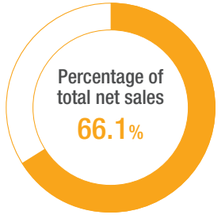
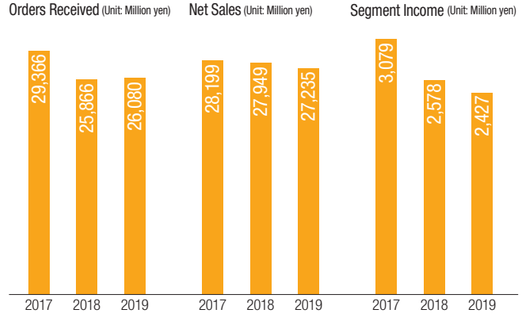


Support railway transportation that connects people and cities with safety and trust, through manufacturing that merges electronics technologies and mechanical technologies in a highly advanced manner

Results for fiscal 2018

- **Orders Received**
  26,080 million yen (Up 0.8% year on year)
- **Net Sales**
  27,235 million yen (Down 2.5% year on year)
- **Segment Income**
  2,427 million yen (Down 5.9% year on year)



Orders received increased 0.8% compared with the previous fiscal year to 26,080 million yen, due to an increase in orders from domestic private railways and overseas customers excluding those in China, despite a decrease in orders from China caused by the impact of a production drop-off period resulting from model replacement of Chinese high-speed railways. Net sales totaled 27,235 million yen, a 2.5% decrease from the previous fiscal year, due to a decrease in sales in China and other overseas markets. Segment income decreased 5.9% compared with the previous fiscal year to 2,427 million yen, due to a decrease in China despite an increase in Japan.

VOICE

We will expand the Transportation Systems segment with three pillars of "expanding overseas business," "establishing a stable business earnings structure," and "restructuring production system."

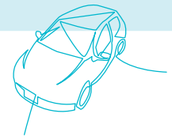
Akira Watanabe
General Manager of Transportation Business Unit

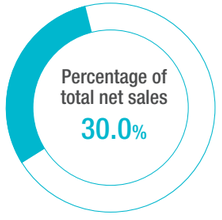
In the Transportation Systems segment, we will further push ahead with the expansion of overseas business that we have been working on since the early 2000s, while steadily carrying out the domestic business as a foundation for establishing a stable business earnings structure. At the same time, the production line at the Yokohama Plant will be bolstered as part of efforts to restructure production systems.

Specifically, we will expand the overseas business by reorganizing and strengthening overseas affiliates in accordance with local business environment and by developing a business scheme of providing maintenance for subway trains whose number is expected to rise sharply particularly in China. Furthermore, we aim to steadily capture demand for standard rail vehicles that will be newly built for the high-speed railway in China.

In the domestic business, while responding to demand for rail vehicles that will be newly built for the Tokyo Olympics, we plan to provide products and services that leverage our reliability based on the track record since our establishment and new technologies aimed at reducing environmental impact, such as energy-saving, maintenance-saving, and low noise technologies.

Bolstering the production line at the Yokohama Plant involves making good use of the old industrial plant sites that became empty following the consolidation of bases into the Shiga Ryuo Plant and reviewing the internal layout of the plant, with the aim of expanding production capacity and improving production efficiency.

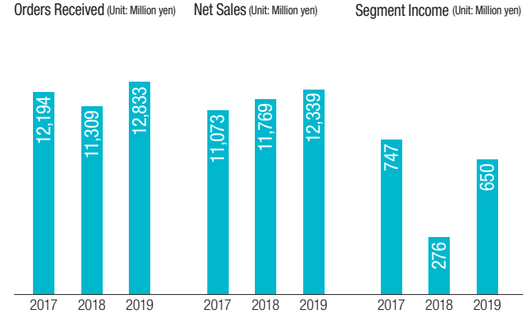




Deliver technologies and gratitude to customers with highly precise, highly responding and highly efficient power electronics, for realization of an environment-friendly society

