With the emergence of technologies such as robotics, advanced automation, artificial intelligence and the Internet of Things, the world is witnessing the dawn of a new era hailed as the Fourth Industrial Revolution (or Industry 4.0). Simultaneously, Japan is undergoing a period of economic revitalization that is underpinned by technology and innovation.

The consumer electronics and automobile industries played a major role in turning Japan into a global economic powerhouse in the 1970s and 80s, before the onset of what is known as the “lost decade.” But The Land of the Rising Sun is ready to rise again, leveraging on its technology pedigree to put itself at the forefront of the Fourth Industrial Revolution.

“The fourth industrial revolution implies robotics and other hardware fields where Japan is leading,” says Takahiro Hachigo, President, Honda Motor Company. Honda is behind one of the most iconic figures of Japan’s robotics industry: Asimo, the world’s most advanced humanoid robot. Although in July, Honda announced it was stopping production of the friendly-looking robot in order to focus on using Asimo’s technology for more practical use cases in nursing and road transport.

This October the company also announced that it was investing $2.8 billion in GM subsidiary Cruise Holdings to develop autonomous vehicles.

Beyond the focus on development for end users, Japan’s manufacturers are also adopting Industry 4.0 technologies in their factory lines to help improve efficiency, quality and safety, as well as to address the problem of the shrinking workforce. But for Sanyo Machinery Works, a company that pioneered automation in factories back in the 1960s, this is nothing new.

"Everyone is talking about how ‘Industry 4.0’ is on the horizon and that we have to brace ourselves for ground-breaking changes that will shake up industries; but the reality is that we have been doing this for over 30 years," says president, Keita Horiba. "We have developed a new state-of-the-art IT system and incorporated it into a number of assembly lines to improve the overall quality and productivity of our manufacturing processes, while also providing quick and detailed instructions to our employees regarding production materials, methods and schedules assigned to specific assembly lines.

"Thanks to these improvements, our processes are now more efficient and systematic. So IoT and network integration into manufacturing is nothing new to us. We have been doing this for a long time now and are looking to further develop what we already know.”

Hideki Lino, CEO of Office FA, says robotics is the field that garners the most attention. But more emphasis is now being put into developing system integration technologies.

"Over the last couple of years, the value of system integrators has drastically risen,” he says. "We are experts in systematic processing, integration and development of technologies. Our core activity is to combine technological devices together. For example, we combine robotic technology with IoT devices to enhance machine operation. We have also linked robot technology to lithium-ion batteries; or robotics with new-era semiconductors. Our objective is to exploit the potential of automation by crossing technologies together. Industry 4.0 will revolutionize society, industry and business. And from ‘smart’ healthcare and autonomous vehicles, to robotics and automation, Japan Inc is ready to lead this enormous change.

**SUPPORTING INDUSTRY 4.0.**

**SUPPORTING FACTORY AUTOMATION**

- Development and sale of software (production management system, estimation creation system, etc.)
- Automatic control and robot control by computer and PLC
- Design and development of microcomputer software
- Design and development of precision equipment

www.office-fa.com

**THE NAVIGATOR FOR AUTOMATED PRODUCTION**

SANYO MACHINE WORKS, LTD.

www.sanyo-machine.co.jp
‘Co-creation’, the key to the superiority of Japanese industry

From Honda and Toyota, right down the value chain to Japan’s smaller specialized manufacturers like Shigiya Machinery Works, ‘co-creation’ is an integral part of the Japanese industrial process and something that sets the nation apart from its competitors.

Ardent practitioners of monozukuri, the philosophy of craftsmanship, Japanese manufacturers are renowned for their meticulous attention to detail, quality and customer needs. But to produce their high-quality end products requires tools and machinery of equally high-quality.

To that end, Japanese manufacturers and the companies that supply them with their factory machinery and tools share a special collaborative relationship that has been vital to the success and reputation of Japanese industry. Known amongst manufacturers as ‘co-creation’, this special collaborative relationship is also something that sets Japan apart from its competitors like China and South Korea that have emerged in recent decades.

