Monozukuri gives Japan its competitive edge

In English, the Japanese word ‘monozukuri’ can be translated as ‘making things’. And it’s fair to say Japan has excelled at making things since the postwar boom that turned the country into one of the world’s industrial powerhouses. But monozukuri means so much more than its humble English translation. It is a manufacturing philosophy concerned with high-quality craftsmanship, innovation and meeting ever-changing demands – a philosophy on which the ‘Made in Japan’ brand has built its global reputation over the past few decades.

“The essence of monozukuri lies in the harmony of technology and in the Japanese people, who are very diligent and pay a lot of attention to detail,” explains Chiharu Kishi, chairman of Senba Denki Kazai, a manufacturer and trader of electrical components. “Japanese products are renowned across the globe for their good quality and reliability, and this harmony has allowed Japanese companies to develop and become world leaders with the added value created by advanced technology.”

A leading manufacturer of high-performing switches, NKK Switches takes the monozukuri concept one step further, with what president Tomoshige Ohashi calls hitozukuri. “Our time-tested formulae, technical know-how and quality results in monozukuri are well established, but it is important to go beyond that,” he explains. “We have embraced the principles of hitozukuri, rather than monozukuri, which is quality born from people’s hands. This philosophy has run throughout NKK Switches’ entire history. Since the beginning, we have adopted three guiding principles: improving quality, ensuring safety and reliability, and creating functional switches.”

In recent decades, Japanese companies have faced increasingly stronger competition from China and other regional competitors. But the Nippon nation continues to distinguish itself through monozukuri, and particularly through the manufacturing of high-quality and tailor-made solutions in niche areas. “Chinese companies surpass Japanese firms in terms of the volume of production, as they pay attention to quantity over quality. In order for our company not to lose out to the competition, we are attempting to go with our niche technology to areas that China or other East Asian countries have not tackled,” says Satoshi Watanabe, president of work glove maker Towa, whose niche technologies include its MicroFinish coating for improved grip and innovative ROBOGlove series of anti-slip covers for industrial robots.

Hiroshi Kubo, president and CEO of Yamabiko, a reputed manufacturer of high-performing outdoor power equipment through its ECHO and Shindaiwa brands, describes how monozukuri encompassed the company’s entire manufacturing cycle. “Our strength and uniqueness rely on the fact that we are completely vertically integrated. Our monozukuri is present in our materials and our processes and internally we create the whole process ourselves,” he says. “It is present from the engineering group to the integrated production systems, covering our materials to the finished goods we provide. We have a material research center as well as key metallurgy expertise, allowing us to blend custom materials into our products. We also maintain very strict tolerances in our designs and manufacturing processes, resulting in the high-quality products for which ECHO is known.”

Monozukuri focuses very much on acutely responding to customer needs, with household appliance maker Iris Ohyama adopting what it calls the ‘user-in’ concept in its product development. “Iris Ohyama is based on the philosophy of the ‘user-in’ concept, which focuses on the perspective of the consumers and forms the basis of our products and marketing,” explains president Akihiro Ohyama. Having developed an AI-powered DX cleaning robot in collaboration with Softbank, Iris Ohyama is now seeking international partners as it looks to develop more cutting-edge products and take its monozukuri quality to a larger base of global customers.

NKK Switches: Japan’s switch specialist

A company boasting 70 years of experience and an ever-expanding international presence, the Kawasaki-based switch manufacturer goes the extra mile to ensure its products are of the highest quality.

Established in 1951, NKK Switches is a leading Japanese switch maker whose guiding principles are “improving quality, ensuring safety and reliability, and creating functional switches”, says the company’s president, Tomoshige Ohashi.

Key to NKK’s commitment to quality is the rigorous testing its products undergo. “Most companies meet the minimum criteria required to pass tests, but we go beyond that, conducting extra tests from all angles,” Mr. Ohashi explains.

NKK creates conventional switches, including pushbutton, toggle and rocker switches, as well as cutting-edge, multi-functional switches with OLED and LCD displays. “Because of our flexibility and strengths, such as our reliability, customers know NKK can create complex and sophisticated switches,” Mr. Ohashi says.

However, conventional switches remain NKK’s chief product for now, he adds: “We shouldn’t forget about emerging countries, where demand for them is huge.

And companies that are slow in adopting new technologies still request these products. There’s still a market for them, and we’re strong in it.”

