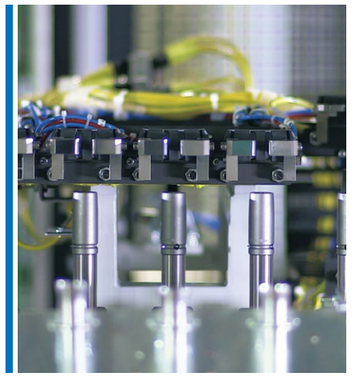
Business Segment Strategies



Automotive-related Business

Including EV-related systems, the primary components of power transmissions and drive trains, electronic equipment such as computers to control them, sensors and other in-vehicle electronic components, and the air compressors used in air-conditioning, we provide support for a wide range of production systems. Completely handling a large number of devices and items of equipment at the Company, we run comprehensive in-house tests to ensure their correct operation before delivering them to our customers' factories. Hirata's standard designs and solutions improve ease of maintenance for the end user. In addition, digital twin technologies are used to design and develop production lines more efficiently.

Strengths

(1) Integrated systems, from development to production and maintenance
(2) Engineering capabilities that enable us to fulfill customer requirements
(3) Vast plants where entire production lines can be verified
(4) Trust and continuous transactions from customers
(5) Broad product lineup

Weaknesses

(1) Profitability management and profitability in new development projects
(2) Development capabilities for our unique key devices and standard equipment
(3) Competitiveness in specific regional markets

Opportunities

(1) Expansion of market for products that address environmental issues
(2) Local production for local consumption (strengthening of local procurement at each manufacturing company)
(3) Advancement of digitalization for business
(4) Cooperation on overseas expansion with domestic companies

Threats

(1) Changes in market environment due to tightening of environmental regulations
(2) Decrease in number of parts and in demand for production systems due to shift to EVs
(3) Rise of Chinese companies
(4) Exchange rate fluctuations

Business Environment

Industry Outlook

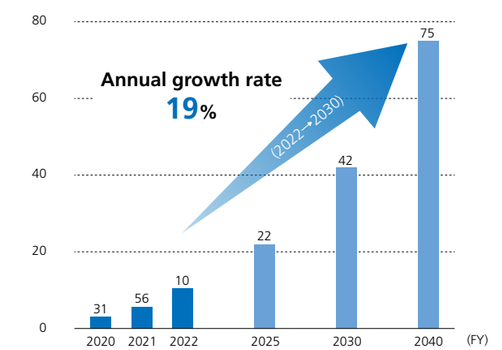
The long-term expansion of the EV market represents a future trend that can be regarded with certainty. To help curb global temperature rises, governments around the world and auto industry leaders have pledged to increase the market penetration of EVs, the sales of which are expected to reach 42 million units annually in fiscal 2030.

Major Business Partners

Our major business partners include General Motors and Ford Motor Company in North America, Stellantis N.V. in Europe, Toyota Motor Corporation, Honda Motor Co., Ltd., and DENSO Corporation in Japan, as well as start-up EV manufacturers.

EV Global Sales Volume Forecast

(Millions of units)



Source: BloombergNEF

Fiscal 2022 Results

Both orders and sales of EVs have remained strong due to continued strong capital investment in EVs against the backdrop of global efforts aimed at carbon neutrality.

	FY2022 Results	FY2024 Targets
Net sales (millions of yen)	30,298	40,000
Operating profit (millions of yen)	1,559	2,000
Operating profit ratio	5.1%	5%

Topic

Orders for Large Projects

1. Order for large-scale EV-related facility project (July 2022)
- Two electric drive unit (EDU) assembly lines for EVs were ordered with an order value exceeding ¥10 billion
- Part of this expected to contribute to the results from fiscal 2023 onward

2. Order for large-scale EV equipment project from an emerging North American manufacturer (November 2022)
- EDU assembly lines for EVs and other equipment were ordered with an order value exceeding ¥7.5 billion
- Part of this expected to contribute to the results from fiscal 2023 onward