Results for fiscal 2018

- **Orders Received**
  12,833 million yen (Up 13.5% year on year)
- **Net Sales**
  12,339 million yen (Up 4.8% year on year)
- **Segment Income**
  650 million yen (Up 135.2% year on year)



Orders received increased 13.5% compared with the previous fiscal year to 12,833 million yen, due to increased orders for testing equipment and processing equipment. Net sales increased 4.8% year on year to 12,339 million yen for a reason similar to that for the increase in orders received. Segment income totalled 650 million yen, a 135.2% increase compared with the previous fiscal year, due to efforts to strengthen cost control and process control and reduce expenses.

VOICE

We will grow the Industrial Systems segment along with the Transportation Systems segment as two pillars by further demonstrating the "Ryuo integration effect" and exploring the domestic and overseas markets.

Yoshifumi Otsubo
General Manager of Industry Business Unit

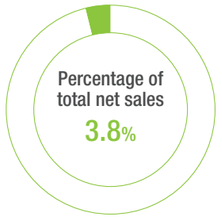
With the start of full operation of the Shiga Ryuo Plant in June 2018, the Industrial Systems segment has entered a period of dramatic growth. In the first year of operation, orders received, net sales, and profitability significantly increased, as a result of growing customer trust and inquiries, substantially higher productivity, and improved inter-departmental communication. We will further demonstrate the "Ryuo integration effect" and continue to improve our business performance.

By field, we will enhance added value and expand production capacity for testing equipment for automobile development in Japan by leveraging our strengths in the drive system. As for processing equipment, we aim to capture demand from machine manufacturers, using highly efficient permanent magnet synchronous motors and high-performance inverters as our strengths.

Overseas, SIAM TOYO DENKI Co., Ltd. (Thailand), which was set up in June 2019, and Chalco-Toyo Permanent Magnet Motor Co., Ltd. (China) will lead in developing new markets.

In addition, steady progress has been seen in the development of products, such as super-high-speed rotating dynamo and flat-type dynamo that are compatible with automobile electrification and automatic driving, and large-capacity inverters with a view to expanding overseas.

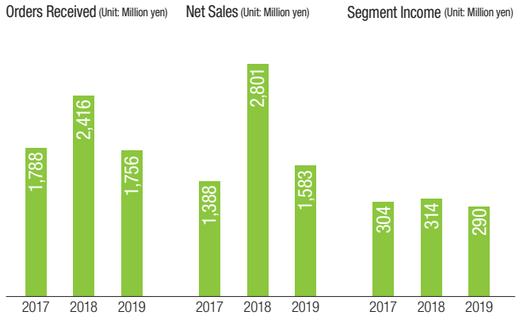
We will grow the Industrial Systems segment along with the Transportation Systems segment as two pillars through these efforts.



Provision of products that make the execution of operations on station premises and trains smooth and convenient and M2M solutions based on mobile phone networks and cloud servers using remote monitoring system

Results for fiscal 2018

- **Orders Received**
  1,756 million yen (Down 27.3% year on year)
- **Net Sales**
  1,583 million yen (Down 43.5% year on year)
- **Segment Income**
  290 million yen (Down 7.7% year on year)



Orders received decreased 27.3% compared with the previous fiscal year to 1,756 million yen, due to a fall-back from the large-scale orders received in the previous fiscal year. Net sales decreased 43.5% year on year to 1,583 million yen for a reason similar to that for the decrease in orders received. Segment income decreased 7.7% compared with the previous fiscal year to 290 million yen due to the impact of lower net sales.

VOICE

We will work towards expanding the Information Equipment Systems segment through product development and solution that meet customer needs, with a focus on railway station operating equipment and remote monitoring systems.