NKK’s expanding global reach has seen international sales rocket from 10% of its overall revenue in 2003, to 50% today. “We’re constantly introducing our switches to new markets,” Mr. Ohashi says. “Our current target is for overseas sales to reach 70% of our total revenue.”

Looking to the future, NKK’s goal is to work ever more closely with its clients. “We’re trying to shift our philosophy from just product manufacturing to becoming a solutions provider,” Mr. Ohashi says. “It’s very important to remain aligned with customers and hear their thoughts and opinions on our products, and how they’re utilizing them.”

Tomoshige Ohashi, President, NKK Switches Co., Ltd.

www.nkkswitches.co.jp/
Yamabiko: Powering its way to global expansion

ECHO INC., owned by Yamabiko Corporation, has been a leader in the outdoor power equipment industry for 50 years and continues to expand domestically and overseas.

"Our corporate philosophy is to 'create the bridge that bonds people and nature with the future'. Through the development of our business, we aim to be a company that creates a beautiful future for the global environment."

Hiroshi Kubo, President and CEO, YAMABIKO CORP.

Japan is famous worldwide for its ancient culture of monozukuri, and the kaizen philosophy of constant improvement. To this day, business giants like Yamabiko Corporation – a leader in the outdoor power equipment, agricultural machinery, and industrial machinery sectors – depend on these long-held philosophies to guide business strategies.

"Our monozukuri is present in our materials and our processes and internally we create the whole process ourselves," explains Hiroshi Kubo, Representative Director, President and CEO of Yamabiko Corporation, the group behind the ECHO and Shindaiwa brands. "It is present in the engineering group to the integrated production systems, covering our materials to the finished goods we provide."

Hand-held outdoor power equipment is the largest segment of the organization, with a core competence in engine technology that is critical to maintaining its unique vertically integrated solutions. "Being vertically integrated allows us to create our own tools, which is a highly sophisticated process that requires thorough analysis for consideration of the shape or atmosphere. We have deep knowledge and experience regarding aerodynamics and the materials utilized, making it a very sophisticated process," says Mr. Kubo.

This expertise in outdoor equipment is also key to helping the organization lead in the transition to electric, whether it be zero emission or hybrid, is not only for outdoor power equipment (OPE), but also for the agricultural sector and industrial machinery as well," explains Mr. Kubo. "Two-cycle engine development and manufacturing has historically been at the heart of our company and our products. However, we have been investing in other power sources to keep pace with the changes in the global market. While there is an energy transition away from fossil fuels, there are still customer requirements for very demanding applications. It is for this reason, the needs of our customers, that we are increasing our investment line of battery-powered, hand-held outdoor power equipment in North America."

Moving forward, Yamabiko Corporation will continue to expand its overseas business in the Asia, Europe, and North American markets, with North America being the most promising and having provided the biggest growth historically.

"It is the most promising market for our future," says Mr. Kubo. "We want to expand our business to not only provide products, but also to be a service provider for all sectors. We have been making our way through these unprecedented times, and we all maintain an eye toward the future through key strategic moves today. As our founder used to say: 'when there's uncertainty, we must think thoroughly about how to adapt to the changes of society'.

Tim Dorsey, President and CEO, ECHO INC., Yamabiko’s subsidiary located in Chicago, IL, U.S.A.

ECHO Inc., owned by Yamabiko Corporation, has been a leader in the outdoor power equipment industry for 50 years and continues to expand domestically and overseas.
Customers as the driving force of innovation

Japan’s Iris Ohyama has established itself as a market leader in innovative home appliances, homeware products, and quality business solutions defined by the “user-in” concept.

“A typical view of the consumer forms the basis of our products and marketing.”

Akihiro Ohyama, President, Iris Ohyama Inc.

A standard approach to R&D sees developers asked to seek out consumers’ needs and dissatisfaction. However, at Iris Ohyama, the company’s developers act as the “voice of the consumer” in developing products that can resolve consumer dissatisfaction while they are using the products.

Founded in 1971 as a planning, manufacturing, and sales company focused on household goods, Iris Ohyama uses this innovative “user-in” concept to develop a wide range of products, from AI-powered robotic cleaners to food products such as packaged rice, with the goal of making consumers’ lives more prosperous.

In 2021, Iris Ohyama established Iris Robotics in collaboration with SoftBank Robotics to develop an AI-powered DX cleaning robot, Whiz I Iris Edition, which can also be used as a promotional tool with digital signage among other options. And in line with its commitment to meeting consumer demand, the coronavirus pandemic prompted the company to launch an AI thermal camera for non-contact temperature measurement.

