

Trend of Technological Development at JTEKT



Seiho KAWAKAMI
Executive Vice President

In 2014, we JTEKT formulated a mid-term management plan that anticipates the next five years. It was decided that this plan would be reviewed and revised each year, and consequently we have been implementing such activities as the plan unfurls. Needless to say, the development and advancement of fundamental technology is a prerequisite of fulfilling our mid-term plan, as is the development of new products based on this fundamental technology, and the systemic organization and enhancement of the aspects of hardware and software, which enable the realization of new products. In the following paragraphs, I would like to illustrate the upcoming trends in technological enhancement which stem from the recent technical trends in each of our business units.

[Steering Business]

The JTEKT steering business holds the topmost global share in steering systems, and is given patronage by automotive and auto-related companies throughout the world. As the top shareholding supplier, our required mission is to promote, on a continuous basis, the development of technologies and products which predict the expectations of customers. In recent years, automotive technology has advanced dramatically enough that it is now characterized by ADAS (Advanced driving assist system), and as such, swift correspondence to trends in ADAS are expected within our steering business unit as well. Utilizing the technical expertise that we have cultivated over many years, we JTEKT are currently developing new steering systems that respond to the expectations of our customers, and are also working to further improve steering feeling to a level suitable for commodification, and raise the level of completion regarding Functional Safety.

In addition, we are promoting continuous technological development within conventional steering systems, for which weight reduction, improvement of system efficiency, and cost reduction are absolute necessities.

[Driveline Business]

Our driveline business offers a variety of products such as oil pumps, CVJs, and propeller shafts, but also includes ITCC[®] and TORSEN[®], which hold the topmost global share within the torque control device category. Engineering requirements for lower energy consumption are increasing within these product lines as well, and as such it is necessary that we respond to these requirements in a speedy manner. We JTEKT are accelerating our development of ITCC[®] to suit customer requirements for the adaptation of a disconnect system as well as demands for modularization of parts, including the differential

gear. Furthermore, we are currently developing compact and high-performance next-generation products for our TORSEN[®] series, and have begun reviewing the creation of a next-generation driveline together with our customers.

[Bearing Business]

The bearing business of JTEKT markets a wide assortment of product lines for every industry, ranging from bearings used in the large-scale industrial fields of wind power generation, aircraft, railways and steel production, to bearings for hub units and transmissions installed in automobiles. Bearings, which are utilized for all rotating parts, contribute greatly to energy conservation by enabling high accuracy, quietness, and reduced torque. At JTEKT, we have completed the commodification of a super-low friction tapered roller bearing, typified by the LFT[®]-IV, which responds to the needs of our customers. We shall continue by further enhancing fundamental technologies related to tribology, a field in which JTEKT has acquired a great deal of experience over the years. We will also work to strengthen the development framework for new products which hold the topmost global rank. On the other hand, we are promoting the development of a new production process that will allow us to phase out conventional large-lot production, which is expected to contribute to improved quality, shorter delivery times, and lower costs.

[Machine Tool Business]

The JTEKT group offers nearly every type of machine tool within its machine tool business. JTEKT has recently pioneered the development of the world's first gear skiving center, which has drawn the attention of many of our customers. Additionally, the production process has rapidly evolved from individual machines to an integrated manufacturing system, epitomized by IOT and Industry-4.0. JTEKT is also engaged in strengthening support for this system.

Research and Development is the foundation for the advancement of each business unit. At JTEKT, we are currently enhancing preparations, including the equipment and human resource aspects, for a Research and Development system in which activities can be performed more quickly and efficiently. These preparations are being promoted within many different fields through the collaboration of industry, academia, and government.

We JTEKT will work to reinforce our ties with each of our customers and affiliates and strive ceaselessly within technological development to solidify next-generation JTEKT business.