Kaizen and Monozukuri: The distinguishing factors behind Japanese manufacturing quality

In the face of regional competition, Japanese manufacturers continue to distinguish themselves through kaizen, the concept of continuous improvement. Led by Japanese manufacturers, this approach not only propels individual companies to innovations that are closely aligned with old and new ideas, but also contributes to and strengthens the position of our customers among clients in Japan, KEM aims to strengthen its presence and be best in their class."
Tsukasa Chemical Industry: Providing high-quality packaging with a focus on the customer

Since its establishment in 1968, Tsukasa Chemical Industry has been a leader in the production of high-performance packaging materials and a range of plastic products for several industries. The company follows the philosophy of monozukuri to ensure it meets the demands of the domestic market for perfect packaging, making its products difficult to replicate for cheaper competitors.

Tsukasa Chemicals Inc. is a company-wide share in Japan, with the quality and durability of its flagship products, the PP strapping and the Tyvek Tape, leading to a loyal customer base. The company has used this strong domestic position to expand its production to Malaysia and Vietnam, where it uses its specialist technicalknowhow to ensure the highest standards remain.

Tsukasa Chemicals uses its unique in-house model to develop high-performance air cushion machines and film, as well as outsizing tailor-made distribution and after-service channels. The company is aiming to expand into Europe, where CEO Takashi Nishimura explains “we must make inroads as a family unit to provide the best possible service to clients.” Tsukasa Chemicals is committed to a sustainable business approach without compromising performance and cost efficiency, maintaining a steady flow of production, reducing the amount of plastic waste associated with its products,” says Mr. Nishimura.

Tsukasa Chemicals focuses on remaining loyal to its customers, and this philosophy extends to its workforce, who operate as a family unit to provide the best possible service to clients. Tsukasa Chemicals has an ambitious medium-term goal of reaching $420 billion revenue, yet Nishimura explains this is not a strict target he has set but simply an attainable example: “We prefer to grow in a steadier, more sustainable way,” he states.

Seisan Nipponsha: Pioneers in zipper bag technology

For more than half a century Seisan Nipponsha has been developing these simple yet pioneers in - which boasted oxygen and moisture transparency of the bag, before the launch of ’Lamizip’ and ’Lamigrip’, made from polypropylene ‘Unipack’, in 1955. Lat Nakagawa, President, Morico Co., Ltd.

Established in 1955, plastic parts producer RP Topla made its name through supplying Japanese electronics giants such as Sony, Panasonic and Sharp. Since the company has grown to become a leader in supplying high-performance plastic parts and sheets for the appliance, office automation, automotive, and packaging industries. As the automotive industry looks to reduce the requirement for lighter materials to improve performance and fuel efficiency, RP Topla has tailored its development to that end. The company is looking to improve the efficiency of the PET bottle recycling market, says company president, Mr. Morico Nannami. “In terms of the manufacturing of the PET sheet we have about 60% of the market share in Japan. We are working with about 20,000 tons of recycled PET being utilized in BMWs and Volkswagens. In the long term, RP Topla aims to play a more significant role in the automotive industry by growing the ecological component for the entire vehicle of tomorrow.”

Leading by example in the plastics industry with green and sustainable production, RP Topla incorporates recycled PET bottles as a base material for many of its products. “I anticipated the growth potential of the PET bottle recycling market,” says company president, Mr. Morico Nannami. “In terms of the manufacturing of the PET sheet we have about 60% of the market share in Japan. We are working with about 20,000 tons of recycled PET bottles per year and we would like to grow this scale going forward.” Environmental consciousness is a key aspect of RP Topla’s strategy, especially given Japan’s search for a solution to its plastic problem. “Our role is to face up to that problem and to reduce the amount of plastic waste in Japan,” says Morico Nannami.

RP Topla: Producing high-performance and sustainable plastic parts

RP Topla’s specialized technologies allow the company to produce lightweight plastic parts which deliver outstanding performance as well as incorporating recycled materials that reduce their environmental impact.

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“Morico’s automatic canceling machines are used at post offices all over Japan.”

Yuki Momi, President, Morico Co., Ltd.

In 1932, the Japanese Ministry of Posts and Telecommunications put out a request for the development of an automatic postal canceling machine suitable for the Japanese postal system. “My grandfather developed it based on the automatic postal canceling machine technology that Japan Post had imported from the UK. This greatly contributed to the modernization of the Japanese postal system.”

