is taking steps to have new quality management systems certified in 2012.

THK will continue to pursue various product-quality initiatives and maintain and improve quality through its quality management systems.

Technology exchange

In 2011 THK took part in an annual conference that focuses on business improvement efforts, in order to educate personnel and improve corporate quality. The event, hosted by an industrial engineering research institute, was the 11th such conference. The seminars offered included a practical business session, devoted to identifying methods for making improvements and putting them to use, and a management session, devoted to identifying basic principles and applying them in managerial decision making. Four case studies were examined at the 2011 conference, including one presented in the practical business session by THK, highlighting improvements at the MIE Plant.

THK's presentation, which focused on improvements in productivity in a turning process used in the manufacture of Cross-Roller Rings, emphasized two points: (1) there was no increase in personnel corresponding to the increase in production volume; and (2) efforts were made to reduce processing times, eliminate waste, and improve the production line in order to increase volume. Presentations by other corporate participants focused on making improvements in various areas, pursuing production based on the "takt time" concept, and the results of efforts to achieve more efficient *monozukur*i.

The management session topics included complying with customers' lead-time requirements and the issue of delivery planning.

Through TAP2*, THK is making further efforts to establish production systems that raise the level of *monozukuri* and enable THK to provide a better product at a lower price within the desired timeframe.



Presentation on improvements at THK's MIE Plant.

*TAP: THK Advantage Program. There are three types: TAP1 (sales), TAP2 (production), and TAP3 (administration).

>> Together with our customers: Customer satisfaction

Training in business etiquette

THK's CHUBU Distribution Center was established with the aim of improving customer service and enabling the Sales Division to operate more efficiently. The Center recently hosted a training session for midlevel employees, focusing on business etiquette.

After their initial training, newly hired employees generally acquire their knowledge of business etiquette from senior employees in the workplace; there is little opportunity to consolidate and reinforce such knowledge. At the training session employees reviewed their daily work habits and behavior and identified areas of business etiquette that they need to work on. Through group work, they developed greater skill at dealing with customers and meeting their needs. The one-day session covered grooming and personal appearance, proper greetings, correct usage of honorific language, and telephone skills.

This type of training will be expanded in the future, and further efforts will be made to provide practical guidance in order to improve the ability of THK employees to satisfy customers' needs.



Business etiquette training session.

Global engineers conference

In November 2011 THK held its third global engineers conference. The one-week event was attended by 10 engineers from THK facilities in the United States, Germany, France, China, Taiwan, and South Korea. The participants received training equivalent to that provided to THK sales personnel in Japan. They attended seminars at the Technology Center designed to reinforce basic knowledge and received hands-on training with demo equipment at the KOFU Plant to prepare for the possibility of problems occurring at a customer facility, in an effort to improve their ability to quickly address on-site needs.

This type of training will continue to be provided in the future, in order to equip employees with the means to resolve problems incurred by customers anywhere in the world and to ensure that THK provides the same high level of service all over the world.



Hands-on training in taking accurate measurements.

In their own words >>>> Global engineers conference participant



Eun Ju Park Technical support team SAMICK THK Co., Ltd.

My college major was mechanical design. I really wanted to work in the machine industry to use what I had learned at school, so I went to work for SAMICK THK, which is famous for the LM Guide. Right now I'm on the technical support team. We hold seminars to inform customers about THK products, help select models for use in customer products, and resolve problems when there's a complaint from a customer.

I attended the recent global engineers meeting. In the training sessions, I was able to actually examine the features of products that I had previously only seen in catalogues. We had seminars dealing with the latest data at the Technology Center and conversations with the engineers from other countries, where I learned about situations that have come up in other locations. I acquired a lot of information that will be very useful to me in my future work.

When I explain what I learned at the conference to our clients in South Korea, I'm going to try to adopt the customer's point of view, and I'll do all I can to help bring about more widespread use of the LM Guide. At SAMICK THK, I'd like to become the kind of engineer people will look to whenever they need technical support.

>> Together with our customers: In their own words

AMADA Co., Ltd.

AMADA was founded in 1946. As a comprehensive manufacturer of metalworking machinery, AMADA is now involved in manufacturing, sales and servicing of its machines around the globe.

In addition to processing machinery in four sectors, namely sheet metal machines, press machines, cutting and drilling machines, and machine tools, AMADA markets computer software and peripheral devices for control of such machines as well as tooling and maintenance services as solutions.



Counting on THK, a brand known around the world, for reliability and carefully cultivated expertise

How did you come to start using THK products?

From what we've heard, the relationship with THK began before we joined the company. For the laser machines that we work with, the low-noise LM Guide with a ball retainer was recommended to us because of its long maintenance-free service life, along with the QZ lubrication system, so we've been using those products.

The guide components inside a laser machine are extremely important for ensuring precision. Our customers run these machines at full capacity 24 hours a day, so they get worked very hard. If the guide components wear out or break, the machine can't operate, and that means big trouble for the customer. But with THK products, we don't have to worry about that very much, which is a big relief.

With THK, the brand itself is very attractive. THK is recognized as the world leader for guide components. That reputation comes from a combination of technology, functionality, and durability, which translate into a very high level of reliability.

Didn't one of your products, the FOL-3015AJ, win the Masuda Award?

Yes. It was recognized as one of the 10 best new products of the year by the newspaper Nikkan Kogyo Shimbun and also won the Masuda Award, which goes to the product that contributes to the progress of *monozukuri* and helps make Japan more competitive. It's a great honor. The FOL-3015AJ is a laser machine equipped with a new fiber laser oscillator, the first in Japan capable of generating 4 kilowatts of output. This makes it possible to do laser processing on metals such as copper and aluminum, which used to present problems for conventional lasers, and

that's why the product was selected for the award. In this machine as well, of course, we take advantage of THK's accumulated expertise and use their products, including the LM Guide, Cross-Roller Ring, and Cam Follower, at key points.

The FOL model was completely revamped last year and equipped with a fiber laser, but even before that it was considered the world's fastest laser machine. While working to reach the world's highest speed and attain a maximum acceleration of 5G, we often turned to people at THK for advice. We've had a lot of technical discussions with THK, especially when developing new products.



What do you expect from THK in the future?

AMADA has production facilities in China, France, and the United States. As our activities become increasingly globalized and we do more optimal-site production, we have to maintain the same level of quality and the same lead times, even when we rely on local procurement. As dealings among businesses in different countries increase, there will be an increasing need for flexibility. At the same time, in order for us to succeed in global competition, it will be essential to set a rapid pace in developing new products. For this reason, we have high hopes that THK will be developing its own new products at a rapid rate. We'll be looking to them for continued cooperation in the future.

>> Together with our shareholders, investors, and overseas customers

Investor relations events

Twice a year THK holds a briefing for investors on financial results, where THK's CEO discusses the group's business performance and business strategies. Ample time is provided for questions from those in attendance, to ensure that investors have a chance to candidly communicate their views to THK management. THK is working to expand the dialogue to include more investors through small-scale meetings and individual interviews. THK is also working to provide more opportunities for communication with institutional investors overseas, through efforts such as annual visits with investors in the United States and Europe.