“It is this collaborative system, this ‘co-creation’, that we and other Japanese companies have adopted that allows us to thrive,” says Norikazu Shigitani, president of Shigiya Machinery Works Ltd.

“Japanese companies actively work with one another in order to better our products and stay relevant. We believe it is important to work together and think together and the Japanese manufacturing system excels in this endeavor.”

Since the 1950s, Shigiya has specialized in the production of metal machine tools, primarily cylindrical grinders, universal grinders and specialized machinery. By working collaboratively with its customers, Shigiya offers bespoke solutions to meet diverse customer needs, whether they are in the automobile, electronics, IT or other businesses.

“In our production of cylindrical grinders, our sales team will listen to the needs of our customers. This information will then be relayed to our design department where our staff will model products according to the exact requirements of our customers,” explains Mr. Shigitani.

“Our assembly team is then in charge of putting components together to obtain a final product that can then be delivered to our clients. In this way, we have highly qualified employees who oversee every single step of the development and production processes so that we can provide our customers with equipment of the highest quality.”

Back when Honda was expanding overseas, particularly in the U.S., the company was developing the CVCC engine, a novel type of engine that required very specific components. Honda entrusted Shigiya to produce and supply those components. For Shigiya, it was a challenging commitment to undertake, but one in which they delivered. “That event was significant in Shigiya Machinery Works’ path towards technological improvement,” adds Mr. Shigitani.

By making full use of its advanced technology and grinding process technologies that it has developed over the years, the company has been able to supply specialized grinders, such as masterless cam grinders, crank-pin grinders, polygon grinders and eccentric pin grinders to customers in both the domestic and overseas markets.

In the United States, the company has been meeting the diverse metal processing needs of the market since the 1970s, establishing Shigiya (USA) Ltd. in 1991, which supplies the most innovative and effective grinding machines for American companies in the automobile, electronics and IT industries, amongst others.

Shigiya not only provides an unparalleled quality of products, but also an unparalleled quality of service that puts it a step above its competitors. “Our teams of service people, both in Japan and the U.S., are always available to fix problems associated with our machines. We pride ourselves on the after-service we offer our customers and we believe that this is one of the many reasons why our customers remain loyal to us,” concludes Mr. Shigitani.

The customers’ voice helps shape the future.

SHIGIYA MACHINERY WORKS LTD.
http://www.shigiya.co.jp/
Machines for the factories of tomorrow

Japan’s world-leading machine tools sector is investing heavily in IoT and automation technology as it bids to beat down global competition.

Often referred to as ‘mother machines’ – machine tools are essential in the manufacturing process in almost all the mechanisms and appliances that surround us and help us live our modern day-to-day lives. They create parts for practically everything: from your mobile phone to your automobile; from the clock on your wall to the planes that zip around in our skies.

For decades, Japan has been the figuative ‘mother’ of all machinery-producing countries – its machine tools industry a chief proponent of the nation’s post-war economic boom and a symbol of its great monozukuri tradition for manufacturing that is admired (and often imitated) the world over.

Today, Japan remains a major global player in the machine tools sector, and in the last 10 years has set about reinventing one of its most important industries as it looks to fight off competitors and adapt to the challenges and opportunities brought about by modern technological advancements.

As part of its ‘connected industry’ policy for boosting the so-called Fourth Industrial Revolution, the Japanese government has recently joined hands with the private sector and is focusing on diverse ways in which it can develop the Internet of Things (IoT) within the machine tools segment. As part of this process, the government has been working alongside industry players on how to deal with the changing global manufacturing landscape, catalysing a cross-sectoral drive to improve the quality of machine tools using innovative technologies.

It is an aspect that all the Japanese machine tool companies are focusing on, including one of the sector’s heavyweights, Toshiba Machine Co., Ltd. “For Toshiba Machine Co. Ltd, IoT does not only concern us, but rather the entire system that revolves around our products,” explains Takahiro Mikami, Group President. “By connecting our machines to the factory or the production line in which it operates, we will successfully participate in productivity amelioration, quality enhancement and reliability augmentation.”

