

# Business Activities

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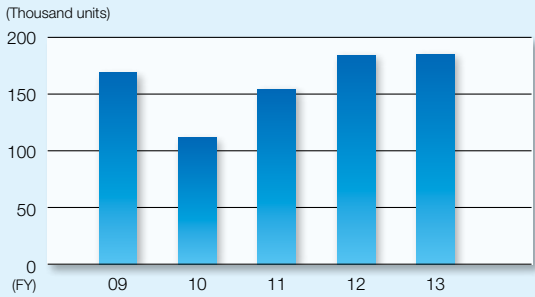
# Materials Handling Equipment

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

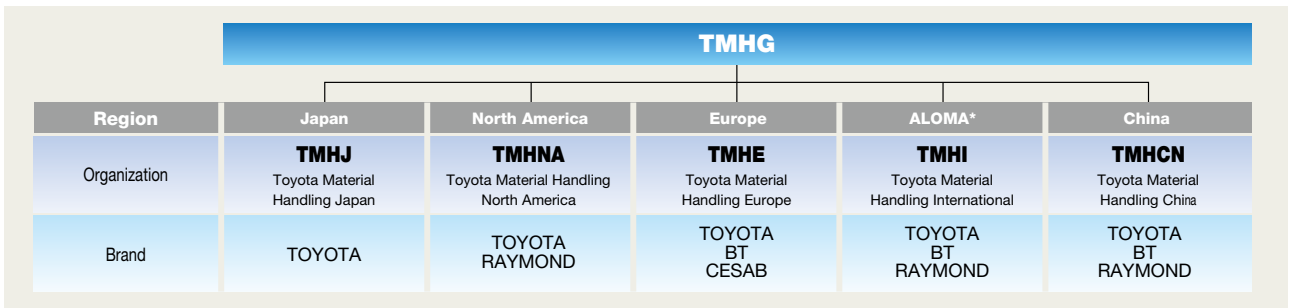
## Business Overview in Fiscal 2013

In the materials handling equipment market, sales remained strong in Japan and North America while growth slowed in Europe, China and some emerging countries. On the whole, sales were on par with the previous year. Amid this environment, Toyota Industries reinforced the development, production and sales structures and rolled out products matched to respective market conditions. Although sales of our mainstay lift trucks outside Japan remained at the previous fiscal year's level, we successfully achieved higher sales in Japan. As a result, unit sales for fiscal 2013 increased slightly to a total of 185,000 units over the previous fiscal year. Net sales rose ¥25.7 billion, or 5%, to ¥596.4 billion.

### Materials Handling Equipment Sales



### Toyota Material Handling Group Organization Chart



## Toyota Material Handling Group (TMHG)

As a market leader with extensive knowledge of logistics needs across the world, Toyota Industries provides a full range of lift trucks and other materials handling equipment as well as logistics solutions to customers worldwide.

Under the TMHG management structure, we engage in business under the TOYOTA, BT, RAYMOND and CESAB brands. Mutually utilizing the sales and development strengths of each brand, TMHG is promoting business expansion on a global scale.

## Business Activities in Fiscal 2013

Globally, the lift truck market in 2012 remained on par with the previous year. In Japan, we focused on expanding sales in the manufacturing industry, where improved business sentiment has been boosting capital investment, as well as in such industries as transportation, warehousing and construction. In Europe and North America, while striving to capture the diverse needs of customers by rolling out new products and services, we proactively participated in various exhibitions to appeal the excellence of our products and services to a wider audience. Our efforts in emerging countries have been aimed at reinforcing both our production and sales capabilities. As part of these efforts, we have completed construction of a lift truck production plant in Brazil, which is scheduled to start operations in October 2013, and are releasing products manufactured in plants in China to the ALOMA\* markets.

In March 2013, we made U.S.-based Cascade

Corporation, one of the world's largest manufacturers of lift truck attachments\*1, into Toyota Industries' consolidated subsidiary. As the lift truck market primarily in emerging countries continues to expand and logistics needs become increasingly diverse, demand for such attachments is expected to grow. By adding Cascade's attachments to our lineup, we aim to expand our business domain, respond to a broader range of customers' logistics needs and achieve further growth of the Materials Handling Equipment Business.



Lift truck fitted with Cascade attachment

As for the Materials Handling Engineering Business, which is represented by automated storage and retrieval systems and automatic guided vehicles (AGVs), we are committed to meeting a wide range of needs by providing consulting services for customers' logistics-related issues as well as assisting them with installation and operation of equipment. In response to the growing need for greater efficiency in the handling of shipping containers spurred by a rise in port logistics volume, we developed an AGV system for cargo containers\*2 based on a pool of technologies we have accumulated in the field of AGVs over the years. The new AGV system is now playing a significant role in increasing operational efficiency and improving the working environment of container terminals at ports.

In the field of aerial work platforms, demand fell in the electric power industry, our principal customer in Japan, as power companies cut back on capital investment. In the leasing and railway industries, however, demand grew in line with such factors as an increase in facility replacement. Accordingly, Aichi Corporation, which possesses the top brand of aerial work platforms in Japan, posted higher sales. Aggressive sales promotion activities also led to a rise in sales outside Japan. On the whole, sales exceeded the previous fiscal year's level.