Iris Ohyama’s two main pillars are its B2C and B2B units. Its B2C operation focuses mainly on home appliances and household products, whilst its B2B wing offers LED lighting, interior solutions, robotic solutions and more. The company’s strong portfolio has enabled it to expand into the Chinese and Southeast Asian markets, having established group companies in Vietnam, Thailand, China, Korea and Taiwan. The company’s expansion means it is always looking for high-technology companies to partner with. “We want to take our ideas all over the world and make everybody’s lives more prosperous,” says president, Akihiro Ohyama.

Iris Ohyama uses this innovative “user-in” concept to develop a wide range of products, from AI-powered robotic cleaners to food products such as packaged rice, with the goal of making consumers’ lives more prosperous.

Marugo: The split-toe shoe specialists

“Make it new” is Marugo’s message, and the Japanese firm has taken resolute steps in its mission to demonstrate to the world the value of freeing the big toe in our footwear.


Marugo Tokyo

Marugo Company Inc., established in Kurashiki, Okayama Prefecture, in 1919, has a long history of producing Jikatabi, a combination of Tabi – a traditional Japanese split-toe sock – together with a modern rubber sole to provide freedom of movement as well as dependable underfoot grip, just like when you are barefooted. In addition to its main product, another interesting combination for the company is its name, a result of the joining of two Japanese words: circle (Maru) and five (go) – a fitting homage to the five rings of the Olympic games, where, in its early years, Japanese marathon runners would wear split-toe, Jikatabi shoes.

Jikatabi was long loved by workers in industries such as agriculture, forestry, construction and mining, which is to say that Jikatabi has played an important supporting role during the industrial modernization of Japan. In recent decades, in addition to Jikatabi, the firm has pioneered a new market of “protective sneakers” as a PPE item which superseded conventional heavy safety shoes in Japan. The firm proudly produces high-quality split-toe footwear in its state-of-the-art factory in Japan, at the same time, its protective sneakers are also manufactured in its associated factories overseas.

In accordance with the Olympic spirit within the firm, Marugo is looking outwards across all the continents. Chairperson Shigehiko Fujiki describes the approach for its PPE shoes: “We would like to collaborate with trading houses who have direct connections to customers or e-trading platforms.” As such, the company’s idea is to manufacture and deliver locally with its design and brand names to get closer to the actual customers.

“Serving and transporting robot “Servi Iris Edition”

The Japanese are renowned for living long lives, with their longevity intrinsically linked to diet and a healthy lifestyle. As such, Marugo’s main goal is to provide people with split-toe shoes that boast many unique characteristics, such as big toe independence, unmatched flexibility, and breathability, in accordance with

“Serving and transporting robot “Servi Iris Edition”

Chairperson Shigehiko Fujiki, Chairperson, Marugo Company Inc. and in order to inspire a healthy lifestyle. And herein lies the key mission of the 100-year-old company – delivering a high-quality product which provides comfort and safety within both the workplace and the social environment, and which inspires and helps to maintain healthy living.

Marugo Tokyo

Marugo Company Inc., established in Kurashiki, Okayama Prefecture, in 1919, has a long history of producing Jikatabi, a combination of Tabi – a traditional Japanese split-toe sock – together with a modern rubber sole to provide freedom of movement as well as dependable underfoot grip, just like when you are barefooted. In addition to its main product, another interesting combination for the company is its name, a result of the joining of two Japanese words: circle (Maru) and five (go) – a fitting homage to the five rings of the Olympic games, where, in its early years, Japanese marathon runners would wear split-toe, Jikatabi shoes.

Jikatabi was long loved by workers in industries such as agriculture, forestry, construction and mining, which is to say that Jikatabi has played an important supporting role during the industrial modernization of Japan. In recent decades, in addition to Jikatabi, the firm has pioneered a new market of “protective sneakers” as a PPE item which superseded conventional heavy safety shoes in Japan. The firm proudly produces high-quality split-toe footwear in its state-of-the-art factory in Japan, at the same time, its protective sneakers are also manufactured in its associated factories overseas.

In accordance with the Olympic spirit within the firm, Marugo is looking outwards across all the continents. Chairperson Shigehiko Fujiki describes the approach for its PPE shoes: “We would like to collaborate with trading houses who have direct connections to customers or e-trading platforms.” As such, the company’s idea is to manufacture and deliver locally with its design and brand names to get closer to the actual customers.

