



**Inquiries**

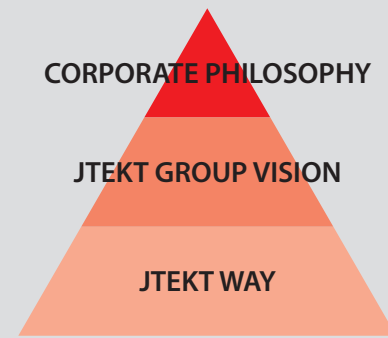
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\* JTEKT REPORT is available for viewing on JTEKT's official website.

[www.jtekt.co.jp](http://www.jtekt.co.jp)



Seek to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society.



JTEKT GROUP VISION

### Shaping a Better Future through the Spirit of "No. 1 & Only One"

We will be an invaluable partner with our customers, our suppliers, and our team members.  
We will deliver "No. 1 & Only One" products and services through "Building Value," "Building Excellent Products," and "Building Professionals."



**Building Value**

Provide value to customers by delivering products and services that exceed their expectations.



**Building Excellent Products**

Astonish the world with *monozukuri*, the art of refined craftsmanship and superior quality.



**Building Professionals**

Develop a team composed of individuals working together, acting with initiative, confidence, pride, and passion as global members of JTEKT.

JTEKT WAY

**Customer first**

- We are committed to look at things from customer's viewpoint, and sincerely respond to customer's requests.
- We are committed to create values that are new to the world, to deliver products and services that exceed customer's expectation.

**Ownership**

- We are committed to take everything as our own business.
- We are committed to grasp the essence of things and take prompt action.

**Teamwork and self-discipline**

- We are committed to be self-disciplined, and perform any task with a sense of urgency.
- We are committed to actively communicate to unite the power of each other.



**Continuous kaizen**

- We are committed to go and see for ourselves to thoroughly understand the situation, and identify root causes.
- We are committed to, with enthusiasm for imaginativeness and inventiveness, diligently continue *kaizen* challenges.

**Aspiration for innovation and for technique**

- We are committed to limitlessly heighten our technology and skills to become a front runner in innovation.
- We are committed to foster a culture to keep each of us humble in learning things and developing each other.

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Orientation of this report

This report was created as a main tool for interacting with our shareholders. It unites both financial and non-financial information to convey the JTEKT approach to creating value, from a long-term perspective.

\*Renewal period differs according to each interactive tool, and therefore their respective target periods for renewal may vary.

JTEKT REPORT 2019 (Integrated Report)  
[https://www.jtekt.co.jp/e/ir/f\\_jtekt\\_report.html](https://www.jtekt.co.jp/e/ir/f_jtekt_report.html)



\* These reports are available for viewing on JTEKT's official website.

Target period: <b>April 2018 to March 2019</b>	Target organizations and scope: <b>All activities of the JTEKT group</b>
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For items for which there is no criteria uniform across the JTEKT group, the unconsolidated results of JTEKT are displayed. As a general rule, if there are changes in the tallying scope, we revise data dating back to the past.

Reference guidelines

- IIRC (International Integrated Reporting Council) framework
- Japan's Corporate Governance Code
- The GRI Standards
- Japan's Ministry of the Environment "Environmental Reporting Guidelines (2018 edition)"
- ISO26000 (International Organization for Standardization's standard for social responsibility)



History

Since their establishment, Koyo Seiko and Toyoda Machine Works have continually perfected their technologies to provide high-quality and reliable products. JTEKT carries on this passion. Going forward, we will continue to produce "No. 1 & Only One" products and move forward in our ambition to be a company that contributes to society.

**1921**  
Zenichiro Ikeda founded Koyo Seiko in Osaka city as a private enterprise where he first sold imported bearings, then began manufacturing them himself



**1935**  
Reorganization into Koyo Seiko Co., Ltd.

**1938**  
Completed construction of Kokubu Plant

**1943**  
Absorption-type merger with Koyo Seiki and Hikari Jukogyo to establish Takamatsu Plant and Tokyo Plant

**1958**  
Bearing sales company established in USA

**1960**  
Began development and prototyping of steering systems

**1961**  
Established Koyo Machine Industries Co., Ltd. from Koyo Seiko as a company to manufacture Koyo brand machine tools

**1963**  
Entered a business alliance with Osaka Bearing Manufacturing Co., Ltd. (currently Daibea Co., Ltd.) Completed construction of Tokushima Plant



**1975**  
Commenced production of bearings in the U.S. Completed construction of Hiketa Plant (currently Kagawa Plant) and commenced production of tapered roller bearings

**1987**  
Merged with Koyo Automatic Machine Co., Ltd. and continued operations as Nara Plant and Toyohashi Plant



**1988**  
Developed and produced world's first electric power steering (EPS) system



**1990**  
Completed construction of Kameyama Plant Capital participation in Societe de Mecanique D'Irigny S.A. (currently JTEKT EUROPE S.A.S.), a steering subsidiary of Renault S.A.S., France and concluded a technical support agreement

**1992**  
Capital participation in Sona Koyo Steering Systems Limited (SKSSL), Indian Company

**1995**  
Commenced production of bearings in China

**1998**  
Completed the R&D Center (Kashihara, Nara Prefecture)

**Koyo**

1920-30 • 1940-50 • 1960-70 • 1980 • 1990

TOYODA

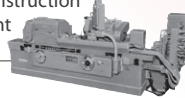
**1941**  
Machine tools department of Toyota Motor Corporation separated and established Toyoda Machine Works, Ltd.



**1955**  
Technical tie-up with French company, Gendron and commenced production of cylindrical grinders First transfer machine in Japan completed

**1965**  
Developed the Toyoda brand grinder Completed construction of Okazaki Plant

**1968**  
Commenced production of power steering Development of machining centers



**1972**  
Development of general-purpose controller TOYOPUC

**1973**  
Established a machine tool base in Brazil

**1977**  
Machine tool sales company established as joint venture in USA

**1980**  
Commenced production of Constant Velocity Joints (CVJs) for automobiles

**1986**  
Development and production of master-less camshaft grinders Completed construction of Takahama Plant (currently: Tadamisaki Plant)

**1996**  
Commenced production of steering systems in Thailand

**1998**  
Commenced production of electronic intelligent torque controlled coupling (ITCC) for 4WDs Established a Technical Center (Hanazono)



**2003**  
Comprehensive business alliance (in the machine tools field) with Mitsui Seiki Kogyo Co. Ltd. Acquired the Torsen business department from Bosch Automotive Commenced production of automotive components in China Established Toyoda Machinery (Dalian) Co., Ltd. for the production of machine tools in China

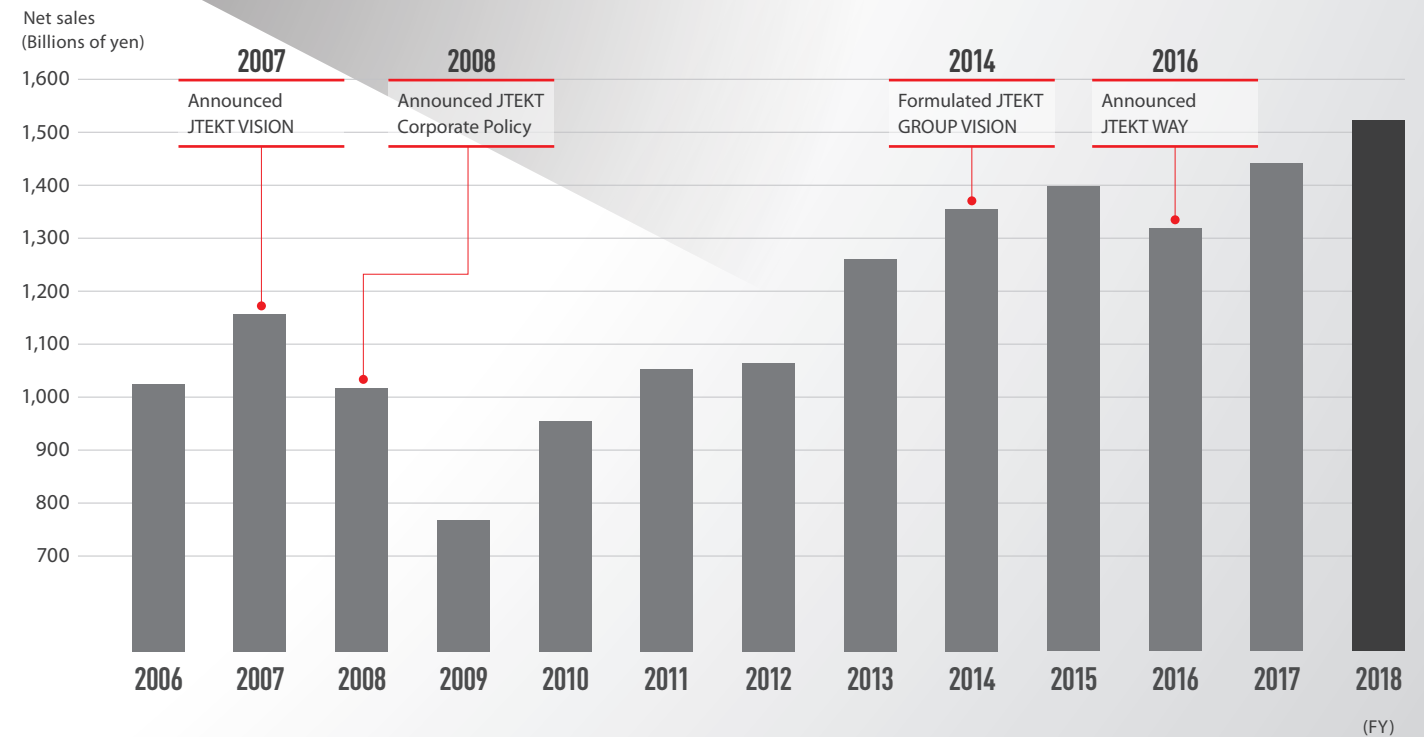
JTEKT

January 2006  
JTEKT is established

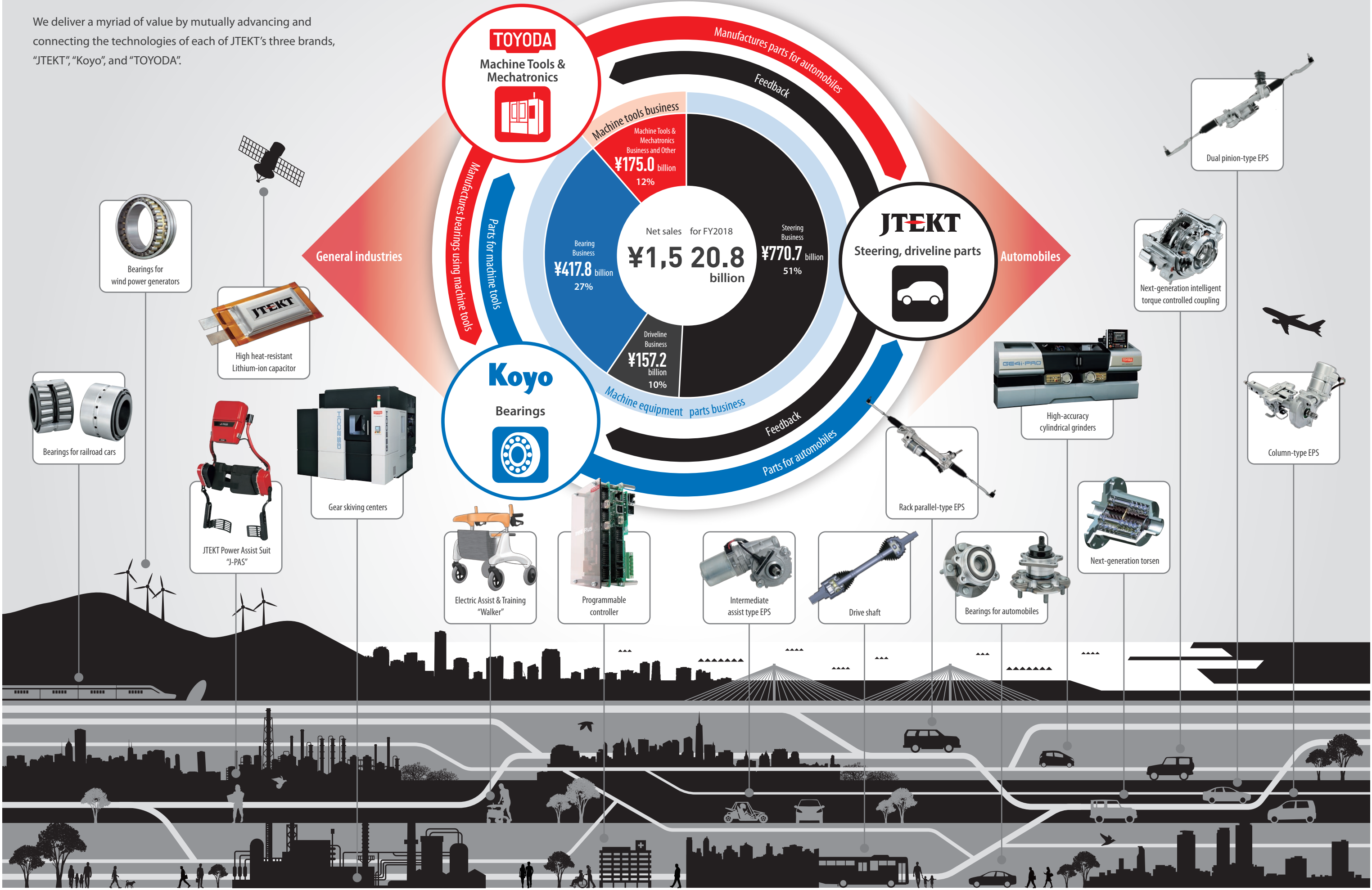
The name "JTEKT" represents our desire to be an epoch-making force for industries, the era, and our customers' hearts.

"J" stands for Joint, Joy, and Japan. "TEKT" comes from the ancient Greek word "tekton," which means one possessing superior technical skill.

We aim to contribute to a sustainable society and a brighter future by using our strengths as the impetus for helping to resolve society's issues.



We deliver a myriad of value by mutually advancing and connecting the technologies of each of JTEKT's three brands, "JTEKT", "Koyo", and "TOYODA".



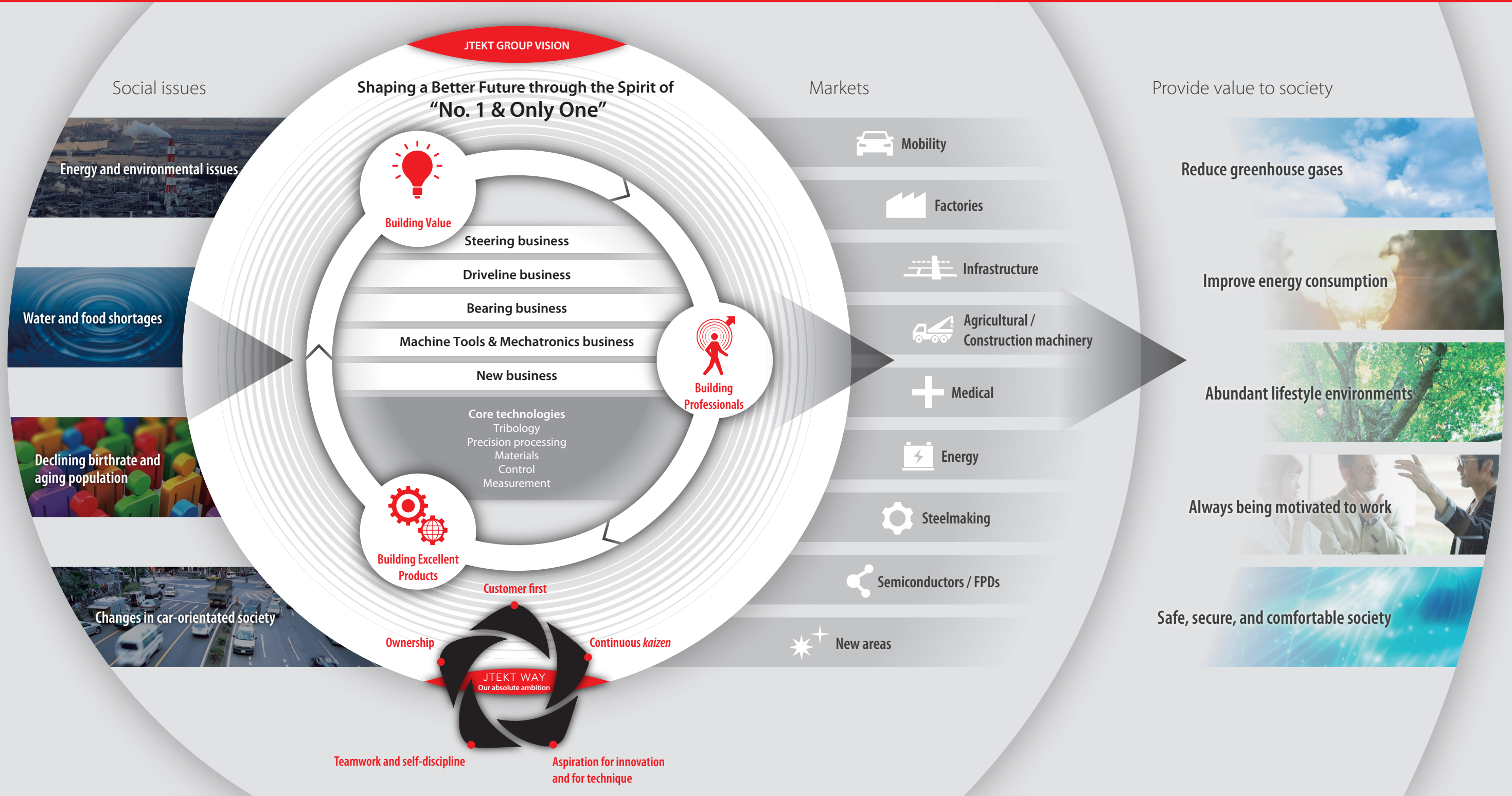


At JTEKT, we provide products and services that surpass the expectations of customers through *monozukuri* (building excellent products) that pursues No.1 & Only One technology and superior quality. Through these products and services, which come mainly from our four business realms, we help resolve various issues within society.

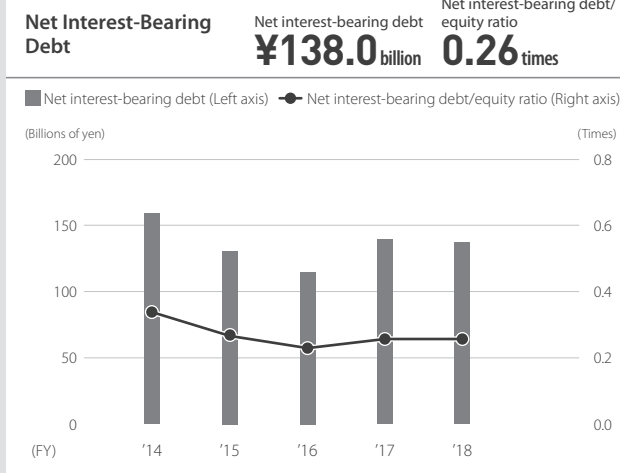
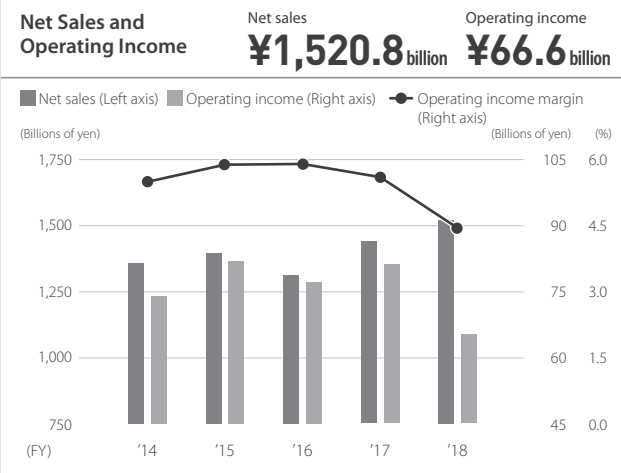


In September 2015, 17 Sustainable Development Goals (SDGs) and 169 targets were adopted at the UN Sustainable Development Summit. The JTEKT Group is doing its part to achieve the SDGs as a member of the international community.

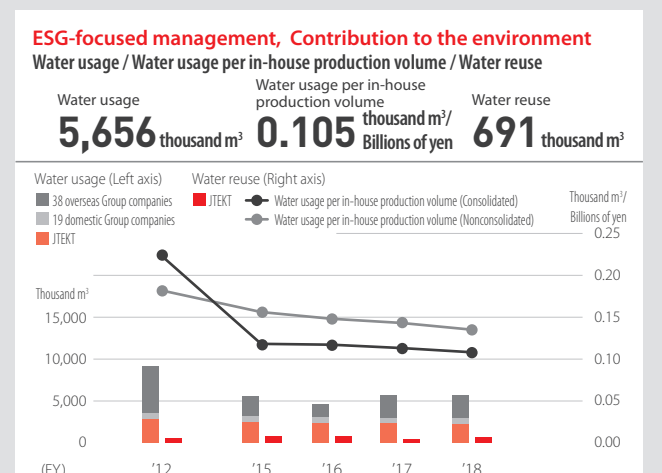
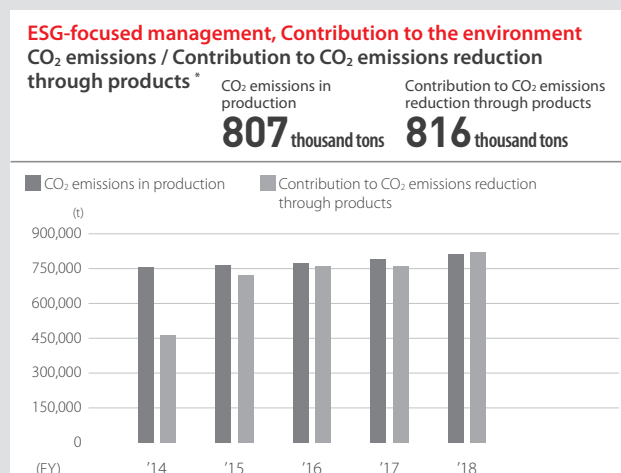
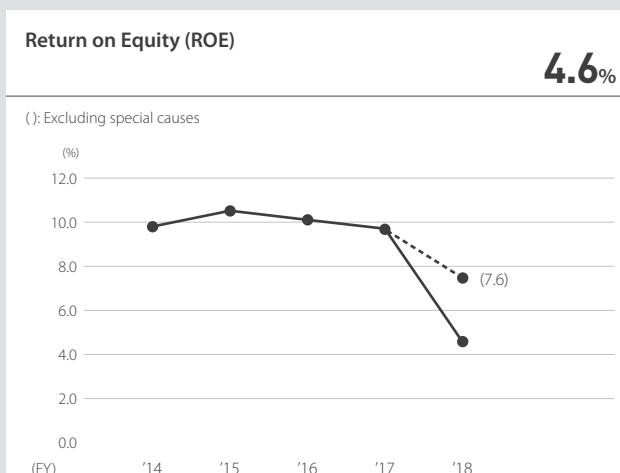
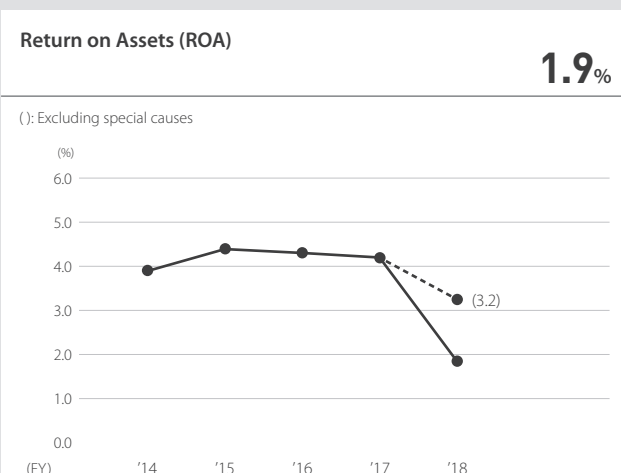
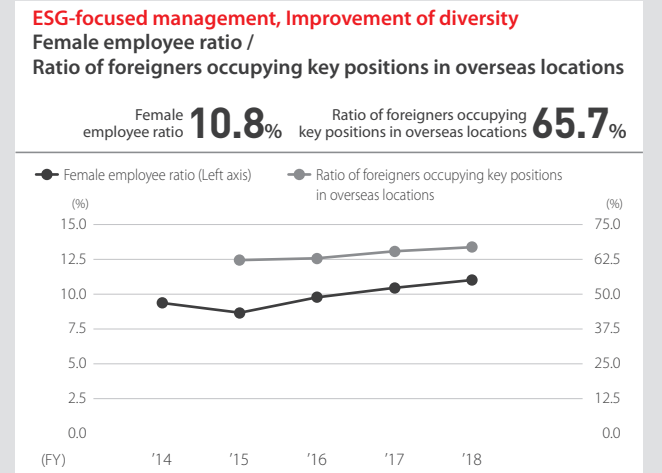
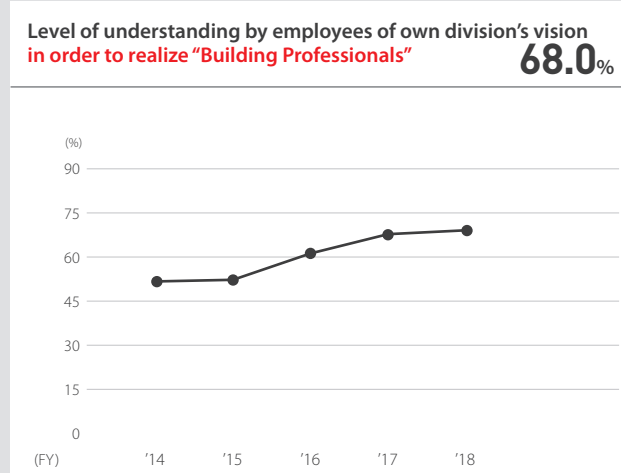
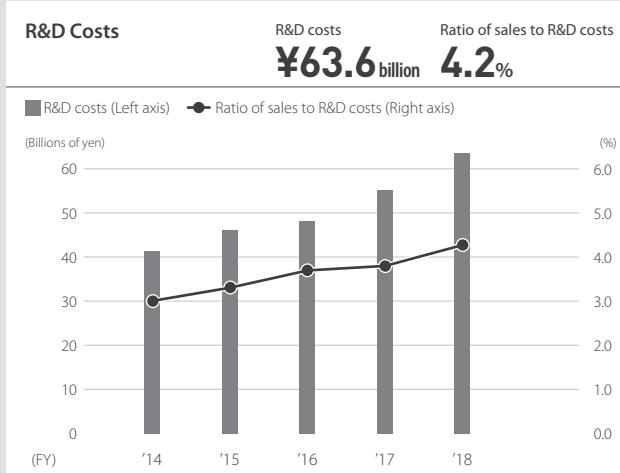
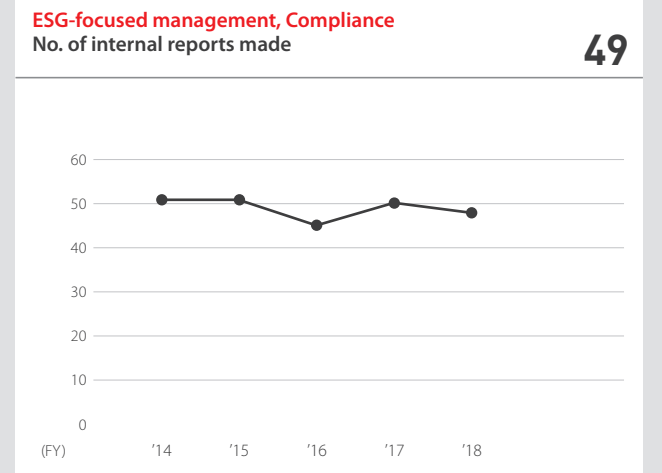
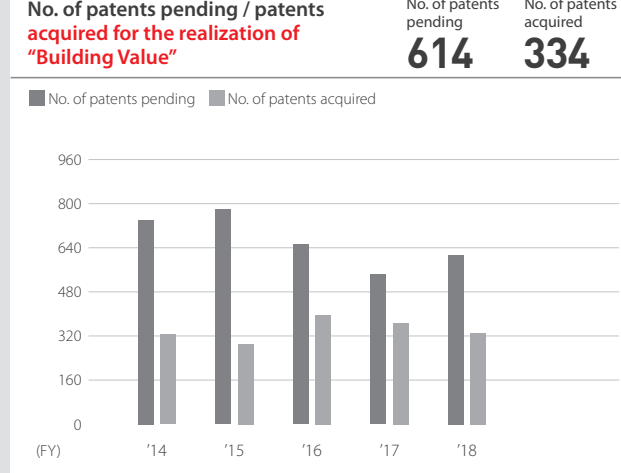
Corporate Philosophy **Seek to contribute to the happiness of people and the abundance of society through product manufacturing that wins the trust of society.**



Financial highlights



Non-financial highlights



\* CO<sub>2</sub> emissions reduction due to an environmentally considerate design at the product usage stage. The amount calculated globally is shown for each year. The calculation method changed partially from FY2016.





