

Top Message

Capturing Changes in the Business Environment and Vigorously Promoting Initiatives for Sustainable Growth

Toyota Industries was founded in 1926 to manufacture and sell the Type G automatic loom invented by founder Sakichi Toyoda. Considered as the origin of the Toyota Group, we have evolved and attained growth through positive competition with other Toyota Group companies. In this section, President Akira Onishi presents Toyota Industries' characteristics and strengths that have resulted from such evolution and growth as well as a scenario we created for future growth.



Akira Onishi President

Our Characteristics and Strengths

Management Based on Diverse Business Portfolio and Readiness to Adapt to Change

In addition to our founding business of textile machinery, we engage in diverse businesses ranging from materials handling equipment to car air-conditioning compressors, vehicles and engines. Automobile-related businesses and non-automobile businesses centered on materials handling equipment are the two major pillars of our business, and this reflects one of our characteristics of not relying exclusively on one specific business domain.

We boast the world's No. 1 market share*1 for lift trucks, car air-conditioning compressors and air-jet looms. Having a top share product in each business segment is a strength of Toyota Industries.


Meanwhile, we have been reinforcing our business related to internal-combustion vehicles. We expect them to remain mainstream for some time in the future primarily in the growing emerging country markets. We also recognize the trend toward vehicle electrification as a driver for our growth and have been steadily preparing ourselves for possible future changes in the market.

These efforts have led to the dispersion of management risk and contributed to our stable business performance. We also believe that we can reinforce business in each segment by promoting horizontal alignment among business divisions in such areas as development and production and by sharing the strengths of each.


That we are able to collaborate with Toyota Group companies for many years and encourage positive competition in safety, the environment, quality, cost and delivery (SEQCD) provides us with a tremendous advantage.

Also, we hold a number of stocks in Toyota Motor Corporation (TMC)

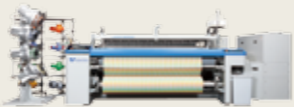
Toyota Industries' Global Top Share*1 Products



Lift truck



Car air-conditioning compressor



Air-jet loom

and other Toyota Group companies. Such a capital connection is one means to ensure even closer collaboration among Group companies. This is essential in prevailing over ever-intensifying competition caused by the accelerated trend toward electrification and increasing use of Internet of Things (IoT) technology in the automobile industry. Financial stability facilitates investments for future growth.

