#### ■ REVIEW BY BUSINESS SEGMENT

# Industrial Machinery Business

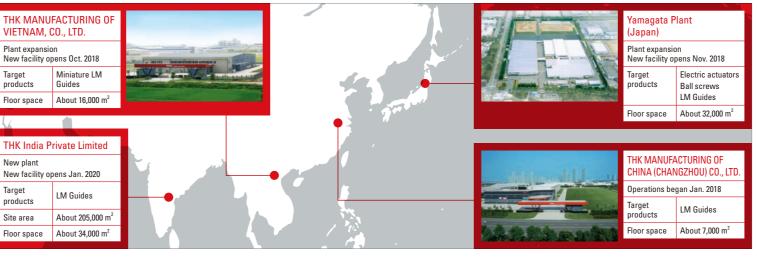
#### **Overview**

THK has contributed to the higher precision, rigidity, speed, and energy efficiency of equipment in the industrial machinery field by providing LM Guides and other products for such wide-ranging industrial equipment as machine tools and semiconductor manufacturing equipment. The THK Group also satisfies the automation needs of production lines by offering electric actuators and unit products, which combine such machine components.

#### **Business Environment and Activities**

In an effort to expand its top line, THK is strengthening its global sales structure and constructing a global production structure. On the sales side, the Group is pursuing initiatives to expand sales not to machine manufacturers, but to a wide range of customers: the end users of equipment who will use THK parts in their equipment made in-house and equipment related to automation. In an effort to reach every one of those customers, THK is employing new strategies to attract and interact with more customers at exhibitions. The Company is also pursuing highly efficient sales activities, such as making use of various IT tools to provide the optimal service and information to customers at each step of the purchasing process. With these ongoing efforts, the number of visitors to THK booths at international exhibitions was 2.5 times higher in the 2017 fiscal year than in the previous fiscal year. Omni THK, an e-commerce website where users can easily purchase

#### **Enhancement of the Global Manufacturing Structure**



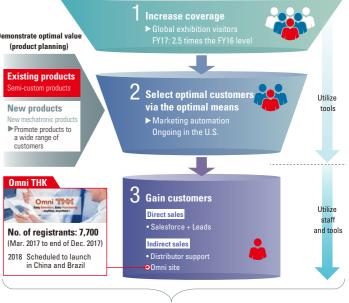
THK products at any time, has launched in Indonesia and Vietnam in addition to Singapore, Malaysia, and Thailand. At the end of 2017, about 7,700 users were registered on the website. In 2018, Omni THK will be expanded to cover China and Brazil. The Group has continued to increase the products it offers through semi-custom orders, which were introduced for use by a wide range of customers. In this way, THK has steadily promoted various activities aimed at expanding sales to a wide range of customers while also meeting the vigorous demand in its current market. On the production side, THK began operating equipment to increase production at THK MANUFACTURING OF CHINA (CHANGZHOU) CO., LTD., in January 2018. The Company is scheduled to begin production in the additional factories being built on the grounds of THK MANUFACTURING OF VIETNAM, CO., LTD., in October 2018 and the Yamagata plant (Japan) in November, In August 2018, THK will begin constructing a new plant in India, which is scheduled to open for business in January 2020. THK will continue

to strengthen its production structure in order to steadily engage with the anticipated mid- to long-term growth of demand spurred by the advancement of automation and robotization.

In order to strengthen its bottom line, the THK Group is steadily promoting initiatives for the robotization and automation of its production processes as well as utilizing the IoT. THK is improving the efficiency of its production through the introduction of a system that transmits information from the Eagle System to terminals that enable employees and managers to see the real-time operation status of production equipment at a glance. Furthermore, by accumulating and analyzing machine utilization data, the Company has achieved greater visibility of the distribution of work among its processes and has been using that to increase its production output. THK will continue accelerating these kinds of initiatives to strive for a dramatic increase in production.