Since 1998 THK has held its annual General Shareholders Meeting on a Saturday, avoiding the days when most corporate shareholders meetings are scheduled, to enable more THK shareholders to attend. Seats for observers are provided at the meeting venue to permit other stakeholders to learn about THK's operations; attendance by partner businesses and other stakeholder groups has been encouraging. An exhibition highlighting everyday uses for THK products is held in a space adjoining the meeting venue, to provide visitors with a better understanding

of products that, while seldom seen, significantly affect daily life.



THK's 42nd Ordinary General Shareholders Meeting.



Multilingual websites

THK has to provide customers around the globe with the information they need, and that information varies from one country to the next. By creating 27 nationspecific websites in 21 different languages, THK has established a system that makes it possible to transmit readily accessible information to customers everywhere. Until recently THK's Seismic Isolation website provided information in Japanese only, but in light of rising worldwide interest in countermeasures against earthquakes, this information is now presented in other languages as well.

THK also maintains a Technical Support website providing information in eight languages on product features and applications, service-life calculations,

and other topics. More than 210,000 customers visit the site on a regular basis.



• EMO Hannover 2011

THK actively participates in exhibitions in Japan and overseas. For these events, THK works hard to create exhibits that present a diverse array of products and provide visitors with a better idea of what THK products actually do. In September 2011 THK was among the exhibitors at EMO Hannover 2011, an international trade fair for machine tool manufacturers held in Hannover, Germany. High rigidity, high speed, and high precision were the focus of the THK exhibit. Visitors to the exhibit were particularly impressed by a single-rail demo machine featuring a seven-meterlong rail, designed to accommodate products of extended length.

THK will continue to take part in exhibitions and

trade fairs in the future, in its continuing effort to provide optimal solutions and contribute to creative *monozukuri*.



The THK booth at EMO Hannover 2011

>> Together with our partner businesses

Basic policy on procurement

To continue to provide products that satisfy its customers' needs, THK has established a basic policy on procurement enabling the formation of healthy, amicable, and mutually beneficial relationships between THK and its partner businesses. This policy is implemented by means of the practices outlined below.

- Procurement practices emphasizing clear communication with suppliers; evaluation and selection of partner businesses guided by thorough consideration for QCDES: quality, cost, delivery, the environment, and safety.
- 2. Fair and equitable dealings in compliance with all pertinent laws, regulations, and societal norms.
- 3. Continuing efforts to minimize costs; encouragement of active pursuit of cost-saving projects and value-analysis initiatives.
- 4. Pursuit of global purchasing.
- 5. Implementation of business continuity plans.
- 6. Demonstration of environmental consciousness through green purchasing.

THK Association

The THK Association is a body made up of THK's suppliers and other partner businesses. Through its activities, corporate members are developing a deeper understanding of THK's basic policy on procurement. The association also provides a valuable venue where members can communicate their needs and other relevant information.

In June 2011 the THK Association held a general meeting in Nagahama, Shiga Prefecture. The event included a discussion of THK management policies. In addition, THK's CEO presented commendations to various members for their value-analysis initiatives.

The association has branches connected to each THK plant, which hold periodic meetings of their own. THK will keep working to forge strong bonds with its partner businesses through the THK Association.



A THK Association gathering.

Value-analysis proposals

A value-analysis proposal system has been established to help advance and improve THK's operations and those of THK Association members. Proposals submitted by members are reviewed by a committee, and outstanding proposals are awarded with commendations each year at the association's general meeting. Thanks to the efforts of the Value Analysis/ Value Engineering* teams established at THK's various plants and to the cooperation of association members, the number of commendations awarded in 2011 was triple that for the previous year. Efforts are underway to stimulate further initiatives and double last year's total in 2012.

THK will continue to cooperate closely with its partner businesses and elicit proposals for safe and environment-friendly products and components that contribute to high-quality, low-cost manufacturing.

*Value Analysis/Value Engineering: A management method for increasing component and product functionality by reducing overall costs.

Business continuity survey

THK would not be able to manufacture anything without the cooperation of its suppliers and other partner businesses. THK therefore surveys its partner businesses to ascertain their status with respect to business continuity planning.

In this year's survey, 237 partner businesses were presented with 28 questions about preparedness for a major earthquake (seismic tremors as well as soil liquefaction) or tsunami and about the extent to which they are engaged in business continuity planning. The findings indicated a high degree of preparedness in the determination of escape routes and evacuation sites as well as the containment of hazardous substances in the event of a fire or tsunami, but a relatively low degree of readiness with regard to partner businesses asking their own suppliers to formulate continuity plans or determining the status of such plans. THK is asking its suppliers and other partner businesses to incorporate these efforts into everyday duties, to minimize damage in the event of a natural disaster or other such emergency.

>> Together with our employees: Health and safety



A variety of measures have been implemented to create a safe working environment for THK employees. From December 15, 2011, to January 15, 2012, THK mounted a New Year's "zero accidents" campaign, in an effort to heighten employee awareness of the dangers of workplace injuries and traffic accidents and help eliminate their occurrence. As part of this effort, safety conditions were surveyed at 12 production facilities, including those of THK affiliates, and safedriving workshops were conducted at THK's sales offices.

In light of previously encountered challenges to health and safety management, THK has established a centralized system for directing the flow of critical information. When an accident occurs, a report is submitted to the Risk Division at THK Headquarters, and the Risk Division promptly reports the details to top management. The Risk Division is actively involved in efforts to institute a groupwide system for managing employee health and safety.

THK will continue to protect its employees' physical and emotional health and will keep working to eliminate accidents at work and on the way to and from work, to ensure a safe and worry-free workplace.

Countermeasures against influenza

In February 2009 THK issued a manual prescribing countermeasures against a new strain of influenza. Every possible effort was made in response to the global influenza pandemic to protect the lives and health of THK Group employees and their families, both in Japan and overseas. By addressing the situation guickly and properly, THK took action to ensure that it would have a minimal impact on business continuity.

When the 2009 H1N1 influenza pandemic occurred, during the period of greatest concern over interpersonal transmission of the virus, THK established a task force headed by its CEO, as prescribed by the influenza manual. Each THK site was equipped with stocks of masks, mouthwash, and disinfectants, and the task force issued instructions for measures to prevent transmission of the virus among employees and from visitors.

The influenza A virus was rampant in fiscal 2011. Just when influenza A had finally run its course, there was a rise in reported outbreaks of influenza B. In some cases, people who had contracted influenza A later became ill again with influenza B.

When a THK employee or a member of an employee's family contracts a contagious illness, the circumstances are reported to THK Headquarters by means of a prescribed form. Once the situation has been assessed, instructions are provided for addressing it quickly and properly. Every possible precaution is taken to ensure that the contagion does not spread and does not affect business continuity.

Preparation for natural disasters

When a disaster strikes, THK's first consideration is the safety of its employees. For this reason, close contact is maintained with each business location, and various countermeasures have been prepared.

