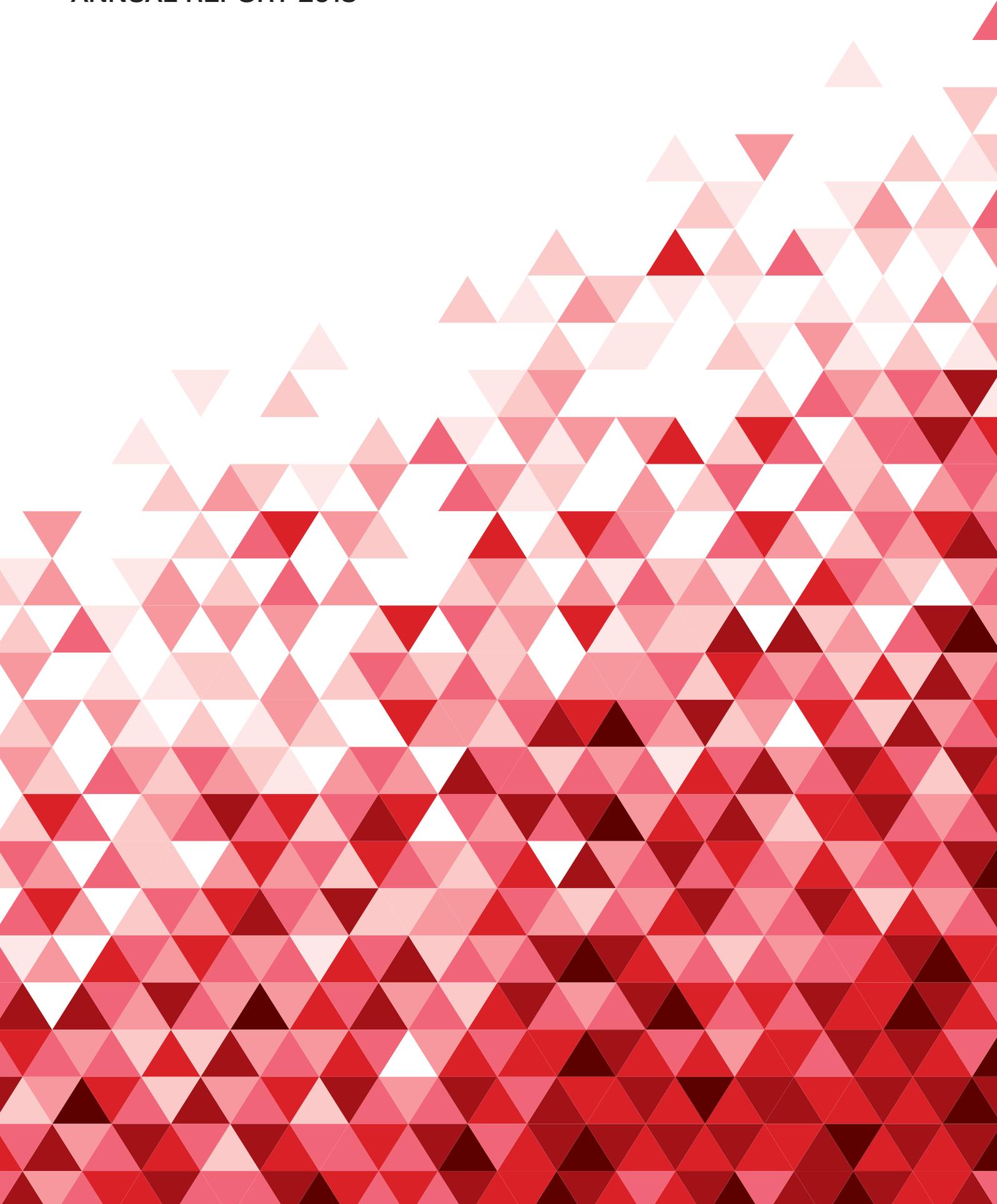


ANNUAL REPORT 2018



THK's History

THK CO., LTD., manufactures and supplies vital machine components around the world. THK products help to convert slippage into controlled rotary motion, enabling parts of machinery to move smoothly, easily, and precisely with linear motion. As a company focused on creation and development driven by its corporate philosophy of *providing innovative products to the world and generating new trends to contribute to the creation of an affluent society*, THK has continued to focus on the development of a variety of products, including Linear Motion (LM) Guides, since its establishment in 1971.

The 1970s: Establishment and the Early Years

While rolling motion was commonly achieved through rolling contact utilizing rotary bearings, linear motion was considered impossible to achieve through rolling contact, and it primarily came from sliding contact instead.

In 1971, THK developed the ball spline, which enabled a higher level of linear motion precision and performance. This ball spline was the predecessor to THK's current mainstay product, the LM Guide, which was first introduced in 1972.

In 1978, the Company's products were adopted by a U.S.-based pioneer of the machining center and world-class leader of its day. This breakthrough was the catalyst for the increased use of LM Guides in machine tools.



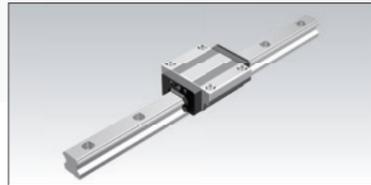
Ball Spline

Developed in the same year that THK was established, the ball spline was the precursor to the LM Guide. This revolutionary product allows balls to roll along a rounded groove machined into the ball spline's shaft, boosting the load that the device can tolerate and permitting the transmission of torque.

- 1971 THK established
- 1972 Production and sale of LM Guides began
- 1977 Kofu Plant (JPN) established

The 1980s: Significant Developments in Factory Automation (FA)

The 1973 oil crisis saw the demise of heavy industry, pushing technology-based industries, such as the automotive, semiconductor, and home appliance industries, increasingly to the fore. Buoyed by depreciation in the value of the yen as well as the outstanding quality of products manufactured in Japan, export volumes to Europe and the United States climbed steadily. Under these circumstances, there was a demand for mass production of high-quality products. With FA advancing across production front lines, machine tool production volumes increased, and the proportion of advanced machine tools with numerical control (NC) saw steady growth. Against this backdrop, the application of LM Guides experienced explosive growth.



LM Guide

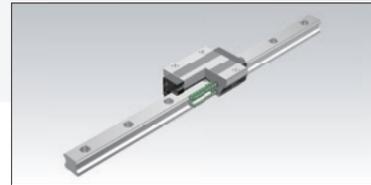
Developed utilizing the structure and mechanism of ball splines, LM Guides today are THK's mainstay product. The use of LM Guides by a major U.S.-based machine tool manufacturer spurred a significant increase in the application of these products in machine tools.

- 1981 THK America, Inc. (USA) established
- 1982 THK Europe GmbH (GER) established
- 1984 Gifu Plant (JPN) established
- 1985 Mie Plant (JPN) established
Yamaguchi Plant (JPN) established
- 1989 THK listed on over-the-counter (OTC) market
THK TAIWAN CO., LTD. (TPE) established

Expansion of numerically controlled (NC) machine tools and factory automation

The 1990s and Onward: The Rise of the Electronics Industry

During the 1990s, the number of LM Guides used in semiconductor manufacturing equipment surged dramatically, in line with the increase in semiconductor demand. Entering the 2000s, amid the proliferation of mobile devices and digital home appliances, as well as the upswing in demand for semiconductor, flat panel display, and other similar manufacturing equipment, there was a rise in the use of LM Guides, especially the second-generation Caged Ball LM Guide. In tune with the increasing globalization of manufacturing, THK accelerated its business development globally.



Caged Ball LM Guide

The Caged Ball LM Guide was developed as the second-generation LM Guide. By keeping the balls in place, the use of caged ball technology extends service life, reduces noise, and enables long-term maintenance-free operation when compared with first-generation LM Guides.

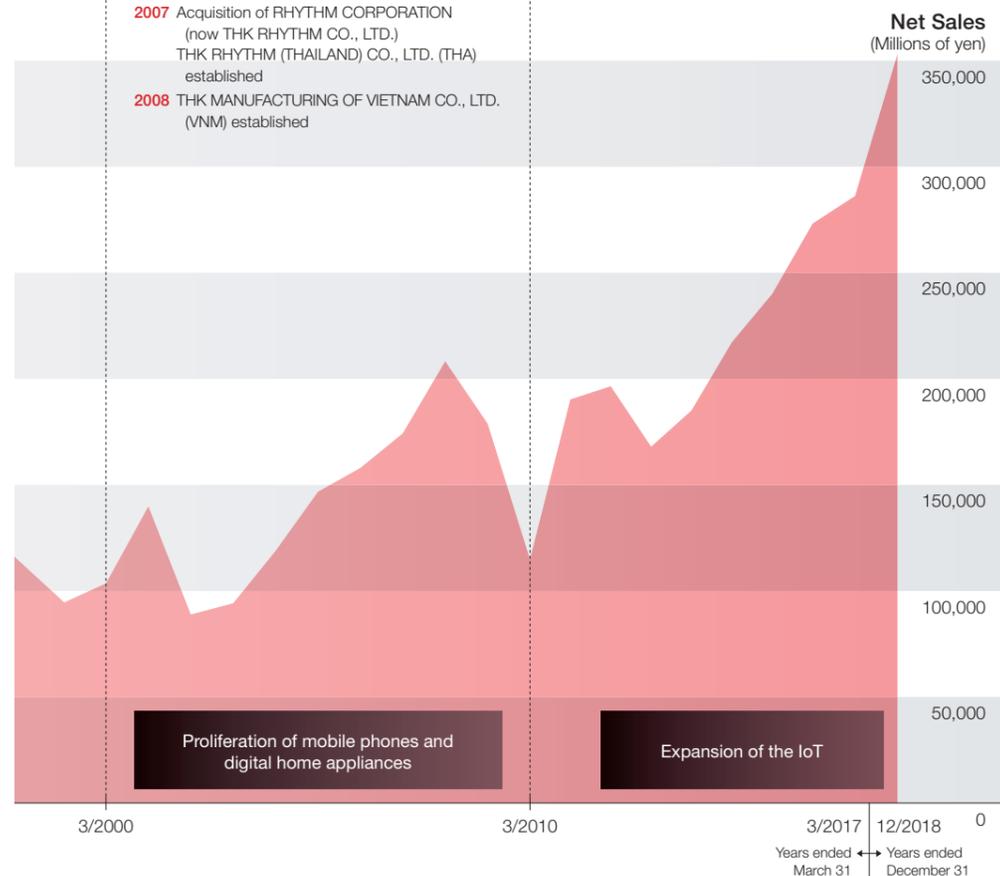
- 1991 Yamagata Plant (JPN) established
- 1996 Production and sale of the Caged Ball LM Guide began
DALIAN THK CO., LTD. (CHN) established
- 1997 THK Manufacturing of America, Inc. (USA) established

Rise of the electronics industry
Growth of semiconductor manufacturing equipment industry

Toward a New Era: Achieving Management Targets and Expanding Business Domains by Implementing Three Growth Strategies

As globalization has progressed, the market around THK has also steadily expanded with the rapid development of new technologies such as AI and the IoT. Under these circumstances, the Company aims to expand its business domains through three growth strategies: expanding its geographical range through *full-scale globalization*; purposefully expanding its domains through the *development of new business areas*; and fully utilizing AI, robots, and other technologies in a variety of ways through a *change in business style*. While moving forward with those strategies, THK is accelerating the initiatives being conducted in its industrial machinery and automotive and transportation businesses to achieve the following management targets by the end of the 2022 fiscal year: consolidated net sales of ¥500 billion, an operating income of ¥100 billion, an ROE of 17%, and an EPS of ¥560. Furthermore, the Company will continue vigorously promoting its growth strategies to aim at achieving not only these management targets, but also long-term growth and an increase in its corporate value.

- | | |
|---|---|
| <ul style="list-style-type: none"> 2000 THK Manufacturing of Europe S.A.S. (FRA) established 2001 Production and sale of the Caged Roller LM Guide began
THK listed on the first section of the Tokyo Stock Exchange (TSE) 2003 THK (SHANGHAI) CO., LTD. (CHN) established 2004 THK MANUFACTURING OF CHINA (WUXI) CO., LTD. (CHN) established 2005 THK MANUFACTURING OF CHINA (LIAONING) CO., LTD. (CHN) established
THK (CHINA) CO., LTD. (CHN) established 2006 THK LM SYSTEM Pte. Ltd. (SIN) established 2007 Acquisition of RHYTHM CORPORATION (now THK RHYTHM CO., LTD.)
THK RHYTHM (THAILAND) CO., LTD. (THA) established 2008 THK MANUFACTURING OF VIETNAM CO., LTD. (VNM) established | <ul style="list-style-type: none"> 2011 THK RHYTHM CHANGZHOU CO., LTD. (CHN) established
THK RHYTHM MALAYSIA Sdn. Bhd. (MYS) became a consolidated subsidiary 2012 THK RHYTHM MEXICANA S.A. DE C.V. (MEX) established
THK India Private Limited (IND) established 2015 Purchased the European and North American L&S business from TRW Automotive Inc. and established THK RHYTHM AUTOMOTIVE (TRA) 2017 TRA Holdings, CO., LTD. (JPN) established |
|---|---|



CONTENTS

- 02 Value Creation
- 04 Three Key Characteristics
- 05 Growth Strategy 1: Full-Scale Globalization
- 06 Growth Strategy 2: Development of New Business Areas
- 07 Growth Strategy 3: Change in Business Style
- 08 Financial and Non-Financial Highlights
- 10 To Our Stakeholders
- 14 Research and Development
- 16 THK's Products
- 20 Business Review
 - 20 Review by Geographic Region
 - 23 Review by Business Segment
- 26 Management Base
- 26 ESG/CSR
- 27 Harmony with the Environment
- 28 Involvement in Society
- 30 Corporate Governance
- 34 Financial Section
- 68 Subsidiaries & Affiliate
- 69 Corporate Data

Disclaimer

This report contains forward-looking statements from THK CO., LTD., and its consolidated subsidiaries pertaining to plans, forecasts, strategies, and results. These forward-looking statements are based on currently available information, and actual results may vary significantly from the forward-looking statements contained in this report due to a range of variable factors.

As it was the year during which THK transitioned to a new reporting period, the data for the fiscal year that ended December 2017 reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

Value Creation

THK stands for “Toughness,” “High Quality,” and “Know-how.”

With solid capital supporting its manufacturing, sales, and R&D activities, THK has provided solutions to customers in the form of tough, durable, and high-quality products and extensive know-how. THK has grown rapidly as a result, contributing to society through manufacturing.

To achieve long-term growth and contribute to the creation of an affluent society during a time when the business environment changes at a bewildering pace, THK will promote its growth strategies and strengthen the various forms of capital that support its business.

THK's Capital (2018 Fiscal Year)	
Net Worth	¥283.6 billion
Net Worth Ratio	61.2%
Employees	
Consolidated	13,478
Non-consolidated	3,773
Ratio of Female Employees	
Consolidated	22.1%
Non-consolidated	14.4%
Ratio of Group Employees Outside of Japan	
	60%
* Group employees outside of Japan include employees dispatched overseas from Japan.	
R&D Expenses	¥5.1 billion
R&D Facilities	3
Number of Registered Patents	
Japan	633
Outside of Japan	1,162
Production Facilities	
Japan	12
Outside of Japan	23

Corporate Philosophy

Providing innovative products to the world and generating new trends to contribute to the creation of an affluent society

Growth Strategies

Full-Scale Globalization
Integrated production and sales structures in areas of demand

Development of New Business Areas
Active expansion into new fields related to consumer goods

Change in Business Style
Thorough utilization of new technologies in sales, production, and development

Key Characteristics

Core Technology
Original concepts and innovative technology

Expertise and Proposals
The ability to respond to various needs

Global Manufacturing Structure
Production facilities in Japan, the Americas, Europe, and Asia

Company Performance (2018 Fiscal Year)

Consolidated Net Sales	¥353.4 billion
Operating Margin	14.1%
Net Income Attributable to Shareholders of THK CO., LTD.	¥35.4 billion
ROE	12.8%
Payout Ratio	30.4%
Average Age of Employees (Non-consolidated)	
	39.8
Average Years of Service (Non-consolidated)	
	17.1
Average Years of Service of Female Employees (Non-consolidated)	
	13.8
CO ₂ Emissions*	183,598 t-CO ₂
Total waste*	21,359 t
Recycled*	18,568 t
Number of ISO 14001-Certified Facilities	28

* This data was taken from the following production facilities: Twelve production facilities in Japan: Yamagata, Kofu, Gifu, Mie, Yamaguchi, THK NIIGATA, THK INTECHS (Sendai and Mishima), NIPPON SLIDE, and THK RHYTHM (Hamamatsu, Inasa, and Kyushu) Eight production facilities outside of Japan: TMA (USA), TME (France), TMI (Ireland), DALIAN THK (China), Wuxi (China), Liaoning (China), Changzhou (China), and TMV (Vietnam)

Data from the 2017 fiscal year that ended December 31, 2017, includes data from January to March 2017.

Three Key Characteristics

The Key Characteristics of THK, the Pioneer and Top Manufacturer of the LM Guide

As the world's leading manufacturer in its field with a proven track record of long-standing success, THK has fostered three key characteristics over many years. Drawing on the strengths of its corporate culture, the Company is further honing these key characteristics in an effort to secure long-term growth and generate corporate value.

1 Innovative Core Technology

THK pioneered the development of the world's first LM Guide based on an original concept and innovative technology. By providing components essential to increased precision, rigidity, speed, and energy efficiency in such wide-ranging fields as machine tools and semiconductor manufacturing equipment, the Company has consistently played a major role in the ongoing development of industry.

2 Ample Expertise and Wide-Reaching Proposals

Since it successfully developed the LM Guide, THK has commanded a leading share of the global market. As it has worked to answer the diverse needs of its customers as a world-class manufacturer, THK has amassed an abundance of knowledge and the ability to propose a wide range of solutions in the field of industrial machinery. In addition to refining these key characteristics, THK has actively expanded its reach beyond the field of industrial machinery to also encompass consumer goods-related fields.

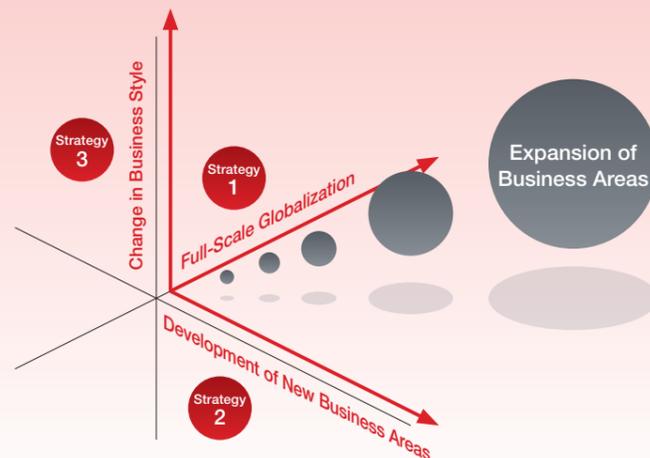
3 Global Structure for Supplying Products

THK has actively promoted the development of an integrated production and sales structure with facilities and operations close to centers of demand. The Company currently maintains local production and sales networks that cover its four principal markets: Japan, the Americas, Europe, and Asia. As a result of its activities, THK has steadily built a global business platform, with branches currently established in 25 countries around the world, and continues to cultivate new markets.

Key Characteristics × Strategies

Strategies to Expand Business Domains

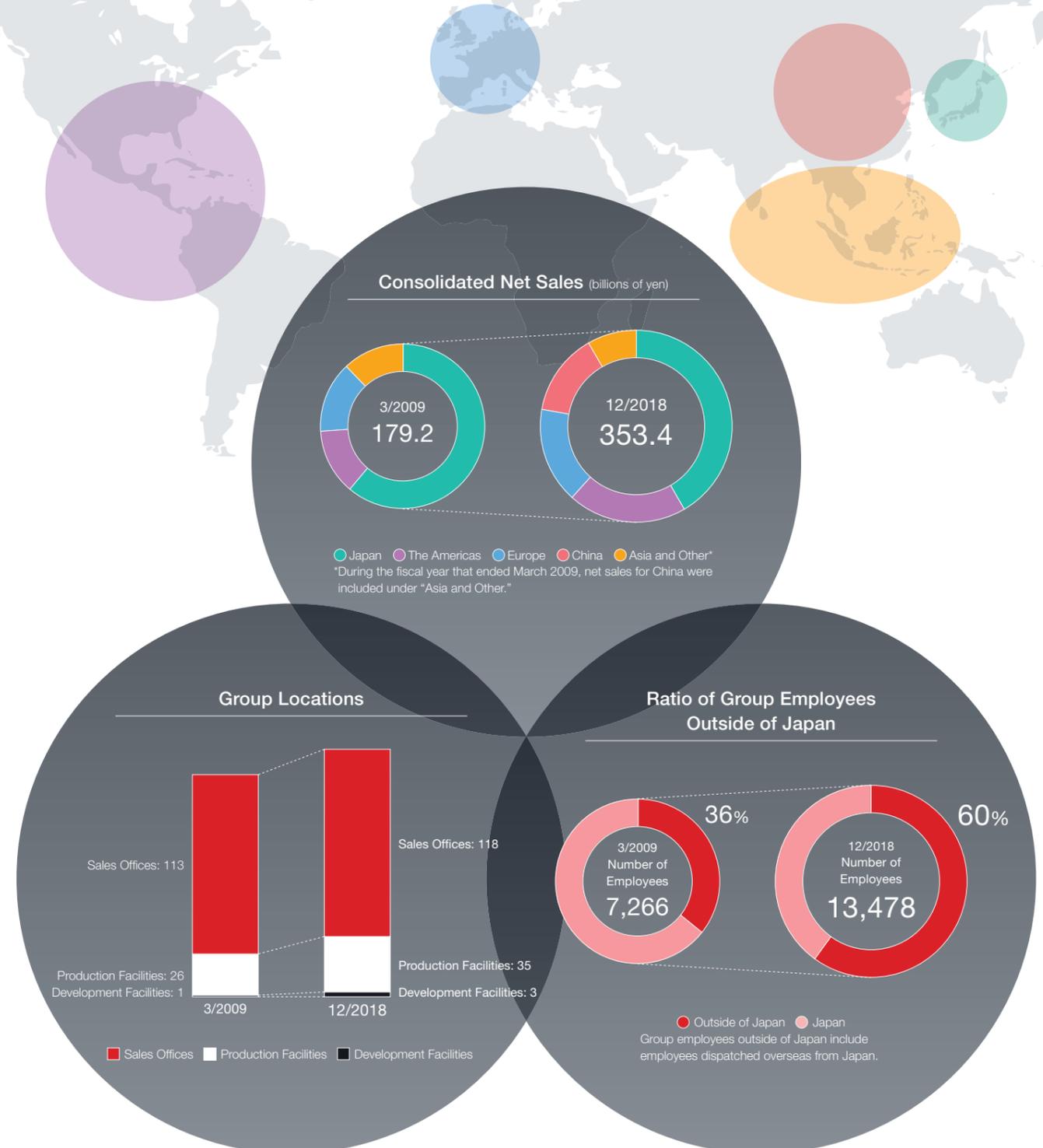
THK is committed to developing its business through three growth strategies: expanding its geographical range through *full-scale globalization*; purposefully expanding its domains through the *development of new business areas*; and fully utilizing AI, robots, and other technologies in a variety of ways through a *change in business style*.



Growth Strategy 1

Full-Scale Globalization

THK has established an integrated production and sales structure with facilities and operations close to centers of demand in order to produce and sell locally in four regions: Japan, the Americas, Europe, and Asia. The Company is working to expand its sales network and production structure in light of the medium- to long-term demand increases that were forecast for China and other emerging markets in recent years. In developed countries, THK is also enhancing its sales network in a bid to steadily capture demand amid expansion in its user base. Through these means, the Company is diligently promoting additional growth.



Growth Strategy 2

Development of New Business Areas

THK is accelerating its expansion into fields related to consumer goods such as automotive parts, seismic isolation and damping systems, medical equipment, aircraft, robotics, and renewable energy. In addition, THK has recognized the vast potential in other consumer goods industries, and it is honing its abundant expertise and the core linear motion system technology it has cultivated over time to accelerate the pace at which it develops new business areas.

Capital Goods

Machine tools, chip mounting machines, injection molding machines, industrial robots, semiconductor manufacturing equipment, FPD manufacturing equipment, etc.



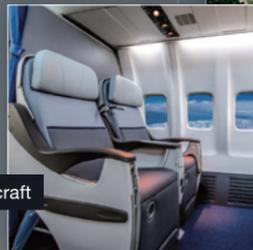
Consumer Goods



Automotive parts



Seismic isolation and damping systems



Aircraft



Robots



©2018 Intuitive Surgical, Inc.

Medical equipment



Renewable energy

Growth Strategy 3

Change in Business Style

As it makes strides in the areas of full-scale globalization and the development of new business areas, the Company is also making efforts to further expand its business domains by ensuring the thorough use of new technologies such as AI and robotics in sales, production, and development. In this way, THK is working to transform the frameworks and methods by which it does business.

Omni THK: Fast Delivery (Fast Product Delivery Service)

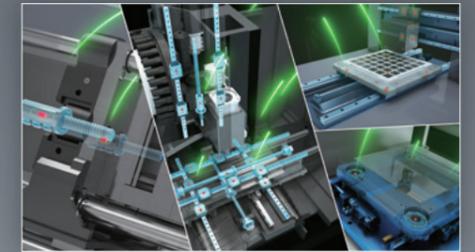
Omni THK is an original communication platform THK developed to serve as an e-commerce website and to create a fast-delivery system for standard and semi-custom products to allow even more customers to quickly and effortlessly purchase products.



Omni THK: OMNIedge (Predictive Maintenance Service)

OMNIedge is a predictive failure detection service for the manufacturing industry. The THK SENSING SYSTEM enables the automation of routine equipment inspections and the systematization of predictive failure detection.