\*1: Devices that are attached in place of forks of lift trucks for directly grabbing or rotating goods for enhanced operability and logistics efficiency

\*2: See "Special Feature 1" on pages 16-20.

## Japanese Market

### No. 1 Market Share\*3 in Lift Truck Sales

In 2012, the Japanese lift truck market achieved year-on-year growth as the government's subsidy program for eco cars stimulated an upturn in capital investment in the manufacturing industry, including the transportation equipment sector. Toyota Material Handling Japan (TMHJ) worked to expand sales in the manufacturing industry as well as in such industries as transportation, warehousing, construction and agriculture, forestry and fisheries. As a result, unit sales in fiscal 2013 increased 4% year-on-year to 33,000 units. TMHJ secured a 44.4% share of the Japanese market in 2012, a record high, and maintained its top position\*3 for the 47th consecutive year.

\*3: Surveys by Japan Industrial Vehicles Association and Toyota Industries Corporation, 2012

### Introducing Products Excellent in Environmental Performance and Work Efficiency

#### Launch of New Electric Lift Trucks

TMHJ released two model changes of electric lift trucks, the GENE0-R in May 2012 and the High Pick Lift in December 2012, for use in indoor logistics sites of a broader range of customers mainly in the mail order, food and warehousing sectors. These models feature significant upgrades, including a completely new drive system, and meet the requirement for longer continuous operation.



#### Development of Fuel Cell Lift Trucks

In December 2012, TMHJ initiated a feasibility test of its fuel cell lift trucks in Kitakyushu, Fukuoka Prefecture. A fuel cell produces power through a chemical reaction between hydrogen and oxygen in the air and thus emits considerably less CO<sub>2</sub>. Because refueling is completed in about three minutes, fuel cell lift trucks operate continuously without the need for recharging or replacing batteries, thereby greatly improving work efficiency compared with electric lift trucks.



Fuel cell lift truck



## Initiative Aimed at Upgrading Level of Service

In September 2012, TMHJ held the 1st TMHJ Service Skills Contest aimed at improving the level of service of dealers. Service representatives of the 40 dealers across Japan participated in the contest. Through this event, TMHJ intends to enhance the skills of its service staff, increase their awareness and deliver quality services that bring greater satisfaction to customers.



Service Skills Contest

## Kaizen Solutions Based on Logistics Know-How

TMHJ participated in LOGIS-TECH TOKYO 2012, an exhibition held in Tokyo in September 2012. Under the theme of "Bringing Greater Efficiency in Logistics Business," TMHJ presented *kaizen* (continuous improvement) examples for logistics that utilize the Toyota Production System (TPS) and its initiatives in environmental and safety-related fields. The Toyota L&F Customer Center in Chiba Prefecture, which was reopened in the same month after undergoing renovations,



TMHJ booth at LOGIS-TECH TOKYO 2012

showcases optimum logistics know-how to customers in an easy-to-understand manner through upgraded displays and other showroom features.

## North American Market

### Maintaining Top Market Share\*

The North American lift truck market remained strong in 2012. Toyota Material Handling North America (TMHNA) remained the market share leader\* in fiscal 2013 with combined unit sales of TOYOTA and RAYMOND brands of approximately 59,000 units, which was on par with the previous fiscal year.

Toyota, as a full-line supplier of lift trucks, remained the market share leader\* for the 11th consecutive year, and Raymond continued to hold its number one\* market share position in narrow aisle electric lift trucks.

\* Survey by Crist Information & Research, LLC, 2012

### Proactively Launching New Products and Services

Toyota expanded its product offering in fiscal 2013 with a galvanized chassis option and made it available on its walkie rider and electric pallet trucks for customers operating in environments where resistance to rust is vital.



TOYOTA 7HB electric pallet truck with new galvanized chassis option

Also introduced in fiscal 2013, the new RAYMOND 8000 series pallet trucks feature significant increases in material strength that enable these trucks to meet heavy-duty application needs. Features also include enhanced environmental operations through Raymond's Eco-Performance solutions system for space efficiency and fleet optimization solutions, better operability thanks to a roomier operator compartment and reinforced components for reduced wear.

Raymond also fitted its *Warehouse* fleet management system with new features, which provide warehouse managers with increased visibility of equipment availability and operational conditions on a real-time basis, further increasing customer productivity.

## Highly Acclaimed TOYOTA and RAYMOND Brands

In recognition of providing best-in-class products as well as optimum logistics solutions and services, *Plant Engineering* magazine awarded the 2012 Product of the Year gold and silver award in the material handling systems category to TOYOTA's 4-wheel AC electric lift truck and RAYMOND's new 8000 series pallet trucks, respectively.



RAYMOND 8000 series pallet truck

In independent studies of lift truck users\*, TOYOTA lift trucks and genuine parts ranked highest in quality, value and safety.

For the fourth year in a row, Toyota was again named a Green Supply Chain Partner by *Inbound Logistics* magazine, chosen in part for its environmentally friendly initiatives and continued dedication to supply chain sustainability.

\* Survey by Peerless Media Research Group, 2012

## Aiming for Industry-Leading Product Offerings and Customer-Oriented Services

TMHNA will look for further synergies in the coming year to ensure the full power of both the TOYOTA and RAYMOND brands is utilized. TMHNA will continue to offer industry-leading products and total solutions-based offerings enhancing customer efficiency and productivity.