In the Information Equipment Systems segment, apart from delivering on-board IC ticket checking machines to West Japan Railway Company during the previous fiscal year, we pressed ahead with system development to achieve multiple determination of the fare calculation system for automatic ticket gates. Furthermore, we won orders for commuter pass issuing machines and counter processing machines from TOKYU RAILWAYS and Kanto Railway. We will continue to expand our share in the railway station operating equipment market and provide solutions using remote monitoring systems.

Specifically, as on-board IC ticket checking machines are expected to be employed on rail lines where automatic ticket gates could not be installed in the past, they will be rolled out to railway operators across the country. Additionally, the commuter pass issuing machine ordered in the previous fiscal year will be our first machine compatible with IC credit cards, and the counter processing machine will be a new machine that satisfy the needs of small and medium-sized railway operators. As such, we aim to continue to develop and deliver these products firmly and to gain new market share based on the lineup of these products.

In product development, demand for cashless payments is accelerating following the consumption tax rate change in October 2019. Accordingly, we will work on the development of systems using QR codes.

Toshihiko Akihiro
General Manager of IT Business Unit

Order received for consigned research and development of superconducting flywheel power storage system for railways

The Company received an order from East Japan Railway Company to conduct operations related to equipment manufacturing and the preparation of test reports for verification tests of a superconducting flywheel power storage system for railways.

Based on the “Basic Agreement on Technology Development of Superconducting Flywheel Power Storage System for Railways” concluded on March 29, 2018 between Yamanashi Prefecture, the Railway Technical Research Institute, and East Japan Railway Company, this system is being developed for the world’s first practical use in the railway field. The Company will conduct the design and manufacturing of the power conversion equipment, and will be responsible for the overall coordination of this power storage system’s construction, in cooperation with MIRAPRO Co., Ltd. (Hokuto, Yamanashi Prefecture; President & CEO: Hiroyuki Tsugane).

Through this business, the Company will work on the construction of a new power storage system that contributes to the improvement of energy efficiency, the stable usage of renewable energy and technology development in the railway field.

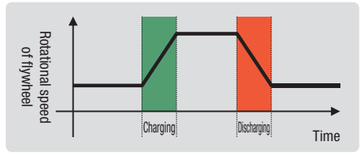
Superconducting Flywheel Power Storage System for Railways

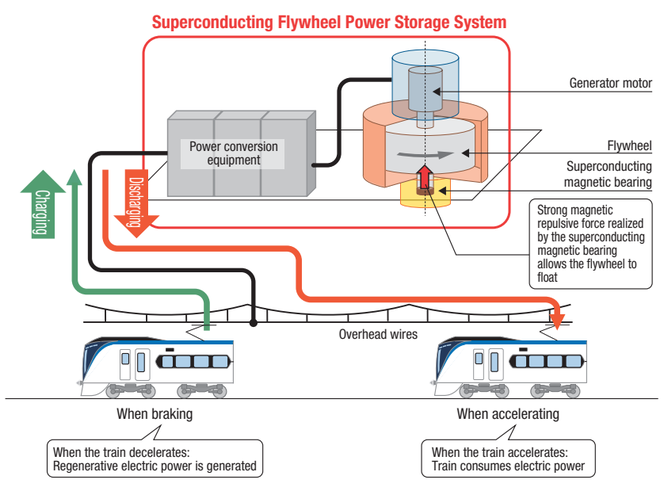
The flywheel power storage system is a system that, by rotating a large disk (flywheel) within the device, stores regenerative electric power as kinetic energy (charging), and converts kinetic energy back to electric power (discharging) as necessary.

The bearing portion of the superconducting flywheel power storage system adopts the superconductivity technology designed by the Railway Technical Research Institute, and established through verification tests conducted in Komekurayama, Yamanashi Prefecture. The technology allows the flywheel to float, reducing rotational loss as there is no contact, and realizes a reduction in maintenance efforts.

