

Machine Tools & Mechatronics Business



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We are transforming machine tools TOYODA into a *monozukuri* (building excellent products) innovation company.

Providing value in all phases of *monozukuri* and contributing to customer value enhancement with Only One technologies.

We will continue providing three growth values: customer products' value, manufacturing, and human resources growth. To this end, we will continue our attempts to enhance TOYODA technological capabilities that have been refined, tempered, and grown on vehicle mass production lines, and contribute to developments in the global manufacturing industry.

Description of business

Cam / crankshaft grinders and general-purpose cylindrical grinders, cutting machines, machining centers, gear skiving centers and self-manufacturing control systems, precision element components, and system equipment
Solutions required for *monozukuri* overall lines and overall plants are offered by specialists in the technologies and products.

Value created in fiscal 2018

Response to EV-related needs

- Sales launch of gear skiving center GS200H, which can improve gear compounding performance and realize process integration; CNC cylindrical grinder GE4Pi, which enables anyone to realize high-quality roll processing using AI "Smart Face Control"; and GF16S CBN small crankshaft grinder GF16S, which can process reduction gear eccentric shafts at high speeds that will increase with EVs, exhibited at JIMTOF 2018

Response to growth areas

- Developed and launched sales of five-axis machining center FH630SX-5A equipped with a swivel spindle that enables efficient machining through process integration

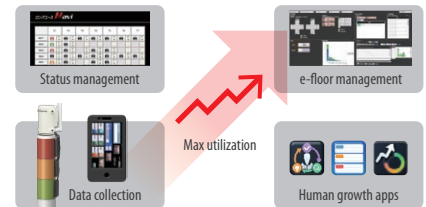
Response to workforce shortages and loE⁵ needs

- We commercialized six solutions, including "Skill Up NAVI" supporting human resources growth, and enhanced the "JTEKT loE Solution."

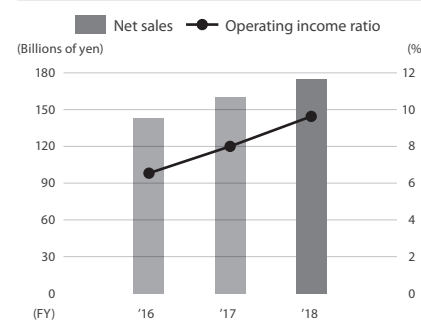
1. Machine that grinds the surface of a workpiece using a rotating grinding wheel
2. Machine that cuts the surface and shape of a workpiece using a rotating tool
3. A numerically controlled machine tool with an automatic tool change function that performs different types of machining such as milling, boring, drilling, and tapping using the same machine
4. Machine for gear skive processing using relative speeds generated by tilting and rotating tools and workpieces
5. Internet of Everything: Refers to the connecting of everything to the Internet of Things (IoT)