When torrential rains struck Niigata and Fukushima Prefectures in July 2011, hotel accommodations were provided for THK NIIGATA employees residing in areas where travel was restricted. When Typhoons 12 and 15 threatened Japan in September, THK monitored commuting conditions and the movements of the storms and arranged for many employees to go home early.

In the aftermath of the Great East Japan Earthquake, THK Headquarters personnel now check indoor and outdoor radiation levels three times a day, using portable radiation detectors. The results are reported to the employees to keep them apprised of current conditions.



Checking the radiation level at THK Headquarters with a portable radiation detector.

>> Together with our employees: Support for employee development

Passing on technical skills

The THK INTECHS MISHIMA Plant has begun a program to facilitate the transmission of technical prowess, in an effort to ensure that advanced skills, cultivated over the course of many years using generalpurpose machine tools, are passed on to younger employees.

From 1:00 to 4:00 every Tuesday afternoon, young plant employees receive instruction in the use of milling, drilling, and surface grinding machines. Each week three employees receive one hour of individual training with each type of machine from a skilled machinist. By working with general-purpose equipment, trainees not only acquire processing skills, they also attain a command of the machinery and the work and learn to recognize danger signs through familiarity with visual and auditory cues.

Some of the trainees have only an ordinary high school education, so they receive thorough instruction in setup procedures and basic processing methods. Young employees who worked with generalpurpose machinery in high school are often assigned to numerical control machines, and many have praised the program for helping them grasp specific processing criteria and settings and understand why certain duties are necessary.

For any production site, fostering the development of skilled workers is an absolute necessity. This program will continue to be used to enable young employees to master elementary skills. Through on-thejob training in everyday processing techniques, skilled machinists will continue to pass along their abilities to those who will become their successors.



Instructor Minoru Tsukada (left) trains Yohei Yamada in the use of a milling machine.

Occupational healthcare

Occupational health specialists and other healthcare personnel have been posted to THK Headquarters and the YAMAGATA, KOFU, GIFU, MIE, and YAMA-GUCHI Plants, where they work to keep THK employees in good health by reviewing checkup results and reporting on health and hygiene conditions. They also engage in efforts to prevent industrial accidents and improve the working environment. THK's occupational health personnel hold regular meetings to organize groupwide health policies and procedures, which were formerly administered separately by each business location, and establish mechanisms to promote good health.

The healthcare staff monitors the status of employees on sick leave and those who are absent for extended periods due to illness, sets rules for proper recovery periods and for conditions during and after the employee's return, and makes other efforts to help employees return to work in good health following an illness.

e-learning

THK has introduced an e-learning system to help facilitate employee education, enabling employees to engage in self-development activities whenever they have access to the Internet. The e-learning system comprises a diverse range of training courses: Business Skills, which is devoted to improving practical abilities in areas such as critical thinking and business accounting; Product Knowledge, which covers a wide range of THK products; and Compliance, currently a topic of great interest. As of March 2012 the system included a total of 42 e-learning courses.

By taking advantage of opportunities for distance learning provided by this system, sales employees, for example, can study for and take a qualifying exam to obtain accreditation in electrical engineering. Use of the e-learning system is steadily increasing.

Educating employees via e-learning

	Enrollment			Completion
	Eligible employees	Employees enrolled	Percentage of eligible employees	Percentage of enrolled who completed course
September 2008	1,963	893	45.5	73.9
September 2009	2,057	1,059	51.5	74.4
September 2010	2,103	1,142	54.3	72.7
September 2011	2,130	1,212	56.9	73.1

In-house recruiting

As part of efforts to offer opportunities for employees to enter new fields of endeavor, THK has established an in-house recruiting system. The system is used when a new project is launched or a new organizational unit is formed, as well as to reinforce existing departments.

Under the system, employees who are attracted by a new opening communicate their interest directly to the Personnel Division, in order to preserve confidentiality. The ultimate selection is determined through interviews with the management of the department involved and the Personnel Division. To date, the system has enabled many THK employees to explore new fields.

THK's internal recruiting system is expected to continue to serve as a useful bridge between organizational needs and the employees' desire for new challenges.

• Efforts at THK NIIGATA

THK NIIGATA has made improvements to increase productivity on its miniature Ball Spline precision assembly and inspection line. One such improvement is an effort to reduce the takt time required for product assembly from 106 seconds to 90 seconds, by adjusting processes and repositioning personnel along the line and eliminating inefficiency and inconsistencies in checking, bonding, and demagnetizing operations.

This effort was carried out through quality-control initiatives conceived and implemented by the employees themselves. With maximum input from the employees, a short interval control system was devised enabling progress to be managed using a production control board.

As a result, takt time was reduced to 95 seconds. This was short of the goal, but the precision assembly and inspection line employees are still making a concerted effort to expand their own capabilities and make further improvements to achieve the goal.



Nearing the goal: workers on the precision assembly and inspection line.

In their own words >>>> A beneficiary of the in-house recruiting system



Tomoko Kayaki ICB Center employee

During my first five years at THK, I worked at branches in Japan and for the Overseas Sales Division. In February 2011 the ICB Center, which handles advertising and publicity for the THK Group, posted an opening via the in-house recruiting system. I applied, was selected, and assumed my new position the following May.

I wanted to use my experience to assist with the advertising and public relations work that supports the THK Group's globalization efforts. I had long been interested in designing websites and doing animation as a hobby, so this was a great chance to pursue those interests.

These days I'm involved in operating the company websites and producing PR videos and in-house publications. I'm applying some of the lessons I've learned from past experience, and I find it very rewarding to be able to help promote sales. In the future I hope to help create more video content, create applications to make the website more user-friendly, and improve the content of our internal publications.

The feeling at THK is that we're being given a whole range of opportunities. I think the in-house recruiting system is great, because it gives people the chance to realize their ambitions.

>> Together with our employees: Embracing diversity

(%)

Hiring people with disabilities

THK has been actively hiring people with disabilities to work at its Headquarters and plants. As of April 1, 2012, people with disabilities constitute 1.89% of THK's workforce, which is higher than the legally prescribed minimum percentage.

Some of THK's disabled employees have flourished with particular distinction. In December 2011 Masahiro Fujii, an employee in the Order Management Section at the YAMAGUCHI Plant, took first place in the product packing event of the Yamaguchi Prefecture preliminary 2012 Abilympics competition, winning the right to compete at the national level. The YAMAGU-CHI Plant was represented in the same event in last year's national games and took home the gold medal, along with the honor of being recognized as Japan's best. Advancing to the national Abilympics two years in a row is a major achievement.

THK will keep working hard to provide a hospitable workplace for employees with, as well as those without, disabilities.

December 2009	December 2010	April 2011	April 2012	
1.64	1.70	1.80	1.89	
Length-of-service awards				

Disabled employees in the THK workforce

While many businesses honor employees at the end of each decade of service, THK presents length-ofservice awards to its employees after every five years of continuous service. This provides more opportunities to show appreciation for the many contributions made by THK's employees. In fiscal 2011, 586 employees received commendations and commemorative gifts to honor their long-term service.

