



R&D and New Product Development

“THK—a creative, development-intensive business—undertakes original product development drawing on a management philosophy of “providing innovative products to the world and generating new trends to contribute to the creation of an affluent society.””

Since its foundation in 1971, THK—a creative, development-intensive business—has undertaken product development drawing on a management philosophy of “providing innovative products to the world and generating new trends to contribute to the creation of an affluent society.”

For a period of more than 10 years following the start of production and sales of the LM Guide in 1972, THK’s products were primarily used in machine tools. THK’s products, with their low-cost and high level of precision, contributed to the expansion of the industry during that period and thereafter. This remains true to this day with applications spreading to areas such as semiconductor production equipment and industrial robots.

In 1996, THK beat all competitors to market with the revolutionary second-generation LM Guide with Caged Ball Technology. At the time, caged technology was common in rotary bearings. Unfortunately, developing ball cages for linear bearings that would remain durable during circular movements and linear movements proved to be extremely difficult. The LM Guides with Caged Ball Technology were the world’s first LM Guides to offer long-term, maintenance-free use and have since become a vital component for a variety of high-speed, low-noise and long-lived industrial machinery, including machine tools and semiconductor production equipment. Currently, THK is expanding its cage embedded product series

beyond LM Guides to include hybrid units such as Ball Screws, Ball Splines, and LM Guides with Ball Screws.

Under the supervision of the Engineering and Development Department, our Engineering Division includes approximately 150 staff working in five sub-departments: the first and second Research and Development Departments, which are in charge of products from conceptualization to trial mass-production; the Test and Research Department, which conducts testing of new products; the Patent and Intellectual Property Department, which handles industrial property rights-related patents; and the Fundamental Technological Laboratory, which handles materials development. The first and second Research and Development Departments are primarily responsible for the development of new products and strive for quick, early development by transforming development proposals into actual projects. Additionally, they are engaged in the “To Be Project,” a project aimed at promoting efficient research and development activities. By using the To Be Project’s development processes and methods, a system for developing products in a short time frame has been established. Product development for new fields is conducted on a per-project basis, such as the MRC Center and the CAP Project.

In July of 2005, we established the Techno Center in Tokyo’s Ota Ward in order to increase efficiency in research and development. Additionally, technology-related departments such as the Engineering

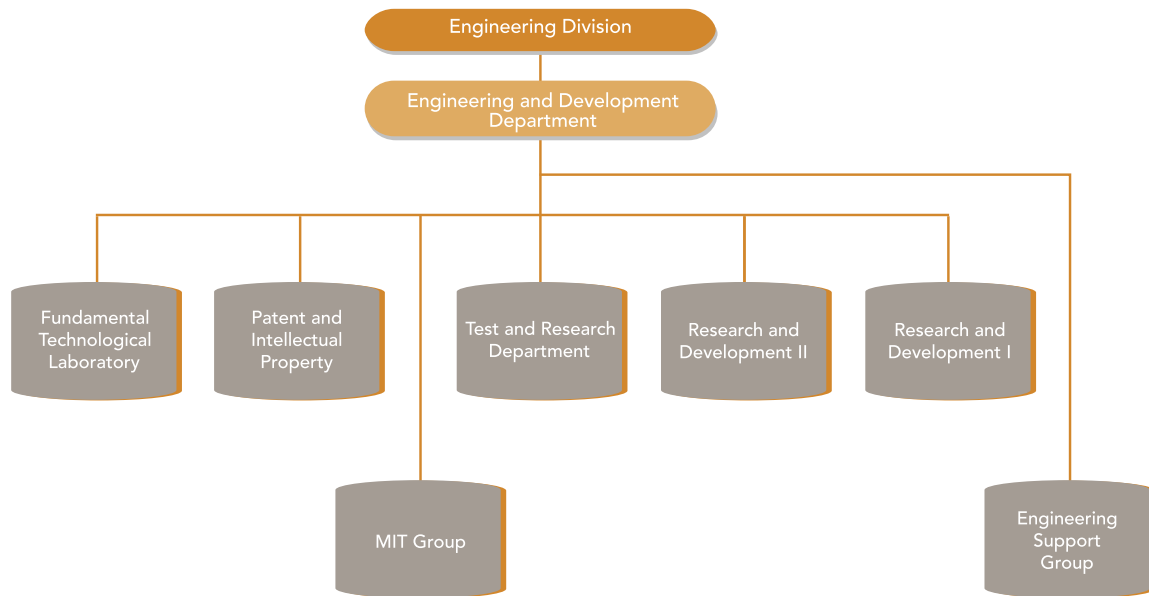


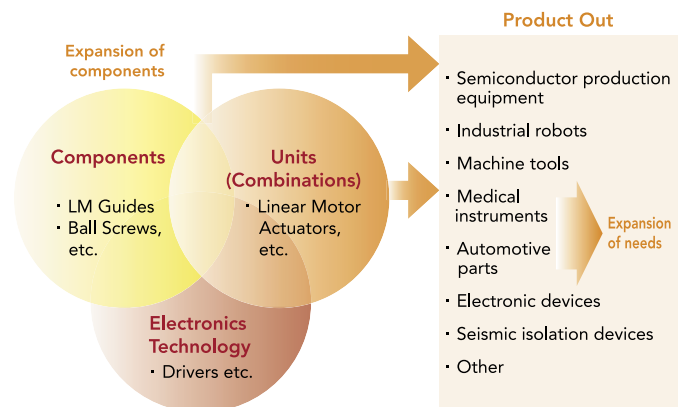
Diagram of Engineering Division (as of March 31, 2006)

and Development Department, the Sales Engineering Division and the various Departments in charge of new fields were also concentrated in the new facility. Inside the Center, we have secured a space for creative development, called the C-ZONE, and have installed a complete development infrastructure including 3D CAD, CAM, processing equipment, measurement equipment, etc.

We believe that in order to simplify design work and realize compact designs, modularization needs will increase in the future, primarily in the electronics industry. The Engineering and Development Department is diligently working on the support technology of electronics engineering development in order to further increase the range of needs to which we will be capable of responding. In 2005, THK developed its first electronically controlled unit product, the Servo Amplifier type TD, capping the “First Year of Development” in which THK began the development of electronics-related technologies in earnest. At the same time, we are expanding the cage embedded product series for THK’s core technologies: the LM Guide, Ball Screws, and other component products, and we are putting our efforts into the development of special-purpose and highly-functional products. Specific results produced in FY 2005 included an expansion of the ceramic guide lineup, the development of an oil-free guide, and the development of a mid to low vacuum lubrication system. Additionally, we have set a goal of 300,000 million yen in consolidated

sales by FY 2010 and are also putting our product development power into new areas such as the automobile and residential fields.

To date, THK has primarily focused its product development and expanded its product lineup to respond to the needs of its Japanese customers. However, we are now constructing global production and sales systems in order to precisely respond to customer needs in all areas of the world and are creating development systems in optimal locations, including the four main regions of Japan, North America, Europe and Asia.



Direction of Development for the Research and Development Department