

Augmenting the Logistics Solutions Business in Response to Changing Customer Needs

In recent years, the environment surrounding logistics operations has been undergoing a drastic change. Economic growth in emerging countries and increasing e-commerce transactions worldwide have led to an expansion of global logistics volume. At the same time, new issues, including labor shortages in Japan caused by its declining birthrate, aging society and dwindling population and soaring labor costs in emerging countries, have also become prevalent. These circumstances have resulted in rapidly growing needs for operational automation and higher logistics efficiencies. This Special Feature highlights how our Logistics Solutions Business has been responding to such changing logistics needs and describes the future direction of our efforts.



To date, Toyota Industries has concentrated on providing more efficient logistics solutions to customers in Japan, the United States and Europe. In the latter two regions, our fleet management systems to centrally manage a fleet of lift trucks and increase the efficiency of their operations have been on the market for quite some time. In Japan, we have been providing total solutions, including automated storage and retrieval systems, automatic guided vehicles (AGV), warehouse management systems (WMS) and other logistics systems and equipment, with a focus on resolving logistics issues from the customer's perspective.



Telematics (fleet management system)

Toyota Industries' Global Business Centered on Lift Trucks

In the Materials Handling Equipment Business centered around lift trucks, Toyota Industries has been leading the industry based on its strengths derived from global production, sales and service networks and from its extensive product lineup and customizing capability to meet customer needs in every usage condition and business category.

In addition to merely providing products, we operate an enhanced, total support structure encompassing after-sales services to ensure that customers always use our products in optimum condition. Through this structure, we help customers in different industries to achieve greater efficiencies in their diverse logistics operations. (See page 31 for details of our global Materials Handling Equipment Business.)

Responding to Changing Logistics Operations

Toyota Industries has made efforts to quickly and accurately respond to customers' logistics needs that have changed with the times.

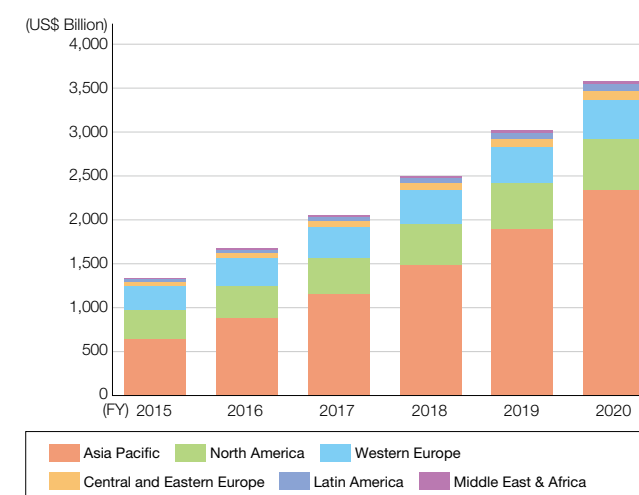
For example, in the field of lift trucks, we have responded to the ever increasing need for electric lift trucks by expanding our lineup from conventional lift trucks that use lead-based batteries to include models equipped with lithium-ion batteries and fuel cells, so that we can propose optimal products to each and every customer.

Additionally, we have started offering our own sales financing services to provide more purchasing options for customers depending on their financing needs. We have also taken on the lift truck business of Tailift Co., Ltd., a Taiwanese manufacturer of lift trucks having strengths in low- to middle-priced models, as an effort to respond to a broader range of customer needs.

A rapid expansion of e-commerce transactions in recent years has prompted an increase in the number and size of warehouses, and we expect this trend to continue for the foreseeable future. The increasing popularity of e-commerce has also pushed up the number of small-lot deliveries to individual consumers, necessitating quicker, more frequent and accurate operations from receiving orders to sorting and delivery.

E-commerce operators and transportation companies now need to process a large number of parcels in a short time, and we have been fielding many requests for our proposals for establishing more efficient logistics operations.

Growth of the E-Commerce Market



Source: Created by Toyota Industries based on "Study Report on a Structural Analysis of the ICT Industry in the IoT Era and Verification of ICT's Multifaceted Contributions to Economic Growth," Japan's Ministry of Internal Affairs and Communication (2016)

As mentioned earlier, more distribution centers have been built to deal with a rapid expansion of e-commerce transactions. At these centers, logistics solutions that combine software and equipment, such as lift trucks for which we enjoy the world's top share*1, automated storage and retrieval systems, conveyors and sorters, play an important role. To respond to a drastic change in logistics needs, we recognized that we must augment our Logistics Solutions Business globally and improve our responsiveness to satisfy these evolving needs. Based on this recognition, we welcomed two logistics systems companies into the Toyota Industries Group, namely, U.S.-based Bastian Solutions LLC in April 2017 and Netherlands-based Vanderlande Industries Holding B.V. in May 2017.

