Business Report

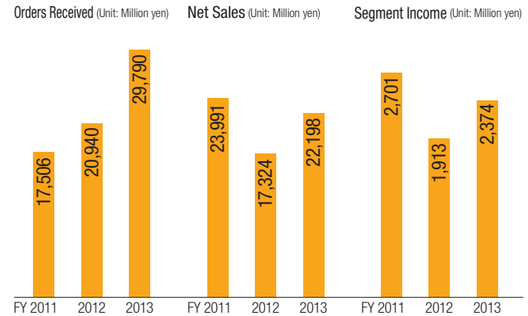
Supporting the development of railway infrastructure worldwide through the supply of high-quality electrical equipment for rail vehicles

Business Overview

We contribute to the development of railway infrastructure by supplying the world with electrical equipment for rail vehicles used for various forms of city transit such as subways, LRVs (light rail vehicles), and APMs (automated people movers), as well as high-speed railroads such as the Shinkansen.

Results for fiscal 2013

■ Orders Received **29,790 million yen** **(Up 42.3% year on year)**	In addition to an increase in Japan, overseas orders increased significantly, including high-speed railroad and subway contracts in China as well as LRV in the U.S.
■ Net Sales **22,198 million yen** **(Up 28.1% year on year)**	Sales increased sharply as a result of a recovery in vehicle demand in Japan, as well as strengthened efforts for overseas.
■ Segment Income **2,374 million yen** **(Up 24.1% year on year)**	Profits increased due mainly to increased revenue and improvements in subsidiary earnings.



TOPICS

International Railway Industry Standard (IRIS) certification acquired for rail vehicle auxiliary power supply

The Company acquired International Railway Industry Standard (IRIS) certification for "auxiliary power supply (SIV)" in September 2013 in the field of rail vehicle auxiliary systems.

The IRIS is an international standard that calls for high quality and safety in the rail industry, and acquisition of the IRIS certification is recommended in Europe for railway-related transactions including major rail vehicle manufacturers.

This marks the first time that certification has been acquired for an auxiliary power supply in Japan, and we will work to acquire IRIS for other products as well. We will also work to further promote global expansion of the Transportation Systems segment as we aim to expand sales of our electrical equipment for rail vehicles.

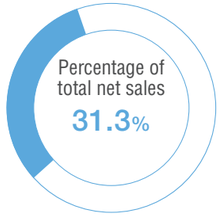
IRIS Certification

Auxiliary power supply (SIV)

Supplying advanced motor drive technology to contribute to improvement of efficiency in our customers' production facilities

Business Overview

We propose optimal systems that suit needs of our customers using programmable controllers (PLC), intelligent inverters, and high-efficiency motors and allow customers to improve the efficiency of production facilities and shorten the period for development work.

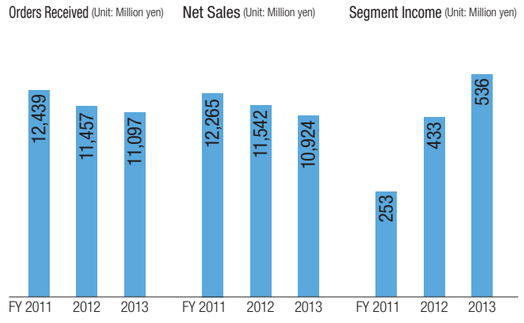


Results for fiscal 2013

Orders Received
11,097 million yen
(Down 3.1% year on year)
Orders decreased slightly due to slightly weak orders received for infrastructure-related despite being robust for testing systems for automobile development and capital investment-related.

Net Sales
10,924 million yen
(Down 5.4% year on year)
Sales decreased slightly for the same reason underlying the decrease in orders received.

Segment Income
536 million yen
(Up 23.8% year on year)
Profits increased due to improved profitability at factories.