### **Expanding Sales to a Wide Range of Customers through Efficient Sales Operations**

Contact optimal customers at the optimal timing to correctly communicate THK's strengths to them and ascertain their needs



Analyze data and perform PDCA through a web-SFA/CRM-ERP collaboration

Develop new business areas further and enhance profitability

## Industrial Machinery Business (Other)

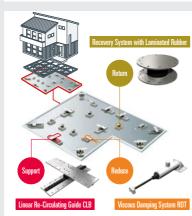
#### **Activities in New Areas of Business**

THK is committed to cultivating opportunities in consumer goods-related fields as part of its efforts to promote the development of new business areas. To this end, the Company will draw on the underlying strengths of its accumulated core linear motion system technology and ample expertise in other areas of the industrial equipment field. The applications of THK's compact and highly rigid products have expanded into many fields where they help people live safe and comfortable lives.

#### **Seismic Isolation and Damping Systems**

In the seismic isolation and damping systems field, the THK Group is employing its core linear motion system technology to supply 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



Seismic Isolation Platforms



#### **Medical Equipment**

LM Guides, electric actuators, and related products are increasingly being used in the medical equipment field, mainly in analysis and measuring equipment that require a high level of reliability and quality. The Group's products are also expanding into next-generation medical equipment, including robotic surgical systems and walking assist devices.

#### **Aircraf**

In the aircraft field, the THK Group is witnessing an upswing in the use of its compact and highly rigid products that is spurred by a demand for mechanical parts that are safe and lightweight. Centered mainly on aircraft interiors, this expansion in THK product use includes products that are suited for control sticks, reclining seats, and the sliding parts of folding tables and cockpit doors.

#### Robotics

In the robotics field, the THK Group is developing and marketing optimal components for use in robots across a broad range of fields. These applications extend from industrial robots that contribute to the automation of production lines to next-generation robots that may be used in consumer-related fields.

#### Renewable Energy

The THK Group is working to develop and promote the sale of products for use as mechanical components in the renewable energy field. In 2017, THK began supplying shaft units for wind turbines produced by Challenergy Inc., which developed the world's first wind turbine capable of generating energy even during typhoons.







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#### Overview

In its automotive and transportation business, as a global supplier with independently operating sales, production, and development structures established around the globe, the THK Group supplies a wide range of customers in the automotive manufacturing sector with undercarriage L&S (Linkage and Suspension) products.

Since its foundation, THK has continued to promote its link balls, which are the mainstay of its automotive and transportation business, alongside other products. Working to further expand its business, the Company acquired RHYTHM CORPORATION (currently THK RHYTHM CO., LTD.) in 2007. In 2015, THK completed the transfer of the L&S business from what was previously TRW Automotive Inc. and incorporated it into the THK Group as THK RHYTHM AUTOMOTIVE (TRA), thereby establishing a global business platform. The Company is also promoting synergistic activities through means such as integrating the automotive component

businesses of THK America and THK Europe into THK RHYTHM and TRA, respectively.

#### **Business Environment and Activities**

For its L&S business, the THK Group is expanding activities to obtain orders in China and other emerging markets by making use of both TRA's and THK RHYTHM's sales and production structures, employing strategies such as making proposals to use THK RHYTHM's Chinese plants to supply European and North American automakers who are primarily supplied by TRA. Furthermore, the Group is working diligently to exhibit synergies that will strengthen profitability, including the integration of products and steps to reinforce joint purchasing by region.

In terms of new automotive products, the THK Group has been working to expand the use of linear motion products for next-generation L&S systems, steering, brakes, suspensions, and various other automotive mechanisms. For those new linear motion products whose orders were secured, THK moved forward with preparations that allowed mass production and shipping to begin in February 2018. As demand for linear motion products is expected to rise from the momentum provided by the development of self-driving car technology and the increasing incorporation of electrical components in automobiles, the THK Group will further accelerate the expansion of linear motion product use in these areas.