## Topics

In 2012, Raymond celebrated its 90th anniversary as an industry leader in optimum warehouse equipment for warehousing and materials handling operations. On this occasion, more than 3,000 employees and community

members were invited for an open-house celebration held in October 2012.

Raymond total solutions were showcased at ProMat 2013 in Chicago, Illinois, in January 2013. Raymond's Eco-Performance system was featured in a mock warehouse with RAYMOND lift trucks in operation. Raymond also participated in two ProMat educational sessions, Ecological and Economical Material Handling and Lift Truck Technology Advances Material Handling. It was estimated that over 30,000 people attended the exhibition from across the world.



Raymond booth at ProMat 2013



## European Market

### Increasing Unit Sales by Grasping Market Trends

The lift truck market in 2012 was marked by greater uncertainty across the European economies, slightly underperforming the previous year. Amid these adverse conditions, Toyota Material Handling Europe (TMHE) engaged in sales expansion activities with a targeted market-to-market strategy while also working to diversify its panel of services and solutions. Nevertheless, TMHE posted sales of 58,000 units, a decline of 2%.

### Proactive Sales Expansion Activities and Making Appeals at Exhibitions

In fiscal 2013, TMHE continued its proactive sales expansion activities in the area of logistics solutions. With a high-quality, abundant product lineup and strong sales/service network throughout Europe, TMHE successfully obtained large-fleet orders.

TMHE also attends various exhibitions to pitch its full-line products and excellent servicing capabilities directly to customers. In fiscal 2013, TMHE exhibited at CeMAT RUSSIA 2012 in September under the banner “Innovative Solutions” as well as at LogiMAT 2013, which was held in Germany in February, under the theme of “Innovation Meets Evolution.” At both exhibitions, TMHE appealed its comprehensive capabilities, including a wide range of products, tailor-made service system and logistics solutions.



LogiMAT 2013

### Proactively Launching New Products

TMHE unveiled the Traigo 80 electric lift truck, which features excellent energy efficiency and ensures safety, and engaged in sales activities throughout Europe.

TMHE also commenced sales of SpotMe, a warning system for a safe workplace. This system alerts truck drivers of the potential danger of collision with a flashing light when a sensor detects the presence of lift trucks or pedestrians in a specific area, contributing to safety at lift truck operating environments.



SpotMe warning system

### Excellent External Recognition

The BT Levio Silent powered pallet truck and the BT Lifter Silent hand pallet truck received the Quiet Mark recognition for their quiet features by the U.K.-based Noise Abatement Society. Defined at below 60 decibels, this level of quietness is considered to allow conversations without having to raise voices.

TMHE production sites in Sweden, France and Italy proactively engage in health and safety management activities. In recognition of risk management education at the production site in Sweden, all three sites were certified in May 2012 with OHSAS 18001, an Occupational Health and Safety Assessment Series, by Bureau Veritas, which is one of the world's largest third-party inspection and certification organizations.

### Initiatives to Expand Market Share

In January 2013, TMHE completed the 1-channel, 2-brand structure\* of distributors in primary countries in Europe. In addition to stronger sales and service networks, this structure is designed to expand TMHE's market share through enhanced appeal of its products and service quality. Therefore, optimum market-to-market logistics solutions and close collaboration with customers will be key success factors to meet diverse needs.

In addition, TMHE works to strengthen its product lineup by launching a counterbalanced lift truck equipped with lithium-ion battery technology as well as to upgrade the Toyota L<sub>Site</sub> fleet management solution. In this way and others, TMHE will strive to enhance product appeal both in terms of hardware and software aspects.

\* To integrate separately operated sales channels for TOYOTA- and BT-brand lift trucks

## ALOMA\* and Chinese Markets

### Increasing Unit Sales through Proactive Market Development

Toyota Material Handling International (TMHI) covers the ALOMA\* markets of Asia, Latin America, Oceania, the Middle East and Africa, while Toyota Material Handling China (TMHCN) covers the Chinese market.

In 2012, TMHI and TMHCN markets registered slower expansion due to the deceleration of growth in emerging countries. However, supported by the continuous efforts by both organizations to develop these markets, annual sales in fiscal 2013 reached 35,000 units, an increase of 3% compared with the previous fiscal year.

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

### Reinforcing Production and Sales Operations in Growing Markets

Brazil is the largest industrial vehicle market in Latin America and is expected to grow further; therefore, TMHI has enhanced sales activities and the sales and service networks. The construction of a new production plant was just completed in São Paulo state. In October 2013, the new plant will commence production of internal-combustion lift trucks, for which there is strong market demand.



Production plant in Brazil and completion ceremony

In India, TMHI has been continuously strengthening its sales and service capabilities through Toyota Material Handling India (TMH India) and augmenting sales expansion activities in order to achieve an increase in unit sales.

In China, Toyota Industry (Kunshan) Co., Ltd. (TIK) engages in production of TOYOTA-brand lift trucks. At BT Manufacturing (Foshan) Co., Ltd. (BTMF), production of BT-brand low lift trucks and stackers has commenced in January and June 2012, respectively. In addition, Raymond Manufacturing (Dalian) Co., Ltd. (RMD) has begun manufacturing RAYMOND-brand compact towing tractors in February 2012. On the sales side,

Toyota Material Handling (Shanghai) Co., Ltd. (TMHS) has worked to strengthen its marketing capabilities and further enhance its sales and service networks.