SHAPING A BETTER FUTURE

**Taking a long view toward continuous and steady growth for the company that we want to be in 2030 amid a transformation that occurs only once in a century**

President 安形 哲夫  
Tetsuo Agata

Looking back on fiscal 2018

Last year was the final year of the five-year medium-term business plan (covering fiscal 2014–2018), which was the first one formulated since I became president of JTEKT in 2013. Looking at the plan's targets for fiscal 2018, set in fiscal 2013, compared with our actual performance, we achieved consolidated net sales of ¥1,431.3 billion, significantly exceeding our ¥1,340.0 billion target, calculated on the exchange rates we use for management reporting. Meanwhile,

operating income amounted to ¥54.7 billion, and fell considerably short of our target of ¥100.0 billion.

I attribute the shortfall in profit to changes in the external environment, namely increasing competition in our core electric power steering (EPS) business, compounded by such internal factors as exceeding our targets for cost of goods sold during the ramp-up of a new line for rack assist-type EPS<sup>1</sup> and our targets for improvements to productivity.

1. EPS where the motor responsible for the assist is installed around the rack bar

	FY2018 Targets	FY2018 Actual	Increase / (decrease)
Net sales	¥1,340.0	¥1,431.3	¥91.3
Operating income	100.0	54.7	(45.3)
Operating income margin	7.5%	3.8%	(3.7) %

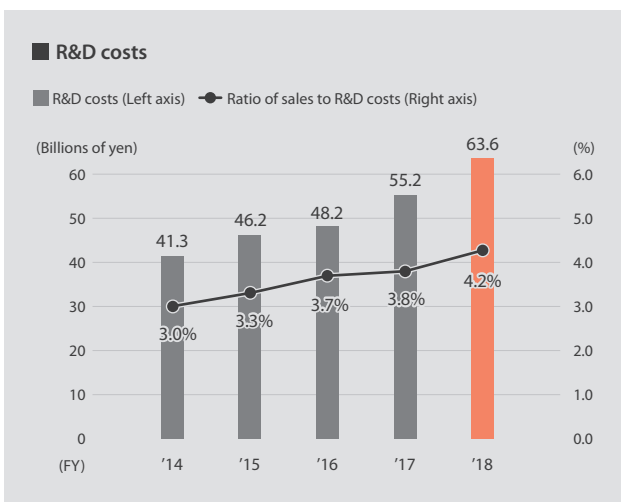
Billions of yen

Foreign exchange rate: US\$1=¥95, €1=¥110.0, CNY1=¥16.0

## Responding flexibly to change and aiming to generate the innovation that leads to resolving social issues

### Ceasing to invest aggressively in the future leads to an end to growth

We recognize that increase in fixed costs is a factor that impacts earnings, but we have increased our R&D spending by more than ¥20 billion on a single-year basis compared with five years ago. We are increasing this investment intentionally to ensure we remain successful in an era of great change.



The automotive industry is said to be undergoing a transformation that occurs only once in a century. We must respond fully to the trend embodied by the acronym CASE<sup>2</sup>, in particular to autonomous driving (the “A” in CASE). We currently hold the top share globally in power steering, but if we are slow in our response to autonomous driving, we will find ourselves left behind as simply a manufacturer of steering hardware.

As I mentioned previously, the competitive environment in EPS is intensifying. Column assist-type EPS in particular has been commoditized, and it is increasingly difficult to generate meaningful margins in this product. We are at a critical juncture in our survival in our efforts to maintain our position as a Tier 1 supplier of steering systems that incorporate control software. We will continue to make the necessary investments with this sense of urgency.

### Adaptability to CASE is the key to the future

In April 2019, we established J-QuAD DYNAMICS Inc., a joint venture developing integrated control software<sup>3</sup> for autonomous driving and vehicle motion control in collaboration with Aisin Seiki Co., Ltd., ADVICS Co., Ltd., and DENSO CORPORATION. Four companies with a shared strong sense of urgency and desire to compete with rival mega-suppliers in Europe and other regions have come together in this venture.

Furthermore, in May 2019 we took an equity stake in Advanced Smart Mobility Co., Ltd., a collaboration between industry and academia in the field of autonomous driving. Advanced Smart Mobility engages in R&D in autonomous driving technology, particularly for buses, and has been commissioned by the Cross-ministerial Strategic Innovation Promotion Program (SIP) to conduct feasibility testing on self-driving buses as part of its “autonomous driving system” initiative.

2. Acronym that stands for Connected, Autonomous, Shared, and Electric  
3. Software facilitating integrated control of electronically controlled components in multiple units rather than individual units



A joint press conference announcing the establishment of J-QuAD DYNAMICS



Feasibility testing of next-generation urban transportation

JTEKT is participating in R&D that has been promoted by Advanced Smart Mobility and is aiming to drive the kind of innovation that leads to resolving social issues, such as autonomous transportation systems using buses and vehicle platooning using self-driving trucks.

### Addressing electrification with JTEKT’s core technologies

JTEKT is focusing on electric (the “E” in CASE) in areas not limited to autonomous driving. When we speak of the electrification of cars, many people have the perception that there will only be pure electric vehicles (EVs) running on the roads in the future. However, some observers believe that when viewed holistically from “well to wheel,” a world made up of only pure EVs is not sustainable. I project that in the future EVs will account for at most about 25% of all cars. If the majority of the EV market comprises hybrids or plug-in hybrids, internal combustion systems will remain. I believe we can say with certainty about the world of cars in the future that 1) engines will be smaller, 2) there will be more batteries, and 3) there will be more motors.

On the first assertion that “engines will be smaller,” JTEKT is only one of four makers globally and two in Japan of specialty grinders used to polish camshafts and crankshafts. JTEKT’s technology will therefore be in demand in order to create smaller engines. Going forward, grinders<sup>4</sup> will have to be more

compact to accommodate shorter camshafts and crankshafts. We are working hard to manufacture and sell such products.

Regarding the assertion “there will be more batteries,” JTEKT’s machine tool business makes equipment to manufacture batteries. Given the rise in demand for batteries for EVs, I believe we have a big business opportunity in battery manufacturing equipment as well as high-precision grinders used to polish rolls<sup>4</sup> used in the battery manufacturing process.

And as for the assertion “there will be more motors,” our strategy is to boost the value-added in our single ball bearings<sup>5</sup> (SBBs) used in automotive motors. In general, SBBs have been commoditized, but we aim to develop and market high-value-added SBBs that can handle the high revolutions of automotive motors.

Furthermore, it goes without saying that electrification and EPS go hand in hand, and we are enjoying a tailwind as the No. 1 supplier of EPS. In addition, as electrification progresses, “electricity economy” (analogous to fuel economy), or the extent electricity consumption can be curtailed will be valued. We have therefore positioned high-value-added EPS as a strategic product that can contribute to electricity economy.

4. A machine that grinds the surface of a workpiece with a rotating grindstone  
5. A type of rolling bearing that separates moving parts of bearings using a single row of balls



A compact crankshaft grinder



## Management forms a long view for continuous growth

The sharing economy (the “S” in CASE) is the area in which we, as an automotive components manufacturer, have no way to address at the moment. Going forward, growth in car ownership particularly in developed nations is expected to slump and automotive manufacturers and auto parts suppliers alike are bound for challenging times.

Yet it is exactly because tough times are projected ahead that I believe we should set challenging targets. In February 2019, we clarified our vision of the company that we want to be in 2030 and set annual sales growth of 4% as one of our key performance indicators (KPIs).

Looking back on when we set our targets for 2030, at first our secretariat proposed a target of 2.6% since the automotive industry as a whole was expected to grow at about 2%. However, I was told at the time that global GDP growth was projected to be 3.6%. If our expected growth rate was below that of global GDP, it meant our relative position in society would decline and we would not be able to boost the motivation and morale of our people under such conditions. I therefore decided to set a more ambitious sales growth target of 4%.

Meanwhile, there are companies out there that aim for growth of 7%, or even 10%. I think such targets would be very hard to achieve without very robust management systems. There is a Japanese expression that says folding screens and shops collapse if you spread them out too far. JTEKT was formed through the merger of companies in four businesses and therefore its management structure is relatively complex. We will solidify our management systems and develop our talent while taking the long view toward continuous growth. This is the image of the company that we aim to become.

## Looking for business opportunities in what the world cannot do without

We are targeting 4% growth in an era when growth in the automotive industry is expected to decelerate. We believe we can close the gap by looking for business opportunities in the things that the world cannot do without.

When we discussed within JTEKT, “what are the things the world cannot do without?” The answers included people’s lives and health, food, energy, and mineral resources and other natural resources. It may not be apparent to people living in Japan, but from a global perspective, fresh water is also a natural resource we cannot do without. As for Japan, the decline in the working population has already become a social issue, highlighting labor, as another thing the world cannot do without.

The seeds of growth we have in such areas are control technologies gained through the development of steering systems, tribology<sup>6</sup> and measurement technologies gained through our bearings businesses, IoT-related<sup>7</sup> technologies gained through our machine tools and mechatronics businesses, and so on. There are business opportunities at the intersection of what the world cannot do without and the seeds that JTEKT possesses. In other words, we intend to use our seeds to help resolve social issues by responding to needs in areas different from our four core businesses.



JTEKT Power Assist Suit



Showroom “JTEKT ROOM Ginza”



Higashi-Kariya Innovation Center

Our Power Assist Suit is one example of a success story in this regard. Applying bearing tribology and power steering control technologies, this device lightens the load on the worker’s lower body when performing tasks like lifting and lowering heavy objects.

Furthermore, our “Factory agent” matching service for manufacturers that debuted in 2019 is a platform that connects factories that would like to order processing with factories that are seeking to accept such orders. In this business, we are able to capitalize on the many relationships with manufacturers that we have established as a machine tool maker. The main goal of this business is to have customers take advantage of and be satisfied with this service, but at the same time we are able to

use data on the type of processing our customers want in our marketing efforts. Through this business, we expect to create win-win relationships that are highly satisfying for both our customers and JTEKT alike.

We are fostering the sprouts of many new businesses besides those I have introduced here. Going forward, we will strive to create new value beyond the framework of our four core businesses and thus contribute to a sustainable society that is on even a higher dimension.

6. Technical areas involving friction, wear, lubrication, etc., between objects  
 7. Internet of Things: Automated recognition, control, and remote measurement of information and communications equipment, including not only computers but also every other electronic device with communications functions that are connected to the internet and communicate with each other

## “Catch ground balls that are hit between the shortstop and third base” Making “Ownership” our corporate culture and entrenching it throughout the JTEKT Group

### The changing role of workers brought on by automation

In Japan, it has become difficult to secure staff as a declining birthrate has made hiring extremely difficult, and this is further exacerbated by the sharp decline in the working population approaching in 2025 as many employees reach retirement age. As such, automation and boosting productivity by completing work with fewer workers is a pressing matter.

I frequently tell our employees, “do not take technical skills lightly.” For example, just tightening a bolt with an electric screwdriver requires a high degree of technical skill. We have some employees who are so passionate about their work that they bring nuts and bolts home with them to practice tightening them over and over while watching television or conversing with family members.



Class scene of JTEKT Academy

To promote automation, the jobs that today require the skills of experienced workers will need to be handed over to robots. Teaching is an important element of this process. Allow me to share a story I heard from a friend. He explained to me that a robot trained in Japanese calligraphy would draw characters of vastly different quality depending on if it had been taught by a master or by an ordinary person. Robots taught the intuition

and technique of a master produce results that are worlds apart from those that are not. The same can be said about robots on the manufacturing floor.

Automation spreads from an inability to hire people as well as a declining population. When this happens, those who worked as welders up to now will take on new jobs in teaching and maintenance. In other words, the role itself of a person working on the manufacturing floor will change. As this happens, it will lead to people working in areas with higher value-added and should lead to a dramatic improvement in the total productivity of capital and labor.

We operate JTEKT Academy, which aims to develop the skills of high-school graduates entering the company. Currently, half of the high-school graduates we hire enter JTEKT Academy and learn technical skills while the other half are assigned directly to the manufacturing floor and learn such skills on the job. In the future, however, we are thinking to end direct assignments to the manufacturing floor and have all such new hires learn technical skills at the Academy. We are also working to change the Academy’s curriculum. Basic techniques such as plating and polishing are important, but the new joiners will also learn how to use sequencers<sup>8</sup>, programming, maintenance, and other skills. There is no question in my mind that we not only need to adopt recurrent education<sup>9</sup> but also change our employee education from the ground up.

The same thinking applies to indirect divisions. Training our people is exceptionally important to improving our productivity amid a declining birthrate and an aging population. This entails improving IT literacy to raise the quality of work styles, changing our training systems including the adoption of recurrent education, and aggressively implementing staff rotations.

8. A controller that controls sequence (order) and output circuit according to the input signal  
9. A recurring / repetitive education system that encourages mutual education and work throughout life

### Focusing on development of the next generation of executives

Continually revitalizing our managers is a key theme in our human resource development. Every year, JTEKT selects managers globally to participate in a six-month training program conducted in English. Through this program, we are developing professionals with broad-ranging knowledge necessary for business.

Even if an employee is currently a technician, for example, that person could one day become a managing officer of JTEKT or an executive at one of our Group companies. We have them learn the basics of business from a broad perspective, by participating in functional areas they had not been exposed to until now, such as marketing, design, and feasibility studies<sup>10</sup>. Their graduation project is to propose a new business, and through this process we have generated and accumulated new business ideas with a high potential for commercialization. From this stock of ideas, the New Business Promotion Department reporting directly to me looks for the seeds of new businesses and incubates them. Some of the “sprouts of new business” I mentioned previously come from here.

10. Investigates the potential and profitability of new businesses and other projects

### Instilling the JTEKT WAY and aiming to be the company that we envision in 2030

In 2016, the JTEKT Group announced the JTEKT WAY as an expression of its shared values and ambitions as embodied in five keywords: “Customer first,” “Ownership,” “Continuous *kaizen* (improvement),” “Teamwork and self-discipline,” and “Aspiration for innovation and for technique.” Of these keywords, the last two were inherited, respectively, from Koyo Seiko and Toyoda Machine Works, the two companies that merged to form JTEKT. Staff in the Corporate Planning Division who travelled around

#### Customer first

- We are committed to look at things from customer’s viewpoint, and sincerely respond to customer’s requests.
- We are committed to create values that are new to the world, to deliver products and services that exceed customer’s expectation.

#### Ownership

- We are committed to take everything as our own business.
- We are committed to grasp the essence of things and take prompt action.

#### Teamwork and self-discipline

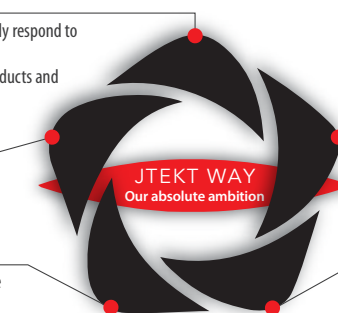
- We are committed to be self-disciplined, and perform any task with a sense of urgency.
- We are committed to actively communicate to unite the power of each other.

#### Continuous *kaizen*

- We are committed to go and see for ourselves to thoroughly understand the situation, and identify root causes.
- We are committed to, with enthusiasm for imaginativeness and inventiveness, diligently continue *kaizen* challenges.

#### Aspiration for innovation and for technique

- We are committed to limitlessly heighten our technology and skills to become a front runner in innovation.
- We are committed to foster a culture to keep each of us humble in learning things and developing each other.



the world to hold discussions created the other three. Three years have passed since the announcement, and I feel confident that understanding and penetration of the JTEKT WAY has progressed. That said, I get the sense we have work to do in instilling “Ownership” fully throughout the organization.

I often say, “catch the ground balls that are hit between the shortstop and third base.” I use this as an analogy for taking initiative and responsibility in situations where some may intentionally shy from it. For example, when an issue with quality arises, if everyone shies from responsibility or tries to place it on others, the issue grows increasingly worse. In the case of automobiles, they are manufactured at a pace of about one car per minute, so delays might put many lives at risk. No matter where the root cause of the issue lies, when they arise we must first visit our customers and immediately take corrective action.

Those without a sense of ownership quickly try to push responsibility onto others. No matter how much talent a person has, if they do not have a mind-set of taking responsibility, they will never improve. We must entrench “Ownership” in all our employees and sublimate it such that it becomes an integral part of our corporate culture.

Our competitors are working hard to survive within the transformation in the automotive industry that happens once in a century that is occurring right now. We will not survive if we have the tepid attitude that something was not a problem yesterday so it will be the same tomorrow or that someone else will take care of the problem so we do not have to get our hands dirty.

I believe it is only when all our employees have a customer-first mind-set and work toward continuous *kaizen* with a sense of ownership that we can become the company that we are aiming to be in 2030. I would like to make this a reality with the JTEKT Group working as one.



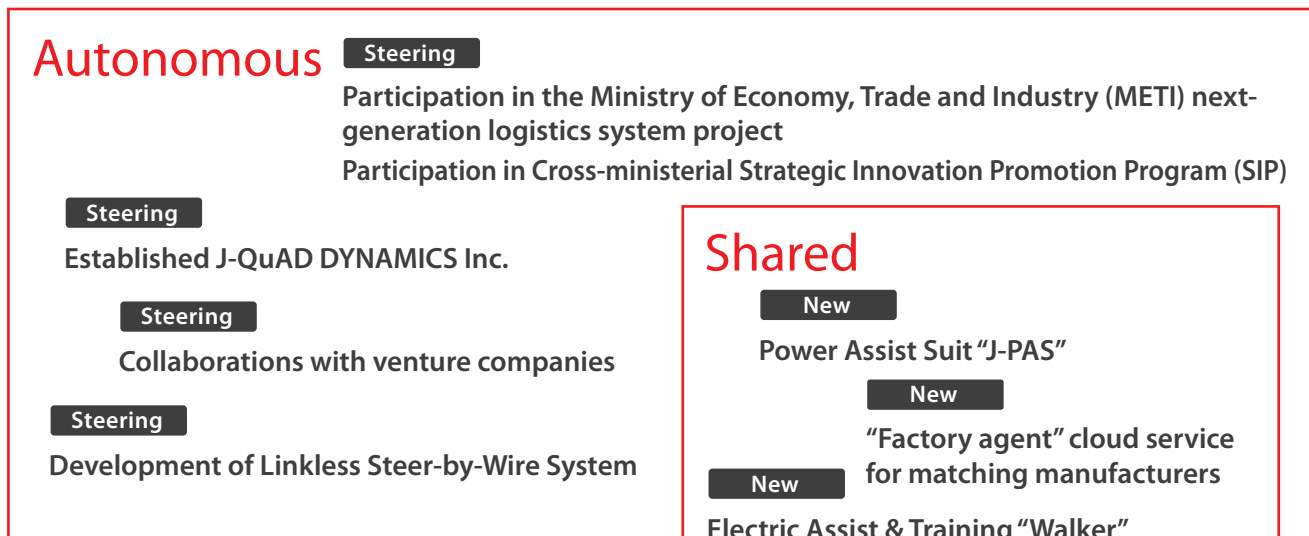
# CASE

At present, the automotive industry is facing a so-called once-in-a-century drastic changes, with CASE, which stands for Connected, Autonomous, Shared, and Electric, said to be the future trend and growth market within the industry.

JTEKT is promoting specific and advanced initiatives in this area, focusing mainly on autonomous driving and vehicle electrification.

## Basic Concept and Aim of CASE

JTEKT is expanding its technologies and products supporting new innovations, mainly related to autonomous driving and vehicle electrification, such as integrated control systems for autonomous driving and E-AWD, while at the same engaging in the creation of new businesses in preparation for fewer vehicles due to sharing and other factors.

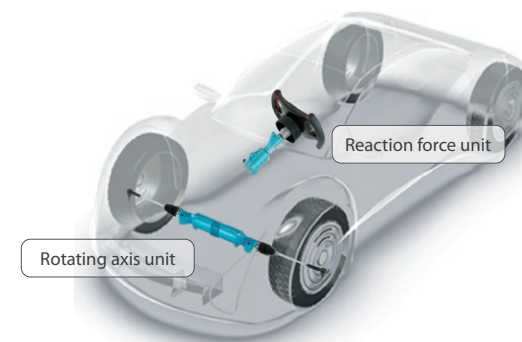


## JTEKT's CASE Initiatives

1. Electric-All Wheel Drive: A four-wheel drive system equipped with a motor drive device that does away with mechanical drive force transmission for the front and rear wheels

## Specific Examples of CASE Businesses

### Linkless Steer-by-Wire System Development



JTEKT's next-generation steering system, the steer-by-wire system<sup>2</sup>, transmits steering wheel operations to the steering unit using electrical signals, improving vehicle responsiveness and feedback on road surface information, thereby realizing comfortable driving. Furthermore, we will provide safety and security through the realization of autonomous driving and advanced driving support, contributing to a "zero" traffic accident society.

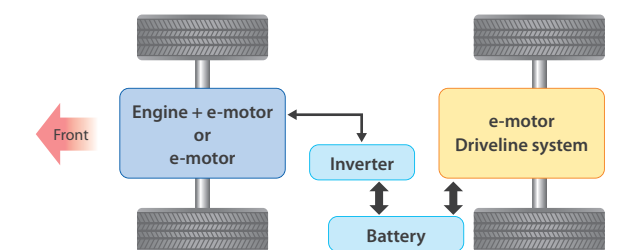
2. A mechanism that transmits the rotation of the steering wheel to the tire electronically rather than mechanically

### Contributing to Vehicle Electrification with Motor and Reducer Performance Improvements



To support vehicle electrification, we are promoting the development of bearings leveraging JTEKT technologies. We are enhancing support for vehicle electrification with the realization of a bearing that enables high-speed motor rotation and improves creep resistance, corrosion resistance, and silence. Going forward, we will continue contributing to the sustainability of society through the promotion of new products in response to needs and issues.

### Expanding Our Lineup of E-AWD and Other Driveline Products for Vehicle Electrification



The advance of vehicle electrification requires the development of traditional 4WD engine drivelines as well as a variety of AWD systems. To this end, we are drawing on our strengths to promote the development of driveline products for vehicle electrification. Examples of these include the development of an electric oil pump (EOP) for motor cooling that utilizes hydraulic control technology and the development of a high-efficiency constant velocity joint (CVJ) that is both quiet and environmentally friendly. In addition, we are aiming for the practical application of an E-AWD system utilizing a technology for 4WD front / rear right / left torque distribution. Going forward, we will continue to create products that are environmentally friendly and contribute to safe car performance.

### High-Accuracy Grinder Technologies Accelerating the Evolution of EV



TOYODA grinder high-accuracy processing technologies accumulated in *monozukuri* (building excellent products) throughout all industries have generated high-performance rolls that produce lithium-ion electrode foil.

JTEKT will continue to respond to rapid increases in demand for automotive batteries with Only One technology.

# New Businesses

In anticipation of social trends and environmental changes, we are formulating new business strategies that will be the pillars of JTEKT's future and the Group's sustainable growth as we collaborate with relevant departments within and outside the company in an effort to create new businesses.

In April 2017, we launched the New Business Planning Department as an organization under the direct control of the president in order to respond to global social issues and needs, including the SDGs<sup>1</sup>, by taking on the challenge of developing new products and businesses and creating new value.

## Basic Concept and Aim of New Businesses

At present, with importance placed on responses to numerous social issues, we are approaching an era of disruptive innovation (AI, IoT, digitization) and development process innovation (open innovation<sup>2</sup>, lean startups<sup>3</sup>, agility<sup>4</sup>) with new players entering the market, all of which necessitate a forward-looking response. As such, we are engaged in business diversification and new product development to further strengthen management, including future business portfolio strategies, and have repeatedly discussed the direction of existing and new businesses. Among these, in terms of new businesses, we will not be limited to simply aiming for additions to our business portfolio. Rather, we want to play a role in terms of existing processes, value chain reforms, human resource development, corporate culture innovation, and the creation of a new brand image.

JTEKT's basic concept regarding new businesses involves resolving social issues and meeting needs, and when necessary, collaborate with ideas from outside the company as we dive deeper into core technologies derived internally to differentiate ourselves from other companies.

In terms of engaging in new businesses, it is crucial to have the mind-set and motivation to take on challenges in a highly uncertain, unconnected, and unknown industry while utilizing the strength of a small group structure as we develop human resources that have broad and lofty perspectives by engaging in businesses that lay outside the normal framework. Additionally, while creating a structure or an organization for continuously generating business themes, we will amass numerous new business ideas from affiliated companies and Group departments in Japan and overseas, training curriculum, and other sources, narrow these down to the most optimal, and then quickly attempt to expand business.

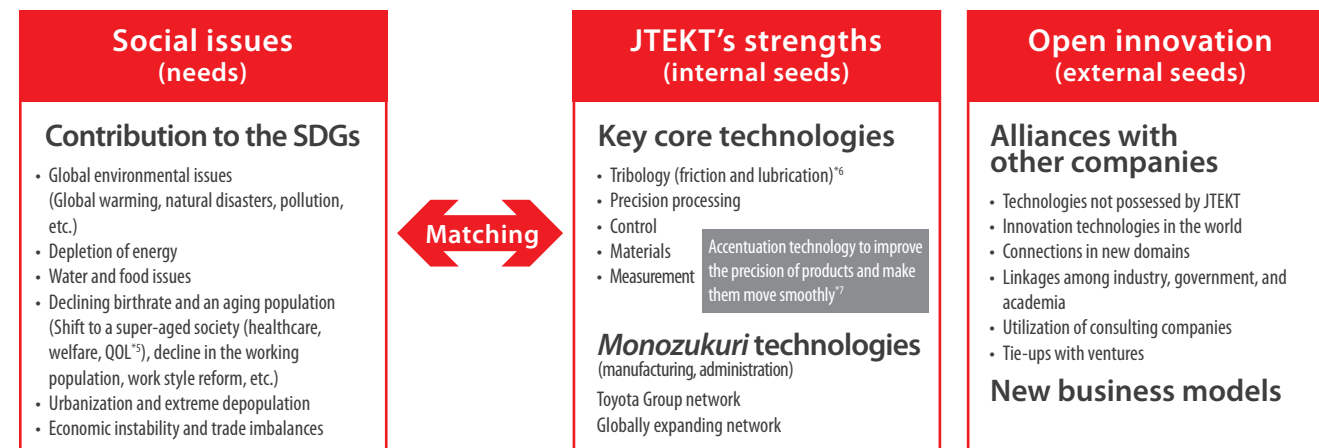
### JTEKT's Ideal

Contribution to society, JTEKT and the JTEKT's Group's continuous growth, human resource development

Creation (differentiation from other companies and originality) of new value (products)

PDCA scheme: Planning, development, preparation for manufacturing, manufacturing, branding, promotion, monetization, sales, after-sales service, marketing

- ① Speed
- ② Quality of value provided
- ③ Own growth
- ④ Passion
- ⑤ Teamwork
- ⑥ Not fearing failure (Continuing to take on challenges)



1. Sustainable Development Goals: International objective composed of 17 goals and 169 targets for realizing a sustainable world, as described in the 2030 Agenda for Sustainable Development adopted at the United Nations Summit in September 2015  
 2. Consolidation of knowledge and technology across organizational frameworks when developing new technologies, new products, and new business models  
 3. Innovative products that thoroughly eliminate waste and focus on efficiency  
 4. Development method that minimizes risk by adopting and repeating short development period units called iterations  
 5. Quality of Life: Refers to both quality of human life and lifestyle 6. Technical areas involving friction, wear, lubrication, etc., between objects 7. Drive parts and mechanisms

## Specific Examples of New Businesses

### Power Assist Suit



In response to social issues such as a declining birthrate and aging population, labor shortages, and an increased number of work-related accidents, we leveraged our strengths in assist technology as well as our insight as a manufacturer with in-house manufacturing shops to launch the sales (August 2018) of this product developed to reduce burdens placed on the lower back of workers in the field, save energy, create safer workplaces, and enable a greater variety of human resources to actively take part in physical labor.