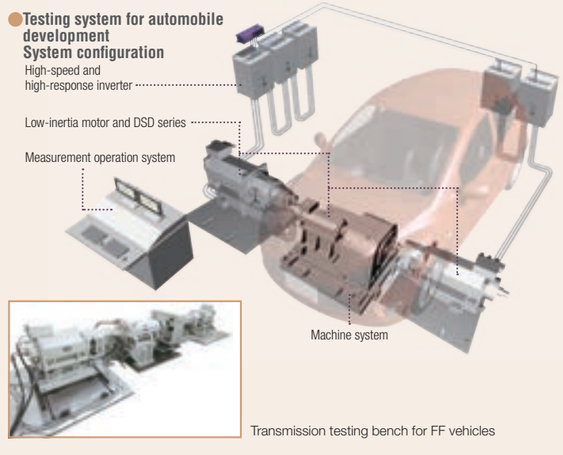


TOPICS

Testing system for automobile development

Our testing system for automobile development is composed of a high-speed and high-response inverter, low-inertia motor, mechanical system, and measurement operation system, and is used in the development sites by major automobile manufacturers and automobile parts manufacturers in performance evaluation tests and endurance tests for the traction systems of not only standard gasoline vehicles, but also for hybrid vehicles (HEVs) and electric vehicles (EVs) that are expected to become increasingly widespread in the future.

We support the development of next-generation vehicles by providing highly accurate and reliable testing systems that can help customers reduce development time.



Transmission testing bench for FF vehicles

Developing and manufacturing railway station operating equipment and remote monitoring systems that contribute to improvement of operational efficiency

Business Overview

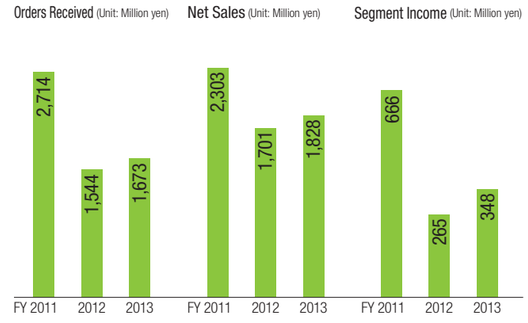
We provide "railway station operating equipment" including commuter pass issuing machines and onboard ticket vending machines (ticket issuing handy terminals) as well as remote monitoring systems that offer excellent customization qualities in combination with remote monitoring terminals developed based on programmable controllers (PLC), various communication networks, and our cloud servers.

Results for fiscal 2013

Orders Received
1,673 million yen
(Up 8.4% year on year)
Orders for both railway station operating equipment and remote monitoring systems increased.

Net Sales
1,828 million yen
(Up 7.5% year on year)
Sales increased due to reprogramming of railway station operating equipment, etc. corresponding to the increase in consumption tax.

Segment Income
348 million yen
(Up 31.3% year on year)
Profits increased due to increased revenue.



TOPICS

Remote monitoring system for agricultural facilities

In cooperation with JAPAN OPERATOR CO., LTD., a company that manufactures products including control equipment for greenhouse environments, we have developed the "House Mail F" remote monitoring system for agricultural facilities that allows the visualization of aspects including temperature and moisture within vinyl plastic hothouses and greenhouses.

This system contributes to efficient agricultural management by not only allowing standard monitoring of agricultural facilities, but also by immediately delivering warning emails to customers in the event of abnormalities, such as power outages or sudden changes in temperature at greenhouses, and by allowing customers to check the status of agricultural facilities in real-time as necessary from their computer or mobile phone at home or the office.

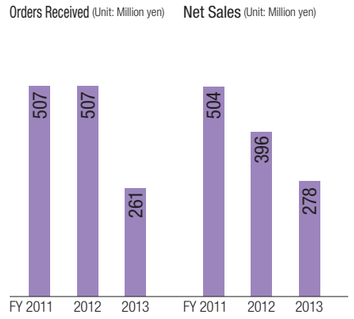
Example of a cucumber farm

Continually expanding our unique motor drive technologies to “automotive electric equipment” and “mechanicalizing of industrial machines” fields

Business Overview

We develop and manufacture “automotive electrical equipment,” which supports hybrid electric vehicles (HEVs), electric vehicles (EVs), and construction machinery and motors and inverters supporting the mechanicalizing of industrial machines as a new core business for the Company alongside our Transportation Systems and Industrial Systems segments.

