

JAPAN

Green-focused Japanese SMEs respond to global market changes

Japanese SME manufacturers in the materials industry are seeking international growth like never before, drawing on their capacity for innovation to respond to new market challenges such as the growing demand for greener products.



"In our industry, we are facing new challenges and new difficulties every year. At our company, finding the answer to these challenges motivates us more than money"

Yorioki Nara, President, NARA Machinery Co. Ltd.

Profound market changes are presenting both challenges and opportunities for Japanese companies, particularly the small and medium-sized manufacturers that form the backbone of the nation's economy.

Japan's shrinking domestic market, the result of its aging population, has prompted a large number of Japanese SMEs to expand their presence abroad and pursue international growth strategies. Leveraging

on their capacity for innovation and the Japanese reputation for high-quality manufacturing (largely seen as superior to the regional competitors that have emerged in recent decades), these companies are primed to reap the potential of new emerging markets like fast-growing South East Asia, while some are going farther afield into the more developed markets of Europe and the U.S.

Another major challenge for Japanese manufacturers are the market changes brought about by environmental concerns, particularly for those in the materials industry, such as plastics and textiles manufacturers. While they are set to benefit from growing worldwide demand for their products, these companies must also draw upon their capacity for innovation and the adoption of the latest materials science technologies to respond to changing consumer preferences and environmental challenges.

Plastics industry: Japack's

Indeed, one of the industries most affected by these challenges is the plastic packaging industry. With growing consumer awareness of the environmental impact of these products,

plastics sustainability has become a critical issue for plastic packaging manufacturers like Japack's, which makes polyethylene-based garbage bags, films and shopping bags for food & beverages, restaurants, supermarkets, convenient stores, drug stores, schools, hotels and hospitals.

Since its establishment in 1998, Japack's has built up a long list of partners and overseas suppliers that have been key to its success; and with whom it has always worked closely to meet the stringent demands of the Japanese market. Today it is working with those same partners to develop sustainable polyethylene garbage bags in response to changing Japanese consumer preferences and environmental regulations.

"As a company which holds top shares in the plastic bags market, we need to respond to environmental concerns such as global warming by providing environment-friendly solutions. To reduce greenhouse gases such as CO₂, we have been using recycled materials ever since the start of our company," says Toshio Oki, President & CEO of Japack's Inc.

"With regards to our garbage bags, we use biomass polyethylene derived from sugarcane, which does

not affect world food shortages. We are partnering with overseas companies to produce more sustainable polyethylene by creating a better supply structure. We take a lot of pride by helping our partners improve their level to the standard of the Japanese market, in regards to respect for the environment.

"Aside from our effort to make garbage bags from biomass polyethylene, we are also looking to reduce the global volume of polyethylene that is used in the process of manufacturing the bag by making them thinner, lighter and smaller. We aim to utilize more recycled materials and reuse waste products through the production processes in our plant."

In terms of its international growth strategy, Japack's plans to build more alliances, mergers or acquisitions, particularly in South-East Asia, in a bid to further penetrate the domestic market and develop greener new products, and in turn, expand its sales network to countries where it has strong partnerships.

"With the problem of the shrinking population in Japan, it is a fact that we need to find ways to grow internationally, and we aim to do

For a more sustainable society

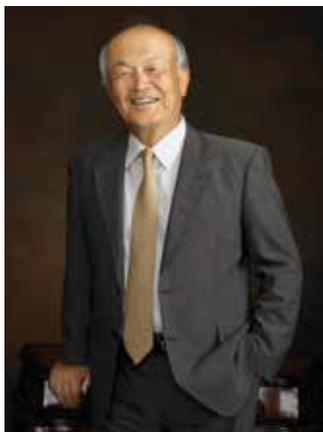
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Toshio Oki, President & CEO,
Japack's Inc.

that by reinforcing our supply chains with partners in different countries through mergers and acquisitions for example. Especially, we are starting to build a relationship in the market in Singapore," says Mr. Oki.

"In terms of M&A, we are looking to focus on the companies that work in the same industry such as traders, manufacturers or suppliers. The objectives are to help our overseas partners make capital investments into the factories to establish a better machinery system in order to build more product categories and a more efficient logistic system. Amongst the countries we would like to expand to are Myanmar, Cambodia, Laos and especially India."

Textiles industry: Omikenshi

Another industry that has been highlighted for its impact on the environment, and also depends on the use of petroleum-based plastics, is the textiles industry. For decades, petroleum-based synthetic fibers – such as polyester, nylon and acrylic – have been used in the production of textiles as they are cheaper and easier to pro-

cess. But environmental concerns and consumer awareness have prompted calls for a return to more naturally-based textile products.

"Before oil started being extracted and used in our industries, textile makers were making use of their immediate environment, such as trees and plants, and made natural fibers like cottons. Natural production still has a lot to offer and needs to be prioritized over more polluting solutions," states Yoshihide Isihara, President of Omikenshi Co. Ltd., which manufactures rayon cotton, woven fabric and knitted fabric, as well as food and cosmetic products.

