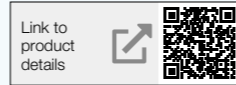


Materials Handling Equipment



As a market leader with an extensive knowledge of global logistics needs, Toyota Industries provides a range of materials handling equipment, mainly lift trucks, and logistics solutions to customers.

Medium-Term Direction of Business

We will work to develop and propose new products and services incorporating cutting-edge technologies through the proactive use of open innovation and co-creation with customers.

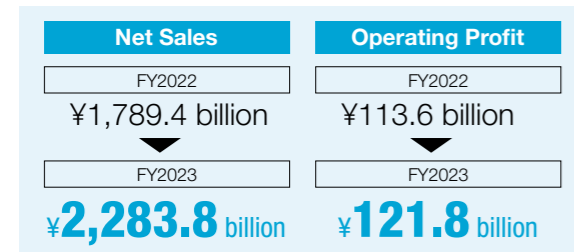
Our goal is to become the logistics solutions partner of the first choice for customers by meeting their wide-ranging needs and helping them increase their logistics efficiencies based on the Toyota Industries Group's comprehensive strengths covering both the lift trucks and logistics solutions fields. At the same time, we aim to resolve social issues and realize a sustainable society through logistics.

Business Characteristics

Strengths

- An extensive logistics-related product lineup both for lift trucks (internal-combustion type, electric type, fuel cell (FC) type, etc.) and logistics solutions products (automated storage and retrieval systems, automatic guided vehicle (AGV) systems, automated lift trucks, etc.)
- High technological capabilities, including those linked to environmental and safety performance
- Production know-how that ensures high levels of quality and production efficiency
- Global, well-developed production, sales and service networks
- An extensive value chain encompassing in-house development and production of engines, motors and other key components; total after-sales services including maintenance and inspections as well as operational management; and sales financing operations offering more options in sales
- No. 1* in lift truck unit sales in the world
- A wealth of experience and know-how as well as a global network in the Logistics Solutions Business
- Software development capability to create such systems as a warehouse management system

*1: Survey by Toyota Industries Corporation



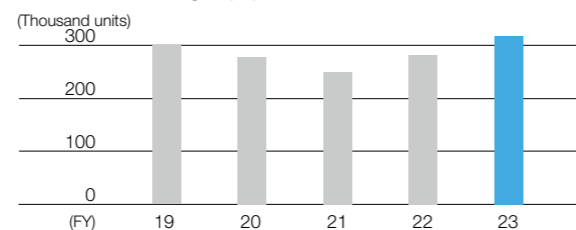
Opportunities

- An expansion of global logistics volume in line with an increase in the world population and economic growth
- Growing need for products with high fuel efficiency and low environmental impact that contribute to carbon neutrality
- Growing needs for higher logistics efficiencies, automation and labor saving prompted mainly by soaring labor costs and labor shortages
- Increased recognition that logistics is an essential business

Risks

- Restrained capital investment due mainly to a slowing economy and disasters
- Weaker sales due to intensifying competition
- Change in business environment triggered by an expanding market of low- to mid-priced lift trucks
- Suspension of production caused by supply chain disruptions
- Weaker demand for internal-combustion lift trucks resulting from more stringent environmental regulations
- Emergence of next-generation robotics products as an alternative to lift trucks

Materials Handling Equipment Sales



Business Overview in Fiscal 2023

Despite a decline from 2021, sales in the lift truck market in 2022 remained at a 2-million-unit level on the back of the continued demand recovery following the resumption of economic activities around the world. Amid this business climate, Toyota Industries engaged in sales and after-sales services corresponding to respective markets. As a result, unit sales of lift trucks for fiscal 2023 were up 35,000 units, or 12%, to a total of 317,000 units from the previous fiscal year. In the Logistics Solutions Business, we continued to see strong demand related to e-commerce and warehouse logistics as well as a recovery in airport-related orders. Capitalizing on this development, we have sought to further strengthen our business through collaboration with our subsidiaries engaging in logistics solutions operations in Europe and the United States and by welcoming a German company as our subsidiary. As a result, net sales in fiscal 2023 increased ¥494.4 billion, or 28%, from the previous fiscal year to ¥2,283.8 billion.

Business Structure

Toyota Industries' Materials Handling Equipment Business is operated under a two-organization structure: Toyota Material Handling Group (TMHG) responsible for the Lift Truck Business and Toyota Advanced Logistics Group (TALG) engaging in the Logistics Solutions Business. TMHG and TALG collaborate to achieve overall growth of the Materials Handling Equipment Business while reinforcing individual businesses.

Toyota Material Handling Group (TMHG)

As a market leader in the materials handling equipment and logistics fields, Toyota Industries' comprehensive strengths lie in its ability to respond to specific and ever-changing needs of customers on a global scale. We assist customers worldwide in attaining greater logistics efficiencies by delivering optimal solutions to each logistics site. Under the TMHG management structure, we engage in the Lift Truck Business under the TOYOTA, BT, RAYMOND, CESAB and Tailift brands. Mutually utilizing the development and sales strengths of each brand, TMHG is promoting business globally.

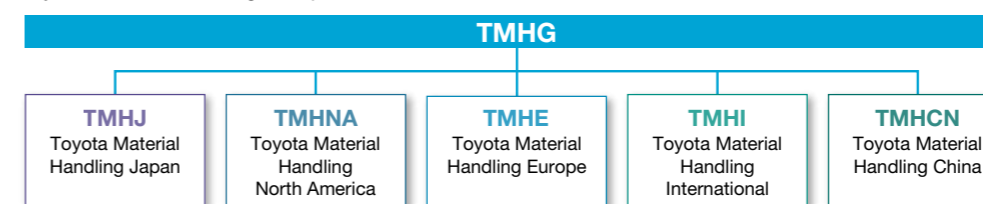
We basically carry out product development in three regions, namely Japan, North America and Europe. Based on this structure, we develop and manufacture products in each region, which are matched to the specific local needs and characteristics, and ensure quick product delivery to customers. At the same time, we seek greater product appeal by conducting in-house development and production of such key components as engines and motors, which greatly influence the performance of lift trucks.

While continuously offering products that will contribute to the safety of customers' logistics sites, we are improving the energy-saving performance and enhancing our electric lift truck lineup in response to the trend toward decarbonization, including enforcement of stricter environmental regulations and growing eco-consciousness worldwide. We are also promoting the development of autonomous driving technology as a response to growing needs for greater

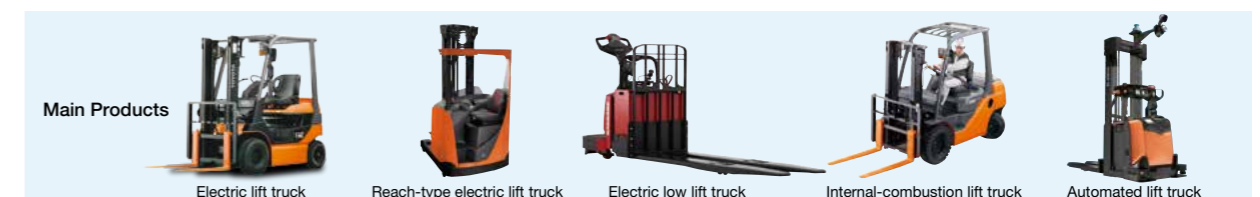
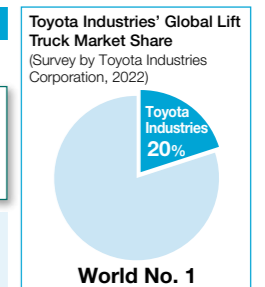
logistics efficiencies mainly driven by labor shortages.