“Since we were the first in Japan to develop the stamping machine for pharmaceuticals, we were flooded with orders, and manufacturing of the machine could not keep up,” says Mr. Momi. “We are great at applying our core technology, according to the special circumstances of each industry.”

Evolving from a business that, in 1932, helped revolutionize hand-driven work through the introduction of machinery, how is Morico looking to continue to

Developing the machines that have revolutionized Japan’s postal and packaging industry

Morico was among the first companies to develop, commercialize, and sell automatic stamping machines that are needed in various areas of the economy.

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Itoh Denki: Automated conveyor solutions delivering the fully-integrated package

Incorporating both software and hardware, Itoh Denki’s fully-integrated conveyor solutions enable customers to reach the cutting-edge of logistics technology.

Over the coming years both the global e-commerce market and the demand for factory and warehouse automation will continue to expand at a rapid pace. Both of these trends bode well for Japanese company Itoh Denki, a global leader in modular automated conveyor solutions for logistic centers and factories.

Driven by both its capabilities in robotics and the urgent need to address its own domestic labor shortage issues due to its shrinking and aging population, Japan has placed itself at the forefront of factory automation in the 4.0 era, thanks in part to a large base of innovative manufacturers like Itoh Denki, whose vision is to build “Technology for Tomorrows”.

Established in 1946, innovation has always been at the core of Itoh Denki, which developed the first 24V brushless DC powered roller for conveying lines, the Power Moller 24, in 1988, which became a safer, quieter, and more energy efficient alternative among clients in Japan’s reputed manufacturing sector. Having entered the United States more than two decades ago, Itoh Denki played a pivotal role in the modernization of the U.S. Postal Services (USPS) logistics systems and today boasts world-class technology centers in America, drawing on its 75 years of experience in motor manufacturing. Itoh Denki aims to develop market-leading automation solutions for factories and logistic centers based on innovation, modularity and security.

“Our goal is to combine software technology including control and communication, and hardware technology, including conveyor modules, on top of our motor technology to achieve the connected factory. Smart logistics, and eventually contribute to the solutions to address the labor shortage,” says Tetsuya Itoh, president of Itoh Denki Co., Ltd., which continues to update its Power Moller® (MDR or Motor driven roller) to incorporate the latest industry 4.0 solutions, enabling customers to reach the cutting-edge of logistics technology.

To be more specific, having our Power Moller® or Motor driven roller as a master cell, we build up our own MDR based intelligent platform, where every peripheral device is connected through autonomous decentralize control, so as to combine the internet and computer with the physical conveyor equipment. Though these efforts, we endeavor to achieve conveyor innovation for the next generation, by capitalizing on Big Data from the logistics site to achieve predictive maintenance as well as a waveless workflow.

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Oiles: A global leader in self-lubricating bearings and vibration control devices

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Since they do not require oil, our bearings are environmentally friendly products, and serve as indispensable parts for machinery, equipment and social infrastructure.

Masami Iida, President, Oiles Corporation

From automobiles and electronic devices, to construction machinery, buildings and hydro-electric power plant operators, Oiles has developed revolutionary state-of-the-art technology adopt- ed in bridges and buildings across Japan, Korea and Taiwan.

Striving to curtail and wholeheartedly respond to the needs of clients, Oiles’ continuous innovation and product development stay at pace with the rapid technological advancement in the industries in which it operates. This unrivaled ability to meet ever-changing demands is what sets the company apart from its competitors.

"By responding to customer needs and issues, we do not make the world’s first and best products, but our customers do. Our bearings exist for our customers to achieve their goals," explains Masami Iida, President of Oiles Corporation.

"We believe that our strength lies in the ability a add value to our customers’ products and provide technologies and products that satisfy our customers by solving their problems."

As a result of this commitment, Oiles has developed revolutionary self-lubricating bearings that not only vastly improve performance, durability and energy efficiency of moving machinery, but also significantly reduce pollution and environmental impact by eliminating the need for oil-based lubricants. In comparison to traditional bearings, these bearings in their machinery, from automobile and construction machinery manufacturers, to hydroelectric power plant operators.

In response to era-defining changes, such as the shift towards electric vehicles, advanced robotics and renewable energies, Oiles will remain at the forefront by developing bearings made from ground-breaking new materials that are thinner, lighter and stronger. These include innovative metal al- loy bearings, as well as bearings made from plastic polymers and environmentally friendly biomass plastic, in the automotive industry, for example.