*1: Survey by Toyota Industries Corporation



Automated logistics equipment: automated storage and retrieval system and conveyor



Collaboration of the Three Companies to Expand Business Globally

Strengthening the Logistics Solutions Business Globally

Our Logistics Solutions Business is centered around logistics systems and equipment, and ramping up our efforts to reinforce this business had been an urgent task. Bastian and Vanderlande each have unique strengths in this area.

Bastian Solutions LLC

Headquarters: Indiana, U.S.A.
Main business: Logistics systems integrator*2
Net sales: Approx. ¥30.0 billion (fiscal 2018)

*2: A form of business that specializes in logistics systems integration, incorporating equipment mainly procured from outside sources

Since its establishment in 1952, Bastian has expanded its logistics solutions business primarily in the United States.

Bastian is a turnkey contractor and major logistics systems integrator that offers a total solution package from the selection of optimum hardware and software to system development in order to meticulously satisfy individual needs of customers in different industries and sizes. Its thorough post-installation support services, including the remote monitoring of operational status, also help customers set up efficient logistics operations.

Capitalizing on these strengths, Bastian provides solutions to customers



Robotic batch order picking



Management system

in various industries, ranging from major retailers and transportation companies to e-commerce operators and manufacturers of pharmaceuticals, automotive parts and other products.

Vanderlande Industries Holding B.V.

Headquarters: North Brabant, Netherlands
Main business: Logistics solutions provider*3
Net sales: Approx. ¥150.0 billion (fiscal 2018)

*3: A form of business to manufacture major equipment and software in-house and provide a total logistics system

Vanderlande, which operates in Europe as well as globally, is a leading logistics solutions provider in the world. The company offers systems to distribution centers and warehouses of e-commerce operators, retailers and parcel/postal services as well as baggage handling in airports.

Vanderlande internally develops a broad lineup of logistics equipment and related software, including automated storage and retrieval systems, sorting systems and conveyors, and offers systems tailored to customer needs. It has a noted strength in starting up large-scale projects and has built a strong customer base by providing enhanced after-sales services through its global network and earning trust from leading companies in various industries. Additionally, Vanderlande's baggage handling systems have been installed in a number of large hub airports across the world.



Shuttle-type automated storage and retrieval system



Baggage handling system in airports

Facilitating Mutual Understanding to Generate Synergies

As a new structure to promote the Logistics Solutions Business across the entire Toyota Industries Group through collaboration among Bastian, Vanderlande and Toyota Industries, we created the Toyota Advanced Logistics Group (TALG) in June 2017. Jointly with the Toyota Material Handling Group (TMHG), a global structure in our Materials Handling Equipment Business that mostly deals with lift trucks, we held a Global Alliance Meeting and started discussing ways to generate synergies through the collaboration of the Lift Truck Business and Logistics Solutions Business.

Based on our past M&A experience, we believe that it is crucial to understand the strengths and status of the three companies and build a trust-based relationship first, as opposed to rushing to integrate business, since each company has a different history and corporate culture. According to this policy, we had a discussion in June 2017



First Global Alliance Meeting held in June 2017 in the Netherlands

on specific action items and the organizational structure of TALG to promote collaboration, and established regional and functional Working Streams. Through these Working Streams, we are undertaking efforts toward the generation of synergies across various areas of operations from sales, joint procurement and collaborative development to mutual product supply, sharing of production know-how and improved customer service through the mutual utilization of service networks.

Providing New Logistics Value

Bastian, Vanderlande and Toyota Industries are in a complementary relationship both in terms of business domains and geographic areas of operations. As such, we believe that the collaboration among the three will enable us to provide solutions even more suited to customer needs.

The joining of the three companies has also drawn a great deal of attention from customers, and we have already begun to receive inquiries for new business opportunities that would have been difficult to capture for each company alone. Examples include an inquiry for introducing Vanderlande's system in Japan and a business negotiation undertaken jointly by Bastian and Vanderlande in North America. The three companies are working together to link these new opportunities as a means of providing greater value to customers.

Going forward, we will formulate a TALG Vision & Strategy for achieving growth over the medium to long term. With the three companies making concerted efforts, the Toyota Industries Group will reinforce its Logistics Solutions Business on a global scale and provide new value to customers.

Message from the Director in Charge

In recent years, I have felt a considerable change in customer needs driven by the growing e-commerce market and labor shortages. For example, there has been an increasing need for totally managing the entire logistics operations within a plant and an accelerated move among distribution companies toward automation. Thus, I believe that reinforcement of the Logistics Solutions Business on a global scale represents both a task and a great growth opportunity for Toyota Industries.

Currently, Toyota Industries is not the industry leader in the logistics solutions field. However, we are confident that we are able to grow into a significant player by leveraging our accumulated logistics improvement know-how while mutually sharing the individual strengths of our partners, Bastian and Vanderlande, and maximizing synergies.

In achieving growth, we must facilitate a mutual understanding among the three companies and patiently work to align the future courses of action. By doing so, we intend to attain the global top position not only in the Lift Truck Business but also in the Logistics Solutions Business.



Yojiro Mizuno
Senior Managing Director