“Serving and transporting robot “Servi Iris Edition”

The Japanese are renowned for living long lives, with their longevity intrinsically linked to diet and a healthy lifestyle. As such, Marugo’s main goal is to provide people with split-toe shoes that boast many unique characteristics, such as big toe independence, unmatched flexibility, and breathability, in accordance with

“Serving and transporting robot “Servi Iris Edition”

Chairperson Shigehiko Fujiki, Chairperson, Marugo Company Inc. and in order to inspire a healthy lifestyle. And herein lies the key mission of the 100-year-old company – delivering a high-quality product which provides comfort and safety within both the workplace and the social environment, and which inspires and helps to maintain healthy living.
The global pandemic has shown manufacturers around the world the importance of reliable, adaptable supply chains. In fact, these characteristics can, and should, apply to every stage of the manufacturing process, down to the most minute detail.

Japanese glove manufacturer Towa is one of the suppliers that works to ensure a range of industries can rely on the productivity and safety of their supply chains through its industry-leading products.

Founded in the Japanese rubber heartland of Kurume in 1947, Towa has used the innovative nature of its R&D department to grow into the world leader it is today. As company president Satoshi Watanabe explains: “Our company designates the engineer responsible for R&D to take the lead and see through the complete production process, which we have found to be more beneficial. When a new production line is introduced in a factory, the engineer goes on-site to guide and make the necessary adjustments for better efficiency.”

This process led to the creation of the ActivGrip and PowerGrab glove series, both of which contain Towa’s unique MicroFinish technology and are available in a wide range. This MicroFinish technology uses a soft and flexible compound filled with thousands of microscopic pockets which create a vacuum when they come into contact with a surface. The vacuum disperses fluids and allows the entire grip surface to make clean contact with the object, ensuring the user’s safety.

Towa’s products are not only limited to industrial gloves, with the company also possessing a gardening glove range and, interestingly, the development of anti-slip covers for robots. This ROBOGlove series, which is well into the development stage, is aimed at increasing “the productivity and durability of robots while reducing the need for supervision by an operator,” says Mr. Watanabe.

As has been the case across the manufacturing industry, COVID-19 impacted Towa through a sudden rise in the cost of raw materials and transportation. However, the company has established a position of strength for the “second wave” of customers seeking PPE and safety-related equipment. Whilst cheap, mass-produced items are supplied to the first line of customers who settle for inferior quality, Towa is ready to provide discerning clients with more reliable, high-quality products.

This plays into Towa’s wider belief in its niche technologies providing added value, and these technologies are what protect the company from its mass-producing competitors. Unique products can never be truly imitated, and Towa’s understanding of the need to innovate keeps it ahead of the competition. This is shown by its partnership with Switzerland’s Sanitized AG, whose zinc pyrithione allows Towa’s products to last longer. Mr. Watanabe says Towa has its eye on further co-creation, especially with partners who can help the company shift towards recyclables and environmentally friendly products.

Towa established its international operations in the 1980s and has since expanded with factories in Malaysia, Bangladesh, and China, where it also has a sales office. The company is looking to expand into the emerging markets of Africa, South America, and Asia, where large populations provide a wide pool of customers for its products. Towa’s range of high-quality gardening and equine gloves have also played a large part in its success on the European market, and the company ensures all of its products retain the points of difference which saw its industrial gloves become best-in-class. Quality gloves give the user a true sense of trust and security. And when it comes to quality, Towa cannot be beaten.
At the leading edge of the age of connectivity

A firm that recently celebrated its centenary, electrical components supplier Senba Denki Kazai is ready for the technological challenges of an increasingly connected world.

Formerly a family-owned business, Senba Denki Kazai is a leader in Japan and a global pioneer of gearless gauges, becoming a major supplier of parts for such technology. In recent years, the growth of home energy management systems (HEMS) has seen Senba Denki Kazai become a major supplier of parts for such technology. “We developed an essential device that is required in smart gas meters,” Mr. Kishi explains. “We now achieved the top share in the Japanese market.”

Nesstech produces gauges for the variety of industrial products which are built to receive signals accurately in any direction, explains company president Shuro Tsukioka. This diversification has enabled Nesstech to expand overseas, with sales offices in Malaysia and India, as well as offices in Malaysia and India, as well as offices in Europe, Egypt, Australia, and New Zealand.”

Senba Denki Kazai is now also developing components for high-capacity communication technology, as it strives to meet the needs of an increasingly digital, connected world. “Things like electric vehicles, the internet of things and artificial intelligence – everything’s digitalized now,” Mr. Kishi says. “Therefore, our target for future advancement is to focus on electric signals and the parts that receive those signals.”

