

The hidden yet indispensable value of *monozukuri*

As Japan's SMEs look to expand their international operations, they are banking on a strict adherence to the Japanese manufacturing philosophy of *monozukuri* and the highly-revered 'Made in Japan' brand to set them apart from the competition.



"We strive in R&D to ensure our products are lightweight, with flexibility and functionality"

Takayuki Ito, President,
Aitoz Corporation

If there is one word that is synonymous with Japanese manufacturing, it is undoubtedly "quality". From cars and electronics, to textiles, chemical products and onto high-tech engineered components and machines, Japanese manufacturers' painstaking attention to detail has ensured the long-standing reputation of the 'Made in Japan' brand across the globe.

In more recent decades, Japan has faced stiff competition from regional competitors in China and South Korea. And while these countries may have surpassed Japan in terms of quantity and price, they have often failed to replicate the distinctive Japanese quality that continues to set many Nippon companies apart from their regional counterparts offering cheaper alternatives.

A discussion about this topic with the proud president of any Japanese manufacturing firm will likely throw up some variation of the following: "If you're searching for quality that stands the test of time, turn to Japan. If short-term cost saving is your priority, look elsewhere." Japanese products may cost more at the offset. However their durability and reliability often means less money is spent on maintenance, repairs or replacements in the longer term.

So what exactly is so unique about the Japanese manufacturing tradition that ensures this often unmatched quality? The answer - '*monozukuri*', a long-

standing philosophy held by Japanese firms which focuses on pride, skill, dedication and the pursuit of innovation and perfection.

Monozukuri (a combination of '*mono*' meaning thing and '*zukuri*' meaning the act of making) is often equated to 'craftsmanship' in English. However while craftsmanship often puts emphasis on the craftsman, *monozukuri* is more about reverence for the thing being made, thus deflecting attention away from the person doing the making. Stemming from a centuries-old Japanese culture based on a deep respect for both animate and inanimate objects, *monozukuri* not only focuses on crafting the highest quality products, but also on sustainable manufacturing and working in harmony with the surrounding environment.

Toyota made the term become globally recognized in the world of business some years back. The automobile maker's reputed Toyota Production System is firmly based on the *monozukuri* philosophy, or what it calls an "all-encompassing approach to manufacturing." And while household names such as Toyota, Nissan, Honda, Sony, Panasonic, and Nikon are the ambassadors of *monozukuri* at a global level, there are thousands of small and mid-sized Nippon firms now looking to expand beyond Japan's borders to bring their high-quality products to an entire new base of overseas customers.

Shrinking domestic demand, brought about by Japan's aging population, has compelled many of these companies to look for growth opportunities abroad, where they are banking on their strict adherence to Japanese *monozukuri* and the highly-revered 'Made in Japan' brand to set them apart from the competition.

One such company looking towards the international market is textile maker, Aitoz Corporation. Having established itself as a leading manufacturer of work wear for all segments, with a particular focus on manufacturing, delivery and logistics wear, Aitoz has plans to export its products to the European and North American markets, where it sees ample potential for its next-generation work clothing.

"We have analyzed the market in Europe and North America. What we've learned is what they are ac-

tually wearing is not comfortable at all," says president, Takayuki Ito. "For instance, their boots are quite heavy, so it is harder to move around. However, our products are revolutionary; we strive in R&D to ensure our products are lightweight with flexibility and functionality."

Driven by a constant pursuit for innovation, Aitoz has always strived to make groundbreaking products, the latest of which include its 'Ice Vest', a vest containing ice packs that is designed to prevent outdoor workers from suffering heat stroke (a common issue in Japan), and clothing featuring Diaplex, an intelligent textile designed for workers working in outdoor environments which is highly repellant to substances such as water, oil and dust.

"When the temperature inside the clothing is low, Diaplex shuts out the permeation of air and water vapor molecules. On the other hand, when the temperature inside the garment rises, it exhibits the moisture permeability function that actively releases air and

water vapor molecules to the outside of the garment," explains Mr. Ito, who adds that Diaplex also has potential to be deployed as protective gear amid the current coronavirus pandemic.

As with any *monozukuri*-focused company, Aitoz has committed itself to sustainable manufacturing and made valuable efforts to comply with three of the United Nations Sustainable Development Goals (SDGs): firstly, the promotion of sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all; secondly, sustainable consumption and production patterns; and thirdly, the revitalization of global partnership for sustainable development.