In addition to supplying high-quality products, we consider our strength to be able to support customers throughout our entire value chain, which encompasses everything from providing after-sales services through our extensive networks to offering sales financing operations. On the sales front, we are offering products and logistics improvement solutions optimally matched to individual customers' logistics sites. Simultaneously, we are responding to needs for fleet management that optimizes the operation of multiple lift trucks for customers conducting business globally. In terms of services, we have established a structure to provide swifter and more efficient after-sales services by centrally and digitally managing information on lift trucks owned by customers and their history of repairs while assigning experienced and highly skilled personnel and utilizing leading-edge information technology (IT). As another effort, we are putting in place a structure to offer extensive after-sales services by establishing a system to certify dealers' after-sales service facilities and offering programs to train service staff so that customers can use our products with an increased sense of reassurance. We are also strengthening our internal sales financing operations mainly in Europe, the United States and other developed countries in order to flexibly respond to customers' diverse needs for fund procurement. Additionally, TMHG is collaborating with TALG to create synergies between the lift trucks and logistics solutions fields in development and other domains.

Toyota Material Handling Group



The Toyota Material Handling Group possesses several brands such as TOYOTA, BT and RAYMOND and engages in business by dividing the world into five areas: TMHJ (Japan), TMHNA (North America), TMHE (Europe), TMHI (Asia, Australia, etc.) and TMHCN (China).



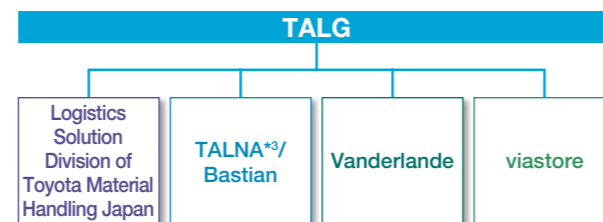
Toyota Advanced Logistics Group (TALG)

In spite of the growing concern for a global economic slowdown, the need for logistics automation remains strong and has, in turn, necessitated solutions for more advanced logistics issues. Amid this environment, we go a step beyond just providing a broad range of materials handling equipment and associated software programs and are reinforcing our Logistics Solutions Business to more meticulously satisfy each customer's varying needs by leveraging our logistics improvement know-how accumulated to date. Under the TALG management structure, the Logistics Solution Division of Toyota Material Handling Japan, U.S.-based Bastian Solutions LLC, Netherlands-based Vanderlande Industries Holding B.V. and Germany-based viastore*2, which joined the Toyota Industries Group in July 2022, are collaborating in development, sales and other activities to expand business while leveraging their individual strengths.

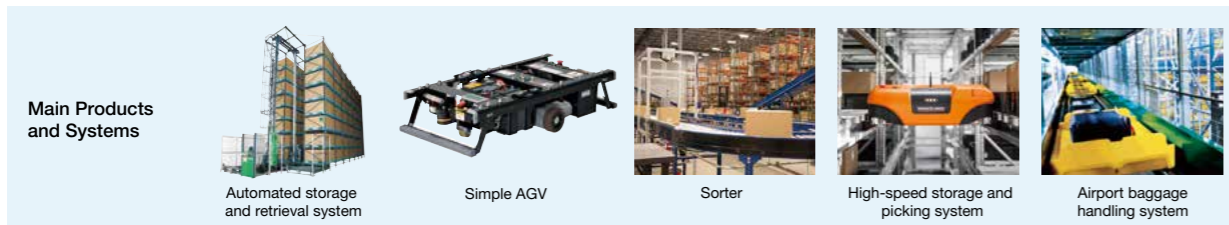
viastore, which became a new member of the Toyota Industries Group in July 2022, mainly engages in the in-house development of software for controlling and managing various materials handling equipment and small- to medium-sized automated storage and retrieval systems. It provides its products to a wide range of sectors from retail to manufacturing, logistics and food, primarily in

Europe. In particular, it has strengths in automation that links multiple processes, such as storage and transportation, with optimal materials handling equipment and software, garnering high acclaim in the market. Collaboration among TALG companies has begun and has already led to some concrete accomplishments, including a large-scale order for a solution combining viastore's software. We will strengthen such collaboration further in order to respond to customers' automation needs as a Group-wide effort and seek to achieve further business expansion.

Toyota Advanced Logistics Group



*2: Logistics system integrator in Germany, viastore is a collective name for four companies: viastore SYSTEMS GmbH, viastore SOFTWARE GmbH, viastore International GmbH and Buck Engineering GmbH.
 *3: Toyota Advanced Logistics North America (Holding Company of Bastian)



Business Activities in Fiscal 2023

As we have confirmed a potential regulatory violation related to Japan's emissions certification for lift truck engines, we have suspended the shipment of lift trucks for the Japanese market since March 2023. We have been working on revealing the full details and analyzing the root cause. Based on the findings, we intend to thoroughly implement measures to prevent recurrence. At the same time, we have already been doing whatever we can at present, such as separating the certification function from our development department to reinforce the inspection system for legal certifications. (As of June 30, 2023)

In 2022, a recovery in global demand continued due to the reopening of economic activities in respective countries, and unit sales of lift trucks remained at a 2-million-unit level. Amid this environment, we worked to enhance the product appeal of our mainstay lift trucks and expand sales. We also strove to offer reliable after-sales services, enhance responsiveness to large-order customers and provide solutions for logistics issues through the introduction of optimally packaged systems. In the field of lift trucks, we made efforts to increase our product lineup in each region and promoted the development of autonomous driving technology internally and with external organizations. Our latest products and solutions were showcased at Logis-Tech Tokyo 2022 under the themes of "safety, decarbonization and automation." We also worked to reinforce our IT-based services, enhance safety and augment our competitiveness in the environmental field mainly through electrification in order to ensure a more accurate response to the needs of individual customers.

In the logistics solutions field, we have been fostering cooperation in sales activities by mutually supplying equipment and systems while encouraging each TALG company to leverage its strengths to bolster business. We have also been accelerating coordinated activities such as promoting collaborative efforts by TMHG and TALG in the planning and development fields. As specific examples, we have been promoting cooperation mainly with T-Hive B.V., a company newly established in the Netherlands, in the development of a seamless control system encompassing all autonomous vehicles, as well as collaboration with viastore in small- to medium-scale projects in Europe.

Meanwhile, Aichi Corporation, which possesses the top brand*4 in the field of aerial work platforms in Japan, saw a recovery in capital investment mainly in the electric power industry. As a result, sales amounted to ¥60.6 billion, up ¥4.0 billion, or 7%, from the previous fiscal year.

*4: Survey by Aichi Corporation

Activities of TMHG

Japanese Market

In 2022, the Japanese lift truck market saw only a slight increase in sales from the previous year due mainly to the impact of the spread of COVID-19 variants. Unit sales of Toyota Industries' lift trucks increased 4% from the previous fiscal year to 49,000 units, and maintained the top position*5 in fiscal 2023 for the 57th consecutive year.