Length-of-service awards

Continuous service	2007	2008	2009	2010	2011
35 years	7	6	10	11	14
30 years	20	16	25	23	69
25 years	133	91	139	129	54
20 years	87	107	143	163	128
15 years	99	43	146	177	92
10 years	179	74	77	113	68
5 years	91	104	84	167	161
Total	616	441	624	783	586

Employee inventiveness

THK has a system in place to encourage employees to devise their own inventions. The system, which is governed by company regulations in full compliance with all legal and regulatory requirements pertaining to intellectual property, solicits and provides monetary rewards for inventions by any employee. Rewards are provided at each stage: notification, application for a patent, acquisition of rights, and implementation.

In fiscal 2011, 390 notifications were submitted and more than 100 patent applications were filed. Thanks to such efforts, 700 Japanese patents and 1,300 foreign patents had been applied for or obtained as of the end of March, 2012.

In their own words



(From left) Order Management Section Senior Assistant Manager Shunsuke Yoshinaga, section employee Masahiro Fujii, and YAMAGUCHI Plant Manager Katsunori Yamamura.

>>> Yamaguchi's representative in the Abilympics

Masahiro Fujii says, "I competed in the Abilympic product packing event last year too, but in the Yamaguchi Prefecture preliminary round I lost to Yukihiko Fujimoto of THK. I finished second, which was very disappointing. Because of that I really wanted to represent Yamaguchi this year, so I competed again. Fortunately I had been hired at the YAMAGUCHI Plant, where I had hoped to work, and before the competition I got individual coaching from Mr. Fujimoto, which gave me a lot of confidence. During the competition I didn't know whether I would win or not, but I was very thankful when I did."

Officials at the Yamaguchi Minami Sogo Special Needs School in Yamaguchi Prefecture, where Masahiro Fujii attended high school, have praised THK's enthusiastic approach to providing vocational guidance to people with disabilities. In their message of congratulations, they expressed hope for a strong showing in the national competition. THK has established a system for eliciting proposals for improvements, to enhance its products, efficiency, quality, safety, productivity, and technology. THK values its employees' originality, ingenuity, and workplace perspectives. Every proposal is evaluated, and commendations are awarded for proposals that satisfy certain key criteria. Employees receive points based on the results of the evaluations and can accumulate more points for successive proposals. When an employee's point total surpasses a certain level, he or she receives an award, the highest-level award being the THK Prize. A distinctive feature of the program is the periodic awarding of second-level commendations.

The system encourages employees to continually devise and present inventive proposals for improvements and rewards their efforts to do so. More than 100 employees now earn second-level commendations every six months.

In fiscal 2011, 11,840 proposals were received, ranging from ideas for new markets for THK products to a proposal for changing the notation method employed in product catalogs. By encouraging employees to submit proposals for improvements, THK not only improves its operations but also inspires greater self-motivation and encourages employees to cultivate stronger powers of observation.

	Proposals	Commendations
2003, 1st half	9 760	140
2003, 2nd half	0,700	107
2004, 1st half	7 202	124
2004, 2nd half	7,303	146
2005, 1st half	6 700	88
2005, 2nd half	0,122	123
2006, 1st half	9.005	100
2006, 2nd half	0,090	156
2007, 1st half	8,772	137
2007, 2nd half		131
2008, 1st half	10.041	144
2008, 2nd half	10,241	166
2009, 1st half	11 554	179
2009, 2nd half	11,004	162
2010, 1st half	10 454	156
2010, 2nd half	10,434	175
2011, 1st half	11.040	163
2011, 2nd half	11,840	189

Continuing employment until age 65

The retirement age at THK is 60. Employees who want to keep working, however, have the option to continue employment until age 65. Around 80% of employees who reach retirement age opt for continuing employment; 54 people are currently employed in that capacity. Those who choose continuing employment after they reach the retirement age are engaged as contract employees, but this does not entail significant changes in their duties. Even so, adjustments in the number of work days, reductions in hours, and other flexible working arrangements are available to accommodate individual needs. Paid vacation time, stock ownership, the employee savings system, and other benefits are the same as for regular employees. As longtime veterans, continuing employees tend to exhibit strong job performance and, thanks to their knowledge and experience, play a key role in the education of younger employees.

Employment for senior citizens is a momentous issue for Japan. THK is working to perfect its continuing employment system to ensure that employees beyond the age of 60 who are determined to keep working can do so with complete peace of mind.

• Passing on skills in Yamanashi

In fiscal 2011 THK employees Masaki Yamamoto, Satoshi Kunugi, and Kuniharu Tanaka were commissioned by a technicians association in Yamanashi Prefecture to instruct young technicians in the prefecture in the use of engine lathes, as part of a course devoted to passing on technical skills, held at Yamanashi Industrial Technology Junior College. From 9:00 a.m. to 4:00 p.m. on 15 Saturdays extending over a six-month period, they provided technical guidance to newcomers and beginning-level technicians to enable the students to pass the national certification system's second-level test.



Demonstrating the use of an engine lathe.

>> Together with our employees: In local communities

Charitable contributions

As part of its contributions to society, THK provides monetary assistance when disasters strike and donates money to organizations devoted to the advancement of science and the future development of *monozukuri* in Japan. In addition, THK sponsors a variety of events in communities where it has business locations.

Major charitable causes

August 2011	Torrential rains in Niigata and Fukushima Prefectures			
October 2011	2011 Great East Japan Earthquake			
October 2011	D11 Typhoon 12			
November 2011	mber 2011 Flooding in Thailand			
Monetary support				
December 2011	Japan Science Foundation			
February 2012	Sakuranbo Marathon			

Technical training

Yamanashi Prefecture's education committee, its secondary school industrial education task force, and THK—representing industry, academia, and government—have joined forces to provide engineering training for technical high school teachers and students, with a focus on machine inspections. Training has been provided by technical instructors from THK's KOFU Plant.

Technical high school teachers received training to improve their instructional abilities in July 2011, learning about the basics of machine inspections and the use of measuring instruments, and performing practice inspections. Students at five technical high schools took part in 14 training sessions from November 2011 to January 2012, attending a course and receiving hands-on training to prepare them for the level 2 and 3 national proficiency test in machine inspection. Among the students who attended the course, 65 went on to take the proficiency test and 52 passed, for an 80% success rate.

Processing and inspecting are unified skills in *monozukuri*. It is clear that the training provided improved the skills of the teachers and students who took part. THK will continue to provide all possible assistance to help elevate the abilities of those who study and teach at technical schools in Yamanashi Prefecture.

Beach cleanup

On June 26, 2011, KANAZAWA Branch employee Emi Taniguchi took part in an effort, sponsored by the city of Hakusan, to clean up Tokumitsu Beach. From 6:00 a.m. to 1:00 p.m., working under cloudy skies, 20 volunteers cleaned an area measuring about one kilometer. When the work was finished they had collected some 40 garbage bags' worth of debris. The result was a well-tended beach, free from trash, where children can frolic in safety.