“Over time, the volume of electric signal transactions will increase, so we’re trying to develop connectors that could cater to this high volume of transactions. We’re collaborating with universities and major small and medium enterprises, cementing alliances to become the foremost Japanese brand in high-spec cable and connectors.”

Nesstech produces gauges for the variety of industrial products which are built to receive signals accurately in any direction, explains company president Shuro Tsukioka. This diversification has enabled Nesstech to expand overseas, with sales offices in Malaysia and India, as well as offices in Europe, Egypt, Australia, and New Zealand.”

Senba Denki Kazai is now also developing components for high-capacity communication technology, as it strives to meet the needs of an increasingly digital, connected world. “Things like electric vehicles, the internet of things and artificial intelligence – everything’s digitalized now,” Mr. Kishi says. “Therefore, our target for future advancement is to focus on electric signals and the parts that receive those signals.”

“Over time, the volume of electric signal transactions will increase, so we’re trying to develop connectors that could cater to this high volume of transactions. We’re collaborating with universities and major small and medium enterprises, cementing alliances to become the foremost Japanese brand in high-spec cable and connectors.”

Our company philosophy is the ‘JO Spirit’, which also expresses the concept of helping others, even competitors. If you can help people, this leads to happiness and gratitude.”

Senba Denki Kazai Co., Ltd.

Nesstech

http://www.senb.co.jp/hems/

http://www.nesstech.co.jp/English
A specialist in thermal transfer ribbons, Union Chemicar is targeting growth in other product areas, such as the thermal inkjet market, as it continues to strengthen its significant international presence.

Founded in Osaka in 1905, originally as a manufacturer of carbon paper, Union Chemicar is a major B2B supplier of imaging products for printers, specializing particularly in thermal transfer ribbons. The firm, which has expanded from Japan to several international locations in recent decades, also produces inkjet, thermal inkjet and edible inks, as well as stationery items such as correction tapes and glue tapes.

A central tenet of Union Chemicar’s philosophy as a company, says President Eiichi Kimura, is its commitment to meeting the precise needs of every customer. “Our business model is based on creating a special formula for each medium we print on, like PET, PPP or fabric,” Mr. Kimura explains. “For example, if we’re printing on a label, each receiver, or the content it will be printed on, is analyzed first, and we come up with the most appropriate and long-lasting ink formula. If you see other major companies, especially in China, they have one type of ink which they mass produce and make applicable to different mediums.”

Established as a leader in the thermal transfer ribbon market, Union Chemicar also aims to widen the scope of its activities to other areas of the printing process. “We’ve been producing and providing ink used for marking and coding by working together with our customers,” Mr. Kimura says. “However, our next area of focus is thermal inkjet ink, because it’s more environmentally friendly and there is growing demand.”

Working towards a greener future is key to Union Chemicar’s plans. “Our product’s main component comes from crude oil, so from an environmental standpoint, it may be considered challenging,” Mr. Kimura says. “However, our products sustain people’s daily lives, and we’re trying to reduce our environmental impact. We’re recycling our solutions such as MEK and toluene, and trying to ship our exports efficiently by loading more products into one container. In addition, the use of plastic for plastic bottles has changed – previously, they were much thicker – and similarly we would like to reduce the amount of material used for each of our products.”

Having begun a process of global expansion in 1989, Union Chemicar boasts overseas sites in eight countries in Europe, North America and Asia, and is focused on strengthening its presence in its home continent, Mr. Kimura says. “As for our present international expansion, even though the U.S./European thermal transfer ribbon market is close to saturation, we have a firm basis in the TTO/Marking-Coding segments, where we can still gain more share. However, it may not be as easy to develop the thermal transfer business as we have done so before,” he says. “So, it’s natural for us to look to Southeast Asia, South Asia and China, where there’s big potential for growth.” Pushing its thermal inkjet and edible inks is also integral to the firm’s plans for international expansion, Mr. Kimura notes.

Union Chemicar also aims to push into other areas of the printing process. “We’ve been producing and providing ink used for marking and coding by working together with our customers,” Mr. Kimura says. “However, we believe there’s a limit to this business model. We’re now trying to expand into other fields and become a whole system integrator. We’re a latecomer in the thermal inkjet business, so we’re looking to partner with manufacturers of printers, such as laser and handheld printers, and work with them to develop new machines, systems and ink, as well as find new partners who could distribute our products.”