*1: Survey by Toyota Industries Corporation

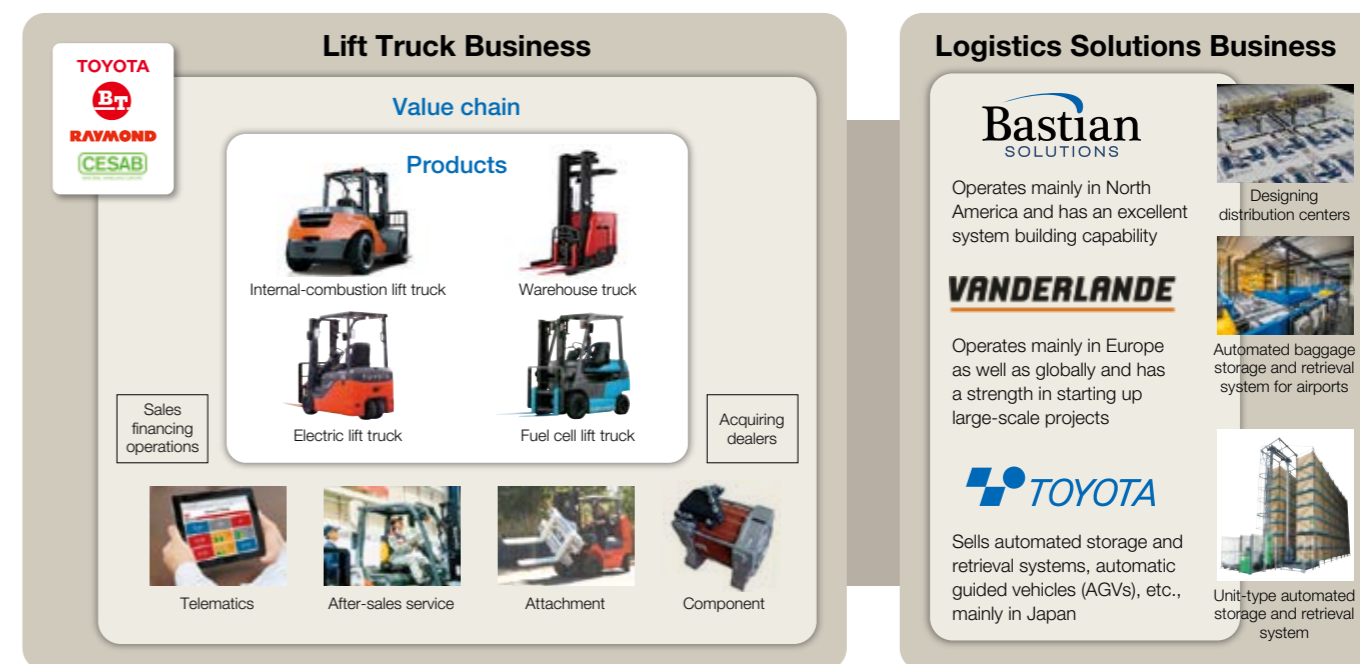
Business Development Scenario for Future Growth

Here, I would like to highlight our efforts to attain sustainable growth in the two fields that represent our core businesses, specifically materials handling equipment and car air-conditioning compressors.

1) Materials Handling Equipment

The Materials Handling Equipment Segment mainly consists of the Lift Truck Business, in which we already enjoy the global top share*2, and the Logistics Solutions Business, which we have been augmenting in recent years. In the Lift Truck Business, we seek to expand our value chain that encompasses after-sales services, the supply of spare parts and sales financing operations, in addition to developing new internal-combustion and electric-powered lift trucks.

*2: Survey by Toyota Industries Corporation



In the Logistics Solutions Business, we are responding to the growing need to handle a large number of small-lot parcels in warehouses following the recent expansion of the e-commerce market. Through collaboration with U.S.-based Bastian Solutions LLC and Netherlands-based Vanderlande Industries Holding B.V., which became our subsidiaries in fiscal 2018, Toyota Industries is augmenting business globally while

mutually leveraging the strengths of each.

We believe that we have established a structure necessary to attain future growth in each of these businesses. We are now at the stage to yield positive results by harnessing the strengths of this structure.

Within the Materials Handling Equipment Segment, sales of materials handling equipment, mainly lift trucks, account for about 40% of total sales, while value chain-related sales, including those from lift truck after-sales services, the supply of spare parts and sales financing operations account for about 40%. The last 20% is derived from logistics solutions sales. Since this segment does not rely solely on sales of materials handling equipment, our business performance is relatively immune to short-term changes in the lift truck market.

Next, I would like to provide an overview of our future growth scenario for each of the three sales categories in the Materials Handling Equipment Segment.