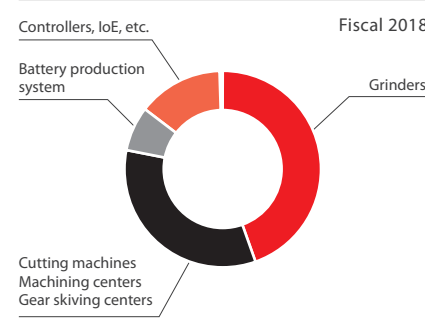
JTEKT loE Solution



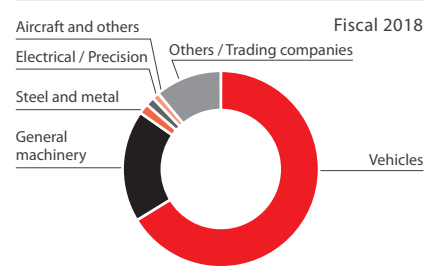
Net sales and operating income ratio



Ratio of sales by product



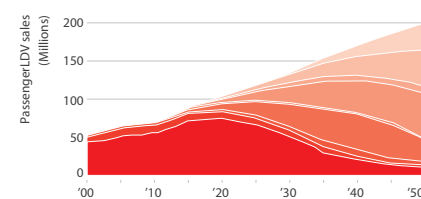
Ratio of sales by industry



Business environment analysis

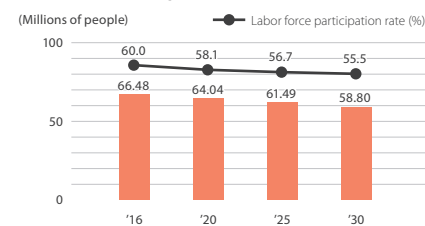
Changing trends of vehicle powertrains

- Engine downsizing and increased motors and batteries



Reduction in working population

- Increased labor-saving and automation needs



Strengths

Our strengths are high accuracy grinding cultivated in automobile engine lines, Only One gear skiving with Only One technology, and processing technologies that have been refined and accumulated in the processing of steering and bearing parts.

We will innovate these strengths to meet new demand arising from changes in the social environment and technological innovations.

Solutions for social issues (from the perspective of the SDGs)



- Enhance space productivity by making machines more compact and saving energy with smart technologies that increase energy efficiency
- Strengthen grinding machine and gear skiving with Only One technology supporting industrial bases in the clean EV era
- Contribute to the management of *monozukuri* running costs and the reduction of waste throughout the product lifecycle

Medium-term policies

Responses to changes in social environment and technological innovation

- Pursue new value through sensitivity to change, support the foundation of next-generation industries
- Accelerate the evolution of No. 1 technology grinders and gear skiving with Only One technology, improve product value of rolls⁶, shafts, and gears
- Realize production process integration and productivity improvements by strengthening the development of systematization and smartification

Provide value throughout the lifecycle

- Pursue total support value by strengthening connections with customers
- Expand after-solution packages to improve value as well as maintenance

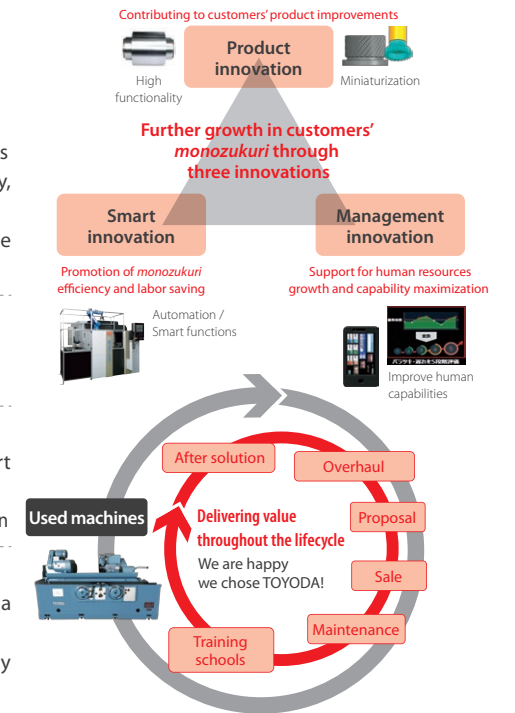
Contributing to the development of social production activities

- Support the growth of human resources and equipment with loE technologies, realize smart factories where people play the leading role
- Provide production management advancing *kaizen* (continuous improvement) by expansion of JTEKT loE Solution

Promotion of business structural reforms

- Speedy development sensitive to changes and demands through the use of digital tools and a combination of modules
- Increase manufacturing efficiency by improving logistics, and enhance competitiveness by strengthening our *kaizen* activities

6. Cylindrical rotating object for transporting sheet materials



Focus: Further advances in roll grinding and gear skiving machines

As a leader in grinding machines, JTEKT provides cutting-edge technologies. In Japan, we possess No. 1 & Only One technological capabilities in gear skiving machines. Taking advantage of these strengths, we will enhance our lineup of products for EVs and strengthen our system supporting the provision of battery production systems. Leveraging our strengths as a company in the machine tools field, we will contribute unique solutions to the problems of next-generation society.



Global Topics: Exerting synergies in new fields using our strengths

JTEKT collaborates with Group companies in the fields of batteries and semiconductors, loE, controls and sensors, and difficult-to-cut material processing. Overseas, in the United States, China, and India, we will promote business expansion in response to local needs with local subsidiaries and partner companies.