Taniguchi remarked, "This was the first time I took part in a cleanup. When I saw the kids playing on the beach afterward, I really felt it was worthwhile. If I get a chance, I'd like to do this again."



Volunteers clean up Tokumitsu Beach.

In-school lessons

THK presents in-school lessons designed to provide a realistic view of the manufacture of components that support Japanese industry and to convey the wonders of *monozukuri*. In fiscal 2011 lessons were presented in eight high schools located all over Japan. Through these lessons and through its factory tours, THK provided students with a better understanding of manufacturing in fiscal 2011.

THK has now been presenting in-school lessons for four years; some schools have requested the lessons every year. THK will continue to offer these lessons wherever they are needed in the future.



An in-school lesson at Yamaguchi Prefecture Nishi-ichi High School.

National tree-planting event

THK's YAMAGUCHI Plant helped sponsor a national tree-planting festival held in May 2012. Back in January 2011, the plant had acquired 10 chestnut seedlings. They were expected to need only periodic watering to grow to maturity, but employees worried constantly whether they would survive the winter cold and the summer heat. By April 2012 they had grown to a height of 30 centimeters, and on May 24 the saplings were planted at the city of Yamaguchi's Kirara Beach. The tree-planting festival provided a welcome opportunity to consider the meaning of environmental conservation and assist in conservation efforts.



Chestnut seedlings at the Yamaguchi Plant.

Experience in the workplace

THK's YAMAGATA Plant offers a one-day learningthough-work program for junior high school students. Five first-year students took part in the program on August 5, 2011. Their principal duties were pre-assembly setup, which involves attaching rail stoppers on LM Guides, cleaning rail grooves, attaching washers and bolts, packing attachments for shipping, and sorting production order forms. While it was a challenge for the freshmen to get through the eight-hour work day, one commented that it was tiring but enjoyable. Another spoke highly of the food served in the lunch room, and a third student expressed an interest in working at THK. The experience provided the students with a better understanding of working life.



Learning though work: a student assembles cords.

Matsusaka monozukuri forum

In February 2012 THK's MIE Plant hosted a forum for *monozukuri* technicians, sponsored by the city of Matsusaka. This was the fourth annual staging of the forum, which is designed to encourage collaboration among different businesses and help cultivate technical personnel. Each year the event, held at a manufacturing facility in Matsusaka, features presentations of advanced technology and distinctive products, as well as opportunities to observe on-site production control procedures. A total of 32 technicians from 18 manufacturing firms in the city took part in the 2012 forum, which included tours of the MIE Plant and demonstrations of the operations there.



A presentation at the monozukuri forum in Matsusaka.

Monozukuri exhibition

In February 2012 THK participated in an exhibition intended to highlight the benefits and importance of *monozukuri*. THK's exhibit included three participatory games designed to demonstrate the true meaning of rolling motion, a demonstration of seismic isolation, and a presentation contrasting rolling motion with sliding motion. Heavy objects were made to move at the touch of a finger, eliciting squeals of delight from the children in attendance. Over 800 visitors attended the two-day event, where they learned about the benefits and profound significance of *monozukuri* and enjoyed hands-on experience with rolling motion, a fundamental THK technology.



A specially designed curling game at the THK booth.

>> Environmental management

Basic environment policy

Since the development of the LM Guide, THK has contributed to social and economic progress through its pioneering role as a manufacturer of linear motion systems and machine components. THK believes that a company has a vital responsibility to leave the global environment in good condition for the next generation. Accordingly, THK has undertaken a broad range of initiatives to continually decrease environmental burdens and maintain and improve the natural environment.

THK's basic policy regarding the environment

- Conservation of the environment is considered a major management concern, and we are striving to accurately grasp the impact on the environment produced by the Group's business activities, products, and services. Every division participates by setting relevant environmental goals.
- In addition to following environmental laws, we set self-imposed standards for Group companies and regularly review them to improve the efficiency and effectiveness of our environmental management.
- We will continually promote the development of products that help reduce environmental burdens.
- 4. We will continually promote conservation and recycling of resources, with particular attention to reducing and recycling waste from our manufacturing divisions.
- 5. To promote greater unity in our environmental activities, we will provide guidance and support to our affiliates and partner businesses, and strive to work in cooperation and harmony with local communities.
- 6. This basic policy regarding the environment shall be disseminated to all divisions in the Group through education, training, and activities designed to improve awareness. We will disclose information concerning the environment to parties within and outside the Group in a timely manner.



Harmony with the environment

Environmental management system

Environmental management system

THK is proceeding with the acquisition of ISO 14001 environmental management certification for its production sites in Japan and overseas. To better organize and accelerate environmental improvement efforts at THK's five principal plants in Japan, integrated certification was acquired for the YAMAGATA, KOFU, MIE, GIFU, and YAMAGUCHI Plants in 2010. This was difficult at first, due to differences among the communities where the plants are situated and in product lines and equipment; plant officials struggled to institute new rules and coordinate various efforts. By 2011, however, uniform policies, targets, and objectives were in place, and the integrated system is now in operation.

Because environmental management is an endeavor extending throughout the THK Group, the Risk Management Division's Environmental Management Department, located at THK Headquarters, coordinates the activities of the group's various divisions.

In 2011 THK achieved all its environmental objectives for the year, meeting numerical targets for energy conservation, reduction of CO₂ emissions, conservation of resources, zero emissions (volume of waste submitted for final disposal), and management of PRTR-designated hazardous substances.

ISO 14001 certified facilities

Facility	Date certified	Certifying body
YAMAGATA Plant]	
KOFU Plant	-	JQA
YAMAGUCHI Plant	Date renewed: Dec. 17, 2010	
MIE Plant		
GIFU Plant	-	
THK RHYTHM NORTH AMERICA	Jun. 13, 2001	SQA
THK RHYTHM Headquarters & GOKYU Plant	Dec. 20, 2001	JIA
THK RHYTHM KYUSHU	Dec. 20, 2002	JIA
TMA (USA)	Jul. 14, 2003	QMI
TME (Europe)	Feb. 3, 2004	AFAQ
THK NIIGATA	Oct. 21, 2005	JQA
THK RHYTHM INASA Plant	Dec. 20, 2006	JIA
THK WUXI (China)	Jan. 7, 2008	CQC
DALIAN THK (China)	Dec. 18, 2008	TUV
THK LIAONING (China)	Jan. 12, 2010	TUV