Power Assist Suits

Further, in response to varying labor needs, in June 2019 we added a model providing mid-range power output with an approximately 50% reduction in weight. Going forward, we will continue to incorporate customer feedback into the products we bring to market and provide additional proposals to resolve individual issues.

### Independent Propulsion Walker

#### Electric Assist & Training "Walker"

As the graying of society progresses, and social welfare costs and caregiver shortages are becoming serious problems, there is a need for methods by which to extend healthy life expectancy.

This product provides walking support for those in need of assistance who have difficulty walking on their own. One of its special features is a training function intended to enable independent movement.

Based on the pole walking theory, swinging the arms when walking provides good posture and vigorous aerobic exercise. Additionally, an electric assist function provides safety and peace of mind, while service data is utilized to promote continued usage, enabling the user to enjoy walking. JTEKT is developing this product with the goal of launching sales in spring 2020.



Electric Assist & Training "Walker"

### Manufacturing Industry Cloud Matching Service



Drawing on our accumulated manufacturing and processing technologies and procurement know-how, in April 2019 we launched testing of a manufacturing industry order matching cloud service using a website to meet market needs for higher-quality, lower-cost, and more rapid parts procurement. When users register blueprints and processing requirements on the website, they are able to compare suppliers and receive estimates from among candidate fulfillment companies, then place orders online and receive delivery at a later date. This is a one-stop service that covers all steps, from requests for estimates to payments.



### column

#### High Heat-Resistant Lithium-Ion Capacitors

JTEKT developed the world's first lithium-ion capacitor<sup>8</sup> supporting a wide temperature range, and in September 2017 launched the BR Electrical Power Storage Device Business Department. Since then, we have been developing power supply solutions in response to various power supply needs appreciated by society and customers through applications in the automotive field which are slated to launch in 2022 as we move forward with business negotiations, and applications in the industrial field starting with full-scale mass production commencing in October 2019.

8. A power storage device with increased energy density by adding lithium ions to the negative electrode material of a power storage device (capacitor) having an electric double layer of a positive electrode and a negative electrode



Image of a new plant for manufacturing lithium-ion capacitors upon completion



# Building JTEKT's new value

We spoke with five managing officers in charge of technology development, new businesses, and other areas on the theme of "Building JTEKT's new value."



## Changes in the business environment

**Moderator:** What are your views on the advent of CASE<sup>1</sup> and the kind of transformation in the automotive industry that is said to happen only once in a century?

**Miyazaki:** As someone who has spent many years in the automotive industry, the major changes in the operating environment precipitated by CASE and MaaS<sup>2</sup> are close to home for me. Evolving its technologies to adapt to changes is a pressing issue for JTEKT. It is therefore critical to always gather the latest information and quickly implement the cycle from the formulation of new strategies to their execution. We therefore view the transformation in the automotive industry to be an opportunity to advance our business rather than a risk.

**Segawa:** JTEKT has the leading share globally in electric power steering (EPS), so the shift toward electric vehicles (EVs) is a tailwind for the EPS business. In addition, we were involved from an early stage in steer by wire<sup>3</sup>, so I think this will bear fruit going forward in the era of autonomous driving vehicles.

We do not have any concrete strategy as yet for how we will approach business in the connected and sharing economy. But we will view this risk as an opportunity and continue to consider our approach going forward.

**Makino:** In the area of autonomous driving, we have partnered with DENSO CORPORATION, Aisin Seiki Co., Ltd., and ADVICS Co., Ltd. to establish J-QuAD DYNAMICS Inc., a new company that develops integrated vehicle motion control software<sup>4</sup>. We will clarify our roles within our external alliances and work toward approaches that join together players involved in products and those involved in services.

**Hayashida:** This type of open innovation<sup>5</sup> is becoming more important, and it is clear that the trend away from go-it-alone strategies will accelerate even further. We need to tie-up and collaborate with industry players, academia, and government bodies, including universities and research institutions, in the pursuit of advanced technologies that we cannot build out only with our own resources. As an example of open innovation with a public-sector organization, in April 2019 we announced the establishment of the JTEKT-AIST (National Institute of Advanced Industrial Science and Technology) smart factory collaboration

research laboratory. We have been collaborating with third-party research organizations in the area of materials and components. But our efforts in such fields as IoT<sup>6</sup> and data analytics<sup>7</sup> have room to develop, and I believe we should be promoting tie-ups particularly in these areas going forward.

**Miyazaki:** Up to now, we basically focused on uncovering new technologies in-house while collaborating with universities on an individual basis. But with the pace of technological change in the world today, we are entering alliances not individually but comprehensively and strategically, as research for example in AI<sup>8</sup> requires tie-ups with universities and public-sector organizations both in Japan and abroad.

1. Acronym that stands for Connected, Autonomous, Shared, and Electric
2. Mobility as a Service: Automobile or other transportation method offered as a fee-based service used only when needed
3. A mechanism that transmits the rotation of the steering wheel to the tire electronically rather than mechanically
4. Software facilitating integrated control of electronically controlled components in multiple units rather than individual units
5. Consolidation of knowledge and technology across organizational frameworks when developing new technologies, new products, and new business models
6. Internet of Things: Automated recognition, control, and remote measurement of information and communications equipment, including not only computers but also every other electronic device with communications functions that are connected to the internet and communicate with each other
7. Extraction of specific patterns and correlations hidden in data using analysis methods and algorithms
8. Artificial reproduction of some "intellectual behaviors" performed by humans using a computer program

## Use of AI, IoT, and other digital technologies

**Moderator:** Please explain how AI, IoT, and other digital technologies will be utilized.

**Hayashida:** JTEKT is using AI, IoT, and other digital technologies both in its manufacturing processes and in its products. As an example of using AI in the manufacturing process, we have deployed automated inspection equipment that uses image-processing technology to replace the human eye. Meanwhile, as examples of using AI in the machine tool field, we are developing a PLC<sup>9</sup> that incorporates edge computing<sup>10</sup> as well as an autonomous grinder. We think this will lead to unprecedented improvements in productivity and service levels in both fields.

**Segawa:** To be part of the commercialization of autonomous driving vehicles, we have begun R&D on deploying AI in steering

system controls. We believe this will be a new way of providing value to our clients. We are also thinking about measuring direct load as part of input sensing that sends road condition data to EPS by affixing sensors on the hubs<sup>11</sup> that are attached to tires.

**Makino:** We view the aging of the population under way globally as an opportunity to create new businesses. Specifically, we have developed such products as Power Assist Suit and Electric Assist & Training "Walker," which support human movement. These products are the result of advanced research into resolving issues in the welfare and long-term care fields. I think leveraging AI in these types of products will also be effective.

**Segawa:** Power Assist Suits are products that support human movement like muscles do. Yet each person has a different timing when they move and when they exert force. So, if AI technology can be used to create control tailored to each individual, movement will become smoother and users will be able to perform tasks more naturally and comfortably.

9. A control device that controls equipment by outputting a signal according to an arbitrary program in response to a signal from an input device such as a switch; generally called a sequencer
10. Computers distributed near terminals (equipment) that process data to reduce the load on the host systems and prevent communication delays
11. A part in the center of a wheel that connects the wheel to the axle and knuckle

## On JTEKT's strengths

**Moderator:** What strengths do you feel JTEKT should develop further going forward, given the rapid advancement of digital technologies and the dramatic transformation under way in the social environment?

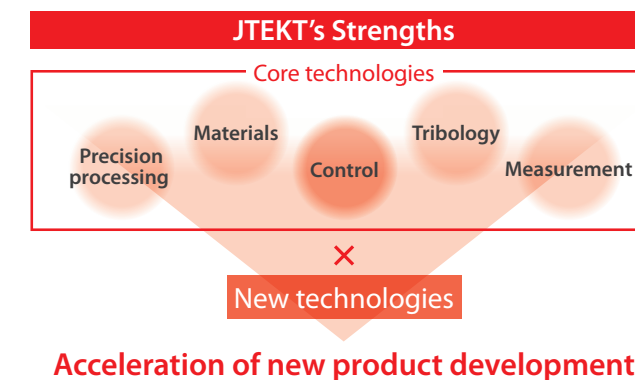
**Segawa:** JTEKT's strengths are in materials, tribology<sup>12</sup>, precision processing, control, and measurement technologies. Commanding these five core technologies makes developing new products based on them possible. In addition, control technology in EPS has become a new strength, and it is very significant that we are able to leverage this technology to enter the autonomous driving market. Further, our ability to expand this technology laterally in other fields is a major strength. Up to now, we have used our core technologies to develop a range of products, but going forward I believe our control technologies will be particularly valuable within the five core technologies as vehicle electrification progresses.

**Miyazaki:** Autonomous driving, in particular, requires the use of various controllers, and this has placed our control technologies firmly in the spotlight. I think this is our biggest strength when you consider it can be used in new business fields, such as Power Assist Suits.

Our involvement in a wide range of businesses is another of our strengths. In addition to our four main business lines, we have companies in the JTEKT Group involved in the development of electronic components and the manufacture of hydraulic dampers, among other businesses. Led by our No. 1 market share in steering, each of our businesses interacts with a broad range of customers, which allows us to collect a massive amount of know-how and information. This in turn becomes the basis for thinking about how to address the future needs of our customers and is the wellspring of ideas for growth. JTEKT thus has the elements to consider what technologies and products based on our existing technologies should be provided at what time to create significant value. Moreover, our largest strength is the wealth of experience held by the JTEKT Group as a whole, including its Group companies.

**Ootomo:** Our global manufacturing network is another one of our strengths. We have established manufacturing bases around the world and are thus able to supply our customers in a timely manner. In addition, since we are deploying the manufacturing lines developed in Japan at overseas manufacturing bases, we can conduct *monozukuri* (building excellent products) under the same standards and quality globally. I would like to also note that this manufacturing system has won high praise from our customers.

12. Technical areas involving friction, wear, lubrication, etc., between objects



### Contributing to resolving the issues faced by society

**Moderator:** In the era ahead, I believe companies will be expected to contribute to resolving the environmental issues and other issues faced by society.

**Miyazaki:** There are two perspectives to responding to environmental protection. The first is how much we can contribute through our products. While a number of our products contribute to environmental protection, the most significant contribution is made by EPS, which greatly improves a vehicle's energy efficiency and lowers the load on the environmental burden. Another of our strengths is the ability to develop and provide bearings that offer low torque<sup>13</sup> and are gentle on the environment. These bearings reduce friction, which translates directly into reduced CO<sub>2</sub> emissions. The second perspective is saving energy and lowering the environmental impact not in products themselves but in their manufacturing processes.

**Ootomo:** JTEKT manufactures machine tools and other manufacturing equipment and thus can also contribute to reducing the burden on the environment in the manufacturing field. One of JTEKT's strengths is having Group companies that make machine tools and thermal processing equipment, which are tested in the manufacture of JTEKT's own products. By providing products to customers that have undergone repeated testing and improvements, we are able to contribute to the reduction of CO<sub>2</sub> emissions and waste liquids and oil, not only at our own plants but also on the manufacturing floor of our customers.

In the era ahead, we must consider how we can contribute to achievement of the SDGs<sup>14</sup>. As a manufacturer, we must think beyond just making products and consider how we can contribute more broadly to resolving the important issues facing society. First of all, dealing with the declining birthrate and the shift to an aging population is a pressing issue in Japan. JTEKT is working toward more highly productive *monozukuri* and leveraging IoT. From a global perspective, in contrast to Japan, the population is growing and causing shortages of food and water. Going forward, as a global company, I believe it will become critical to view issues on a global scale and prepare for the necessary development from a broad perspective.

**Makino:** JTEKT has formulated the "Beyond Medium-term Business Plan," which looks beyond the current medium-term business plan. Through this plan, we are creating a concrete vision for what value JTEKT can provide toward addressing social issues and building a framework for product development through backcasting. I believe building such frameworks will become one of our

strengths.

**Segawa:** In formulating the "Beyond Medium-term Business Plan," we held discussions at executive workshops regarding the JTEKT ideal in 2030 and policies related to business development. The technologies necessary to bring this to fruition are deliberated at Technology Management Meetings. The twin engines of company policy and technology are necessary for the company to move forward with new businesses, and I have the impression both meetings are functioning well toward that end.

**Hayashida:** We are a *monozukuri* company, but going forward we need to change our approach to business.

As a new business, in April 2019 we launched a matching service called "Factory agent"<sup>15</sup>. New business models like this that help to resolve social issues will become more vital in the future. I would like to point out the AI is just one method. In my opinion, we need to consider what to use in combination with AI in our R&D in order to create new value.

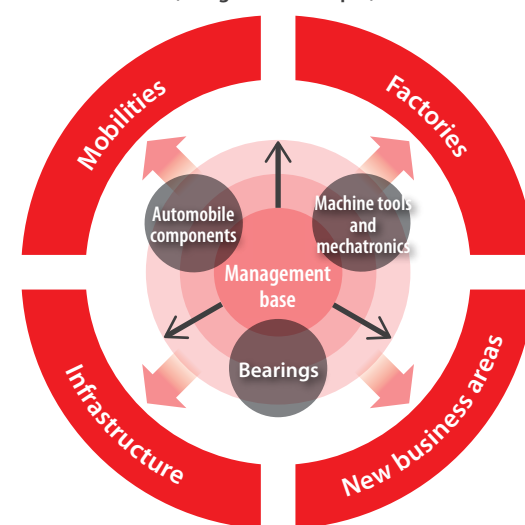
13. Ability to move objects with less force (agrees with low friction)

14. Sustainable Development Goals: International objective composed of 17 goals and 169 targets for realizing a sustainable world, as described in the 2030 Agenda for Sustainable Development adopted at the United Nations Summit in September 2015

15. Please see page 22

### "Bone Policy 2030" (Image)

Expand the strengths of existing businesses and create new value (things and concepts)



### Vision for JTEKT in 2050

**Moderator:** Looking further beyond the image of 2030 set forth in the "Beyond Medium-term Business Plan," what do you envision the world will look like and what kind of company will JTEKT be in 2050?

**Makino:** It is very difficult to imagine society in 2050. That said, only companies that are always looking to the future, comprehending the issues of that era and finding solutions for them, will survive. JTEKT must become that kind of company.

**Miyazaki:** I think it is important to gauge carefully how society will evolve from a global perspective and how to respond to those changes by collecting information from a variety of perspectives and news sources not limited to Japan.

**Ootomo:** On that point, the JTEKT Group has bases worldwide that can serve as sensors and antennae to capture trends and changes in each region. I believe it is necessary for us to anticipate trends and changes in each region by compiling this information in Japan, considering and deciding on our response, and then taking action.

**Segawa:** It is said AI will surpass human intelligence in 2045, and beyond that in 2050 we do not know if the automobile itself will still exist.

That said, even if such an age were to come, we must apply the know-how we have accumulated to develop products that society needs. In addition, no matter how much society transforms, people will still need air and water, food, energy, and other essentials to

continue living. Therefore, I would like to see JTEKT remain a company needed by society through its involvement in such areas.

**Miyazaki:** I think talent development is critical. We will continue with development, manufacturing, and sales that utilize our strengths. In development, in particular, we will need to strengthen our ties with external parties, such as our alliances with partners from industry, government, and academia. At the same time, we will need to develop diverse talent that can adapt flexibly to changes in society. I believe it is critical that we develop people under alliances that go beyond organizational frameworks both in Japan and abroad.

**Segawa:** We are currently strengthening our talent base in data analytics and AI. Meanwhile, we have a robust training system for technology with a vast array of seminars targeted at the company as a whole. Within this technology training, we have educational curricula designed to improve the quality of our development, and as a result, we have expanded the number of experts and higher-grade staff in each part of our organization. In addition, the Human Resources Department provides training on problem-solving methodologies, which provides a base to support the company.

**Miyazaki:** "No. 1 & Only One" is the vision for the JTEKT Group. Going forward, there will be shift from *monozukuri* to *kotozukuri* (value creation). Yet even if this transition does occur, I think it is important that we continue to have pride as a manufacturer and preserve the attitude of developing and providing "No. 1 & Only One" products.





# Laying the foundation for building JTEKT's value

We spoke with four managing officers in charge of sales, manufacturing, purchasing, and human resources about changes in the business environment, the issues JTEKT is facing right now, and the image the company should aim for according to the theme of "laying the foundation for building JTEKT's value."



## Changes in JTEKT's business environment

**Moderator:** The business environment surrounding the JTEKT Group is changing dramatically. How do each of you view this transformation and what responses do you feel are required to adapt?

**Kaijima:** The magnitude and speed of change in our competitors' products arising from technological innovation are the biggest issues facing our sales force. Products that used to sell up to now suddenly become obsolete and no longer sell. We have never before experienced a change like this. Even the world's major automakers have been confounded by the transformation in the business environment, so it is difficult for us to see what we should be focusing on. I have never worked in an environment with this degree of uncertainty.

Furthermore, as a *monozukuri* (building excellent products) company, we have focused on trends in developed countries up to now, but it is clear that it is the Asian nations that will experience growth from here on. As such, I feel it is important to deepen our understanding of these countries going forward.

**Okamatsu:** As for issues facing our purchasing in Japan, labor shortages and a lack of successors owing to a declining birthrate have become apparent at small and medium-sized enterprises. This situation has made it necessary for us to coordinate with our suppliers and secure robust pipelines and thus build a pipeline for the future that considers what materials and technologies our products will require in the years to come.

In overseas markets, it will become difficult to continue our business in implementing global projects unless we can find suppliers who are able to offer the same price worldwide. In this regard, I would like to focus on developing new suppliers and building a framework for quickly collecting a large volume of information from suppliers.

**Sano:** Reducing CO<sub>2</sub> emissions is the biggest issue with regard to manufacturing activities and the environment. With the Toyota Group introducing total CO<sub>2</sub> volume restrictions, we will aim to reduce our total CO<sub>2</sub> emission volume in Japan by 35% in fiscal 2030 compared with our output in fiscal 2013. This is a challenging target as it means we must reduce our CO<sub>2</sub> production at a rate that exceeds our targeted growth rate over the same period.

When thinking about reducing CO<sub>2</sub> emissions, it is also important to consider the impact on the manufacturing floor of recent global warming and climate change. As temperatures rise, we are forced to use more energy for air conditioning in order to maintain the working environment on the manufacturing floor. As a consequence, JTEKT has set reduction targets for CO<sub>2</sub> emissions that incorporate such changes and has begun working to achieve them.

In addition, a shortage of water has become an issue in recent years. JTEKT has started to introduce water circulation systems to address its need to reduce the amount of water it uses going forward. These are some of the ways that meeting society's expectations with respect to the environment has become a priority for us.

**Mogi:** These days, institutional investors are looking not only at a company's earnings but are also making investment decisions based on its approaches to ESG<sup>1</sup> and the SDGs<sup>2</sup>. I feel there is a need to convey with accuracy and detail to investors and other external stakeholders how JTEKT is contributing to society and the various initiatives being implemented with the company.

On the human resources front, we must take steps in Japan from now to counteract the decline in the working population associated with the so-called "Year 2025 Problem"<sup>3</sup>. As one measure, we are taking the passage of the Workstyle Reform Act as an opportunity to create a work environment that is more accommodating, a framework for employees to be active in a variety of ways, and an environment for employees to learn on their own initiative.



Solar power generation at Koyo Machine Industries Co., Ltd.'s Yuzaki Plant

1. Acronym that stands for environmental, social, and governance; used as an indicator to determine whether a company can grow sustainably  
 2. Sustainable Development Goals: International objective composed of 17 goals and 169 targets for realizing a sustainable world, as described in the 2030 Agenda for Sustainable Development adopted at the United Nations Summit in September 2015  
 3. The Baby Boomer generation, which is said to consist of approximately eight million people, will become senior citizens (75 years of age or older) by 2025, leading to a super-aged society.

## Strengths that underpin JTEKT's growth

**Moderator:** Amid the need to respond to changes in the environment, what are the strengths the company will take advantage of in the future?

**Kaijima:** JTEKT handles a wide range of products, including automotive parts, bearings, and machine tools. This means there are differing senses of value and thinking within the company. I believe that intentionally combining these diverse values and ways of thinking can create new approaches and ideas.

In addition, the JTEKT Group conducts its business on a global scale, and in terms of headcount, Japanese nationals are in the minority. I believe we need to stop treating non-Japanese as the second line of employees and aggressively promote talented people regardless of nationality and the like to leadership positions. This to me will open the way to survive in these times of great change.

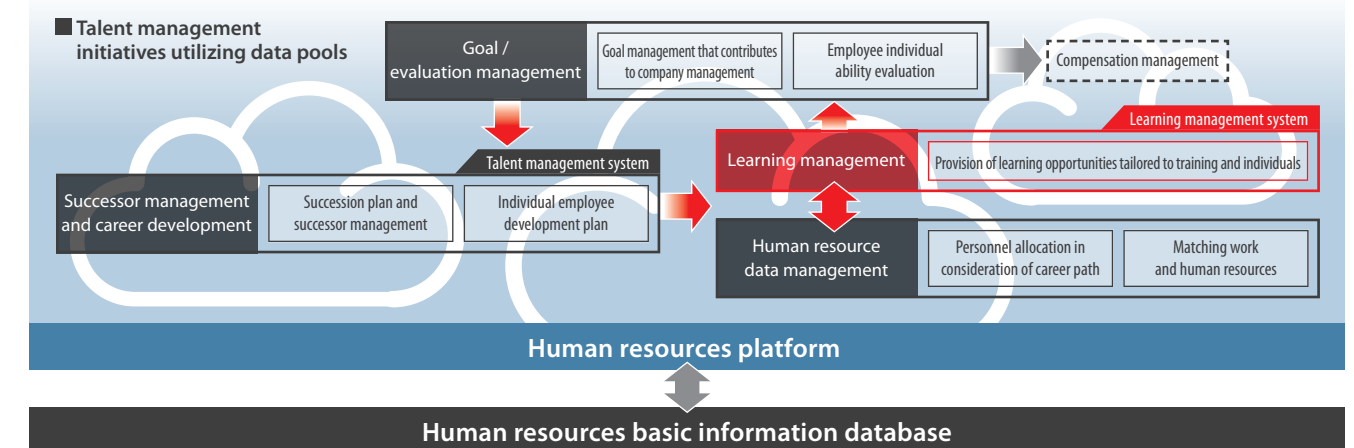
**Mogi:** As for mixing diverse talent together, I would add that we are focused on building a systematic structure for staff rotations as part of our human resource strategy. We are also compiling talent management information into a database and considering using this data to match talent with the optimal business unit and role for them. Furthermore, in recent years we have prioritized creating an environment where employees are highly motivated and enthusiastic about their work. By connecting the talent

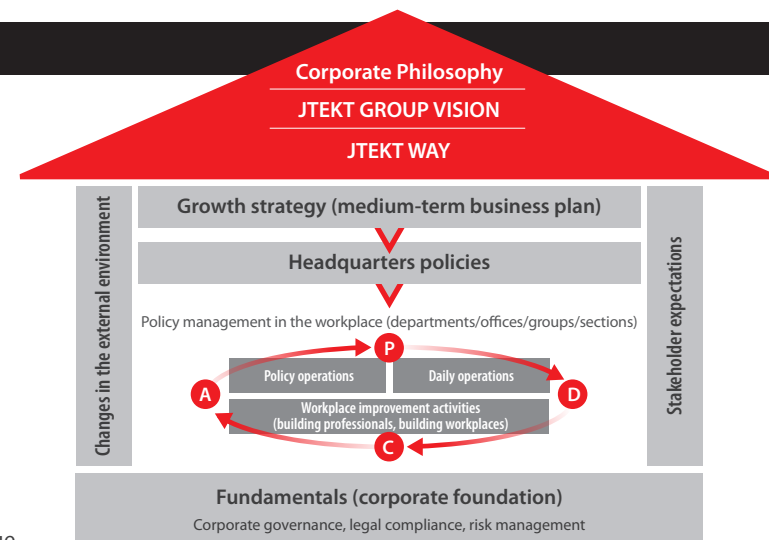
management information database I mentioned with a training system, we are able to create interactive learning tailored to each employee. We intend to promote the use of this data pool going forward.

**Sano:** To ensure that everyone in the manufacturing divisions is heading toward the same targets globally, I believe it is important to have lateral coordination by sharing information and exchanging talent among plants. In concrete terms, we are holding global conferences, bringing overseas employees to Japan to participate in training and actually work on site in Japan. Such employees will take the knowledge, skill, and human networks they gain through such experiences back to their home countries and expand on them. I get the sense that such personnel movement and exchanges have become more prevalent.

**Okamatsu:** Sustaining competitiveness is one key to a company's survival. We are fortunate that JTEKT has many proprietary technologies and can boost its competitiveness by working hard to improve its own technologies while its suppliers apply themselves toward improving theirs.

In addition, we have placed purchasing professionals in each of our key overseas markets, and this enables regions that possess a certain technology to support those regions that do not. We are thus able to perform the same activities anywhere in the world. I aim to strengthen this structure for the global management of purchasing and thus respond to the demands of the new era.





Management model

### Issues facing JTEKT and its response

**Moderator:** As JTEKT leverages and improves upon its unique strengths, I believe there are some areas in which it can improve. Please share your thoughts in this regard.

**Sano:** At present, investment outflows have been rising due to an increase in various projects under way and are having an impact on our profitability. Under such conditions, it is critical for us to consistently achieve the targets for each project. As such, the entire company is working under the leadership of President Agata to build manufacturing lines that produce the maximum impact on earnings from the moment that mass production begins.

Additionally, we have made considerable progress raising productivity through automation and by reducing the number of staff working on the manufacturing floor.

**Okamatsu:** While the number of global projects has risen in recent years, we must offer an advantage over our competitors in attributes other than just price. Costs are the most difficult aspect of purchasing, but this is the same for all companies. In my opinion, cutting lead times until product delivery to the greatest degree possible will be important to capturing business opportunities going forward.

**Kaijima:** I believe speediness is what is lacking most in Japanese companies today, including ours. Japanese are not keen to “buy speed” in business. Our overseas competitors buy time by acquiring what they need through M&A and seek out talented individuals through headhunting. I think it is critical that we do not adhere to a go-it-alone mentality.

**Mogi:** With respect to shedding a go-it-alone mentality, we recently have been actively participating in university-sponsored symposia and alliances among industry, government, and academia while encouraging open innovation. Among other examples, we are contributing to regional revitalization by working with local government organizations and research institutions. Going forward, I would like to further expand our ties with external parties.

### How to become a unified global organization

**Moderator:** Where do you think JTEKT should focus, including addressing the issues you spoke about, as it works to become a unified global organization?

**Kaijima:** The medium-term business plan has the signposts to guide us toward reaching our targets. I emphasize the PDCA<sup>4</sup> cycle the most when performing tasks in implementing the plan. I work toward ensuring a thorough understanding worldwide and at all affiliated companies of how JTEKT does business, including the JTEKT WAY.

**Sano:** JTEKT has set the same key performance indicators (KPIs) for its global business and presented them in a way that is readily understandable. We aim for a common understanding of our issues and conduct benchmarking to learn from the strategies and initiatives of leading companies. We strive to develop our talent by incorporating the best practices of other companies in our PDCA cycle and continually improving our activities.

**Mogi:** I believe JTEKT’s strength is the importance placed on *genchi genbutsu* (go and see for yourself) to promote shared values and recognition of issues. I feel it is important to continue to preserve this corporate culture.

**Kaijima:** In the sales divisions, we are implementing “multi-perspective sales” as a combination of both communication and *genchi genbutsu*. We aim to have multiple points of contact with our customers. For example, connecting our functions to those of the customer: the customer’s purchasing division and our sales division, the customer’s development division and our engineering division, the customer’s manufacturing division with our quality division, and so forth. We do this fairly intentionally, since increasing the points of contact we have with our customers leads to broader business opportunities.

4. The Plan, Do, Check, Action management method for ongoing operation improvements

### The ideal form for each business unit

**Moderator:** From the discussion thus far, we are able to understand what JTEKT is focusing on as a global company and the initiatives under way in the areas under your direction. Let us turn now to the future. Please describe your thinking as to the ideal form for your business area.