▶ More info: p. 24



Eagle System (Visualization of Production)

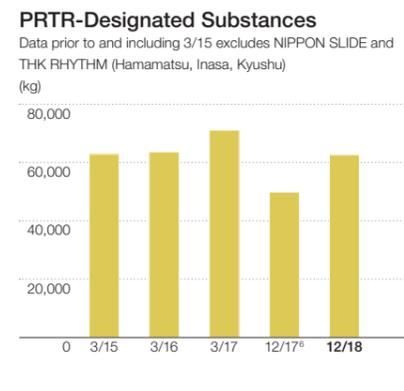
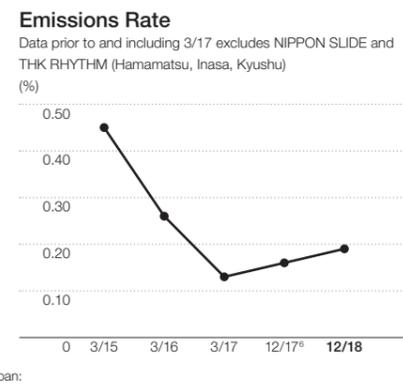
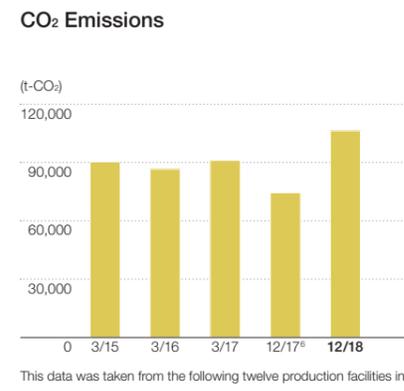
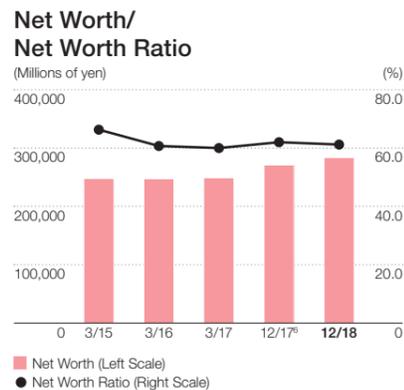
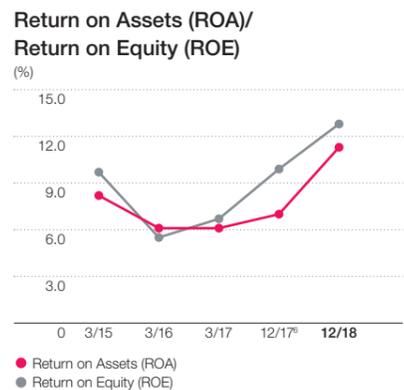
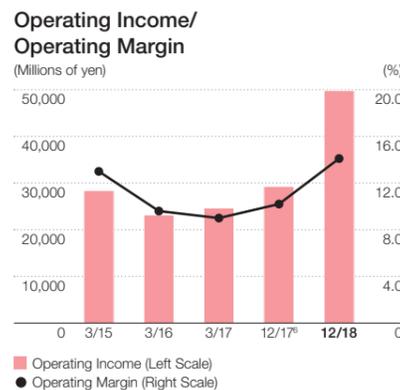
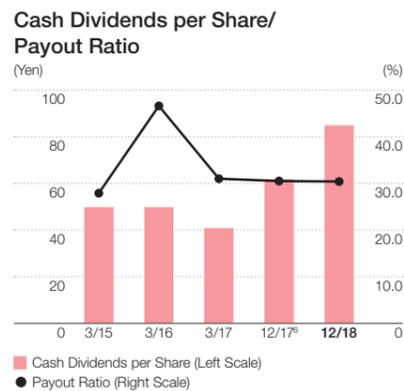
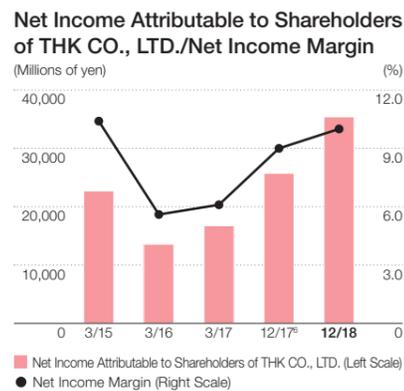
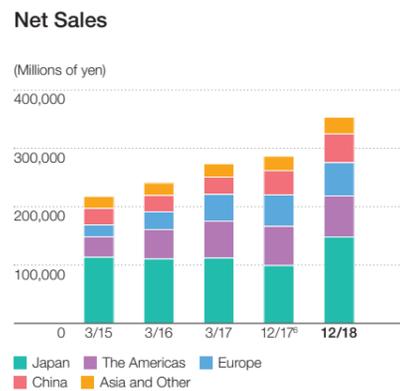
The Eagle System visualizes the operating conditions of every facility, process, and machine throughout the Group. This information is used to promote various productivity improvements.



Financial and Non-Financial Highlights

The THK Group changed from a fiscal year end of March 31 to December 31, beginning with the 2017 fiscal year. As the transition took place during that fiscal year, the scope of consolidation for that modified reporting period included 9 months for consolidated companies whose fiscal years ended in March (April 1, 2017, to December 31, 2017) and 12 months for consolidated companies whose fiscal years ended in December (January 1, 2017, to December 31, 2017).

	Millions of yen					Millions of yen					Thousands of U.S. dollars ⁵
	3/2010	3/2011	3/2012	3/2013	3/2014	3/2015	3/2016	3/2017	12/2017 ⁶	12/2018	12/2018
Net Sales ¹	¥ 115,330	¥ 190,661	¥ 196,866	¥ 168,366	¥ 185,466	¥ 217,678	¥ 240,478	¥ 273,577	¥ 286,603	¥ 353,479 ¹	\$3,221,646
Japan	70,295	117,304	117,900	101,443	101,052	113,361	110,498	112,061	99,099	147,949	1,348,423
The Americas	14,552	20,812	22,279	22,527	28,900	34,856	50,343	63,025	67,194	70,548	642,982
Europe	12,635	16,106	19,979	15,194	18,427	20,456	30,424	46,004	54,001	56,980	519,321
China ²	—	13,219	17,087	13,203	19,351	28,302	27,967	29,513	41,410	49,228	448,669
Asia and Other ²	17,846	23,218	19,620	15,996	17,734	20,700	21,243	22,971	24,896	28,772	262,231
Gross Profit	23,189	54,442	53,975	44,298	52,903	67,024	67,766	70,464	72,112	102,298	932,355
Operating Income (Loss)	(9,508)	21,844	19,745	11,692	17,370	28,388	23,169	24,653	29,279	49,832 ²	454,174
Income (Loss) before Income Taxes and Minority Interests	(14,510)	21,612	18,520	14,737	24,004	33,501	19,612	23,057	31,034	51,529	469,640
Net Income (Loss) Attributable to Shareholders of THK CO., LTD. ³	(14,300)	13,959	12,641	9,808	15,590	22,705	13,575	16,731	25,729	35,400	322,639
Total Assets	236,374	279,768	288,333	293,145	336,416	373,610	407,808	414,931	436,664	463,350	4,223,022
Net Assets	162,258	167,937	175,516	189,058	222,148	250,498	250,540	251,540	281,754	294,719	2,686,100
Per Share	Yen					Yen					U.S. dollars ⁵
Net Income (Loss)—Basic	¥ (111.20)	¥ 108.55	¥ 98.31	¥ 76.96	¥ 123.16	¥ 179.36	¥ 107.24	¥ 132.18	¥ 203.28	¥ 279.70	\$ 2.54
Net Income (Loss)—Diluted	—	—	—	—	—	—	—	—	—	—	—
Net Assets	1,252.71	1,296.52	1,352.00	1,479.41	1,736.51	1,957.48	1,953.97	1,966.80	2,140.71	2,240.74	20.42
Cash Dividend	15	16	20	18	26	50	50	41	62	85	0.77
Overseas Sales Ratio (%)	39.0	38.5	40.1	39.7	45.5	47.9	54.1	59.0	65.4	58.1	
Operating Margin (%)	(8.2)	11.5	10.0	6.9	9.4	13.0	9.6	9.0	10.2	14.1	
Return on Equity (ROE) (%)	(8.5)	8.5	7.4	5.4	7.7	9.7	5.5	6.7	9.9	12.8	
Return on Assets (ROA) (%) ⁴	(3.9)	8.6	7.1	4.2	5.7	8.2	6.1	6.1	7.0	11.3	
Net Worth Ratio (%)	68.2	59.6	60.3	63.9	65.3	66.3	60.7	60.0	62.0	61.2	
Asset Turnover Ratio (Times)	0.48	0.74	0.69	0.58	0.59	0.61	0.62	0.67	0.67	0.79	



This data was taken from the following twelve production facilities in Japan: Yamagata, Kofu, Gifu, Mie, Yamaguchi, THK NIGATA, THK INTECHS (Sendai and Mishima), NIPPON SLIDE, and THK RHYTHM (Hamamatsu, Inasa, and Kyushu)

HR Data (Parent Company)

	3/2015	3/2016	3/2017	12/2017 ⁶	12/2018
Number of Employees (consolidated)	9,494	11,754	11,738	13,364	13,478
Number of Employees	3,353	3,386	3,429	3,581	3,773
Average Years of Service	17.4	17.8	18.3	17.5	17.1
Ratio of Female Employees (%)	13.8	14.1	14.5	14.5	14.4
Individuals on Childcare Leave	29	23	21	41	46
Turnover Ratio (%)	2.0	1.7	1.5	1.6	1.8
Percentage of Employees with Disabilities (%)	2.29	2.21	2.17	2.20	2.12

Data from the 2017 fiscal year that ended December 31, 2017, includes data from January to March 2017.

¹ Segments are based on where THK's customers are located.
² Prior to and including the fiscal year that ended March 2010, the net sales for China were included under "Asia and Other."
³ The Accounting Standards for Business Combinations (ASBJ Statement No. 21, published on September 13, 2013) and other standards have been applied, and from the first-quarter consolidated cumulative accounting period, "Net income" is stated as "Net income (loss) attributable to shareholders of THK CO., LTD."
⁴ Return on assets (ROA) represents operating income (loss) plus interest and dividend income as a percentage of average total assets.
⁵ U.S. dollar amounts are provided for reference only, converted from Japanese yen at the rate of ¥109.72 = U.S. \$1, the approximate rate of exchange prevailing in Tokyo on December 31, 2018.
⁶ This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

To Our Stakeholders

Leading-Edge Solutions to Capture Growing Markets



THK CO., LTD.
President and CEO
Akihiro Teramachi

Looking Back on the 2018 Fiscal Year

While the second half of the 2018 fiscal year saw an economic slowdown spreading through China and other regions due to the trade war between China and the United States, the global economy held firm as developed countries primarily in Europe and the Americas continued to experience sound economic growth led by domestic demand throughout the year. Despite signs of adjustment regarding demand in the electronics and other industries beginning in the second half of the year, the THK Group captured what had been an overall favorable trend in demand and converted it to sales. As a result, we achieved a record high year in terms of sales and profit, with consolidated net sales of ¥353.4 billion, an increase of 10.9% compared to the previous fiscal year; an operating income of ¥49.8 billion, an increase of 36.9%; and an ROE of 12.8%.

Amid a favorable trend in sales, our fixed costs rose as we actively increased our workforce and equipment to capture the vigorous demand in the industrial machinery business. However, we curtailed the degree by which they rose by implementing various cost controls, remaining within the projections we made at the beginning of the year. Additionally, the loss of unrealized gains from consolidation adjustments reduced our profit, and profitability worsened mainly in Europe and the Americas due to fluctuations in the exchange rate and sharp increases in material prices in the automotive and transportation business. Nevertheless, we were able to achieve a record-high profit because the effect of increased sales volumes in our industrial machinery business was greater than the effects of those factors.

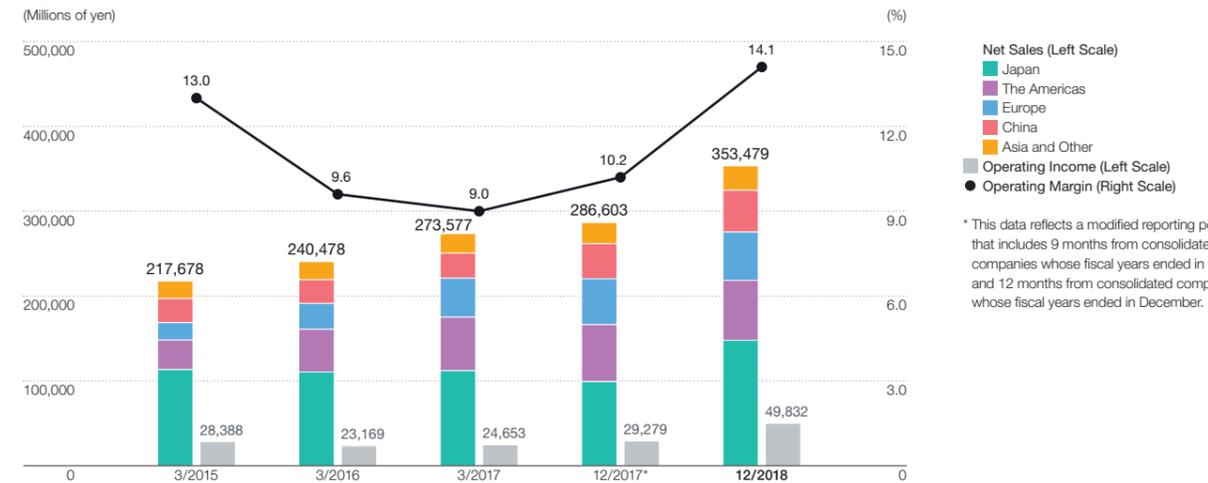
In this way, the 2018 fiscal year was a good start toward achieving our 2022 fiscal year management targets: consolidated net sales of ¥500 billion, an operating income of ¥100 billion, a ROE of 17%, and an EPS of ¥560.

Short-Term Adjustments and Medium- to Long-Term Market Expansion

Our demand environment is facing a period of adjustment. For our industrial machinery business, we are currently witnessing an adjustment in orders and overall cut-backs in investments in China and other regions due to the trade war between the United States and China, resulting in a lower baseline in orders in every region. Under these circumstances, we are anticipating lower revenue and profit in the 2019 fiscal year, which ends December 31, 2019. We are planning for our consolidated net sales to reach ¥310 billion, a decrease of 12.3%, and for our operating income to reach ¥28 billion, a decrease of 43.8% compared to the previous fiscal year.

However, as we weather this short-term period of adjustment, there is no doubt that the THK Group's markets will experience medium- to long-term growth. As current megatrends revolve around macrodynamic changes such as the rapid evolution of digital technology, the heightened momentum of environmental conservation, and the labor shortages and increased lifespans occurring in developed countries, the keywords to address these changes are AI, the IoT, CASE (Connected, Autonomous, Shared, Electric), Industry 4.0, automation, and labor and energy savings. These keywords

Financial Conditions



drive demand for the types of solutions THK offers, resulting in a dramatic medium- to long-term growth potential. Therefore, we will continue to invest in our medium- to long-term growth even as we control costs in the short term.

Steps Toward Further Growth

Under these circumstances, the THK Group has begun providing new solutions in various domains to create a new kind of customer experience. For our industrial machinery business, we have enhanced the functions of Omni THK, the customer communication platform we have been expanding. Beginning in the ASEAN region, our e-commerce website's Fast Delivery service is now also available in China, Brazil, and Japan. We also plan to launch two new services this year: Your Catalog, which digitally links customer and THK product information, and Forecast, which enables customers to manage planned versus actual orders by comparing their demand forecasts with THK's production plan. Furthermore, in collaboration with NTT DOCOMO and Cisco Systems, we have begun preparations to commercialize OMNIedge: a predictive failure detection service for equipment, made possible through sensing technology that visualizes THK's LM Guides and other linear motion components. While the IoT, automation, and interconnectivity offer benefits, there is also a risk that a problem with one element, such as a malfunctioning component, could impact the whole. OMNIedge also addresses these risks, facilitating predictive machine maintenance that will help improve the end user's productivity and lower their overall costs. In addition, the ability

to visualize the reliability of THK products will further enhance our company's value even as new manufacturers enter the market. We have created a system that is not just for THK products, but one that other machine manufacturers can use as a platform. Moving forward, we will capitalize on these features of OMNIedge and develop it as a system that will further expand the linear motion product business in addition to functioning as a service business.

To cultivate new business fields, we continue to develop and propose new products for medical equipment, aircraft, seismic isolation and damping systems, renewable energy, and other fields, thereby steadily expanding the use of our products. Additionally, due to labor shortages and rising labor costs, there has been an increasing demand for products that will reduce labor needs in service industries such as logistics, retail, and restaurants. We will continue to make every effort to capture this demand by developing new products, exhibiting at trade shows, collaborating with other companies, and other means.

The external environment for the automotive and transportation business continues to be a difficult one, with exchange rate fluctuations and a sharp rise in the cost of raw materials, but we will work to improve our cost structure and prepare for medium- to long-term growth. Even as we expand our current L&S (Linkage and Suspension) business with new transactions, we are accelerating our efforts to develop and sell new automotive products that make use of our core linear motion technology, spurred by the momentum of self-driving automobiles, electric vehicles, and other CASE trends.

As part of our efforts in both business divisions, we have strengthened our global production structure to support medium- to long-term top-line expansion. We have finished constructing additional facilities at the THK Yamagata plant and THK MANUFACTURING OF VIETNAM, and THK India has begun constructing a new factory to begin operations in January 2020. Each facility in the automotive and transportation business, particularly in the Americas and Asia, has also made investments to increase production in preparation for new business. At the same time, we are controlling costs and strengthening our bottom line through improvements in productivity achieved by utilizing automation, robotization, and the IoT in our production processes and implementing IT tools in our internal business processes, including in our sales and administrative departments.

Striving for Sustainable Growth and Solutions to Social Challenges

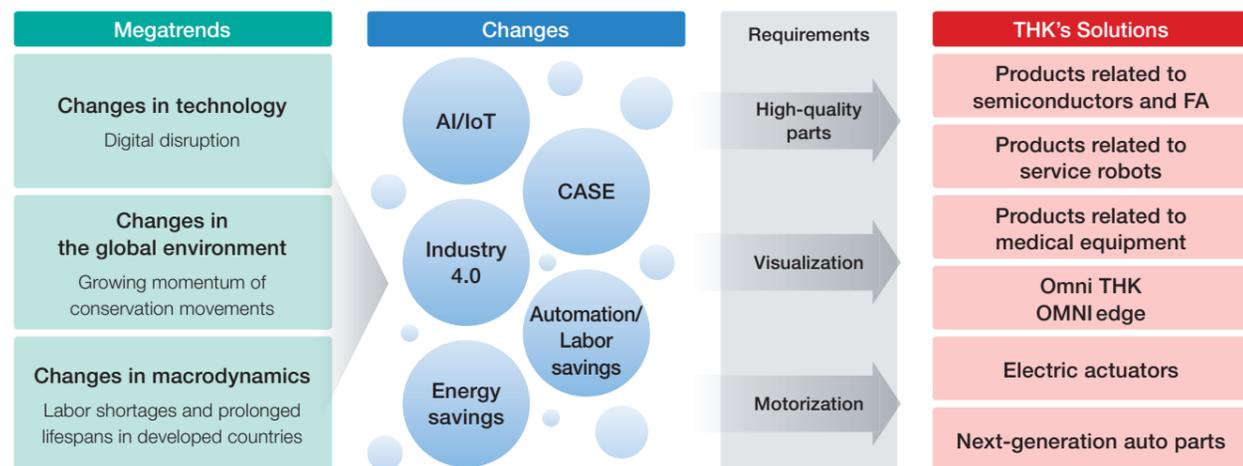
Our high-performance, high-quality products have contributed to labor and energy savings and advancements in machinery and many other industries. We will continue to seize new opportunities for market expansion that capitalize on the aforementioned keywords that accompany evolving trends and respond to the demands to advance industry and protect the environment. Fulfilling our role as a corporation indispensable to society, we will achieve sustainable growth and improve our corporate value, thereby meeting the expectations of our shareholders and other stakeholders. As we work toward achieving our established goals, we kindly request the continued support of all stakeholders.



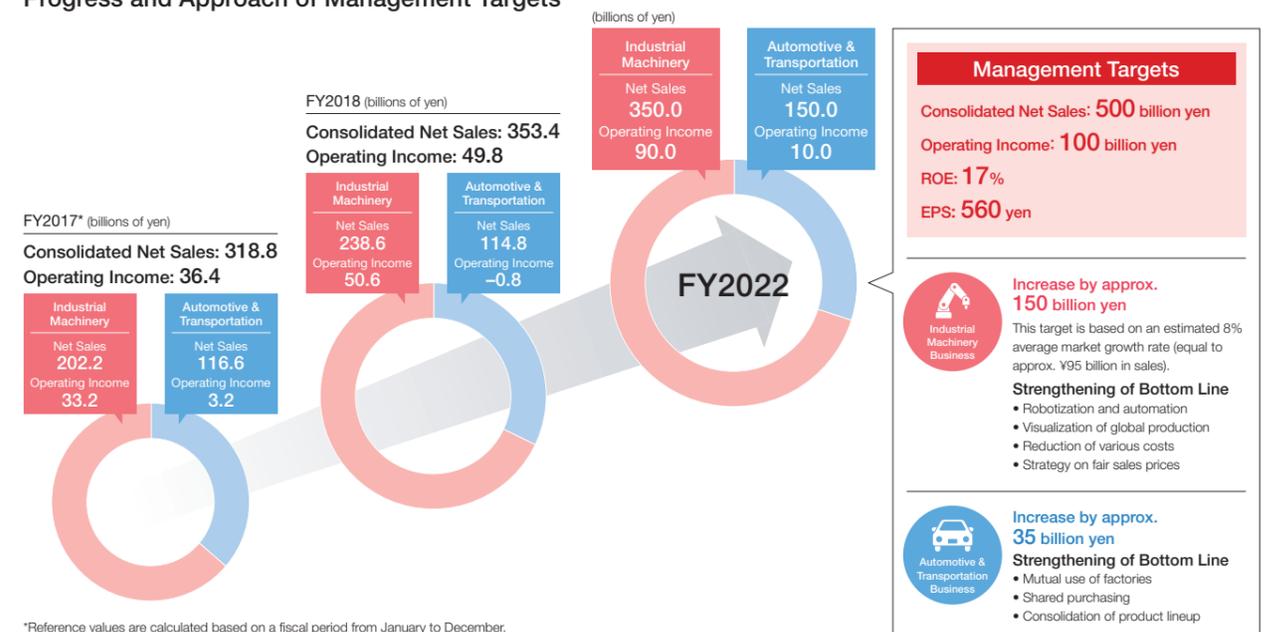
April 2019

THK CO., LTD.
President and CEO
Akihiro Teramachi

Medium- to Long-Term Market Expansion



Progress and Approach of Management Targets



*Reference values are calculated based on a fiscal period from January to December.

Research and Development

Guided by the corporate philosophy of *providing innovative products to the world and generating new trends to contribute to the creation of an affluent society*, THK continually strives to create original products as a company focused on creation and development.

A Global R&D System for the Next Generation

THK conducts R&D at the Technology Center and the new headquarters established in October 2017 in Tokyo. At these locations, the Company is endeavoring to use its core linear motion system technology and expertise to develop its mainstay linear motion systems, mechatronic devices such as XY precision stages and linear motor actuators, and products in fields related to consumer goods such as automotive parts, seismic isolation and damping systems, and medical equipment.

In 2010, the THK Group established the R&D Center in China. This facility, which was THK's first R&D facility outside of Japan, began full operation in 2012. With the addition of TRA's German R&D facility in 2015, the THK Group is on its way to building R&D structures oriented toward the Americas, Europe, and Asia in order to more accurately meet the needs of customers around the world.



Headquarters (Tokyo)



Technology Center (Tokyo)



R&D Center (China)

Initiatives During the 2018 Fiscal Year

To meet the varied needs of its customers in the industrial machinery field, THK has expanded its lineup of LM Guide and ball screw products and developed a wide array of new products that contribute to the automation of customers' production lines. In terms of the IoT, the Company is preparing to operate its OMNIedge service, which has networking capabilities, introducing a system that can diagnose LM Guide failures and lubrication status as well as detect ball screw preload. In the robotics field, THK has expanded its lineup of SEED Solutions components for next-generation robots to help lower total costs for customers. It also served as a sponsor of the World Robot Summit (WRS) to contribute to the launch of the service robot industry. In the 2019 fiscal year, the THK Group plans to continue focusing its efforts on the efficient development of new products to further expand applications for THK's technology. Above all, with the acceleration of AI, the IoT, automation, and robotization, THK will promote the development of new products that incorporate IoT technology.

In the automotive and transportation field, THK has begun utilizing new production methods to introduce aluminum products to the market in order to expand sales and meet customer needs for more lightweight automobiles. Furthermore, the Company has used the unified R&D efforts of THK, THK RHYTHM, and TRA to actively develop and sell new products to support the increasing use of electronics in vehicles and self-driving car technology. THK aims to expand the range of products that adapt its core linear motion

technology for the automotive industry. To do so, the members of the THK Group will work to maximize the synergistic effect of putting their respective technologies to use in one another's fields to create new products that suit the development needs of customers.

R&D Expenses

(Millions of yen)



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

THK's Philosophy on Intellectual Property

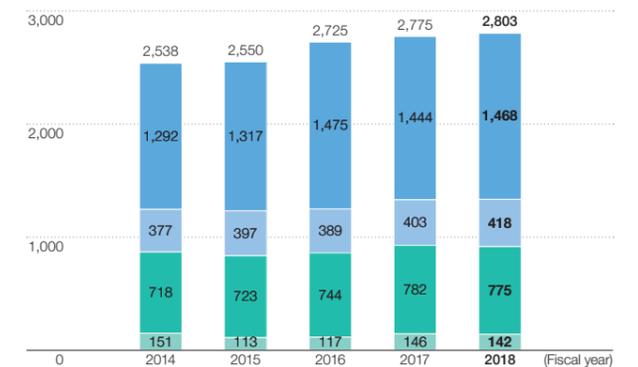
Basic policy

As a company focused on creation and development, THK values and promotes the creation and full utilization of its intellectual property to continue contributing to the development of its customers around the world and to the creation of an affluent society through the development of innovative products.

By applying for patents and preserving its specialized knowledge, THK exercises exclusive rights to its linear motion technology and eliminates imitations. At the same time, to avoid infringing upon the patents of others in the industry, THK works with its planning and development departments to conduct thorough patent searches while still in the development stage, and it internally educates its employees so that they respect the patent rights of third parties. Furthermore, through full-scale globalization and other means, the Company is striving to expand the breadth of its preservation of effective intellectual property rights that contribute to the business.

Intellectual Property

(Number of holdings)



Legend: Published in Japan (light blue), Registered in Japan (green), Published outside of Japan (dark blue), Registered outside of Japan (light blue).
Due to the change in the fiscal year period in 2017, the data from the 2017 fiscal year onward reflects a period from January 1 to December 31, 2017, and the data for prior years reflects a period from April 1 to March 31.