"We believe that our company could help to solve more problems by implementing SDGs," adds Mr. Ito. "For us, it is crucial to get brand recognition as a company, domestically and internationally. So, when people see our brand tag, they know about our company and what we do."

The advertisement features a grid of images showing various work clothes in different colors (white, blue, yellow, red, green). The slogan "The Most Comfortable Work Clothes" is prominently displayed in a yellow box. The Aitoz Corporation logo is at the bottom left, and a smaller image of work clothes is at the bottom right.

The unique touch of Imabari quality

For over 100 years, Fujitaka Towel has harmonized high technology and the famous Imabari tradition to craft the perfect towel.

While regions like Champagne (France), Rioja (Spain) and Parma (Italy) are synonymous with high quality you can taste, the Japanese city of Imabari is reputed for superior quality you can feel the moment it touches your skin.

For over 120 years, *monozukuri* (Japanese craftsmanship) in Imabari has focused on the art of towel making, which is why the city has been dubbed the "Mecca of Towels". For a towel to be considered an Imabari towel, it must undergo rigorous testing and adhere to the world's most stringent standards of quality, softness and water absorbency.

Established in 1919, Fujitaka Towel is one of the leading and long-standing Imabari towel manufacturers, having cultivated excellent technology and knowhow over the past century in order to craft the perfect towel that stands out from the competition.

"Shortly after the company was founded, we gained a reputation as 'Fujitaka: The Technological Company.' We have always led the towel industry, producing fa-



"Our goal is to deliver happiness and a unique experience to our customers"

Akira Fujitaka, President, Fujitaka Towel

mous brands of towels, and registering various patents," explains president, Akira Fujitaka.

"Furthermore, focusing on in-house production, we have an integrated production system from yarn dyeing to the finished product. Every day, our employees are proud to manufacture the most innovatively designed towels, and Fujitaka's mission is to provide our customers with the safest and highest quality product."



From procurement of the finest raw materials, such as handpicked Indian cotton, through to weaving, dyeing, post-production rinsing and neatly packaging the final product, each segment of Fujitaka's eight-step production process is carried out

with the utmost care and dedication. And it is this dedication to the craft that has ensured the company's position as number one in sales in Japan.

"At Fujitaka, we all love making things. The process of towel making is an intricate and complicated process, but it's great to create things from scratch," adds Mr. Fujitaka. "Our goal is to deliver happiness and a unique experience to our customers. We want them to feel the emotion and dedication that we put into making our towels."

Having cemented its reputation in Japan over the past century, the company now aims to reach a wider international customer base that have yet to experience the high quality, craftsmanship and unmistakable feel of an Imabari-made towel from Fujitaka.

FUJITAKA TOWEL

Exporting the *monozukuri* philosophy



"We always pursue quality through a high level of craftsmanship and manufacturing standards"

Yasunori Yanagida, President, Emuden Musen Kogyo Co., Ltd.

As Japanese SMEs have embraced globalization in a bid to expand international operations, many have moved production overseas, particularly to high-growth markets in Southeast Asia.

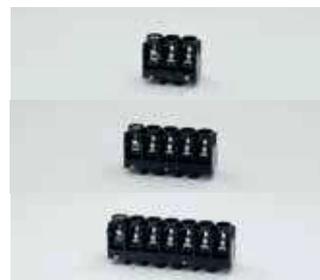
As such, a major priority for these firms is ensuring that the high quality of their products is

maintained through the adoption of *monozukuri* principles at their overseas factories – something that electronics components maker, Emuden Musen Kogyo Co., Ltd. has managed to do successfully as it has shifted some manufacturing to China and Vietnam.

"We always pursue quality through a high level of craftsmanship and manufacturing standards," says Emuden president, Yasunori Yanagida. "The key to maintaining our high-quality standards in each of our overseas subsidiaries is to create a manufacturing structure where we share a common philosophy, process and discipline. To achieve this synchronization and to

ensure the quality of our products in every plant and country, we conduct training and education for our employees overseas."

The move has allowed Emuden to be closer to its customers, the majority of whom are in China and



Southeast Asia and for whom it supplies BNC connectors, terminal blocks, AC inlets, and cables.

Key to the high-quality and performance of Emuden's electronic components is the company's own unique 'Cell Production Method'. Under this fully-integrated *monozukuri*-based production system, Emuden controls all stages of the process, from design



and development, to progressive press, plastic molding, processing, and molding. Moreover, the company also creates the assembly, the molds for the assembly, and even the machinery used in the manufacturing assembly line.