When charging
Regenerative electric power of the train is absorbed, and flywheel accelerates

When discharging
Power is supplied to the train, and flywheel decelerates





Announcement of new product IORemoterLTE: IoT terminal for Toyo IoT/M2M solutions/remote monitoring and control systems

The Company has announced IORemoterLTE, a new product that is an IoT terminal for remote monitoring and control systems, for Toyo IoT/M2M solutions.

The IORemoterLTE is a high-speed IoT terminal integrated in the LTE module. Through the use of the Toyo IoT/M2M solutions cloud service, the remote monitoring and control of various facilities, controllers, devices, and mobile entities can be conducted faster and at a larger capacity.

R&D to support the development of social infrastructure and supporting frameworks

Research and Development

The Group's R&D activities are based on seeking to create products that fully satisfy our customers and challenging the creation and expansion of these products, and we actively promote development of technologies of our existing businesses and basic technology developments that support this development as well as development of new products that expand our businesses.

Results and topics from fiscal 2018

Segment	Project	Description
Transportation Systems	Development of a train information system based on ECN standards	Developed a train information system for Jakarta MRT rail vehicles in compliance with IEC 61375 Part 3-4 ECN
	Development of power storage system	Conducted a driving test for emergency on rheostatic control trains using a power storage system equipped with lithium-ion batteries. Also analyzed the results of emergency driving, and in case emergency running is necessary, studied a driving approach that suppresses power consumption so that emergency driving can be performed even when the SOC decreases.
Industrial Systems	Development of flat-type dynamo	Developed a frame equipped with a motor for dynamos and a steering function specific for flat-type dynamos that can fit inside the wheel well to be used for automobile testing. Since it can fit in the wheel well, we anticipate its application for testing equipment for automated driving.
	Development of compact and lightweight inverter	Developed a compact and lightweight inverter that minimizes installation space and simplifies maintenance such as replacement. Realized an about 39% reduction in volume and an about 25% reduction in mass compared to conventional products in the 75 kW class by reassessing the cooling structure and the current density for bus bars.
Information Equipment Systems	Development of IC-exclusive commuter pass issuing machine	Developed a compact and desktop IC-exclusive commuter pass issuing machine. Saved space by eliminating the magnetic ticket issuing section and supporting only transportation IC cards.
Expansion of New Businesses	Function expansion of remote monitoring unit	Obtained a communication equipment certification in Indonesia to expand sales of the currently available IORemoter. Also developed an IoT starter kit as a new item to increase sales and highlighted the easiness to get familiar with IoT.
	Efforts to reduce the size of eco-drive motors and mass produce them	Developed and commercialized a product that uses flat wires for stator windings in order to further reduce the size and weight of eco-drive (ED) motors. Succeeded in increasing current, which was difficult to achieve with conventional methods, and realized large torque output despite its small size.
Research Laboratory	Development of low-cost impregnating resin for main motors	The bottleneck of the high-heat resistant impregnating resin material used for rail vehicle main motors has been its high cost due to its special characteristics. Researching a new impregnating resin material to achieve both high-heat resistance and low cost.
	Reduction of motor manufacturing cost with square wire and laser welding	Targeting the reduction of man-hours for the winding process by investigating manufacturing automation of ED motor stator coils with square wires and laser welding. Also examining the feasibility by optimizing the number of motor poles and conductor size.
	Research on wireless power transmission	Researched a wireless and high-efficiency in-motion power transmission system with the goal of eliminating train overhead wires. Realized continuous traveling of a mini model train with over 95% efficiency, 30 kW power transmission at a stationary state and only with wireless power supply from the ground.

Intellectual Property

Our intellectual property is placed as a key corporate resource. Our intellectual property department is responsible for the management of intellectual property and our research laboratory and the development divisions in each business unit actively apply for patents and utility models.

In the overseas markets which we expect to further expand our businesses, we have started to actively engage in activities concerning our intellectual property in order to protect our technologies and brand.

Patent applications granted