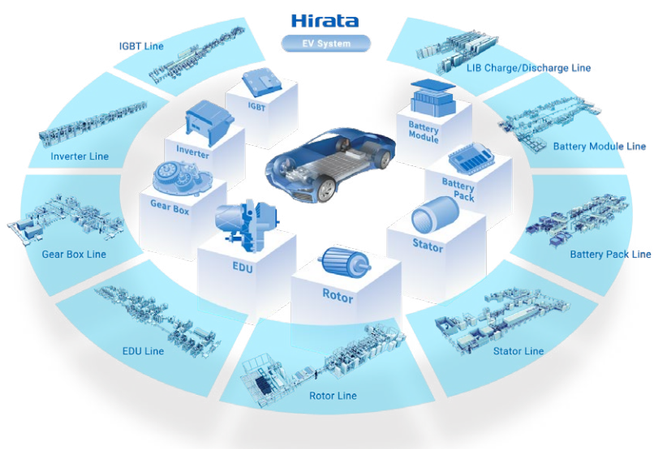
Business Strategies

In addition to EDU assembly lines for EVs, IGBT module assembly lines, and inverter assembly lines, we are focusing on standardizing entire lines and customer development. In addition to these existing businesses, we are working to acquire and expand orders for new processes. In the battery field, which is a key area of focus, in addition to standardizing entire lines in the existing battery module manufacturing process and charge and discharge systems (within the cell manufacturing process), we are working on development and trial production to enter the cell manufacturing field and accumulate know-how. In regard to the development and improvement of key devices, we have completed four of the five tasks set forth in the Medium-Term Management Plan (Improvement of Automated Warehouses, Dual Head Wire Bonding Machines, AGV Improvements, and Plant Simulation (Software)). Regarding the development of charging and discharging equipment, we have changed our strategy from in-house production to external procurement.

As orders grow, we are also addressing production-related issues such as factory space and human resource shortages and are working to develop and receive orders for mass production projects that will lead to continuation and expansion.

Medium-Term Management Plan Basic Policy 1

Business expansion in growth markets
Efforts to strengthen profitability of automotive-related business



An example of an EV-related component production system

Development of Key Devices in the Battery Field

Plan	Result
Charge/discharge machines	**Strategy change** (switched from in-house production to external procurement)
Improvement of automated warehouses	**Development complete** (orders and inquiries are on the rise due to the expansion of processes that we support)
Dual head wire bonding machines	
AGV improvements	
Plant simulation (software)	

Business Segment Strategies

Existing fields	Significant progress was made in standardizing entire lines and developing customers: EDU assembly lines for EVs, IGBT module assembly lines, inverter assembly lines, gear-box assembly lines, rotor assembly lines, and stator assembly lines.
Prior investment/New fields	We have already begun development and prototyping for standardization of entire lines and entry into the cell manufacturing field for the following: battery module and battery-pack manufacturing process and charging and discharging systems (in cell manufacturing processes).
Development of key devices	Four of the five development themes set forth in the Medium-Term Management Plan have been completed (1) Chargers/Dischargers, (2) Improvement of Automated Warehouses, (3) Dual Head Wire Bonding Machines (Hard wiring devices with two heads), (4) AGV Improvement, and (5) Plant Simulation (Software) Charging and discharging machine manufacturing was switched from in-house production to external procurement.

Business Strategies by Region

North America
Since the establishment of a North American Group company in 1980, we recognize that our long-standing track record and reliability have been highly evaluated. While major automakers are investing heavily in EVs, high-performance ICE (internal combustion engines) sales are expected to continue as the infrastructure for the full-scale development of EVs has not yet been established. Hirata will strengthen its competitiveness in both markets by strengthening relationships with customers and promoting standardization of equipment.

China
EVs are a market with solid demand due to China's national policies, such as "Made in China 2025" and "Strong Manufacturing Country 2030." We have also built up a track record from the wave of local procurement by Japanese companies. By promoting the acquisition of design technology for EVs, regarding which we are ahead of the competition in Japan, we will expand opportunities for orders in China.

Europe
In Europe, demand for EVs is expanding against the backdrop of demand-boosting measures by governments in various countries. However, the market is highly competitive, and we will promote the creation of a system that can reliably conduct sales and maintenance without pursuing order scale.