"We work on the reform of the production method to get better results in terms of productivity and efficiency," says Mr. Yanagida, who adds that Emuden's objective over the next decade is to "solidify our overseas facilities and the overseas manufacturing structure environments between Vietnam, China and Japan" and find new partners as it looks to gain a foothold in the automotive market.

EMUDEN CORPORATION



Foundry integration: new solutions for manufacturing

With its range of state-of-the-art solutions for foundry, surface treatment, mechatronics, and the work environment, Sintokogio supports its customers' *monozukuri* around the world.



"We build relationships with partners from all industries in which we can benefit from each other's strengths and grow together, and technological innovation in various fields is the result of that co-creation"

Atsushi Nagai, President,
Sintokogio, Ltd.

Ever since the company's founder invented Japan's first sand-casting molding machine in 1927, a machine officially recognized as Japanese Mechanical Engineering Heritage, Sintokogio has continued to make history as a pioneering and reputed developer of foundry and casting manufacturing systems.

Formally established in Nagoya in 1934, Sinto has grown to become a world-leading integrated plant manufacturer for the foundry industry standing high above its competitors, with 4,000 employees worldwide and a global network of subsidiaries, manufacturing sites, and after-sales service bases to ensure it is always close to its customers.

From molding machines, sand systems, core making machines, and aluminum casting products, to shot blasting and environmental equipment; Sinto's foundry products are used by a wide range of manufacturers in the automotive, aviation, shipbuilding, rail, iron & steel, and die casting industries.

Along with its casting manufacturing systems offering increased added value through high preci-

sion, light weight, low machining, fewer defects, and the ideal combination of components, Sinto also supports its customers' *monozukuri* through its '3-in-1' business model: by providing (1) Equipment, (2) Consumables, and (3) Customer support, along with integrated environmental protection, safety, experience, and know-how.

"In other words, Sinto is a one-stop company, from procurement to after-sales service. We do not just sell our machines, but we also maintain the machines even after purchase, and if anything does happen, we respond immediately

As the automotive, rail, aviation, and shipping industries have evolved and become more technologically advanced, Sinto has evolved in tandem, diversifying its product portfolio beyond the foundry business to include surface treatment, mechatronics, powder treatment, ceramics, and environmental solutions, as well as testing and measuring equipment. Today, new technologies also play a major role at Sinto, which can use IoT and cloud data to analyze the performance of its machines at the request of the customer.

"We build relationships with partners from all industries in which we can benefit from each other's strengths and grow together, and technological innovation in various fields is the result of that co-creation," explains Mr. Nagai.

"If I look to the future, at our 100-year anniversary in 2034, our company will still be growing. To reach that stage, 2034, we have to diversify our product portfolio. That's how we plan to connect to the future."

Globalization is a major priority for Japan Inc. nowadays, something which Sinto began in 1954 with the export of its first foundry plant to a customer in Mexico, before it expanded to Asia and later to other regions. During the first phase of Sinto's globalization strategy, the focus was on transferring technology developed in Japan to its international group of companies. However, in the current second phase, each group company is tasked with proactively creating new business opportunities, developing new products and technologies based on local needs – a process of globalization rooted primarily in localization.

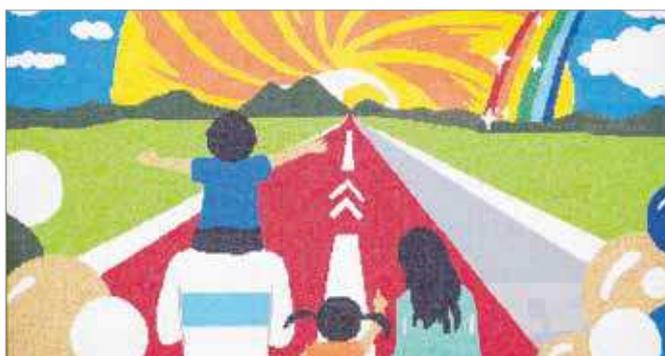
"When those new products meet the needs of the local markets and show potential for global expansion, those group companies become the champions for those products, and they utilize the Sinto global network to promote them worldwide. This is the kind of relationship we want to have between all of our Sinto Group companies," adds Mr. Nagai.