The diversification of customer needs, heightened on the back of changes such as an expansion of the e-commerce market, labor shortages and growing safety and environmental consciousness among companies, has further accelerated. As the leading manufacturer of materials handling equipment, Toyota Industries has been proactively promoting the development and release of new products that lead to resolving issues facing customers.

Amid the accelerated move in Japan toward achieving carbon neutrality, Toyota Industries released a new fuel cell lift truck in September 2022. The price of the new lift truck has been reduced by 30% thanks to a significant reduction in the cost of the fuel cell system, and durability*6 has been doubled*7 compared to the previous model.

Also in September 2022, Toyota Industries participated in Logis-Tech Tokyo 2022 under the concept of "Varying Optimum Solutions for Varying Logistics Sites: A Just Solution for Your Logistics." Based on the three themes of "safety, decarbonization and automation," which represent issues recently facing customers in their respective logistics

sites, we exhibited our latest lift trucks in addition to logistics solutions that incorporate leading-edge automation technologies. Our booth, which was one of the largest among the participating companies, was visited by some 21,000 customers.

At our booth, we demonstrated the operations of our new autonomous lift truck capable of automated loading even when the truck's stopping location and load position are not fixed. This capability has been achieved through such technologies as guideless automated driving using 3D-LiDAR*8 and pallet location and position detection using image recognition.

*5: Calculated by Toyota Industries Corporation based on the data issued by the Japan Industrial Vehicles Association
 *6: Output performance maintenance period of FC systems (period that the output can be maintained at 80% or more of the performance at the time of shipment)
 *7: Survey by Toyota Industries Corporation, based on JIS D6202 (60S fuel consumption pattern of internal-combustion lift trucks)
 *8: A sensor that can accurately measure the distance to an object by emitting a laser beam onto it and measuring the reflected light



New fuel cell lift truck

TMHJ booth at Logis-Tech Tokyo 2022

North American Market

The rapid expansion slowed down in the North American lift truck market in 2022, and on a full-year basis, the market remained on par with 2021. Orders increased as we captured the strong demand in the e-commerce and retail sectors and resumed the shipment of certain internal-combustion lift trucks. Against this backdrop, the combined unit sales of the TOYOTA and RAYMOND brands in fiscal 2023 increased by 29% over the previous year to 98,000 units.

In fiscal 2023, Toyota aggressively launched an operator assist system that detects pedestrians and objects behind the lift truck to ensure greater safety and security at customers' logistics sites as well as new electric lift trucks in response to growing market needs for electrification. We also added more than 30 operator assist and other functions to our three-wheel electric lift trucks. In addition, to meet the rising need for logistics automation on the back of labor shortages, we sell an automated guided vehicle (AGV)

that can be customized according to customer needs and requires no large-scale building modifications.

Raymond is also actively expanding its product offerings and services to meet various customer needs. For example, Raymond enhanced sales of compact and highly functional lithium-ion batteries that reduce the charging time compared with conventional lead-acid batteries and contribute to the improvement of customer productivity. Raymond is also contributing to the further improvement of customer safety by releasing an electric low lift truck equipped with a



Three-wheel electric lift truck to which operator assist and other functions have been added

telematics function and launching a service to support driving in dangerous areas by linking the telematics function with the real-time location measurement system.

Looking ahead, we will continue to leverage the strengths of each brand and reinforce technological development to meet electrification needs. In addition, through closer

European Market

In 2022, the European lift truck market slowed down due to supply chain disruptions and the conflict in Ukraine. Toyota Industries posted unit sales of 99,000 units in fiscal 2023, up 8% from the previous fiscal year. In addition to equipment sales, orders for after-sales services and sales of parts remained steady.

In response to the accelerating trend toward carbon neutrality in Europe, Toyota Industries has been working to expand the lineup of products equipped with lithium-ion batteries and released a high-output counterbalanced lift truck as well as internal-combustion lift trucks that comply with the latest EU emissions regulations to meet the needs of environmentally conscious customers.

In terms of environmental initiatives, electricity used at all European bases has been completely switched to renewable energy by selecting the optimum method matched to each base's energy situation. This marks the first instance in the entire materials handling equipment industry that 100% of power is

collaboration with the Logistics Solutions Business, we will accurately respond to customers' needs for logistics automation. At the same time, we will strive to expand the lineup of products with excellent environmental performance, while responding to the accelerating trend toward carbon neutrality by utilizing the latest technologies.

sourced from renewable energy at all European bases.

As a response mainly to labor shortages, we launched a new automated horizontal carrier. This AGV can be combined with our existing autonomous lift trucks and a warehouse management system to achieve an even higher logistics efficiency for the entire warehouse, and we have been proactively offering the resulting solution to customers.

We will continue to expand our product lineup boasting excellent environmental performance and incorporating autonomous driving technology.



Automated horizontal carrier

ALOMA*9 and Chinese Markets

Toyota Industries covers the ALOMA markets of some 60 countries in Asia, Latin America, Oceania, the Middle East and Africa as well as the Chinese market. We are serving these markets with a lineup consisting of TOYOTA, BT, RAYMOND and Tailift brands.

The ALOMA market in 2022 outperformed the sharp sales growth in 2021 and recorded yet another highest unit sales while growing 109% year on year. In China, on the other hand, unit sales fell to 67% of the previous fiscal year due in part to COVID-19, which started spreading again.

Under such circumstances, we are working to expand the introduction of lithium-ion batteries to meet the needs for electrified equipment whose demand is expected to increase in step with heightened environmental awareness. Additionally, we newly released in the ALOMA region our SEnS+ (Sense Plus) operator assist system that detects pedestrians and objects behind the lift truck to contribute to customers' safe operations.

Customer needs will continue to diversify, including the accelerating trend toward electrification, greater logistics efficiency, better safety features and automation. In response, we will continue to collect information from dealers in each country and regional offices in Asia, the Middle East and South America in our efforts to provide products and services that satisfy our customers.



SEnS+

In addition, jointly with dealers, Toyota Industries operates a program to promote sales activities with a focus on logistics improvement solutions and has been making proposals to visualize customers' logistics sites, improve their safety and reduce costs. Through the program, we have been strengthening our relationships of trust with customers and have successfully expanded our business domains.

As a total solutions partner capable of satisfying diverse logistics needs, we will make concerted efforts with dealers in each country to undertake various initiatives.

*9: ALOMA is a Toyota Industries term for Asia, Latin America, Oceania, the Middle East and Africa.

Activities of TALG

Logistics Solution Division of Toyota Material Handling Japan

In recent years, labor shortages and an increase in logistics volume following an expansion of the e-commerce market have resulted in a growing need for automated and more efficient operations in the logistics industry. To respond to such issues facing customers, we have enhanced our product lineup to cover every logistics system, from autonomous lift trucks and AGVs to the leading-edge systems for use in large-scale e-commerce distribution centers, and have been receiving increasing orders for these products.

Moreover, the work style reform-related law that will go into effect in 2024 in Japan is expected to aggravate the shortage of truck drivers. At relay centers mandated to be set up in accordance with the law, there is an urgent need for better efficiency and labor saving in truck loading and unloading operations. Automation of truck loading and unloading operations using lift trucks has lagged even at cutting-edge distribution centers. To counter these issues,

we have developed an autonomous lift truck that features the world's first AI-based technology to automatically recognize the location and position of the truck and its cargo and runs autonomously to conduct loading and unloading operations. We exhibited the lift truck at Logis-Tech Tokyo 2022.