Mr. Iida says Oiles can contribute in the era of electronic vehicles (EVs) by supplying plastic bearings to improve steering, reduce noise and improve efficiency.

"Currently, the automobile industry is at a major turning point with the wave of EVs. We would like to be part of this revolutionary period of the automobile industry with our customers by supplying our products as indispensable parts,” he says, adding that the company’s bearings and thrust washers will also be essential to the functioning of the latest robotics and factory automation equipment.

Another area of interest is off-the-shelf wind power generation, which is expected to be in demand in the future. We believe that these changes in the environment and the trends of the times are a wake-up call for us. We would like to use our technology and know-how to provide products that match market needs.”
Fukoku: From one-man venture to world leader through a focus on quality and innovation

Having grown into the world leader in wiper blade rubber production over the last 68 years, Fukoku’s dedication to constant innovation enables the company to produce custom-made solutions for the automotive industry and beyond.

Trusted carmakers like Toyota and Nissan have had their wiper blades essentially built on superior build quality and reliability. And behind these car manufacturing giants lie the Japanese SMEs that produce their vehicles’ high-quality and high-performing parts which together work in perfect union. These specialized SMEs, which form the backbone of the Japanese automotive industry’s success, are dedicated to the needs of their clients and insist on quality and durability, but also a customer-focused approach to innovation. This allows them to create groundbreaking products which meet the changing needs of an automotive industry undergoing a revolution.

“First of all, the major product here is the culture bag itself. The bag is made from our technology proven consistent over many years to cement its international reputation. The company produces a range of high-performance rubber products for the automotive industry, such as pioneering anti-vibration products created with composite technologies. These custom-made products have allowed Fukoku to expand into more industries, including healthcare and construction machinery and railways.”

This expansion is based on what the company calls the ‘Fukoku Way’. “It’s about being responsive to the needs of the wider community, not just talking about our approach but doing more than that, to our stakeholders and the company’s contacts around the ‘Atmosphere’,” explains Takashi Ogawa, President of Fukoku. “Fukoku was started as a one-man venture, but we are also building a company that is more substantial than that. A lot of the companies around the world have been struggling, so we’re trying to do something different. We’re focusing on the needs of the customer, and also the environment.”

The company’s commitment to R&D has also been a cornerstone of its success. “The idea is not to change society as a whole but to change society as a whole. This means we’re making products that will change society as a whole. This means we’re making products that will change society as a whole.”

Fukoku: Everloy: The undoubted leader in customised nozzles

Based on its long-cultivated know-how and industry-leading technology, Everloy develops specialized spray nozzles essential to the manufacturing process, customizing its products to meet each client’s specific needs.

“Everloy is now looking to expand its business outside of Japan, as we have a huge responsibility to address the climate crisis. ‘We are aiming for a huge contribution to the Japanese economy and we are at the forefront of many industries here. While coal was the main resource supporting industry in Japan, this slowly changed and the mining industry declined. So, in 2003, we completely shifted our business trajectory,’ explains Kazuya Kage, President of Everloy.

To address this challenge, Everloy developed a new generation of descaling nozzles, allowing customers to reduce the amount of water in their descale process by approximately 40%. Various kinds of demands are also met in other industries such as electronics, pollution control and many more, and Everloy has been marked as one of the major successful SMEs in the industry. The company continues to expand into emerging markets like those in Southeast Asia and India. “Our future management vision is based on the fact that it will be a hub for new business benefits to our customers and society by contributing to technological progress,” concludes Mr. Ogawa.

Everloy: “We have a big responsibility to address the climate crisis”

The manufacturer says that carbon-emitting, heavy industries such as the coke sector must be proactive in tackling environmental issues.

In Japan, coal was the dominant energy source for much of the first half of the 20th century, but like many other industries, it is moving forward, and one aspect of this movement forward is in addressing the environmental issues. Mr. Kage says companies are doing things that will really address the environmental issues moving forward, and one aspect of that is our pursuit of hydrogen as a greener and cleaner fuel. “We really believe that this is a huge responsibility to change society’s view of fuel and our views on how we use energy. It’s not an easy task for our heavy industry, but we must work cooperatively in order to make it a reality.”

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