Technical Exhibitions

InnoTrans 2018

In September 2018, THK exhibited at InnoTrans in Berlin, Germany. InnoTrans is the world's largest international railway technology trade fair. Over the course of the event, more than 160,000 people from roughly 60 countries around the world attended. In addition to displaying THK products, the Company's booth featured full-scale models showing how its products could be used in railway vehicle interiors, maintenance equipment, and station equipment.

THK also participated in the Ideenzug (Idea Train), a collaborative effort between railway interior manufacturers to propose the next generation of suburban railway interiors. The Group will continue its R&D activities to propose ways that its core technology can be applied to new fields.



Ideenzug (Idea Train)



WRS (World Robot Summit)

In October 2018, THK participated in the World Robot Summit (WRS) held in Tokyo, Japan, as a sponsor. At this summit, which was held to advance a society where people and robots coexist and collaborate, THK's SEED-Noid humanoid robot reproduced the traditional Japanese art of Noh, converting the dance of a Noh actor into data and faithfully replicating the operator's movements. Through efforts such as this, the Company will continue to develop and propose robots and robot-related products.



Noh dance made possible through SEED-Noid

THK's Products

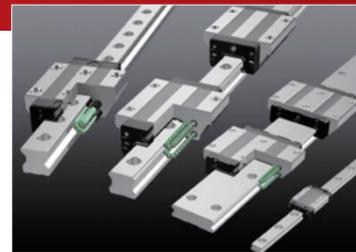
THK was the first company in the world to develop the Linear Motion (LM) Guide, which is based on an original concept and innovative technology.

THK also develops, produces, and supplies to the world a range of other vital machine components, including ball screws and electric actuators, as well as automotive and transportation components, such as L&S (Linkage and Suspension) products.

All of THK's technologies have gathered attention and are driving innovation around the world because of the smoother, more accurate movement they provide to every type of mechanism.

LM Guides

LM Guides are machine components that convert sliding motion into rolling motion, enabling machine parts to move smoothly, easily, and precisely in a straight line. As a result, LM Guides have enabled the precision, rigidity, speed, and energy-saving properties of a wide range of industrial machinery. With the introduction of products such as the Caged Ball LM Guide in 1996 and the Caged Roller LM Guide in 2001, the Company has continued to improve every aspect of the LM Guide and further expand its applications. As a result, LM Guides with caged ball and caged roller technology are now vital components of machine tools, semiconductor manufacturing equipment, and other industrial equipment.



Machine tool (Machining center)

Ball Cages and Roller Cages

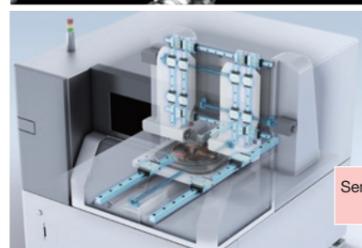
The cages are resin parts that hold and guide the balls or rollers as they move. The use of cages reduces noise and friction by preventing direct contact between the balls or rollers. This allows for a longer service life, reduced noise, and an extended period of maintenance-free operation.



Ball Screws

Ball screws are machine components that function by causing a large number of balls to circulate between a screw shaft and a nut. This mechanism efficiently converts rotary motion into linear motion. With the Caged Ball Screw, THK has incorporated caged ball technology into its existing ball screw designs, thus helping to achieve longer life with reduced noise and provide an extended period of maintenance-free operation.

As a result, these products are now essential elements in machine tools, industrial robots, semiconductor manufacturing equipment, and other industrial equipment. THK also offers ball screws that are designed to support high loads, making them ideally suited for replacing the hydraulic cylinders used in equipment such as injection molding machines, presses, and die casting machines.



Semiconductor manufacturing equipment (Dicing saw)



Electric Actuators

Electric actuators are hybrid products combining a guide component, such as an LM Guide with a ball screw, linear motor, or other drive component. In industries such as electronics, there is an increasing need to shorten development and manufacturing lead times. Modularization allows these electric actuators to meet such requirements by simplifying the design and reducing assembly time. THK offers a varied lineup of electric actuators ranging from basic, cost-effective units to high-end components designed to operate with high precision or perform to clean room specifications. Such advanced electric actuators have become indispensable parts in equipment used in the manufacture or inspection of semiconductors and liquid crystal displays.



Dual-arm robot

Ball Splines

Developed in 1971, the same year that THK was established, ball splines were the precursor to the LM Guide. This revolutionary linear motion guide element allows balls to roll along a rounded groove machined into the ball spline's shaft, boosting the load that the device can tolerate and permitting the transmission of torque. Compared with the products that came before, these ball splines boosted the permissible load by a factor of 13 and service life by a factor of 2,200. THK offers an extensive lineup featuring ball splines with integrated ball screws and other products that are used in a variety of equipment, including industrial robots, medical equipment, and chip mounters.



Horizontal articulated robot (SCARA robot)



Cross Roller Rings

Cross roller rings are roller bearings that feature internal cylindrical rollers arranged orthogonally so as to facilitate load bearing in every direction. The incorporation of the spacer cages between rollers prevents roller skew and friction between the rollers. Possessing high rigidity while maintaining a compact structure, cross roller rings are used in the rotating parts of many different types of industrial machinery, including the joint areas and rotating parts of industrial robots, as well as machining center swivel tables. Other applications include rotating parts of medical equipment and semiconductor manufacturing equipment.



Transfer robot

Products Using Core Linear Motion System Technology

Seismic Isolation and Damping Systems

Seismic isolation and damping systems make use of THK's core linear motion system technology. The THK Group supplies a broad range of products from seismic isolation and damping systems for high-rise buildings, low-rise residences, and other structures such as temples and shrines, to seismic isolation systems for servers and a variety of manufacturing equipment. In this manner, the Group is helping to minimize the damage caused by earthquakes.

Seismic Isolation System for Buildings

Recovery System with Laminated Rubber

Support

Reduce

Linear Re-Circulating Guide CLB

Viscous Damping System RDT

Seismic Isolation Platforms

Seismic Isolation Module Model TGS

Servers

Seismic Isolation Table Model TSD

Works of Art

Renewable Energy

Due to their unique mechanisms, THK's shaft units for wind turbines possess high strength and durability in addition to achieving dramatically lower torque and improved power generation efficiency. In 2017, THK began supplying these products to Challenergy Inc., which developed the world's first wind turbine capable of generating energy even during typhoons.

Shaft Unit for Wind Turbines

Automotive and Transportation Equipment-Related Products

THK RHYTHM and THK RHYTHM AUTOMOTIVE (TRA), which form the core of the automotive and transportation business, manufacture undercarriage L&S (Linkage and Suspension) products. Because they are made of aluminum, THK's link balls possess high corrosion and wear resistance, and they are extremely lightweight in comparison to conventional steel products. In addition to its cold-forged ball joints,

THK RHYTHM has expanded the range of products it offers to include aluminum links that integrate ball joints with aluminum suspension links. These critical safety components are held to the highest standards of quality and performance and help to enhance the safety and comfort of automobiles.

Suspension arms

Suspension ball joints

Height sensor joints

Stabilizer connecting rods

Steering tie rods (Rack and pinion)

Steering linkages

New Products



Global Standard LM Guide Model HSR (Improved)

This durable product is an improvement on its predecessors, featuring better movement, noise reduction, and high-speed performance.



Roller Guide Model HRX

This easy-to-use roller guide is suited for a wide range of users, and its full-roller design gives it high resilience. This product features a roller retaining function, making the rail and block easily interchangeable.



Rotary Ball Spline Model LTR-AX/LTR-V

This product combines a ball spline with an angular bearing. The internal Model LT-X ball spline provides smoother movement than previous models.



LM Guide with Linear Encoder Model SHS-LE

This product combines an LM Guide with a THK linear encoder (a linear position sensor), which enables compact machine designs that do not require as much time to assemble.



High-Speed Ball Screw for Machine Tools Model BSM

With its newly developed circulation structure, this product features improved high-speed performance and an optimized raceway design that extends service life by a factor of 1.7 when compared to current products.



DIN-Standard Double Nut Ball Screw Model SDAN-V

This ball screw conforms to DIN standards, which are widely used in emerging markets. As a continuation of the SDA design, it is capable of handling high-speed drives.



Linear Motor Series Model ULM

This product's fully enclosed design enables it to improve the takt time and productivity of transfer applications in clean environments such as those used in semiconductor and LCD manufacturing.



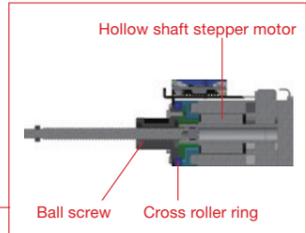
Picking Robot Hand System Model PRS

This robot hand with multiple fingers can grip a variety of items. It enables distribution centers to automate the process of picking items quickly and at low cost because the robot's controls and image processing do not require programming.



SEED Solutions BA-ST: Ball Screw Actuator

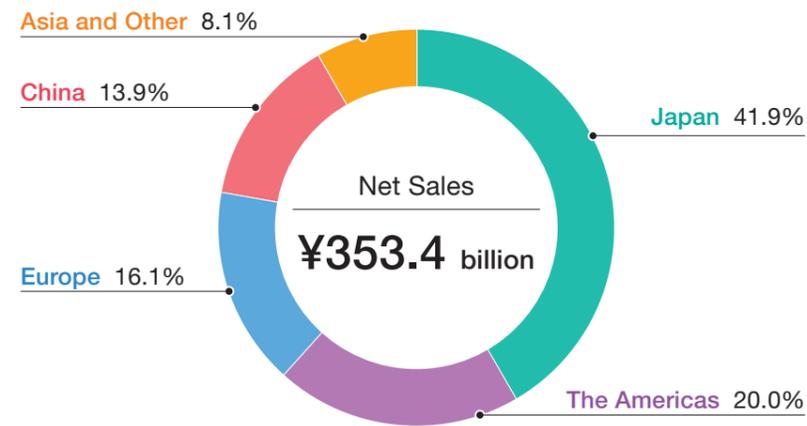
This product uses a hollow shaft stepper motor, cross roller ring, and ball screw to achieve high thrust with a compact design. The internal stepper motor makes it possible to run at low power.



Business Review Review by Geographic Region

As THK advances its growth strategy of full-scale globalization, the Company has established an integrated production and sales structure that encompasses four centers of demand: Japan, the Americas, Europe, and Asia. During the 2018 fiscal year, THK expanded its Omni THK service globally, establishing a structure that enables customers to easily purchase products anytime and anywhere. In terms of production, THK has reduced lead times by improving productivity through efforts related to automation, robotization, and the IoT, in addition to making investments that will increase production volumes in both its industrial machinery and automotive and transportation businesses.

In addition to continuing to bolster its sales structure through means such as expanding the features of Omni THK in each region, THK will accelerate its efforts to establish a secure, flexible production structure. Through promoting the systematization of business processes, including those of support departments, the THK Group will provide products and services promptly to customers and improve its overall productivity.



JAPAN

Operating Conditions and Performance Review

Despite a continued slowdown in exports to Asia and other regions, domestic capital investments held firm in Japan. During the first half of the year, the THK Group captured the overall favorable demand for electronics, general machinery, and machine tools, resulting in net sales of ¥147.9 billion.

Year Ended December 2018 Sales

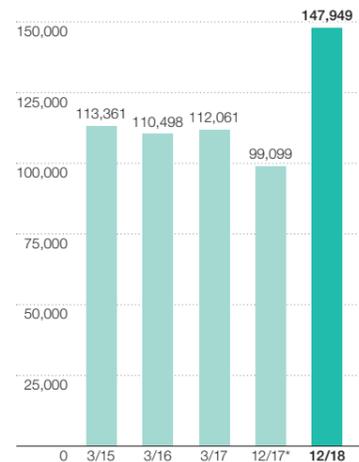
In anticipation of medium- to long-term growth in demand, THK expanded various new services through Omni THK. In partnership with NTT DOCOMO and Cisco Systems, THK began preparations in October 2018 regarding the commercialization of OMNIedge, a

predictive failure detection service for LM Guides and other critical components. In addition to being available in the ASEAN region, China, and Brazil, the Fast Delivery service on the Company's e-commerce website has been launched in parts of Japan.

Production

In December 2018, a portion of the new expansions to the Yamagata plant was completed, and THK RHYTHM KYUSHU—one of the main factories for automotive and transportation products—began expansions to meet the demands of new business. As part of its efforts to improve its productivity, the Company promoted automation and robotization in addition to developing measures that utilize the IoT, such as the Eagle System.

Net Sales (Millions of yen)



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

THE AMERICAS

Operating Conditions and Performance Review

Steady economic growth led by domestic demand continued in the Americas, driven by favorable consumer spending. Under these circumstances, the THK Group captured the steady demand for electronics and machine tools, resulting in net sales of ¥70.5 billion.

Year Ended December 2018 Sales

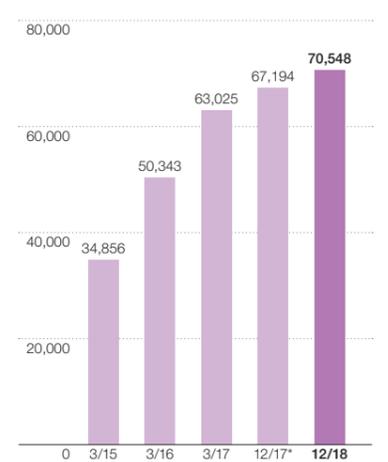
The THK Group increased its market share by expanding transactions with existing customers while taking business from competitors. In addition, the Group promoted efficient sales activities targeting a wide range of customers by making use of its mobile showroom at exhibitions and by expanding Omni THK to Brazil in September 2018.

Furthermore, the Company actively drove sales activities in new business areas such as medical equipment, aircraft, and robotics to generate new demand.

Production

THK capitalized on its strengths as the only company in the linear motion industry with a production facility in North America to meet the needs of the market. In addition, THK reduced manufacturing lead times and increased productivity by sharing information between processes, automating, and making other improvements to machine utilization. Regarding the automotive and transportation business, the expansion of THK RHYTHM MEXICANA was completed, and the expansion of THK RHYTHM NORTH AMERICA began.

Net Sales (Millions of yen)



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

EUROPE

Operating Conditions and Performance Review

In Europe, moderate economic growth continued with steady capital investments. The THK Group captured the overall steady demand for general machinery and machine tools, resulting in net sales of ¥56.9 billion.

Year Ended December 2018 Sales

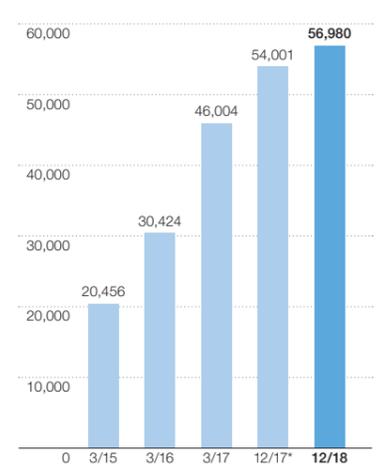
THK secured new business through targeted sales activities. In addition, the Company improved the value it provides to customers by

actively developing various initiatives aimed at expanding sales to a wide range of customers, such as bolstering its acquisition of prospective customers at exhibitions, and by utilizing IT tools in its internal business processes.

Production

THK improved the output and productivity of its production processes through automation, robotization, the redistribution of labor, and other means. Furthermore, the Company made further process improvements and increased productivity by utilizing IT tools.

Net Sales (Millions of yen)



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

CHINA

Operating Conditions and Performance Review

In the second half of the year, China saw broad adjustments being made to capital investments due to the trade war with the United States. However, the THK Group captured the demand for electronics and products related to automation and robotization, which had been trending favorably. As a result, net sales stood at ¥49.2 billion.

Year Ended December 2018 Sales

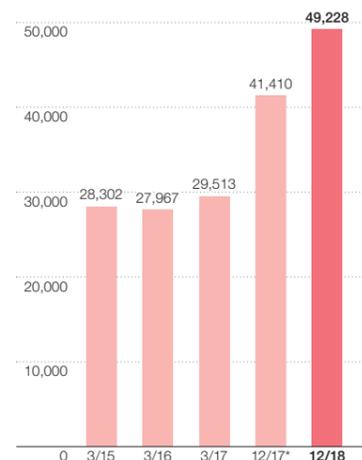
As THK expanded its sales network and cultivated new business areas and new customers, it launched the Omni THK service for China in May 2018. The Company

strengthened its efficient sales activities aimed at a wide range of customers by introducing quick-delivery, semi-custom orders to the market, and by providing Omni THK accounts to around 60 distributors.

Production

THK strengthened its production capabilities by executing the initial set-up of new equipment and efficiently using existing equipment, as well as by promoting automation, robotization, and using the IoT to aggregate data, thereby improving productivity. Regarding the automotive and transportation business, the THK RHYTHM CHANGZHOU expansion began as the Company steadily prepared for top-line growth.

Net Sales (Millions of yen)



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

ASIA AND OTHER

Operating Conditions and Performance Review

During the second half of the year, the influence of the trade war between the United States and China caused economic slow-downs to spread through Asia. However, the THK Group captured the demand that had been showing a favorable trend particularly in India and the ASEAN region, resulting in net sales of ¥28.7 billion.

Year Ended December 2018 Sales

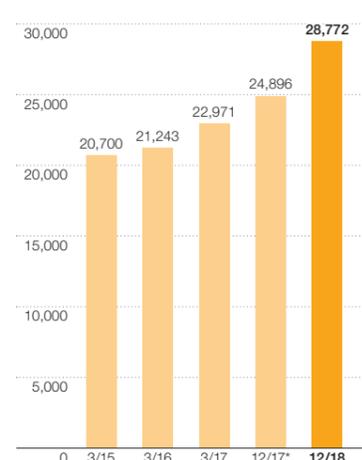
In Taiwan, the Company bolstered sales to a wide range of customers by expanding transactions with existing customers, as well as by enhancing its sales and distribution network and strengthening its customer

service. Furthermore, as part of its efforts in new business fields, the THK Group generated new demand for seismic isolation systems. In the ASEAN region, THK continued to strengthen the expansion of Omni THK and held technical seminars for distributors and customers in many regions, promoting the superiority of its products.

Production

In Vietnam, the new expansion of THK MANUFACTURING OF VIETNAM was completed in November 2018, thereby increasing the production of miniature LM Guides. In India, where demand is expected to demonstrate medium- to long-term growth, THK began making initial investments toward operating a new factory in January 2020.

Net Sales (Millions of yen)



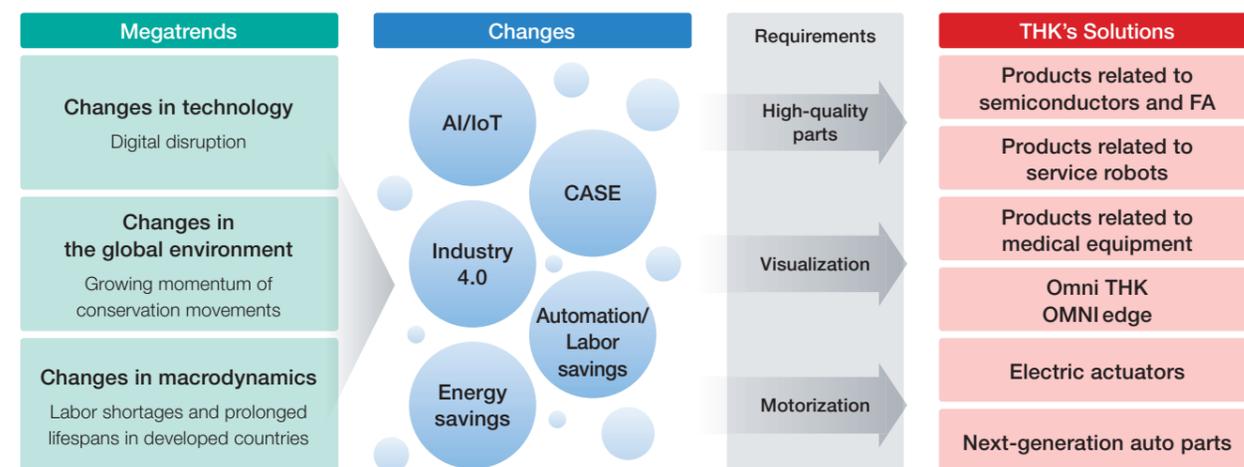
* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

Business Review Review by Business Segment

Activities to Foster Medium- to Long-Term Growth

Current megatrends revolve around macrodynamic changes such as the rapid evolution of digital technology, the heightened momentum of environmental conservation, and the labor shortages and increased lifespans occurring in developed countries. As a result of these trends, the wave of advances in AI and the IoT has given rise to the concept of “CASE” in the automotive industry, but this wave’s influence is expected to affect many manufacturing industries. In particular, Industry 4.0 is expected to strongly push these concepts, significantly advancing the use of automation and labor- and energy-saving technologies in manufacturing, service, and other industries. These keywords revolving around change drive demand for the various solutions THK offers. The Company is promoting various initiatives in both its industrial machinery and automotive and transportation businesses to realize this growth potential.

Medium- to Long-Term Market Expansion

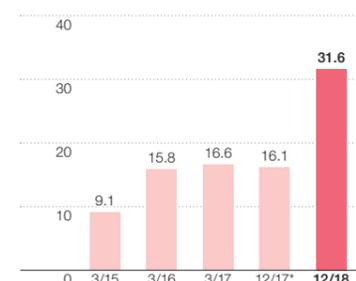


Industrial Machinery Business Expanding THK's Global Production Structure

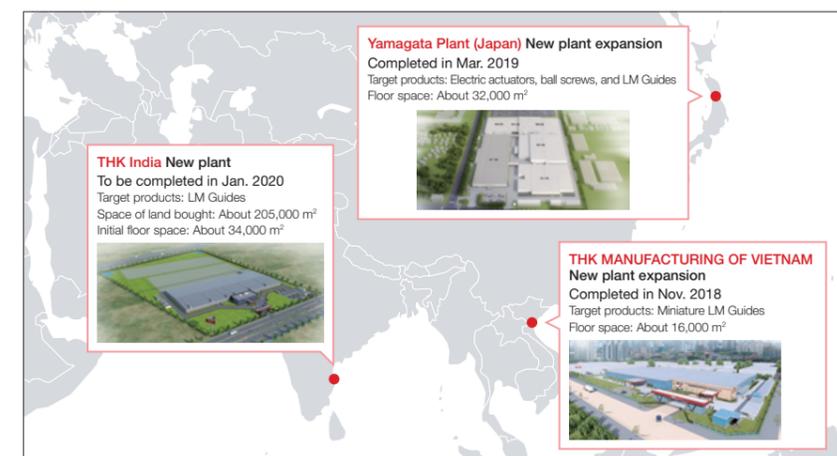
In an effort to support medium- to long-term top-line expansion, THK is strengthening the global production structure for its industrial machinery business. The Company finished building and began operating new facilities on the grounds of THK MANUFACTURING OF VIETNAM in November 2018 and the Yamagata plant in March 2019.

In January 2019, construction started on a new factory in THK India to begin operations in January 2020. THK will continue to strengthen its production structure in order to steadily capture the anticipated medium- to long-term growth of demand spurred by the aforementioned keywords that accompany evolving trends.

Capital Expenditure (Billions of yen)



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.



Industrial Machinery Business **New Initiatives to Expand the Market: The Launch of OMNI edge**

In the manufacturing industry, the aging of society and other factors have led to turnover, raising concerns about worsening labor shortages. At the same time, many companies rely on manual work performed by experienced personnel when it comes to maintenance and predictive failure detection for automatic and other production equipment. To solve these kinds of problems in the manufacturing

industry, THK has partnered with NTT DOCOMO and Cisco Systems to begin preparations to commercialize OMNI edge: a new predictive failure detection service for equipment, made possible through sensing technology that visualizes THK's LM Guides and other linear motion components.

What Is OMNI edge?

OMNI edge is a platform in which a THK sensor is installed on a new or preexisting LM Guide or another machine component to visualize and analyze information about the damage or lubrication status and relay the results to the customer. Providing this predictive failure detection service will help customers improve their productivity and reduce overall costs. Visualizing the reliability of THK's products will also heighten the Company's predominance over new competitors. Furthermore, with the active participation of other machine component manufacturers and by connecting to the IoT infrastructure being developed by major machine manufacturers, the Company will be able to construct big data from numerous environments and applications. Doing so will make it possible to improve the predictive failure service and develop more solutions.

THK SENSING SYSTEM

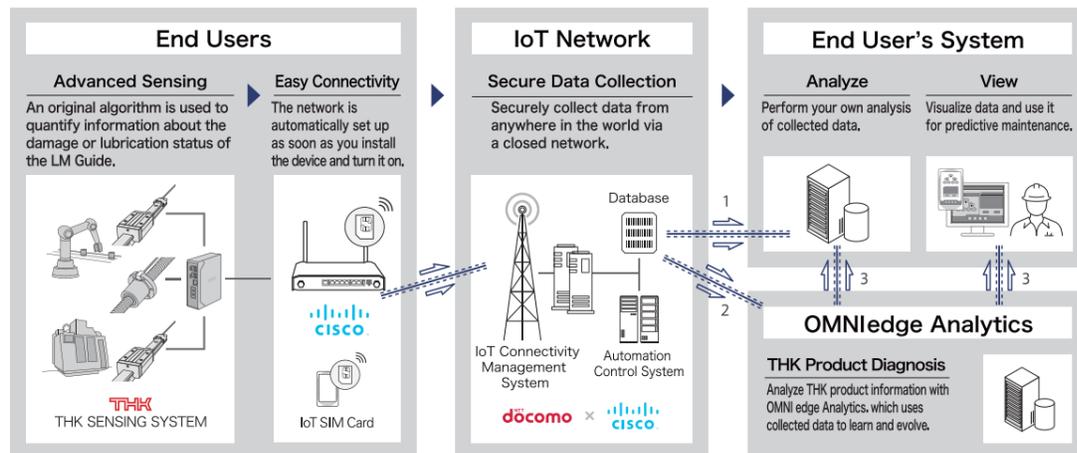
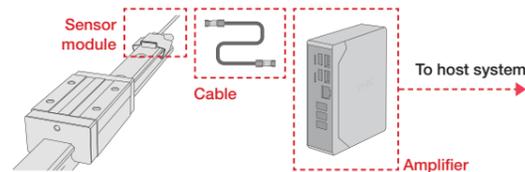
Concept

- Quantification of LM Guide condition

Features

- Quantifies condition (damage/lubrication) of LM Guide
- Can be installed on current equipment

Structure



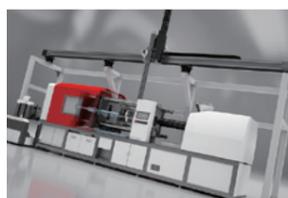
Optimal local SIM and eSIM networks can be chosen when roaming in different countries.