Building on this idea, Mr. Mikami says Toshiba Machine Co. Ltd. has even come up with their own “proprietary and unique concept” of IoT within the manufacturing sphere: IoT+m. “IoT+m means Internet of Things, plus manufacturing, machinery, maintenance, monitoring and mind. This concept of ours combines IoT with manufacturing to respond to new markets trends. Through IoT+m, we connect and integrate our products to our customer’s equipment; this connecting function allows Toshiba Machine Co. Ltd to be at the forefront of the new IoT world.”

Though Mr. Mikami admits that his organization is “at the beginning” of its IoT investment, he stresses that the ability to utilize technology to interconnect the various equipment the company develops will give it a “competitive advantage” in years to come.

It is a competitive advantage that Toshiba Machine Co. Ltd, and indeed Japan, will certainly need if it is to continue setting the pace on global rivals within the thriving international machine tools industry.

With the global machine tools market predicted to exceed 120 billion dollars by 2020, according to a report by Technavio, IoT and automation advancements are clearly already having a transformative effect on the sector, resulting in many countries across the globe to record higher growth.

While regional rival China is currently the country with the world’s largest machine tools industry, it gained its status from producing low-end machine tools (though it is now shifting its focus to manufacturing mid to high-end products in order to meet global demand). In Japan however, it has always been about quality over quantity, says Mr. Mikami.

“For many years, regional peers have been imitating Japanese monozukuri,” he says. “To defend the competitiveness of its industry, Toshiba Machine along with a variety of Japanese makers have focused on reducing cost, while providing unmatched quality and high-added value. For Japanese manufacturers, the quest for innovation is a priority. By continuously providing creative services and product amelioration, replication becomes impossible.”

For Omori Machinery Co., Ltd, a company whose machines are used to package food products and pharmaceuticals, competition from lower-priced competitors such as China and Korea has not prompted them to focus on major reductions in costs, but to focus even more so on high-quality and essence of monozukuri.

“If we observe other competitors in Asia, we witness their rapid growth thanks to cheaper price offering. Since quality and cost are always related, we will not and cannot drastically reduce our prices,” says president and CEO, Toshio Omori. “At Omori Machinery, our strategy is to be a quality leader. This dedication to adding-value and to maintaining high-quality standards are the advantages of Japanese monozukuri. By combining our unique know-how and our state-of-the-art technology, we guar-
“By combining our unique know-how and our state-of-the-art technology, we guarantee high-quality products”

Toshio Omori, President, Omori Machinery Co., Ltd.

“We have been the pioneers of automation and ‘robotization’ of manufacturing sites”

Yoshiharu Inaba, Chairman and CEO, FANUC Corp.

Toshiba high-quality products. As a Japanese corporation, our domestic clients always had extremely high standards and we are therefore subjected to total quality control.

“Our name and brand is famous and we have established a strong reputation. We must now pursue efforts to become renowned in confectionaries and in pharmaceuticals. Our expertise is linked to our ability to deliver high-precision and high-performance hermetic seal packaging machinery.”

Like many Japanese companies, Japan’s shrinking domestic market, a result of its aging population, has compelled Omori to expand its international presence, and today its machines can be found in factories in China, India, Thailand, Canada, Europe and the U.S.

“While India and China are two key markets, we are actively investing in our European and American activities. We also have a sales office in Thailand. As ASEAN is a booming market we carefully observe it. All in all, Japan’s population is shrinking and going out has become a necessity,” says Mr. Omori.

As the quality standards required differ from country to country, Omori has the technological capacity to customize its machines to adapt them to every customer’s needs and budget, but without sacrificing on the quality and the high standards that its Japanese customers demand. Part of its strategy to provide high quality at lower costs involves importing simple machinery parts from China.

“Our network includes 45 countries and 257 bases around the world. Approximately 90 percent of our manufactured products, including indirect exports, are exported all around the world. While our company is clearly global, our core philosophy and practices are very Japanese – a unique approach that we value.”