■ Lift Truck Market

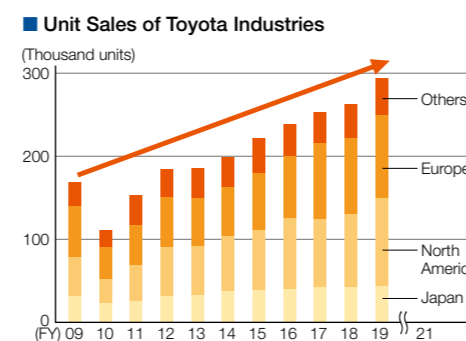
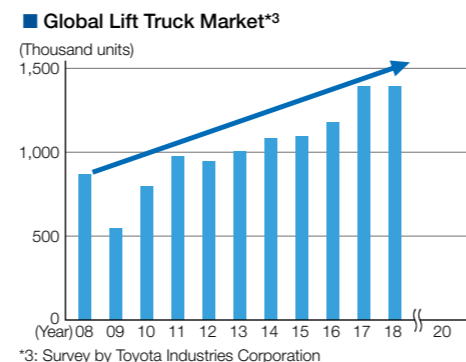
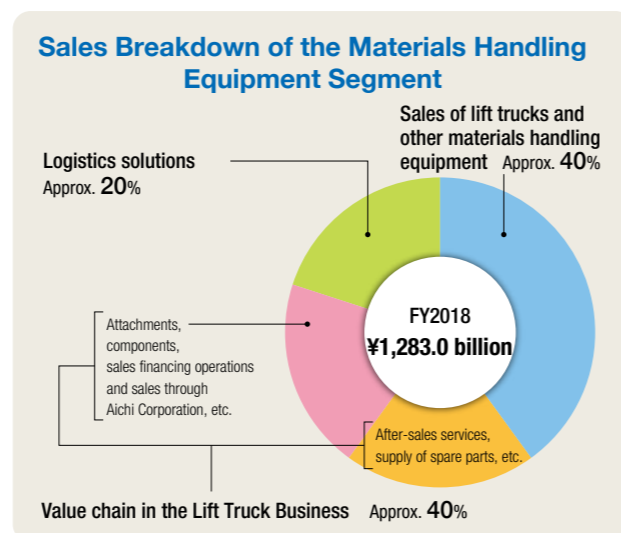
We expect continued, moderate growth in the lift truck market underpinned by steady growth in the world economy and an expected increase in global logistics volume spurred mainly by new demand in the expanding e-commerce market. Against this backdrop, we plan to increase sales by developing a broad range of high-quality products that satisfy diverse customer needs, undertaking sales activities based on our well-developed distribution networks and promoting solution-based sales with a focus on resolving customers' logistics issues.

■ Value Chain-Related

As for value chain-related initiatives, our efforts are divided into three fields: services, sales financing operations and components. In the services field, in order to continue generating profits we will utilize our networks, which we have strengthened by acquiring dealers along with other measures, and provide services during the entire product lifecycle through maintenance services and the supply of spare parts. At the same time, we will augment proposals for logistics improvement by using telematics to ensure efficient fleet operations, reduce accidents, encourage fuel-efficient practices and promote automation. In the field of sales financing operations, we already have in place a system to undertake these operations in-house in the United States and Europe. In the future, we will extend our global reach to capture customers' needs for equipment leasing and rentals. In terms of components, we will enhance the product appeal of our engines, motors and controllers, which are manufactured in-house, with the aim of further differentiating the performance of both of our internal-combustion lift trucks and electric lift trucks. Overall, we will continue to make the most of our now reinforced value chain.

■ Logistics Solutions

In the category of logistics solutions, we have been promoting regional and functional collaboration among Bastian, Vanderlande and Toyota Industries based on the strengths of each. Vanderlande, positioned at the



Baggage handling system utilizing autonomous vehicle technology for airports

core of such collaboration, has constantly been attaining steady growth in business performance. In its warehouse-related business, it received an order from a Dutch fresh food supplier for a solution that combines a shuttle system and case picking system to enable highly efficient warehouse logistics. In the area of baggage handling systems for airports, in which Vanderlande boasts the global top share*4, Rotterdam The Hague Airport will introduce a system utilizing the company's autonomous vehicle technology for the first time in the world. It is an innovative baggage conveying system that not only enables efficient baggage handling but also flexibly accommodates layout changes and system expansions.

In Japan, we established a new customer center in June 2018 in Suita City, Osaka. The center is capable of making proposals on various combinations of materials handling equipment and solutions to resolve different logistics issues of customers. Utilizing the center as our third logistics showroom following the ones in Chiba and Aichi prefectures, we will enhance our customer response mainly in western Japan.