Southeast Asia
We recognize that, at this point in time, EV-related investments have yet to begin in earnest, and that the resulting major wave of local production opportunities has yet to present itself. We will, however, make preparations for a smooth transition to the production systems in which Japan and other countries are taking the lead.

Semiconductor-related Equipment Business

We develop, manufacture, and sell components such as openers for various storage containers used for wafer transfer in semiconductor manufacturing processes, atmospheric and vacuum robots, and aligners. In addition, we are focusing on system products that apply these technologies. For semiconductor manufacturing equipment manufacturers, we provide EFEMs* optimized for each equipment type in the form of OEM and ODM, and for semiconductor manufacturers (foundries), we offer EFEMs and sorters under our brand name. We are also responding to innovations in semiconductor manufacturing technology (miniaturization and 3D miniaturization). In addition to the development, manufacture, and sale of various components and system products (EFEMs) used for the transportation of PLPs, we also offer N_2 EFEMs to transport wafers in N_2 (nitrogen) environments to curb the adverse effect that the atmosphere has on wafers.

* Equipment front-end modules

Strengths
- (1) Extensive line-up of wafer transfer components
- (2) Provide lineup of components for PLP substrate transfer
- (3) Lineup of system products that combine various components
- (4) Knowledge and technology necessary for customization and optimization of components and system products

Weaknesses
- (1) Delays in strengthening overseas production bases (cost competitiveness) and in responding to local production for local consumption trend
- (2) Strengthening of sales structure in European and U.S. markets
- (3) Profitability of parts sales and after-sales service business
- (4) Strengthening the lineup of our own-brand system products

Opportunities
- (1) Further growth of semiconductor market
- (2) Innovation in semiconductor manufacturing technology
- (3) Acceleration of electrification due to stricter environmental regulations
- (4) Local production for local consumption
- (5) Trends toward vertical set-up and standardization of facilities for fabrications by end users
- (6) Establishment, revisions, and addition of SEMI industry association standards

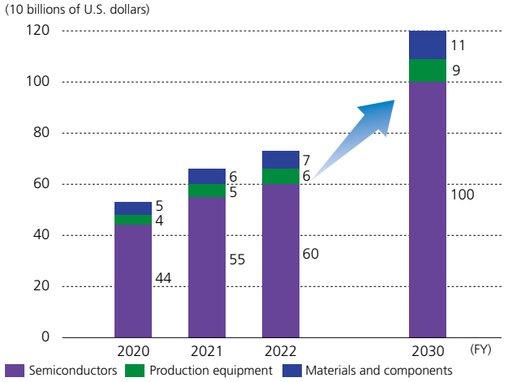
Threats
- (1) Soaring material prices and longer delivery times stemming from growing demand and conflicts
- (2) Rise of emerging market companies and start-ups
- (3) Innovation in semiconductor manufacturing technology
- (4) Economic friction, sanctions, and disputes
- (5) Market exclusion due to legal regulations and economic policies
- (6) Establishment, revisions, and additions of SEMI industry association standards

Business Environment

Industry Outlook
Demand for semiconductors, which can be said to be the core product of digitalization, is increasing year by year. Also, in societies that are aiming to be carbon neutral by 2050, electrification is gaining pace, and the importance of semiconductors, including their automotive applications, is increasing. Against the backdrop of governments around the world that are considering the introduction and expansion of policies to actively support investment in their semiconductor industries, semiconductor manufacturers in each country are also planning record-high levels of capital investment. The semiconductor market is expected to reach the equivalent of approximately ¥100 trillion in 2030, and the semiconductor manufacturing equipment field is expected to grow accordingly.

Major Business Partners
Our major business partners include Tokyo Electron Limited, DISCO Inc., Advantest Corporation, ULVAC, Inc., and Ebara Corporation.

Forecast of Global Semiconductor-related Equipment Market Size



Source: Based on all kinds of data, including from the Japan Electronics and Information Technology Industries Association (JEITA) and Ministry of Economy, Trade and Industry (METI) (composition ratio of semiconductors, production equipment, and materials and components assumed to remain the same until 2030, based on the METI's Strategy for Semiconductors and the Digital Industry Summary June 2021.)