FANUC was established 61 years ago by Fujitsu as a department that focused on making computer numerical control (CNC) equipment for machine tools. It became an independent company 45 years ago and quickly developed into a manufacturer for CNCs, robots and robo-machines. And it is the technological expertise it has built up through its history that sets it apart from its competitors.

“For 61 years, we have been the pioneers of automation and ‘robotization’ of manufacturing sites,” says Mr. Inaba. “Throughout our years of operation, we have developed a unique set of skills based on experience. This accumulation of expertise allows us to advance and progress in a tough competitive environment.”

The manufacturing industry is changing drastically, and at the heart of this new era of manufacturing are Japan’s machinery and machine tool manufacturers, who will continue to innovate and develop groundbreaking technology to improve the efficiency and productivity of assembly lines worldwide.

Since its creation in 1948, Omori equipment has been responding to changing times, offering unique communications products and services to customers. Worldwide a highly-qualified workforce develops and produces complete solutions for the pharmaceuticals, food, and confectionary industries. These solutions are complemented by a comprehensive after-sales service team.

www.omori.co.jp/english
Casting a better future for worldwide manufacturers

A market leader in the Japan casting machine industry, Koyama is committed to helping its clients to continuously improve their manufacturing processes.

For decades Japan’s manufacturing industry has been renowned around the world. But today it faces two major problems.

Firstly, Japan’s population is aging; meaning the labor pool to fill manufacturing jobs is shrinking. Of course, one of the answers to this problem is the adoption of robotics and automation technology in manufacturing plants, and this is something in which Japan is already at the forefront. Its experience in using innovations such as robotics and automation in response to a shrinking workforce will serve as a model for countries that will have to deal with similar issues in the future.

The second issue is that for many young people in Japan, a job in manufacturing is no longer a desirable occupation. To a Japanese millennial, factories can be seen as perhaps dull and boring places to work, where the job is repetitive and monotonous and involves operating heavy old machinery. To many young Japanese, it is viewed as the work of the older generation: their fathers worked in factories; they want to pursue jobs that are more modern, exciting and creative.

But Takahiro Koyama, President of Koyama Co. Ltd. wants to change the perception of manufacturing jobs amongst young people in Japan. “With Japan’s decreasing demographics, our country’s labor force is at risk of a drastic shortage of employees in the near future. The problem with this is that a lot of young people are not interested in working in the manufacturing industry because they believe it is outdated,” he says.

“We want to change this perception by providing advanced machinery that is more user-friendly to younger people and that will allow our work environment to be more ‘friendly’ and ‘modern’ as a whole.”

Koyama is a leader in the casting industry, and its Barinder-branded casting, burring and polishing machines can be found in factories across Japan and around the world. Since its inception, the company has been committed to innovation and R&D in order to improve its machinery and its clients’ production processes. Today that entails using Industry 4.0 technologies such as artificial intelligence (AI) and the Internet of Things (IoT).

“We focus our efforts in improving our R&D processes in order to better meet the needs of our clients. If customers have specific requirements regarding the Barinders they buy from us, we want to be able to provide them with exactly what they are asking from us and more,” says Mr. Koyama.

“One way we make this possible is by using IoT and AI systems to analyze our products and determine what aspects must be enhanced or revised. In this way, we can gather data about all of our products and improve on our production processes in order to give our clients high-quality, state-of-the-art materials and Barinders.”

Koyama serves as a great example of a Japanese company that has successfully expanded abroad. The combination of the company’s relentless drive to continuously improve its technologies, and the strategic positioning of its factories, has enabled Koyama’s Barinder brand to grow internationally. Leveraging on its market leading position domestically and on the reputed quality of the ‘Made in Japan’ brand, Mr. Koyama aims to further expand the company’s presence abroad.

“Currently, our company has made 20 billion yen ($180 million) in sales and we are leaders in the Japanese market for casting products. Continuing with this monozukuri (Japanese craftsmanship) philosophy, I believe we are ready to conquer overseas markets and show the world once again what it means for products to be ‘Made in Japan’. I would like for our company to branch out to more foreign markets and leave our mark wherever we go.”