In addition, since February 2012 TOYOTA-, BT- and RAYMOND-brand lift trucks produced in China are sold in the ALOMA market in an effort to expand sales by meeting market-specific needs.

### Upgrading Product Lineup and Services

In 2013, an upward trend in the demand of lift trucks in the ALOMA and Chinese markets is expected. TMHI and TMHCN will continue to enhance capabilities in terms of providing a full range of excellent lift trucks and services to meet customer expectations.

## Topics

The TMHI Distributor Conference held in Yokohama, Japan, in September 2012 was attended by 63 representatives from Toyota, BT and Raymond distributors spanning 32 countries. The conference included the confirmation of the mid- to long-term vision and specific action plans, and a common approach for future directions was confirmed. Also on the agenda were a presentation on policy management at distributors, a tour of the Toyota L&F Customer Center and the awards ceremony for the 2011 TMHI Distributor Award Program. During the conference, participants pledged to work harder to achieve objectives based on the new slogan “Lift Beyond Together.”



TMHI held sales trainer training sessions in Singapore and Dubai in January 2013 and São Paulo in March to reinforce marketing activities and improve customer satisfaction in these countries, with 57 managers from 36 countries participating.



# Automobile

In the fields of vehicle assembly, engines, car air-conditioning compressors and car electronics, Toyota Industries offers a lineup of reliable products to meet the expectations and trust of its customers.

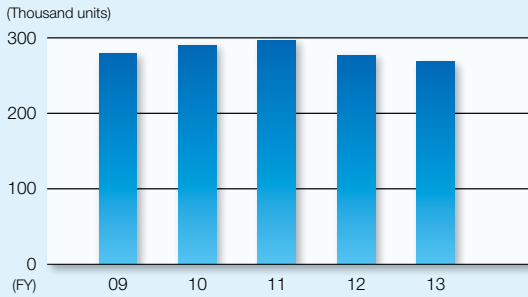
## Vehicle

### Business Overview in Fiscal 2013

In the automobile industry, the global market grew along with a recovery in the Japanese market backed by the government's subsidy program for eco cars and steady market growth in North America and Asia.

In fiscal 2013, unit production dropped by 9,000 vehicles, or 3%, from the previous fiscal year to 269,000 vehicles. Although sales of Vitz (Yaris outside Japan) declined, sales of the RAV4 increased. Nevertheless, net sales were up ¥2.3 billion, or 1%, to ¥356.7 billion.

#### ■ Vehicle Production



### Starting Production of the New RAV4

In December 2012, the Nagakusa Plant in Aichi Prefecture launched production of the new RAV4, a globally strategic model to be sold in more than 170 countries, mainly in the United States and Europe, by Toyota Motor Corporation (TMC). The vehicle's exterior is marked by the distinctive "keen look" front design, which TMC is adopting uniformly in its globally marketed vehicles, as well as a bold style that pursues an excellent level of aerodynamic performance. The new RAV4 utilizes Toyota Industries' technological strengths, including a spindle-type power

back door, which can open to an angle preferred by individual users, and was the first ever to be installed in Toyota cars. The vehicle also clears the world's safety standards.

In preparing for production, we paid particular attention to ensuring quality from a customer perspective and developing production lines that can easily adapt to changes in vehicle models and production volume. By engaging in a comprehensive process from development to production, we worked to achieve the level of quality that guarantees even greater customer satisfaction. We also successfully built flexible production lines that are adaptable to changes in vehicle models and unit production in the most compact assembly plant among TMC's automobile body manufacturers.

We also became the first automobile body manufacturer of the Toyota Group to undertake production preparation simultaneously at three plants, including TMC's non-Japan production bases. In close collaboration with TMC, we played a role in ensuring the smooth and simultaneous launch of production at three plants by setting up a system in which plants in and outside Japan shared information on issues and leveraged time differences to efficiently resolve these issues.



New RAV4

### Plastic Glazing Panoramic Roof for the Prius α (Prius v in North America and Prius + in Europe)

Toyota Industries engages in production of a panoramic roof made of plastic glazing for the Prius α, a hybrid vehicle marketed by TMC in May 2011. The roof is

currently a standard feature of Prius + vehicles marketed in Europe.

This product retains the warp-free, smooth and beautiful surface quality typical of a glass roof yet is approximately 40%\* lighter than its glass counterpart, improving vehicle fuel efficiency and thus contributing to the reduction of CO<sub>2</sub> emissions. Toyota Industries will continue to develop attractive new products that leverage the distinctive characteristics of plastic glazing.

\* Survey by Toyota Industries Corporation

### Enhancing Appeal of the Vitz and RAV4

Since March 2010, Toyota Industries is the sole producer of the Vitz in Japan. With a view to turning the Vitz into a long-selling series, Toyota Industries collaborates with TMC and its dealers to make various suggestions under the banner "Make Our Vitz More Attractive by Ourselves."