"As we have around 4,000 global employees in total, in order to grow, we are encouraging each of them to do whatever they are capable of. The support of our employees and partners around the world will only make us stronger."

Monozukuri is a quintessential Japanese concept of craftsmanship. But through Sinto's constantly expanding international network, the *monozukuri* philosophy for manufacturing excellence and constant pursuit of innovation has gone global.



Above: Skill & Safety Training Center: risk prediction training using mannequins simulating work. Below: World record bottle cap mosaic: shot taken from above at 85th anniversary event.



at the location closest to each customer," says president, Atsushi Nagai.

"We have built a global network to offer immediate after-sales services close to the customers, when and where they need it, with increased productivity and shortened lead time. Developing our business based on our customers' needs, for our customers' peace of mind, is the basis of Sinto's *monozukuri* around the world."

Indeed, adaption and innovation have been key to the success of this company over the past nine decades, and as it approaches its 100th anniversary, it will continue to develop groundbreaking solutions to support the manufacture of the cars, trains, and planes of tomorrow. Most recently, Sinto has collaborated with Toyota to develop an innovative aluminum casting technology – one example of its *monozukuri* through co-creation.



Growing globally through staff localization



"We hope to welcome more foreign employees from international countries"

Yasuyuki Cho, President,
Newlong Industrial Co., Ltd.

<https://nlwww.com/eng/>

If there is one industry where the Japanese *monozukuri* manufacturing philosophy really shines through, it is machinery. Closely adhering to the tenets of *monozukuri* and stringent quality standards to build the most reliable, durable and high-performing machinery for facto-

ries across the globe, Japanese machinery makers like Newlong Industrial (NLI) are world leaders in their field.

Established in 1941, NLI has grown to become a top-class machine manufacturer with world-recognized technological capabilities, supplying packaging machinery widely used in the food, fertilizer, chemical and semiconductor industries, among others. NLI boasts a domestic market share of 98% for industrial sewing machines, 80% for automatic packaging machines



and 90% for bag-making machines, while its international operations continue to grow.

"With experience in meeting all of the needs of the packaging industry, we have built up a track record worldwide in all fields," says

president, Yasuyuki Cho. "Today, 50% of our products are exported overseas. Moving forward, we will continue to challenge ourselves because we believe that our firm has the potential to continue its international development."

Today, NLI has 20 overseas affiliates and as the company seeks to strengthen its international foothold, particularly in Southeast Asia, it has also prioritized hiring international recruits. As indicated by Mr. Cho, NLI aims to become a global company, "though small but



with large ambition", and already more than half of the staff in its International Sales Department are non-Japanese.

"Our strategy is to grow globally but act locally. Today, the 'top leadership' of our interna-



NEWLONG INDUSTRIAL CO., LTD.

tional offices is composed of people from each respective country," he says. "For example, our Chinese and Taiwanese employees have taken full responsibility of our operations in those countries. Our aim is to continue taking this localized approach."

As an ambitious company that never rests on its laurels and continues to invest in R&D, innovation and the development of its staff, NLI offers employees the ideal environment for personal and career growth, as well as the opportunity to experience the Japanese *monozukuri* philosophy of excellence first-hand. "As we continue to advance globally," adds Mr. Cho, "we hope to welcome more foreign employees from international countries."

Creating new quality in steel through cutting-edge technology



"We will continue investing in technologies to improve, grow, and create new and better offers for our customers"

Mikio Kobayashi, President,
Yamato Kogyo Co., Ltd.

Japanese steel has been famous for centuries thanks to the samurai sword, perhaps one of the finest representations of the nation's craftsmanship and *monozukuri*, guiding manufacturing

principles that are also found at the core of steel-maker Yamato Kogyo Co., Ltd.

Combining the age-old philosophy of Japanese steel making with the latest cutting-edge technologies, Yamato has made a name for itself as a manufacturer of the highest-quality steel products found in infrastructure, buildings, ships and railroads across the world.

"*Monozukuri* is a Japanese concept which refers to the process of creating things under a special mindset of achieving the customer's satisfaction, which is our final mission," says president, Mikio Kobayashi. "Therefore, *monozukuri* is not only repetition but also an attitude to manufacture with strict quality control to offer what the customers expect and even exceed it."