- 1 THK product and customer data
- 2 Only THK product data
- 3 THK product analysis data

Future Applications



Transfer robots



Injection molding machines



Automatic wrapping machines

*OMNIedge can also be used for various other types of general industrial equipment.

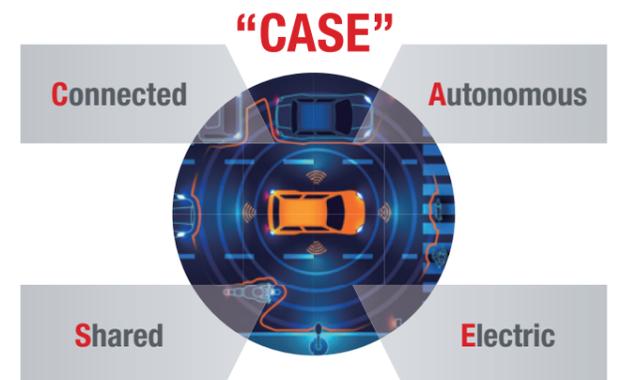
Automotive and Transportation Business **Supporting the Next-Generation Automotive Industry**

THK has continued to promote its mainstay link ball products since its foundation. Working to expand its automotive and transportation business further, the Company acquired RHYTHM CORPORATION (currently THK RHYTHM CO., LTD.) in 2007. In 2015, THK completed the transfer of the L&S (Linkage and Suspension) business from what was previously TRW Automotive Inc. and incorporated it into the THK Group as THK RHYTHM AUTOMOTIVE (TRA). Making use of the global automotive and transportation business platform it acquired, THK has contributed to the automotive industry as an independent global supplier.

Expanding the L&S Business and New Automotive Products

The automotive industry is undergoing a once-in-a-century revolution, and "CASE" is the keyword that exemplifies this new era. CASE is an acronym combining the words "Connected," "Autonomous," "Shared," and "Electric." Together, these elements have given birth to revolutionary technologies and services and are creating ripples of change that have intersected with other industries.

Under these circumstances, while the L&S business, centered around THK RHYTHM and TRA, is actively promoting sales activities to gain new business, it is making use of its Group synergy to invest in equipment in every region around the world to increase production for



that new business. In terms of new automotive products, the THK Group has been working to promote next-generation L&S system products and expand the use of linear motion products for steering, brakes, suspensions, and various other automotive mechanisms. As demand for linear motion products is expected to rise from the momentum provided by CASE trends, the THK Group will further accelerate its development and sales activities in anticipation of the expansion of linear motion product use.

Automotive and Transportation Business Initiatives

Main Initiatives

Expansion of L&S Business

Sales activities that fully utilize the shared sales and production structures of THK RHYTHM and TRA

The launch of new products for automobiles

Accelerated development of new products for automobiles, driven by CASE trends

Continuing capital expenditures for production expansion in anticipation of large projects

THK RHYTHM NORTH AMERICA (USA)

New plant expansion
To be complete in 2019



THK RHYTHM MEXICANA (MEXICO)

New plant expansion
Completed in 2018



THK RHYTHM CHANGZHOU (CHINA)

New plant expansion
To be complete in 2019



THK RHYTHM KYUSHU (JAPAN)

New plant expansion
Completed in 2019



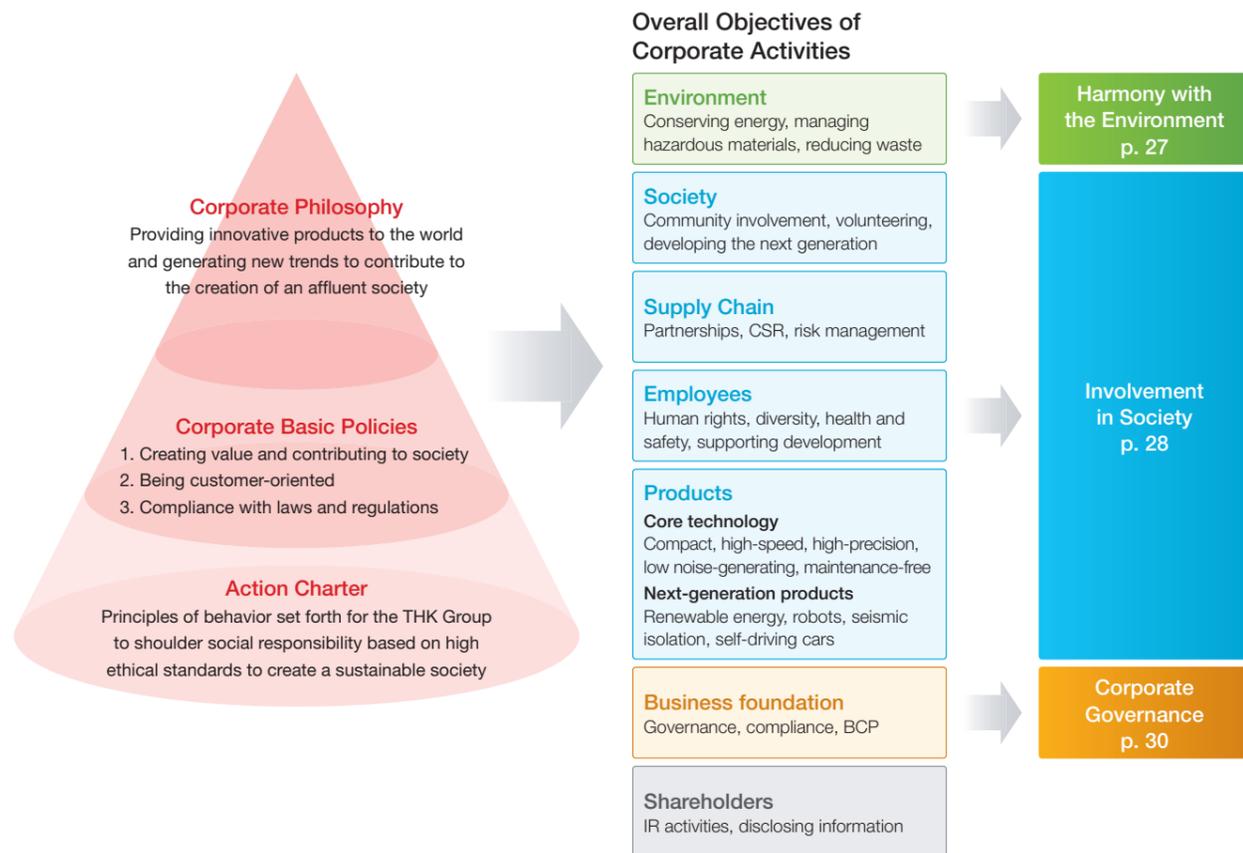
Production Facilities: 14
Development Facilities: 1

Management Base **ESG/CSR**

Based on its corporate philosophy of *providing innovative products to the world and generating new trends to contribute to the creation of an affluent society*, THK is pursuing growth as a company and expanding its business while being cognizant of the importance of addressing environmental, social, and governance (ESG) concerns.

THK's CSR Policy

In an aim to increase our long-term corporate value and create an affluent society through our business activities, our CSR Policy is founded on our Corporate Philosophy, Corporate Basic Policies, and Action Charter.



THK's product development, which is centered around its LM Guides, forms the core of the Company's efforts to follow its Corporate Philosophy and contribute to the creation of an affluent society. As a company focused on creation and development, it is crucial that THK develops new products with high added value and continues to create new markets. To do so, the Company must succeed in all elements of the "spiral of improvement": new ways of thinking, technology development, and high quality.

Spiral of Improvement

Management Base **Harmony with the Environment**

The THK Group contributes to both society and the economy through our pioneering role as manufacturers of Linear Motion Guides and other products. We also believe that it is a company's social responsibility to leave the global environment in a healthy state for the next generation, which is why we are promoting the following initiatives to continually decrease our environmental impact and to sustain and improve the natural environment.

THK Group's Basic Environmental Policy

1. We consider the conservation of the environment to be a major management challenge, and we are striving to accurately understand how our business activities, products, and services impact the environment. All divisions set appropriate environmental goals to address this challenge.
2. In addition to complying with environmental laws, we have set self-imposed standards that are reviewed regularly to improve the efficiency and effectiveness of our environmental management.
3. We will continually promote the development of products that help reduce environmental impact.
4. We will cut down energy use in our business activities and continually promote the reduction of energy consumption and greenhouse gas emissions.
5. With a particular focus on the reduction and recycling of waste from our manufacturing division, we will not only continue to promote the saving and recycling of resources but also strive to prevent pollution.
6. We recognize the impact our business activities have on biodiversity, and we will actively work toward the conservation of all life on Earth.
7. To achieve greater collaboration concerning our environmental activities, we provide guidance and support to our affiliated companies and business partners, and also strive to work in cooperation and harmony with the community.
8. This basic environmental policy is disseminated to all divisions in the group through education, training, and awareness campaigns, and we facilitate the timely release of information on the environment both within and outside the Group.

Revised on April 19, 2018

Improved Efficiency and Energy Savings of Centralized Coolant System

To consistently supply coolant and reduce energy consumption by maximizing the system's utilization, the Yamaguchi plant added inverter control panels to the centralized coolant system in Factory 3 in December 2018, thereby improving its efficiency and achieving energy savings. As a result, the Yamaguchi plant was able to reduce its energy consumption by about 166 kWh/day, or about 15.43 kL of crude oil per year. The facility also decreased its CO₂ emissions by approximately 46 tons/year.



Inverter control panels added to Factory 3's centralized coolant system

Reduced Use of Dust-Proofing Plastic Bags

The THK RHYTHM MALAYSIA facility manufactures automotive steering and suspension components. They have been wrapping components in plastic bags to prevent movement variance in the finished products that is caused by dust adhering to the parts as they are put in boxes and transferred between the machining and assembly processes. As part of their efforts to reduce their consumption of resources, this facility began putting parts directly into boxes and then covering stacks of those boxes with plastic. As a result, they reduced their use of plastic bags by 82% compared to the previous year.



Wrapping parts separately

Covering boxes in plastic

Plastic bags used:	254,547 (in 2017)
	44,643 (in 2018)
Plastic bags eliminated:	209,904 (82% reduction)

Management Base Involvement in Society

The THK Education Outreach Program

To use its experience as a manufacturer to support proactive learning, THK partnered with Leave a Nest Co., Ltd.¹ and launched the THK Education Outreach Program in 2017. In 2018, the Company introduced students to manufacturing through school visits and began its program to create manufacturing-related learning materials. THK visited the Kaichi Nihonbashi Gakuen Junior High School twice in March and held an information session for junior high school teachers at the THK headquarters about the learning materials project. Following the information session, participants attended the Learning Materials Research Committee meeting. After sharing THK's vision of the next generation of talent, the committee will refine the content of the materials to incorporate the feedback from those educators.

As it did in 2017, the Group sponsored the second Science Castle² Grant THK Prize. Thirty-four research grant proposals were submitted, and ten entries were selected for presentation at an event in December. Among those ten, Seiko Gakuin High School was awarded the THK Prize.

What students said about the school visits:

- "It was really fun to use so many tools in creative ways."
- "It was a great chance for every student to share their ideas."

What teachers said:

- "The Japanese education guideline reforms encourage a focus on the pursuit of knowledge. This program aligns well with that goal because it involves creating things without a set solution."
- "All of the students were extremely engaged in the activities. The fact that they remained focused the entire time speaks to how effective this program is."

¹ Leave a Nest Co., Ltd., is a company whose corporate philosophy is "Advancing Science and Technology for Global Happiness." They promote initiatives in science education and training for the next generation.

² Science Castle is a conference that Leave a Nest holds for junior high and high school students pursuing research and development.

Working with Vendors

Throughout its supply chain, from design to sales, THK strives to adhere to social norms and be environmentally conscious in order to create a sustainable society. Due to the new system of accountability for shippers announced by the Ministry of Land, Infrastructure, Transport and Tourism, the Group's distribution centers moved the time they stop shipping forward by one hour, from 4:00 p.m. to 3:00 p.m., in an effort to alleviate the workload of truckers. With the introduction of this new system, the THK Group has taken steps to limit the following types of behaviors that actively contribute to violations:

1. Constantly having truckers wait on shipments
2. Specifying unreasonable arrival times
3. Punishing truckers for unavoidable delays
4. Asking truckers to violate weight regulations, etc.

The THK Group will continue to take measures at every step of the supply chain as it promotes its CSR activities.

THK Basic Policy on Procurement

In order to continue to provide THK products that satisfy our customers, we establish good, healthy, and mutually beneficial relationships with our suppliers.

Activities

1. Procurement practices emphasizing communication with suppliers. Evaluating and choosing suppliers with thorough consideration for QCDES
2. Fair and equitable dealings in compliance with all pertinent laws and social norms
3. Efforts to minimize costs. Encouraging the active pursuit of cost-saving projects and value analysis initiatives
4. Pursuit of global procurement
5. Implementation of a BCP (business continuity plan)
6. Environmental consciousness through green procurement

THK's Supply Chain

Design

- Long-term maintenance-free operation
- Low noise, low dust generation
- Develop grease that can be used in the food industry

Purchasing/Procurement

- Check for presence of environmentally hazardous materials
- Comply with the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors
- Reject dealings with criminal organizations

Production

- Comply with the Energy Conservation Act
- Pursue zero emissions
- Reduce impact on the environment
- Maintain safe working environment

Distribution

- Reject dealings with criminal organizations
- Security declarations for air shipments
- Reduce waste via reusable containers

Sales

- Collect and reuse packaging materials
- Enforce safe driving practices
- Fair and proper transactions

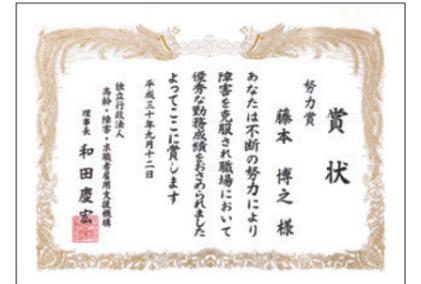
Employees with Disabilities Thrive at THK



Hiroyuki Fujimoto
Quality Assurance Section,
Yamaguchi Plant

Since joining the company in 2000, I have been in charge of calibrating and repairing all measuring instruments used at our factory. Calibrating involves testing these instruments by operating them in the correct way and confirming they display an accurate measurement. Gauges can malfunction for a number of reasons, including water penetration or being dropped, but rather than asking a vendor to fix them, I factor in the cost and time and fix them myself whenever possible. Repair work suits me, and I cannot describe the satisfaction I feel when I fix something. In September 2018, I received an award from the chairman of the Japan Organization for Employment of the Elderly, Persons with Disabilities and Job Seekers in recognition of my efforts in the workplace.

I learned about THK during a plant tour when I was a student at a school for the deaf. The polite reception I received from the employees assured me that it was a good company, and I decided to join. As I have worked here, I have felt the kindness emanating from everyone as they come to greet me. The award I received was the result of the cooperation of the people around me, and I am grateful. I will keep striving for higher accolades such as the awards from the prefectural governor and the Minister of Health, Labour and Welfare.



Certificate

Coexisting with Local Communities

In 2012, Vice President Sun at THK MANUFACTURING OF CHINA (LIAONING) CO., LTD., became a member of the Dalian People's Political Consultative Conference for the Jinzhou New Area, a district under the administration of the city of Dalian. Every year since then, she has brought up proposals reflecting the desires of local citizens.

In 2017, she proposed a strengthening of services for the elderly, which aimed to establish community centers where children whose caretakers work can interact with the elderly.

This proposal received Dalian's seventh outstanding proposal award and was adopted by the city. In March 2018, Dalian announced a directive to establish community centers for Dalian's elderly and other residents, and the city plans to continue strengthening its elderly services.



Certificate

Developing Next-Generation Products

As part of its initiatives promoting the development, introduction, widespread use, and understanding of devices related to new energy, the New Energy Foundation awarded THK's Model WLS Low-Torque Shaft Unit for Vertical-Axis Wind Turbines with the Chairman's Award in the category of goods and services in 2018.

The WLS is a high-intensity, high-efficiency, and low-torque bearing that combines a vertical wind turbine shaft with a bearing and its housing. Conforming to IEC 61400-2 international standards for wind turbines and Japan's JSWTA 0001 standards, this product provides sufficient strength and durability and guarantees a high level of safety. In addition to these reasons, the award was granted in recognition of the reduced time it takes for designing rotary components, controlling the bearing's assembly precision, and adjusting its preload, as well as the WLS's potential for expanded use in and outside of Japan.



Award-winning product on display



Award

Management Base Corporate Governance

Basic Stance on Corporate Governance

Intending to maximize its corporate value, THK strives to maintain solid corporate governance in order to make medium- to long-term improvements to its corporate value by sustaining growth through appropriate cooperation with all its shareholders and other stakeholders.

THK's Corporate Governance Structure

In June 2014, THK introduced an executive officer system. After the Company's 46th General Meeting of Shareholders on June 18, 2016, and in conjunction with its establishment of an Audit and Supervisory Committee, THK instituted a non-mandatory Nomination Advisory Committee and a Remuneration Advisory Committee to act as advisors to the Board of Directors. In doing so, THK has endeavored to bring enhanced transparency and objectivity to management, strengthen the auditing functions of the Board of Directors, and bring greater speed and efficiency to management-related decision-making and the management of corporate affairs.

Board of Directors

THK's Board of Directors comprises a total of eight directors—including one outside director—who are not members of the Audit and Supervisory Committee, in addition to three outside directors who are Audit and Supervisory Committee members. The Board of Directors makes decisions on important matters of general management and carries out the oversight of directors and executive officers

in the execution of their duties. There are also four outside directors whose independence meets the evaluation criteria stipulated by the Tokyo Stock Exchange and THK. With over a third of the directors being outside directors who possess specialized professional knowledge and qualifications related to corporate accounting or general management, this structure has further enhanced management neutrality, legality, and validity while improving the board's management oversight function.

Audit and Supervisory Committee

Comprising three outside directors who are Audit and Supervisory Committee members, the Audit and Supervisory Committee utilizes the internal control system to audit and supervise directors and executive officers with regard to the current status of the execution of their duties. The effectiveness of the audits is also enhanced by collaboration between the Audit and Supervisory Committee and independent auditors. In addition, the Audit and Supervisory Committee Secretariat has been established to support the Audit and

Supervisory Committee and its members. The Audit and Supervisory Committee Secretariat follows the instructions of the Audit and Supervisory Committee, coordinates with each department, and conveys instructions to the Internal Audit Division and the Risk Management Division, which is responsible for the maintenance and operation of internal controls.

Nomination Advisory Committee and Remuneration Advisory Committee

The non-mandatory Nomination Advisory Committee and Remuneration Advisory Committee are each composed of four directors, two of which are outside directors. This composition is in accordance with the rules for both committees, which stipulate that outside directors must make up half or more of the members. As advisory bodies to the Board of Directors, both committees review and deliberate on director candidates and remuneration proposals, and they propose the content and outcomes of those deliberations to the Board of Directors. The Board of Directors conducts its own deliberations on the subject matter before deciding on a resolution.

Executive Officer System

By introducing the executive officer system, THK has endeavored to accelerate decision-making and operational execution, in addition to improving the management oversight function of the Board of Directors and clarifying roles and responsibilities relating to the management of corporate affairs. As a means to share information throughout the Group and improve corporate governance through collaboration between the directors, executive officers, and other members of the management team, the Company implemented its Board of Executive Officers, which is attended by directors and executive officers, and established the Global Management Strategy Meeting, which is attended by members of the Board of Executive Officers in addition to those in charge of each division, department, and affiliate company. To clarify the roles and responsibilities of executive officers relating to the management of corporate affairs, an executive officer's term in office is deemed to be one year.

General Meeting of Shareholders

THK has consistently regarded active communication with all stakeholders as a crucial part of management. Accordingly, the Company is actively committed to maintaining fair and proper disclosure of corporate information. In an aim to have open meetings, THK has held its General Meeting of Shareholders on a Saturday every year since 1998, thereby avoiding the period when many shareholder meetings are scheduled. At the General Meeting of Shareholders, the Company provides seating for business partners and other stakeholders to observe the proceedings. A product exhibition is held after the end of the meeting to help more people gain a greater understanding of the Company.



Compliance Structure

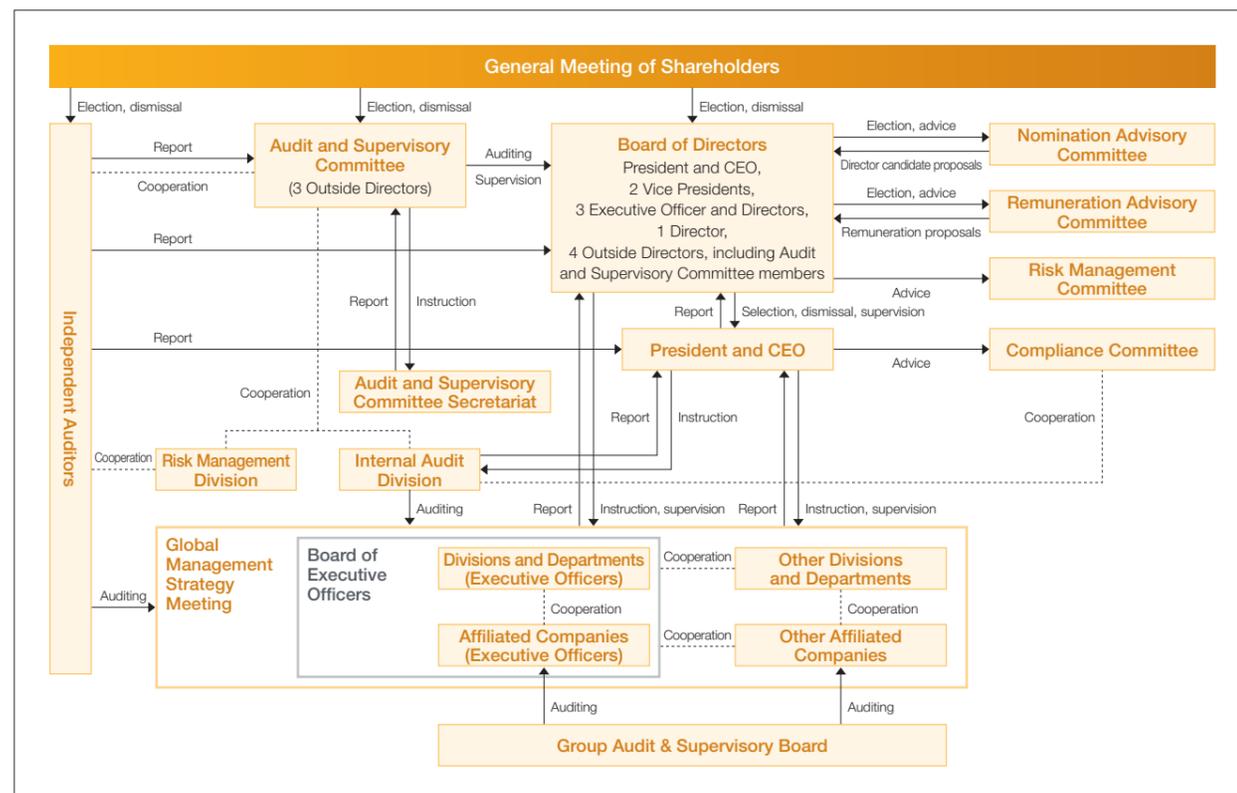
The Compliance Committee, chaired by the CEO, approves the annual activity plan and reports on the execution of those activities, as well as on the handling of legal violations by employees and other matters to report internally. This committee is also attended by outside directors and legal counsel, and it functions in a proper and legal manner. In addition, THK has established compliance subcommittees reporting to the Compliance Committee, with the working group members being selected from each site and department. The working group members play an important role in maintaining the compliance system by means such as holding voluntary seminars on compliance and fulfilling an advisory function.



Risk Management Committee

THK has established a risk management structure that anticipates future circumstances, enabling management to take appropriate risks by identifying, analyzing, and responding to conceivable risks from the perspective of management and the company as a whole.

The Risk Management Committee convenes annually and is headed by the CEO. The committee, which is attended by outside directors and legal counsel, approves the annual activity plan and works to establish, promote, and maintain the risk management structure by controlling risks throughout the entire Group.



Board of Directors and Executive Officers (As of March 16, 2019)

Directors



Akihiro Teramachi
President and CEO



Toshihiro Teramachi
Executive Vice President and CIO



Hiroshi Imano
Executive Vice President and CFO



Nobuyuki Maki
Director and Senior Managing Executive Officer
Senior General Manager of Automotive & Transportation Headquarters



Takashi Teramachi
Director and Senior Managing Executive Officer
Senior General Manager of Industrial Machinery Headquarters
Representative Director and President of THK INTECHS CO., LTD.



Junji Shimomaki
Director and Managing Executive Officer
General Manager of Industrial Machinery Headquarters
Senior General Manager of Sales Division, Industrial Machinery Headquarters



Junichi Sakai
Director
(In charge of Quality Assurance, Risk Management, and Production Engineering)



Masaaki Kainosho
Outside Director



Masakatsu Hioki
Outside Director
(Audit and Supervisory Committee Member)



Tomitoshi Omura
Outside Director
(Audit and Supervisory Committee Member)



Yoshiki Ueda
Outside Director
(Audit and Supervisory Committee Member)

Executive Officers

Managing Executive Officer
Takashi Okubo
Executive Vice Chairman of THK (CHINA) CO., LTD.

Managing Executive Officer
Masaki Sugita
Representative Director and President of THK Holdings of America, L.L.C.
Representative Director and President of THK America, Inc.

Managing Executive Officer
Tetsuya Hayashida
Special Appointive Officer to President

Managing Executive Officer
Masato Sawada
General Manager of Automotive & Transportation Headquarters
Director and Executive Vice Chairman of THK RHYTHM CO., LTD.

Managing Executive Officer
Takanobu Hoshino
General Manager of IMT Division, Industrial Machinery Headquarters
Director and Executive Vice Chairman of THK INTECHS CO., LTD.

Managing Executive Officer
Akihiko Kambe
Senior General Manager of Production Division, Industrial Machinery Headquarters

Managing Executive Officer
Kaoru Hoshide
Senior General Manager of Engineering Division, Industrial Machinery Headquarters

Managing Executive Officer
Toshiki Matsuda
Representative Director and President of THK Europe B.V.
Representative Director and President of THK GmbH
Representative Director and President of THK France S.A.S.
Representative Director and President of THK Manufacturing of Europe S.A.S.
Representative Director and President of THK Manufacturing of Ireland Ltd.