In the future, we will extend the scope of our activities to include the RAV4 and seek ways to make it more appealing and satisfying to customers worldwide. Under this initiative, we will plan, develop and produce special-edition vehicles that reflect the voices of our customers.

At the same time, we also undertake activities to expand our customer base by enhancing the appeal of the Vitz through our support to motorsports events.



Capturing the win for the third consecutive year in the Japanese Rally Champion sponsored by the Japan Automobile Federation

### Highest-Level QCD to Contribute to Production of Attractive Toyota Cars

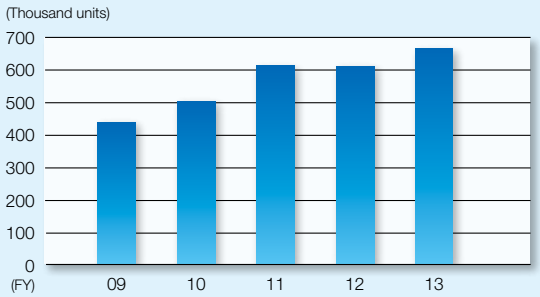
In recognition of Toyota Industries' comprehensive strengths in vehicle quality as well as delivery, cost and safety to be the highest among all Toyota-affiliated automobile body manufacturers, we received from TMC an award for excellence in 2012 under the Toyota Quality Control Award program. In the face of the shrinking automobile market in Japan, we are further strengthening our already superior level of quality, cost and delivery (QCD). We also are working to leverage our ability to quickly start up production and a flexible structure in terms of vehicle models and production volume to contribute to production in Japan of Toyota vehicles.

## Engine

### Business Overview in Fiscal 2013

Production volume in fiscal 2013 rose 56,000 units, or 9%, over the previous fiscal year to 666,000 units as a result of an increase in production primarily of KD diesel engines. Net sales increased ¥19.6 billion, or 10%, from the previous fiscal year to ¥216.7 billion.

#### ■ Engine Production



### Toyota Industries' Diesel Engines Highly Acclaimed by Customers Worldwide

Toyota Industries' diesel engines, fitted in a variety of Toyota vehicles sold around the world, have gained high market recognition for their cleaner emissions, greater fuel efficiency and higher performance. KD diesel engines, for which production started in 2005, are installed in TMC's Innovative International Multi-Purpose Vehicle (IMV) series, and their sales have been achieving steady growth mainly in Asia and Latin America. The V-type 8-cylinder VD diesel engine, which was developed primarily by Toyota Industries, is installed in the Land Cruiser selling particularly well in Australia, Russia and the Middle East.

In 2012, we developed an AD diesel engine with idle-stop capability. This new engine is fitted in the RAV4 marketed in Europe as well as the AURIS, contributing to an improvement in overall fuel efficiency.



AD diesel engine

## Developing Competitive Diesel and Gas/Gasoline Engines in Non-Automotive Fields

Toyota Industries' engines are highly renowned for their excellent environmental performance in non-automotive fields as well. These engines are used for a wide variety of applications, including GENE-HYBRID diesel-powered internal-combustion hybrid lift trucks, and adopted by GHP\*1 manufacturers in Japan and CHP\*2 manufacturers worldwide.

In 2012, we developed the Toyota 1KD, a new industrial diesel engine equipped with a turbocharger developed in-house. The new engine offers downsized displacement (43%\*3 lower than current models), higher fuel efficiency (23%\*3 lower rated fuel consumption compared with current models), cleaner emissions and a reduction in size.

We also developed the Toyota 1FS, a new gas/gasoline engine that, just like the Toyota 1KD, realizes the downsizing of displacement (18%\*3 lower than current models), higher fuel efficiency (12%\*3 lower rated fuel consumption compared with current models, using liquefied petroleum gas) and a reduction in size.

\*1: Short for gas heat pump; air conditioner driven by a gas engine

\*2: Short for combined heat and power; co-generation system

\*3: Survey by Toyota Industries Corporation



Toyota 1KD new industrial diesel engine

## Aiming to Bring Satisfaction to More Customers

Toyota Industries has been making efforts to achieve shorter development cycles with improved efficiency. At the same time, we have been carrying out development of next-generation automobile engines that can clear Euro 6 and other stringent emission standards, as well as engines for materials handling equipment and general purposes, featuring greater fuel economy and lower costs.

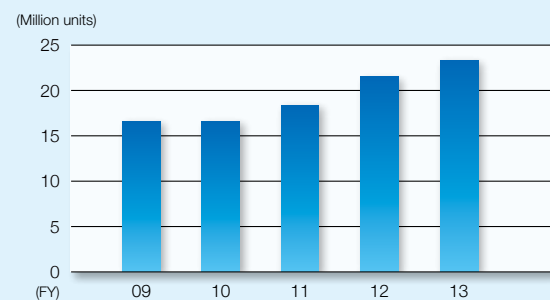
For our general-purpose engines, we will plan, develop and produce a lineup of products matched to customers' needs while actively promoting sales activities.

## Car Air-Conditioning Compressor

### Business Overview in Fiscal 2013

Unit sales of car air-conditioning compressors increased both in and outside Japan, pushing up overall unit sales by 1.87 million units, or 9%, to 23.42 million units. Net sales rose ¥21.6 billion, or 10%, over the previous fiscal year to ¥228.1 billion.