1	HK's environn	nental targets	
No.	Task	Fiscal 2012 targets	Targets to be achieved by 2014
1	Conserving energy and combating global warming	 Reduce CO₂ basic unit emissions to 1.09 tons per ¥1 million. (1% reduction relative to the 2011 level) Fiscal 2011 target was 1.12; 1.10 achieved (target met). Major efforts in fiscal 2012 (1) Controlled usage of air conditioning and compressors (2) Switch to energy-efficient LED lighting (3) Switch to inverter-controlled pumps 	Reduce CO2 basic unit emissions by 1%. Baseline: 1.10 tons per ¥1 million Oraget and Actual CO2 basic unit emissions: tons per ¥1 million Oraget and Actual 1.50 1.48 1.09 1.08 1.07 0.00 Oraget and Actual 0.50 0.00 0.01 2012 2013 2014 (Fiscel year)
2	Conservation of resources and zero emissions	 Keep emissions rate under 0.50%. Fiscal 2011 target was 0.50%; 0.48% achieved (target met). Major efforts in fiscal 2012 (1) Review of waste separation methods (2) Implementation of thermal recycling (3) Reduction of vinyl chloride and rubber waste 	Maintain zero emissions—less than 0.5% of waste undergoes final disposal. $(\%)$ Target Actual 1.00 0.50 0.50 0.50 0.50 0.50 0.00 0.58 0.48 0.48 0.48 0.48 0.44 (Fiscal year)
3	Management of hazardous substances	 Reduce volume of PRTR-designated substances to 52,626 kg or less. Fiscal 2011 target was 66,871 kg; 52,254 kg achieved (target met). Major efforts in fiscal 2012 (1) Controlled usage of equipment running on heavy and light fuel oil (2) Reduced use of solvents, use of non-solvent alternatives (3) Use of chemical substance management software 	Reduce annual volume of PRTR-designated substances by 3%. Baseline: 54,254 kg (kq) Target Actual 60,000 68,939 66,871 40,000 54,254 52,626 51,048 20,000 15,164 10,627 14,709 2009 2010 2011 2012 2013 2014 (Fiscal year)

Harmony with the environment

>> Environmental impact: The big picture



Environmental preservation: Costs

(¥ million per year)

Category	Investment	Cost	Principal efforts
1. Business areas			
Pollution controls	9.1	21.8	Monitoring air and water quality, inspection and maintenance of septic tanks, etc.
Global environmental preservation	8.5	26.0	Use of energy-saving equipment, energy-saving construction work
Recycling	10.3	94.7	Disposal and recycling of industrial waste
2. Upstream and downstream costs	0.0	1.4	Auditing of partner businesses
3. Management	6.2	184.7	Acquisition of ISO certification, research on environmental regulations and material content
4. Research and development	71.2	267.1	
5. Community activities	0.0	7.3	Tree planting and beautification, public relations efforts
6. Repairing environmental damage	0.0	0.0	
Total	105.2	603.1	

Notes: 1. Figures on overall environmental burdens represent an aggregate based on data from THK's five main plants in Japan: YAMAGATA, KOFU, GIFU, MIE, and YAMAGUCHI; other THK Group plants in Japan: THK NIIGATA, three THK INTECHS plants, Nippon Slide, THK RHYTHM, and THK RHYTHM KYUSHU; and five overseas THK plants: TMA (USA), TME (France), DALIAN THK (China), THK WUXI (China), THK LIAONING (China).

2. Figures on $NO_{\mbox{\tiny X}}$ and $SO_{\mbox{\tiny X}}$ emissions apply only to THK's five plants in Japan.

Conservation of resources and zero emissions

Status of current efforts

THK sets waste-reduction targets based on its emission rate—the volume of waste designated for final disposal, expressed as a percentage of the total volume of waste generated. The goal for fiscal 2011 was to get below 0.50%, and THK reached this target; the figure achieved was 0.48%. The total amount of waste generated in fiscal 2011 was 7,482 tons, which was 201 tons, or approximately 2.6%, less than in fiscal 2010. Some 36 tons of waste was designated for final disposal in landfills or by incineration, which was 8.2 tons, or 18.5%, less than in fiscal 2010. This reflects progress in breaking down composite materials for recycling, reduced use of grindstones, and reduced use of packing materials.

In fiscal 2012 THK worked to maintain emissions of 0.5% or less by (1) revising its waste separation methods, (2) implementing thermal recycling, and (3) reducing the volume of plastic and rubber waste.



Waste by type



Reusing discarded materials

As part of efforts to reduce and recycle waste at DA-LIAN THK in China, employees have fashioned 33 different tools out of discarded metal platforms, for use in facilitating production. They also succeeded in reusing motors, relays, switches, and valves that needed to be replaced, thereby reducing the overall volume of waste by one ton.

After modifying its packaging materials and processes, the facility was able to switch to packaging that includes no anticorrosive paper whatsoever for some product models. This was accomplished by careful testing of plastic materials in use and by having the plant manufacture its own packaging materi-

als. Thanks to these efforts, Dalian THK has reduced its annual usage of anticorrosive paper by a p p r o x i m at ely 1,800 kilograms.



Reuse of discarded materials.

Efforts at the YAMAGATA Plant

THK's YAMAGATA Plant acquired ISO 14001 certification in 1999. The plant's employees have made concerted environmental preservation efforts that include energy conservation, zero emissions, management of hazardous substances, and respect for the local environment. Employees are kept informed about the details of environmental efforts and their activities are carefully coordinated, so each employee is well aware of his or her role and responsibilities. In response to the recent electric power shortage, the plant introduced a variety of measures with immediate effect, installing generators, cutting back on air conditioning, reducing standby power consumption by machinery, and shifting production from the afternoon to the evening.

Plant employees have planned and taken part in a variety of events with the local community. These include a roadside cleanup campaign, a

cleanup event in preparation for a local marathon, and support for an environmental laboratory for elementary school students.



Ken Yokoyama, head of the YAMAGATA Plant's environmental education section.

YAMAGATA Plant employees took part in an environmental laboratory for elementary school students during the city of Higashine's annual Environment Week.



An exhibit at the environmental laboratory.

>> Conserving energy and combating global warming

CO₂ emissions in fiscal 2011

THK sets targets for reducing CO_2 emissions expressed in basic units (CO_2 emissions divided by the value of goods produced). The fiscal 2011 target was 1.12, and the figure achieved was 1.10, for an improvement of roughly 1.3%; the target was met. In absolute terms THK reduced CO_2 emissions by approximately 8,819 tons in 2011 to a total of 81,524 tons, a decrease of roughly 10% compared to the previous year.

These results reflect efforts to curb power consumption at times of peak demand in response to severe constraints on the power supply following the Great East Japan Earthquake. THK launched a bold initiative to reduce electric power consumption by cutting back on lighting and reducing air-conditioning hours through intermittent operation and careful management of indoor temperatures. By switching to more energy-efficient air conditioning and energysaving LED lighting as well, THK succeeded in reducing overall power consumption.

In addition to more efficient air conditioning and lighting, as well as visual monitoring of power consumption, THK also introduced energy-efficient compressors and other devices in fiscal 2011. Ancillary equipment will continue to be upgraded in fiscal 2012, and efforts to curb electric power consumption at times of peak demand will continue.



On February 21, 2012, the 2011 Kanto District Energy Conservation Month award ceremony was held at the Kanto Bureau of Economy, Trade and Industry, in the city of Saitama. At the ceremony the THK RHYTHM GOKYU Plant received a Kanto Bureau of Economy, Trade and Industry Director's Award for superior energy management.

The award is presented to enterprises that make notable achievements in the area of energy management, as a means of reinforcing Japan's national energy policies, encouraging efforts to combat global warming, and addressing energy issues.