HIGHLY PERFORMANT AND HIGHLY EFFECTIVE: THE KOYAMA WAY

BARINDER is working on the reduction of casting finishing, such as cast iron, aluminum alloys and copper alloys, as well as environmental improvements, thanks to labor-saving machines. Further high performance and high effectiveness will be pursued as we answer various needs.
With the rise of Industry 4.0, demand for advanced manufacturing and factory automation is set to surge worldwide. Renowned for their adherence to high standards and the principles of monozukuri, Japan’s robotics and factory automation equipment manufacturers are poised to benefit from this global growth, offering the most innovative solutions for the factory floors of tomorrow.

Yushin Precision Equipment Co., Ltd. began designing and manufacturing automatic equipment in 1973, before it turned its attention to take-out robots for plastic molding machines in 1978. Since then, the company has moved in tandem with the advancements of the plastic industry, while also exploring new business areas, expanding its R&D and product development, and extending its global reach, in order to cater to the more diverse and complicated client demands in the age of Industry 4.0.

In response to the increased demand for robot automation, in 2016 Yushin opened its new facility for engineering, R&D, and manufacturing covering over 200,000 square feet in Kyoto, Japan. The company’s U.S. subsidiary was established in 1988. Operating out of Rhode Island, Yushin America offers U.S. clients automation technology ranging from individual robots for parts removal, to fully integrated factory automation for flexing/closing, assembly, decoration, inspection and packaging.

One of the greatest advantages of automation and robotics is freeing up human workers from dangerous tasks. And that’s exactly what Yushin’s equipment can do.

"Instead of taking work away from people, automation gives freedom and security while insuring end-product quality”

Mayumi Kotani, President, Yushin

"We also manufacture inserting-devices that insert a given part into molds. People used to have to press a button on the injection molding machine, open the door, and insert the parts into the molds – another dangerous process we successfully replaced. Instead of taking work away from people, automation gives freedom and security while insuring end-product quality."

Mayumi Kotani, President, Yushin

"In our industry, the working environment is difficult and there are many parts of the production process that people want to avoid. Taking out molded parts out of molds is a dangerous task; in the past people have sometimes lost their fingers or hands doing it,” says Ms. Mayumi Kotani, President of Yushin.

"The FRA series we introduced last year is a first of its kind and has a controlling function called 'Active Vibration Control' to reduce vibration of the machine. This function allows us to smoothen the production line while limiting errors. Furthermore, the FRA series has the industry’s best safety standard,” says Ms. Kotani.

"We also provide our clients with highly functional robots that can execute a variety of tasks. This special ordered equipment can be set up to complete a multitude of jobs and conduct a wide array of movement.”

In recent years, Yushin, like many Japanese companies, has faced competition from competitors in China and South Korea, who try to replicate their products at a lower cost. However, Ms. Kotani says that the complex parts and components that allow Yushin’s devices to run so effectively and efficiently are impossible to copy.

“Our machines have been copied throughout Asia and exported overseas, sometimes to the USA,” she says. "But our competitors systematically fail to replicate the quality of our devices; that is the strength of our robots.”

"Pioneering automation in the plastics industry

For four decades, Yushin Precision Equipment has offered the best automation and robotics solutions in the plastic injection molding industry, and continues to innovate with new developments such as its FRA High-End Take-out Robots.

www.ype.co.jp/en
WAIDA MFG: A cut above the rest

WAIDA’s high-precision grinding machines are reputed by some of Japan and Asia’s biggest manufacturers, and now the company has opened its U.S. office as it looks to extend its ‘Made-in-Japan’ automated grinding technology to American customers.

Established in 1933, WAIDA MFG Co., Ltd. is a manufacturer of high-precision, high-quality and high-efficiency grinders based on its unique grinding technology that has earned the company an excellent reputation both in Japan and overseas.

In Japan, WAIDA MFG’s clients include the likes of Honda, Mitsubishi, Nissan, Toyota, Mazda and Panasonic; while in China and South Korea, major firms like Foxconn, SDI Corp. and Samsung rely on its high-quality and highly-reliable, ‘Made in Japan’ machinery.