We have been receiving inquiries for this lift truck from many customers. In the future, we will repeat feasibility tests in terms of safety, work efficiency and cost and offer the product as an optimal solution for individual logistics sites of many customers, thereby helping them counter the impending labor shortage in 2024.



Autonomous lift truck for truck loading and unloading

Bastian

Bastian, mainly operating in the North American market, has been responding to the logistics automation needs of customers in a broad range of fields, including the retail, e-commerce and manufacturing sectors. The business environment was difficult in fiscal 2023, as a concern for an economic slowdown has grown globally. Despite this environment, in addition to repeat orders for large-scale projects based on long-standing relationships of trust with existing customers, the company successfully received many orders by promoting collaboration with other companies in the Toyota Industries Group. These include an order for a large project through collaboration with viastore; a project that integrates Vanderlande's system for the first time; small-

to medium-scale projects through collaboration with dealers of the TOYOTA and RAYMOND brands; and its first project to collaborate with the Logistics Solution Division of TMHJ in Asia. Going ahead, Bastian will satisfy the more sophisticated and diversifying needs of customers by facilitating the development of its own core systems and products and taking advantage of collaboration within the Toyota Industries Group.



Bastian's mini load autonomous vehicle (autonomous mobile robot) developed in-house

Vanderlande

Vanderlande, offering logistics solutions globally, has been accelerating system development optimized for leading companies in the warehouse logistics and parcel/postal service industries as well as operations of focused business sectors. In this way, Vanderlande is making efforts to strengthen its response to increasingly sophisticated customer needs. It has also been working with the Logistics Solution Division of TMHJ and Bastian to introduce its systems into the Japanese and North American markets, thereby successfully expanding its business domains through collaboration within the Toyota Industries Group.

In the airport business, demand has been showing a gradual recovery following an upturn in the number of passengers. In fiscal 2023, Vanderlande captured the demand recovery, as it concluded large-scale servicing

contracts with multiple customers and commenced operation of its highly efficient security screening system based on a dual-lane concept at Frankfurt International Airport.

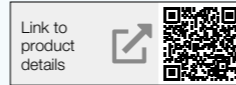
In these businesses, Vanderlande will work to provide even greater value to customers for services that assume an important role. Efforts will be made to monitor operational status and facilities by using digital technologies and make proposals to optimize operations of customers using its products.



Security screening system introduced for the first time

Automobile

In the fields ranging from vehicles to engines, car air-conditioning compressors, electronic devices and batteries, Toyota Industries continues to meet the expectations and trust of its customers.



Business Characteristics

Strengths

- An agile structure to undertake all aspects from planning and development to production within a plant (Vehicle)
- Highest-level production efficiency and quality among all Toyota-affiliated automobile body manufacturers (Vehicle)
- Know-how on the development and production of diesel engines and turbochargers (Engine)
- Highly efficient production of high-quality gasoline engines, including those for use in hybrid electric vehicles (HEVs) (Engine)
- Excellent product development capability centered around fuel efficiency and car electrification (Car air-conditioning compressor)
- Global top-share*1 products for use in a full range of vehicles, from internal-combustion vehicles to HEVs, plug-in hybrid electric vehicles (PHEVs), battery electric vehicles (BEVs) and fuel cell electric vehicles (FCEVs) (Car air-conditioning compressor)
- *Monozukuri* (manufacturing) using equipment created in-house to produce high-quality products and flexibly accommodate changes in production volume (Car air-conditioning compressor)
- Technical expertise in electronics accumulated through handling projects for Toyota Motor Corporation (TMC), external sales, and in-house projects (Electronics)
- Development and production of electronic components and devices for electrified vehicles, with top-level quality (Electronics)
- Material synthesis technology, simulation technology for examining materials and structures and analysis technology (Battery)

Opportunities

- Increasing needs for fuel-efficient products due to stricter environmental regulations and growing environmental consciousness
- Sales expansion in each sector in line with growth of the automobile market

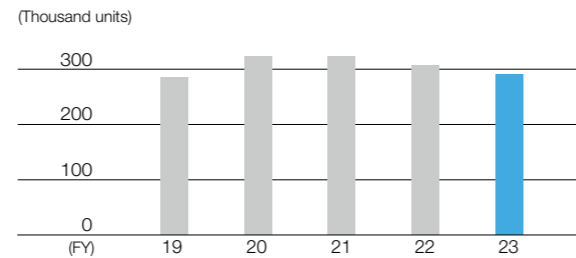
Risks

- Shrinking of the automobile market caused by economic slowdown
- Customers becoming less willing to buy fuel-efficient products following less stringent environmental regulations
- A drop in product competitiveness due to the yen's appreciation or inflation
- Suspension of production caused by supply chain disruptions

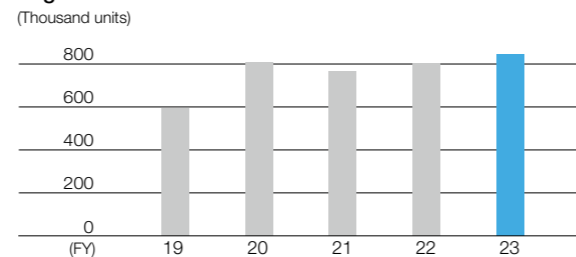
*1: Survey by Toyota Industries Corporation

Net Sales		Operating Profit	
FY2022	FY2023	FY2022	FY2023
¥792.8 billion	¥957.8 billion	¥33.0 billion	¥34.6 billion

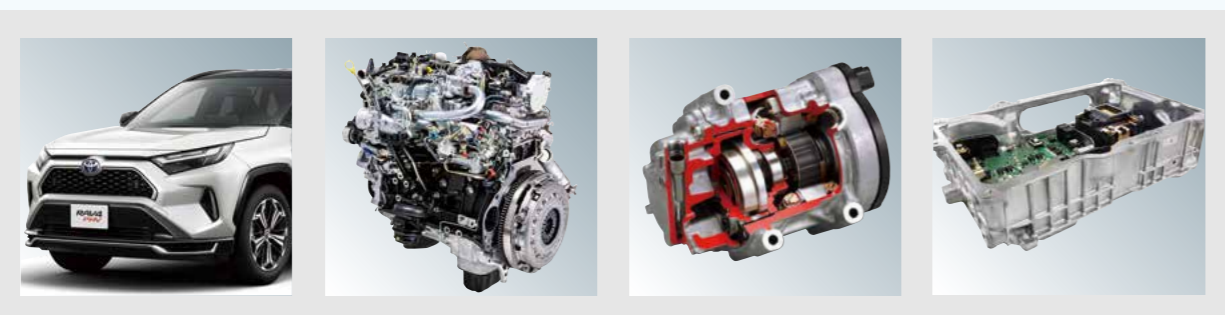
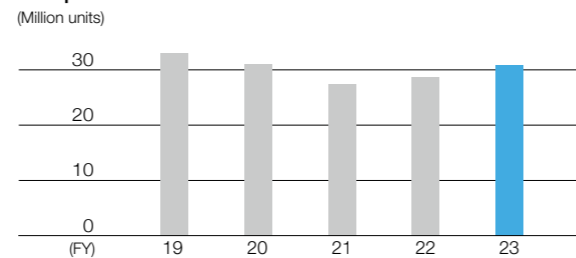
Vehicle Sales



Engine Sales



Compressor Sales



Vehicle

Medium-Term Direction of Business

We will contribute to TMC as a development and production base of compact sports utility vehicles (SUV) by leveraging our comprehensive strengths derived from the highest level of safety, environment, quality, cost and delivery (SEQCD) among all Toyota-affiliated automobile body manufacturers and through greater collaboration within the Toyota Industries Group.