**Kaijima:** In these highly uncertain times, I think leadership is particularly expected of the sales force at the front lines in feeding back what has been learned from customers and thinking of ways to address the customers’ requirements with internal parties. Toward this end, everyone needs to become more attuned to what is happening outside the company. It is important to aggressively seek out information and learn and internalize it independently. The company also needs to provide its people with learning opportunities.

**Mogi:** I think we should be aiming for a workplace where employees work enthusiastically and are contributing to society. We must embrace diversity to make this happen. In the area of human resources, I feel we must strive to address each employee individually with as much attention to detail as we can since each employee has different fields where they can express their skills and workplaces where they are able to thrive.

**Sano:** I believe we need adaptability to change. Our basic strength in *monozukuri* is the foundation of acquiring adaptability, and we will therefore continue working to fortify this basic strength as the foundation for flexibility in manufacturing. We also need to shrink lead times, as shortened lead times result in a perception of speed and increases our adaptability to various changes.

**Okamatsu:** In the purchasing division, we set the “JTEKT WAY in Purchasing” as our policy five years ago and follow this together with purchasing staff at all local subsidiaries. The core concept of this policy is to “create a structure for supplying the best quality at the lowest price in a timely fashion,” and so I do not expect this to change in the future.

Going forward, we may add “information” to this policy. For example, we plan to use IoT<sup>5</sup> to acquire information on parts from the suppliers of our supply chain before they are delivered. We can create even better products by using such information to set up the next step in the workflow or fine-tune processing in advance. By setting up such linkages I believe we can all but eliminate defects within our processes, which in turn will heighten our competitiveness. This may seem like a fantasy, but I have a vision that our structure will be enhanced in such a way in the future.

### The company that JTEKT should become in the future

**Moderator:** To conclude today’s discussion, please comment from a long-term view on the company that JTEKT is aiming to become in the future, and what is important in making this a reality.

**Kaijima:** Our customers also seem to lack confidence as there is no clear outlook for the future. This is exactly why we would like to be the company our customers consult with first saying, “if we are going to consult someone, it will be JTEKT.” Toward this end, I would like to build a corporate image as a company “that is a good listener,” “is able to respond from a broad perspective,” “offers good insights and proposals,” and “has extensive capabilities and makes products with care.”

**Mogi:** President Agata often says “catch ground balls hit between the shortstop and third base” as a metaphor when speaking. In other words, it is important to continually take the initiative to resolve issues and have a mind-set that is always focused on self-improvement. If our people have such a mind-set, I believe we will be able to adapt to any change in society or the world at large.

**Sano:** Recently, President Agata has been saying, “catch all the ground balls,” not just the ones hit between the shortstop and third base (*laughs*). After all, I think within the JTEKT WAY it is important to have a strong sense of ownership. I believe JTEKT will grow stronger if we have more talented people who can think and act on their own.



5. Internet of Things: Automated recognition, control, and remote measurement of information and communications equipment, including not only computers but also every other electronic device with communications functions that are connected to the internet and communicate with each other



## Building value globally

We interviewed two managing officers from overseas subsidiaries for their views regarding what initiatives should be implemented to ensure the JTEKT Group continues to create value on a global basis.



Francis Fortin

Managing Officer in charge of European businesses

Michael Davidson

Managing Officers in charge of North American businesses

### Views on contributing to society and environmental issues

**Davidson:** In my region, North America, the world is changing at an unprecedented pace owing to technological advances that were unthinkable under past paradigms and a succession of net entrants into the automotive industry from other fields. To respond to such changes, we at JTEKT must leverage our experience and know-how gained up to now to the fullest. Furthermore, we also need to consider how we can contribute to society through our product design and manufacturing.

**Fortin:** The situation is the same in Europe. Social interest in environmental issues in particular has been growing year by year, and more stringent regulations are exerting a major impact on the automotive industry. As a result, it is critical to gain a firm understanding of our customers' trends and to be positioned to respond to their movements in a timely fashion. Stricter regulations are making customers' requirements more complex and sophisticated. There are also an increasing number of global projects that require complying with multiple regulations that cross national borders. We need to speed up everything we do to keep pace with this changing environment.

**Davidson:** Against this backdrop, we need to create the environment both globally and locally in which we can hire the necessary talent, respond as needed, and generate the right output whenever it is needed. I think it is fair to say that JTEKT has made more progress in becoming a diverse organization than its peers because it has a broad product lineup and manufacturing plants around the world. I would like JTEKT to fully apply this diversity as a strength to comply with regulations, contribute to society, and tackle environmental issues in a timely fashion. In North America, we have set internal targets for addressing environmental issues and each business location is working together to achieve them. As some examples, we are working toward reducing the amount of waste that goes to landfills to zero, optimally managing compressed air used in plants, cutting wastewater volumes, and improving the way we manage the time lighting is used. These are some of the ways that when the entire organization—the company and its plants—is involved that we can continue to create working environments in which each employee can focus on the environment while they perform their daily activities.

**Fortin:** We are proactively introducing renewable energy as part of our response to environmental protection issues in Europe. Furthermore, we are sorting our plant waste and continually working to reduce the amount of waste we produce. At the same time, we are uncovering and supporting new suppliers and working to reduce CO<sub>2</sub> generated during transportation by producing our products in closer proximity to our customers.

### The kind of talent needed

**Fortin:** First of all, we need professionals who are highly adaptable to changes in our business and markets. Next, for issues that require us to respond globally, we need staff with the ability to compile information in their region and share that information with global members in a timely manner without hesitation. It may sound like a fairly simple matter, but a high degree of sensitivity and skill is needed to determine what information is needed by when in what region. Since developing talent with such high sensitivity and skill requires promoting personnel exchanges that cross business units and with other regions, we are now building a global framework to make this happen. Moreover, I am confident that we can make "Global One JTEKT" a reality if we have more members that have gained such experiences.

**Davidson:** I believe talented personnel who possess both a sense of ownership and self-motivation will lead JTEKT to success as a global company. In addition, people with the ability to look at regional requirements and have the skills to optimize by identifying domains that should be standardized and those that should be deliberately not standardized. Such skills will produce a competitive strength that gives due consideration to regional markets and cultures. For JTEKT to make a major advance from regional to global markets, we need to not only resolve the issues that may emerge from diversity but also have leaders with the skills to overcome such issues.

### Issues facing regional management

**Davidson:** I believe raising the pace of our technological development is the most important issue we face when we consider the rapidly changing competitive environment of recent years. Our customers in the automotive industry are looking for the "next" technology, so they are shifting their resources to address the changes that lie ahead. This shift in resources means that even if we invest in and expand sales in our existing portfolio, our customers may not require such products in their next model or generation. Therefore, we must move quickly to start development of new technologies and transition to a business model in which we grow sales in both established and new product lines. Furthermore, what customers are thinking about "next" varies by region, so we must be diligent in sharing information on regional needs within the Group.

**Fortin:** When looking at JTEKT from a global perspective, it is clear that there are some overlapping organizations and functions. We need to visualize and optimize these while efficiently utilizing the technological and manufacturing capabilities JTEKT has as a whole. We at JTEKT have much to learn from one another in each region. I believe we need to continue to discuss what we should do and where we should do it in order to optimize the organization and its functions.



JTEKT North America Headquarters

### Governance

**Davidson:** Given the advances in globalization in our business environment recently, it is clear that to be global ourselves we need to build governance structures in each of our regions. This means observing strict compliance with laws and regulations in each country and managing it with the proper decision-making process. Toward this end, executives and directors must have a strong mind-set and act with a focus on governance and control.

**Fortin:** I think an appropriate level of regional delegation is necessary in regional governance. This is because given the complex cultural environments and our ever-diversifying customer base, the people on the ground locally are best positioned to deal with any issues that arise. I believe the "One JTEKT" we are striving to achieve can be attained by augmenting each other's strengths and establishing strong and stable regional governance that works in harmony in the region regardless of country, language, religion, or culture. Therefore, each region needs to strengthen its governance structure and its capabilities in *monozukuri* (building excellent products).

### Hopes for the future

**Fortin:** To adapt agilely to changes and advances in our business, I would like to build a true JTEKT organization with a JTEKT mind-set in Europe as a company that lives and breathes *monozukuri* and can respond with the best technologies and resources. I will strive to create an organization and culture that stimulates the motivation of our employees and leads to "value building."

**Davidson:** I am confident that the "value" in "value building" can be defined by our clients, employees, and shareholders as well as the people living in our communities. I aim to create an organization that can deliver the value expected of us under that definition in an efficient and sustainable way.

# Steering Business



**Hirofumi Matsuoka**  
General Chief of Steering Systems Business Unit

JTEKT applies technologies cultivated in electric power steering (EPS) to contribute to the realization of a safer and more comfortable car society and autonomous driving.

## Description of business

Providing steering systems, which assume the basic vehicle function of "turning." The main product lineup includes column assist-type EPS<sup>1</sup> and rack assist-type EPS<sup>2</sup> that provide EPS for a variety of automobiles, from passenger cars to large commercial vehicles.

## Value created in fiscal 2018

### Strengthening development of software for autonomous driving

- Established J-QuAD DYNAMICS Inc., a joint venture company for system development of integrated control for autonomous driving, gathering the Toyota Group's technical knowledge of autonomous driving and vehicle motion control.

### EPS application area expansion

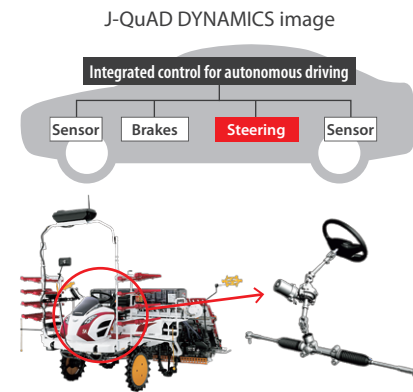
- Developed EPS (intermediate assist-type EPS<sup>3</sup>) for multipurpose vehicles used for agricultural, off-road, and other applications
- Expanded sales to agricultural and construction vehicles that will be autonomous in the future

### Rack assist-type EPS business expansion

- To strengthen the global supply system further, we set up production sites for dual pinion-type EPS in four regions (Japan, China, North America, and Europe) and rack parallel-type EPS in three regions (Japan, China, and North America).



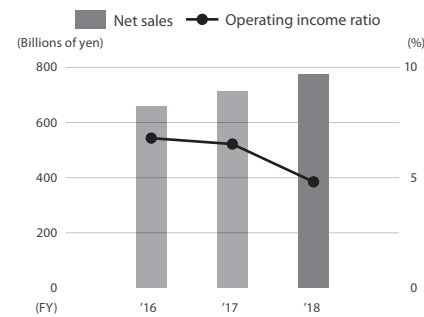
JATJ rack parallel-type EPS line-off ceremony  
Started mass production of rack parallel-type EPS at JATJ in China (January 2019)



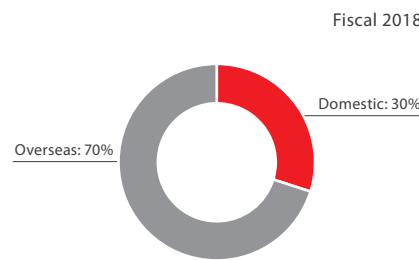
### Intermediate assist-type EPS

- EPS where the motor responsible for the assist is attached to the column
- EPS where the motor responsible for the assist is attached around the steering rack
- EPS where the motor responsible for the assist is attached to the intermediate shaft
- EPS where the motor responsible for the assist is attached around the rack bar with two pinion shafts
- EPS where the motor responsible for the assist is attached parallel to the rack bar

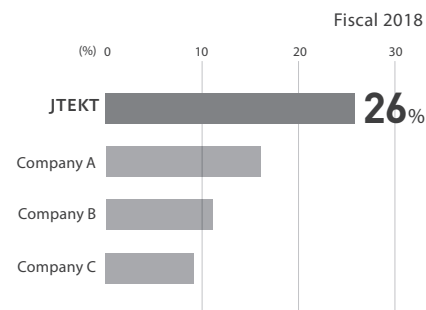
## Net sales and operating income ratio



## Sales ratio

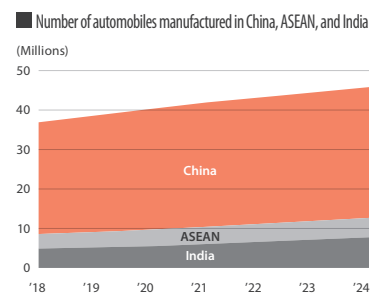


## Steering share



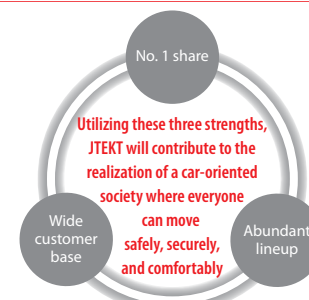
## Business environment analysis

- Accelerating efforts to realize an autonomous driving society
- Emerging market growth and severe EPS competition
- Globalization of projects and sophistication of customer requirements



## Strengths

- One out of every four cars in the world is equipped with JTEKT steering
- Expanding business for Japanese customers as well as European customers
- Column assist-type EPS, dual pinion-type EPS, and rack parallel-type EPS in the main product lineup, which can provide EPS to all passenger cars



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



- Supporting realization of a society without traffic accidents through autonomous driving
- Contributing to the greater fuel efficiency of vehicles, not only passenger vehicles but also commercial vehicles
- Establishment of global development bases and nurturing the development of human assets to contribute to enhanced technological capabilities in each country

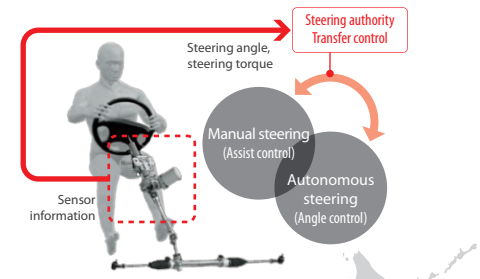
## Medium-term policies

Maintain top share in steering and continue to be the No. 1 & Only One as a top runner of advanced steering technologies such as ADAS<sup>6</sup>

With the No. 1 market share, JTEKT will leverage its knowledge as an expert of "steering feeling" to contribute to the provision of comfortable driving, safety, and security.

### Research and development of advanced technologies for realizing autonomous driving

- Establish JTEKT IT Center Akita Corporation as a software development site to strengthen electronic control technologies and create local employment opportunities
- Expand software development site to the Higashi-Kariya Plant for integrated development of the V-shaped process<sup>7</sup>, from system requirements to evaluations. Further strengthen development resources by expanding overseas offshore sites and increasing efficiency.
- Contribute to a comfortable driving and zero traffic accident society through technologies that support autonomous driving, hands-on detection<sup>8</sup>, and steering authority transfer systems<sup>9</sup>



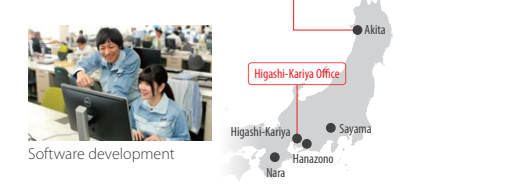
### Improve EPS cost competitiveness

- Improve procurement flexibility through in-house production of MCU<sup>10</sup>, optimize costs, and further reduce costs by reducing production costs through line automation
- Develop next-generation column assist-type EPS through innovative cost reductions that take advantage of regional characteristics and collaborate with Group companies to increase competitiveness and expand market share in developing countries that are growing

### Strengthen global project management system

- Promote global standardization in design, production, and management.
- Establish cross-functional management systems for each project to efficiently develop and produce globally competitive products

## JTEKT's steering development base



- Advanced Driving Assistant System: Advanced driving assistance system to support comfortable driving and prevent accidents
- Development model showing correspondence between development and testing processes within system development
- EPS sensor detects driver operation intention
- Technology that converts steering power safely and accurately by harmonizing operation intention between the system and driver
- Motor integrated computer unit

## Focus

### Social contributions in public transport and logistics fields through autonomous driving and precise docking controls

JTEKT is conducting research in conjunction with venture companies and universities on the practical application of autonomous driving and precise docking control technologies<sup>11</sup> required for next-generation transportation systems. We aim to help resolve social issues in public transportation and logistics by providing safety and security while eliminating driver shortages.

Truck platooning image

Wheelchair boarding (± 40-20 mm width, stop)

11. Control that automatically stops a bus or small transportation vehicle at a predetermined location (such as a bus stop) with a high degree of accuracy

## Global Topics

### Global top share in power steering, further expansion of supply system

In order to promote sales growth in India, where the market is expected to expand, we are increasing the number of production sites. In addition, a production site was built in Morocco to establish a business site in North Africa. We aim to start mass production in 2020.

JIN inaugural ceremony

Bird's-eye view of the JAMO Plant



## Driveline Business



**Takumi Matsumoto**  
General Chief of Driveline Systems Business Unit

Through the energy-saving, improved travelling safety, and other benefits provided by our driveline parts, we will contribute to the creation of a safer and more secure society. We will also contribute to the enjoyment of driving through vehicle torque control.

### Description of business

Providing driveline products for vehicles, torque control devices (TCDs), hydraulic systems and valve units for fuel cell vehicles (FCVs), etc., related to the basic vehicle function of "driving."

### Value created in fiscal 2018

#### Development of a drive shaft providing outstanding high-efficiency and quietness

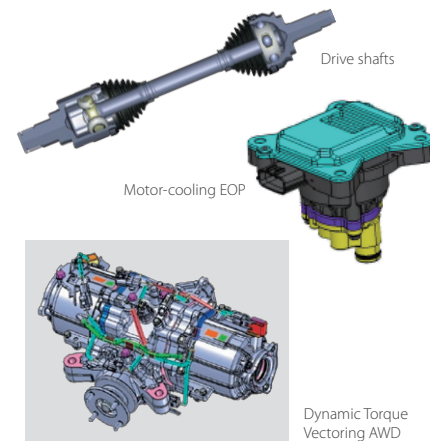
- Development of highly efficient and quiet drive shaft that contributes to fuel economy and quietness in anticipation of the era of autonomous driving and vehicle electrification.
- In the future, we will expand the size deployment of this drive shaft and support the realization of cars with better fuel efficiency.

#### Received an order for a new application product for the era of vehicle electrification

- Received an order for the first motor cooling electric oil pump (EOP) in Europe in anticipation of the era of vehicle electrification.
- Going forward, JTEKT will contribute to sustainable development of the automotive industry through the increase in EVs, specifically with the start of production in Europe, where demand for EVs is expected to increase.

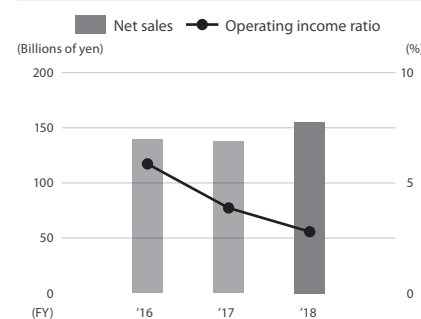
#### Sales launch of new-function vehicles equipped with JTEKT products

- Sales launch of RAV4 with Toyota Motor's "Dynamic Torque Vectoring AWD"<sup>1</sup> function equipped with ITCC<sup>2</sup>.
- Going forward, we will continue to contribute to further improving the environmental and safety performance of vehicles by improving vehicle fuel efficiency, driving stability, and running performance through the provision of products with new technologies.

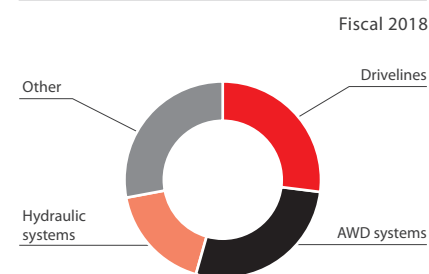


- Intelligent Torque Controlled Coupling: A mechanism that detects the difference between front and rear wheel rotation and achieves optimal front and rear wheel torque distribution by electronic control
- The rear wheel torque is controlled independently on the left and right sides, and during 2WD driving, the rotation of the rear wheel drive system is stopped and loss is greatly reduced.

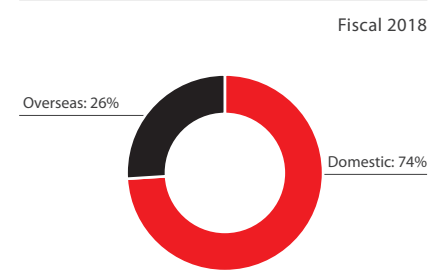
#### Net sales and operating income ratio



#### Ratio of sales by product

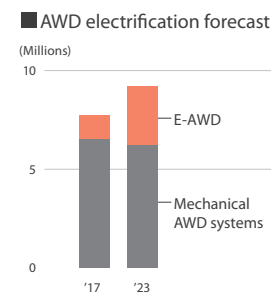


#### Sales ratio



### Business environment analysis

- From individual units to system proposals, customers' needs are changing
- Customers' demands for E-AWD<sup>3</sup> and other EV products have increased globally and are diversifying in each region



3. Electric-All Wheel Drive: A four-wheel drive system equipped with a motor drive device that does away with mechanical drive force transmission for the front and rear wheels

### Strengths

Based on our core technology and development capabilities, extensive lineup, and customer base, JTEKT contributes to the realization of a society where everyone can move safely, securely, and comfortably.

#### Core technological and developmental capabilities

Core technological and developmental capabilities based on deep knowledge of tribology, torque management, and hydraulic control

#### Extensive lineup

Extensive lineup of drivelines, hydraulic systems, TCDs, and other products

#### Customer base

JTEKT's customer base is global in scale, including both developed and developing countries

Safe, secure, and comfortable society

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



- Contributing to the realization of a safer automotive industry by producing high-quality, innovative parts that enhance automobile turn and stop capabilities
- Contributing to the realization of cars with higher fuel efficiency through the provision of highly efficient drive parts
- Contributing to the sustainable development of the industry as a whole by providing products that meet the needs of EVs

### Medium-term policies

With the aim of exponentially advancing our position as a driveline system supplier, we will accelerate strengthening of our system development capabilities and engage in product development for vehicle electrification.

#### Strengthen development of driveline systems

- Evolution from conventional modules to system suppliers not only to propose individual products to customers but also to propose driveline systems themselves.
- Work to further improve proposal capabilities to promptly propose systems to customers

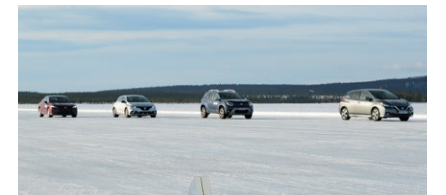
#### Strengthen engineering sales capabilities

- Establish a system to anticipate market trends in each region, including CASE<sup>4</sup>, and conduct strategic global promotions based on market trends.
- Through this promotion system, we will strengthen our engineering sales capabilities so that we can carry out proposal activities that exceed customer expectations.

#### Strengthen global foundation

- The demand for automobiles is rising mainly in developing countries, and the global development and production system will be strengthened to meet the demand in each country.
- Establish a system to provide products that meet the needs of customers in each region in an optimal system

4. Acronym that stands for Connected, Autonomous, Shared, and Electric



Winter test



Torsen Type B

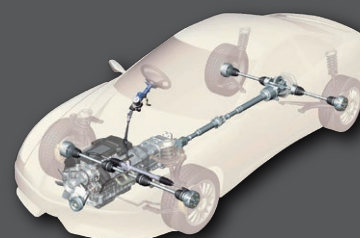


JTEKT Automotive South Carolina

### Focus

#### Product lineups compatible with EV, HV, ICE<sup>5</sup>, and all other vehicles

Up to now, we have deepened and enhanced our drive shaft and hydraulic system product lineups and strengthened our development capability for various vehicles. As a result, our ability to propose functions and systems required by customers has been improved. Going forward, we will continue to develop high-performance products, expand driveline products that offer outstanding rigidity and quietness, hydraulic systems with smaller and lighter products in line with vehicle specifications, and AWD with electrification-compatible products in an effort to strengthen Only One proposals that leverage our strengths.



5. Internal combustion engine: Machine that generates power through the internal combustion of fuel

### Global Topics

#### Strengthening global response capabilities, from development to production

In tandem with the development of production systems in North America and the ASEAN region, which are our overseas market targets, we will promote human resources development to accelerate application and software development. At the present, we are enhancing development personnel in Japan, and in order to retain human resources in each region overseas we will strengthen human resources development and retention to meet the needs of the coming era, including enhancements to technical center functions and alliances with other companies.



## Bearing Business



**Katsumi Yamamoto**  
General Chief of Bearing Business Unit

Our bearing products are used in rotating parts for all industries, from cars to industrial machinery, and are working in the background to support society.

In the automotive field, we will respond to electrification and autonomous driving trends while in the industrial machinery field we will develop solution proposal-type businesses and offer value and service throughout the lifecycle of products.

Through these activities, we will contribute to the realization of a better society from the perspective of energy-saving and social infrastructure.

### Description of business

Development and manufacturing of bearings for vehicles such as powertrains, chassis-related parts, and bearings for all industrial machinery, ranging from bearings for unit products and precision machinery to super-sized bearings for tunnel boring machines

### Value created in fiscal 2018

#### Advance of automation and unmanned operation

- In anticipation of needs within a declining workforce, we are expanding automated and unmanned lines utilizing automated appearance inspections, conveyance, and packaging as well as IoT.

#### Business structure enhancements

- Going forward, we will enhance our global production system and production capabilities in China, India, and other countries where the market is expected to grow.

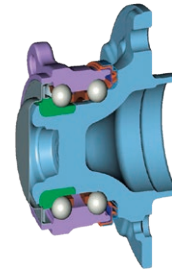
#### Introduction of new products and technologies

- We will introduce high-speed single ball bearings (SBBs)<sup>1</sup> for motors, new materials, and bearings for special environments leveraging technologies accumulated up to now.

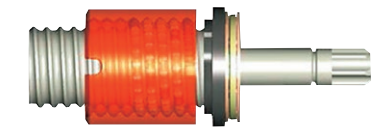
1. A type of rolling bearing that separates moving parts of bearings using a single row of balls



Single ball bearing for high-speed rotation



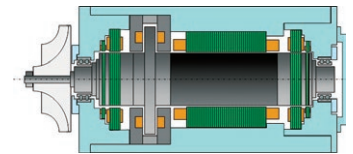
Lightweight, low-torque hub unit



Ball screws for electric brakes



NK bearing<sup>4</sup>



Control-type magnetic bearing

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



- Contributing to reduced energy loss in all fields by better low-torque technology and supporting electrification
- Contributing to energy loss reduction through downsizing and lightweight technologies



- Supporting industrial advancement and helping to maintain / improve abundant life environments for people by making proposals to the global market that foresee needs

### Medium-term policies

#### Productivity improvements

- Reduce lead times and costs by establishing a new construction method
- Promote unmanned operation through thorough automation

#### Strengthen global production system

- Further increase production capacity in developing countries in Eastern Europe, China, and India

#### New product launches

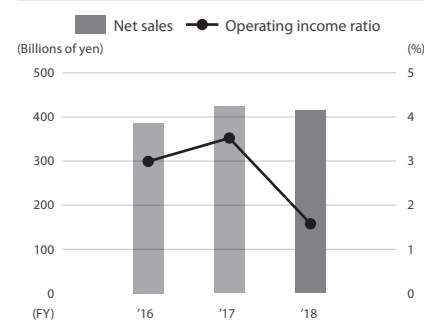
- Development of products corresponding to the electrification of automobiles (ball screws<sup>3</sup> for electric brakes)
- Product development (new materials, special environments) corresponding to various operation environments in the industrial machinery field

#### New business development

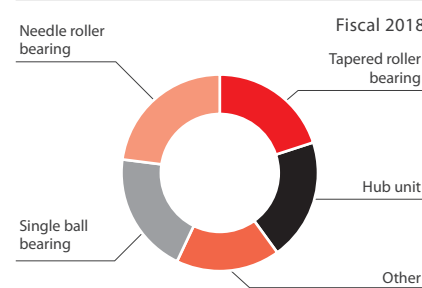
- Expand unit product, magnetic bearings<sup>5</sup> system businesses

3. High-precision, compact, and lightweight ball screws that enable fine braking control  
4. Long-life bearings using new materials  
5. A bearing that supports the rotating object through magnetic levitation

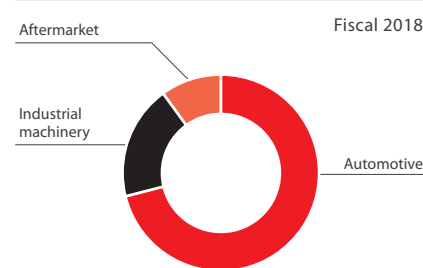
### Net sales and operating income ratio



### Ratio of sales by product



### Ratio of sales by industry



### Business environment analysis

#### (Automotive bearing) Acceleration of product development

Product release considering advancement of electrification and autonomous driving needs surrounding changes to cars

#### (Industrial machine bearings) Further diversification of the environments in which bearings are used

Timely development and market release of products, technologies, and services responding to further sophistication of robots and automation

### Strengths

#### Low-torque technologies

Overwhelming low-torque<sup>2</sup> technology represented by the LFT (Low Friction Torque) series

#### Broad product lineup

Responding to a wide-variety of industrial machine applications

2. Objects may be moved with low torque (equivalent to low friction)

#### Technique for testing and analysis

Enables testing and analysis in an environment closely resembling actual cars at the Iga Proving Ground or actual machines at the Large Size Bearing Engineering Development Center

#### JTEKT Group strengths

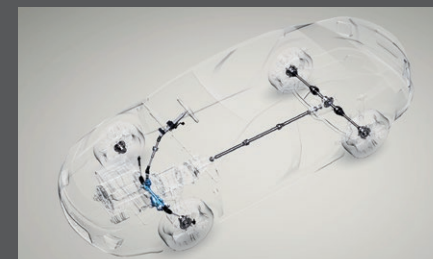
The ability to execute comprehensive development projects from our customers' perspectives due to having both an auto parts business and machine tools business within the JTEKT Group.