Fiscal 2022 Results

Despite a slowdown in the semiconductor market, we secured a high level of orders and sales in the fiscal year under review, backed by a backlog of orders from the previous fiscal year and capital investment demand in the legacy (older generation) semiconductor sector.

	FY2022 Results	FY2024 Targets
Net sales (millions of yen)	28,954	40,000
Operating profit (millions of yen)	3,445	6,000
Operating profit ratio	11.9%	15%

Business Strategies

We are promoting activities to develop equipment that is compatible with the miniaturization of semiconductors. We recognize that shortening the lead time until delivery is also an issue, and we will work to improve production capacity and availability of parts and materials through cooperation with suppliers and promotion of digitalization.

We are also focusing on building a cooperative system with our overseas affiliates and are strengthening cooperation in other regions, such as Southeast Asia and North America, in addition to China and Taiwan.

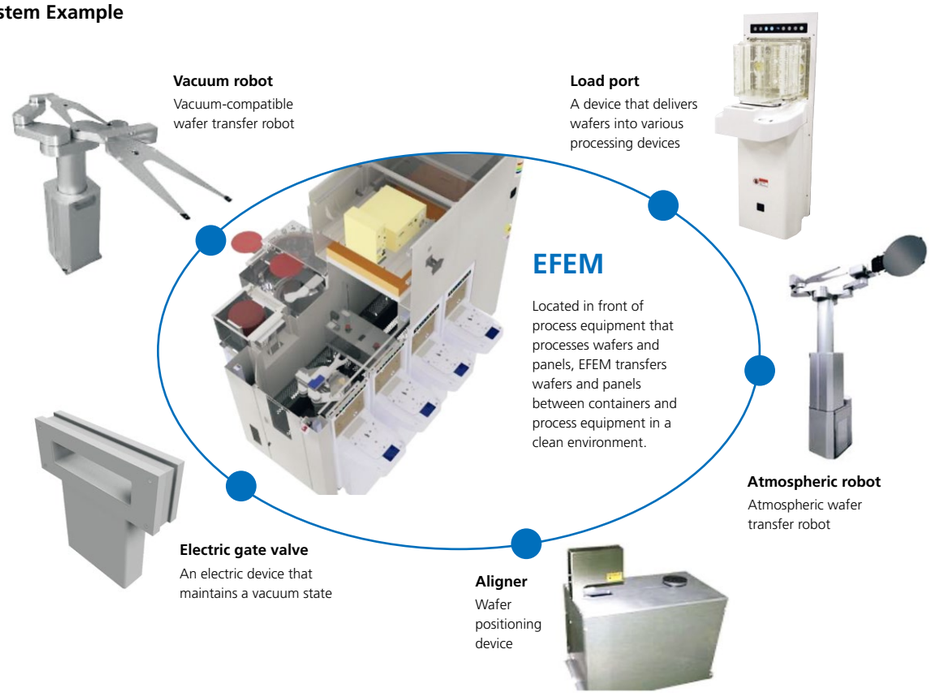
In response to changes in the external environment, we plan to review and formulate strategies and functions at overseas bases.