Today, thanks to its commitment to innovation, WAIDA MFG offers its clients unrivalled automated technologies for high-precision cutting of a wide range of materials, such as its APX series of automatic insert periphery grinders, the GIG-202 fully automatic grooving insert grinder and the PGX fully automatic profile grinder.

“WAIDA MFG is a perfect example of Japanese monozukuri: highly complicated, fully-automated grinding machines combined with unbeatable quality and value,” says chairman and CEO, Mitsuo Waida.

“We strive to ensure our machines have a very long life. For example, some machines we sold 50 years ago are still in activity. We have always been in pursuit of the highest possible quality, because this is the only way to gain the trust of your clients. This quality is also the only way to ensure our clients come back to buy our latest machines.”

As the company looks to expand its presence beyond Japan and Asia, which account for 98 percent of its business, and Mr. Waida still sees “tremendous growth possibilities” in the sector. Looking to the future, he also sees “golden opportunities” for the company’s high precision stamping tools in the electronics industry, and particularly the fast-moving smartphones segment.

“Smartphones are continuously evolving and with this evolution comes a need for smaller, more compact and more precise parts such as micro connectors and fine-pitch connectors,” he explains. “This is so precise that our machines are amongst the only ones worldwide that can manufacture such accurate components.”

As it looks to expand into the likes of the U.S. and Europe, WAIDA MFG aims to engage new markets by understanding them from within and listening to client needs.

“We have really made a huge effort to understand the trends of the international market. For us it is clear that to fully understand a client, and to be able to customize a grinding machine to his needs, we need to talk to him, to understand him, and to understand the world we live in,” he explains.

“Our main philosophy here at WAIDA is to always ask a client: ‘What are you struggling with’, and from there, we will find a solution.”

WAIDA MFG is a perfect example of Japanese monozukuri: highly complicated, fully-automated grinding machines combined with unbeatable quality and value

Mitsuo Waida, Chairman and CEO, WAIDA MFG
Japan is best known for corporate giants like Sony, Toshiba, Honda, Toyota and Panasonic. But while these companies have lost market shares to regional rivals from China and South Korea in recent years, Japan’s smaller, lesser-known manufacturing firms continue to dominate niche or specialized segments.

In Japan they are known as Chuken Kigyo (strong, medium-sized firms) and they account for nearly 97 percent of all Japanese enterprises.

While they are largely invisible to the general public, these corporations are the strength of Japanese industry, and are often found to be market leaders in niche fields or behind some of the world’s best-known brands. It is for this reason they have been often called the ‘hidden champions’.

Smaller in size, greater in corporate flexibility and highly specialized in precise products, Japanese SMEs have become the undisputed market leaders in many B2B sectors and are responsible for providing the quality required to make complex end-products. As they are essential to making particular products, many enjoy vast global market shares. It is estimated that within the past decade, Japanese companies served more than 70 percent of the worldwide market in at least 30 technology sectors.

Here, The Worldfolio presents some of these so-called hidden champions, pioneers of high-performing technologies and solutions on which their worldwide clients heavily depend to create their end products.

ROKI Techno
ROKI Group, which is made up of ROKI TECHNO and other subsidiaries, is a fine example of these hidden champions. They may not be a brand known to most consumers, but its filtration systems, ozone devices and water treatment systems are used in the manufacturing of electronics, chemicals, and food and beverages, as well as in the production of general industry and household products, such as cosmetic, detergents, paints and contact lenses.

“Companies like ROKI TECHNO are essential to providing solutions to big brands and contribute to create sophisticated final products,” says president, Shin Ito.

“Many of those Hidden Champions that are behind big brands are leaders in terms of innovation, they provide shining technology solutions,” says Shin Ito, President of ROKI Group.

Looking ahead, Mr. Ito sees great opportunities in the electronics and electric vehicle markets.

“The electronics field represents a great growth potential for us. For instance, whenever new mobile phones are launched, we consequently experienced sales growth. Electrical vehicles are also in high demand. In the electronics field, products have normally an average four-year life cycle so we can expect a constant demand and a stable trend,” he explains.