Through these initiatives, we will facilitate collaboration between the Lift Truck Business and Logistics Solutions Business in the Materials Handling Equipment Segment with an aim to achieve growth over the medium term.

*4: Survey by Toyota Industries Corporation

2) Car Air-Conditioning Compressor

An expansion of the global automobile market and an increase in the number of cars equipped with air conditioners are expected to contribute to the sustainable growth of the car air-conditioning compressor market. Among various types of compressors, compressors for internal-combustion vehicles will maintain a high level of demand, while the electric compressor market is expected to expand over the medium to long term.

In response to the recent, accelerated trend toward electrification, the compressor industry is increasingly concentrating resources on the electric type. Toyota Industries, on the other hand, makes sure to channel its unique, accumulated resources into both compressors for internal-combustion vehicles, which are expected to remain mainstream for the time being, and also electric compressors, for which demand is anticipated to grow in the future. We will utilize our extensive resources encompassing human resources, technologies and know-how and work steadily to differentiate ourselves in both fields.

To achieve even greater competitiveness, we have been undertaking the following initiatives in terms of development and production. As for development, we conduct a range of rigorous evaluation tests for compressors in realistic vehicle environments to satisfy stringent vehicle conformance requirements of automakers. Through these tests, we offer a high level of performance, including excellent fuel efficiency.

With automakers repeating a process of trial and error for the promotion of vehicle electrification, it is increasingly important for us, as a component manufacturer, to respond to their varying requests.

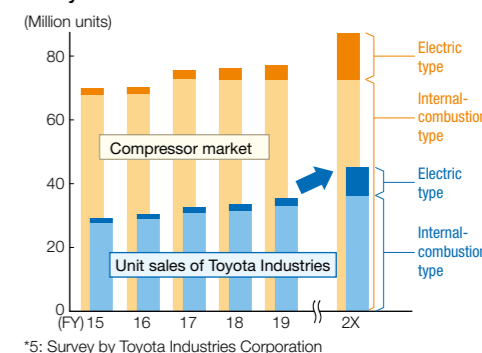


Vehicle conformance test based on our know-how of conducting both simulations and experimental evaluations

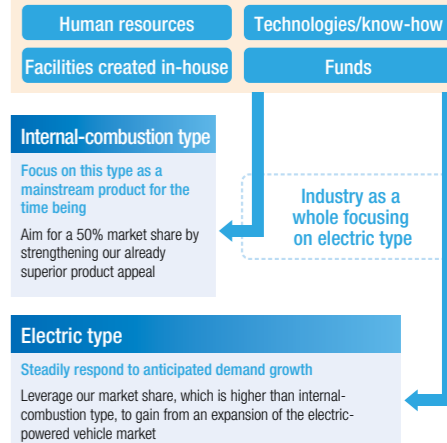


Toyota L&F Customer Center Osaka

■ Global Compressor Market*5 and Unit Sales of Toyota Industries



Channeling Our Unique, Accumulated Resources into Both Types








As the holder of the top market share, we will seek even closer collaboration with automakers worldwide to create a firm platform for the development of electric compressors.

In terms of production, more and more stringent fuel efficiency standards adopted every year have necessitated an increasingly complex compressor structure. As

such, manufacturing capabilities that ensure stable mass production of high-quality products at any production base have become more important than ever. In producing compressors for internal-combustion vehicles and electric compressors, machining technology plays a vital role. As such, we develop specialized facilities and cutting tools in-house to ensure high-precision and high-speed machining. This is the foundation of our compressors' high levels of performance and reliability.

We also use IoT technology to link our mother plants in Japan with production bases outside Japan and carry out detailed data management in each work process as an effort to further ensure stable quality on a global basis.