Executive Officer
Naoki Kinoshita
President of THK (CHINA) CO., LTD.

Executive Officer
Yukio Yamada
General Manager of Sales Division, Industrial Machinery Headquarters
General Manager of International Sales Division, Sales Division, Industrial Machinery Headquarters

Executive Officer
Takehiro Nakanishi
Deputy Senior General Manager of Production Division, Industrial Machinery Headquarters
General Manager of Production Engineering Department, Production Division, Industrial Machinery Headquarters
General Manager of Global Procurement Department, Production Division, Industrial Machinery Headquarters

Executive Officer
Yasutoshi Hoshino
Deputy General Manager of Corporate Strategy Headquarters

Executive Officer
Kenji Nakane
General Manager of Finance & Accounting Department, Corporate Strategy Headquarters

Executive Officer
Akira Furihata
Representative Director and President of THK RHYTHM CO., LTD.

Executive Officer
Masaki Kimura
Head of The President's Office
Head of Corporate Planning Department, Corporate Strategy Headquarters

The Selection of Outside Directors

<p>Masaaki Kainosho Outside Director (as of June 2012)</p> <p>Significant concurrent positions: Representative Director of KAINOSHO CO., LTD. Professor at Otsuma Women's University Junior College Division</p>	Reason for selection	In addition to being a university professor deeply versed in business administration, Masaaki Kainosho possesses a wealth of experience, a history of success, and sound judgment from managing an executive consulting company.
	Independent status	Masaaki Kainosho was employed at THK's current lender, Sumitomo Mitsui Banking Corporation (previously Mitsui Bank), from April 1976 to April 1996. However, he was consistently working in a systems-related division, and the THK Group did not do business with Mitsui Bank at the time. Therefore, he is considered to be independent.

<p>Masakatsu Hioki Outside Director, Audit and Supervisory Committee Member (as of June 2016)</p> <p>Significant concurrent positions: Outside Director of SUKIYA Co., Ltd. Outside Director of ZUIKO CO., LTD. Visiting Professor at Ritsumeikan University Graduate School</p>	Reason for selection	In addition to possessing sound judgment, Masakatsu Hioki has extensive experience and a proven history of success as an executive responsible primarily for human resources and general affairs in a global manufacturing company.
	Independent status	Masakatsu Hioki began his career with Komatsu Ltd. Although THK and Komatsu do have a business relationship that includes the sale of THK products, the sum value of those transactions equals less than 1% of THK's and Komatsu's consolidated net sales for the corresponding fiscal year. Therefore, he is considered to be independent.

<p>Tomitoshi Omura Outside Director, Audit and Supervisory Committee Member (as of June 2016)</p> <p>Significant concurrent positions: Certified Public Accountant Managing Director of Omura Accounting Office</p>	Reason for selection	In addition to the knowledge of corporate accounting he has gained over many years as a certified public accountant, Tomitoshi Omura is an expert who possesses a wealth of experience, a history of success, and sound judgment.
	Independent status	There are no particular conflicts of interest concerning Tomitoshi Omura's relationship with THK. Additionally, although he does not have direct experience in corporate management, the Company has determined that he appropriately executes his duties as an outside director because of the aforementioned reasons.

<p>Yoshiki Ueda Outside Director, Audit and Supervisory Committee Member (as of June 2016)</p> <p>Significant concurrent positions: Outside Director of SHINTOKOGIO, LTD. Representative Director & Vice-Chairman of Makino Milling Machine Co., Ltd. Visiting Professor of National University Corporation Shizuoka University</p>	Reason for selection	In addition to possessing sound judgment, Yoshiki Ueda has extensive experience and a proven history of success as an executive deeply versed in corporate management, having spent many years at a global company active in machinery-related fields.
	Independent status	Yoshiki Ueda is an outside director at SINTOKOGIO, LTD., a representative director and vice-chairman at Makino Milling Machine Co., Ltd., and a visiting professor at National University Corporation Shizuoka University. Although THK and SINTOKOGIO do have a business relationship that includes the purchase of SINTOKOGIO products, the sum value of those transactions equals less than 1% of THK's and SINTOKOGIO's consolidated net sales for the corresponding fiscal year. Additionally, although THK and Makino Milling Machine do have a business relationship that includes the sale of THK products, the sum value of those transactions equals less than 1% of THK's and Makino Milling Machine's consolidated net sales for the corresponding fiscal year. There are no particular conflicts of interest regarding the relationship between the Company and Shizuoka University.

Management's Discussion & Analysis

CONTENTS

- 34 Management's Discussion & Analysis
- 38 Risk Factors
- 40 Consolidated Financial Statements
 - 40 Consolidated Balance Sheets
 - 42 Consolidated Statements of Income
 - Consolidated Statements of Comprehensive Income
 - 43 Consolidated Statements of Changes in Net Assets
 - 44 Consolidated Statements of Cash Flows
 - 45 Notes to Consolidated Financial Statements

Analysis of Operating Results

Change in the Fiscal Year End

At the 47th General Meeting of Shareholders on June 17, 2017, a partial amendment to the articles of incorporation was approved, and the THK Group changed from a fiscal year end of March 31 to December 31, beginning with the 2017 fiscal year. As the transition took place during the previous fiscal year for THK Group consolidated companies, that modified reporting period included 9 months for companies whose fiscal years ended in March (April 1, 2017, to December 31, 2017) and 12 months for companies whose fiscal years ended in December (January 1, 2017, to December 31, 2017) in the scope of consolidation. For this reason, this report omits percentage comparisons with the previous reporting period.

Net Sales

While the second half of this consolidated reporting period saw an economic slowdown spreading through China and other regions due to the trade war between China and the United States, the global economy held firm as developed countries primarily in Europe and the Americas continued to experience sound economic growth led by domestic demand throughout the year.

The THK Group has identified *full-scale globalization*, the *development of new business areas*, and a *change in business style* as cornerstones of its growth strategy to expand markets for its products, including LM (Linear Motion) Guides. Under its *full-scale globalization* strategy, the Group is striving to expand its production and sales structures globally to capture demand from China and other emerging countries, where the market is growing due to developments in factory automation (FA) and other areas, as well as the demand from developed countries, where the user base is expanding. Under the *development of new business areas* strategy, the THK Group is working to increase sales revenue from not only existing products, but also newly developed products, buoyed by growing use of the Group's products in fields related to consumer goods, such as seismic isolation and damping systems, medical equipment, aircraft, robotics, renewable energy, and especially automotive parts. Additionally, to promote these strategies, the Company is making full use of new technologies such as AI and robots in a variety of different ways, thereby expanding its business domains by realizing a *change in business style*.

Despite signs of adjustment regarding demand in the electronics and other industries beginning in the second half of the consolidated reporting period, the THK Group captured what had been an overall favorable trend in demand, resulting in ¥353,479 million in consolidated net sales.

Income and Expenses

Although fixed costs and other expenses increased with the expansion in net sales, with the favorable shift in overall demand, the Group has continued to pursue robotization, automation, and other activities to improve productivity. As a result of those efforts, the cost to sales ratio was 71.1%, and the ratio of SG&A expenses to sales was 14.8%. Additionally, operating income was ¥49,832 million, and the operating margin was 14.1% due to the greater impact of the increase in sales volumes compared to the increase in fixed costs.

Total non-operating income was ¥1,697 million. This largely comprised interest and dividend income of ¥875 million and ¥614 million of equity in earnings of an affiliate.

As a result, net income attributable to shareholders of THK CO., LTD., was ¥35,400 million.

Segment Information

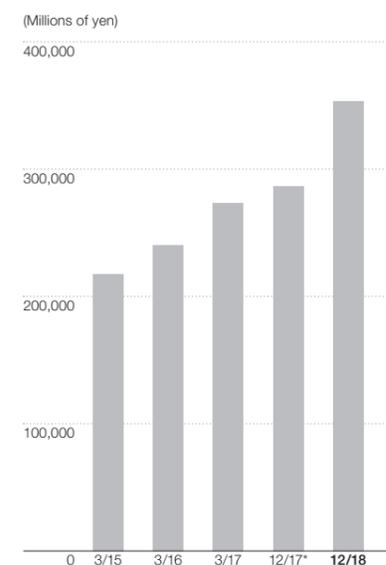
Japan

Despite a continued slowdown in exports, Japan experienced a moderate economic recovery as domestic capital investments held firm. During the first half of the fiscal year, the rapid advancement of automation and robotization led to an overall favorable trend in demand for general machinery and machine tools, in line with a similar trend for electronics. The Group captured this demand, resulting in net sales of ¥160,742 million and an operating income (segment income) of ¥38,460 million.

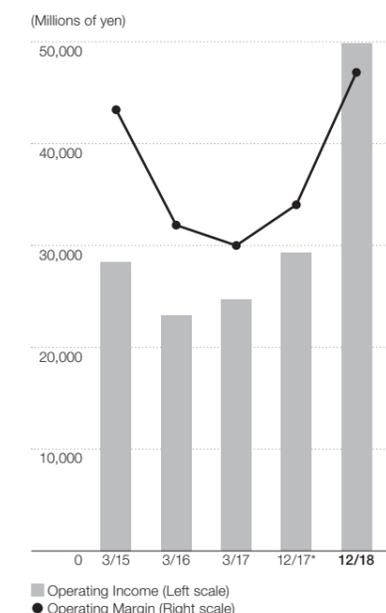
The Americas

Economic growth continued in the Americas, driven by favorable consumer spending. The THK Group captured the steady trend in demand for electronics and machine tools, resulting in net sales of ¥69,882 million. However, profitability worsened due to fluctuations in the exchange rate and sharp increases in material prices in the automotive and transportation business. As a result, the operating income (segment income) stood at ¥309 million.

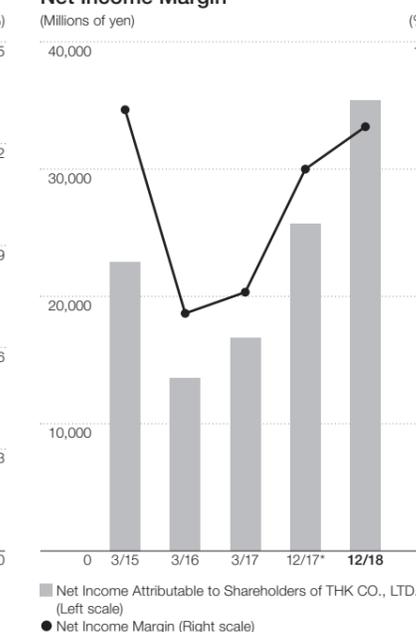
Net Sales



Operating Income/ Operating Margin



Net Income Attributable to Shareholders of THK CO., LTD./ Net Income Margin



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

Europe

Modest economic growth continued in Europe, driven by steady capital investments. The THK Group captured the steady trend in demand for general machinery and machine tools, resulting in net sales of ¥59,482 million. However, profitability worsened due to fluctuations in the exchange rate and sharp increases in raw material prices in the automotive and transportation business. As a result, the operating income (segment income) stood at ¥74 million.

China

In the second half of the year, China saw broad adjustments being made to capital investments due to the trade war with the United States. However, the THK Group captured the demand for electronics and products related to automation and robotization, which had been trending favorably. As a result, net sales stood at ¥46,735 million, resulting in an operating income (segment income) of ¥8,194 million.

Asia and Other

As the range of demand for THK products steadily grew in India, the ASEAN region, and other parts of the world, the Group undertook aggressive sales activities to expand transactions with existing customers and acquire new customers. As a result, net sales stood at ¥16,636 million, resulting in an operating income (segment income) of ¥2,384 million.

Financial Position

Assets, Liabilities, and Net Assets

▶ Assets

Total current assets stood at ¥288,340 million as of December 31, 2018, an increase of ¥17,365 million compared with the previous fiscal year end. In line with the upswing in net sales, trade accounts and notes receivable climbed ¥5,637 million, and inventories rose ¥6,262 million. Cash and cash equivalents increased ¥4,592 million due primarily to free cash flow.

Total non-current assets stood at ¥175,009 million as of December 31, 2018, an increase of ¥9,320 million compared with the previous fiscal year end. This increase was primarily due to a ¥13,761 million increase in tangible fixed assets from capital investments, despite a ¥4,289 million decrease in goodwill and other intangible fixed assets.

▶ Liabilities

Total liabilities came to ¥168,631 million, up ¥13,721 million compared with the previous fiscal year end. This increase was primarily due to an increase of ¥2,770 million in trade accounts and notes payable, and an increase of ¥10,597 million in income taxes payable and other accrued expenses.

▶ Net Assets

Total net assets stood at ¥294,719 million as of December 31, 2018, an increase of ¥12,964 million compared with the previous fiscal year end. This increase was primarily due to a decrease in foreign currency translation adjustments of ¥10,704 million, cash dividends of ¥9,326 million, and a net income attributable to shareholders of THK CO., LTD., of ¥35,400 million.

Cash Flows

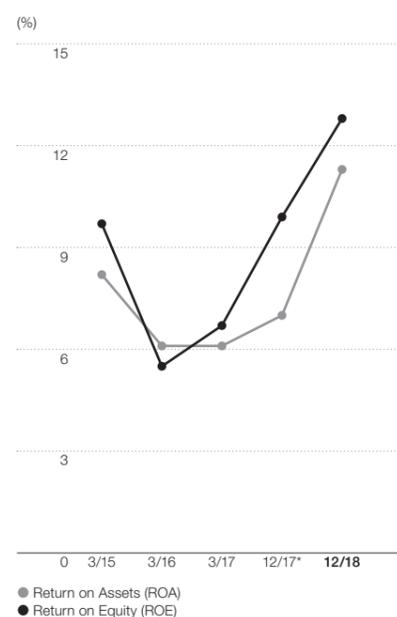
Net cash provided by operating activities came to ¥55,177 million. The major cash inflows were an income before income taxes of ¥51,529 million, depreciation and amortization of ¥15,562 million, a ¥7,547 million increase in accounts and notes receivable, and a ¥3,624 million increase in accounts and notes payable.

Net cash used in investing activities totaled ¥33,055 million, primarily due to the purchase of fixed assets.

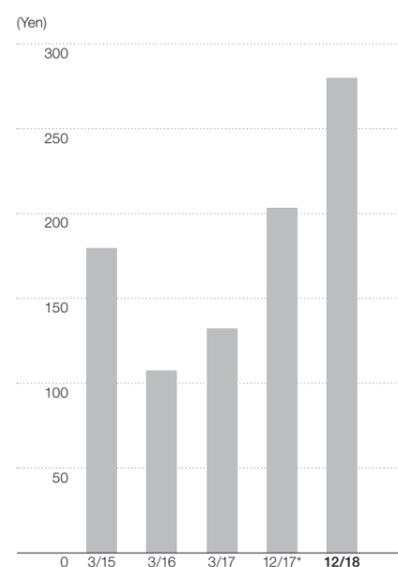
Net cash used in financial activities totaled ¥11,645 million, which included ¥9,326 million in cash dividends.

In addition to each of the aforementioned activities, accounting for the effect of exchange differences, cash and cash equivalents stood at ¥134,513 million as of December 31, 2018, an increase of ¥4,592 million compared with the previous fiscal year end.

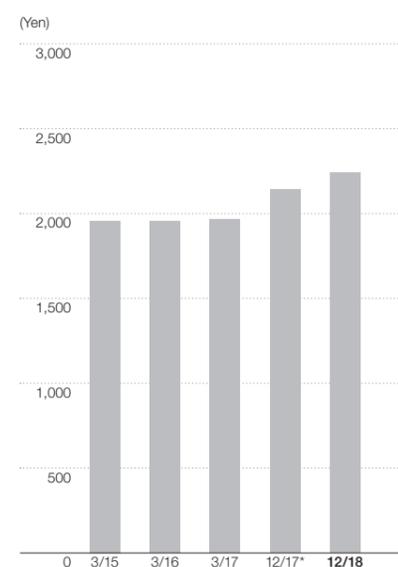
Return on Assets (ROA)/
Return on Equity (ROE)



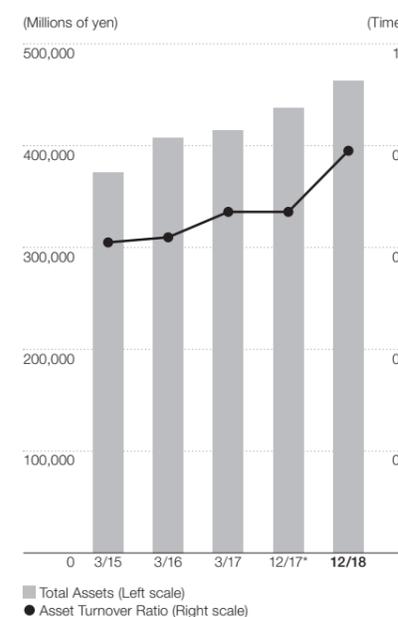
Net Income per Share



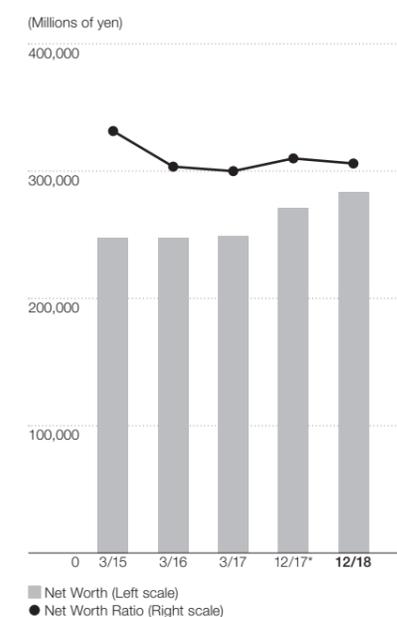
Net Assets per Share



Total Assets/
Asset Turnover Ratio



Net Worth/
Net Worth Ratio



* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

* This data reflects a modified reporting period that includes 9 months from consolidated companies whose fiscal years ended in March and 12 months from consolidated companies whose fiscal years ended in December.

Risk Factors

Risk factors and uncertainties that could affect the THK Group's business results and financial position include, but are not limited to, the items outlined below.

Please note that any items relating to the future are based on the best judgment of THK Group management as of March 18, 2019.

Effect of Changes in Demand Trends Within Specific Industries

The THK Group manufactures and sells LM Guides, ball screws, and other machine components, as well as link balls, suspension ball joints, and other transportation equipment components. The principal users of these products are companies that make industrial machinery and equipment, including machine tools, general machinery, and semiconductor manufacturing equipment, as well as manufacturers of transportation equipment. While the THK Group is striving through its three core strategies of full-scale globalization, the development of new business areas, and a change in business style to realize expansions in its business domains, the performance of the THK Group is influenced by demand trends within industrial sectors such as machine tools, general machinery, semiconductor manufacturing equipment, and transportation equipment, whose manufacturers constitute the THK Group's major customers.

Therefore, future drastic changes in demand trends in these specific industries are a risk.

Business Expansion Outside of Japan

The THK Group has manufacturing and sales operations in the Americas, Europe, Asia, and other regions, and there is a risk of unexpected legal and regulatory changes or shifts in political and economic conditions in countries and regions where the THK Group manufactures or sells products.

Exchange Rate Fluctuations

While the THK Group engages in the hedging of risks by means such as foreign exchange contracts for foreign currency transactions, primarily concerning importing and exporting, there is a risk of major exchange rate fluctuations.

Furthermore, the financial statements of THK's subsidiaries outside of Japan are converted to yen for the generation of the Company's consolidated financial statements. Thus, there is also the possibility that, even with there being no change in the value in the local currency, the amount on the consolidated financial statement after the conversion to yen could be affected by the exchange rate at the time of conversion.

Product Development

The principal business of the THK Group is the manufacture and sale of linear motion systems, notably LM (Linear Motion) Guides, and automotive and transportation components, notably link balls. Between the two, linear motion systems

account for the majority of sales and are expected to continue to do so for the foreseeable future. To secure and expand the foundation of its business, the THK Group continues to develop new high-performance products with high added value. However, if THK is unable to develop appealing new products because it cannot predict the needs of the industry and market sufficiently, if it presents new products to the market too late, or if another company develops a revolutionary new product, it could reduce THK's growth and profitability.

Heightened Competition

The THK Group makes every effort to provide high-quality products that meet the needs of the market and its customers, but it is conducting its manufacturing and sales activities in an environment of competition that is intensifying on a global scale. The Company faces growing competition in terms of price and other factors due to the rise of products made in China and other emerging countries. Even in fields where the THK Group commands a large market share, there is no guarantee that it can maintain its competitive edge in the future.

Reliance on Specific Supply Sources

The THK Group procures some of its raw materials and parts from external supply sources. As a result, there is a risk of a shortfall in raw materials and parts due to factors such as a supplier's insufficient production capacity, poor quality, or insolvency, or a natural disaster such as a fire or earthquake.

Furthermore, in response to society's demand for strong ESG-related efforts, the Group demonstrates CSR in its purchasing activities by means such as appropriately handling conflict minerals and promoting eco-friendliness throughout its supply chain. However, any failure in THK's supply sources could affect its procurement activities.

Sharp Hikes in the Prices of Raw Materials

The THK Group procures the raw materials and components used in its products from several sources outside of the Group. In the event of unanticipated sharp hikes in the prices of raw materials arising from factors such as high crude oil prices, the social conditions in countries that supply raw materials, and rising demand in emerging countries, the manufacturing costs of the Group's products can be expected to increase. Although the Company works to absorb any impact by controlling its costs and adjusting its prices accordingly, there is a risk that raw material costs could rise more than anticipated.

Problems with Product Quality

THK Group products are widely used in industrial machinery, including machine tools, industrial robots, and semiconductor manufacturing equipment. Applications for THK products have also expanded to include various areas related to consumer goods, including seismic isolation and damping systems,

medical equipment, aircraft, robots, renewable energy, and especially automotive parts.

Under these circumstances, the THK Group has worked to establish quality assurance systems to maintain high product quality across all product sectors. However, in the unlikely event that an unforeseen product defect were to occur that could lead to a large-scale recall or to THK being held liable for those products, there could be substantial costs, a loss of trust among the general public, or a suspension of transactions.

Although the THK Group possesses product liability insurance, there is no guarantee that it would cover all losses incurred through the reparation of damages.

Intellectual Property Rights

The THK Group pays meticulous attention to ensure that it does not infringe the intellectual property rights of others, and it secures its intellectual property rights through domestic and overseas patents, thereby protecting its rights concerning the expertise that is invaluable to its business activities and the technology it has accumulated through its production techniques and product development. Nevertheless, in the event that THK is unable to effectively prevent the manufacture of similar products based on an infringement of the THK Group's intellectual property due to the insufficient intellectual property rights protections in certain countries and regions, the possibility that this could impact the Group's business cannot be entirely discounted.

Therefore, there is a risk that a third party could infringe THK's intellectual property rights, or that the Company could unintentionally infringe the intellectual property rights of another party.

Information Security

The THK Group collects personal information as well as confidential information relating to sales and technology as it conducts its business activities. Every effort is made to ensure that this information is stringently managed. The Group also utilizes various computer systems and IT networks for its entire business, and appropriate security measures have been taken for these systems. However, if part or all of this information were to be leaked due to a cyberattack, computer virus, unauthorized access, infrastructure failure, information system defect, or another factor, or if an unforeseen event were to shut down a system or cause the destruction or alteration of important data, there could be a loss of trust among the general public, suspension of business activities, expenses to implement countermeasures, significant financial penalties, or a suspension of transactions.

Disasters, Acts of Terrorism, Infectious Diseases, and Other Maladies

The THK Group possesses manufacturing facilities as well as sales offices in Japan, the Americas, Europe, Asia, and other regions. In the event that any of the Group's places of business or those of its business partners are affected by natural disas-

ters, including earthquakes and fires, political unrest due to acts of terrorism or war, or the outbreak of an infectious disease, there could be a significant impact on THK's production and general business activities. The Group has established a risk management structure and has taken preemptive measures along with procedures to continue and quickly recover its operations in the event of a crisis to minimize losses. However, it is difficult to completely avoid all risks, so the THK Group could be affected by any losses that exceed expectations.

Workforce

The THK Group continues to hire and develop talented employees both within and outside of Japan to maintain its competitiveness. However, if hiring becomes increasingly competitive in every field due to the aging population and declining birthrate and THK is unable to hire the proper talent as planned, or if there is an inconsistency with talent development, it could hinder the Group's ability to pass on skills and expertise to new employees and limit the execution of the Group's business.

THK works to establish stable labor-management relations, but there are differences in labor practices among locations outside of Japan. Therefore, the THK Group could be affected if a labor dispute were to occur or labor-management relations were to deteriorate due to unforeseen legislative, economic, or social changes, or if employee wages were to rise suddenly, particularly in emerging countries.

Compliance

As the THK Group expands its business globally, it conducts fair business activities in compliance with the laws and regulations that apply in each country. Furthermore, the Group works to improve compliance awareness by notifying Group employees of the standard of conduct they must follow and performing required internal training.

Although the Company maintains an internal reporting system and works to prevent compliance risks, it is difficult to avoid such risks entirely while expanding business globally. Therefore, in the event of a legal violation, the THK Group could bear criminal, civil, or administrative liability, which could result in a loss of trust among the general public.

Environmental Problems

The THK Group works to counteract climate change, conserve resources, and reduce its environmental impact. The Company has never caused any significant environmental problems. However, if an environmental problem were to occur in the future due to an unforeseen event, it could result in expenses to compensate damages or respond to the problem, administrative sanctions such as penalties, a loss of trust among the general public, or a suspension of production activities.

In addition, if regulations become stricter, there is a risk that THK could bear additional obligations or expenses.