Business Overview in Fiscal 2023

In fiscal 2023, sales of the RAV4 decreased outside Japan, offsetting an increase in the domestic market. As a result, unit sales declined by 18,000 units, or 6%, to 290,000 units. Net sales decreased by ¥0.3 billion, or 0.4% year on year, to ¥83.1 billion.

Commencing Production of a Special-Edition RAV4 with a Stronger Off-Road Feel

Toyota Industries partially upgraded the RAV4 in October 2022 to expand the functionality of Toyota Safety Sense*2, and created a special edition, the RAV4 Adventure "OFFROAD package II." This special-edition vehicle is fitted with 18-inch all-terrain tires*3 and has a 10 mm higher minimum ground clearance to more strongly emphasize the off-road image of the RAV4. Its particularly distinguishing matt and uneven surface black paint ("GORI GORI BLACK" paint) applied to the front bumper and other parts of the

vehicle has been planned, proposed and adopted based on the results of a survey conducted on models we exhibited at Tokyo Auto Salon 2021.

*2: TMC's advanced preventive safety package covering situations prone to traffic accidents
 *3: All-terrain tires for use in wide-ranging applications, from paved to rough surfaces



Adventure "OFFROAD package II"

Proposing "RAV4 Customizing Service" at Tokyo Auto Salon 2023

Under the mantra "Make even better SUVs" to see a smile of joy from our customers, we are working with TMC to make the RAV4 a more attractive SUV. Since Tokyo Auto Salon 2020, we have showcased outdoor and professional concept models of the RAV4. In 2023, instead of exhibiting ready-made concept models, we proposed a service to customize the RAV4 according to customers' preferences and displayed three customized models with a stronger off-road or on-road appeal. Using the RAV4 PHEV manufactured by Toyota

Industries as a base model, these vehicles were equipped with carefully selected parts made by other companies. To ensure customers' smiles of joy with our RAV4, we will continue to plan various campaigns with their point of view in mind.



Toyota Industries booth

TOPIC | Winning the Most Excellent Karakuri Kaizen Award for the First Time

At the Karakuri KAIZEN*4 Exhibition 2022 hosted by the Japan Institute of Plant Maintenance, Toyota Industries' slope climbing system was selected among 224 projects of 62 companies and received its first*5 Most Excellent Karakuri Kaizen Award. The Assembly Section of the Manufacturing Department, Vehicle Division, created a non-powered mechanical system to let parts trays climb a slope. The aim was to eliminate the difficulty of the tray setting operation, which used to involve lifting a tray from the ground level and setting it on a worktable. The system uses pulleys and the principle of leverage to convert the motion of horizontal sliding (pushing a tray aside) to that of vertical sliding (letting a tray climb a slope). The project was recognized for its simple *karakuri* system only requiring minimum operator action, which in turn reduces the operating time.

*4: Achieving *kaizen* (improvement) at low cost by *karakuri* (Japan's traditional, non-powered mechanical systems that utilize gravity, the principle of leverage, etc.)
 *5: Toyota Industries has been participating in the exhibition since it was first held in 1994 and has received an Excellent Karakuri Kaizen Award three times in the past.



Project members receiving the award

Engine

We have suspended the shipping of certain engines we manufacture for lift trucks for the Japanese market, as we have confirmed the excess over the domestic (Japanese) emissions regulation values due to aging degradation, and potential violation of regulations related to Japanese certification for emission. Based on the decisions and instructions of the relevant Japanese authorities, we will put all our efforts into measures toward resuming shipping and corrective measures on already sold products, as well as recurrence prevention.

For the prevention of recurrence, there is an ongoing investigation by a special investigation committee consisting of independent external experts, in addition to the investigation led by external lawyers. We will clarify the details of the case and analyze the root causes of these issues, and compile recurrence prevention measures based on the findings. At the same time, we have already been doing whatever we can at present, such as separating the certification function from our development department to reinforce the inspection system for legal certifications. (As of June 30, 2023)

Business Overview in Fiscal 2023

Unit sales in fiscal 2023 totaled 847,000 units, an increase of 43,000 units, or 5%, from the previous fiscal year due mainly to a growth in sales of gasoline engines. As a result, net sales increased by ¥54.8 billion, or 20% year on year, to ¥322.4 billion.

Engines for Automobiles

Diesel Engines

Even amid the accelerated progress in vehicle electrification, there is diverse and strong demand, mainly in emerging countries, for diesel engines, which boast high durability and superb running performance, as a power unit suited for SUVs and such commercial vehicles as pickup trucks.

Compliant with fuel efficiency and emissions regulations in various regions and countries, the in-line 4-cylinder GD diesel engine, which constitutes one of our mainstay engines, has been introduced in more than 150 countries around the world, mainly in Asia and Latin America, and fitted in nine vehicle models, including TMC's Innovative International

Multipurpose Vehicle (IMV) series targeting emerging countries and the HiAce.

The V-type 6-cylinder F33A diesel engine, another mainstay product of ours, is fitted in the Land Cruiser "300." With a view to the era of carbon neutrality, the engine has been downsized from the previous eight cylinders to six cylinders to reduce mass. Adoption of the twin turbo developed in-house also realizes high levels of environmental performance and quiet operation while allowing the vehicle to maintain the output and rough-surface running performance required of the Land Cruiser.

Gasoline Engines

The gasoline engines that we produce under consignment from TMC, namely the 2.5-liter A25A and 2.0-liter M20A, are mainly fitted in the RAV4 and HARRIER, which are achieving robust sales. Developed based on the Toyota New Global Architecture (TNGA)*6 concept, these engines offer both excellent driving performance and environmental performance. Responding to the advancement of car electrification, we have also added an HEV version of the

A25A engine to our lineup.

In response to the growing demand in the Indian market for engines for use in HEVs, Toyota Industries Engine India Pvt. Ltd. (TIEI), a consolidated subsidiary in India, commenced production of the 1.5-liter M15A and 2.0-liter M20A engines in August 2022.

*6: Development policy and method for vehicle creation based on a modular platform

Engines for Industrial Fields

Toyota Industries' engines for industrial fields are used for a wide variety of applications, including our lift trucks, and adopted by many manufacturers of GHPs*7, CHPs*8,

generators and construction machinery.

*7: Short for gas heat pump; air conditioner driven by a gas engine
*8: Short for combined heat and power; co-generation system

Car Air-Conditioning Compressor

Medium-Term Direction of Business

In a future society in which significant advancement in car electrification and autonomous technology is expected, we aim to leverage our core compression technology and become an innovative component supplier. We will further enhance our capability to develop products that offer excellent fuel efficiency, quieter operation, compactness, light weight and easier vehicle mounting. In addition, with the aim of satisfying needs of a broader variety of customers, we will utilize our accumulated technologies to expand our development domain into core components for drive systems.