Characteristics and Strengths by Compressor Type

	Internal-combustion vehicles		Electric-powered vehicles (HV, PHV, EV & FCV)*6
	Fixed-displacement type 	Variable-displacement type 	Electric type 
	Driven by the power of the engine		Driven by an internal motor
Characteristics	Standard type with a consistent cooling capability	Save fuel by automatically adjusting the cooling capability	Keep air conditioning at a comfortable level at all times , including start-stop operation of HVs and PHVs
Strengths & sales expansion policy	Add greater price competitiveness to the existing strength of high reliability and supply products mainly to emerging countries	Expand sales mainly in developed countries by taking advantage of the excellent fuel efficiency and globally stable productivity	Utilize machinery and electronics technologies and consistent manufacturing capabilities to capture opportunities in the expanding electric-powered vehicle market

*6: HV: Hybrid vehicle; PHV: Plug-in hybrid vehicle; EV: Electric vehicle; FCV: Fuel cell vehicle

Toyota Industries will continue to seek more compact and lighter compressors with higher fuel efficiency. We will also strive to attain a more superior performance in terms of quieter operation and lower vibration, which will become more important in vehicle electrification.

While making these efforts to pursue greater product appeal in the existing domains, we will also concentrate on developing new business areas.

For example, we expect that the number of heat-emitting components used within a vehicle, such as electronic devices and batteries, will increase as vehicle electrification progresses and automated driving becomes more widespread. In order for these components to function at peak capacity, it is critical to keep the heat down. To respond to this need, we plan to conduct development with a focus on utilizing the cooling function of a compressor not only for vehicle interior air conditioning but also for key components.

Besides this cooling functionality, we have applied compression technology used in compressors to develop an oxygen-supplying air compressor, which is the "heart" of a fuel cell vehicle (FCV), and hydrogen circulation pump. These components have been adopted in TMC's MIRAI FCV. We intend to further increase the appeal of our products and contribute to the realization of a hydrogen-based society.

3) Textile Machinery

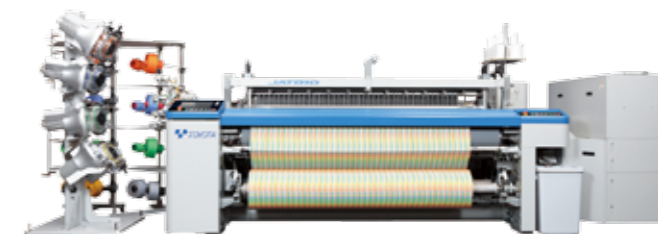
Textile machinery is our original business. I would like to present a case in China, one of our important markets, where orders for our mainstay air-jet looms are increasing following the enforcement of more stringent environmental regulations in the country.

The Wujiang District in the city of Suzhou, Jiangsu Province, is the largest production center of synthetic fiber textiles in China. There, more stringent environmental regulations were adopted in 2017, mandating factories operating water-jet looms that use water to insert weft yarn to weave fabrics to conduct appropriate wastewater treatment. This has prompted replacement demand for air-jet looms, which do not use water, and provided us with an opportunity to increase orders by promoting sales of our air-jet looms, renowned for their excellent energy saving performance, in the Chinese market.

As seen from this example, we believe there may be additional opportunities to expand sales in the Chinese market of our materials handling equipment and car air-conditioning compressors, both boasting high environmental performance, depending on how China tightens its regulations in the future.