Consolidated Financial Statements

THK CO., LTD. and Consolidated Subsidiaries

CONSOLIDATED BALANCE SHEETS

December 31, 2018 and 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
ASSETS			
Current Assets:			
Cash and cash equivalents (Note 19)	¥ 134,513	¥ 129,920	\$ 1,225,966
Receivables (Note 19):			
Trade accounts and notes receivable (Note 3)	90,095	85,457	821,135
—Unconsolidated subsidiaries and affiliates	2,600	1,600	23,696
Other receivables	1,456	1,593	13,270
—Unconsolidated subsidiaries and affiliates	874	1,102	7,965
	95,026	89,754	866,077
Less allowance for doubtful receivables	(134)	(218)	(1,221)
	94,891	89,535	864,846
Inventories (Note 4)	50,065	43,802	456,297
Short-term loans receivable	3	3	27
Deferred tax assets (Note 16)	3,459	2,337	31,525
Other current assets	5,406	5,374	49,270
Total current assets	288,340	270,975	2,627,962
Investments and Other:			
Investments in securities (Notes 6 and 19)	3,839	6,087	34,989
Investments in unconsolidated subsidiaries and affiliates	5,825	5,290	53,089
Net defined benefit asset (Note 8)	1,569	2,295	14,300
Long-term loans receivable	74	72	674
—Unconsolidated subsidiaries and affiliates	1,500	—	13,671
Deferred tax assets (Note 16)	1,554	754	14,163
Other investments	2,844	2,860	25,920
Total investments and other	17,207	17,359	156,826
Property, Plant and Equipment (Note 5):			
Buildings and structures	71,113	72,565	648,131
Machinery, equipment, vehicles and others (Note 15)	219,950	212,559	2,004,648
	291,063	285,124	2,652,779
Less accumulated depreciation	(194,885)	(193,598)	(1,776,203)
	96,178	91,525	876,576
Land	13,797	13,955	125,747
Construction in progress	19,720	10,452	179,730
Total property, plant and equipment	129,695	115,934	1,182,054
Intangibles:			
Goodwill	10,003	11,449	91,168
Other	18,102	20,945	164,983
Total intangibles	28,106	32,395	256,161
Total assets	¥ 463,350	¥ 436,664	\$ 4,223,022

The accompanying notes are an integral part of these statements.

	Millions of yen		Thousands of U.S. dollars (Note 1)
	2018	2017	2018
LIABILITIES AND NET ASSETS			
Current Liabilities:			
Current portion of long-term debt (Notes 7 and 19)	¥ 12,185	¥ 22,185	\$ 111,055
Payables (Note 19):			
Trade accounts and notes payable	47,890	45,190	436,474
—Unconsolidated subsidiaries and affiliates	1,133	1,063	10,326
Other payables	7,179	5,773	65,430
—Unconsolidated subsidiaries and affiliates	27	121	246
	56,230	52,148	512,486
Income taxes payable	12,271	1,673	111,839
Accrued bonuses to employees	3,899	2,971	35,535
Other accrued expenses	8,135	8,639	74,143
Lease obligations	85	126	774
Other current liabilities	5,429	5,452	49,480
Total current liabilities	98,237	93,196	895,342
Long-term Liabilities:			
Long-term debt (Notes 7 and 19)	55,295	47,480	503,964
Reserve for directors' and corporate auditors' retirement benefits	131	108	1,193
Reserve for product warranty	112	118	1,020
Long-term lease obligations	121	114	1,102
Net defined benefit liability (Note 8)	7,908	7,389	72,074
Deferred tax liabilities (Note 16)	5,491	5,134	50,045
Other liabilities	1,334	1,368	12,158
Total long-term liabilities	70,394	61,713	641,578
Commitment and Contingent Liabilities (Notes 9 and 10)			
Net Assets (Note 11):			
Shareholders' equity			
Common stock			
Authorized: 465,877,700 shares; Issued: 133,856,903 shares as of December 31, 2018 and 2017	34,606	34,606	315,402
Additional paid-in capital	40,420	40,440	368,392
Retained earnings	220,787	194,626	2,012,276
Treasury stock, at cost: 7,288,846 shares and 7,287,650 shares as of December 31, 2018 and 2017, respectively	(14,002)	(13,998)	(127,615)
Total shareholders' equity	281,811	255,675	2,568,456
Accumulated other comprehensive income:			
Net unrealized gain on available-for-sale securities	1,102	2,847	10,043
Foreign currency translation adjustments	2,755	13,459	25,109
Remeasurements of defined benefit plans	(2,063)	(1,033)	(18,802)
Total accumulated other comprehensive income	1,794	15,272	16,350
Non-controlling interests	11,113	10,806	101,285
Total net assets	294,719	281,754	2,686,100
Total liabilities and net assets	¥463,350	¥436,664	\$4,223,022

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF INCOME

Year ended December 31, 2018, and nine months ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Net Sales	¥353,479	¥286,603	\$3,221,646
Cost of Sales (Note 13)	251,181	214,490	2,289,290
Gross profit	102,298	72,112	932,355
Selling, General and Administrative Expenses (Notes 12 and 13)	52,465	42,833	478,171
Operating income	49,832	29,279	454,174
Non-Operating Income (Expenses):			
Interest and dividend income	875	551	7,974
Interest expenses	(256)	(360)	(2,333)
Foreign exchange loss, net	(1,178)	(270)	(10,736)
Equity in earnings of an affiliate	614	948	5,596
Rental income	390	317	3,554
Loss on sales and disposal of property, plant, equipment and intangibles, net (Note 14)	(228)	(123)	(2,078)
Impairment loss (Note 5)	—	(54)	—
Other, net	1,478	747	13,470
	1,697	1,755	15,466
Income before income taxes	51,529	31,034	469,640
Income Taxes (Note 16)			
Current	16,097	5,091	146,709
Deferred	(585)	(195)	(5,331)
Total income taxes	15,511	4,895	141,368
Net income	36,017	26,139	328,262
Net income attributable to non-controlling interests	617	409	5,623
Net income attributable to shareholders of THK CO., LTD.	¥ 35,400	¥ 25,729	\$ 322,639

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Year ended December 31, 2018, and nine months ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Net Income	¥ 36,017	¥ 26,139	\$ 328,262
Other Comprehensive (Loss) Income (Note 17):			
Net unrealized (loss) gain on available-for-sale securities	(1,734)	1,255	(15,803)
Foreign currency translation adjustments	(11,376)	6,469	(103,682)
Remeasurements of defined benefit plans	(935)	227	(8,521)
Share of other comprehensive income of an affiliate accounted for under the equity method	284	317	2,588
Total other comprehensive (loss) income	(13,762)	8,270	(125,428)
Comprehensive Income	22,255	34,409	202,834
Attributable to:			
Shareholders of THK CO., LTD.	21,969	33,879	200,227
Non-controlling interests	286	530	2,606

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF CHANGES IN NET ASSETS

Year ended December 31, 2018, and nine months ended December 31, 2017

	Millions of yen				
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock, at cost	Total shareholders' equity
Balance at April 1, 2017	¥34,606	¥44,584	¥176,617	¥(13,991)	¥241,817
Cash dividends	—	—	(7,721)	—	(7,721)
Net income attributable to shareholders of THK CO., LTD.	—	—	25,729	—	25,729
Purchase of treasury stock	—	—	—	(6)	(6)
Changes in parent's interest due to transactions with non-controlling shareholders	—	(4,143)	—	—	(4,143)
Net changes of items other than shareholders' equity	—	—	—	—	—
Balance at December 31, 2017	¥34,606	¥40,440	¥194,626	¥(13,998)	¥255,675
Cash dividends	—	—	(9,239)	—	(9,239)
Net income attributable to shareholders of THK CO., LTD.	—	—	35,400	—	35,400
Purchase of treasury stock	—	—	—	(4)	(4)
Changes in parent's interest due to transactions with non-controlling shareholders	—	(20)	—	—	(20)
Net changes of items other than shareholders' equity	—	—	—	—	—
Balance at December 31, 2018	¥34,606	¥40,420	¥220,787	¥(14,002)	¥281,811

	Millions of yen					
	Net unrealized gain on available-for-sale securities	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at April 1, 2017	¥ 1,585	¥ 6,793	¥(1,256)	¥ 7,122	¥ 2,600	¥251,540
Cash dividends	—	—	—	—	—	(7,721)
Net income attributable to shareholders of THK CO., LTD.	—	—	—	—	—	25,729
Purchase of treasury stock	—	—	—	—	—	(6)
Changes in parent's interest due to transactions with non-controlling shareholders	—	—	—	—	—	(4,143)
Net changes of items other than shareholders' equity	1,261	6,666	222	8,149	8,206	16,355
Balance at December 31, 2017	¥ 2,847	¥ 13,459	¥(1,033)	¥ 15,272	¥10,806	¥281,754
Cash dividends	—	—	—	—	—	(9,239)
Net income attributable to shareholders of THK CO., LTD.	—	—	—	—	—	35,400
Purchase of treasury stock	—	—	—	—	—	(4)
Changes in parent's interest due to transactions with non-controlling shareholders	—	—	—	—	—	(20)
Net changes of items other than shareholders' equity	(1,744)	(10,704)	(1,030)	(13,478)	306	(13,171)
Balance at December 31, 2018	¥ 1,102	¥ 2,755	¥(2,063)	¥ 1,794	¥11,113	¥294,719

	Thousands of U.S. dollars (Note 1)				
	Common stock	Additional paid-in capital	Retained earnings	Treasury stock, at cost	Total shareholders' equity
Balance at December 31, 2017	\$315,402	\$368,574	\$1,773,842	\$(127,579)	\$2,330,249
Cash dividends	—	—	(84,205)	—	(84,205)
Net income attributable to shareholders of THK CO., LTD.	—	—	322,639	—	322,639
Purchase of treasury stock	—	—	—	(36)	(36)
Changes in parent's interest due to transactions with non-controlling shareholders	—	(182)	—	—	(182)
Net changes of items other than shareholders' equity	—	—	—	—	—
Balance at December 31, 2018	\$315,402	\$368,392	\$2,012,276	\$(127,615)	\$2,568,456

	Thousands of U.S. dollars (Note 1)					
	Net unrealized gain on available-for-sale securities	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Total accumulated other comprehensive income	Non-controlling interests	Total net assets
Balance at December 31, 2017	\$ 25,947	\$122,666	\$ (9,414)	\$ 139,190	\$ 98,487	\$2,567,936
Cash dividends	—	—	—	—	—	(84,205)
Net income attributable to shareholders of THK CO., LTD.	—	—	—	—	—	322,639
Purchase of treasury stock	—	—	—	—	—	(36)
Changes in parent's interest due to transactions with non-controlling shareholders	—	—	—	—	—	(182)
Net changes of items other than shareholders' equity	(15,895)	(97,557)	(9,387)	(122,839)	2,788	(120,041)
Balance at December 31, 2018	\$ 10,043	\$ 25,109	\$(18,802)	\$ 16,350	\$101,285	\$2,686,100

The accompanying notes are an integral part of these statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS

Year ended December 31, 2018, and nine months ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars (Note 1)
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Cash Flows from Operating Activities:			
Income before income taxes	¥ 51,529	¥ 31,034	\$ 469,640
Adjustments:			
Depreciation and amortization	15,562	13,240	141,833
Impairment loss	—	54	—
Amortization of goodwill	887	854	8,084
Interest and dividend income	(875)	(551)	(7,974)
Interest expenses	256	360	2,333
Foreign exchange loss, net	2,970	110	27,068
Equity in earnings of an affiliate	(614)	(948)	(5,596)
Loss on sales and disposal of property, plant, equipment and intangibles, net	228	165	2,078
Changes in assets and liabilities:			
Increase in accounts and notes receivable	(7,547)	(9,897)	(68,784)
Increase in inventories	(7,958)	(5,463)	(72,530)
Increase in accounts and notes payable	3,624	2,246	33,029
Increase (decrease) in provisions	938	(439)	8,549
(Decrease) increase in net defined benefit liability	(231)	420	(2,105)
Other, net	1,677	856	15,284
Subtotal	60,447	32,044	550,920
Interest and dividend received	872	542	7,947
Interest paid	(253)	(398)	(2,305)
Income taxes paid	(5,888)	(6,572)	(53,663)
Net cash provided by operating activities	55,177	25,616	502,889
Cash Flows from Investing Activities:			
Purchase of property, plant and equipment and intangibles	(31,412)	(15,699)	(286,292)
Proceeds from sales of property, plant and equipment	186	26	1,695
Increase in investments in securities, unconsolidated subsidiaries and affiliates	(250)	(209)	(2,278)
Increase in loans receivable	(1,597)	(11)	(14,555)
Payment for insurance fund	(207)	(7)	(1,886)
Other, net	226	69	2,059
Net cash used in investing activities	(33,055)	(15,831)	(301,266)
Cash Flows from Financing Activities:			
Repayment of long-term debt	¥ (2,185)	¥ —	\$ (19,914)
Redemption of corporate bonds	(20,000)	(13,000)	(182,282)
Proceeds from issuance of corporate bonds	20,000	—	182,282
Cash dividends	(9,326)	(7,726)	(84,998)
Proceeds from payment from non-controlling shareholders	—	3,000	—
Cash dividends paid to non-controlling shareholders	(8)	—	(72)
Purchase of treasury stock	(4)	(6)	(36)
Repayment of lease obligations	(121)	(69)	(1,102)
Net cash used in financing activities	(11,645)	(17,802)	(106,133)
Foreign Currency Translation Adjustments on Cash and Cash Equivalents	(5,883)	593	(53,618)
Net Increase (Decrease) in Cash and Cash Equivalents	4,592	(7,424)	41,851
Cash and Cash Equivalents at Beginning of Year	129,920	137,345	1,184,104
Cash and Cash Equivalents at End of Year	¥134,513	¥129,920	\$1,225,966

The accompanying notes are an integral part of these statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

THK CO., LTD. and consolidated subsidiaries

1. Basis of Presenting Consolidated Financial Statements

The accompanying consolidated financial statements of THK CO., LTD. (the "Company") and its consolidated subsidiaries have been prepared in accordance with the provisions set forth in the Financial Instruments and Exchange Act of Japan and its related accounting regulations, and in conformity with accounting principles generally accepted in Japan ("Japanese GAAP"), which are different in certain respects from International Financial Reporting Standards as to application and disclosure requirements.

The accompanying consolidated financial statements include certain reclassifications and rearrangements to present them in a form that is more familiar to readers outside Japan. Certain amounts previously reported may have been reclassified to conform to the current year financial statement presentation. Such reclassifications have been made solely for comparability of the consolidated financial statements, and do not affect net income or net assets. In addition, the notes to the consolidated financial statements include information that is not required under Japanese GAAP, but which is provided herein as additional information.

Effective from the previous fiscal year, the Company and its consolidated subsidiaries with fiscal closing dates other than December 31 changed their fiscal closing dates to December 31. As a result of this change of the fiscal closing date from

March 31 to December 31, the previous reporting period covers the nine-month period from April 1, 2017, to December 31, 2017, for the Company and its consolidated subsidiaries whose fiscal closing dates were March 31, and the twelve-month period from January 1, 2017, to December 31, 2017, for the consolidated subsidiaries whose fiscal closing dates were December 31.

U.S. dollar amounts presented in the consolidated financial statements are included solely for the convenience of the readers. These translations should not be construed as presentations that the yen amounts actually represent or could be converted into U.S. dollars at that or any other rate. For this purpose, the rate of ¥109.72 to U.S. \$1, the approximate rate of exchange prevailing in Tokyo on December 31, 2018, has been used for the translation of the accompanying consolidated financial statements as of December 31, 2018, and for the year then ended.

As permitted by the Financial Instruments and Exchange Act, amounts of less than one million yen have been omitted. U.S. dollar amounts are translated from such yen amounts, and amounts of less than one thousand dollars have been omitted. As a result, the total amounts in Japanese yen and translated U.S. dollars shown in the consolidated financial statements and notes to the consolidated financial statements do not necessarily agree with the sum of the individual amounts.

2. Summary of Significant Accounting Policies**(a) Consolidation**

The accompanying consolidated financial statements include the accounts of the Company and its subsidiaries that are controlled by the Company. Under the effective control approach, all majority-owned companies are to be consolidated. Additionally, those companies over which the Company is able to directly or indirectly exercise control are to be consolidated even if the holding ratio equals 50% or less. All significant inter-company transaction accounts and unrealized inter-company profits are eliminated upon consolidation. For consolidated subsidiaries and an affiliate whose closing dates are different from that of the Company, certain adjustments necessary for consolidation have been made.

The Company had 39 subsidiaries as of December 31, 2018 and 2017. The consolidated financial statements for the year ended December 31, 2018, and nine months ended December 31, 2017, include the accounts of the Company and its 36 consolidated subsidiaries (collectively, "the Group"). Investments in the remaining three subsidiaries including THK BRAZIL INDUSTRIA E COMERCIO LTDA., are not consolidated and stated at cost, because these companies are small in size, and if these companies had been consolidated, the effect on the

consolidated financial statements would not have been significant.

The excess of the cost of acquisition over the fair value of the net assets of an acquired subsidiary (goodwill) at the date of acquisition is amortized over 15 years by the straight-line method.

(Application of the equity method)

The Company had three affiliates and three unconsolidated subsidiaries as of December 31, 2018 and 2017. Under the control concept, companies over which the Company directly or indirectly has the ability to exercise significant influence are accounted for using the equity method. For the year ended December 31, 2018, and the nine months ended December 31, 2017, the Company has applied the equity method to investment in SAMICK THK CO., LTD. Investments in the remaining affiliates and unconsolidated subsidiaries (THK BRAZIL INDUSTRIA E COMERCIO LTDA., etc.) are stated at cost. If the equity method had been applied to the investments in those companies, the effect on the consolidated financial statements would not have been significant.

(Change in the fiscal closing dates of the Company and certain consolidated subsidiaries)

As noted in Note 1, the fiscal closing date was unified into December 31, effective from the previous fiscal year. Consequently, the fiscal closing date of consolidated subsidiaries agrees with that of the Company as of December 31, 2017. The reporting period of the previous fiscal year ended December 31, 2017, for the Company, its domestic consolidated subsidiaries and THK India Pvt. Ltd. was the nine months from April 1, 2017, to December 31, 2017, and that for overseas consolidated subsidiaries, excluding THK India Pvt. Ltd., was the twelve months from January 1, 2017, to December 31, 2017.

Unification of Accounting Policies Applied to Foreign Subsidiaries for the Consolidated Financial Statements

Under Japanese GAAP: (1) the accounting policies and procedures applied to a parent company and its subsidiaries for similar transactions and events under similar circumstances should in principle be unified for the preparation of the consolidated financial statements, and (2) financial statements prepared by foreign subsidiaries in accordance with either International Financial Reporting Standards or the generally accepted accounting principles in the United States of America tentatively may be used for the consolidation process; (3) however, the following items should be adjusted in the consolidation process so that net income is accounted for in accordance with Japanese GAAP unless they are immaterial: 1) amortization of goodwill; 2) scheduled amortization of actuarial gain or loss of pensions that has been directly recorded in net assets; 3) expensing capitalized development costs of research and development; 4) cancellation of the fair value model accounting for property, plant, and equipment and investment properties and incorporation of the cost model accounting; 5) exclusion of non-controlling interests from net income, if contained.

(b) Translation of Foreign Currency Financial Statements

Assets and liabilities of foreign subsidiaries and an affiliate are translated into Japanese yen at exchange rates prevailing at the balance sheet date. Net assets except for minority interest accounts at beginning of year are translated into Japanese yen at historical rates. Profit and loss accounts are translated into Japanese yen using the average exchange rate during the year. Differences in yen amounts arising from use of different rates are presented as foreign currency translation adjustments in the accumulated other comprehensive income of the net assets section.

(c) Inventories

Inventories, except for work in process, are stated at cost determined principally by the gross average method. Work in process for ordered products is stated at cost determined principally by the specific identified cost method. If acquisition cost of an inventory exceeds its net selling value, the carrying

amount of such inventory is written down to its net selling value, and the difference is charged to income.

(d) Financial Instruments**Securities**

Investments in securities are classified and accounted for, depending on management's intent, as follows: (1) trading securities, which are held for the purpose of earning capital gains in the near term, are reported at fair value, and the related unrealized gains and losses are included in earnings; (2) held to maturity debt securities, which are expected to be held to maturity with the positive intent and ability to hold to maturity, are reported at amortized cost; and (3) available-for-sale securities, which are not classified as either of the aforementioned securities, are reported at fair value, with unrealized gains and losses, net of applicable taxes, reported as a separate component of net assets. If the fair value of available-for-sale securities is not readily determinable, such investments are stated at cost.

With respect to equity investments in investment business limited partnerships, which are regarded as securities pursuant to paragraph 2 of Article 2 of the Financial Instruments and Exchange Act, such investments are stated using net equity based on the recent available financial statements as of the reporting dates which are provided by the partnership agreements.

For other than temporary declines in fair value, investments in securities are written down to the net realizable value, and the difference is charged to income.

Derivatives and Hedging Accounting**Derivatives are measured at fair value.**

The Group uses a variety of derivative financial instruments, including forward foreign exchange contracts, interest rate swap contracts and interest rate and currency swap contracts to manage foreign exchange risks and interest rate risks. The Company has established a control environment, which includes policies and procedures for risk assessments and approval, and reporting and monitoring of transactions involving derivative financial instruments. The Group does not hold or issue derivative financial instruments for speculative purposes.

Hedge accounting method:

For forward foreign exchange contracts which satisfy the required condition under the related Japanese accounting standards, the hedged foreign currency-denominated receivables and payables are translated at the contract rates, and no gains or losses are recognized.

For interest rate swap contracts which satisfy the required condition under the related Japanese accounting standards, the hedged foreign currency assets and liabilities are translated at the contract rates, no gains or losses on the translation are recognized, and the differentials paid or received on interest rates under swap contracts are recognized and included in the interest income or expenses.

For interest rate and currency swap contracts which satisfy the required condition under the related Japanese accounting

standards, the hedged foreign currency assets and liabilities are translated at the contract rates, no gains or losses on the translation are recognized, and the differentials paid or received on interest rates under swap contracts are recognized and included in the interest income or expenses.

Hedging instruments and hedged items are as follows:

Hedging instruments:	Hedged items:
Forward foreign exchange contracts	Foreign currency-denominated receivables and payables
Interest rate swap contracts	Interest on bank loans
Interest rate and currency swap contracts	Foreign currency-denominated loans and interest thereof

Hedging policy:

Forward foreign exchange contracts aim to hedge foreign exchange fluctuation risk and fix cash flows associated with collection of and payment for foreign currency-denominated receivables and payables.

Interest rate swap contracts aim to hedge interest rate fluctuation risk associated with bank loans.

Interest rate and currency swap contracts aim to hedge foreign exchange fluctuation risk and interest rate fluctuation risk associated with foreign currency-denominated bank loans.

Assessment of hedge effectiveness:

With respect to forward foreign exchange contracts, assessment of hedge effectiveness is omitted since significant conditions concerning hedging instruments and hedged items are identical, and it is assumed in advance that those contracts will offset market fluctuations or cash flow fluctuations upon and continuously after the beginning of the hedge.

With respect to interest rate swap contracts, assessment of hedge effectiveness is omitted since they meet the requirements for special hedge accounting treatments.

With respect to interest rate and currency swap contracts, assessment of hedge effectiveness is omitted since they meet the requirements for applicable special accounting treatments as mentioned above.

(e) Property, Plant and Equipment (except for leased assets)

Property, plant and equipment of the Company and its domestic consolidated subsidiaries are depreciated using the straight-line method.

The range of useful lives is principally from 5 to 50 years for buildings and structures and from 4 to 12 years for machinery, equipment and vehicles.

Normal repairs and maintenance, including minor renewals and improvements, are charged to income as incurred.

(f) Intangibles

Intangible assets are amortized using the straight-line method.

Software for internal use by the Company and domestic consolidated subsidiaries is amortized on a straight-line basis

over a period of five years, the estimated useful life of the software.

(g) Lease

Leased assets under finance lease arrangements that do not transfer ownership are depreciated using the straight-line method over the lease term as the useful life, with the residual value deemed to be zero.

(h) Allowance for Doubtful Receivables

Allowance for doubtful receivables is stated in amounts considered to be appropriate based on the Group's past credit loss experience and an evaluation of potential losses in the receivables outstanding.

(i) Accrued Bonuses to Employees

Accrued bonuses to employees are stated at an estimated amount to be paid in the following year based on the employees' compensation in the current year.

(j) Reserve for Directors' and Corporate Auditors' Retirement Benefits

Reserve for directors' and corporate auditors' retirement benefits represents the liability at the amount that would be required if all eligible directors and corporate auditors retired at each balance sheet date.

(k) Reserve for Product Warranty

Reserve for product warranty is stated at amount based on the Group's past experience in order to cover possible warranty liabilities.

(l) Accounting for Employees' Retirement Benefits

- Methods to determine the estimated retirement benefits to be attributed to the reporting period
The benefit formula is employed for the method of determining the estimated retirement obligation to be attributed to the reporting period.
- Amortization of actuarial gains/losses and prior service cost
Prior service cost is amortized pro rata in the years from the fiscal year when incurred by the straight-line method, based on the average remaining service years (15 years) of the employees.
Actuarial gains/losses are amortized pro rata in the years from the following fiscal year when incurred by the straight-line method, based on the average remaining service years (from 5 to 18 years) of the employees.
Unrecognized actuarial gains/losses and unrecognized prior service cost, after adjustment for tax effect, are recorded as remeasurements of defined benefit plans under the accumulated other comprehensive income in the net assets.
- Application of the simplified method for small businesses
For certain consolidated subsidiaries, a simplified method is

applied for the calculation of retirement benefit obligations and retirement benefit expenses whereby the necessary retirement benefit provisions for voluntary resignations at the end of the consolidated fiscal year are recorded as retirement benefit obligations.

(m) Foreign Currency Translation

All monetary assets and liabilities denominated in foreign currencies, whether long-term or short-term, are translated into Japanese yen at exchange rates prevailing at the balance sheet date. Gains and losses from translation are recognized in the consolidated statements of income to the extent that they are not hedged by forward foreign exchange contracts.

(n) Consumption Taxes

Japanese consumption taxes are levied at the flat rate of eight percent on all domestic consumption of goods and services, with certain exemptions. The consumption taxes received by the Company and domestic subsidiaries on sales are excluded from net sales, but are recorded as a liability. The consumption taxes paid by the Company and domestic subsidiaries on purchases of goods and services are excluded from costs or expenses, but are recorded as an asset. The net balance of liability after offsetting against assets is included in "Other current liabilities" in the consolidated balance sheets.

(o) Income Taxes

Japanese income taxes consist of corporate income taxes, local inhabitants' taxes and enterprise taxes.

Provision for income taxes is computed based on the pretax income included in the consolidated statements of income. The asset and liability approach is used to recognize deferred tax assets and liabilities for expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities. Deferred taxes are determined by applying currently enacted tax laws to the temporary differences.

(p) Cash and Cash Equivalents

Cash and cash equivalents are composed of cash on hand, bank deposits that can be withdrawn on demand and short-term investments with original maturity of three months or less and which carry a minor risk of fluctuations in value.

(q) Per Share Information

Net assets per share is computed by dividing net assets except minority interests at the year-end by the number of common stock outstanding at the year-end.

Net income per share is computed by dividing net income attributable to common shareholders by the weighted-average number of common shares outstanding for the period.