### Focus

#### Contributing to automated operation of sensing hub units that monitor the driving environment

To facilitate autonomous driving, high levels of "cognition," "judgment," and "operation" are required. JTEKT aims to develop a system that uses a hub unit as a sensor to ascertain road surface changes and abnormalities and failures that occur in vehicles. We will continue efforts toward the resolution of social issues by realizing highly accurate vehicle controls and the early detection of abnormalities and failures using sensing hubs<sup>6</sup>.



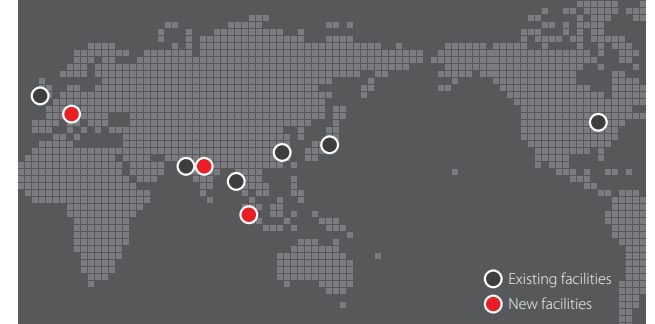
6. A hub unit that supports vehicles from their wheels with a built-in sensor that detects road surface conditions



### Global Topics

#### Enhancing hub unit production systems

From fiscal 2019 onward, we will promote production system enhancements, and in Europe we will add a facility in Romania as a second production site. Additionally, we will attempt to increase production capacity in the ASEAN region, where we aim to establish a facility in addition to Indonesia and another facility in India as a second production site. We will engage in enhancements in each region to accelerate the steady achievement of growth and development.





## Machine Tools & Mechatronics Business



**Shinji Kato**  
General Chief of Machine Tools & Mechatronics Business Unit

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

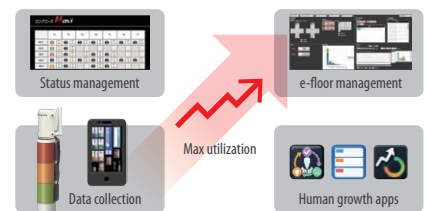
#### Response to workforce shortages and loE<sup>5</sup> needs

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

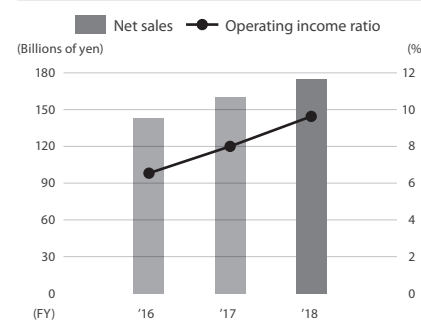
- Machine that grinds the surface of a workpiece using a rotating grinding wheel
- Machine that cuts the surface and shape of a workpiece using a rotating tool
- A numerically controlled machine tool with an automatic tool change function that performs different types of machining such as milling, boring,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



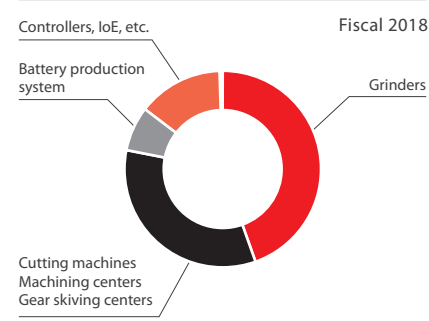
### JTEKT loE Solution



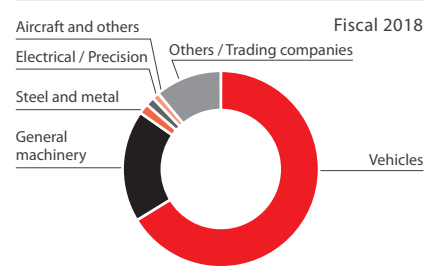
### Net sales and operating income ratio



### Ratio of sales by product



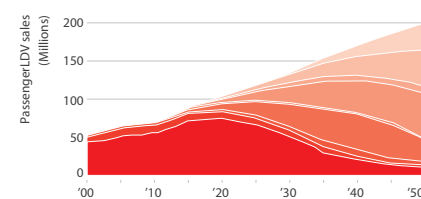
### Ratio of sales by industry



### 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 rolls<sup>6</sup>, 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

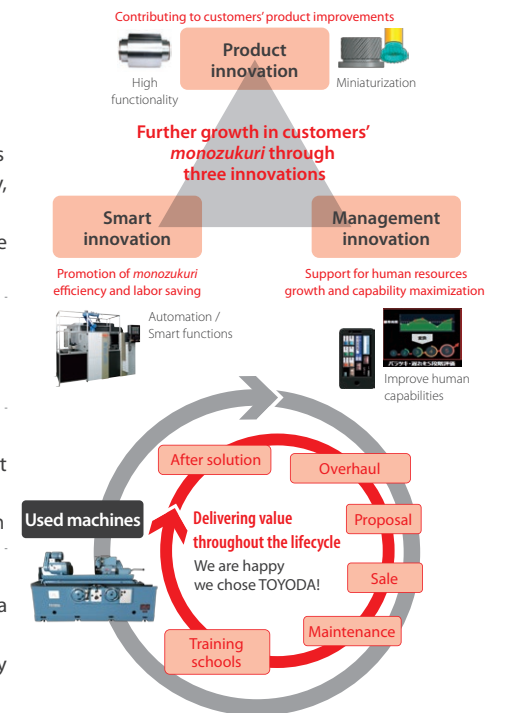
#### Contributing to the development of social production activities

- 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.

# Together With Society

The JTEKT Group aims to contribute to the resolution of social issues and realize a sustainable society through business conducted in accordance with its corporate philosophy.

## Corporate Activities Standards

### Responsibility to our customers and business partners

- We follow proper business practices and engage in fair, transparent, and free competition based on a respect for the law.
- We derive concepts from the market, provide the best in quality, technology, and service, and obtain the satisfaction and trust of customers.

### Responsibility to our shareholders

- We maintain close communication not only with shareholders but also with society at large and disclose corporate information properly, while at the same time working to improve our corporate value on a continuous basis.

### Responsibility to our employees

- We respect the individuality of employees, create workplaces that are motivating to employees and enable them to fulfill their potential, and strive to provide each with abundant living circumstances.

### Contributing to regional societies and to global society

- As a good corporate citizen, we aggressively pursue activities that contribute to society.
- We follow international rules, observe the laws, cultures, and customs of countries and regions where we have operations, and seek to contribute to their growth.
- We carry out global environmental improvement activities proactively and aggressively with deep awareness of their being an important corporate mission.

## Global Conduct Guideline

### Responsibilities in line with global-level business activities

JTEKT has established the Global Conduct Guideline in an effort to fulfill its social responsibility as a company conducting business activities on a global scale. This guideline is updated and revised on an ongoing basis to appropriately reflect changes in international affairs and the social environment and expectations of society on corporations.

\* For more information, please visit JTEKT's website.  
<https://www.jtekt.co.jp/e/sustainability/csr/concept/>

### Main Points of the Global Conduct Guideline

1. Laws and Rules
2. Customers and Business Partners
3. Company
4. Our Colleagues
5. Society at Large

## CSR Promotion

### Implementation of CSR activities in each division on a companywide basis

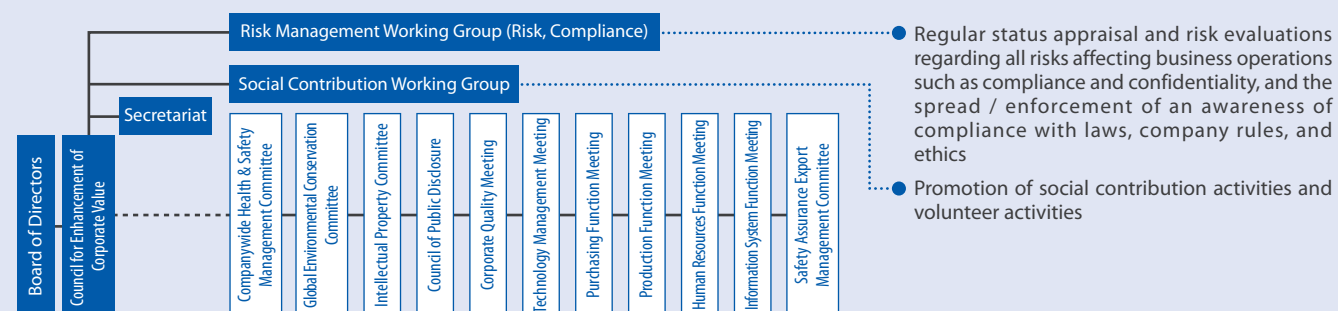
At JTEKT, we believe CSR is a core corporate activity and, as such, each of our divisions and units formulates an annual activity plan. A PDCA cycle\* is then applied to this plan in accordance with monthly management based on policy control. Through this type of mechanism to achieve goals, we are incorporating concrete initiatives in company policy and division / unit policies to achieve the steady promotion of CSR activities.

\* The Plan, Do, Check, Action management method for ongoing operation improvements

### Various specialized working groups

JTEKT has established specialized working groups to plan and promote activities for major themes such as risk management and social contribution.

### Outline of the CSR promotion structure



## Major ESG<sup>1</sup> Data

### Contributing through monozukuri

		Unit	FY2016	FY2017	FY2018	
<b>Products [Consolidated]</b>	Contribution to CO <sub>2</sub> emissions reduction <sup>2</sup>	Total	1,000t	762.2	761.0	<b>816.0</b>
	Product group examples	Steering <sup>3</sup>	1,000t	366.0	372.0	<b>370.0</b>
		Bearings <sup>4</sup>	1,000t	105.1	111.4	<b>115.0</b>
<b>R&amp;D [Consolidated]</b>	Total cost of R&D <sup>5</sup>		Billions of yen	48.2	55.2	<b>63.6</b>
<b>R&amp;D [Nonconsolidated]</b>	No. of patents pending <sup>6</sup>		Incidents	652	543	<b>614</b>
	No. of patents acquired <sup>6</sup>		Incidents	397	368	<b>334</b>
<b>Quality [Nonconsolidated]</b>	No. of visitors to quality exhibitions (Total)		People	11,110	—	<b>9,237</b>
<b>Environment [Consolidated]</b>	Prevention of global warming	CO <sub>2</sub> emissions for internal production	1,000t	771	784	<b>807</b>
<b>Environment [Nonconsolidated]</b>	Prevention of global warming	CO <sub>2</sub> emissions for internal production	1,000t	227	227	<b>217</b>
		CO <sub>2</sub> emissions in production per in-house production volume	t/Billions of yen	14.32	14.03	<b>13.11</b>
		CO <sub>2</sub> emissions in logistics	1,000t	13.2	12.8	<b>12.2</b>
		CO <sub>2</sub> emissions in logistics per net sales	t/Billions of yen	0.215	0.199	<b>0.182</b>
	Effective use of resources	Waste per in-house production volume	t/Billions of yen	0.712	0.678	<b>0.620</b>
		Packaging usage per net sales	t/Billions of yen	0.077	0.077	<b>0.075</b>
		Water usage per in-house production volume	1,000m <sup>3</sup> /Billions of yen	0.148	0.143	<b>0.135</b>
	Reduction and management of environmentally burdensome materials	Release / transfer of substances subject to PRTR	t	40	38	<b>27.1</b>
	No. of environmental issues		Incidents	1	0	<b>2</b>

### Establishment of a firm management foundation

<b>Employees [Consolidated]</b>	Ratio of foreigners occupying key positions in overseas locations	%	62.9	65.3	<b>65.7</b>	
<b>Employees [Nonconsolidated]</b>	Level of understanding by employees of own division's vision	%	60.2	67.1	<b>68.0</b>	
	Female employee percentage	%	9.8	10.3	<b>10.8</b>	
	Percentage of women in administrative positions	Managerial positions	%	0.83	0.92	<b>1.07</b>
		Assistant managers	%	3.89	4.11	<b>4.69</b>
	Percentage of employees with disabilities	%	2.15	2.17	<b>2.17</b>	
	Employees who took childcare leave	People	41	49	<b>60</b>	
	Employees who took family care leave	People	2	1	<b>5</b>	
	Percentage of vigorous and vibrant workplaces	%	55.7	55.3	<b>21.4</b>	
<b>Governance [Nonconsolidated]</b>	No. of internal reports made	Incidents	45	50	<b>49</b>	
<b>Local contribution [Nonconsolidated]</b>	No. of youth development	People	—	1,201	<b>1,627</b>	
	No. of information get-togethers with local community	Place	13	13	<b>13</b>	
	No. of participants in region Cleanup activities	People	4,510	4,665	<b>4,861</b>	

<sup>1</sup> Acronym that stands for environmental, social and governance. Used as an indicator to determine whether or not a company can grow sustainably.  
<sup>2</sup> CO<sub>2</sub> emissions reduction due to an environmentally-considerate design at the product usage stage. The amount calculated globally is shown for each year. From fiscal 2016, the calculation method is partially amended.  
<sup>3</sup> Figure is calculated based on the number of products designed by JTEKT therefore products produced overseas are included.  
<sup>4</sup> Non-consolidated  
<sup>5</sup> R&D costs included in general and administrative costs and manufacturing costs.  
<sup>6</sup> Calculation method has been revised for past portions also.

### Third-Party Evaluations

In light of our efforts and information disclosure in the ESG areas, JTEKT has been selected for inclusion in FTSE Russell's FTSE4Good Index Series and FTSE Blossom Japan Index. Also, within the corporate survey conducted by CDP<sup>7</sup>, in fiscal 2018 we received an A- in the climate change and a B- in the water security categories. Going forward, through our CSR activities we will contribute to sustainable societies and strive to sustainably enhance our corporate value.



<https://www.ftserussell.com/ja>

<sup>7</sup> CDP: Representing global institutional investors, CDP provides information disclosure on corporate activities with regard to climate change, water, and forest resources. This is an NPO that provides investors with disclosure using an eight-level assessment (A-D) with regard to company responses.



## Corporate governance

JTEKT continuously strives to enhance corporate governance in order to fulfill its corporate social responsibility and increase its corporate value.

### Promotion structure

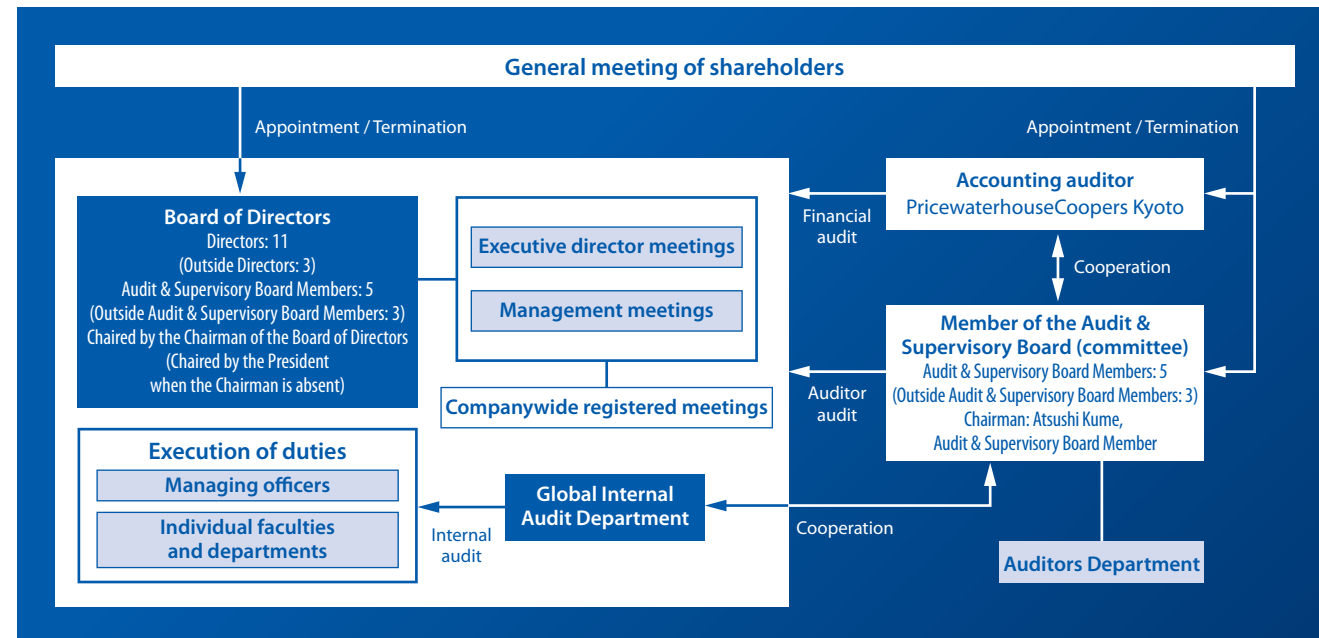
At JTEKT, the Board of Directors meets every month to make management decisions on important matters and supervise directors' performance of duties. Furthermore, two independent directors from outside the company were appointed to strengthen the supervising function of the Board of Directors. In addition, subcommittees under the Board of Directors, such as executive director meetings, management meetings, and companywide registered meetings, are held to fulfill deliberations on individual matters and supervise the performance of duties by managing officers. As a way of monitoring management, we have adopted an auditing system to inspect directors' performance of duties, which

consists of five members of the Audit & Supervisory Board, three of whom are outside members.

Internal audits are conducted by the independent Global Internal Audit Department, which inspects the validity and lawfulness of overall operations and procedures. Members of the Audit & Supervisory Board, the accounting auditor, and the Global Internal Audit Department liaise together and hold conferences regularly and as necessary.

In addition, we maintain and operate an internal control system in line with both the Companies Act and the Financial Instruments and Exchange Act.

### Corporate Governance System



16 times

#### Board of Directors

Makes decisions about important matters within management, and supervises directors' performance of duties.

24 times

#### Executive director meetings

Supplements the Board of Directors, deliberates important matters within management, and determines fundamental policies.

24 times

#### Management meetings

Supplements the Board of Directors, and manages the progress of policies within the performance of duties. In addition, these meetings enable problem points and issues with performance of duties to be shared extensively among directors and officers.

15 times

#### Audit & Supervisory Board

Inspects the appropriateness of methods and results of audits of the directors' performance of duties, and of audits performed by the accounting auditor.

#### Companywide registered meetings

The Board of Directors, executive director meetings, and management meetings delegate authority to companywide registered meetings to examine the policies and direction of the company through specialized and sufficient deliberations from the standpoint of duty performance.

### Progress toward governance enhancements until now

JTEKT recognizes that corporate governance enhancements for the purposes of management soundness, transparency, speediness, and efficiency are important management issues. We strive for heightened management transparency and full accountability to

all our stakeholders. In addition, we formulated guidelines in response to the Corporate Governance Code and work to reform and strengthen our corporate structure through proper implementation of these guidelines.

### Main Governance Reform Initiatives

Date	Measures	Objectives
June 2005	Introduction of executive officer system	To separate management supervisory and execution functions
May 2006	Publication of Corporate Governance Report	To compile, organize, and disclose important information on corporate governance
Jan. 2008	Establishment of Global Internal Audit Department	To conduct overall operational audits, including management and procedural validity and legal compliance
Feb. 2009	Establishment of CSR Promotion Committee	To regularly assess the status of CSR activity promotion
June 2013	Appointment of foreign executive officer	To ensure diversity among company officers
June 2015	Appointment of two outside directors	To strengthen management supervisory functions
Feb. 2016	Establishment of Executive Officer Personnel Appointment Review Meeting (Comprising representative directors and outside directors)	To ensure appropriateness of executive officer appointments
June 2016	Establishment of Executive Remuneration Meeting (Comprising representative directors and outside directors)	To ensure fairness and appropriateness of executive remuneration decisions
March 2017	Establishment of Council for Enhancement of Corporate Value	To deliberate new value creation targeting sustainable growth
Oct. 2017	Establishment of Risk Management Department	To systematically manage, avoid, and mitigate risks
June 2018	Increased number of outside directors by one, to a total of three	To further strengthen management supervisory functions
June 2019	Appointment of a female outside member of the Audit & Supervisory Board	To further ensure diversity among company officers

## Outside directors

JTEKT appoints outside directors who fulfill requirements for outside directors and possess experience and insight within their field. They are also selected based on the excellence of their character and viewpoints, and for their high ethical standards, perspectives, and knowledge in accordance with the JTEKT policy

for appointing directors.

Furthermore, JTEKT conducts the appointment of outside members of the Audit & Supervisory Board from a perspective of audit neutrality and objectivity. These members are also selected based on their experience and viewpoints, as shown below.

### Appointment of Outside Directors and Outside Members of the Audit & Supervisory Board

Position	Name	Main reasons (experience, insight, etc.) for appointment	Independent Director	Attendance record in fiscal 2018 (attended/held)	
				Board of Directors	Audit & Supervisory Board
Director	Takao Miyatani	Abundant experience and a high level of insight regarding <i>monozukuri</i> (building excellent products), obtained as a manager within the manufacturing industry and chairman of a trade organization	○	16/16	—
Director	Iwao Okamoto	Held key positions within the Ministry of Economy, Trade and Industry (METI) and for an incorporated foundation, obtaining ample experience and a high level of insight regarding industry and economic activities within Japan and overseas	○	16/16	—
Director	Takeshi Uchiyamada	Rich experience and deep insight relating to <i>monozukuri</i> as a manufacturing business executive	—	12/13 (After appointment)	—
Member of the Audit & Supervisory Board	Takashi Yoshida	Considerable knowledge relating to financial and accounting matters as a certified public accountant	○	13/13 (After appointment)	11/11 (After appointment)
Member of the Audit & Supervisory Board	Hiroyuki Wakabayashi	Rich experience and broad insight relating to corporate governance as a manufacturing business executive	—	12/13 (After appointment)	9/11 (After appointment)
Member of the Audit & Supervisory Board	Yumiko Sakurai	Considerable knowledge relating to finance and accounting	○	— (Appointed in June 2019)	— (Appointed in June 2019)

## Remuneration for directors and members of the Audit & Supervisory Board

Remuneration for directors consists of monthly amounts and bonuses, and is conducted through a remuneration system that reflects work responsibilities and performance, and is linked to company performance. Bonuses are composed of STI<sup>1</sup> and LTI<sup>2</sup> and evaluated based on single-year consolidated operating income, sales growth rate, and profitability ratio according to the Medium-term Business Plan. Individual bonuses are examined at the Executive Remuneration Meeting, consisting of representative directors and independent outside directors, and determined through a resolution by the Board of Directors.

Remuneration for members of the Audit & Supervisory Board consists of monthly payments, and does not include bonus payments. This system for remuneration is not greatly influenced

by company performance and is therefore ensured independence from management.

Monthly amounts of remuneration for directors and other remuneration are set within the upper limit for total remunerations based on the decision of the Annual Meeting of Shareholders held on June 27, 2012. Monthly amounts of remuneration for each director are decided by the Board of Directors, and monthly amounts of remuneration for each member of the Audit & Supervisory Board are decided through consultation with the members.

1. Short-term incentive: Remuneration system that rewards single-year performance and achievements
2. Long-term incentive: Remuneration system that rewards performance and achievements over the medium to long term

### Total Amount of Corporate Officer Remuneration (Fiscal 2018)

Category	Number of allowances	Amount of remuneration, etc.
Directors	15	¥556 million
Members of the Audit & Supervisory Board	8	¥99 million
Total	23	¥656 million

- The amount of remuneration, etc., during the tenure of the three directors and four members of Audit & Supervisory Board who retired at the end of the 118th Annual Meeting of Shareholders held on June 27, 2018, including the number of employees paid.
- The total amount of remuneration on the left includes the following amount of expenses treated as executive bonuses during the fiscal year.  
Directors 9 ¥163 million
- On the left, the total amount of remuneration for outside directors was ¥33 million (three people).
- On the left, the total amount of remuneration for outside members of the Audit & Supervisory Board was ¥22 million (five people).

## Evaluating the efficacy of the Board of Directors

The Board of Directors, in which multiple outside directors participate, engages in lively discussions based on diverse knowledge and abundant experience. JTEKT strives to conduct the Board of Directors in a way that facilitates timely decision-making.

With regard to the analysis and evaluation of the efficacy of the Board of Directors, the Members of Audit & Supervisory Board monitor the “efficacy of important meetings, including the Board of Directors” and the Board of Directors Secretariat implements a “survey on the efficacy of the Board of Directors” (once per year) targeting members of the Board of Directors and the Audit & Supervisory Board and conducts quantitative evaluations with regard to the “roles and responsibilities of the Board of Directors”

and the “systems and operations that support the efficacy of the Board of Directors.”

In fiscal 2018, in an effort to improve efficacy, JTEKT added management themes other than those cases introduced at Board of Directors’ meetings and shared this information with the aim of enhancing the function of the Liaison Meeting for Outside Directors and Members of the Audit & Supervisory Board, leading to livelier discussions at Board of Directors’ meetings. In terms of Board of Directors’ meeting operations, while we are cognizant of the need for certain improvements, overall the meetings are generally functioning properly and we have determined that the efficacy of the Board of Directors overall is maintained.

### Analysis and Evaluation Process

- Audit of “efficacy of important meetings, including the Board of Directors” by the Members of Audit & Supervisory Board  
→ Improvements to the management meeting are reported.
- Implementation of “survey on the efficacy of the Board of Directors” by the Board and Directors Secretariat (once per year)  
→ If any improvements are necessary, review the meeting structure and management as appropriate.

### Overview of Evaluation Results

In fiscal 2018, although it was recognized that there was a need for improvement regarding the pre-distribution timing and simplification of materials, the overall function was generally appropriate and the Board of Directors was evaluated as being effective overall.

## System for ensuring appropriate operations within the JTEKT Group

In order to share its principles with regard to management, JTEKT disseminates its approach to corporate social responsibility and corporate activities standards to subsidiaries both in Japan and overseas. In addition, we clarify systems and roles of relevant departments to subsidiary management, guiding and cultivating

subsidiaries from both business and function perspectives.

With regard to major subsidiaries, the Board of Directors formulates basic policies on internal control system maintenance and is instructed to periodically confirm the operating status of these systems.

### Overview of the Operating Status of the Abovementioned Systems

- JTEKT conducts activities to promote the JTEKT WAY formulated in April 2016 and shares these values globally.
- Individual issues related to the management and business activities of subsidiaries are managed and supervised appropriately through the utilization of advance consultations and reporting systems in accordance with their importance, as well as consent and approval procedures conducted through the Board of Directors.
- JTEKT holds social gatherings with the heads of major domestic affiliated companies, domestic affiliated company meetings, and global management meetings, confirms the medium-term business plans of subsidiaries and other management issues, and provides appropriate guidance.
- Prior consultation and reporting system criteria for subsidiaries to obtain prior approval and provide reports to the company on important matters are revised as necessary to reflect improvements.
- Important individual management issues concerning subsidiaries are deliberated and reported to management meetings by business and functional headquarters.
- JTEKT is working to further strengthen subsidiary management by accelerating initiatives targeting management issues at those subsidiaries.