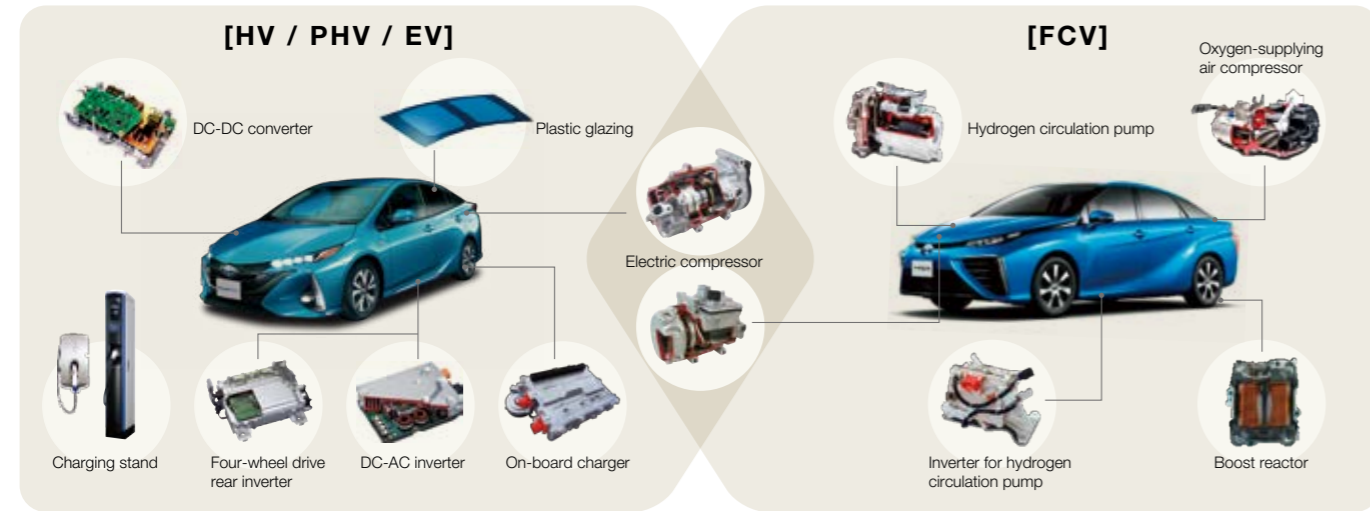
Accurately Responding to Changing Customer Needs

In recent years, technological trends, customer needs and other market circumstances have changed dramatically around the world. The automobile industry, in particular, is said to have entered a period of drastic change that occurs only once in 100 years. The need to reduce CO₂ emissions has accelerated the electrification of vehicles, and various types of electric-powered vehicles ranging from hybrid vehicles (HV) to



JAT810 air-jet loom

Toyota Industries' Products Fitted in Electric-Powered Vehicles



Contributing to Vehicle Electrification with a Broad Range of Elemental Technologies from Power Source Devices to Lighter Weight Components

FCVs are likely to gain popularity depending on regional characteristics and customers' preferred vehicle usage.

Utilizing a variety of technologies such as power source technologies we have accumulated for more than 30 years, the Compressor Division and the Electronics Division collaborate to develop and manufacture devices for use in electric-powered vehicles.

Among such devices, a DC-AC inverter equipped to use home electric appliances in a vehicle has drawn much public attention as an emergency power source following the Great East Japan Earthquake, during which it was used to feed power to evacuation shelters. In Japan, it is fitted in official cars of local governments and increasingly used as a self-sustained disaster prevention measure in apartments. We intend to propose other possible uses of this product.

Electric-powered vehicles themselves must extend their driving range in order to gain popularity. In addition to improving batteries and other devices, this requires reducing vehicle body weight.

Toyota Industries has developed plastic glazing that is about 40% lighter than its glass counterpart. This product has already been used in the panoramic roof and rear window of various vehicles, including TMC's Prius α.

In addition, our plastic glazing is easy to process, thus providing diverse vehicle design options.

The need for electrification is also growing not just in the automobile field but also in the construction machinery field.

In response, Toyota Industries has developed a new hybrid unit for construction machinery by utilizing a pool of engine and power electronics technologies accumulated in the fields of materials handling equipment and automobiles.