Business Overview in Fiscal 2023

In fiscal 2023, unit sales of car air-conditioning compressors increased 2.184 million units, or 8%, from the previous fiscal year to 30.937 million units due mainly to higher sales in North America and Europe. Net sales were up ¥73.6 billion, or 21% year on year, to ¥429.7 billion.

Environment Surrounding the Automobile Market

The growth of the car air-conditioning compressor market is expected to be slower than anticipated due to the lingering uncertainty of parts supply shortages as well as prolonged geopolitical risks. That said, we expect that the growth will continue over the medium term on the back of expanding automobile sales and an increase in the number of vehicles fitted with an air conditioner. As new developments in the automobile market, especially for electrified vehicles, by

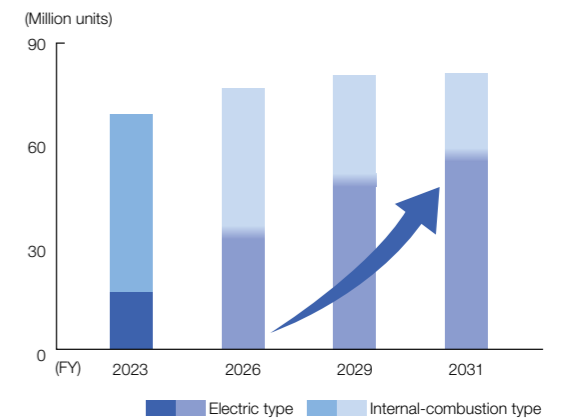
2035 all automobiles sold in China must be electrified*9 and sales of internal-combustion vehicles, including HEVs and PHEVs, will be banned in Europe. In light of such tightening regulations and expanding needs in various countries and regions, automakers are aggressively releasing new models, and unit sales of electrified vehicles are expected to increase significantly in the future.

*9: Announced by the Chinese Society of Automotive Engineers

Expansion of Electrified Vehicle Market

Amid the growing demand for electrified vehicles due to heightened environmental awareness and more stringent regulations on internal-combustion vehicles around the world, demand for electric compressors is expected to exceed the demand for compressors for internal-combustion vehicles in 2028, driven particularly by a sharp increase in BEV sales in the Chinese market. In step with this development, we are enhancing our electric compressor lineup and strengthening our production structure to increase sales to automakers around the world.

Demand Forecast by Compressor Type*10



*10: Survey by Toyota Industries Corporation

Expansion from Air Conditioner Parts to Core Components of Electrified Vehicles Driven by Diversifying Needs

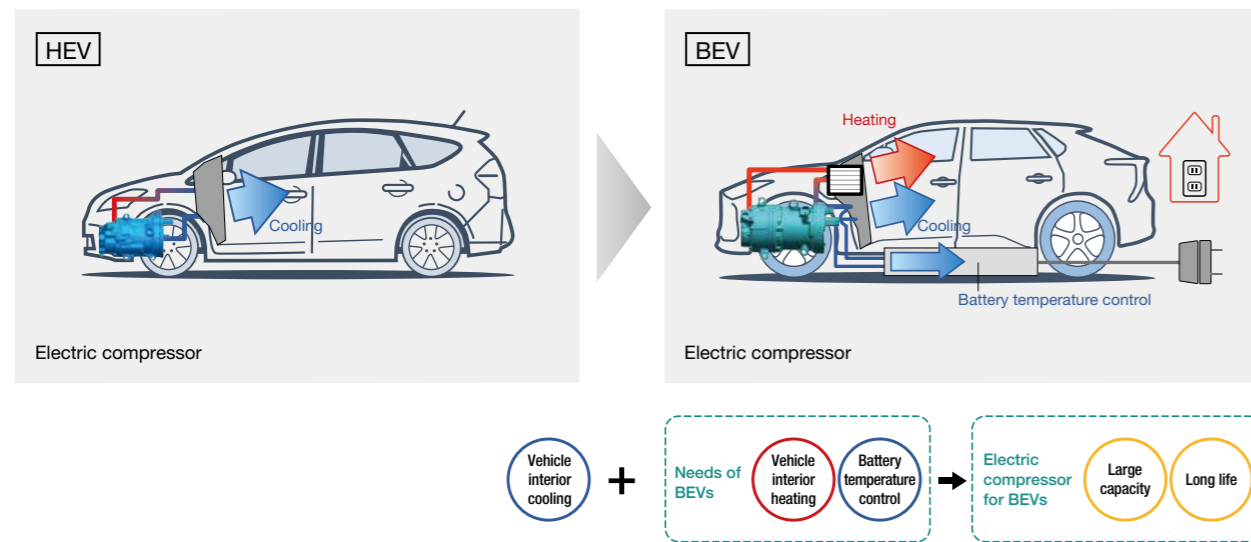
With the growth in electrified vehicles, there have been new challenges for BEVs as vehicles, creating a need for electric compressors to diversify. In response, we are rolling out new products tailored to such new needs by utilizing our product development capabilities cultivated to date.

As electrified vehicles need to secure a heat source that substitutes for the exhaust heat of the engine when running a heater, it has become necessary to operate the compressor during the cooling and heating of the vehicle interior. With the addition of heat pump heating, which takes heat from the air, it is now required to extend compressors' uptime and range

of use. As such, we are working to improve the reliability of electric compressors and achieve higher efficiency to reduce the impact on vehicle driving range.

To prevent battery performance deterioration and shortened life during high-power operation and quick charging of vehicles, compressors also need to provide a function for cooling the battery in addition to heat-pump air-conditioning. We have developed and released large-capacity electric compressors as a core component of electrified vehicles, thereby satisfying the varying needs of electrified vehicles with our extensive product lineup.

Notional image



Production-Related Strengths Underpinning Quality and Performance

High-precision machining and assembly technologies are essential in realizing high quality and superior performance of products. Toyota Industries realizes high-speed and high-precision machining by leveraging its know-how accumulated

through responding to the stringent demands of automakers worldwide and by developing devices from processing machines to associated cutting tools in-house.