#### Compressor Sales



## Development Efforts Based on 3Es (Energy, Environmental Protection and Ecological Thinking)

More stringent fuel economy standards will be enforced in North America, Europe, Japan and China, requiring automobiles to provide extremely high fuel efficiency performance.

Against this backdrop, in the field of car air-conditioning compressors to be fitted in internal-combustion vehicles, the need for fuel-efficient models is increasingly growing for both fixed- and variable-displacement type compressors. In North America, in particular, a shift from a fixed-displacement type to a variable-displacement type is accelerating.

In response, we concentrated on development of a variable-displacement type compressor with considerably greater fuel economy. For products targeting emerging countries, we sought an optimum balance between product performance and prices.

In the field of variable-displacement type compressors, we developed the SES series, which has been adopted by



6SES14 compressor (variable-displacement type)

TMC in its latest Corolla, General Motors Company and Daimler AG. The new compressor achieves 10%\*1 higher fuel efficiency and a 10%\*1 reduction in weight, and we are actively promoting sales to automakers in Japan, the United States and Europe.

Our electric compressors for hybrid vehicles (HVs) and electric vehicles (EVs) are highly renowned for their strong product appeal. Since initially being installed in the second-generation Prius, these electric compressors have been fitted in all of TMC's HVs from the third-generation Prius to the LS600h. We are also promoting sales of our electric compressors to other automakers in and outside Japan, which are now actively engaged in the development of HVs, by offering smaller and more fuel efficient products.

In July 2012, we developed the ESA34 electric compressor\*2, which has been installed in HVs of Ford Motor Company and other automakers. The new compressor is 10%\*1 lighter and has 10%\*1 higher fuel efficiency than conventional models, and a change in its structure makes it easier to mount on vehicles. Appealing these excellent features, we will accelerate our efforts to expand sales to automakers in Japan, the United States and Europe.

\*1: Survey by Toyota Industries Corporation

\*2: See "Special Feature 2" on pages 21-24.



ESA34 compressor (electric type)

### Worldwide Bases of Car Air-Conditioning Compressors (As of March 31, 2013)



Legend: Consolidated production bases (Blue), Licensed manufacturers (Grey), Technical service stations (Green)

Toyota Industries' car air-conditioning compressors are widely adopted by automakers around the world, garnering the No. 1\*3 position in global sales.

\*3: Survey by Toyota Industries Corporation



## Car Electronics

### Business Overview in Fiscal 2013

Net sales of car electronics products grew steadily as a result of an increase in the number of models fitted with our products such as the Toyota Prius, Aqua and other HVs as well as the Prius Plug-in Hybrid.

### Gaining Experience and Greater Role in Electric-Powered Vehicle Field

Toyota Industries develops and produces electronic components and devices for electric-powered vehicles, including HVs, plug-in hybrid vehicles (PHVs) and EVs. In addition to expanding sales to TMC, we are pursuing business development with automakers in and outside Japan.

#### Auxiliary Power Source Devices

A DC-DC converter converts the high voltage of HV batteries to a lower voltage level suitable for operating lights, wipers, horns and other auxiliary devices. Since being adopted in the first-generation Prius, we have continuously developed more compact and lighter weight models, and cumulative production hit 5 million units in December 2012.



DC-DC converter fitted in the Aqua

A DC-AC inverter is equipped to use home electric appliances in a vehicle. Since commencing production in 1995, we have achieved cumulative production of 10 million units in March 2013.

We have developed an on-board charger based on our technologies and know-how regarding EV chargers developed in the 1990s. The resulting on-board charger is fitted in the Prius Plug-in Hybrid.

#### Core Components for Drive Systems

Toyota Industries applied its proprietary direct-cooling method to develop a device with significantly higher cooling performance. We have entered the field of core components for drive systems such as power control units (PCUs) for the third-generation Prius.

In addition to inverters for drive systems utilizing this direct-cooling method, we have developed a powertrain unit for EVs and other core components. For the powertrain unit for EVs, we integrated designs of functional components, such as an inverter, motor and reduction gears, into one package and successfully reduced the size and weight. By integrating hardware with an electronic control unit (ECU), including control software, we are working to increase the added value of the system as a whole.



Powertrain unit for EVs

#### Charging Infrastructure

Backed by our experience in developing chargers for the RAV4 EV originally released to the market in 1997, we have been making efforts to promote the development of the charging infrastructure jointly with Nitto Kogyo Corporation. In February 2013, our EVC1-IC charging stand became the first product certified under the Product Certification of AC Charging Equipment for EV and PHEV of the Japan Automobile Research Institute, Registration Body (JARI-RB). This certification assures that customers can use our charger safely and with peace of mind.



Charging stand

### Accelerating Development Activities to Realize Low-Carbon Society

Demand for environment-friendly products with high energy efficiency is expected to increasingly grow, with the trend toward electrification likely to expand not only for automobiles but also for such non-automotive products as materials handling equipment. Enhancement of the charging infrastructure will also take a greater role in promoting the spread of PHVs and EVs.

Targeting the high-growth, electric-powered vehicle market, we will accelerate development of technologies and products in the fields of auxiliary power source devices, core components and systems for drive systems and charging infrastructure, thereby making a significant contribution to the realization of a low-carbon society.