“Nonetheless, we do not focus just on one field and we try to diversify to guarantee the stability of the business. We are exploring further opportunities in the food and chemi-

"Many of those hidden champions that are behind big brands are leaders in terms of innovation, they provide shining technology solutions"

Shin Ito, President
ROKI Group
standards, a change of mentality

eers have always had the highest

vide technical explanations on how
we sell our valves, but we also pro-
consultation activities. Not only do

ity of our after-service and of our

Another feature that differentiates
the reliability and comfort we offer
is highly respected by our clients.

The company’s products

can be found in factories, commer-
cial buildings, hotels, hospitals, and
residential complexes; and are also
built into many types of industrial
machines, such as food processing
machines, foaming machines, steril-
ing machines, boilers and fuel cell
generators.

Yoshitake’s 70 years of experi-
ence, and continuous investment in
R&D and technology allows it to
offer its customers high-performing,
highly efficient valves that help to re-
duce energy consumption. Key to the
quality of the company’s products is
the fact that it produces most of its
components in-house and does not
depend on suppliers.

“As an SME, it would be extreme-
ly difficult for us to properly track
and conduct quality control analysis
to our supplier’s product,” says presi-
dent, Tetsu Yamada.

“Unlike larger corporations, such
as Toyota Motors, we are not able
to properly monitor our suppliers.
Therefore, our strategy to maintain
an unrivalled level of quality is to
produce the maximum of manu-
factoring components and devices
in-house. This allows Yoshitake to
significantly reduce the amount of
defective products, while abiding by
the highest level of quality control.”

While Yoshitake’s products are
more expensive than their Chinese
or Korean competitors, Mr. Yamada
says that their superior quality and
high reliability make them worth the
price tag.

“While our valves are expensive,
the reliability and comfort we offer
is highly respected by our clients.
Another feature that differentiates
us from our competitors is the qual-
ity of our after-service and of our
consultation activities. Not only do
we sell our valves, but we also pro-
vide technical explanations on how
to best-use our products.”

While its Japanese customers
have always had the highest
standards, a change of mentality
amongst Asian manufacturers re-
garding quality has increased Yoshi-
take’s business in the region, which,
along with North America, South
America, Russia and the Middle
East, forms part of its globalization
strategy.

“Our past decade, the name
Yoshitake began to resonate in
China. Today, we supply our valves
to a variety of Chinese companies.
This business trend reflects an im-
portant change in the spirit of Asian
manufacturers,” adds Mr. Yamada.

“At Yoshitake, we take great pride
in the reputation we have built: qual-
ity and reliability. Our Asian collabor-
ators regard us as a company that
makes little to no errors. While our
valves are expensive, the reliability
and comfort we offer is highly re-
spected by our clients.”

Developing Unique Products
While the Chuken Kigyo are known
for providing complex parts to
larger organizations, they do not
stop there. Japanese SMEs also
have the technology and expertise
to manufacture and provide original
and unique products that improve
our daily lives.

Established in 1970, Fujiplastic
started out by providing precision
parts to the aerospace and manu-
facturing industries. Since 2008, the
year that the company changed its
name to Fujidenolo, it has been com-
mitted to creating products that
fully incorporate both design and

tech products for the medical and
healthcare, manufacturing, interior
design and amusement and enterta-
ainment industries.

“We started by offering com-
plex parts and components to the
aerospace industry. When I be-
came president, I decided to set
ew guidelines for the future of the
company. Our core vision was to
become a firm that can produce its
own original products,” says presi-
dent, Tatsushi Watanabe.

“Once that objective was agreed
upon, we implemented it by hiring
special engineers that could handle
product design and development. I
do not know if you can call it inno-
vation, but once we decided what
our vision was, we were resolved to
achieving it and unwilling to stop.
This vision was the founding stone
of the success we are experiencing
today.”