Establishing Stronger Global Production and Supply Structures

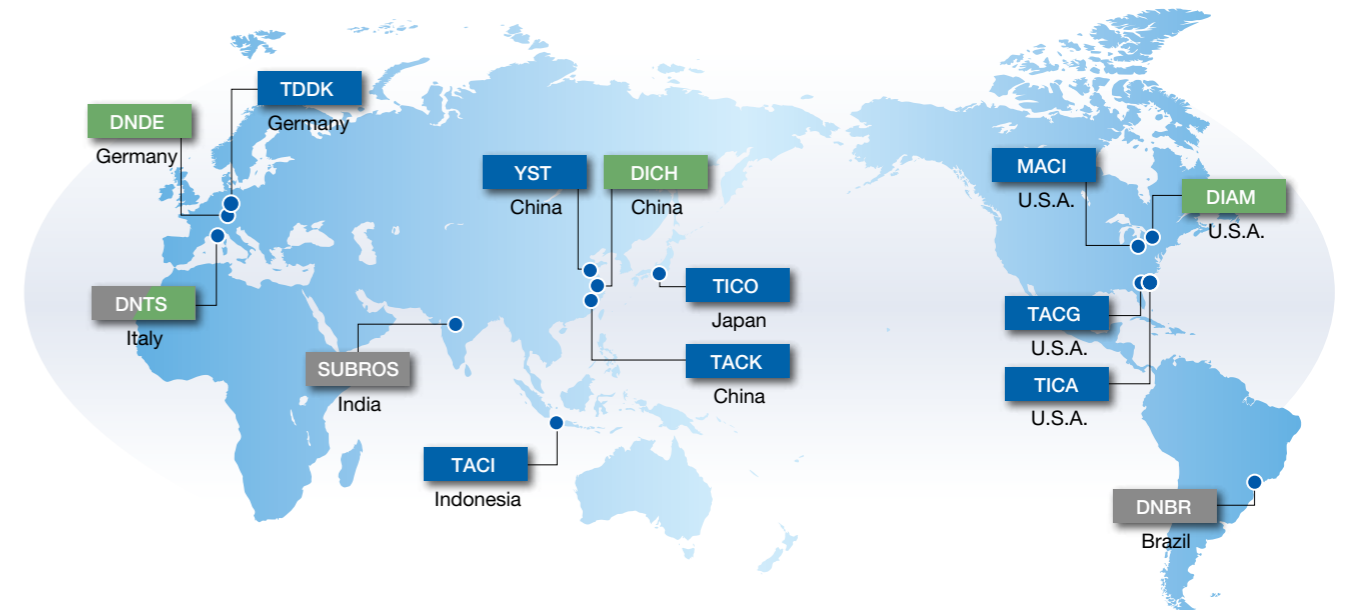
In step with the move toward more stringent fuel efficiency regulations and car electrification, the car air-conditioning compressor market is expected to witness fluctuations in demand for compressors both for internal-combustion vehicles and electrified vehicles. In response, we are building a production structure less vulnerable to changes in production volume through such measures as automating our plants to save labor, designing mixed lines that enable the production of a wide variety of products and creating a framework to increase production capacities in a phased manner.

Meanwhile, electrified vehicles are rapidly becoming popular in China driven by the country's new energy vehicles (NEV) regulation*11. To capture booming demand, we have already initiated local production at TD Automotive Compressor Kunshan Co., Ltd. (TACK) in March 2020 and at Yantai Shougang TD Automotive Compressor Co., Ltd. (YST) in June 2021. Led by China, electrified vehicles are expected to spread globally faster than previously anticipated. To respond to the rising demand for electric compressors, we will set up a structure to manufacture 10 million units globally by increasing the production capacity of processing lines at

the Higashiura Plant in Japan and TACK and assembly lines at the Kariya Plant. Believing that producing and supplying products close to our customers will lead to improving our competitiveness, we are also considering local production in

Europe and the United States depending on future orders.
*11: Regulation in China mandating automakers to produce a certain percentage of BEVs and other new energy vehicles

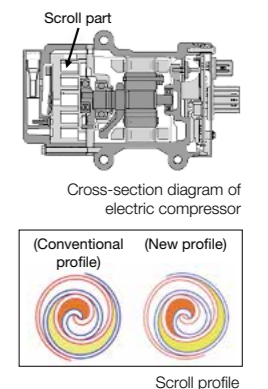
Worldwide Bases of Car Air-Conditioning Compressors (As of March 31, 2023)



Toyota Industries' car air-conditioning compressors are widely adopted by automakers around the world, garnering the No. 1**12 position in global sales.
*12: Survey by Toyota Industries Corporation

TOPIC Winning a 2022 JSME Medal for New Technology and Technological Development Award

Toyota Industries' new scroll profile, newly adopted in its electric compressors, has won two awards, a 2022 JSME Medal for New Technology by The Japan Society of Mechanical Engineers (JSME) and a Technological Development Award at the 73rd Society of Automotive Engineers of Japan Award. In electric compressors, a larger capacity and higher-speed rotation cause greater excitation force when compressing the refrigerant, which in turn results in more noise and vibration. To address this issue, we engaged in joint research with Toyota Central R&D Labs., Inc. to advance their new tooth design theory*13 originally established for gears and created a new scroll profile in which compression force and gear thickness can be set at required values. Our success in leveraging this technology to develop and commence production of a low-noise electric compressor with less compression force fluctuations was recognized as groundbreaking and socially significant. Toyota Industries will continue to contribute to the realization of a recycling-based society through the development of electric compressors.



*13: A theory to design an optimum spiral profile, which had been univocally determined against the targeted performance, by using a solution that integrates geometry and dynamics

Electronic Devices and Other Products

Medium-Term Direction of Business

Car electrification is steadily progressing, as evidenced by an increase in sales of various electrified vehicles, such as HEVs, PHEVs, BEVs and FCEVs, amid the accelerated global trend toward a decarbonized society. The Electronics and Battery divisions will contribute to car electrification in a broad range of fields through the development of new products by leveraging technologies cultivated to date.

Business Overview in Fiscal 2023

Higher sales of batteries and DC-DC converters resulted in an increase in net sales by ¥37.0 billion, or 43%, over the previous fiscal year to ¥122.5 billion.

Electronics

Contributing to More Widespread Use of Electrified Vehicles Globally through Electronics Products

Since the 1990s, Toyota Industries has developed and manufactured such electronic products as on-board chargers and DC-DC converters for TMC's HEVs and other electrified vehicles and honed its power electronics technologies. In April 2022, while leveraging our accumulated technologies and experiences, we developed a compact and lightweight unit for BEVs, which integrates an on-board charger and DC-DC converter. Incorporated in the electricity supply unit (ESU)^{*14}, which TMC adopted for BEVs for the first time, the product serves as a core unit for charging and power conversion function and is mounted in the bZ4X BEV. By integrating an on-board charger and DC-DC converter essential for running a BEV, the new unit is 23% smaller in size and 17% lighter in weight versus separately mounting the two devices.

In January 2023, our newly developed compact and high-current DC-DC converter for HEVs was adopted in



Left: Newly developed unit integrating an on-board charger and DC-DC converter
Right: TMC's bZ4X BEV

TMC's fifth-generation Prius. A DC-DC converter is a power source unit that converts DC voltage into a voltage level appropriate for individual devices. Specifically, it converts the high voltage (200–400 V) of batteries mounted on HEVs and other electrified vehicles into a lower voltage level (12 V) to supply power to auxiliary batteries, control ECU, navigation system, lights and other devices. The newly developed DC-DC converter has a 1.5 times higher output current of 150 A compared to 100 A of conventional models and is 34% smaller.

Toward the achievement of carbon neutrality in 2050 and amid the global, rapid growth in the electrified vehicle market, we will continue to support the more widespread use of electrified vehicles, such as HEVs, PHEVs, BEVs and FCEVs, through the provision of car electronics products.

^{*14}: A device that integrates the charging function and power distribution function of BEVs



Left: Newly developed compact and high-current DC-DC converter for HEVs
Right: TMC's new Prius

Feeding Power—A New Function and Value of Electrified Vehicles Realized through AC Inverters

An AC inverter converts the DC voltage of on-board batteries into AC voltage to feed power externally or to use electrical appliances within a vehicle. It can supply 1,500 W of

electricity, the same as household power outlets, to almost any home electrical appliance and has been recognized highly by customers as a power source during a disaster or

outdoor activities. The inverter, which used to be provided mostly as an option by automakers, is now increasingly offered as a standard feature for all or certain grades of vehicle models mainly sold in Japan.