## Risk management

**Basic Approach** Enhancing corporate value and meeting the expectations of society

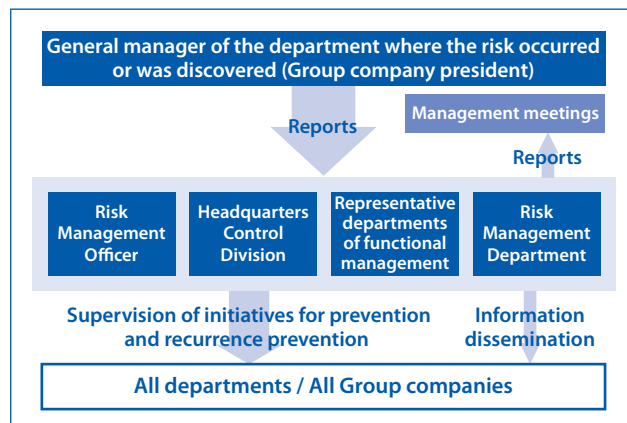
To maintain and strengthen fundamentals (corporate foundation) while responding quickly to changes in the management environment and sustainably enhancing corporate value, we are working to improve our risk management promotion system that ascertains, evaluates, and appropriately promotes measures with respect to critical risks faced by the entire JTEKT Group.

### Promotion system

The companywide Council for Enhancement of Corporate Value regularly reviews risks, including those in the external environment, having the potential to affect business activities, society, and the environment. In October 2017, we established a new system in which the Compliance Officer (CO) was transitioned into the Risk Management Officer (RO) in order to strengthen our risk prevention efforts. In addition to deploying risk management in each department and Group company, risk management will be integrated into activities related to corporate governance and compliance to enhance the efficacy and efficiency of activities aimed at controlling risks globally.

### Clarification of risk appraisals and response

At JTEKT, we allocate risk management departments for each risk item. The Risk Management Department promotes the formulation of response plans and polices to prevent and reduce the manifestation of risks through the Risk Management Working Group, which is an organization directly under the supervision of the Council for Enhancement of Corporate Value.



### Thorough adherence to immediate reporting

From fiscal 2015, we broadened the scope of our immediate reporting system, which requires prompt reporting after identifying compliance issues and even with regard to non-compliance risks, and ensure that operational rules are in place to quickly issue initial reports after risks are uncovered.

### Strengthening risk perspectives in each division

For each division to autonomously handle risks, the annual execution plan formulated on a division level incorporates response to potential risks that may inhibit the fulfillment of the said plan and this promotes prevention of risk manifestation and remedial measures by each division independently.

## Compliance

**Basic Approach** All employees exhibit correct judgment and conduct in line with corporate ethics.

JTEKT positions compliance as the premise and foundation of corporate value, therefore it is essential to realizing our corporate philosophy. Believing that compliance is not merely about observing laws but also fulfilling our social responsibility in accordance with corporate ethics, JTEKT has established the Ethics Code for Directors and Officers, the Compliance Rules, and other guidelines.

### Training and awareness activities

JTEKT conducts ongoing training and awareness-raising activities targeting its directors, employees, and all Group companies regarding how compliance is deeply intertwined with its operations. We conduct annual workshops targeting our key corporate compliance officers (directors, auditors, managing officers, etc.). The theme for our fiscal 2018 workshop was the prevention of systematic fraud such as the falsification of quality data. We provided participants with the opportunity to refresh their awareness on these issues through a lecture by outside lawyers and other experts. Moreover, every July is declared "Risk Management Strengthening Month," during which the president sends out a message to all JTEKT employees, including those at JTEKT Group companies, and compliance training materials are distributed for e-learning and workplace reference in an effort to support compliance activities in each workplace. Even within internal training planned by our HR Department, we address compliance issues so that each employee can take the necessary precautions suitable to their rank and job type.

### Antimonopoly law, corruption prevention

In light of global trends placing importance on fairness in trading and the current situation in terms of stricter regulations and enforcement, JTEKT places particular importance on compliance with antimonopoly laws, competition laws in each country, and laws relating to corruption and bribery with JTEKT and its Group companies, products, and business transactions.

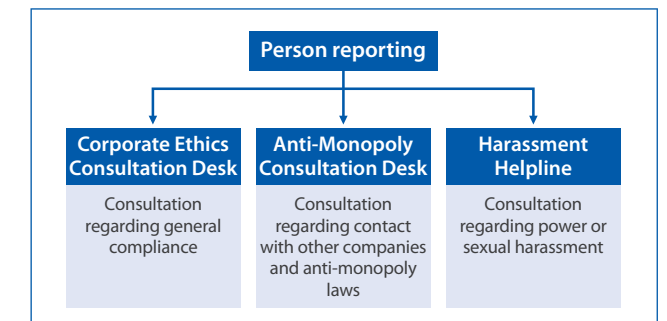
### Compliance inspections

At JTEKT, we conduct regular inspections targeting all internal departments and JTEKT Group companies to assess the management status regarding compliance affecting our operations.

### Internal reporting consultation desks

To enable a fine-tuned response to each consultation case, JTEKT has established the Corporate Ethics Consultation Desk and several other consultation desks aimed at the prevention, early detection, and recurrence prevention of scandals. Consultation desks have been individually established in JTEKT Group companies.

### Role of the Internal Reporting Consultation Desks



### No. of Internal Reports Made in the Past Five Years

FY	2014	2015	2016	2017	2018
No. of reports	51	51	45	50	49

### Initiative for appropriate tax payments

The JTEKT Group believes that the appropriate payment of taxes in the countries and regions where it does business is important in order to support corporate value and realize its corporate philosophy. Based on this belief, we adhere to each relevant country's and region's laws concerning tax payment and uphold this spirit of compliance.

# Toward JTEKT's sustained growth

We interviewed two outside directors for their views regarding what initiatives should be implemented to ensure the JTEKT Group achieves sustainable improvement of its corporate value on a global basis.



Takao Miyatani  
Outside Director

Iwao Okamoto  
Outside Director

## JTEKT's governance is *genchi genbutsu* (go and see for yourself).

**Miyatani:** Recently in particular I get the impression that President Agata is displaying strong leadership. What stands out to me is his speaking directly to employees through his visits to inspect plants and meet with affiliated companies as well as the repeated messages he has made to all staff via the company newsletter and other channels. Furthermore, I think it is excellent to see that not only a medium-term business plan has been formulated but also the Beyond Medium-term Business Plan, which focuses on the company that JTEKT wants to be in 2030.

**Okamoto:** In recent years, we have seen a succession of renowned Japanese companies involved in misconduct. Looking at the press coverage of these incidents, a lack of free and open discussion and communication is often cited as a cause. At JTEKT, in contrast, at the management level and within plants and business units, there is active communication and I get the impression that there is a very positive atmosphere. In addition, clarifying its philosophy and vision and having these permeate through the company are also what I consider to be the admirable and strong points of JTEKT.

The other day I visited a plant as part of an inspection team. Young team leaders at the plant confidently gave presentations on improvement activities and on new businesses. Even here, the staff displayed a clear recognition of their mission within the vision that JTEKT is aiming for. I saw that company policies were being cascaded through the organization and it gave me the impression that this was the foundation of sound governance at JTEKT.

**Miyatani:** The concept of *genchi genbutsu* has been instilled from long ago at Toyota Group companies. While it seems obvious to discuss an issue while witnessing it firsthand, but as a company grows in size it becomes more difficult for senior management to fully understand the situation at the front lines. If you go and see for yourself, it is simple to spot excess inventories, defects, and the like, so I would like the company to continue to place value on such activities going forward. In addition, staff at the front lines should escalate even uncomfortable issues to senior management and not keep them to themselves or attempt to hide them. Companies that are able to do this are strong ones.

President Agata receives direct feedback from young leaders on current conditions and *kaizen* (continuous improvement) initiatives

related to safety, quality, waste, CO<sub>2</sub> emissions, and the like during these plant inspections. He himself has sharp insights, asks questions, and encourages commendable initiatives be implemented at other plants in the Group. I think this is a highly valuable activity for a manufacturer to be doing.

## Leveraging core technologies and expressing JTEKT's strengths

**Okamoto:** JTEKT's strengths are its diverse range of core technologies, spanning bearings to machine tools, controllers, and electronics. That said, it is important to properly pass down these core technologies, particularly as we are on the cusp of a generational change. In addition, I believe JTEKT should take up the challenge of developing new technologies and business models for the future since we are now facing a transformation in the automotive industry that occurs only once in a century.

**Miyatani:** Today, innovation using IoT, big data, AI, robotics, and the like is occurring at tremendous speed around the world. For JTEKT to continue growing briskly both in its domestic and global markets, I believe it is extremely important for it to create a business to provide its customers with new solutions by skillfully combining its proprietary technologies for making things efficiently with such leading-edge technologies as IoT and AI.

Furthermore, I also feel JTEKT should not try to do everything on its own when conducting new businesses, but strengthen its capabilities in open innovation and partner with specialists in various fields to create value. Amid change in the market structure, I believe it is necessary to invest dynamically in new areas that promise growth and develop these businesses with a sense of urgency.

## Issues facing JTEKT as a global company

**Okamoto:** I believe JTEKT is at the stage now where it can continue to grow its business in the world's major markets as a global player. It is therefore more important than before to have finely tuned antennae to capture trends and sudden changes in each of the markets it serves. In this regard, I believe the talent pool across the company needs to be strengthened with professionals in each market who are adept at doing business together with local people who have their own unique history, culture, and customs.

In addition, I look forward to the proactive assignment of personnel such that staff with deep roots in each field can play a more important role in JTEKT. By doing so I expect the JTEKT family around the world will work as one and give full expression to its strengths.

**Miyatani:** Recently, there has been active personnel exchanges within JTEKT, such as giving managers experience as the presidents of overseas affiliates and then bringing them back to Japan to lead as plant managers. I consider this to be an incredibly effective way to develop talent.

**Okamoto:** Many of JTEKT's executives have experience working abroad. I see them being at ease in conversing with local staff and thinking about issues together. That said, I think more can be done in this area, and continuing to strengthen the pool of talent working around the world remains an important issue.

## Mission as an outside director

**Miyatani:** There are many companies both in Japan and worldwide that display exemplary management. I consider it my mission to provide stimulus to JTEKT's management team by talking to its executives about what I have learned about such companies through reading books and adding in my own experience as an executive.

**Okamoto:** Free trade has been the basic driver of the global economy up to now. However, the environment bears watching closely for the time being as there may be a change that incorporates geopolitical elements. I will work closely with the executive team at JTEKT and relevant parties to exchange views on the global economy and its attendant risks while making use of the experience I have gained over the course of my career. I would like to continue contributing to the growth of the JTEKT Group, primarily in the areas of governance and risk management.





## Forging Sustainable Relationships with Stakeholders

The JTEKT Group has grown into what it is today through the support of its various stakeholders.

We believe the opinions and requests of such stakeholders are important references when making decisions relating to our business activities, and we are working to increase opportunities for productive dialogue.

### Employees

We are undertaking the building of workplaces in which employees can work enthusiastically and healthily over the long term, as well as putting in place a human resources development framework that encourages every individual employee to undertake self-directed learning and helps them to achieve personal growth.

#### Human resources development measures

##### Human resources development policy

Our goal is to realize “Building Professionals” so that every individual employee of the JTEKT Group possesses self-confidence, pride, and enthusiasm, and is able to think and act independently.

Our basic strategy for achieving this objective is to build a systematic human resources development framework based on the following principles:

- Having every individual employee acquire the practical skills that are needed in the workplace, so that they can fulfill their potential
- Fostering and supporting employees who undertake self-directed learning and continue to strive for personal growth, so that they can work enthusiastically over the long term
- Building a corporate culture conducive to the development of human resources, by utilizing hands-on management that makes it possible for experienced employees and younger employees to learn from one another

##### Promoting diversity

We position diversity promotion as one of the important management strategies for realizing the JTEKT GROUP VISION.

##### Concrete measures for promoting diversity

Based on an approach that recognizes diversity, in its ultimate sense, as valuing the personality of each individual, we are striving, on a daily basis, to build a workplace environment in which every employee is able to undertake their work with enthusiasm and motivation.

- Starting from fiscal 2015, we have been making a major effort to promote diversity, with the commencement of measures focused on fostering the advancement of female employees and non-Japanese employees.
- Since fiscal 2017, we have been expanding and promoting our measures for realizing active participation by senior citizens and people with disabilities.
- In fiscal 2018, as part of our efforts to help employees balance their work responsibilities with their childcare or family care responsibilities, we have launched various measures, including expanding the scope of day-care center provision on weekends and public holidays, organizing seminars for employees wishing to return to work after taking time off for family care or childcare responsibilities, etc.

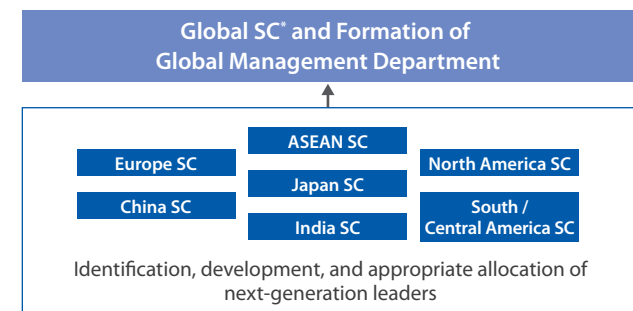
##### Building a sound framework for human resources development

JTEKT’s human resources development framework comprises the following key pillars: on-the-job training (OJT), off-the-job training (OFF-JT), and career development.

- OJT
- OFF-JT
  - Grade-specific, position-specific, and age-specific training
  - Selection training / thematic training (problem-solving training, etc.)
  - Training in specialist fields (safety and health, environmental, quality management, technology-related, etc.)
- Succession planning
  - Helping employees to build up valuable experience through carefully planned training and rotation
- Planning is under way for the utilization of talent management systems and learning management systems to build a framework for employee rotation that makes effective use of data, identify skill gaps at the level of individual employees and implement effective career planning, and realize on-demand training, etc.

##### Formation of global human resources development

Roughly 60% of the approximately 44,000 employees of the JTEKT Group work overseas. JTEKT promotes the formation of a global human resources management / development framework with the aim of creating the optimal environment for employees and the company alike, so that motivated and capable people, regardless of nationality or race, may perform to their fullest, transcending national and regional borders.



\* Succession Committee

##### JTEKT Awarded Kurumin Mark Certification

In May 2019, JTEKT was awarded Kurumin Mark certification in accordance with the provisions of the Act on Advancement of Measures to Support Raising Next-generation Children. As a “Childcare-supporting Enterprise,” in the future JTEKT will continue to work toward the building of a workplace environment in which every individual employee can fulfill their potential, for example through providing support to help employees balance childcare and work responsibilities.



### Employees

#### Safety and health-related initiatives

##### Aiming to create a safe and comfortable workplace environment

All JTEKT employees unite to engage in safety and health activities and create a comfortable workplace environment under our Companywide Safety & Health Policy.

##### JTEKT Safety Vision—The Group’s pillar for its safety activities

“Safety First” No.1 JTEKT  
All accidents can be prevented.

- Safety takes priority over everything • Strong ambition for ZERO accidents
- Aiming for ZERO risks

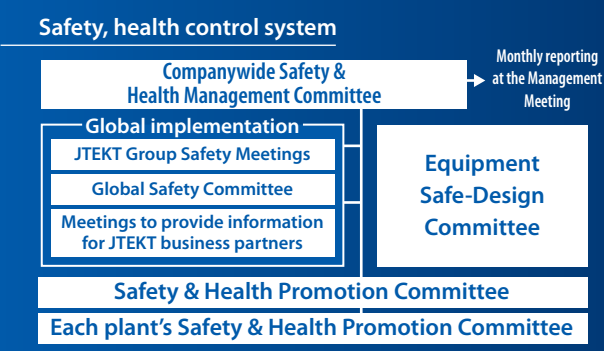
We need to become a company in which employees and their families are happy with and proud of.

Safety-aware personnel	Safe workplace
① Can protect him / herself	① Equipment is intrinsically safe
② Does not let others get injured	② “4S” is continuously and actively carried out
③ Improves unsafe actions and conditions	③ The workplace is improved on a daily basis

##### Promotion of activities based on a centralized management system

JTEKT has established a Companywide Safety & Health Management Committee for the systematic promotion of safe and comfortable workplace environments and has created a centralized management system encompassing Group companies both in Japan and overseas. We roll out safety and health activities on a global level.

In addition, progress reports on safety and health activities and information relating to natural disasters, etc., is reported at the monthly meetings of the Safety & Health Promotion Committee and the Management Meetings (which are attended by all company officers holding the position of director or higher). This information sharing provides a basis for further activities.



#### Health-related initiatives

##### Promoting healthy minds and bodies for every employee

JTEKT values the health of each and every one of its employees and as such conducts health management activities so that employees may enjoy their daily work and go about it with vitality.

##### Achieving mental health

JTEKT promotes mental health countermeasures, focusing on preventing depression and other mental illnesses.

We conduct mental health training and stress level checks for all employees and provide support such as counseling for workplaces or individuals with high stress levels.

Furthermore, we are endeavoring to prevent cases of overwork through interviews with doctors and guidance for employees who work long hours. We also implement a return-to-work support program focusing on recurrence prevention for those employees who have taken leave due to mental illness.

##### Achieving physical health

JTEKT places importance on the prevention, early detection, and early treatment of illnesses such as lifestyle-related diseases, and proactively supports the health management of its employees.

##### Certified as an Excellent Health Management Company (Large enterprise category, dubbed the “White 500”) three years running

For three consecutive years (as of 2019), JTEKT has been certified as an Excellent Health Management Company (the “White 500”) in recognition of its proactive initiatives promoting the emotional and physical health of its employees.



## Customers

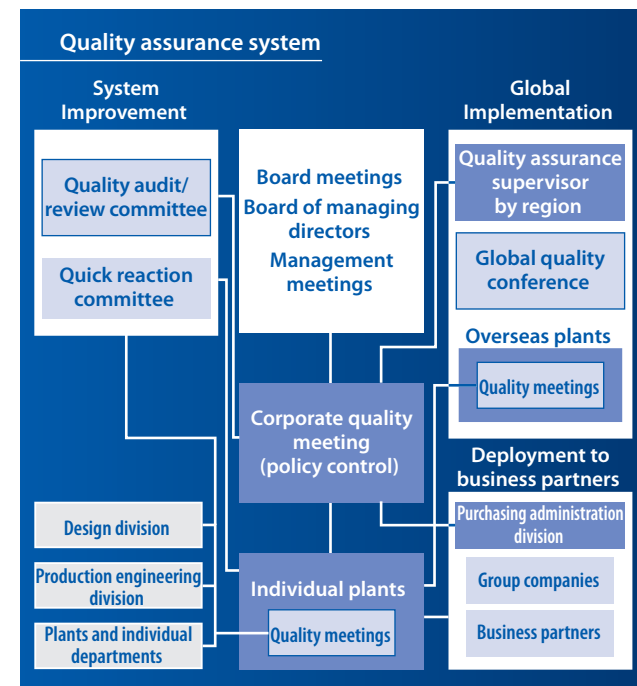
We derive concepts from the market, provide the best in quality, technology, and service, and obtain the satisfaction and trust of customers.

### Quality policy and quality assurance system

With our “Customer First” philosophy being the foundation of our quality policy, we engage in various quality improvement activities. Moreover, we have established a quality assurance system based on our quality policy and are endeavoring to implement further improvement.

**Quality policy** Adhering to the theme of “Quality First,” we offer products which earn the trust and satisfaction of our customers.

- Making decisions and taking swift action from the standpoint of our customers
- Improving design and manufacturing quality through the ingenuity of all members



### Conducting a customer satisfaction survey

JTEKT’s Annual Customer Satisfaction Survey, which is administered to the Group’s main customers, was implemented once again in fiscal 2018.

- 1 Quality
- 2 Delivery
- 3 Technical response capability
- 4 Cost response capability
- 5 Technology and sales service provision

With the aim of enhancing customer satisfaction with all of the five items listed above, we share any issues that may arise throughout the company, and strive to resolve them quickly and effectively.

### Activities to overhaul the company’s quality culture

JTEKT has designated each November as “Quality Month.” In order to enhance employees’ quality awareness, a variety of different activities are implemented, including quality poster and slogan competitions (with the dissemination of the winning entries), the holding of quality-related discussions in individual units, etc.

JTEKT exhibits its “J-PAS” Power Assist Suit—an innovative product that represents a whole new business area for the company—at trade shows in Japan.

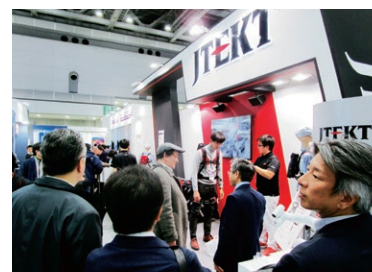
JTEKT has been exhibiting J-PAS, which was launched in August 2018, at trade shows, giving visitors the opportunity to try on the suit and experience for themselves how J-PAS reduces the strain on the back when performing heavy manual labor, and how comfortably the suit fit.

#### [Summary of trade shows where J-PAS was exhibited]

- Logis-Tech Tokyo 2018 –INNOVATION EXPO– (Sept. 11–14, 2018, Tokyo Big Sight)
- RoboDEX – 4th Robot Development & Application Expo (Jan. 16–18, 2019, Tokyo Big Sight)
- Next Innovation Technology Fair 2019 (March 19–20, 2019, Fukiage Hall, Nagoya City)



Logis-Tech Tokyo 2018



RoboDEX

## Business Partners

We follow proper business practices and engage in fair, transparent, and free competition based on respect for the law.

### Promotion of fair and equal business transactions

JTEKT respects its business partners and aims to develop and grow based on mutual trust.

In our Corporate Activities Standards and Purchasing Philosophy, we have clearly stated our policy of practicing open and fair business regardless of nationality, company scale, and experience doing business with JTEKT. Moreover, in order to offer fair and equal opportunities to trade with us, we publicly disclose the preliminary steps to establishing trade with JTEKT on our website.

Purchasing philosophy	
Fair and transparent business transactions	We provide open, fair, and equal opportunities to all regardless of nationality or company size, including companies with no experience doing business with JTEKT.
Purchasing basic policy	
Mutual trust	Build mutual trust through close communication with business partners.
Coexistence and co-prosperity	Achieve harmonious relationships with business partners based on mutual trust.
Long-term, stable business relationships	Achieve stable procurement meeting JTEKT’s quality, cost, volume, and delivery requirements through continuous business.
Global purchasing	Achieve optimal purchasing from a global viewpoint and improve international competitiveness through a strong supplier chain.

### Holding of the Purchasing Policy Meeting and JTEKT Cooperation Council Workshop

JTEKT’s annual Purchasing Policy Meeting was held in April 2018, with 297 representatives of 261 companies attending. This year, besides making some requests concerning the strengthening of CSR and thorough implementation of safety measures, we also explained the key implementation items for the current year, and awards were presented in various categories, including the newly established VE / VA solutions category. The JTEKT Cooperation Council Workshop included a quality management meeting, training session, lectures, and a new disaster mitigation study meeting. The aim of the workshop was to build relationships of mutual trust among council members and to strengthen enterprise fundamentals.

### Holding meetings with suppliers about their problems

JTEKT began holding meetings with suppliers about their problems in fiscal 2017, and as of September 2018 we had arranged opportunities for approximately 200 suppliers to discuss any difficulties that they were encountering in their transactions with JTEKT. We are striving to make improvements based on the views expressed by suppliers. Follow-up meetings have been held, and we will continue to implement this initiative in the future.

### Implementation of a combined procurement meeting in India

In May 2018, the JTEKT Group held its first procurement policy presentation in India since the merging of the procurement functions of our three local subsidiaries in India: JTEKT India Ltd., Koyo Bearings India Private Ltd., and JTEKT Sona Automotive India Ltd. Besides explanations of JTEKT’s procurement policy, current market trends, and the company’s quality strategy, there was also a Q&A session; the aim of which was to provide an opportunity for suppliers to develop a better understanding of the future activities of the “new” JTEKT India.

### CSR Activity Items Guidelines for suppliers

In order to share JTEKT’s approach to CSR with suppliers, we have issued a set of CSR Activity Items Guidelines for suppliers, which clarify which items we expect suppliers to comply with. Suppliers are asked to also request that their own upstream suppliers follow these Guidelines.

#### Activity items that the Guidelines request suppliers comply with:

##### 1. Managerial measures

- Compliance
- Risk management

##### 2. Stakeholder-related measures

- Quality maintenance and enhancement
- Fair transactions
- Good labor relations
- Human rights protection and respect for diversity
- Adherence to corporate ethics
- Contributing to the local community

##### 3. Global environment measures

- Environmental management
- Environmentally friendly business activities



## Local Communities

As a good corporate citizen, we aggressively pursue activities that contribute to society.

### Our ideal

By forging good relationships through social contribution activities, JTEKT aims to be a company trusted and loved by local communities, as well as a company that advances hand-in-hand with the community.

#### Principal activities

<b>Local community</b>	We appraise the needs and evaluation of local communities, and continue to implement appropriate contribution activities.
<b>Youth development</b> Target: Senior high school students and younger	JTEKT leverages its experience and knowledge in the areas of culture, sports, and business operation to provide opportunities for the healthy development of our youth, who will be the leaders of the future, on an ongoing basis.
<b>Environmental conservation</b>	We continuously participate in environment-building activities so that all living creatures may coexist in harmony.
<b>Support for disaster-stricken regions</b>	In order to ensure that the lessons of the Great East Japan Earthquake of 2011 are not forgotten, we will increase the participation awareness of each and every employee.
<b>Employee participation</b>	All employees will understand the aim of JTEKT's social contribution activities, and as many employees as possible will participate in activities once a year.

### Charity caravans supporting disaster-stricken areas

JTEKT runs charity caravans supporting disaster-affected areas at all of its domestic bases as a companywide support activity, by setting up donation boxes and utilizing vending machines.

Fiscal 2018 was the sixth year of this initiative and a total of ¥2,478,384 was raised in donations. The money raised was donated to nine volleyball teams in five schools in Kesenuma City and Minamisanriku, as well as the Kesenuma Asobiba Community Organization, to support their activities.



### Initiatives aimed at fostering harmony with nature

The Tokyo Plant has signed an agreement with the Tokyo Environmental Public Service Corporation and with NPO Yokosawairi Tanbo no Kai, and in April 2018 the plant began participating in environmental protection activities in the Yokosawairi Satoyama Conservation Zone in Tokyo. Tokyo Greenship Action is an initiative whereby local residents, NPOs, business enterprises, and government agencies collaborate to help safeguard the priceless natural heritage of Tokyo's remaining forests and *satoyama* (traditional community-managed forest) landscapes. In the future, the Tokyo Plant will continue to help safeguard the natural environment of the region where it is based, through its participation in this activity.



### Volleyball classes

As an activity contributing to the local community, JTEKT STINGS volleyball classes have been held in four locations. A total of 327 students from elementary to senior high school level participated in the event and had a fun-filled, active experience.



## Shareholders and Investors

We maintain close communication not only with shareholders but also with society at large, and disclose corporate information properly, while at the same time working to enhance our corporate value on a continuous basis.

### Aiming for highly transparent management

We strive to secure transparency in our management and to build long-term relationships of trust with all our shareholders and investors.

In terms of information disclosure relating to management, naturally we comply with rules relating to legal disclosure and timely disclosure. As well, in order to increase the transparency of our management and help shareholders and investors to deepen their understanding of JTEKT and the JTEKT Group, we also proactively disclose information voluntarily in a fair, timely, and appropriate manner through various investor relations (IR) activities.

#### JTEKT bond ratings

Rating institution	Long-term rating	Short-term rating
Rating and Investment Information, Inc.	A	a-1

### Expanding opportunities for dialogue

At the financial results briefing for analysts and institutional investors that was held in May 2019, the president and relevant company officers engaged in direct dialogue with analysts and institutional investors regarding the current status of JTEKT's various businesses. We are endeavoring to ensure that the views expressed by analysts and institutional investors during this dialogue are reflected in our business activities.