Diluted net income per share reflects the potential dilution that could occur if securities were exercised or converted into common stock. Diluted net income per share of common stock

assumes full conversion of the outstanding convertible notes and bonds at the beginning of the year (or at the time of issuance) with an applicable adjustment for related interest expense, net of tax, and full exercise of outstanding warrants.

(r) New Accounting Standards Issued, But Not Yet Applied Implementation Guidance on Tax Effect Accounting and Implementation Guidance on Recoverability of Deferred Tax Assets

On February 16, 2018, the ASBJ issued "Implementation Guidance on Tax Effect Accounting" (ASBJ Guidance No. 28) and "Implementation Guidance on Recoverability of Deferred Tax Assets" (revised 2018) (ASBJ Guidance No. 26).

(1) Overview

The accounting treatment for taxable temporary differences related to investments in subsidiaries when an entity prepares separate financial statements was modified. In addition, the accounting treatment related to the recoverability of deferred tax assets in entities that qualify as Category 1 was clarified.

(2) Scheduled date of adoption

The Company expects to adopt the implementation guidance from the beginning of the fiscal year ending December 31, 2019.

(3) Impact of the adoption of implementation guidance

The Company is currently evaluating the effect of the adoption of this implementation guidance on its consolidated financial statements.

Accounting Standard and Implementation Guidance on Revenue Recognition

On March 30, 2018, the ASBJ issued "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29) and "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No. 30).

(1) Overview

This is a comprehensive accounting standard for revenue recognition. Specifically, the accounting standard establishes the following five-step model that will apply to revenue from customers:

1. Identify the contract(s) with a customer
2. Identify the performance obligations in the contract
3. Determine the transaction price
4. Allocate the transaction price to the performance obligations in the contract
5. Recognize revenue when (or as) the entity satisfies a performance obligation

(2) Scheduled date of adoption

The Company expects to adopt the accounting standard and implementation guidance from the beginning of the fiscal year ending December 31, 2022.

(3) Impact of the adoption of accounting standard and implementation guidance

The Company is currently evaluating the effect of the adoption of this accounting standard and implementation guidance on its consolidated financial statements.

3. Notes Receivable

December 31 fell on a bank holiday in 2018 and 2017. The following notes receivable matured on that date were accounted for as if they were settled on that date:

	Millions of yen		U.S. dollars
	2018	2017	2018
Notes receivable (including electronically recorded receivables)	¥3,396	¥2,087	\$30,951

4. Inventories

Inventories as of December 31, 2018 and 2017, comprised the following:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Merchandise and finished goods	¥18,625	¥14,357	\$169,750
Work in process	10,815	10,104	98,569
Raw materials and supplies	20,624	19,340	187,969
Total	¥50,065	¥43,802	\$456,297

5. Long-lived Assets

No impairment loss was recognized for the year ended December 31, 2018.

For the nine months ended December 31, 2017, the Group recognized an impairment loss on the following asset group:

Location	Use	Type	Millions of yen
Hamamatsu, Shizuoka	Assets planned to be disposed of	Land	¥54

In assessing whether there is an impairment of long-lived assets, assets are grouped basically based on managerial accounting units. Among rental properties, idle assets and those properties which the Board of Directors made a decision to dispose of, significant assets planned to be disposed of are treated as an individual grouping by item.

For the asset group planned to be disposed of, the Company wrote down the book value to the recoverable amount, and such amount was recognized as an impairment loss. The recoverable amount of the applicable asset group is measured at net selling value and assessed by the estimated sales value.

6. Investments in Securities

As of December 31, 2018 and 2017, available-for-sale securities with available fair value were as follows:

	Millions of yen		
	2018		
	Carrying amount	Acquisition cost	Net unrealized gain (loss)
Carrying amount (fair value) exceeds acquisition cost: Equity securities	¥2,732	¥ 986	¥1,745
Carrying amount (fair value) does not exceed acquisition cost: Equity securities	302	503	(200)
Total	¥3,034	¥1,489	¥1,544

Millions of yen			
2017			
	Carrying amount	Acquisition cost	Net unrealized gain (loss)
Carrying amount (fair value) exceeds acquisition cost: Equity securities	¥5,467	¥1,461	¥4,005
Carrying amount (fair value) does not exceed acquisition cost: Equity securities	12	12	(0)
Total	¥5,480	¥1,474	¥4,005

Thousands of U.S. dollars			
2018			
	Carrying amount	Acquisition cost	Net unrealized gain (loss)
Carrying amount (fair value) exceeds acquisition cost: Equity securities	\$24,899	\$ 8,986	\$15,904
Carrying amount (fair value) does not exceed acquisition cost: Equity securities	2,752	4,584	(1,822)
Total	\$27,652	\$13,570	\$14,072

As of December 31, 2018 and 2017, available-for-sale securities whose fair value is not reliably determinable were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Available-for-sale securities:			
Unlisted equity securities	¥205	¥193	\$1,868
Investments in investment business limited partnerships	599	413	5,459

These unlisted equity securities and investments in investment business limited partnerships are not included in "Available-for-sale securities" in the above table.

"Acquisition cost" in the above table refers to the cost after deducting impairment losses. No impairment losses on available-for-sale securities value were recognized during the year ended December 31, 2018, and the nine months ended December 31, 2017.

When the fair value of each issue of securities declined more than 50% of the acquisition cost, impairment losses would be

recognized. When the fair value declined between 30% and 50% of the acquisition cost, whether the impairment losses should be recognized or not is determined by considering the financial positions as of the latest fiscal year end and operating results for the past two fiscal years and comparing the average month-end closing market price during the past 24 months with the acquisition cost by each issue.

There were no available-for-sale securities sold during the year ended December 31, 2018, and the nine months ended December 31, 2017.

7. Long-term Debt

Long-term debt as of December 31, 2018 and 2017, consisted of the following:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Bank loans -0.177% due in 2026	¥ 27,480	¥ 29,665	\$ 250,455
Corporate bonds issued by the Company:			
0.850% unsecured straight bonds due in 2018	—	10,000	—
0.430% unsecured straight bonds due in 2018	—	10,000	—
0.660% unsecured straight bonds due in 2020	10,000	10,000	91,141
0.296% unsecured straight bonds due in 2020	10,000	10,000	91,141
0.140% unsecured straight bonds due in 2023	10,000	—	91,141
0.270% unsecured straight bonds due in 2025	10,000	—	91,141
	¥ 67,480	¥ 69,665	\$ 615,020
Current portion	(12,185)	(22,185)	(111,055)
Long-term debt, less current portion	¥ 55,295	¥ 47,480	\$ 503,964

Annual maturities of long-term debt as of December 31, 2018, are as follows:

Millions of yen						
2018						
	Due within 1 year	Due after 1 to 2 years	Due after 2 to 3 years	Due after 3 to 4 years	Due after 4 to 5 years	Due after 5 years
Bonds	¥ —	¥20,000	¥ —	¥ —	¥10,000	¥10,000
Bank loans	12,185	2,185	2,185	2,185	2,185	6,555
Total	¥12,185	¥22,185	¥2,185	¥2,185	¥12,185	¥16,555

Thousands of U.S. dollars						
2018						
	Due within 1 year	Due after 1 to 2 years	Due after 2 to 3 years	Due after 3 to 4 years	Due after 4 to 5 years	Due after 5 years
Bonds	\$ —	\$182,282	\$ —	\$ —	\$ 91,141	\$ 91,141
Bank loans	111,055	19,914	19,914	19,914	19,914	59,742
Total	\$111,055	\$202,196	\$19,914	\$19,914	\$111,055	\$150,884

8. Employees' Retirement Benefits

1. Outline of the retirement benefit plans adopted

The Company and consolidated subsidiaries adopt contributory and non-contributory defined benefit plans and defined contribution plans.

Under the defined benefit corporate pension plans (all of which are contributory), lump-sum severance benefits or pensions based on salaries and service years are provided.

Under lump-sum payment plans (all of which are non-contributory), lump-sum payments based on salaries and service years are provided.

Under some defined benefit corporate pension plans and lump-sum payment plans of certain consolidated subsidiaries, net defined benefit liability and retirement benefit expenses are calculated using a simplified method.

2. Defined Benefit Plans

(1) The changes in projected benefit obligations for the year ended December 31, 2018, and the nine months ended December 31, 2017, were as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Beginning balance of projected benefit obligation	¥26,624	¥24,842	\$242,654
Service cost	1,213	962	11,055
Interest cost	358	287	3,262
Actuarial differences	(360)	524	(3,281)
Prior service cost	249	—	2,269
Retirement benefits paid	(591)	(420)	(5,386)
Other	(763)	427	(6,954)
Ending balance of projected benefit obligations	¥26,729	¥26,624	\$243,611

(2) The changes in plan assets for the year ended December 31, 2018, and the nine months ended December 31, 2017, were as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Beginning balance of plan assets	¥21,530	¥19,126	\$196,226
Expected return on plan assets	672	578	6,124
Actuarial differences	(1,471)	801	(13,406)
Contribution from the employer	857	627	7,810
Retirement benefits paid	(434)	(315)	(3,955)
Impact from foreign exchanges	(763)	712	(6,954)
Ending balance of plan assets	¥20,390	¥21,530	\$185,836

(3) Reconciliation between the ending balances of defined benefit obligations and plan assets and net defined benefit liability recorded in the consolidated balance sheet

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Contributory defined benefit obligations	¥ 24,406	¥ 25,414	\$ 222,438
Plan assets	(20,390)	(21,530)	(185,836)
	4,016	3,883	36,602
Non-contributory defined benefit obligations	2,323	1,210	21,172
Net liability recorded in the consolidated balance sheet	¥ 6,339	¥ 5,094	\$ 57,774
Net defined benefit liability	7,908	7,389	72,074
Net defined benefit asset	(1,569)	(2,295)	(14,300)
Net liability recorded in the consolidated balance sheet	¥ 6,339	¥ 5,094	\$ 57,774

(4) The components of retirement benefit expenses for the year ended December 31, 2018, and the nine months ended December 31, 2017, were as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Service cost	¥1,213	¥ 962	\$11,055
Interest cost	358	287	3,262
Expected return on plan assets	(672)	(578)	(6,124)
Amortization of actuarial differences	48	93	437
Amortization of prior service costs	164	103	1,494
Retirement benefit expenses on defined benefit plans	¥1,113	¥ 868	\$10,144

(5) Remeasurements of defined benefit plans

The components of remeasurements of defined benefit plans (before tax effect) on "Other comprehensive income" were as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Actuarial differences	¥(1,062)	¥369	\$ (9,679)
Prior service cost	(84)	103	(765)
Total	¥(1,147)	¥473	\$ (10,453)

(6) Remeasurements of defined benefit plans

The components of remeasurements of defined benefit plans (before tax effect) on "Accumulated other comprehensive income" were as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Unrecognized actuarial differences	¥1,245	¥ (40)	\$11,347
Unrecognized prior service costs	1,072	1,211	9,770
Total	¥2,318	¥1,170	\$21,126

Note: Above amounts are related to the Company and consolidated subsidiaries, and remeasurements of defined benefit plans on "Accumulated other comprehensive income" include unrecognized items (corresponding to the equity) of affiliates accounted for using the equity method.

(7) Plan assets

a. Components of plan assets

Plan assets consisted of the following:

	2018	2017
Debt securities	39%	36%
Equity securities	33%	44%
General account	21%	19%
Other	7%	1%
Total	100%	100%

b. Method of determining the long-term expected rate of return on plan assets

The long-term expected rate of return on plan assets is determined considering allocation of plan assets which are expected currently and in the future and the long-term rates of return which are expected currently and in the future from the various components of the plan assets.

(8) Main actuarial assumptions used for the year ended December 31, 2018, and the nine months ended December 31, 2017, were set forth as follows:

	Year ended December 31, 2018	Nine months ended December 31, 2017
Discount rate	0.5%	0.5%
Long-term expected rate of return	2.0%	2.0%

3. Defined Contribution Plans

The amounts of the required contribution to the defined contribution plans of the Company and its consolidated subsidiaries were ¥570 million (\$5,195 thousand) and ¥323 million for the year ended December 31, 2018, and the nine months ended December 31, 2017, respectively.

9. Committed Line of Credit

As of December 31, 2018 and 2017, the Group had committed lines of credit amounting to ¥30,000 million (\$273,423 thousand) and ¥15,000, respectively. None of the committed lines of credit were used.

10. Contingent Liabilities

As of December 31, 2018 and 2017, the Group had no material contingent liabilities.

11. Net Assets

The Companies Act of Japan (the "Act") requires that at least 50% of the paid-in capital of new share issues be transferred to the "Common stock" account and the amount not exceeding 50% of the paid-in capital be included in capital surplus as "Additional paid-in capital."

Under the Act, companies can pay dividends at any time during the fiscal year in addition to the year-end dividend upon resolution at the shareholders' meeting. Interim dividends may be paid at any time during the fiscal year upon resolution by the Board of Directors if the company has prescribed so in its articles of incorporation.

The Act provides certain limitations on the amounts available for dividends or the purchase of treasury stock. The limitation is defined as the amount available for distribution to the share-

holders, but the amount of net assets after dividends must be maintained at no less than ¥3 million.

The Act requires that an amount equal to 10% of dividends must be appropriated as a legal reserve or as additional paid-in capital depending on the equity account charged upon the payment of such dividends until the aggregate amount of legal reserve and additional paid-in capital equals 25% of the common stock. Under the Act, the total amount of additional paid-in capital and legal reserve may be reversed without limitation. The Act also provides that common stock, legal reserve, additional paid-in capital, other capital surplus and retained earnings can be transferred among the accounts under certain conditions upon resolution of the shareholders.

The changes in the number of issued shares of common stock and treasury stock during the year ended December 31, 2018, and the nine months ended December 31, 2017, were as follows:

	Number of shares			
	January 1, 2018	Increase	Decrease	December 31, 2018
Outstanding shares issued:				
Common stock	133,856,903	—	—	133,856,903
Treasury stock:				
Common stock	7,287,650	1,196	—	7,288,846

An increase of 1,196 shares in treasury stock is due to acquisition of less than one share unit.

The treasury stock in the above table includes treasury stock (shares issued by the Company) acquired by an affiliate accounted for using the equity method which is attributed to the Company.

	Number of shares			
	April 1, 2017	Increase	Decrease	December 31, 2017
Outstanding shares issued:				
Common stock	133,856,903	—	—	133,856,903
Treasury stock:				
Common stock	7,285,746	1,904	—	7,287,650

An increase of 1,904 shares in treasury stock is due to acquisition of less than one share unit.

The treasury stock in the above table includes treasury stock (shares issued by the Company) acquired by an affiliate accounted for using the equity method which is attributed to the Company.

Year ended December 31, 2018

The following cash dividend payments were approved during the fiscal year:

General shareholders' meeting held on March 17, 2018:

	Total amount	Per share amount	Dividend record date	Effective date
	Millions of yen (Thousands of U.S. dollars)	Yen (U.S. dollar)		
Common stock	¥3,290 million (\$29,985 thousand)	¥26.00 (\$0.23)	Dec. 31, 2017	Mar. 19, 2018

Board of Directors meeting held on August 9, 2018:

	Total amount	Per share amount	Dividend record date	Effective date
	Millions of yen (Thousands of U.S. dollars)	Yen (U.S. dollar)		
Common stock	¥5,948 million (\$54,210 thousand)	¥47.00 (\$0.42)	June 30, 2018	Sept. 10, 2018

Nine months ended December 31, 2017

The following cash dividend payments were approved during the fiscal year:

General shareholders' meeting held on June 17, 2017:

	Total amount	Per share amount	Dividend record date	Effective date
	Millions of yen	Yen		
Common stock	¥3,164 million	¥25.00	Mar. 31, 2017	June 19, 2017

Board of Directors meeting held on November 13, 2017:

	Total amount	Per share amount	Dividend record date	Effective date
	Millions of yen	Yen		
Common stock	¥4,556 million	¥36.00	Sept. 30, 2017	Dec. 5, 2017

12. Amortization of Goodwill

Amortization of goodwill included in selling, general and administrative expenses for the year ended December 31, 2018, and the nine months ended December 31, 2017, were ¥887 million (\$8,084 thousand) and ¥854 million, respectively.

13. Research and Development

Research and development expenses included in cost of sales or selling, general and administrative expenses for the year ended December 31, 2018, and the nine months ended December 31, 2017, were ¥5,718 million (\$52,114 thousand) and ¥4,415 million, respectively.

14. Loss on Sales and Disposal of Property, Plant, Equipment and Intangibles, Net

Breakdown of "Loss on sales and disposal of property, plant, equipment and intangibles, net" for the year ended December 31, 2018, and the nine months ended December 31, 2017, was as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Gain on sales of property, plant, equipment and intangibles:			
Buildings and structures	¥ 10	¥ —	\$ 91
Machinery, equipment and vehicles	70	18	637
Land	6	—	54
Other (property, plant and equipment)	1	2	9
Other (intangibles)	0	—	0
Total	¥ 88	¥ 20	\$ 802
Loss on sales of property, plant and equipment:			
Buildings and structures	¥ 19	¥ —	\$ 173
Machinery, equipment and vehicles	10	14	91
Other (property, plant and equipment)	1	0	9
Total	¥ 31	¥ 14	\$ 282
Loss on disposal of property, plant, equipment and intangibles:			
Buildings and structures	¥ 12	¥ 12	\$ 109
Machinery, equipment and vehicles	126	100	1,148
Construction in progress	137	1	1,248
Other (property, plant and equipment)	8	12	72
Other (intangibles)	—	1	—
Total	¥285	¥128	\$2,597
Total, net loss	¥228	¥123	\$2,078

15. Lease

a. Finance leases

The Group mainly leases computer machines and peripheral devices (tools, furniture and fixtures) used at the head office and other locations.

Leased assets under finance lease arrangements are depreciated using the straight-line method over the lease term as useful life, with the residual value deemed to be zero.

b. Operating leases

Lease commitments under non-cancelable operating leases as of December 31, 2018 and 2017, were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Due within one year	¥ 409	¥ 457	\$ 3,727
Due after one year	692	649	6,306
Total	¥1,101	¥1,107	\$10,034

16. Income Taxes

The Company and its domestic subsidiaries are subject to Japanese national and local income taxes which, in the aggregate, resulted in a normal effective statutory tax rate of approximately 30.9% for the year ended December 31, 2018, and the nine months ended December 31, 2017.

As of December 31, 2018 and 2017, significant components of deferred tax assets and liabilities were as follows:

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Deferred tax assets:			
Net defined benefit liability	¥ 1,840	¥ 1,677	\$ 16,769
Unrealized gain on intercompany sales of inventories	1,420	1,007	12,942
Accrued bonuses to employees	1,039	775	9,469
Valuation loss of investments in affiliates	900	900	8,202
Tax loss carried forward	819	962	7,464
Loss on devaluation of inventories	697	638	6,352
Enterprise tax payable	668	111	6,088
Unrealized gain on intercompany sales of property, plant and equipment	510	479	4,648
Accumulated depreciation	410	296	3,736
Accrued expenses	267	344	2,433
Retirement benefits payable to directors and corporate auditors	266	259	2,424
Loss on devaluation of investments in securities	62	59	565
Impairment loss	40	109	364
Allowance for doubtful receivables	39	42	355
Other	614	588	5,596
Total	9,598	8,254	87,477
Less: valuation allowance	(3,317)	(3,158)	(30,231)
Total deferred tax assets	6,280	5,095	57,236

	Millions of yen		Thousands of U.S. dollars
	2018	2017	2018
Deferred tax liabilities:			
Depreciation	(1,776)	(1,318)	(16,186)
Adjustment to book value of a subsidiary due to fair value measurement at the inception of consolidation	(1,712)	(1,989)	(15,603)
Unrealized gains on available-for-sale securities	(1,677)	(2,399)	(15,284)
Unrealized gains on land revaluation	(1,175)	(1,179)	(10,709)
Special depreciation reserve for tax purpose	(2)	(6)	(18)
Other	(419)	(245)	(3,818)
Total deferred tax liabilities	(6,765)	(7,139)	(61,656)
Net deferred tax (liabilities) assets	¥ (484)	¥(2,043)	\$ (4,411)

A reconciliation between the normal effective statutory tax rate and the actual effective tax rate reflected in the accompanying consolidated statements of income for the year ended December 31, 2018, is omitted since the difference is less than 5% of the normal effective statutory tax rate.

A reconciliation between the normal effective statutory tax rate and the actual effective tax rate reflected in the accompanying consolidated statements of income for the nine months ended December 31, 2017, was as follows:

	Nine months ended December 31, 2017
Normal effective statutory tax rate	30.9%
Non-deductible items such as entertainment expenses	0.7
Non-taxable items such as dividends received	(0.9)
Amortization of goodwill	0.8
Equity in earnings of affiliates	(0.9)
Inhabitant per capita tax	0.2
Statutory tax rate difference between parent and subsidiaries	(1.5)
Difference from effective tax rate applied	(0.1)
Tax credit for research and development	(1.8)
Special tax incentives	(0.9)
Valuation allowance	(21.1)
Investments in consolidated subsidiaries	0.8
Consolidation adjustment of gain on sales of shares in affiliates	9.8
Other	(0.2)
Actual effective tax rate	15.8%

17. Other Comprehensive (Loss) Income

The components of other comprehensive (loss) income for the year ended December 31, 2018, and the nine months ended December 31, 2017, were as follows:

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Net unrealized (loss) gain on available-for-sale securities:			
(Loss) gain recognized during the year	¥ (2,474)	¥1,788	\$ (22,548)
Reclassification adjustment to net income	17	—	154
Amount before tax effect	(2,457)	1,788	(22,393)
Tax effect	722	(533)	6,580
Net unrealized (loss) gain on available-for-sale securities	(1,734)	1,255	(15,803)
Foreign currency translation adjustments:			
(Loss) gain recognized during the year	(11,376)	6,469	(103,682)
Reclassification adjustment to net income	—	—	—
Amount before tax effect	(11,376)	6,469	(103,682)
Tax effect	—	—	—
Foreign currency translation adjustments	(11,376)	6,469	(103,682)
Remeasurements of defined benefit plans			
(Loss) gain recognized during the year	(1,360)	285	(12,395)
Reclassification adjustment to net income	212	188	1,932
Amount before tax effect	(1,147)	473	(10,453)
Tax effect	212	(245)	1,932
Remeasurements of defined benefit plans	(935)	227	(8,521)
Share of other comprehensive income of an affiliate accounted for under the equity method:			
Income recognized during the year	284	317	2,588
Reclassification adjustment to net income	—	—	—
Share of other comprehensive income of an affiliate accounted for under the equity method	284	317	2,588
Total other comprehensive (loss) income	¥(13,762)	¥8,270	\$(125,428)

18. Per Share Information

Per share information as of and for the year ended December 31, 2018, and the nine months ended December 31, 2017, is as follows:

	Yen		U.S. dollars
	As of December 31, 2018, or for the year then ended	As of December 31, 2017, or for the nine months then ended	As of December 31, 2018, or for the year then ended
Net income – basic	¥ 279.70	¥ 203.28	\$ 2.54
Net assets	2,240.74	2,140.71	20.42

Diluted net income per share for the year ended December 31, 2018, and the nine months ended December 31, 2017, is not presented since the Company did not have any kind of securities with potential dilutive effect in the fiscal years.

19. Financial Instruments and Related Disclosures

(1) Policy for financial instruments

The Group's use of its surplus funds is limited to short-term deposits and other low-risk financial assets. As to raising funds, the Group finances by issuing bonds and bank loans in accordance with business plans. The Group does not hold or issue derivative financial instruments for speculative purposes.

(2) Nature and risks of financial instruments

Notes and accounts receivable are subject to credit risks of customers. Receivables denominated in foreign currencies arising from the Group's global business are subject to foreign exchange risks. The Group controls these risks by utilizing forward foreign exchange contracts applicable to net amounts of receivables and payables denominated in foreign currencies.

Most investment securities consist of equity securities and are subject to market value volatility risks.

Most of notes and accounts payable are due within a year.

Bonds and bank loans are financed for working capital or capital investment use and other investments for which the maximum redemption/repayment period is seven years and three months. Long-term debt is exposed to interest rate fluctuation risk and foreign exchange fluctuation risk, but with respect to certain long-term debt, the principal and interest are hedged by derivatives (interest rate swaps and interest rate and currency swap contracts).

The Group utilizes forward foreign exchange contracts to manage foreign exchange fluctuation risk associated with foreign currency-denominated trade receivables and payables, interest rate swap contracts to manage interest rate fluctuation risk associated with long-term debt and interest rate and currency swap contracts to manage foreign exchange fluctuation risk and interest rate fluctuation risk associated with foreign currency-denominated bank loans within the extent of actual demand. With respect to hedging instruments and hedged items, hedging policy and assessment method of hedge effectiveness concerning hedge accounting, please see Note 2 (d).

(3) Risk management

(a) Credit risks—The Company controls customers' credit risks in accordance with internal rules for controlling receivables. Appropriate departments of the Company monitor major customers' financial conditions to promptly obtain information about possible bad debts. Because the counterparties of derivatives are limited to major international financial institutions, the Company does not anticipate any losses arising from credit risk.

(b) Market risks—The Company utilizes forward foreign exchange contracts to manage foreign exchange fluctuation risk identified by currency associated with foreign currency-denominated trade receivables and payables. The Company also utilizes interest rate swap contracts to manage interest rate risks associated with bank loans and interest rate and currency swap contracts to manage foreign exchange fluctuation risk and interest rate fluctuation risk associated with foreign currency-denominated bank loans. As to investments in securities, fair value and financial condition of investees are periodically reviewed. Derivative transactions are executed and controlled by the Corporate Strategy Division. The general manager of the Corporate Strategy Division reports results and conditions of derivative transactions at the Board of Director's meetings on a monthly basis.

(c) Liquidity risks—Each company of the Group prepares and updates cash-flow plans and maintains appropriate amounts of ready liquidity.

(4) Supplementary explanation about matters concerning fair values of financial instruments

Fair values of financial instruments are based on quoted prices in active markets. If a quoted price is not available, other rational valuation techniques are used instead. Because such valuation techniques include certain assumptions, results may differ if different assumptions are used in the valuation. The contract amounts for derivatives listed in Note 19 do not represent the volume of underlying market risks of the derivative transactions.