In response to the market changes due to environmental concerns, Omikenshi has developed rayon cotton as an Ecology Clean Fiber, which is made out of cellulose and has little impact on the environment since it naturally dissolves in the ground, unlike petroleum-based plastics that remain for many years. In addition, when burning, the cellulose releases very small amounts of CO2 and has natural recycling properties.

Omikenshi has a strong position in the domestic market and is only one of two manufacturers of rayon cotton in Japan. In a bid to grow its modest global market share, the company aims to respond to new customer demands by diversifying into niche and organic products.

"One promising option for the future is the use of nano-cellulose, which is being deeply researched by Japanese and Canadian laboratories, and has very interesting strength and ecological properties. This introduction could help reverse the trend backwards from petroleum-based plastic to natural-based textile materials," explains Mr. Isihara.

"The major focus for our future is to preserve the natural and eco-friendly way to make our production over the cheaper solutions that use petroleum-based plastics or synthetic materials."

As part of its diversification strategy, the company took the leap into the health foods sector in 2015 with the launch of its cellulose-based noodles, a move which garnered global media attention. These flavorsome noodles are produced from fiber extracted from tree pulp, using a process similar to that used to develop rayon cotton. Marketed under the name 'Cell-eat', these noodles are gluten and fat free, and contain very few calories.

"The potential use of this natural element is vast," adds Mr. Isihara.

"Cellulose-based noodles is not the only food that we produce. We also make cellulose-based grains and powders and expanding our sales in this segment is one of our focuses for the future. Cellulose is also used in soft creams and guarantees that the cream keeps its shape for a longer time."

Powder processing: NARA Machinery

For a company like NARA Machinery, which is involved in virtually every industry conceivable, from agriculture and food, to biotechnology, chemicals and electronic vehicles, responding to changing customer needs and market conditions is indeed a big challenge.

NARA Machinery develops processing equipment for the highly competitive powder industry, where the constant development of new products is a requisite. As "a development-intensive company", NARA works tirelessly to provide innovative solutions and technology to customers across a wide range of industries.

"Thanks to our technology and know-how, we are praised by our customers worldwide and our success is also due to them," says Yorioki Nara, President of NARA Machinery Co. Ltd.

"Looking at a global perspective, for NARA Machinery it is very challenging to succeed in our business because our market is very tight and competitive. However, thanks to our technology and the quality of our product we are capable of meeting our customers' needs by offering top-class products."

NARA mainly develops three types of equipment for powder processing: firstly, the crusher and

mills capable of pulverizing any kind of material; secondly, the paddle dryer, which is a heat transmission dryer machine that processes organic and inorganic granular and powdery material for the petrochemical, plastic and pharmaceutical industries; and thirdly, its unique Hybridization System. This system is the company's latest technology designed to physically produce new functional composite powder material for environmentally friendly electronic vehicles, for example.

In a further response to environmentally-driven market shifts, NARA is also focusing on the biomass industry, as "we believe it will replace the oil industry and therefore represents the future," says Mr. Nara, who adds that company's main drive is not profit, but the constant strive for innovation.

"Sales is not our main focus, we focus on 'what's next?', or, in order words, what new technologies we can implement. Indeed, we are constantly engaged in the research and development of software and hardware able to responds to our customers' needs. Without a doubt, here at NARA, we make anything possible," he says.

"In our industry, we are facing new challenges and new difficulties every year. At our company, finding the answer to these challenges motivates us more than money. Finally, if we are able to find the answer to these challenges, it will undeniably attract money and we will therefore increase our profit. I believe that is what makes monozukuri (Japanese craftsmanship). We focus on creating a quality product or providing a quality service: this is the true essence of monozukuri, or 'the art of making!'"



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Eliiy Power's lithium-ion batteries for a greener and safer world



Hiroichi Yoshida,
Chairman and CEO, Eliiy Power

Immediately after the Great East Japan Earthquake in 2011 that left vast swathes of the Tohoku region without electricity, employees from Eliiy Power loaded up cars with eight of the company's 'Power Yile' transportable electricity storage systems and headed for Miyagi prefecture. There, the 'Power Yile' were set up at the Disaster Response Headquarters, as well as at six emergency shelters, and were used to power TVs, radios, lighting and charge mobile phones.

Since its establishment in 2006, Eliiy Power has grown from a little-known start-up to become one of Japan's leading developers of large-size lithium-ion batteries and electricity storage systems. "One of our customers is Japan's largest homebuilder

and real-estate developer, Daiwa House. And Eliiy Power has expanded the electricity storage market with Daiwa House," says 82-year-old founder, chairman and CEO of Eliiy Power, and former executive deputy president of Sumitomo Bank, Hiroichi Yoshida, who established the company at the age of 69.

Installed in offices and homes across the nation, the company's high-capacity lithium-ion battery storage systems, totaling more than 40 thousand units (100 MW/200 MWh) offer vital electricity in case of power outages.