The GOKYU Plant began incorporating inverters into fans and pumps, improved its air-conditioning units by installing energy-saving air nozzles, and switched to LED lighting. These and other efforts to rationalize energy usage and increase energy efficiency, which led to a 20% improvement in energy usage (measured in basic units) over a five-year period, received high acclaim. In 2012 only five businesses in

the Kanto Bureau's jurisdiction received the prestigious Director's Award, which has encouraged further energy conservation efforts.



THK RHYTHM personnel at the ceremony: (from left) Manufacturing Department Energy Manager Masayoshi Murakami, Head of Plant Mitsuo Yokota, CEO Masato Sawada.

Monitoring demand

In an effort to reduce electricity consumption at each workplace, a system enabling real-time visual monitoring of electric power demand has been introduced at the YAMAGATA Plant. Any computer in the plant can be used to monitor demand. The new system makes it easier to control lighting, air conditioning, and other incidental equipment. In addition, thanks to the carefully coordinated use of new low-energy settings for production equipment, standby power consumption has been reduced by as much as 75%.

By means of these efforts and greater reliance on the plant's own generators, the demand for electricity has been reduced by up to 30%, and overall power consumption for the year declined 17%.



Low-power air conditioning

At the YAMAGUCHI Plant, employees embarked on the task of reducing power consumption by the motor that drive the plant's large air-conditioning unit, which operates 24 hours a day. By incorporating inverters that can modulate the motor's speed and installing a timer that enabled the motor to be slowed down for 10 minutes each hour, they succeeded in reducing power usage without any loss of efficiency. Although indoor temperatures remained unaffected, the modifications lowered electric power consumption by approximately 20%.



A timer was installed on the control panel to modulate motor speed.

Energy-saving lighting

In the past, some 31 400-watt mercury lamps were deployed to provide the prescribed level of illumination in the YAMAGUCHI Plant's high-ceilinged assembly room, resulting in power consumption of 12.4 kilowatt hours per day. To cut back on power usage, the plant replaced all the mercury lights with high-efficiency, low-energy ceramic metal halide lights, which consume only 200 watts. As a result, power consumption decreased by 43% while illumination increased by 30%.



At THK INTECHS, a successful effort was made to switch from fluorescent to LED lighting. Some 300 40-watt fluorescent lights at the company's MISHIMA Plant offices and 280 at its SENDAI Plant offices were replaced with 22-watt LED lights, which reduced both power consumption and CO₂ emissions.

At THK NIIGATA 400-watt mercury lights were replaced with 98-watt LED lights in five fixtures that illuminate the company's warehouse and receiving area, which reduced annual power consumption by 4,000 kilowatt hours. All 204 86-watt fluorescent lights in the company's offices were replaced with 42-watt fluorescent lights equipped with high-efficiency reflectors, which resulted in energy savings of 5,000 kilowatt hours per year.



New lights at the THK INTECHS MISHIMA Plant (left) and THK NIIGATA (right).

At the GIFU Plant, 45 200-watt mercury lights used to illuminate the parking lot and other outdoor areas were replaced with 36-watt LED lights. This reduced power consumption by 70 kilowatt hours per day and

is expected to cut annual CO₂ emissions by approximately 116 tons.

At THK WUXI in China, an ongoing project to replace mercury lights with LED lights, begun in 2009, is now about 80%



Outdoor lighting at the GIFU Plant.

completed. Replacing the old mercury lights, which consume a great deal of electricity, with LED lights re-

sulted in a roughly 52% decrease in energy usage for lighting and an approximately 1,400-ton reduction in annual CO₂ emissions, based on the emissions calculation formula employed in China.



Indoor lighting at THK Wuxi.

At DALIAN THK, also in China, a total of 130 mercury lights and conventional fluorescent lights were replaced with fluorescent LED and outdoor LED lights in fiscal 2011. This resulted in a reduction in annual

power consumption amounting to roughly 40,000 kilowatt hours and a 40-ton reduction in annual CO₂ emissions, based on the emissions calculation formula employed in China.



Sensor-equipped fluorescent LED light at DALIAN THK.

>> Management of hazardous substances

• PRTR-designated substances

In order to reduce its use of hazardous substances substances that could adversely affect human health and damage ecosystems—THK is working to lower the use of chemical substances subject to the PRTR Law,* striving to reduce such use by 3% annually in comparison to the previous year. This target was not only achieved but greatly surpassed in fiscal 2011: total volume for the year amounted to 54,254 kilograms, which was 14,685 kilograms less than the fiscal 2010 total of 68,939 kilograms, a roughly 21% decrease. This is attributable to an all-out effort to reduce the use of heavy fuel oil in co-generation systems and the use of gasoline and light fuel oil to power fork lifts.

*PRTR: Pollutant Release and Transfer Register. The PRTR Law, formally known as the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, was enacted to facilitate better control over and reporting of emissions of designated chemical substances.

Substances subject to the PRTR Law (kg)		
Substance	Amount used	Airborne emissions
Xylene	2,075	30
Toluene	3,430	94
Ethyl benzene	668	15
Benzene	204	33
Methyl naphthalene	42,846	-
Other	5,032	-
Total	54,254	171

Reduced use

In order to reduce its use of a PRTR-designated substance in packaging materials, the MIE Plant switched from the use of polyurethane foam as a cushioning material to the use of kraft paper. This enabled the plant to lower its use of methylenebis, a potential air, water, and soil pollutant identified under the PRTR Law as a class 1 designated chemical substance, by approximately 170 kilograms per year.

This change greatly reduced the time required for packaging. In addition, the use of paper as a cushioning material was warmly welcomed by the plant's customers.



Two views of kraft paper cushioning material used in packaging.

Green purchasing training

At THK, green products are those that do not contain any substance prohibited under the THK Group's green purchasing guidelines. The mechanism that enables THK to provide green products is green purchasing. Green purchasing requires attention to environmental impact at each stage, from the acquisition of raw materials through manufacture, distribution, and eventual disposal of the product. To achieve this, the cooperation of the partner businesses who provide the components and materials used in the manufacture of THK products is essential, as is careful internal management of chemical substances

As domestic and international legal and regulatory frameworks, including Europe's RoHS directive and REACH system, become increasingly strict, the task of managing and providing the required data on chemical substances is increasingly complex and multifaceted.

To meet the complex requirements of green purchasing, THK is employing newly developed software to help manage chemical substances and has also established the necessary internal regulations and clarified work flows and the roles and responsibilities of the respective departments involved. In fiscal 2011 THK also provided training in the use of the new software at 11 business locations in Japan, including plants and THK Headquarters, as well as training concerning each respective department's duties with respect to managing chemical substances.

THK has deployed the new chemical management software throughout the group and is working to ensure that all duties pertaining to green purchasing are performed more efficiently as well as to improve its overall management of chemical substances. These efforts will help THK satisfy regulatory requirements and meet customer needs more promptly and accurately and will ultimately help reduce environmental burdens and improve environmental compliance.