Financial instruments whose fair value is readily determinable as of December 31, 2018 and 2017, are as follows:

Millions of yen			
2018			
	Carrying amount	Fair value	Difference
Assets:			
(1) Cash and cash equivalents	¥134,513	¥134,513	¥ —
(2) Trade accounts and notes receivable	92,695	92,695	—
(3) Investments in securities			
Available-for-sale securities	3,034	3,034	—
Total	¥230,243	¥230,243	¥ —
Liabilities:			
(4) Trade accounts and notes payable	¥ 49,022	¥ 49,022	¥ —
(5) Long-term debt—Bonds and bank loans, including current portion	67,480	67,688	208
Total	¥116,504	¥116,712	¥208
Derivatives:			
Derivatives to which hedge accounting is not applied*	¥ (114)	¥ (114)	¥ —
Derivatives to which hedge accounting is applied	—	—	—
Total	¥ (114)	¥ (114)	¥ —

Millions of yen			
2017			
	Carrying amount	Fair value	Difference
Assets:			
(1) Cash and cash equivalents	¥129,920	¥129,920	¥ —
(2) Trade accounts and notes receivable	87,058	87,058	—
(3) Investments in securities			
Available-for-sale securities	5,480	5,480	—
Total	¥222,459	¥222,459	¥ —
Liabilities:			
(4) Trade accounts and notes payable	¥ 46,253	¥ 46,253	¥ —
(5) Long-term debt—Bonds and bank loans, including current portion	69,665	69,984	319
Total	¥115,919	¥116,238	¥319
Derivatives			
	¥ —	¥ —	¥ —

Thousands of U.S. dollars			
2018			
	Carrying amount	Fair value	Difference
Assets:			
(1) Cash and cash equivalents	\$1,225,966	\$1,225,966	\$ —
(2) Trade accounts and notes receivable	844,832	844,832	—
(3) Investments in securities			
Available-for-sale securities	27,652	27,652	—
Total	\$2,098,459	\$2,098,459	\$ —
Liabilities:			
(4) Trade accounts and notes payable	\$ 446,791	\$ 446,791	\$ —
(5) Long-term debt—Bonds and bank loans, including current portion	615,020	616,915	1,895
Total	\$1,061,830	\$1,063,725	\$1,895
Derivatives:			
Derivatives to which hedge accounting is not applied*	\$ (1,039)	\$ (1,039)	\$ —
Derivatives to which hedge accounting is applied	—	—	—
Total	\$ (1,039)	\$ (1,039)	\$ —

*Net receivables and payables arising from derivative transactions are presented in net amounts and net payables in total are shown in parentheses.

Note:

Assets:

(1) and (2) — As these items are settled within a year and have fair values approximately equal to their carrying amounts, they are stated at the carrying amounts.

(3) — Fair value of equity securities is stated at quoted market price. Fair value information of investment securities is discussed in Note 6.

Liabilities:

(4) — As these items are settled within a year and have fair values approximately equal to their carrying amounts, they are stated at the carrying amounts.

(5) — Fair value of bonds is stated at present value of a total amount of its principal and interest discounted by a rate determined considering its remaining periods and credit risks. Bank loans are payable with variable interest rates. Fair value of bank loans is stated at carrying amount because fair value of such bank loans is considered approximately equal to its carrying amount based on the following assumptions: (a) variable interest rates reflect the current market rate, and (b) the Company's credit status has not significantly changed after the issuance.

Derivatives — Details and information are discussed in Note 20.

Financial instruments which do not have quoted market prices and whose fair value is not reliably determinable are not included in the table above. Such financial instruments as of December 31, 2018 and 2017, are as follows:

Millions of yen		Thousands of U.S. dollars
2018	2017	2018
Unlisted equity securities	¥205	\$1,868
Investments in investment business limited partnerships	599	5,459

Detailed information about investments in securities is discussed in Note 6.

Maturity analysis for financial assets as of December 31, 2018, is as follows:

Millions of yen		
2018		
	Due within one year	Due after one year
(1) Cash and cash equivalents	¥134,513	—
(2) Trade accounts and notes receivable	92,695	—
Total	¥227,209	—

Thousands of U.S. dollars		
2018		
	Due within one year	Due after one year
(1) Cash and cash equivalents	\$1,225,966	—
(2) Trade accounts and notes receivable	844,832	—
Total	\$2,070,807	—

Maturities of long-term debt as of December 31, 2018, are disclosed in Note 7.

20. Derivatives and Hedging Activities

Derivatives to which hedge accounting is not applied:

The following derivatives are measured at fair value as of December 31, 2018:

Millions of yen				
2018				
	Contract Amount		Fair value	Revaluation gains (losses)
	Within one year	Over one year		
Non-market transactions:				
Forward foreign exchange contracts: Sold USD	¥ 480	¥—	¥ 6	¥ 6
Forward foreign exchange contracts: Sold EUR	350	—	7	7
Forward foreign exchange contracts: Sold CNY	123	—	(0)	(0)
Forward foreign exchange contracts: Bought CAD	4,525	—	(128)	(128)
Total	¥5,480	¥—	¥(114)	¥(114)

Thousands of U.S. dollars				
2018				
	Contract Amount		Fair value	Revaluation gains (losses)
	Within one year	Over one year		
Non-market transactions:				
Forward foreign exchange contracts: Sold USD	\$ 4,374	\$—	\$ 54	\$ 54
Forward foreign exchange contracts: Sold EUR	3,189	—	63	63
Forward foreign exchange contracts: Sold CNY	1,121	—	(0)	(0)
Forward foreign exchange contracts: Bought CAD	41,241	—	(1,166)	(1,166)
Total	\$49,945	\$—	\$(1,039)	\$(1,039)

Fair value of derivative instruments in the table above is stated at the amount obtained from financial institutions, the counterparties of the contracts.

There were no derivatives to which hedge accounting is not applied as of December 31, 2017.

Derivatives to which hedge accounting is applied:

The Group utilizes interest rate swap agreements to hedge interest rate risks associated with its bank loans and interest rate and currency swap contracts to hedge foreign exchange risk and interest rate risks associated with its foreign currency-denominated bank loans. The Group's interest rate swaps and interest rate and currency swap contracts qualify for hedge accounting and meet specific matching criteria under Japanese GAAP and are not remeasured at market value, but the differentials paid or received under the swap agreements are recognized and included in interest expenses or income, and the foreign currency assets and liabilities hedged by interest rate and currency swap contracts are translated at the contract rates, and no gains or losses are recognized.

Fair value information of such derivatives as of December 31, 2018 and 2017, is as follows:

Derivatives to which hedge accounting is applied:

Millions of yen			
2018			
	Contract Amount		Fair value of derivative instruments
	Within one year	Over one year	
Interest rate and currency swaps (fixed rate payment in JPY, floating rate receipt in USD)	¥17,480	¥15,295	¥471

Millions of yen			
2017			
	Contract Amount		Fair value of derivative instruments
	Within one year	Over one year	
Interest rate and currency swaps (fixed rate payment in JPY, floating rate receipt in USD)	¥19,665	¥17,480	¥919

Thousands of U.S. dollars			
2018			
	Contract Amount		Fair value of derivative instruments
	Within one year	Over one year	
Interest rate and currency swaps (fixed rate payment in JPY, floating rate receipt in USD)	\$159,314	\$139,400	\$4,292

Fair value of interest rate and currency swaps in the table above is stated at the amount obtained from financial institutions, the counterparties of the contracts.

The above interest rate and currency swap contracts qualify for hedge accounting and meet specific matching criteria under Japanese GAAP and are not remeasured at market value, but the differentials paid or received under the swap agreements are recognized and included in interest expenses or income, and the foreign currency assets and liabilities hedged by interest rate and currency swap contracts are translated at the contract rates, and no gains or losses are recognized. Accordingly, the fair value of such interest rate and swap contracts is included in that of long-term debt as hedged items.

Millions of yen			
2018			
	Contract Amount		Fair value of derivative instruments
	Within one year	Over one year	
Interest rate swaps (fixed rate payment, floating rate receipt)	¥10,000	¥—	¥(16)

Millions of yen			
2017			
	Contract Amount		Fair value of derivative instruments
	Within one year	Over one year	
Interest rate swaps (fixed rate payment, floating rate receipt)	¥10,000	¥10,000	¥(48)

Thousands of U.S. dollars			
2018			
	Contract Amount		Fair value of derivative instruments
	Within one year	Over one year	
Interest rate swaps (fixed rate payment, floating rate receipt)	\$91,141	\$—	\$(145)

Fair value of interest rate swaps in the table above is stated at the amount obtained from financial institutions, the counterparties of the contracts.

The above interest rate swap contracts qualify for hedge accounting and meet specific matching criteria under Japanese GAAP and are not remeasured at fair value, but the differentials paid or received under the swap agreements are recognized and included in interest expense or income. Accordingly, the fair value of such interest rate swaps is included in that of the long-term debt as hedged items.

21. Asset Retirement Obligation

The Group recognizes restoration duty at the time of leaving based on the real estate rent contracts of the Company's head office, etc. as asset retirement obligation.

Regarding asset retirement obligation as of December 31, 2018 and 2017, the Company reasonably estimates the amount of security deposits related to the building rent contracts that are not expected to be ultimately collected and records the amount attributed to the current fiscal year in place of recording a liability.

22. Segment Information

The reportable segments are components of the Group for which separate financial information is available, and whose operating results are reviewed periodically by the Board of Directors to determine allocation of operating resources and evaluate their performance.

The Group's main products are machinery parts such as LM (Linear Motion) Guides and ball screws, and transportation equipment-related parts such as link balls and suspension ball joints. In each country, local subsidiaries establish their comprehensive business strategies and conduct their business activities in a similar way that the Company and domestic subsidiaries do in Japan.

Therefore, the reportable segment information consists of the five geographical segments, namely: (1) Japan, (2) the Americas (the United States and others), (3) Europe (Germany, France and others), (4) China, and (5) Other (Taiwan, Singapore and others) based on the Group's production/sales structure.

Segment income is computed based on operating income. The reportable segment information is prepared under the same accounting policies as discussed in Note 2. Inter-segment sales and transfers are stated at amounts based on their fair market values. All adjustments in the following tables are inter-segment elimination on consolidation.

Segment information of the Group as of December 31, 2018 and 2017, and for the year and the nine months then ended is as follows:

Reportable segments

Millions of yen								
As of December 31, 2018, or for the year then ended								
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Sales to customers	¥160,742	¥69,882	¥ 59,482	¥46,735	¥16,636	¥353,479	¥ —	¥353,479
Inter-segment	58,600	225	161	7,502	1,898	68,388	(68,388)	—
Total	219,343	70,107	59,644	54,238	18,534	421,868	(68,388)	353,479
Segment profit	¥ 38,460	¥ 309	¥ 74	¥ 8,194	¥ 2,384	¥ 49,424	¥ 408	¥ 49,832
Assets	¥403,943	¥70,576	¥112,749	¥64,890	¥21,176	¥673,336	¥(209,986)	¥463,350
Other items:								
Depreciation and amortization	¥ 5,480	¥ 3,082	¥ 2,629	¥ 3,406	¥ 426	¥ 15,026	¥ (63)	¥ 14,962
Amortization of goodwill	—	159	728	—	—	887	—	887
Investment in an affiliate accounted for under the equity method	5,659	—	—	—	—	5,659	—	5,659
Increase in property, plant and equipment and intangibles	17,547	3,653	3,208	5,204	3,057	32,671	459	33,131

Millions of yen								
As of December 31, 2017, or for the nine months then ended								
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Sales to customers	¥106,072	¥67,130	¥ 57,247	¥40,024	¥16,128	¥286,603	¥ —	¥286,603
Inter-segment	41,345	112	31	4,579	1,400	47,469	(47,469)	—
Total	147,418	67,242	57,278	44,604	17,528	334,072	(47,469)	286,603
Segment profit	¥ 20,248	¥ 2,738	¥ 627	¥ 3,126	¥ 2,171	¥ 28,913	¥ 365	¥ 29,279
Assets	¥371,737	¥71,002	¥117,181	¥61,486	¥17,736	¥639,142	¥(202,477)	¥436,664
Other items:								
Depreciation and amortization	¥ 3,263	¥ 3,083	¥ 2,298	¥ 3,340	¥ 428	¥ 12,415	¥ (69)	¥ 12,346
Amortization of goodwill	—	161	692	—	—	854	—	854
Investment in an affiliate accounted for under the equity method	5,123	—	—	—	—	5,123	—	5,123
Increase in property, plant and equipment and intangibles	7,220	3,251	4,288	2,889	199	17,848	80	17,928

Thousands of U.S. dollars								
As of December 31, 2018, or for the year then ended								
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Sales to customers	\$1,465,020	\$636,912	\$ 542,125	\$425,947	\$151,622	\$3,221,646	\$ —	\$3,221,646
Inter-segment	534,086	2,050	1,467	68,374	17,298	623,295	(623,295)	—
Total	1,999,115	638,962	543,601	494,331	168,920	3,844,950	(623,295)	3,221,646
Segment profit	\$ 350,528	\$ 2,816	\$ 674	\$ 74,681	\$ 21,728	\$ 450,455	\$ 3,718	\$ 454,174
Assets	\$3,681,580	\$643,237	\$1,027,606	\$591,414	\$193,000	\$6,136,857	\$(1,913,835)	\$4,223,022
Other items:								
Depreciation and amortization	\$ 49,945	\$ 28,089	\$ 23,960	\$ 31,042	\$ 3,882	\$ 136,948	\$ (574)	\$ 136,365
Amortization of goodwill	—	1,449	6,635	—	—	8,084	—	8,084
Investment in an affiliate accounted for under the equity method	51,576	—	—	—	—	51,576	—	51,576
Increase in property, plant and equipment and intangibles	159,925	33,293	29,238	47,429	27,861	297,767	4,183	301,959

Notes:

- Segmentation by country or area is determined based on geographical proximity.
- The main countries or areas which belong to the reportable segments other than Japan and China are as follows:
 - "The Americas": The United States of America and others
 - "Europe": Germany, France and others
 - "Other": Taiwan, Singapore and others
- "Adjustments" are as follows:
 - Adjustments of "Segment profit (loss)" in an amount of ¥408 million (\$3,718 thousand) for the year ended December 31, 2018, represent elimination of inter-segment transactions
 - Adjustments of "Segment profit (loss)" in an amount of ¥365 million for the nine months ended December 31, 2017, represent elimination of inter-segment transactions.
 - Adjustments of "Segment assets" in an amount of ¥209,986 million (\$1,913,835 thousand) and ¥202,477 million for the year ended December 31, 2018, and the nine months ended December 31, 2017, respectively, are all elimination of inter-segment transactions.
 - Adjustments of "Depreciation and amortization" in an amount of ¥63 million (\$574 thousand) and ¥69 million for the year ended December 31, 2018, and the nine months ended December 31, 2017, respectively, are all elimination of inter-segment transactions.
 - Adjustments of "Increase in property, plant and equipment and intangibles" in an amount of ¥459 million (\$4,183 thousand) and ¥80 million for the year ended December 31, 2018, and the nine months ended December 31, 2017, respectively, are all elimination of inter-segment transactions.
- "Segment profit (loss)" is reconciled with operating income in the consolidated statements of income.
- Effective from the previous fiscal year ended December 31, 2017, the Company and its consolidated subsidiaries with fiscal closing dates other than December 31 changed their fiscal closing dates to December 31. As a result of this change of the fiscal closing date, the previous reporting period covers the nine-month period from April 1, 2017, to December 31, 2017, for the Company and its consolidated subsidiaries whose fiscal closing dates were March 31, and the twelve-month period from January 1, 2017, to December 31, 2017, for the consolidated subsidiaries whose fiscal closing dates were December 31.

Sales by business for the year ended December 31, 2018, and the nine months ended December 31, 2017

	Millions of yen		Thousands of U.S. dollars
	Year ended December 31, 2018	Nine months ended December 31, 2017	Year ended December 31, 2018
Industrial Equipment-Related Business	¥239,943	¥175,645	\$2,186,866
Transportation Equipment-Related Business	113,535	110,957	1,034,770
Total	¥353,479	¥286,603	\$3,221,646

Sales by geographical area

	Millions of yen					
	Year ended December 31, 2018					
	Japan	The Americas	Europe	China	Other	Total
Sales to customers	¥147,949	¥70,548	¥56,980	¥49,228	¥28,772	¥353,479

	Millions of yen					
	Nine months ended December 31, 2017					
	Japan	The Americas	Europe	China	Other	Total
Sales to customers	¥99,099	¥67,194	¥54,001	¥41,410	¥24,896	¥286,603

	Thousands of U.S. dollars					
	Year ended December 31, 2018					
	Japan	The Americas	Europe	China	Other	Total
Sales to customers	\$1,348,423	\$642,982	\$519,321	\$448,669	\$262,231	\$3,221,646

Tangible fixed assets by geographical area

	Millions of yen					
	December 31, 2018					
	Japan	The Americas	Europe	China	Other	Total
Tangible fixed assets	¥61,378	¥17,987	¥17,183	¥27,688	¥5,457	¥129,695

	Millions of yen					
	December 31, 2017					
	Japan	The Americas	Europe	China	Other	Total
Tangible fixed assets	¥50,398	¥17,416	¥16,976	¥28,479	¥2,663	¥115,934

	Thousands of U.S. dollars					
	December 31, 2018					
	Japan	The Americas	Europe	China	Other	Total
Tangible fixed assets	\$559,405	\$163,935	\$156,607	\$252,351	\$49,735	\$1,182,054

Loss on impairment on property, plant and equipment by reportable segment

No loss on impairment was recognized for the year ended December 31, 2018.

	Millions of yen							
	Nine months ended December 31, 2017							
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Loss on impairment	¥54	¥—	¥—	¥—	¥—	¥54	¥—	¥54

Amortization and unamortized balance of goodwill by reportable segment

	Millions of yen							
	Year ended December 31, 2018							
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Amortization	¥—	¥ 159	¥ 728	¥—	¥—	¥ 887	¥—	¥ 887
Unamortized balance	—	1,841	8,162	—	—	10,003	—	10,003

	Millions of yen							
	Nine months ended December 31, 2017							
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Amortization	¥—	¥ 161	¥ 692	¥—	¥—	¥ 854	¥—	¥ 854
Unamortized balance	—	2,064	9,385	—	—	11,449	—	11,449

	Thousands of U.S. dollars							
	Year ended December 31, 2018							
	Japan	The Americas	Europe	China	Other	Total	Adjustments	Consolidated
Amortization	\$—	\$ 1,449	\$ 6,635	\$—	\$—	\$ 8,084	\$—	\$ 8,084
Unamortized balance	—	16,779	74,389	—	—	91,168	—	91,168

23. Subsequent Events
Appropriation of retained earnings

The following appropriation of retained earnings as of December 31, 2018, was approved at the Company's shareholders' meeting held on March 16, 2019:

	Total amount Millions of yen (Thousands of U.S. dollars)	Per share amount Yen (U.S. dollar)	Dividend record date	Effective date
Common stock	¥4,809 million (\$43,829 thousand)	¥38.00 (\$0.34)	Dec. 31, 2018	Mar. 18, 2019

Issuance of domestic corporate bonds

The Company issued domestic corporate bonds on February 6, 2019, as follows based on the resolution made by the Board of Directors meeting held on May 25, 2018:

- 13th unsecured corporate bonds
 - (1) Total amount of issuance: ¥10,000 million (\$91,141 thousand)
 - (2) Issue price: ¥100 (\$0.91) per face value of ¥100 (\$0.91) of each corporate bond
 - (3) Interest rate: 0.170% per annum
 - (4) Redemption period: 5 years
 - (5) Redemption method: Bullet maturing on February 6, 2024
Retirement purchase is allowed at any time after the payment date.
 - (6) Payment date: February 6, 2019
 - (7) Use of fund: Fund for equipment
- 14th unsecured corporate bonds
 - (1) Total amount of issuance: ¥10,000 million (\$91,141 thousand)
 - (2) Issue price: ¥100 (\$0.91) per face value of ¥100 (\$0.91) of each corporate bond
 - (3) Interest rate: 0.290% per annum
 - (4) Redemption period: 7 years
 - (5) Redemption method: Bullet maturing on February 6, 2026
Retirement purchase is allowed at any time after the payment date.
 - (6) Payment date: February 6, 2019
 - (7) Use of fund: Fund for equipment

Subsidiaries & Affiliate

As of December 31, 2018

Subsidiaries	Main Operations	Head Office	Percentage Owned by the Company, Directly or Indirectly (%)
THK INTECHS CO., LTD.	Manufacture and sale of vital machinery components and machinery	Tokyo, Japan	100.00
TALK SYSTEM CO., LTD.	Sale of machinery parts and various types of equipment	Tokyo, Japan	99.00
THK NIIGATA CO., LTD.	Manufacture of ball splines	Niigata, Japan	100.00
THK RHYTHM CO., LTD.	Transportation equipment-related business	Shizuoka, Japan	70.00
NIPPON SLIDE CO., LTD.	Manufacture and sale of slide rails	Tokyo, Japan	100.00
TRA Holdings, CO., LTD.	Holding and management company	Tokyo, Japan	70.00
THK Holdings of America, L.L.C.	Holding and management company	Illinois, U.S.A.	100.00
THK America, Inc.	Sale of LM Guides, ball screws	Illinois, U.S.A.	100.00
THK Manufacturing of America, Inc.	Manufacture of LM Guides	Ohio, U.S.A.	100.00
THK RHYTHM NORTH AMERICA CO., LTD.	Transportation equipment-related business	Tennessee, U.S.A.	70.00
THK RHYTHM MEXICANA, S.A. DE C.V.	Transportation equipment-related business	Guanajuato, Mexico	99.99
THK RHYTHM AUTOMOTIVE MICHIGAN CORPORATION	Transportation equipment-related business	Michigan, U.S.A.	100.00
THK RHYTHM AUTOMOTIVE CANADA LIMITED	Transportation equipment-related business	Ontario, Canada	100.00
THK Europe B.V.	Holding and management company	Amsterdam, Netherlands	100.00
THK GmbH	Sale of LM Guides, ball screws	Ratingen, Germany	100.00
THK France S.A.S.	Sale of LM Guides, ball screws	Tremblay-en-France, France	100.00
THK Manufacturing of Europe S.A.S.	Manufacture of LM Guides, ball screws	Ensisheim, France	100.00
THK Manufacturing of Ireland Ltd.	Manufacture and sale of ball screws	Dublin, Ireland	100.00
THK RHYTHM AUTOMOTIVE GmbH	Transportation equipment-related business	Dusseldorf, Germany	100.00
THK RHYTHM AUTOMOTIVE CZECH a.s.	Transportation equipment-related business	Dacice, Czech	100.00
THK CAPITAL UNLIMITED COMPANY	Financing and loan management for affiliated companies in the Americas	Dublin, Ireland	100.00
THK FINANCE UNLIMITED COMPANY	Financing and loan management for affiliated companies in Europe	Dublin, Ireland	100.00
THK (CHINA) CO., LTD.	Holding and management company, sale of LM Guides	Dalian, China	100.00
THK (SHANGHAI) CO., LTD.	Sale of LM Guides, ball screws	Shanghai, China	100.00
DALIAN THK CO., LTD.	Manufacture and sale of ball screws, actuators	Dalian, China	70.00
THK MANUFACTURING OF CHINA (WUXI) CO., LTD.	Manufacture of LM Guides	Wuxi, China	100.00
THK MANUFACTURING OF CHINA (LIAONING) CO., LTD.	Manufacture of LM Guides	Dalian, China	100.00
THK RHYTHM GUANGZHOU CO., LTD.	Transportation equipment-related business	Guangzhou, China	70.00
THK RHYTHM CHANGZHOU CO., LTD.	Transportation equipment-related business	Changzhou, China	75.80
THK MANUFACTURING OF CHINA (CHANGZHOU) CO., LTD.	Manufacture of LM-related parts, unit products	Changzhou, China	100.00
THK TAIWAN CO., LTD.	Sale of LM Guides, ball screws	Taipei, Taiwan	100.00
THK LM SYSTEM Pte. Ltd.	Sale of LM Guides, ball screws	Kaki Bukit, Singapore	100.00
THK RHYTHM (THAILAND) CO., LTD.	Transportation equipment-related business	Rayong, Thailand	70.00
THK MANUFACTURING OF VIETNAM CO., LTD.	Manufacture of LM Guides, slide rails	Bac Ninh, Vietnam	100.00
THK RHYTHM MALAYSIA Sdn. Bhd.	Transportation equipment-related business	Penang, Malaysia	56.00
THK India Pvt. Ltd.	Sale of LM Guides, ball screws	Karnataka, India	99.96

Affiliate	Main Operations	Head Office	Percentage Owned by the Company, Directly or Indirectly (%)
SAMICK THK CO., LTD.	Manufacture and sale of LM Guides	Daegu, South Korea	33.82

Corporate Data

As of December 31, 2018

Company Profile

Headquarters	2-12-10 Shibaura, Minato-ku, Tokyo 108-8506, Japan Telephone: +81-3-5730-3911
Established	April 1971
Number of Employees	13,478 (consolidated); 3,773 (parent company)
Month of Ordinary General Meeting of Shareholders	March
URL	www.thk.com
Independent Auditors	Grant Thornton Taiyo LLC

Stock Information

Common Stock: Authorized Issued	465,877,700 shares 133,856,903 shares
Stock Exchange Listing	Tokyo Stock Exchange (1st Section)
Stock Transfer Agent	Mitsubishi UFJ Trust and Banking Corporation
Number of Shareholders	26,441

Major Shareholders

Shareholders	Number of Issued Shares Held	Shareholding Ratio (%)
Japan Trustee Services Bank, Ltd. (Trust Account)	13,992	11.05
The Master Trust Bank of Japan, Ltd. (Trust Account)	7,438	5.87
JP MORGAN CHASE BANK 385632	4,866	3.84
SMBC Nikko Securities Inc.	3,908	3.08
Akihiro Teramachi	3,498	2.76
FTC CO., LTD.	2,774	2.19
Japan Trustee Services Bank, Ltd. (Trust Account 5)	2,445	1.93
J.P. MORGAN BANK LUXEMBOURG S.A.1300000	2,277	1.79
BNYM SA/NV FOR BNYM FOR BNY GCM CLIENT ACCOUNTS M LSCB RD	2,149	1.69
OPPENHEIMER GLOBAL OPPORTUNITIES FUND	2,000	1.58

¹ The Company holds 7.285 million shares of treasury stock, but it is omitted from the above list of major shareholders.

² The calculation of the shareholding ratio does not include treasury stock.

Shareholder Composition

Shareholder Type	Number of Shareholders	Number of Issued Shares Held	Shareholding Ratio (%)
Financial Institutions	82	40,794,200	30.48
Securities Companies	58	8,730,678	6.52
Other Corporations	360	5,246,933	3.92
Overseas Institutions	601	50,598,475	37.80
Individuals and Others	25,339	21,201,153	15.84
Treasury Stock	1	7,285,464	5.44

Stock Price and Trading Volume



THK CO., LTD.

URL: www.thk.com

