

Aiming to Predict the Times and Provide Services That Are One Step Ahead

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1 Industrial Machinery Headquarters Business Overview

The Industrial Machinery Headquarters develops, manufactures, and sells machine components such as the LM Guide, ball screws, and cross roller rings for a variety of equipment and devices ranging from machine tools and semiconductor manufacturing machines to automobiles and robots. The primary feature of our mainstay LM Guide is that it is a rolling linear motion guide. In addition to drastically reducing wear and providing high precision and rigidity, the LM Guide is well-regarded for its high reliability and silent operation, and it has been adopted in a variety of fields extending beyond our traditional industrial machinery market, including robotic surgical systems, train platform doors, and motorized reclining seats.

2 Measures to Solve Social Challenges while Promoting the SDGs

We tirelessly work to develop products that serve markets aimed at solving various problems, collaborating with customers and society to fulfill our corporate philosophy of providing innovative products to the world and generating new trends to contribute to the creation of an affluent society. We believe that doing so will help promote the SDGs.

For instance, there is a higher demand for energy savings and renewable energy as global warming continues and societal structures change to eliminate our dependence on fossil fuels. THK provides wind and hydroelectric power generation systems based on the core technology we have fostered as a company focused on creation and development. When it comes to BCP measures, we developed seismic isolation systems to protect lives and property from major earthquakes, and those devices are now even being used to safeguard national treasures and other works of art. In addition, to address the issues caused by declining birthrates and aging societies in developed nations, we have developed robotic systems, including service robots, as part of the movement to create a society where robots exist alongside people.

As part of our effort to develop the next generation of creative manufacturing talent, we are also moving forward with a project to plan and create new educational materials for middle and high school students that involve problem-solving through teamwork. As another development, with our factory in India scheduled to begin operations this year, we have now expanded to production

facilities in 37 locations in Japan and abroad, including those in our automotive and transportation division. In addition to serving as a BCP measure, this helps enable us to produce locally for local customers, advance industry in each region, and develop high-level talent. Furthermore, we take environmental concerns into consideration at each facility by obeying regulations, striving for zero emissions, and managing hazardous substances.

3 Business Development for the Next Decade

In terms of our business environment, several fields are starting to experience changes to their industrial structures in which new, creative products are being developed. For instance, while advancements in technologies such as social media, smartphones, and AI have made our lives more convenient, they have also given rise to personal information security concerns, fake news, and other new social challenges. THK is facing the trend of digitalization head-on, and we have begun our efforts in this area. As part of our DX (digital transformation) program, in our production division, we have begun working to use AI to predict market demand, avoid carrying excess stock, and prevent delivery delays caused by lack of parts. In addition, our IoT service "OMNI edge" has celebrated its official commercial launch. This product monitors the status of the THK components installed on customer equipment.

As the hardware, software, and data that together make up various systems become increasingly interlinked, we are currently seeing advancements in the creation of new value from data. Moving forward, we can expect to see a shift toward a business environment where various things become linked together by core "connected" technologies that are exemplified by the concept of CASE in the automotive industry. We also anticipate continual structural changes toward environments of growth, including the field of global warming mitigation. At THK, we will use our new IoT service to respond to our business environment and strive to create a new user experience. As a machine component manufacturer, we will continue to further our fundamental research to give us the ability to immediately respond to advancements in added value for hardware, and we will work to augment the features of core components and provide a stable supply of products for a variety of equipment. We will exert a diligent effort and devote ourselves to providing services that address the social challenges we will face in the future.

In this year's report, we will introduce some users of our seismic isolation and robot product lines.

Seismic Isolation Business

Details on **p. 18**

Protecting Customer Data to Keep Factories Running

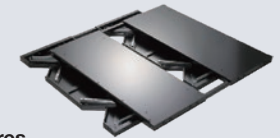
In earthquake-prone Japan, there have recently been several earthquakes registering at a seismic intensity of 6 or higher, such as the Great East Japan Earthquake and Kumamoto Earthquakes. Amid concerns of an earthquake occurring directly beneath Tokyo, in the Tokai region, or in the Nankai Trough, there is demand for ways to minimize damage, protect assets and valuable information, and quickly resume normal operations in the event of an emergency. Our seismic isolation systems are used by many customers in diverse fields, ranging from seismically isolated floors used in data centers and operation centers to individual systems for medical, scientific, and precision equipment as well as works of art and cultural assets.

On the next page, FANUC's Hino branch discusses how they came to use our Seismic Isolation Module Model TGS for their servers.

<https://www.menshin.biz/?q=eng>



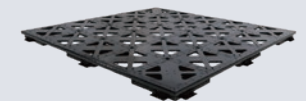
Seismic Isolation Table Model TSD



Features

- Works immediately once installed on the floor
- Expansion is possible (by connecting units horizontally)

Seismic Isolation Module Model TGS



Features

- Can be customized according to the story of the building and the weight of the load
- Can provide seismic isolation over a wide area and is suited to installation on floors (1 m² and wider)
- Can handle heavy loads (maximum of 3,000 kgf) (1 m² and wider)
- Includes damper

Robot Business

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Developing Robots to Utilize Avatar Technology

THK develops and sells **SEED Solutions** service robot components and life-sized humanoid **SEED-noid** robots. We have also worked on developing robots capable of acting as an emcee at exhibitions, and we currently have "Shiorin" and three other robots that meet the needs of our customers.

In May 2020, we developed a thermometric robot as a coronavirus countermeasure, and it measures people's temperatures at the reception desk of our headquarters every morning. It displays an employee's body temperature when their ID is placed over its face, and if the temperature exceeds a certain amount, the robot's arm will remain up and prevent the person from entering the building. Furthermore, this temperature information is stored in our servers as employee data and is used to monitor each person's health.

On page 19, RKB Mainichi Broadcasting Corporation explains how they are using our robot to enable a world of avatars. They discuss their current project and possible future developments.

<https://www.seed-solutions.net/?q=eng>



Shiorin



The thermometric robot keeps its left arm up when a body temperature exceeds a certain amount