Currently, orders received, net sales, and profits and losses of these products are included in our results for the Industrial Systems segment. We will continue R&D going forward with this business as the drive for expansion of our businesses and actively work to receive orders with an eye to the global market.



Reference:
Orders received and net sales

Our new business starts with the receipt of orders for the development and design of prototypes from manufacturers of construction machinery, automobiles, industrial machinery, and other products.
Above figures are our orders received and net sales for the past three years for reference.

TOPICS

Dissolution of ELETT CORPORATION

Reason for the dissolution

The Company and TOYOTA INDUSTRIES CORPORATION (“TOYOTA INDUSTRIES”) established ELETT CORPORATION (“ELETT”) as a joint venture and conducted operations in an aim to jointly develop and provide motors, inverters, and electric traction systems with excellent environmental performance for the industrial machine field. However, while it is certain that growth can be expected for the market for motors and inverters for industrial machineries and electric traction systems in the future, dissolution of ELETT has been decided as we are currently locked in the prototype stage before mass production and it is not possible to secure sufficient sales for maintaining this joint venture project.

Cooperation between the two companies going forward

It has been decided to partially revise the Business and Capital Alliance Agreement concluded between the Company and TOYOTA INDUSTRIES on February 21, 2011 and continue the capital alliance and cooperation in a new form. This cooperation will include (1) joint development aimed at improving mechanicalizing technologies and (2) entry into industries and fields not restricted to the conventional framework.

Both companies will continue to contribute to the development of electric traction of industrial machines supported by increasing environmental awareness and needs for fuel economy improvements.

Sequence of events up to the dissolution of ELETT

February 21, 2011	Conclusion of Business and Capital Alliance Basic Agreement between the Company and TOYOTA INDUSTRIES
May 16, 2011	Establishment of the joint venture “ELETT”
February 20, 2014	Conclusion of new Business and Capital Alliance Basic Agreement between the Company and TOYOTA INDUSTRIES
March 31, 2014	Dissolution of ELETT

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

Research and Development

Our research and development system consists of the research laboratory and the development divisions in each business unit. With regard to our R&D activities, we seek to create products that fully satisfy our customers in Japan and overseas and challenge the creation and expansion of these products. That is, we actively promote development of technologies of our existing businesses and basic research that support this development as well as development of new products that expand our businesses.

Results and topics from fiscal 2013

Segment	Project	Description
Transportation Systems	Fully enclosed induction traction motor	Completed a fully enclosed induction traction motor for trains that focuses on the reduction of maintenance labor.
	Guidance display system	Completed joint development of guidance display system for inside rail vehicles as part of a business alliance with FUJI ELECTRIC CO., LTD.
	Electric door operating equipment	Completed an electrically-powered door device that reduces air compressor volume and enables finely-tuned door operation.
Industrial Systems	Inverter-compatible products	Developed the unique “DC66” product that operates DC motors in inverters is compatible with VF66B inverters.
	Programmable controller (PLC)	Completed the embedding of function in the μGPCsH part of our PLCs that enables desktop simulation of machinery and motor operations.
	Motors for automotive test equipment	Developing a 20,000min-1 motor to follow the 16,000min-1 motor (already developed) in ultra-fast motors for EVs and HEVs.
Information Equipment Systems	Next-generation all-in-one ticketing machines (railway station operating equipment)	Completed preparations for the mass production of next-generation all-in-one ticketing machines that are main products for the Information Equipment Systems segment.
	New remote monitoring terminal	Scheduled to complete mass production during fiscal 2014 of remote monitoring terminals for four promising fields (industries) that are sales targets.

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