# Logistics

Toyota Industries offers customers highly advanced, efficient logistics services to respond to their diverse needs, including consigned operation of distribution centers; land transportation services; cash collection and delivery and cash proceeds management services; and data storage, management, collection and delivery services.

### Business Overview in Fiscal 2013

Although orders for logistics services declined due to selling our shares in the logistics service subsidiary Mail and e Business Logistics Service Co., Ltd. in May 2011, orders for land transportation services for automotive parts increased. As a result, net sales in fiscal 2013 remained on par with the previous fiscal year at ¥93.0 billion.

### Planning, Design and Operation of Distribution Centers

Toyota Industries operates distribution centers for various industries and customers. During fiscal 2013, operation of existing distribution centers generated a relatively steady logistics volume. We continued to promote improvement activities at logistics sites based on the thinking embodied in the Toyota Production System (TPS) to enhance the level of services to customers and strengthen our profit structure.

With an aim of optimizing the entire supply chain of each customer, we continued our proactive sales activities by making proposals that leverage the maximum use of the Toyota Industries Group's hardware and software capabilities. As a result, we successfully obtained four new orders for the consigned operation of distribution centers.

Looking ahead, we will continue to facilitate our proactive sales activities for both increasing orders from our existing customers and acquiring new customers in industries having high growth potential.

### Land Transportation Services

The Talkoh Transportation Group provides land transportation services under consignment from many automotive parts manufacturers. The group collects finished parts from manufacturers, compiles them by their destination and delivers to automakers "what is needed, when it is needed and in the quantity needed."

In fiscal 2013, although transportation volume in the



Talkoh Transportation Co., Ltd.'s land transportation services

automobile industry declined temporarily due in part to the discontinuation of the Japanese government's subsidy program for eco cars, an upturn in transportation volume occurred rather quickly, keeping pace with economic recovery in Japan.

Under these circumstances, we continued our profit improvement activities by promoting efficient cargo transport while aggressively undertaking activities to ensure safe and environment-conscious operations.

While doing so, we have been pushing ahead with the establishment of a flexible business structure adaptable to a shift in automobile production locations within Japan. As part of this effort, we opened the Tohoku Distribution Center in Miyagi Prefecture in October 2012.

We will continue to improve the level of logistics services to our existing customers and further reinforce our sales activities to capture new customers.



Talkoh Transportation's Tohoku Distribution Center



## High Value-Added Services Including Cash Collection and Delivery and Cash Proceeds Management and Data Storage, Management, Collection and Delivery

### Cash Collection and Delivery and Cash Proceeds Management

Asahi Security Co., Ltd. provides cash collection and delivery and cash proceeds management services throughout Japan on a 24/7 basis to about 2,550 customers mainly in the retail sector, service industries, post offices and financial institutions.

In addition to cash collection and delivery services tailored to each customer's specific needs, Asahi Security offers comprehensive services that include management of gift certificates and accounting operations at customers' retail outlets. Furthermore, the company provides security services integrating the monitoring by security devices and dispatch of security guards on a 24/7 basis.

In September 2012, Asahi Security opened a cash collection and delivery center in Miyakojima Island, Okinawa Prefecture. With 19 cash collection and delivery centers and 10 logistics sites throughout Japan, the company is reinforcing its nationwide service and support networks.

At each business base, Asahi Security conducts regular training on its own as well as emergency training jointly with local police departments in order to provide safe and trusted services to customers.

By providing these comprehensive services, Asahi Security aims to become a unique, distinctive company in the field of cash collection and delivery and cash proceeds management services.



Asahi Security Co., Ltd.'s cash collection and delivery and cash proceeds management services

### Data Storage, Management, Collection and Delivery

Wanbishi Archives Co., Ltd. provides support to about 4,000 companies and organizations, including large financial institutions and government agencies, to ensure the security and efficient use of their information assets. Under its robust security structure, Wanbishi Archives offers a comprehensive range of services covering the entire lifecycle of critical information assets, from storage and utilization to destruction. Wanbishi Archives also offers high value-added services in its outsourcing business, such as digitizing paper documents, by being closely involved in customers' business processes.

In the wake of the Great East Japan Earthquake that occurred in 2011, there has been a growing recognition of the need to implement appropriate business continuity management (BCM). Wanbishi Archives offers a range of solutions matched to customers' needs, from selecting documents that are essential in ensuring business continuity and promoting centralized management of information assets to building a structure to securely store and restore backup data.

In addition, Wanbishi Archives is offering cooperation for "Michinoku Shinrokuden," an archiving project led by the International Research Institute of Disaster Science of Tohoku University for compiling information on the 2011 Great East Japan Earthquake, and in October 2012 began to undertake long-term, remote storage of important earthquake records and important data accessible to future generations.

Outside Japan, Wanbishi Archives' subsidiary in China has relocated and upgraded its information management center for achieving greater safety and security. Capitalizing on its experience and know-how accumulated in Japan, Wanbishi Archives provides support to companies and organizations doing business in China to ensure the security and efficient use of their information assets. Through such efforts, Wanbishi Archives is actively pursuing business opportunities in growth markets.