Having built its reputation on exceeding customer expectations, Yamato is now pursuing

international expansion, with a particular focus on the U.S. market, as well as Southeast Asia. At the same time, the company is employing the latest fourth industrial technologies to ensure its superior qual-

"To improve our competitiveness in the global market, it is necessary to adapt to the trends of the market and to apply AI and other cutting-edge technologies to our business," concludes Mr. Kobayashi. "Our goal is to con-

Our Steel, Your Future

Yamato

Yamato Kogyo Group

ity steel products are built to support the global infrastructure and construction projects of the future.

stantly learn the newest technologies and to be one of the top companies that support infrastructure worldwide."

Moving from a manufacturing to a *Magokoro* company

Showa Denki has successfully fused the philosophies of *monozukuri* and *Magokoro* to become a fully-integrated service provider improving workplace environments across the world.

Factories can sometimes be hot, dusty and difficult environments to work in. For companies looking to improve the operating environment of their production facilities to ensure a more pleasurable and productive space for their workers, many turn to the experts at Showa Denki.

Not only does Showa Denki manufacture environmental improvement equipment, blowers and dust/mist-collectors, it is also a work environment measurement provider. As such, Showa Denki functions as a consultancy service, issuing analysis



"Magokoro cannot be seen or touched. But we believe that our customers can feel it in our machines, services, and hospitality"

Kensaku Kashiwagi, CEO,
Showa Denki Co., Ltd.

and reports on a client's work environment, after which it recommends a path forward through the use of its high-quality equipment.

Established in 1950, Showa Denki has made a name for itself as a manufacturer of tech-

nologies for airflow. But today, as the company looks to grow and expand on the international scene, CEO Kensaku Kashiwagi's ambition is for Showa Denki to become a "*Magokoro*" company, what he defines as a fully-integrated service provider with a manufacturing department.

The term '*monozukuri*' is closely associated with Japanese manufacturing. However, Showa Denki aims to take the *monozukuri* manufacturing spirit to a new level through *Magokoro*, a uniquely Japanese way of showing hospitality and sincerity.

"*Magokoro* cannot be seen or touched. But we believe that our customers can feel it in our machines, services, and hospitality. Through *Magokoro*, we believe that we can have the trust of our customers. Trust is definitely not something you can buy with money," explains Mr. Kashiwagi. "The fusion of *monozukuri* and *Magokoro* led Showa Denki to customize each product for each customer with flexible ideas, which has become our strength all over the world."

Since this 70-year-old company took its first foray into the international market in 2010, it hasn't looked back. Having established operations in Thailand in 2012 (where it developed the concept for its 'Windracer' fan that has proven a hit back home in Japan) to service the nation's growing manufacturing industry, Showa Denki has expanded to several other markets, including Taiwan, South Korea, Mexico and the United States.

The growing machinery manufacturing and automotive industries offer particular opportunity for Showa Denki's



growth overseas, explains Mr. Kashiwagi, who has ensured that the philosophy of *monozukuri* and *Magokoro* are maintained at the company's international branches.

"When I started our overseas business, I did not use the words 'Made in Japan', but 'Made with Japan'. This means we make the product with the spirit of Japanese *monozukuri* wherever we are," he says. "For example, Toyota has a lot of factories overseas and in Japan but the product quality at all plants is the same. I think it is because they maintain their spirit of Japanese *mono-*



zukuri. My target is to ensure each overseas office supplies products and services with the same spirit of Japanese *monozukuri*."

At the same time that Showa Denki has sought international expansion, the company has also diversified its domestic business into the bass fishing industry. As a passionate fisherman, Mr. Kashiwagi spotted an opportunity to sell and distribute sports fishing boats for customers in Japan, leading Showa Denki to sign distributor agreements with U.S. bass fishing boat manufacturers, Charger, Vexus, and Basscat.

"For this business line, we have facilities for boat assembly, and also to perform after-sales maintenance. We also co-sponsor bass fishing tournaments, such as the World Bass Society Pro-Team Tournament in Japan," explains Mr. Kashiwagi, who saw the move into the boating industry as the ideal opportunity to boost the company's brand.

Drawing on its 70 years' experience as a reputed manufacturer of technologies for rotators, Showa Denki has also developed a DC motor for electric outboard motors used in high-performance bass fishing boats. The most remarkable feature of this motor is its replacement of a conventional motor with brushes with a brushless

design to dramatically reduce maintenance frequency, extend service life and reduce noise – yet another example of Showa Denki's outstanding *monozukuri-Magokoro* fusion.

Moving in new ways.
— MAGOKORO Company —