Medium-Term Management Plan Basic Policy 1

Business expansion in growth markets

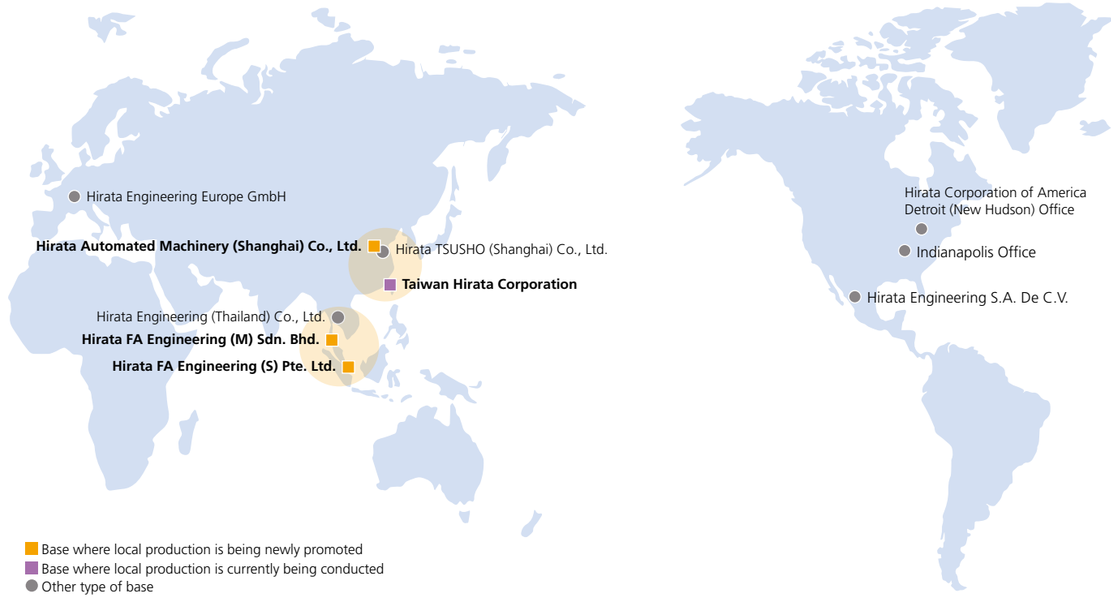
Efforts to strengthen profitability of semiconductor-related equipment business and bolster efforts to adopt EFEM Standardization

System Example



Promotion of Local Production

In addition to Taiwan, we have established a system that enables production and sales in China (Shanghai) and Southeast Asia (Malaysia and Singapore) and are promoting local procurement of components.



Base where local production is being newly promoted
Base where local production is currently being conducted
Other type of base

Production efficiency	Strengthen cooperation with suppliers to reduce the risk of delays in component delivery and improve productivity
Development of next-generation equipment	Development of semiconductor transport equipment responding to the miniaturization of semiconductors has already begun

Business Strategies by Region

North America

We have an ongoing business relationship with a specific semiconductor manufacturer in the United States and will continue to maintain a system that enables us to realize local sales and maintenance while cooperating with our manufacturing bases in Japan.

China

The investment environment for semiconductors has been improving due to China's national policies, such as "Made in China 2025" and "Strong Manufacturing Country 2030." We will focus on providing technical education for employees so that we can expand the manufacturing of wafer transfer equipment in China, which is ahead of other companies in Japan and Taiwan.

Europe

Orders for openers and other products have been strong thanks to the expansion of investments by local manufacturers in the semiconductor market. While focusing on standard products, we will promote the creation of a system that enables us to realize local sales and maintenance.

Southeast Asia

In Singapore and Malaysia, as semiconductor fab investments have been announced one after another, we will promote sales of wafer transfer equipment, recognizing that these regions are expected to grow in sales in the future.

Other Automatic Labor-saving Business

Having started out as a manufacturer of transport equipment that supplied carts, the Company commenced the manufacture of conveyors, which formed the catalyst for our current business, after its establishment in 1951 and then underwent a transformation into a robotics and production systems business. Having pursued technological innovation with the desire to allow people to devote themselves to creative work that only people can do, and having not limited ourselves to the automotive and semiconductor industries, we provide labor-saving equipment to customers in a variety of fields. In formulating the Medium-Term Management Plan (FY2022–FY2024), we reviewed our business segments and classified them into three businesses: Automotive-related, semiconductor-related equipment, and other automatic labor-saving equipment. In the latter, we manufacture and sell production equipment for a variety of fields, such as flat panel displays (FPDs), home electronics, and medical and scientific devices.

	FY2022 Results	FY2024 Targets
Net sales (millions of yen)	16,952	20,000
Operating profit (millions of yen)	930	2,000
Operating profit ratio	5.5%	10%

Individual Segments

Medical, Chemistry, and Physics Devices

We are developing and manufacturing robot systems and medical devices that contribute to the automation of laboratory testing.

We are promoting product development with the goal of fully automating pathological examinations. Engaging in the development of equipment for medical use, with regard to cancer treatment equipment, we are working together with our customers to develop medical devices that comply with laws and safety standards for the purpose of obtaining pharmaceutical approvals.