In February 2023, Toyota Industries held an event to outline to customers the benefits of the 1,500-W AC inverter's power source functionality. It was held during a vehicle exhibition hosted by a car dealer and included a quiz on how many electrical appliances, such as a microwave oven, personal computer and electric blanket, can be used simultaneously using the power fed by an electrified vehicle. Through the quiz and other activities, many customers observed the convenience of using an electrified vehicle as a power source during outdoor activities, workation^{*15} and

power outages. While describing the capabilities, we also asked customers to provide their opinions about the appeal and usability of the power source. Through such activities, we will promote product development that will lead to more widespread use of electrified vehicles.

^{*15}: A coined word that combines "work" and "vacation," workation is a way of spending vacation while working at a resort or travel destination



Toyota Industries booth Snapshot of the experience-based event

Batteries

Increasing Models Equipped with Our Bipolar Nickel-Metal Hydride Batteries

In fiscal 2022, Toyota Industries newly established the Battery Division and commenced production and sales of bipolar nickel-metal hydride batteries for TMC's new Aqua. The production is undertaken at our Kyowa Plant in Aichi Prefecture.

We successfully commercialized the battery by establishing a proprietary development method by thoroughly working to refine our technologies cultivated to date, including battery material synthesis technology, simulation technology for examining materials and structures and analysis technology.

In the newly developed battery, a cathode is applied to one side of a metal component called a current collector and an anode to the other. Several of these modules, which are known as "bipolar electrodes," are stacked together to form a battery. The battery has been made smaller as they require fewer parts. In addition, the wider electrical path and simple structure reduce resistance within the battery, allowing large currents to flow quickly. This means that they can produce higher outputs compared to conventional nickel-metal hydride

batteries. In recognition of these excellent characteristics, the battery won a Technological Development Award at the 73rd Society of Automotive Engineers of Japan Award.

Following the Aqua, the bipolar nickel-metal hydride battery, which achieves both superior driving and environmental performance, has been fitted in the Toyota Crown and Lexus RX in fiscal 2023. Going ahead, we will continue to respond to future increases in demand.

As we proceed with various initiatives toward carbon neutrality, we will contribute to the more widespread popularity of TMC's electrified vehicles with our bipolar nickel-metal hydride batteries, which can be fitted in a variety of HEVs.



TMC's dual boost hybrid system

Constructing the Ishihama Plant to Increase Production Capacity

We constructed the Ishihama Plant in Higashiura-cho in Chita-gun, Aichi Prefecture, as a manufacturing plant for on-board batteries and commenced mass production of bipolar nickel-metal hydride batteries for HEVs in October 2022. The new plant operates at a production capacity of 20,000 units per month, and, together with the Kyowa Plant that started battery production in May 2021, we have boosted our total capacity to 40,000 units per month.

The design of our bipolar nickel-metal hydride batteries allows them to be adaptable to a wide range of vehicles, from compact to large ones, because their output can be modified by just changing the number of modules to be

stacked depending on the vehicle.

To contribute to the expansion and spread of electrified vehicles and work toward carbon neutrality, Toyota Industries will work to ensure stable supply as well as to enhance its lineup of batteries so that they can be used in a range of electrified vehicles.



Ishihama Plant

Textile Machinery

[Link to product details](#)


Carrying on the philosophy of founder Sakichi Toyoda, which reflects his strong commitment to manufacturing, Toyota Industries responds to a broad range of needs with its extensive product lineup, from air-jet looms to ring spinning frames, roving frames and quality measurement instruments for fiber, yarn and fabric.

Medium-Term Direction of Business

With growing environmental consciousness worldwide, needs are expected to increase further for textile machinery offering superior environmental performance. Toyota Industries' products are highly acclaimed by customers for their excellent reliability and productivity as well as energy-saving performance. We will continue to develop energy-saving and other innovative technologies and seek to achieve further growth and evolution as a leading manufacturer of textile machinery.

Business Characteristics

Strengths

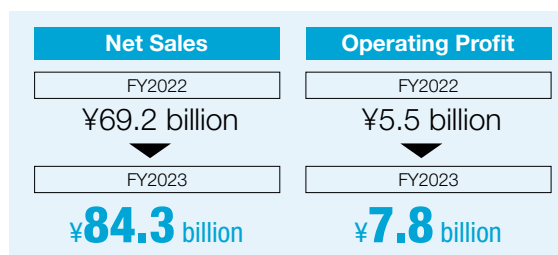
- Broad product lineup both in the spinning and weaving machinery fields
- Global, well-developed service network
- Ability to develop products that excel in reliability, energy-saving performance and versatility

Opportunities

- A rise in textile demand in line with an increase in the world population
- Further increasing applications in the industrial materials field
- Increasing needs for high-quality and highly functional yarn and textile products, following the economic growth of emerging countries

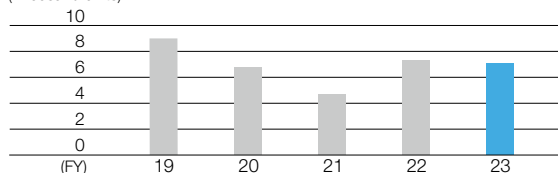
Risks

- Changes in each government's policies concerning promotion of the country's textile industry
- Weaker sales due to intensifying competition
- A decline in capital investment due to economic slowdown and raw cotton and/or yarn price fluctuations



Air-Jet Loom Sales

(Thousand units)



Business Overview in Fiscal 2023

The market was strong in Asia, including China, which is our primary market. Increases in sales of spinning machinery and quality measurement instruments for fiber, yarn and fabric pushed up net sales by ¥15.1 billion, or 22% year on year, to ¥84.3 billion.

Commencing Production of the New JAT910 Air-Jet Loom

In March 2023, we commenced production of the JAT910, a new air-jet loom developed for the first time in nine years.

Air-jet looms weave textiles by inserting yarn using compressed air and are used by customers worldwide, including China, India, Europe and Japan. The new JAT910 has inherited and upgraded the high-speed and low-vibration technologies and superior weaving technology, which are the JAT series' "genes" that have been passed on from

model to model. It is geared to respond to labor shortages in the manufacturing industry, growing environmental consciousness and surging energy prices around the world. With the upgraded technologies, the product has achieved even higher environmental performance and is contributing to improving operational efficiency at customers' plants.



JAT910 air-jet loom

Participating in India ITME 2022

In December 2022, Toyota Industries participated in India International Textile Machinery Exhibition (India ITME) 2022 jointly with Kirloskar Toyota Textile Machinery Pvt. Ltd. (KTTM), a consolidated subsidiary producing textile machinery in India.

We exhibited our new JAT910 air-jet loom for the first time to the public as well as the RX300 ring spinning frame

manufactured by KTTM. They were received favorably by many customers as we appealed to them the basic functionality and high reliability of our products. Going forward, we will continue to demonstrate our technological capabilities that satisfy customer needs through participation in textile machinery trade shows and work to reinforce our brand strength to gain even greater trust from customers.