Environmental training, provided at 11 THK locations in Japan.



Transport-related CO₂ emissions

Due to an increase in transport volume, transport-related CO_2 emissions rose to 4,893 tons in fiscal 2011. The annual total was 173 tons, or approximately 4%, higher than the figure for the previous year. Nevertheless, basic unit energy consumption (energy consumption divided by freight ton kilometers) decreased from 70.9 to 67.1, representing a roughly 5% improvement. The positive result is attributable to modal shifts and improved load ratios.

THK continued to implement modal shifts in fiscal 2011. The YAMAGUCHI Distribution Center reduced the frequency of weekly shipments from five to four and switched from 31-foot to 20-foot containers, which are shipped twice a week. The CHUBU Distribution Center switched from chartered trucks to containers, which are shipped four time a week. The YA-MAGATA and TOKYO Distribution Centers have also switched to containers, which are shipped once a week. These efforts are indicative of THK's steadily growing use of modal shifts, which have risen from the rate of roughly 1% in 2009 to 9% in 2010 and 13% in 2011.

Load ratios were improved through the use of joint distribution, in which delivery routes are designed to enable goods being shipped to the same customer to be picked up from various distribution centers along the way. In addition, thanks to modifications in shipping routes, the number of chartered trucks used for regular shipments was reduced.

THK will work to further reduce transport-related energy consumption and CO_2 emissions in fiscal 2012 by employing modal shifts at a higher rate, adjusting routes for regular chartered shipping, and continuing to improve load ratios.



Transport-related CO₂ emissions and energy consumption (THK only)

Green distribution efforts

THK's Distribution Division, operating through distribution facilities located all over Japan, practices green distribution, an effort to reduce environmental burdens throughout the distribution process. THK is implementing modal shifts, consolidating truck shipments, and pursuing a variety of other initiatives, based on two key principles of green distribution: reducing CO₂ emissions and improving transport efficiency.

To promote green distribution, a Green Distribution Committee was formed. Committee members, drawn from THK's distribution centers in Japan, meet regularly to discuss ways of implementing green distribution, formulate plans, and review the status of ongoing efforts.

Green distribution efforts in fiscal 2011 focused on five areas: implementing modal shifts, improving load ratios, increasing direct shipments, increasing the ef-

ficiency of interwarehouse distribution, and reorganizing regular chartered shipping routes.



Shipping containers like one this facilitate modal shifts.

More efficient shipping

In an effort to improve overall shipping efficiency and cut back on packing materials, the THK INTECHS MISHIMA Plant and THK's KOFU Plant have begun collaborating on regular shipping arrangements.

The two plants are working together to ensure that products are shipped in a timely manner while also striving to increase load ratios and reduce energy consumption as much as possible. The resulting improvements have decreased the use of packing materials, as well as labor hours devoted to packing, paperwork, and other ancillary duties, by half.

In addition, products are now packed inside returnable container whenever possible. This has reduced annual use of wood, cardboard, and other packing

and packaging materials by approximately six tons.



THK products packed in a returnable container.

THK CSR REPORT 2012/2013

Third-party opinion

I have developed manufacturing technology for a manufacturer of electronic components and performed research on machine tools and processing technology at my university. I have used THK products, and as THK has developed new machine elements, my relationship with the company has continued. As a customer, I have been impressed with THK's performance and sense of responsibility, and I consider it an honor to present the third-party opinion in this year's *CSR Report*. Being a university professor, I'm not well versed in the language of the business world, but I can affirm that corporate social responsibility means not merely pursuing one's own business interests but taking responsibility for organized efforts that affect society at large.

My views on this report are summarized below.

1. Continuity

Japanese manufacturing businesses have been heavily affected by the Great East Japan Earthquake and the recent flooding in Thailand. In these events, businesses experienced problems such as the loss of factories, loss of energy sources, disruptions of communications networks and supply chains, and the need to make decisions under crisis conditions, as actual challenges exerting a cumulative impact on a huge scale. President Teramachi addresses this in his introductory message summarizing current measures concerned with business continuity planning, which include decentralizing head office functions and ascertaining the reliability of the supply chain. These and other measures are discussed in detail on page 17. Now that things are returning to normal, it is essential to carry on with efforts such as these.

2. People

The section of the report concerned with customers and customer satisfaction, shareholders, suppliers, and employees is appealingly straightforward. An entire page is devoted to the topic of customer satisfaction, and this gave me a sense of the high value THK places on building positive relationships with its customers. The pages featuring the heading "Together with our employees" were written from the standpoint of support for employee development, diversity in the workplace, and engagement with local communities. THK has pursued a variety of initiatives in these areas, including in-house recruiting to enable entry into new fields, the hiring of people with disabilities and participation in the Abilympics, collaborative community projects, and a global engineers meeting. These efforts have helped expand horizons and open up new opportunities for THK's employees.

3. Regions

The graph on page 6 depicting trends in the number of consolidated employees indicates that the number of employees in Asia has more than doubled since 2007, and in conjunction with this sales have risen rapidly as well. THK's contributions can be expected to become even more important in various parts of Asia in the future. 4. The environment

The "big picture" on environmental impact is presented in a format that clearly delineates input and output. This, together with the examinations of individual environmental initiatives, has left me impressed with THK's strong environmental consciousness. The "green curtain" projects are quite unique, although the section in which they are described includes a disclaimer noting that such projects are not a companywide endeavor. I hope many more such experiments are tried in the future, and that they yield more useful new ideas.

THK has set for itself the goals of providing the world's highest quality and maintaining uniform quality throughout the world. In the process of achieving these goals, even in the midst of difficult circumstances, both the people and the organization will grow as they work in partnership with the rest of society. And that, I have learned while mulling over my own opinions, is what corporate social responsibility means. I'm grateful to THK for offering me this opportunity to share my views.

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Postscript

It has been our pleasure to present this, our sixth annual *THK CSR Report*.

To illustrate one way in which THK products play a useful role in our immediate surroundings, the first part of the feature section of this report presents comments by a customer who has adopted seismic isolation to limit potential earthquake damage, highlighting the importance of being prepared for major earthquakes expected to occur in the future. It is very gratifying to know that people who have installed seismic isolation systems feel they provide the kind of peace of mind that money can't buy. The second part of the feature section examines THK's approach to corporate social responsibility as reflected in its efforts to cut back on electric power consumption in the aftermath of the Great East Japan Earthquake, and in the experiences of THK employees who have volunteered to assist in disaster recovery efforts.

As in other years, the report also includes sections

covering THK's corporate governance and compliance systems, its positive relationships with employees and local communities, and its efforts to alleviate global warming. Wherever possible we have included remarks by people who are, in one way or another, involved with THK.

The THK Group, working together, will continue to take positive action to honor its corporate social responsibilities and will take pride in presenting the results to you, the reader. We are very interested in your views and impressions of this report. Your comments will provide valuable feedback that will guide our future CSR activities and help us in preparing our next report. Please take the time to fill out the enclosed questionnaire.

Thank you.

CSR Report Project Secretariat

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