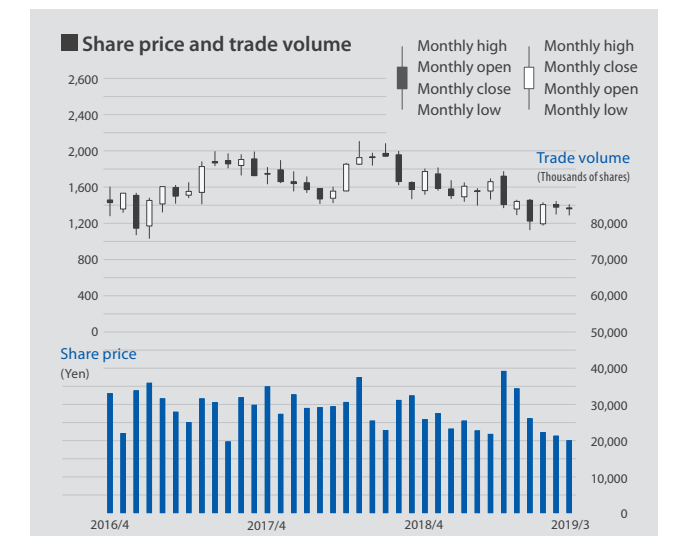
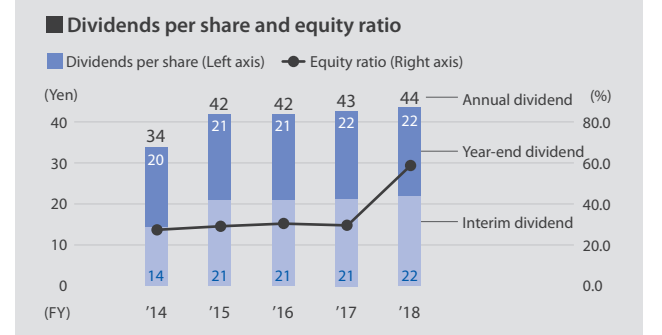
#### Main IR activities

- Holding of financial results briefings and small-scale meetings
- Responding to requests for individual interviews
- Participating in conferences organized by securities firms
- Holding of presentations for individual investors

### Shareholder returns policy

JTEKT's basic approach is to strive to enhance the company's corporate value on an ongoing basis, and to provide stable dividends over the long term. While the management of the company does attach due importance to enhancing return on assets (ROA), we emphasize not only ROA but also return on equity (ROE), and by improving the efficiency of asset utilization and boosting profitability, we aim both to maintain the financial soundness of the company and to facilitate the steady return of value to shareholders.

The automotive industry is entering a period of dramatic structural transformation. Besides implementing an adequate amount of necessary forward-looking investment, we believe we have an obligation to our investors to maintain the stable, long-term operation of the company into the future, so that we can continue to issue dividends.



## Aiming for a Sustainable Society and a Sustainable World

The JTEKT Group has positioned the environment as one of its main management issues.

In March 2011, we formulated the JTEKT Group Environmental Vision, comprising our Environmental Philosophy and Environmental Policy, and we have been promoting measures that contribute toward the realization of a sustainable society and a sustainable world through a promotional framework in which JTEKT Corporation and the JTEKT Group as a whole work together as one.

### Environmental vision

#### JTEKT Group Environmental Vision

##### Environmental Philosophy

The JTEKT Group is aiming for “ZERO” environmental burden of business activities and products throughout their lifecycle in order to conserve the global environment for future generations and realize a sustainable society.

##### Environmental Policy

Based on our corporate philosophy, all JTEKT employees share the JTEKT GROUP VISION and JTEKT WAY in promoting global environmental conservation activities autonomously and proactively in accordance with JTEKT’s management strategy, including both internal and external issues.

1. Make a continuous improvement in our environmental management system to enhance environmental performance.
2. Comply with environment-related laws, regulations, treaties, agreements, and other requirements related to our business activities. Promote harmony with community environments, maintain / improve environmental conservation, and strive to prevent environmental pollution.
3. Conduct environmental management activities designed to the lifecycle of our products, and pursue the following:
  - (1) Develop and design environmentally friendly products
  - (2) Procure raw materials with low environmental burden, and control / reduce CO<sub>2</sub> emissions, waste and chemicals, etc., at every manufacturing stage
4. Protect biodiversity in consideration of locational conditions of each JTEKT site and establish a society in harmony with nature through ecosystem conservation.

### Promotional structure

#### Global Environmental Conservation Committee

JTEKT has established the Global Environmental Conservation Committee, which is chaired by the president, to promote environmental management. Under the guidance of this committee, individual environmental subcommittees roll out activities based on ambitious goals.

#### Global environmental management

We are working to further strengthen our environmental management, not only at JTEKT but also at our 19 Group companies in Japan and 38 Group companies overseas (as of March 31, 2019).



### Environmental Action Plan 2020

#### Environmental Challenge 2050: Philosophy and guidelines

With the goal of realizing a sustainable society in line with the vision of “For the children of the future,” JTEKT formulated the Environmental Challenge 2050 Guidelines for measures aimed at minimizing JTEKT’s environmental footprint by 2050. The JTEKT Group’s Environmental Challenge 2050 is based around five key pillars—Products / Technologies, Creation of a low-

carbon society, Creation of a recycling-based society, Harmony with nature / Biodiversity, and Environmental management—and the Group is working together as one to take up the challenge of minimizing its environmental footprint and maximizing environmental value.

Formulated and announced in May 2016

#### Environmental Challenge 2050

Category	Guideline
1. Products / Technologies	<ul style="list-style-type: none"> <li>● Contribute to the building of an environmentally friendly society using our capabilities in the development of products and technologies</li> <li>● Actively promote the development of products that are expected to contribute toward reducing the burden on the environment, including components for fuel cell vehicles (FCVs), etc.</li> </ul>
2. Creation of a low-carbon society	<ul style="list-style-type: none"> <li>● Work to minimize CO<sub>2</sub> emissions throughout the product lifecycle, from materials and component procurement through to design, manufacturing, and eventual disposal</li> <li>● Work to minimize CO<sub>2</sub> emissions from factories engaged in the manufacturing of products by 2050</li> <li>● Expand the development and adoption of innovative new processes and production equipment</li> <li>● Implement day-to-day improvements and enhance the efficiency of production equipment at our factories</li> <li>● Shift over to the use of renewable energy, hydrogen energy, etc.</li> </ul>
3. Creation of a recycling-based society	<ul style="list-style-type: none"> <li>● Work to minimize emissions and expand recycling at the production stage</li> <li>● Implement source control measures (including yield enhancement, etc.) and use strengthened separation measures, etc., to enhance the value of waste materials (generation of valuable resources)</li> <li>● Effectively utilize recycled materials and expand internal recycling</li> <li>● Work to minimize water usage through the cyclical utilization of water used in our factories, etc., and ensure that wastewater discharged from our factories is discharged in a cleaner state</li> </ul>
4. Harmony with nature / Biodiversity	<ul style="list-style-type: none"> <li>● Promote activities aimed at fostering harmony with nature and protecting ecosystems, not only on a JTEKT-wide basis but also in collaboration with the Toyota Group and with government agencies and NPOs</li> </ul>
5. Environmental management	<ul style="list-style-type: none"> <li>● Build a corporate culture and cultivate professionals oriented toward actively conserving the earth’s environment</li> <li>● Strengthen employees’ environmental awareness and cultivate people who can make a positive contribution to the environment, both within and outside the company</li> <li>● Expand the implementation of global-scale environmental activities</li> </ul>

### Environmental Action Plan 2020

JTEKT’s Environmental Action Plan 2020 is a five-year action plan formulated as the first step toward achievement of the Environmental Challenge 2050 goals, and includes concrete, quantitative targets that the JTEKT Group will be working to

meet. The Group as a whole is working together as one to realize these objectives, and in fiscal 2018 some of the targets were met ahead of schedule.

#### Environmental Action Plan 2020 Targets, Fiscal 2018 Activity Results

(Excerpt)

Category	Implemented by	Item	Base year	FY2020 targets	FY2018 results
Products / Technologies	Global	Product-based CO <sub>2</sub> reduction contribution <sup>*1</sup>	—	800,000 t	816,000 t
		CO <sub>2</sub> emissions	Target basic unit for FY2020 × Production volume		—
Creation of a low-carbon society	JTEKT independent	CO <sub>2</sub> basic unit <sup>*2</sup>	FY2008	15% reduction	16.0% reduction
		Basic unit of CO <sub>2</sub> from distribution	FY2012	8% reduction	18.6% reduction
		CO <sub>2</sub> basic unit	FY2012	10% reduction	12.8% reduction
Creation of a recycling-based society	JTEKT independent	Basic unit of waste	FY2008	18% reduction	25.8% reduction
		Basic unit of packaging material	FY2012	8% reduction	7.4% reduction
		Basic unit of water usage	FY2012	8% reduction	26.0% reduction
		Basic unit of waste	FY2012	8% reduction	7.1% reduction
	Global	Basic unit of water usage	FY2012	8% reduction	53.1% reduction

\*1 Contribution toward reducing CO<sub>2</sub> emissions equivalent to or greater than overall CO<sub>2</sub> emissions through products

\*2 CO<sub>2</sub> emissions associated with the production factors—including raw materials, energy, labor, etc.—required to produce a given quantity of product

For more information about Environmental Action Plan 2020, please visit JTEKT’s website. <https://www.jtekt.co.jp/news/160531.html> (in Japanese only)



### Toward setting targets for 2030

In order to realize the goal of minimizing CO<sub>2</sub> emissions that was stated in Environmental Challenge 2050, JTEKT has set intermediate goals in the form of interim targets for 2030.

#### Our approach toward setting an overall emissions target for 2030

We have set our overall emissions target for 2030 in line with the goal of staying within a 2°C increase from pre-industrial levels, which was agreed on at the 2015 United Nations Climate Change Conference (COP21) in Paris.

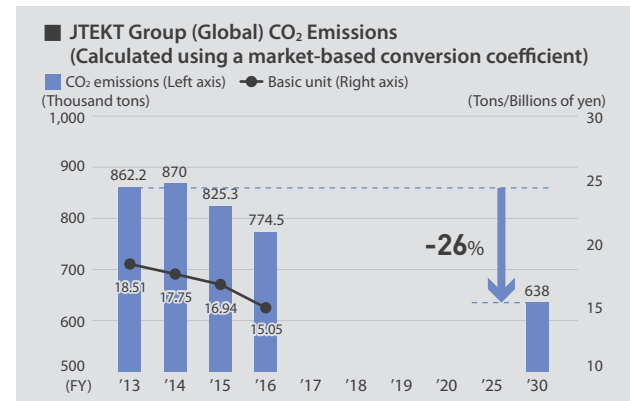
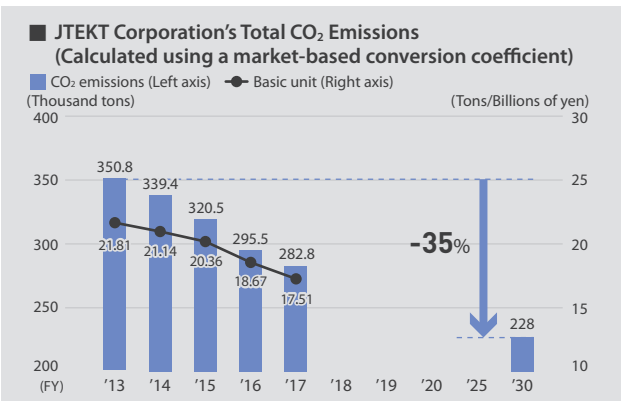
#### Target value

We have set a global target of reducing overall CO<sub>2</sub> emissions by 26% compared to fiscal 2013. Within Japan, by prioritizing the reduction of energy consumption through production technology innovation and day-to-day improvements, we are aiming to reduce CO<sub>2</sub> emissions by at least 35% compared to fiscal 2013.

#### Scenario analysis in regard to climate change

In relation to our setting of overall CO<sub>2</sub> emission reduction target for 2030, we have been utilizing the climate change scenario analysis framework developed by the TCFD<sup>\*3</sup> to evaluate climate-related risks and opportunities, and review our medium-term objectives.

<sup>\*3</sup> The Task Force on Climate-related Financial Disclosures (TCFD) was established by Japan's Financial Stability Board (FSB) to encourage business enterprises to use the TCFD's climate change scenarios to adjust business strategy and risk management based on the results of assessment of the climate-related risks and opportunities for the individual enterprise in question, and to disclose the anticipated impact on the enterprise's finances.



[Conversion coefficient used to calculate CO<sub>2</sub> emissions]

With regard to the management of CO<sub>2</sub> emissions per unit of production output in the period up until 2020, we have adopted a conversion coefficient that facilitates assessment of the results achieved in the company's improvement efforts.

For overall emissions management in the period from 2021 onward, to ensure that CO<sub>2</sub> emissions data more closely reflects the actual situation, calculation is performed using the market-based conversion coefficient specified by the individual electric power company for the year in question.

### Concrete measures adopted in fiscal 2018

#### Measures to reduce CO<sub>2</sub> emissions through production technology innovation (Development of energy-saving equipment)

We are working to reduce CO<sub>2</sub> emissions through production technology innovation, with the aim of meeting our CO<sub>2</sub> emissions reduction target for fiscal 2020 (which is to reduce emissions by 50% compared to fiscal 2001).

##### (Example) Energy-saving equipment development

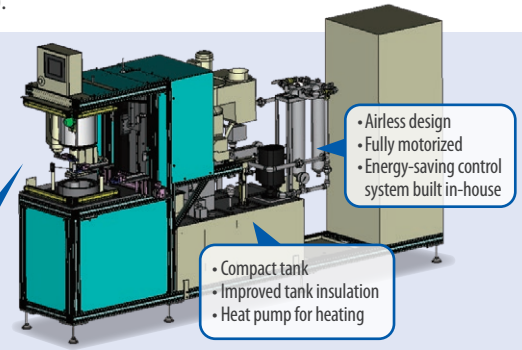
Energy-saving small-sized cap cleaning machine, designed and manufactured in-house

Cleaning machine: Development began in 2014  
2018: Energy-loss reduction and full-scale motorization

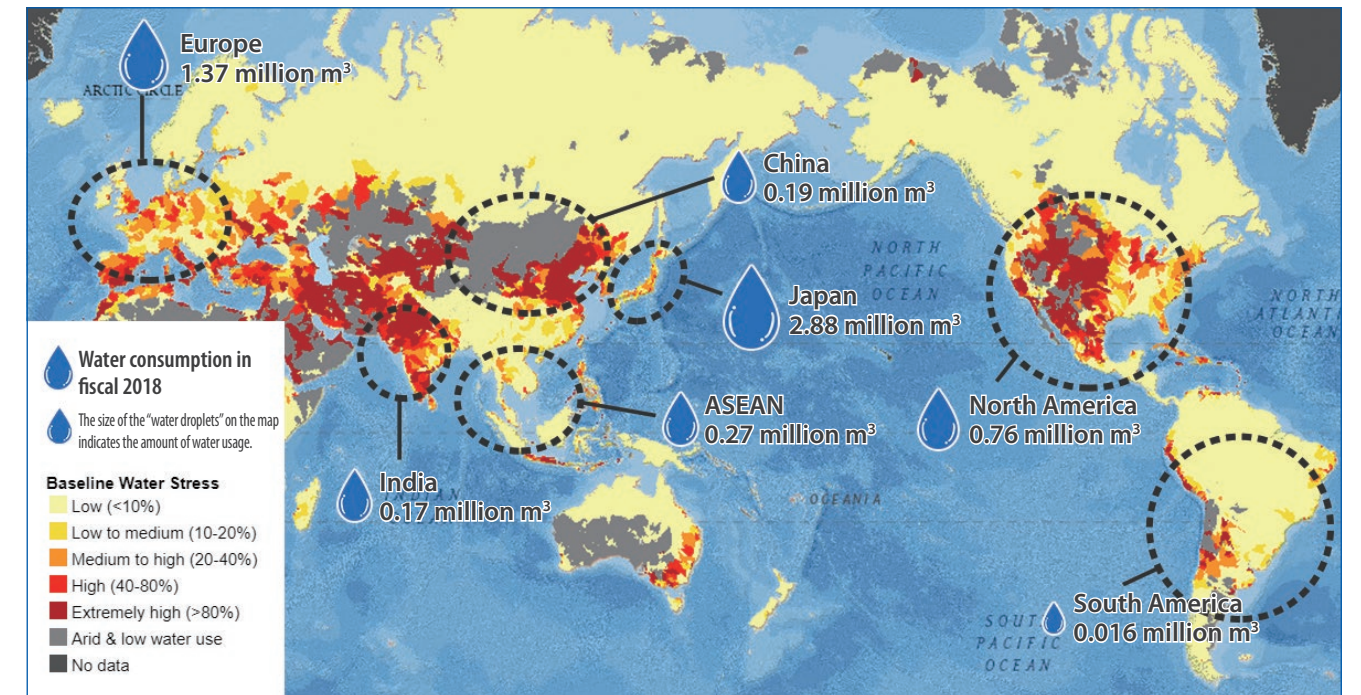
Equipment size  
1.5 m<sup>2</sup> footprint, 1.5 m in height  
**50%** smaller than conventional models

Energy efficiency  
Realizes a **30%** improvement compared to conventional models

- Compact size
- Effective cap cleaning
- Electric cylinder design



### Initiatives for reducing water consumption



#### Water risk assessment

In addition to realizing efficient utilization of water resources by improving water consumption per unit of production output, starting from 2017 JTEKT has also been assessing the level of water risk at each of its business locations, using Aqeduct<sup>\*4</sup>.

In the future, when working to reduce water usage, we will strive to ensure the effective utilization of water resources by implementing measures based on water risk assessment results—including forecasts—and on actual water consumption and water dependency levels at each facility.

<sup>\*4</sup> Aqeduct is a database run by the World Resources Institute (WRI). It provides global maps and data showing various types of water risk, including physical water stress, water quality, regulatory risk relating to water resources, reputation risk, etc.

#### Water risk countermeasures

On the basis of the water risk assessment results of various JTEKT production locations around the world, India and the Dalian region of China were assessed as having the highest level of water risk.

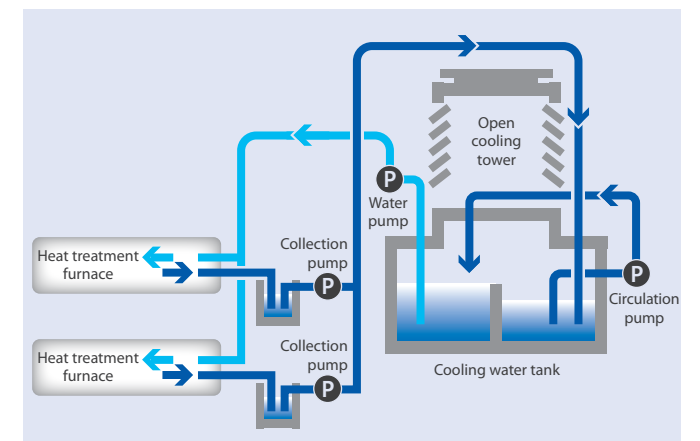
Based on surveys of actual water consumption and the overall state of water usage in regions with high water risk, in India, where there is a problem with unsatisfactory water quality, reverse osmosis (RO) equipment has been adopted so that water quality can be improved before water is supplied to production processes. As the actual amount of water consumed by JTEKT's business operations in areas with high water risk is relatively low (172,000 m<sup>3</sup> in India and 187,000 m<sup>3</sup> in China), it was determined that the level of risk associated with water usage was limited.

We are currently working to reduce water consumption at JTEKT's Tokushima Plant in Japan and at JTEKT AUTOMOTIVE LYON S.A.S. in France, which have been using relatively large amounts of underground water and river water.

#### Implementing measures to reduce underground water consumption (Bearing Business Headquarters, Tokushima Plant)

As a measure to reduce consumption of underground water, starting from fiscal 2018 JTEKT's Tokushima Plant has been taking steps to recycle the cooling water used in heat treatment. Prior to this, because the cooling water circuit for heat treatment equipment functioned as a closed circuit, water was discharged into a nearby river after use.

A cyclical system has now been adopted to reduce underground water consumption, focusing in particular on the heat treatment equipment at five plants, which had a particularly high level of water consumption (28,000 m<sup>3</sup> per month). In fiscal 2018, countermeasures were implemented for two sets of heat treatment equipment and five sets of conversion furnaces, realizing a reduction in underground water consumption of 14,690 m<sup>3</sup> per month (176,280 m<sup>3</sup> per year), representing a year-on-year improvement of 20%. Regarding countermeasures for the remaining heat treatment furnaces in fiscal 2019, it is anticipated that the adoption of cyclical systems will be completed for all five plants' heat treatment equipment.



## Eleven-Year Consolidated Financial Summary

	Unit	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	
<b>Net sales</b>	Billions of yen	1,017.0	769.6	955.4	1,052.6	1,067.5	1,260.1	1,355.9	1,399.9	1,318.3	1,441.1	<b>1,520.8</b>	
<b>Operating income</b>	Billions of yen	22.3	0.4	39.9	35.6	29.1	58.2	74.1	81.9	77.4	81.3	<b>66.6</b>	
<b>Ordinary income (loss)</b>	Billions of yen	11.1	(0.2)	40.2	38.6	34.2	61.8	79.3	81.2	78.0	82.5	<b>69.6</b>	
<b>Profit (loss) attributable to owners of parent</b>	Billions of yen	(11.9)	(19.4)	20.0	13.3	13.8	23.3	42.5	48.6	47.5	49.6	<b>24.6</b>	
<b>Net assets</b>	Billions of yen	323.6	315.1	336.0	342.3	384.2	418.8	499.7	480.0	512.9	572.5	<b>571.0</b>	
<b>Total assets</b>	Billions of yen	813.4	847.0	842.2	959.6	1,026.9	1,066.4	1,126.2	1,075.8	1,117.8	1,277.0	<b>1,267.8</b>	
<b>Net interest-bearing debt</b>	Billions of yen	139.7	135.5	88.4	106.4	168.5	180.8	158.6	125.1	114.4	139.5	<b>138.0</b>	
<b>Capital expenditures</b>	Billions of yen	51.1	25.2	30.8	65.8	109.6	76.4	68.4	63.1	66.4	66.6	<b>75.2</b>	
<b>Depreciation and amortization</b>	Billions of yen	55.8	50.0	48.6	46.7	44.2	53.0	57.0	58.4	56.0	60.4	<b>66.9</b>	
<b>Research and development costs</b>	Billions of yen	29.0	27.4	31.9	34.7	36.3	40.1	41.3	46.2	48.2	55.2	<b>63.6</b>	
<b>Cash flows</b>													
	Cash flows from operating activities	Billions of yen	33.9	63.2	60.3	48.8	49.9	89.2	103.3	110.1	99.2	100.0	<b>103.0</b>
	Cash flows from investing activities	Billions of yen	(58.9)	(57.7)	(31.1)	(56.2)	(101.0)	(87.1)	(62.0)	(59.9)	(68.0)	(99.0)	<b>(75.3)</b>
	Cash flows from financing activities	Billions of yen	27.1	15.3	(14.8)	39.5	(5.8)	(35.4)	(49.3)	(22.1)	60.2	(26.5)	<b>(26.5)</b>
	Cash and cash equivalents	Billions of yen	75.0	99.3	113.5	146.6	93.8	61.9	61.6	70.2	132.6	<b>132.4</b>	
<b>Financial index</b>													
	Operating income margin	%	2.2	0.1	4.2	3.4	2.7	4.6	5.5	5.9	5.6	<b>4.4</b>	
	Ordinary income margin	%	1.1	(0.0)	4.2	3.7	3.2	4.9	5.8	5.9	5.7	<b>4.6</b>	
	ROA	%	(1.3)	(2.3)	2.4	1.5	1.4	2.2	4.4	4.3	4.2	<b>1.9</b>	
	ROE	%	(3.5)	(6.4)	6.5	4.1	4.0	6.2	9.8	10.1	9.7	<b>4.6</b>	
	Equity ratio	%	37.6	35.0	37.8	33.8	35.4	37.1	42.0	42.3	43.6	<b>42.3</b>	
	D/E ratio	Times	0.46	0.46	0.28	0.33	0.46	0.46	0.34	0.27	0.23	<b>0.26</b>	
	Inventory turnover months	Months	1.5	2.0	1.6	1.6	1.8	1.6	1.5	1.4	1.4	<b>1.4</b>	
<b>Share information</b>													
	Market capitalization	Billions of yen	219.8	354.8	370.2	339.1	305.2	524.9	644.0	501.1	593.5	541.0	<b>467.5</b>
	Number of shares issued	Thousands of shares	321,406	321,406	342,186	342,186	342,186	342,186	343,286	343,286	343,286	<b>343,286</b>	
	Dividends per share	Yen	24	17	11	16	16	18	34	42	42	<b>43</b>	
	Payout ratio	%	—	—	26.9	41.1	39.5	26.3	27.4	29.6	30.3	29.7	<b>61.2</b>
	Number of employees	Persons	33,029	35,465	36,775	39,834	41,714	43,456	43,912	43,938	44,528	49,589	<b>49,693</b>
<b>Exchange rate</b>													
	USD	Yen	103.46	93.57	87.80	79.73	83.10	100.23	109.93	120.14	108.38	110.85	<b>110.91</b>
	EUR	Yen	152.44	130.20	116.38	109.69	107.14	134.37	138.77	132.58	118.79	129.70	<b>128.41</b>



## Consolidated Balance Sheets

Millions of yen

Assets	FY2017	FY2018
<b>Current assets</b>		
Cash and deposits	135,104	<b>135,542</b>
Notes and accounts receivable - trade	285,989	<b>280,490</b>
Securities	4	<b>14</b>
Inventories	175,078	<b>183,617</b>
Other	41,964	<b>48,268</b>
Allowance for doubtful accounts	(577)	<b>(775)</b>
Total current assets	637,564	<b>647,158</b>
<b>Non-current assets</b>		
Property, plant and equipment		
Buildings and structures	303,968	<b>311,124</b>
Accumulated depreciation	(185,346)	<b>(190,258)</b>
Buildings and structures, net	118,622	<b>120,866</b>
Machinery, equipment and vehicles	865,263	<b>898,732</b>
Accumulated depreciation	(652,873)	<b>(674,621)</b>
Machinery, equipment and vehicles, net	212,390	<b>224,110</b>
Tools, furniture and fixtures	77,080	<b>78,604</b>
Accumulated depreciation	(64,761)	<b>(65,764)</b>
Tools, furniture and fixtures, net	12,318	<b>12,840</b>
Land	75,672	<b>75,876</b>
Leased assets	2,122	<b>1,734</b>
Accumulated depreciation	(1,373)	<b>(934)</b>
Leased assets, net	748	<b>799</b>
Construction in progress	46,931	<b>30,831</b>
Total property, plant and equipment	466,683	<b>465,324</b>
Intangible assets		
Goodwill	8,245	<b>7,583</b>
Leased assets	42	<b>56</b>
Other	23,413	<b>27,508</b>
Total intangible assets	31,701	<b>35,148</b>
Investments and other assets		
Investment securities	94,461	<b>87,339</b>
Investments in capital	5,557	<b>5,027</b>
Long-term loans receivable	340	<b>367</b>
Retirement benefit asset	1,028	<b>1,281</b>
Deferred tax assets	25,036	<b>17,589</b>
Other	8,538	<b>8,922</b>
Allowance for doubtful accounts	(346)	<b>(341)</b>
Total investments and other assets	134,615	<b>120,187</b>
Total non-current assets	633,000	<b>620,660</b>
<b>Total assets</b>	<b>1,270,564</b>	<b>1,267,819</b>

Liabilities	FY2017	FY2018
<b>Current liabilities</b>		
Notes and accounts payable - trade	215,619	<b>221,034</b>
Short-term borrowings	30,084	<b>43,570</b>
Current portion of bonds	—	<b>10,000</b>
Current portion of long-term borrowings	32,976	<b>7,610</b>
Lease obligations	371	<b>202</b>
Accounts payable - other	30,357	<b>33,799</b>
Accrued expenses	50,155	<b>51,593</b>
Income taxes payable	8,801	<b>8,847</b>
Provision for bonuses for directors	616	<b>624</b>
Provision for product warranties	8,816	<b>7,165</b>
Other	20,040	<b>15,750</b>
Total current liabilities	397,840	<b>400,198</b>
<b>Non-current liabilities</b>		
Bonds payable	60,000	<b>50,000</b>
Long-term borrowings	151,624	<b>162,380</b>
Lease obligations	454	<b>667</b>
Deferred tax liabilities	5,444	<b>5,835</b>
Provision for retirement benefits for directors	1,388	<b>1,418</b>
Provision for environmental measures	207	<b>100</b>
Retirement benefit liability	76,361	<b>71,639</b>
Other	4,650	<b>4,497</b>
Total non-current liabilities	300,132	<b>296,539</b>
<b>Total liabilities</b>	<b>697,972</b>	<b>696,738</b>