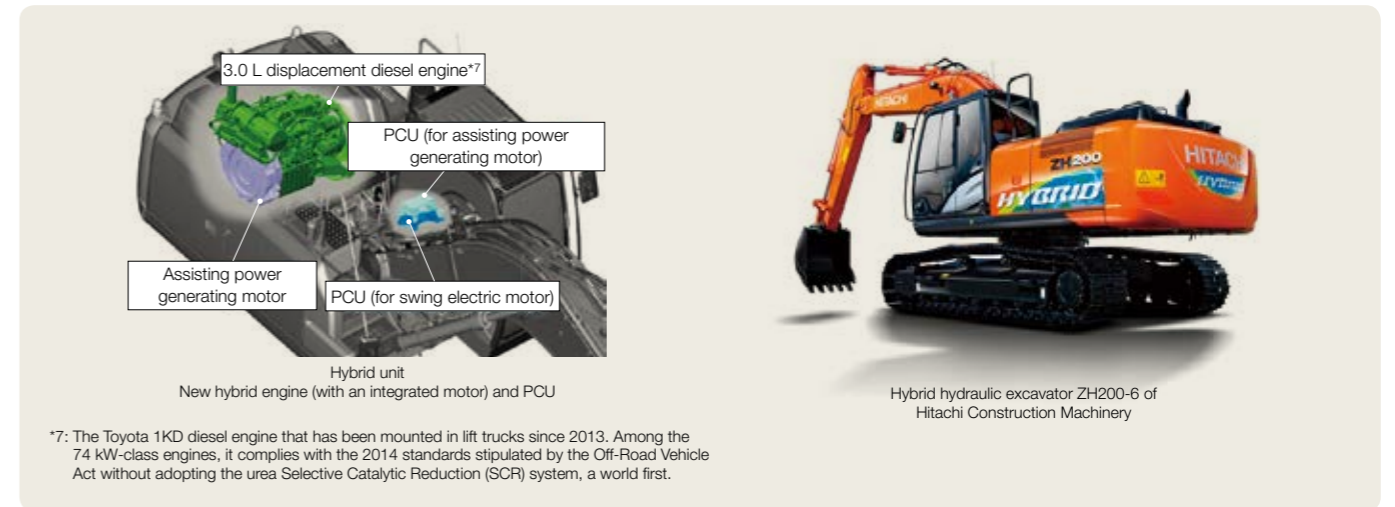
The unit has been mounted in a hybrid hydraulic excavator of



Using a DC-AC inverter as an emergency power source in a disaster-awareness camp



Toyota Prius α



*7: The Toyota 1KD diesel engine that has been mounted in lift trucks since 2013. Among the 74 kW-class engines, it complies with the 2014 standards stipulated by the Off-Road Vehicle Act without adopting the urea Selective Catalytic Reduction (SCR) system, a world first.

Hitachi Construction Machinery Co., Ltd.

In this way, we respond to ever-changing customer needs in a timely and accurate manner. By doing so, we intend to contribute to society and achieve sustainable corporate growth.

Future Direction of Business Operations

In order to achieve further growth with a focus on our core businesses of materials handling equipment and car air-conditioning compressors, we will meet changing customer needs and enhance our competitive edge by providing logistics solutions and responding to vehicle electrification.

Moreover, to extend our reach from the existing business domains for achieving sustainable corporate growth, we will also channel our resources and take on challenges in new business areas.

Because the world keeps changing faster and faster, we have taken the necessary action to respond to these rapid changes. Inspired by our corporate creed, we will step up our efforts to conduct forward-looking activities based on our areas of specialization.

For a few years from fiscal 2019, we anticipate somewhat difficult times as we prepare for future growth. The involved costs could be large and may have a negative impact on our business performance. We intend to overcome these difficult times and continue our growth by taking advantage of operating diverse businesses, with each business segment making concerted efforts.

The entire Toyota Industries Group will work as a team toward this goal, while always going back to our vision to "support industries and social foundations around the world by continuously supplying products/services that anticipate customers' needs in order to contribute to an enriched lifestyle and comfortable society."