A pioneer of innovation in its field, Eliiy Power not only strives to build the most efficient, reliable and durable large-size lithium-ion batteries and storage systems on the market, but also the safest. A testament to the company's commitment to safety is the fact that its storage batteries were the first of their type in the world to receive the TÜV Rheinland international safety certification.

Eliiy Power's storage systems are also bolstered by the adoption of communication functions and IoT technologies, which monitor operating status and various other factors

such as battery voltage and temperature, contributing to enhance the reliability and stabilize operations of the storage systems.

Such is the reputation of Eliiy Power's electricity storage systems for quality, performance and safety that the company has witnessed growing interest for its products abroad, particularly from customers in Europe and the U.S., amongst whom the reputation for Japanese monozukuri (craftsmanship) is strong and the 'Made-in-Japan' brand seen as far superior to its regional competitors. "Safety, longer cycle life and wider operating temperature range are the most important factors that differentiate us from other lithium-ion battery manufacturers. Many companies from the USA and Europe are contacting us right now for solutions in electrical storage and batteries," explains Mr. Yoshida.

In the quest for a greener energy world amid the danger posed by climate change, Mr. Yoshida also envisions Eliiy playing an important role in energy conversation as the planet shifts further towards renewable sources of energy. One of the main problems with renewable energy sources is the issue of energy storage



Kawasaki plant, a fully automated plant, 14 million-cell production per year

– something that could be solved by using Eliiy Power's storage systems to ensure energy is stored and used efficiently when needed.

"There are various methods of power generation, such as renewable energy, nuclear power generation, thermal power generation, and so on, and it is possible to use energy efficiently by turning the energy generated in all these methods into stored energy. Electricity storage will be the center of the energy industry," explains Mr. Yoshida. "Our prospectus for foundation and business operations concern not only economic activities. By promoting our high-capacity lithium-ion batteries, we focus on building a sustainable society, tackling such goals as five of the 17 UN Sustainable Development Goals."

YDK and the air of innovation

One of the most reputed brands in the world, Dyson's vacuum cleaners are synonymous with high-performance and sleek design that have made them a popular choice with high-end consumers.

While Dyson is a British company, it does in many ways resemble the characteristics of a Japanese manufacturer. Like many of its Japanese counterparts, Sir James Dyson's firm focuses on developing innovative products that are often more expensive than those of its competitors, but are far superior in terms of performance, quality and reliability.

Perhaps it will come as no surprise then that the company depends on a specialist Japanese manufacturer called YDK to supply the high-efficiency motors that are core to the performance of Dyson model vacuum cleaners.

Specializing in the development of small motors for vacuum cleaners, automobiles, sewing machines and other home appliances, YDK has 85 years of experience in meeting the expectations of demanding customers like Dyson. During that time the company has in-

vested heavily in innovation and R&D in order to develop its extensive product line of motors, which are renowned among its customer base for high-performance, efficiency and superior noise reduction capabilities.

"If we look at our company, throughout our history, we've continued to maintain a level of high quality. This is due to our level of consistency and our commitment to always reach the greatest quality for our products," says president, Hironori Yamamoto.

YDK's strongest segment has been in the vacuum cleaner arm, but in recent years the company has focused its efforts on growing the automotive end of the business, which supplies air blower motors to some of Japan's leading car makers.

Thanks to YDK's artfully applied technology, these ultra-thin motors can maintain performance and durability even in the harshest environments, as well as eliminate the generation of unpleasant noise associated with car air conditioning fans. In 2019, Mr. Yamamoto was proud to launch the latest super silent and lightweight YA-62 series that he is

confident will further exceed the expectations of YDK's customers.

"Moving forward, our automobile blower motors will be the highest in terms of our production volume. We can really say that we're strong when it comes to the automobile sector because we have been able to keep up with modern trends, such as the move towards miniaturization and making products more lightweight," he explains.

"We're doing our best to make our products lighter. If we compare motors from 10 years ago, we have cut down the amount of parts used by 30% and in terms of weight they have gotten 20% lighter."

As an 85-year-old company, YDK has faced many external market challenges over the years and has successfully adapted and thrived. But like for many Japanese companies perhaps the greatest challenge it faces today is the competition from regional competitors from the likes of China and South Korea. However, Mr. Yamamoto is confident that YDK's dedication to develop the highest quality and most start-of-the-art products will keep it ahead of the pack.



"In terms of quality in comparison to YDK's foreign competitors, there is a huge difference between theirs and YDK's. And that is why one of YDK's main clients is Dyson"

Hironori Yamamoto,
President, YDK

"It is clear that China and Korea are right behind us, and if we were to stop striving, they will overpower us. However, if we continue to strive for greatness, they will never catch up, and I personally think that this is one of Japan's advantages," he explains.

"In terms of quality in comparison to YDK's foreign competitors, there is a huge difference between theirs and YDK's. And that is why one of YDK's main clients is Dyson."