Net assets	FY2017	FY2018
<b>Shareholders' equity</b>		
Share capital	45,591	<b>45,591</b>
Capital surplus	106,276	<b>107,000</b>
Retained earnings	357,356	<b>366,891</b>
Treasury shares	(420)	<b>(423)</b>
Total shareholders' equity	508,804	<b>519,059</b>
<b>Valuation and translation adjustments</b>		
Valuation difference on available-for-sale securities	39,576	<b>33,689</b>
Foreign currency translation adjustment	(9,961)	<b>(11,995)</b>
Remeasurements of defined benefit plans	(5,401)	<b>(4,274)</b>
Total valuation and translation adjustments	24,213	<b>17,418</b>
<b>Non-controlling interests</b>	39,573	<b>34,602</b>
<b>Total net assets</b>	<b>572,592</b>	<b>571,080</b>
<b>Total liabilities and net assets</b>	<b>1,270,564</b>	<b>1,267,819</b>

## Consolidated Statements of Income

Millions of yen

	FY2017	FY2018
<b>Net sales</b>	1,441,170	<b>1,520,893</b>
<b>Cost of sales</b>	1,197,655	<b>1,276,379</b>
<b>Gross profit</b>	243,514	<b>244,514</b>
<b>Selling, general and administrative expenses</b>	162,123	<b>177,906</b>
<b>Operating income</b>	81,391	<b>66,608</b>
<b>Non-operating income</b>		
Interest income	1,145	<b>1,580</b>
Dividend income	1,799	<b>1,950</b>
Rental income from non-current assets	603	<b>650</b>
Share of profit of entities accounted for using equity method	672	<b>1,104</b>
Foreign exchange gains	—	<b>313</b>
Other	4,590	<b>4,411</b>
Total non-operating income	8,810	<b>10,010</b>
<b>Non-operating expenses</b>		
Interest expenses	2,855	<b>3,723</b>
Foreign exchange losses	908	<b>—</b>
Antitrust law expenses	1,187	<b>550</b>
Other	2,678	<b>2,686</b>
Total non-operating expenses	7,630	<b>6,960</b>
<b>Ordinary income</b>	82,571	<b>69,658</b>
<b>Extraordinary income</b>		
Gain on sales of non-current assets	435	<b>1,264</b>
Gain on step acquisitions	9,708	<b>—</b>
Gain on sales of investments in capital	—	<b>1,102</b>
Reversal of provision for product warranties	—	<b>2,053</b>
Other	606	<b>186</b>
Total extraordinary income	10,751	<b>4,607</b>
<b>Extraordinary losses</b>		
Loss on retirement of non-current assets	774	<b>1,350</b>
Impairment loss	1,769	<b>6,061</b>
Loss on valuation of investment securities	0	<b>1</b>
Provision for product warranties	1,244	<b>1,634</b>
Custom duty for prior periods	1,749	<b>—</b>
Antitrust law-related expenses	3,900	<b>1,029</b>
Business restructuring expenses	—	<b>2,833</b>
Other	1,041	<b>320</b>
Total extraordinary losses	10,480	<b>13,231</b>
<b>Profit (loss) before income taxes</b>	82,842	<b>61,034</b>
<b>Income taxes - current</b>	22,921	<b>22,799</b>
<b>Income taxes - deferred</b>	5,758	<b>9,129</b>
<b>Total income taxes</b>	28,679	<b>31,929</b>
<b>Profit</b>	54,163	<b>29,104</b>
<b>Profit attributable to non-controlling interests</b>	4,465	<b>4,441</b>
<b>Profit attributable to owners of parent</b>	49,697	<b>24,663</b>

## Consolidated Statements of Comprehensive Income

Millions of yen

	FY2017	FY2018
<b>Profit</b>	54,163	<b>29,104</b>
<b>Other comprehensive income</b>		
Valuation difference on available-for-sale securities	8,130	<b>(5,845)</b>
Foreign currency translation adjustment	663	<b>(1,988)</b>
Remeasurements of defined benefit plans, net of tax	5,817	<b>927</b>
Share of other comprehensive income of entities accounted for using equity method	599	<b>(299)</b>
Total other comprehensive income	15,211	<b>(7,206)</b>
<b>Comprehensive income</b>	69,374	<b>21,898</b>
Comprehensive income attributable to		
Comprehensive income attributable to owners of parent	64,705	<b>17,868</b>
Comprehensive income attributable to non-controlling interests	4,669	<b>4,029</b>

## Consolidated Statements of Cash Flows

Millions of yen

	FY2017	FY2018
<b>Cash flows from operating activities</b>		
Profit before income taxes	82,842	61,034
Depreciation	60,414	66,901
Impairment loss	1,769	6,061
Amortization of goodwill	345	662
Increase (decrease) in allowance for doubtful accounts	(448)	197
Increase (decrease) in retirement benefit liability	(1,039)	(4,351)
Decrease (increase) in retirement benefit asset	(179)	(253)
Increase (decrease) in provision for retirement benefits for directors	78	30
Interest and dividend income	(2,944)	(3,530)
Loss (gain) on sales and valuation of investment securities	(98)	(80)
Loss (gain) on valuation of investment securities	0	1
Interest expenses	2,855	3,723
Share of loss (profit) of entities accounted for using equity method	(672)	(1,104)
Loss (gain) on sales of property, plant and equipment	(435)	(1,264)
Loss on retirement of property, plant and equipment	774	1,350
Loss (gain) on step acquisitions	(9,708)	—
Decrease (increase) in trade receivables	(9,693)	3,957
Decrease (increase) in inventories	(7,590)	(9,231)
Increase (decrease) in trade payables	1,843	6,645
Increase (decrease) in accrued expenses	3,972	1,286
Other, net	(1,208)	(3,745)
Subtotal	120,877	128,292
Interest and dividends received	2,932	3,547
Interest paid	(2,998)	(3,611)
Income taxes (paid) refund	(20,777)	(25,206)
Net cash provided by operating activities	100,033	103,022
<b>Cash flows from investing activities</b>		
Payments into time deposits	(1,606)	(3,571)
Proceeds from withdrawal of time deposits	1,701	2,969
Purchase of property, plant and equipment	(73,048)	(71,161)
Proceeds from sales of property, plant and equipment	899	2,498
Purchase of investment securities	(202)	(762)
Proceeds from sales of investment securities	5	225
Proceeds from sales of investments in capital	—	1,269
Purchase of shares of subsidiaries resulting in change in scope of consolidation	(22,862)	—
Loan advances	(136)	(283)
Collection of loans receivable	342	344
Other, net	(4,141)	(6,852)
Net cash (used in) investing activities	(99,049)	(75,324)
<b>Cash flows from financing activities</b>		
Net increase (decrease) in short-term borrowings	4,171	14,114
Proceeds from long-term borrowings	91,358	19,915
Repayments of long-term borrowings	(38,559)	(35,263)
Proceeds from issuance of bonds	20,000	—
Repayments of finance lease obligations	(522)	(605)
Dividends paid	(14,406)	(15,092)
Dividends paid to non-controlling interests	(1,754)	(4,065)
Payments from changes in ownership interests in subsidiaries that do not result in change in scope of consolidation	—	(5,592)
Net (increase) in treasury shares	(4)	(3)
Net cash provided by (used in) financing activities	60,282	(26,592)
<b>Effect of exchange rate change on cash and cash equivalents</b>	629	(1,341)
<b>Net increase (decrease) in cash and cash equivalents</b>	61,896	(236)
<b>Cash and cash equivalents at beginning of period</b>	70,207	132,648
<b>Increase in cash and cash equivalents resulting from inclusion of subsidiaries in consolidation</b>	543	60
<b>Cash and cash equivalents at end of period</b>	132,648	132,471



Kazuhisa Makino  
Executive Director

Intensive investment is needed to support sustainable growth of the Company. We are currently building a solid financial base to make this possible.

For JTEKT to continue its sustainable growth, we must help resolve social issues through our business activities.

Toward that end, the finance division works to build a strong financial base to support such business activities as R&D, improved productivity, and building professionals.

### Investment Strategy

JTEKT's business environment is at a major turning point. We are now at the stage where we must plant the seeds of our future by taking a long-term view of what JTEKT needs in order to realize sustainable growth. We need to make aggressive forward-looking investments to strengthen our management infrastructure in such areas as R&D, IT, and building professionals. In particular, the transformation in the automotive industry encapsulated in the acronyms CASE<sup>\*1</sup> and MaaS<sup>\*2</sup> represents both the biggest risks and opportunities for JTEKT. We will continue to invest aggressively in R&D and new business development to capture growth opportunities created by these changes. As the CFO, I will support business activities by fully reviewing the need for investment and associated potential returns. After organizing these plans in a manner that is readily visible to management, I will work to secure funding for R&D and alliances as well as consider a variety of investment methods to support JTEKT's business activities.

Furthermore, with regard to the global market, we expect continued growth in Asia and Africa and anticipate considerable business opportunities in those regions. To cite one example, we have made a publicly listed company in India in the Steering business into a JTEKT subsidiary. I believe we should continue to make such strategic investments in a dynamic manner going forward.

With respect to investments in other companies including through M&A, we will support planning and implementation and the provision of funding. At the same time, I believe we need to strengthen our function for formulating exit strategies, looking carefully at the timing to recoup investments and, as the case may be, the timing to withdraw.

To implement such strategic investments, our policy is to shrink business assets and secure the funding necessary for management with good asset efficiency while minimizing our interest-bearing debt balance. We will not only be managing profitability as part of business administration but also promoting business management that is focused on the balance sheet and cash flows through such measures as monitoring the cash conversion cycle and introducing asset efficiency metrics for each business.

### Capital Strategy

The JTEKT Group is currently working to shrink its interest-bearing debt balance. In addition, we have proactively introduced cash management systems<sup>\*3</sup> with hubs in each regional headquarters and are conducting financing on a cross-border basis to raise capital efficiency of the Group as a whole. We consider such activities to be increasingly important for controlling interest rate expenses, particularly as countries around the world are changing their low interest rate policies.

Meanwhile, we maintain a certain level of working capital in preparation for unforeseen circumstances given the significant latent risks inherent in the JTEKT Group's business environment. For the Group as a whole, we have built a structure in which the headquarters holds an appropriate level of working capital while reducing net interest-bearing debt on a consolidated basis. We are thus able to quickly supply funds from the headquarters to Group companies as and when needed.

As a result of such activities, our interest-bearing debt balance is currently higher than it was five years ago, but this reflects an intentional increase in working capital and in fact our net interest-bearing debt balance decreased. I think it is commendable that we have generated a degree of success in responding to one-off demand for funding for loan repayments, M&A investment, capital investment, and the like by generating cash flows from operating activities and working to create funds by trimming the balance sheet.

We intend to continue these activities going forward. I believe even more efficient and advantageous fundraising will be possible by continuing such activities and by concentrating capital management functions at the Group and at regional headquarters.

### Cost Strategy

The JTEKT Group is currently working to improve its cost structure to strengthen its earning power, including bringing its fixed costs to appropriate levels. The Group has a global footprint and therefore has, for example, R&D and purchasing functions in each region tailored to the local market environment and local management issues. While giving due recognition to local nuances, we are working to manage fixed costs at appropriate levels for each region and thus improve the efficiency of indirect divisions in the Group as a whole.

\*1 Connected, Autonomous, Shared, and Electric

\*2 MaaS refers to paying a fee to use of automobiles and other transportation methods as a service only when they are needed.

\*3 Cash management system refers to services provided by banks mainly in the areas of fund management and administration aimed at improving a company's capital efficiency.



## Management

## Members of the Board



President  
Tetsuo Agata

General Chief of New Business Promotion Dept.  
/ BR Electrical Power Storage Device Business  
Dept. / Leasing Business Dept.



Executive Vice President  
Hiroyuki Kaijima

General Chief of Sales & Marketing Division /  
Chief of Sales & Marketing Division



Senior Executive Director  
Katsumi Yamamoto

General Chief of Bearing Business Unit /  
Chief of Bearing Business Unit



Executive Director  
Takumi Matsumoto

General Chief of Driveline Systems Business Unit  
/ Chief of Driveline Systems Business Unit



Executive Director  
Makoto Sano

General Chief of Production Support Division /  
Chief of Production Support Division



Executive Director  
Shinji Kato

General Chief of Machine Tools & Mechatronics  
Business Unit / Chief of Machine Tools & Mecha-  
tronics Business Unit



Executive Director  
Hirofumi Matsuoka

General Chief of Steering Systems Business Unit  
/ Chief of Steering Systems Business Unit



Executive Director  
Kazuhisa Makino

General Chief of Corporate Division / Chief of  
Corporate Division / Global Internal Audit Dept.

## Members of the Board



Outside Director  
Takao Miyatani



Outside Director  
Iwao Okamoto



Outside Director  
Takeshi Uchiyamada

## Members of the Audit &amp; Supervisory Board



Member of the Audit & Supervisory Board  
Atsushi Kume



Member of the Audit & Supervisory Board  
Hiroshi Takenaka



Outside member of the Audit & Supervisory Board  
Takashi Yoshida



Outside member of the Audit & Supervisory Board  
Hiroyuki Wakabayashi



Outside member of the Audit & Supervisory Board  
Yumiko Sakurai

Japan

Koyo Machine Industries Co., Ltd.	Manufacture and sale of machine tools, mechanical parts, and automotive components
Toyooki Kogyo Co., Ltd.	Manufacture of hydraulic and pneumatic devices, manufacture and sale of machine tools and automotive components
Koyo Sealing Techno Co., Ltd.	Manufacture and sale of oil seals
CNK Co., Ltd.	Manufacture and sale of heat-treatment equipment, machine tools, and automotive components
Koyo Thermo Systems Co., Ltd.	Manufacture and sale of industrial heat-treatment furnaces, semiconductor manufacturing equipment, and PDP heat-treatment equipment
Koyo Electronics Industries Co., Ltd.	Manufacture and sale of electronic control devices and equipment
Daibea Co., Ltd.	Manufacture and sale of bearings
Utsunomiya Kiki Co., Ltd.	Manufacture of bearings
HOUKO Co., Ltd.	Manufacture and repair of machine tools, manufacture of automotive components
Toyoda Van Moppes Ltd.	Manufacture and sale of diamond tools
Koyometaltec Co., Ltd.	Forging of bearings, manufacture and sale of lathe turned components of bearings and steering systems
KJK Co., Ltd.	Lathe turning of bearings
NIPPON NEEDLE ROLLER MFG. Co., Ltd.	Manufacture and sale of needle rollers and cylindrical rollers
Koyo Heat Treatment Co., Ltd.	Manufacture and sale of metal heat treated components
Tokio Seiko Corporation	Processing of bearings and related products
Yamato Seiko Co., Ltd.	Roller turning, grinding, etc.
Taiho Co., Ltd.	Lathe turning of bearings
KOYO Steering Service Co., Ltd.	Manufacture and sale of rebuilt steering, etc.
FORMICS Co., Ltd.	Manufacture and sale of sheet metal products
Tk Engineering CO., LTD.	Planning, design, manufacture and sale of production equipment systems
Toya Manufacturing Co., Ltd.	Part machining and assembly of small machine tool-related devices
Koyo Nichijiku Co., Ltd.	Manufacture of various bearings
KOYO-KOWA CO., LTD.	Sale of various bearings, machine tools, heat treatment furnaces, precision devices, electronic devices, cutting tools, environmental devices, etc.
Meiwa Shouko Co., Ltd.	Sale of various bearings, chains, motors, resin products, control devices, etc.
KOYO KYUEI Co., Ltd.	Sale of various bearings, oil seals, automotive components, etc.
SHIZUOKA KOYO CO., LTD.	Sale of various bearings, machinery and power tools
YUTAKA HIGH-TECH, LTD.	Design, drawing creation and software development
JTEKT Service CO., LTD.	Insurance agent and provider of various shared services for the JTEKT Group (security, facility management, personnel administration, etc.)
Fuji Kiko Co., Ltd.	Manufacture and sale of steering column, shifter and driveline components
Fuji Kiko Auto Tech Tokai CO., LTD.	Manufacture and sale of automotive components
JTEKT IT Center Akita Corporation	Manufacture and sale of software and hardware for electric control equipment

Europe and North Africa

<b>France</b>	
JTEKT EUROPE S.A.S.	European regional headquarters
JTEKT AUTOMOTIVE DIJON SAINT-ETIENNE S.A.S.	Manufacture and sale of automotive components
JTEKT AUTOMOTIVE LYON S.A.S.	Manufacture and sale of automotive components
JTEKT HPI S.A.S.	Manufacture and sale of automotive components
KOYO FRANCE S.A.	Sale of bearings
KOYO BEARINGS VIERZON MAROMME SAS	Manufacture and sale of bearings
TOYODA MACHINERY AND ENGINEERING EUROPE SAS	Sale and service of machine tools
JTEKT EUROPE S.A.S. TECHNICAL CENTER	Technical center
<b>Netherlands</b>	
JTEKT EUROPE BEARINGS B.V.	Sale of bearings
JTEKT EUROPE BEARINGS B.V. TECHNICAL CENTER	Technical center
<b>United Kingdom</b>	
JTEKT AUTOMOTIVE UK LTD.	Manufacture and sale of automotive components
KOYO (U.K.) LIMITED	Sale of bearings
KOYO BEARINGS (EUROPE) LTD.	Manufacture and sale of bearings
<b>Germany</b>	
KOYO DEUTSCHLAND GMBH	Sale of bearings
KOYO BEARINGS DEUTSCHLAND GMBH	Manufacture and sale of bearings
KOYO BEARINGS DEUTSCHLAND GMBH KUENSEBECK TECHNOLOGY CENTER	Technical center
<b>Czech Republic</b>	
JTEKT AUTOMOTIVE CZECH PLZEN, S.R.O.	Manufacture and sale of automotive components
JTEKT AUTOMOTIVE CZECH PARDUBICE, S.R.O.	Manufacture and sale of automotive components
KOYO BEARINGS CESKA REPUBLIKA S.R.O.	Manufacture and sale of bearings
KOYO BEARINGS CESKA REPUBLIKA S.R.O. BRNO TECHNOLOGY CENTER	Technical center
<b>Italy</b>	
KOYO ITALIA S.R.L.	Sale of bearings
<b>Belgium</b>	
JTEKT TORSSEN EUROPE S.A.	Manufacture and sale of automotive components
<b>Romania</b>	
KOYO ROMANIA S.A.	Manufacture and sale of bearings
<b>Sweden</b>	
KOYO KULLAGER SCANDINAVIA A.B.	Sale of bearings
<b>Spain</b>	
KOYO IBERICA, S.L.	Sale of bearings
<b>Morocco</b>	
JTEKT AUTOMOTIVE MOROCCO S.A.S.	Manufacture and sale of automotive components

China

JTEKT (CHINA) CO., LTD.	Chinese headquarters, sale of automotive components and bearings
JTEKT STEERING SYSTEMS (XIAMEN) CO., LTD.	Manufacture and sale of automotive components
JTEKT AUTOMOTIVE (TIANJIN) CO., LTD.	Manufacture and sale of automotive components
JTEKT DALIAN INNOVATION AUTOMOTIVE CO., LTD.	Manufacture and sale of automotive components
WUXI KOYO BEARING CO., LTD.	Manufacture and sale of bearings
DALIAN KOYO WAZHOU AUTOMOBILE BEARING CO., LTD.	Manufacture and sale of bearings
KOYO BEARING DALIAN CO., LTD.	Manufacture and sale of bearings
KOYO LIOHO (FOSHAN) AUTOMOTIVE PARTS CO., LTD.	Manufacture and sale of bearings
KOYO AUTOMOTIVE PARTS (WUXI) CO., LTD.	Manufacture and sale of bearings
KOYO NEEDLE BEARINGS (WUXI) CO., LTD.	Manufacture and sale of bearings
TOYODA MACHINERY (DALIAN) CO., LTD.	Manufacture, sale and service of machine tools
JTEKT AUTOMOTIVE SCIENCE AND TECHNOLOGY CENTER (DALIAN) CO., LTD.	Technical center
JTEKT RESEARCH AND DEVELOPMENT CENTER (WUXI) CO., LTD.	Technical center
<b>Taiwan</b>	
TAIWAN JTEKT CO., LTD.	Sale of automotive components

Asia, Oceania, Middle East

<b>Thailand</b>	
JTEKT (THAILAND) CO., LTD.	ASEAN regional headquarters, manufacture and sale of automotive components and bearings, technical center
JTEKT AUTOMOTIVE (THAILAND) CO., LTD.	Manufacture and sale of automotive components
TOYODA MACHINERY S.E. ASIA CO., LTD.	Sale and service of machine tools
<b>Indonesia</b>	
PT. JTEKT INDONESIA	Manufacture and sale of automotive components and bearings
PT. JTEKT INDONESIA SALES	Sale and service of machine tools
<b>Singapore</b>	
KOYO SINGAPORE BEARINGS (PTE) LTD.	Sale of bearings
<b>Malaysia</b>	
JTEKT MALAYSIA SDN. BHD.	Sale of automotive components and bearings
JTEKT AUTOMOTIVE (MALAYSIA) SDN. BHD.	Manufacture and sale of automotive components
<b>Philippines</b>	
JTEKT PHILIPPINES CORPORATION	Manufacture and sale of automotive components and bearings
<b>South Korea</b>	
JTEKT KOREA CO., LTD.	Sale of automotive components and bearings
KOYO JICO KOREA CO., LTD.	Manufacture and sale of bearings
<b>India</b>	
JTEKT India LTD.	Indian regional headquarters, manufacture and sale of automotive components
KOYO BEARINGS INDIA PRIVATE LTD.	Manufacture and sale of bearings
TOYODA MICROMATIC MACHINERY INDIA PVT.LTD.	Sale and service of machine tools
<b>Australia</b>	
KOYO AUSTRALIA PTY. LTD.	Sale of bearings
<b>United Arab Emirates (UAE)</b>	
KOYO MIDDLE EAST FZCO	Sale of bearings

North America

<b>USA</b>	
JTEKT NORTH AMERICA CORPORATION	North American regional headquarters
JTEKT AUTOMOTIVE NORTH AMERICA, INC.	Headquarters for North American automotive components business
JTEKT AUTOMOTIVE TENNESSEE-VONORE, LLC	Manufacture and sale of automotive components
JTEKT AUTOMOTIVE TENNESSEE-MORRISTOWN, INC.	Manufacture and sale of automotive components
JTEKT AUTOMOTIVE TEXAS, L.P.	Manufacture and sale of automotive components
JTEKT AUTOMOTIVE SOUTH CAROLINA, INC.	Manufacture and sale of automotive components
JTEKT TORSSEN NORTH AMERICA, INC.	Manufacture and sale of automotive parts
KOYO BEARINGS NORTH AMERICA LLC	Manufacture and sale of bearings
KENTUCKY ADVANCED FORGE, LLC	Manufacture of bearings
JTEKT TOYODA AMERICAS CORPORATION	Sale and service of machine tools
JTEKT AUTOMOTIVE NORTH AMERICA INC. TECHNICAL CENTER	Technical center
KOYO BEARINGS NORTH AMERICA LLC PLYMOUTH TECHNICAL CENTER	Technical center
KOYO BEARINGS NORTH AMERICA LLC GREENVILLE TECHNOLOGY CENTER	Technical center
<b>Canada</b>	
KOYO CANADA INC.	Sale of bearings
KOYO BEARINGS CANADA INC.	Manufacture and sale of bearings
<b>Mexico</b>	
JTEKT AUTOMOTIVE MEXICO, S.A. DE C.V.	Manufacture and sale of automotive components
KOYO MEXICANA, S.A. DE C.V.	Sale of bearings
<b>South America</b>	
<b>Brazil</b>	
JTEKT AUTOMOTIVA BRASIL LTDA.	South American regional headquarters, manufacture and sale of automotive components
KOYO ROLAMENTOS DO BRASIL LTDA.	Sale of bearings
TOYODA KOKI DO BRASIL INDUSTRIA E COMERCIO DE MAQUINAS, LTDA.	Sale and service of machine tools
JTEKT AUTOMOTIVA BRASIL LTDA. TECHNICAL CENTER	Technical center
<b>Argentina</b>	
JTEKT AUTOMOTIVE ARGENTINA S.A.	Manufacture and sale of automotive components
<b>Panama</b>	
KOYO LATIN AMERICA, S.A.	Sale of bearings



## JTEKT by Region

### JTEKT by Region

As of March 31, 2019

#### Europe

No. of companies **28**  
No. of employees **7,930**  
Net sales **¥231.2 billion**

#### China

No. of companies **26**  
No. of employees **5,845**  
Net sales **¥149.7 billion**

#### Japan

No. of companies **36**  
No. of employees **19,354**  
Net sales **¥619.6 billion**

#### North America

No. of companies **20**  
No. of employees **7,149**  
Net sales **¥314.7 billion**

#### South America and other regions

No. of companies **8**  
No. of employees **796**  
Net sales **¥26.8 billion**

#### Australia-Asia region and India

No. of companies **32**  
No. of employees **8,619**  
Net sales **¥178.6 billion**

### Net Sales by Region



## Corporate Profile / Stock Information

(As of March 31, 2019)

## CORPORATE INFORMATION

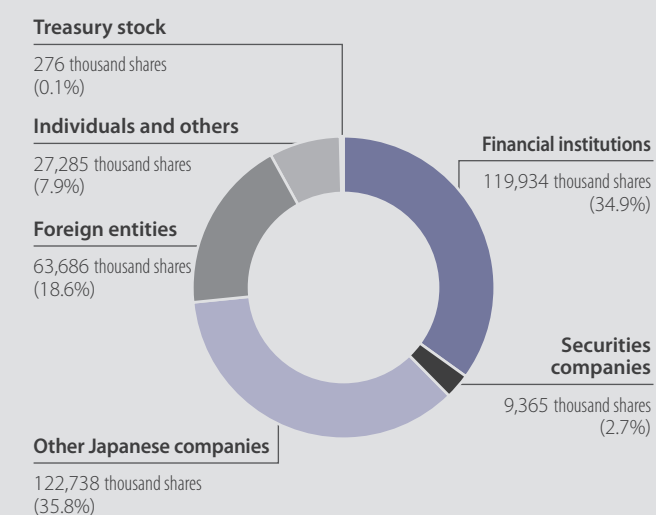
### Corporate Profile

Company name	JTEKT Corporation
Headquarters	5-8, Minamimemba 3-chome, Chuo-ku, Osaka 542-8502, Japan
Head offices	[Nagoya Head Office] 15th Floor, Midland Square, 7-1, Meieki 4-chome, Nakamura-ku, Nagoya, Aichi 450-8515, Japan [Osaka Head Office] 5-8, Minamimemba 3-chome, Chuo-ku, Osaka 542-8502, Japan
Phone number	[Nagoya Head Office] +81-52-527-1900 [Osaka Head Office] +81-6-6271-8451
President	Tetsuo Agata
Capital	¥45,591 million (As of March 31, 2019)
Number of employees	49,693 [Consolidated] (As of March 31, 2019) 11,914 [Nonconsolidated] (As of March 31, 2019)
Net sales	¥1,520,893 million [Consolidated] (FY2018) ¥669,912 million [Nonconsolidated] (FY2018)
Ordinary income	¥69,658 million [Consolidated] (FY2018) ¥53,851 million [Nonconsolidated] (FY2018)
No. of consolidated subsidiaries	149 (Domestic: 35, Overseas: 114)

### Stock Information

No. of shares	No. of shares authorized	1,200,000 thousand shares
	No. of shares issued	343,286 thousand shares
No. of shareholders		23,566

### Distribution by Ownership (Percentage of shares issued)



### Major Shareholders (Top ten)

Name	No. of shares (Thousand shares)	Ratio of shareholding (%)
Toyota Motor Corporation	77,235	22.5
The Master Trust Bank of Japan, Ltd. (Trust account)	32,447	9.5
DENSO CORPORATION	18,371	5.4
Japan Trustee Services Bank, Ltd. (Trust account)	15,647	4.6
Nippon Life Insurance Company	11,125	3.2
Toyota Industries Corporation	7,813	2.3
Sumitomo Mitsui Trust Bank, Limited	7,635	2.2
Resona Bank, Limited	6,749	2.0
Sumitomo Mitsui Banking Corporation	6,366	1.9
Toyota Tsusho Corporation	5,969	1.7