ATS (cell observation device)

EZ-PATH FLOAT (pathological tissue specimen preparation device)

Home Electronics

By effectively combining the technologies that are at the Company's disposal, such as transfer, robot, clean room, and precision assembly technologies, we provide global support for parts and final assembly of home electronics that are continuing to evolve. These include mobile devices such as smartphones and tablets, high-quality displays, and high-performance vacuum cleaners.

Industrial Robots

Industrial robots represent our core technology. We have standard robot controllers, with which multiple types of robots can be operated in a same environment. It is also possible to operate a robot from a host device such as a programmable logic controller (PLC) or PC without using a robot language, reducing the burden on system designers and shortening the time required to set up the equipment. Selling multiple types of robots articulated along orthogonal, horizontal, and vertical axes, we provide products that match the processes of a wide range of production systems.

Putting functional safety at the forefront, we are working on the development and improvement of industrial and medical robots.

Targeting production systems in the electric vehicle (EV) and semiconductor fields, which are expected to see further growth in the years to come, we will make more improvements in terms of safety, performance, functionality, and operability and strive to broaden the reach and improve the performance of our equipment.

Distribution (Transfer Systems)

For a variety of industrial fields, we offer highly versatile and customized automated warehouses and storage stockers with no restrictions, manufacturing and selling products tailor-made for the products and factory environments of our customers.

FPDs

Due to the high image quality and high-speed response features of organic EL displays, demand for their use is increasing not only in mobile phones but also in devices with large screens. To improve productivity, there is demand to shift the substrate size from G6 to G8, which is currently the mainstream, and equipment development is progressing, but as the equipment has become larger, many technical issues have arisen. With our technological strength and production capacity for large FPD production systems that we have cultivated so far, the Group will work to acquire markets.

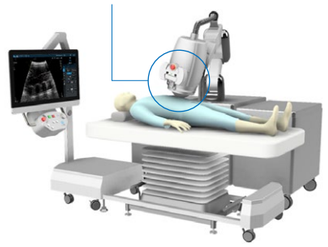
Topics

High-intensity Focused Ultrasound Device for Cancer Treatment

Fusion of ultrasound technology and robotic technology

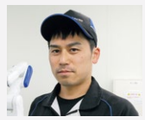
In January 2021, we started joint development of a high-intensity focused ultrasound device for cancer treatment with SONIRE Therapeutics Inc. (hereinafter "SONIRE"). In order to take advantage of the new treatment method developed by SONIRE called microbubble-enhanced HIFU (high-intensity focused ultrasound) treatment, we have developed a safe medical robot that can accurately follow the control inputs performed by the doctor.

Head section containing an ultrasonic transducer



Comment

It was important to create a system and structure that would not delay the production of specifications, verification records, and design documents without omissions during development. Since it is necessary to move the heavy head section of the unit to the affected area, we devised a function that allows medical professionals to operate the head section directly and easily. We are committed to realizing functions that are easier to use and safer, and we would like to use our technology to treat as many people as possible.



Mr. Inoue
#1 Equipment Business Division

Mr. Shimizu
Robot Division

Topic

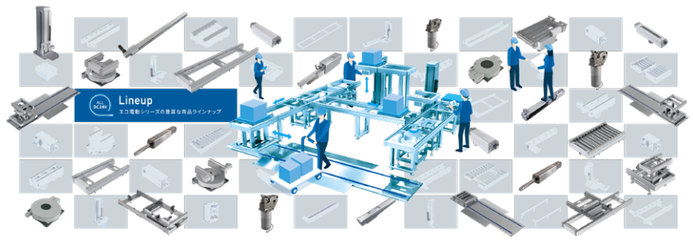
Eco Electric Series—Contributing to Sustainable Manufacturing

The brushless DC motor developed in-house enables labor-saving and compactness of conveying equipment.

Hirata's eco-friendly conveyance system for sustainable manufacturing

- Built-in compact, high-efficiency brushless DC motor developed in-house for the Eco electric series
- Activates only through 24 VDC ON/OFF operation. Does not require a drive panel or controller

Hirata BLUE MOTOR



▶ For more information, please visit the Eco Electric Series website.
https://hirata-ecoele.com/en