Wanbishi Archives Co., Ltd.'s data storage, management, collection and delivery services

# Textile Machinery

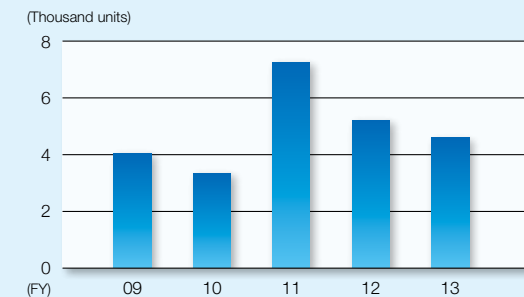
Based on the philosophy of founder Sakichi Toyoda, which reflects his strong commitment to manufacturing, Toyota Industries responds to a broad range of needs with its extensive product lineup, from air-jet looms, for which we enjoy the top global market share\*1 in unit sales, to spinning frames and roving frames.

\*1: Survey by Toyota Industries Corporation

## Business Overview in Fiscal 2013

In the textile machinery field, sluggish market conditions caused unit sales of air-jet looms to decline 600 units, or 11%, from the previous fiscal year to 4,600 units. Net sales, on the other hand, were up ¥1.4 billion, or 4%, over the previous fiscal year to ¥39.9 billion in conjunction with making Swiss-based Uster Technologies AG a Toyota Industries subsidiary in February 2012.

### Air-Jet Loom Sales



## Further Enhancing Product Appeal

In the field of weaving machinery, we remodeled our widely used JAT710 air-jet loom, which boasts the top global market share in unit sales and is highly recognized by customers for its outstanding performance and reliability. We plan to commence production of a new model, the JAT810, in August 2013. To meet the growing need for higher energy efficiency, the JAT810 is equipped with our newly developed weft yarn inserting system that reduces the amount of air required to carry the weft yarn by 20%\*2 compared with the conventional model, offering unparalleled energy-saving performance. Its productivity has also been improved with the introduction of a higher-speed electronic shedding device that

enables the weaving of fabrics with complex patterns.

In the field of spinning machinery, Toyota Industries and Truetzschler GmbH & Co. KG, a German manufacturer of spinning machinery founded in 1888, co-developed the TCO 12 comber\*3. Combining Toyota Industries' weaving machinery technology and know-how accumulated over the years and Truetzschler's spinning machinery technology and expertise which have earned high acclaim among customers worldwide, the new comber provides improved yarn quality as well as excellent stability during high-speed operation. We are confident that this product will bring greater satisfaction to our customers.

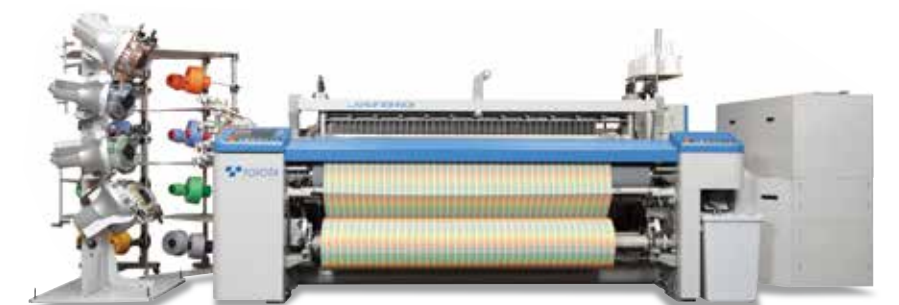
We will also accelerate our R&D activities to create innovative weaving and spinning machinery by leveraging Uster's world-class sensor technology and information processing technology.

\*2: Survey by Toyota Industries Corporation

\*3: A machine used in the spinning process, which uses a comb-like device to remove short fibers and impurities to improve quality of the resulting yarn



TCO 12 comber



JAT810 air-jet loom equipped with the optionally available electronic shedding device



## Participation in ITMA ASIA + CITME 2012 and INDIA ITME 2012

In 2012, Toyota Industries participated in textile machinery trade shows held in China and India, two of the world's largest textile markets.

In June, ITMA ASIA + CITME 2012 was held in Shanghai, China, with 1,283 companies participating from 28 countries and the attendance of more than 92,000 visitors. At this exhibition, we displayed and demonstrated our new JAT810 air-jet loom, the TCO 12 comber jointly developed with Truetzschler and the RX300 high-speed ring spinning frame capable of producing value-added special yarns.

At INDIA ITME 2012 held in Mumbai in December, 773 companies from 27 countries participated and approximately 80,000 visitors attended. We ran a joint

booth with Kirloskar Toyota Textile Machinery Pvt. Ltd. (KTTM), a consolidated subsidiary in India, and demonstrated actual operations of Toyota Industries' new JAT810 air-jet loom and KTTM's RXI240 ring spinning frame and FL200 high-speed roving frame.

At both events, we received favorable feedback from many customers mainly from China and India.

We will continue to appeal our excellent technological capabilities and environmental performance in our efforts to earn a higher level of customer trust. We also aim to meet customer expectations by developing textile machinery that produces even higher value-added textile products through the pursuit of advanced technologies and continuous creativity and ingenuity as well as by providing meticulous after-sales services via an enhanced service structure.



ITMA ASIA + CITME 2012



ITMA ASIA + CITME 2012



INDIA ITME 2012



INDIA ITME 2012