One of the core strengths of Japa-
nese SMEs is their R&D collabora-
tion with universities, which has
been integral to the development of
the innovation and technology for
which these companies are globally

Tatsushi Watanabe, President
Fujidenolo

Tetsu Yamada, President
Yoshitake

“On the other hand, our philosophy
is to be a part of the customer’s
success. While our valves are expen-
sive, the reliability and comfort we
offer is highly respected by our cli-
ients.”

Mr. Watanabe

Mr. Yamada

https://www.fujidenolo.co.jp/english
renowned. And Fujidenolo is no different. Based in the Nagoya prefecture, the company has been working collaboratively with Nagoya University in pursuit of its goals to build unique and original products.

This successful collaboration between Fujidenolo and Nagoya University’s researchers led to the creation of one of its flagship products, the MAGGUARD, an innovative device used in the healthcare industry to protect patients, hospital staff and MRI scanners.

“MAGGUARD contributes to MRI safety by detecting any ferromagnetic objects which should not be brought into MRI rooms,” explains Mr. Watanabe. “The development of the MAGGUARD is a great example of our capacity to develop original products.”

As part of its fourth midterm strategy, Fujidenolo wants to have 30 percent of its sales coming from the medical sector, and aims to provide five to eight products to the healthcare market over the coming years, during which time the company is looking to expand overseas to ensure its sustainable growth.

“High-quality medical equipment is directly correlated to economic development. The more developed the country, the more potential there is for us. Consequently, Europe, the U.S.A. and Japan are top priorities, together with Singapore, the U.A.E. and more recently China,” adds Mr. Watanabe.

“The MAGGUARD is sold to MRI machine operators, and there are around 5,000 MRI machines in Japan. In the U.S.A. and in Europe, that number is threefold. Considering these numbers, our markets must be overseas and we must look abroad to expand.”

**IMADA**

IMADA specializes in durable, accurate and precise strength, hardness, torque and force measurement instruments and related force measurement type equipment to a variety of industries, such as aerospace, automotive, medical, electronics, food and beverage, packaging and construction equipment, amongst others.

“Our final consumers do not know about IMADA. In that sense, we are the perfect example of a hidden champion,” says Mitsuhiro Imada.

“We provide solutions in niche markets and as a consequence, it requires a high expertise to understand the possibilities of our products. If you ask very technical experts in the field, they will be familiar with our solutions and they will understand the options our products represent.”

IMADA has made the important transition from analog to digital, and has launched a number of digital force gauges, which allow data communication between computer and related devices. It has also developed digital force gauges equipped with USB output and output for USB flash drivers, which is a world first.

“As mentioned, IMADA is one of those hidden companies developing products for specialized fields. This specialization represents a unique opportunity to provide only-one solutions that just a few companies are able to create,” adds Mr. Imada.

“Our strategy is to become a super-niche company offering the most precise and customized products while adapting to the needs of the time. The spirit of our company is to invest in our R&D division to create new and better solutions for our clients.”

Makita Corp.

Not many people outside the shipping industry would know about Makita Corporation, whose products can be found floating on seas and oceans across the globe, and are literally the beating heart of worldwide trade and logistics.

The company manufactures engines mainly for giant cargo ships, including bulk carriers, container ships, tankers, LNG carriers and car carriers, but also for smaller boats.

“An engine is made out of 3,000 parts. Here at Makita, we are very attentive to details, and every single part is carefully studied to make sure it is perfect. We study each part down to the last millimeter, and polish them to make sure they are flawless,” says president, Yu Makita.

With 50 percent of the market share in Japan, Makita has witnessed tremendous growth over the past decade and continues to expand its global market share.

“In 2006, we produced between 30 and 60 engines, meaning the total amount of engines we had was anywhere between 600 and 800 engines. Today that has grown, and represents between 1,200 and 1,600 ships,” explains Mr. Makita.

“We really put a lot of emphasis on the aftercare service, and this is our main international strategy. We hope to create strongholds in Southeast Asia in countries such as Vietnam and Singapore, but also in Europe.”

From manufacturers of filtrations systems and regulation valves, to force measurement instruments and ship engines, these hidden champions are relatively small companies, but they will continue to play a big role in a global industry that depends on their unrivalled technologies and solutions to build end-user products.