Japan Inc. boosting R&D spending to put itself ahead of the curve

In a bid to position itself at the forefront of innovation once again and to ward off competition from regional rivals like South Korea and China, Japan is boosting investment in R&D across the board, from the nation’s biggest conglomerates like Toyota, Honda, Panasonic and Sony, to smaller, lesser known B2B firms in specialized industries.

A survey released earlier this year by Nikkei about R&D activities for fiscal 2018, which started in April, concludes that total R&D spending by major Japanese companies is set to rise 4.5 percent on the previous year, which will be the ninth consecutive year of growth. These Japanese companies are aggressively investing in innovative technologies, ranging from AI and robotics, to biotech, compound materials and chemicals – technologies which they see as key to future competitiveness.

One such company that has been boosting spending on R&D and innovation is DIC Corporation, a world-leading manufacturer of printing inks and organic pigments, which in recent years has diversified into fine chemicals, polymers, compounds and application materials.

In October, DIC announced that it had commenced full-scale R&D of compounds used as materials for stereolithography 3D printing, leveraging on its distinctive polymer designing and compounding technologies. In addition to conducting R&D in Japan, DIC has established a dedicated research department on the site of the Fine Chemicals Technical Center Korea, and in August invested in a Japanese biotech firm, as it looks to strengthen its foothold in biotechnologies.

A Japanese company with a top global share in printing inks and organic pigments, DIC celebrated its 110th anniversary this year, and has established a broad portfolio in an array of sectors spanning more than 60 countries worldwide. You could say it's been a colorful past century or so; one that has been characterized by continual innovation to provide products that respond to the changing needs and tastes of society.

"Throughout the years, we have evolved and diversified our business to adapt to new necessities. As a result, we are now offering a variety of products,” says Kaoru Ino, President and CEO, DIC Corporation. "Our management vision is the same as our brand slogan: to advance through constant innovation," he explains. "This is a unique vision within our industry, and that uniqueness is created through the maintenance of the DIC spirit.”

Perhaps a perfect encapsulation of this fierce commitment to reinvention was the group’s move to rebrand from Dainippon Ink & Chemicals to DIC Corporation in 2008, coinciding with its centenary celebrations. For many businesses lucky enough to reach such a significant milestone, the occasion would inevitably be greeted with over-sentimentality. Not for this company. Rebranding itself from Dainippon Ink & Chemicals to DIC Corporation was all about moving with the times.

"Since we were already well known in the market, we no longer wanted our customers to identify us as a manufacturer limited to the ink production, so we changed our name,” says Mr. Ino. Indeed, with DIC Corporation’s core market of traditional printing inks having seen a marked reduction in demand, the company’s decision to broaden its palette, commercially speaking, was a purely strategic one.

Mr. Ino explains: “Throughout the years, we have evolved and diversified our business to adapt to new necessities. As a result, we are now offering a variety of products.” And this diversification process has not just been limited to product areas, but new industries too, with the group today cementing a
“Since our inception, we have embraced the pioneering spirit of manufacturing unique and innovative carbon products specialized for highly functional fields”

Naotaka Kondo, President, Toyo Tanso Co. Ltd.

honesty, diligence and unity. That unique mindset is exported abroad by Japanese corporations.”

Masahiro Nakajima, Chairman and CEO of Morita Holdings Corporation, agrees that the nation’s manufacturing prowess is also deeply rooted in the character of Japanese people. “Japanese people have a deep interest, not just in making things, but also in preserving them in a proper state and developing them at a higher level of quality. That is what distinguishes Japanese people as a nation,” he says.

For Naotaka Kondo, President of Toyo Tanso Co. Ltd. – whose main business is graphite, a type of carbon that is used in a range of industries, such as in the production of semiconductors – the underlying value of monozukuri is assessing the needs of society, taking time to think about future needs, and truly listening to the customer. “We follow trends that are happening around us and propose what could be helpful or what could be necessary in the near future. This creates a win-win situation between us as a manufacturer and the customers that use and apply our products in their daily lives,” he says.

“Since our inception, we have embraced the pioneering spirit of manufacturing completely unique products, and continued to take on challenges in the pursuit of unique and innovative carbon products specialized for highly functional fields.”

Toyo Tanso was the first company in the world to successfully mass produce large-size isotropic graphite in 1974, and its carbon products and technology have continued to evolve with the needs of the times. Its products can be found in everything from automobiles and home appliances to cutting-edge products in fields such as aerospace and medical care. The company’s operations span the globe, and in the U.S. it has been servicing the semiconductor industry for over 25 years.

Toyo Tanso is also investing heavily in R&D to remain at the forefront of the graphite industry by providing innovative materials and solutions to help both the company and its customers to stay ahead of their competition. It has recently developed a diverse range of composite materials such as C/C carbon fibre, which is lighter and easier to handle than graphite.

“In the semiconductor industry, manufacturing equipment for semiconductors is becoming bigger in size to increase the volume of production. According to this trend, our graphite products, which are used in manufacturing equipment for semiconductors, are also getting heavier and bigger in size,” explains Mr. Kondo.

“Therefore, semiconductor customers are adopting lighter C/C composite products. Trends in size, upgrading equipment and lightweight requirements of equipment parts are not only seen in the semiconductor industry but also in other industries, so we are looking towards more expansion of this product.”

C/C is also being used in asteroid probes developed by the Japan Aerospace Exploration Agency and plasma testing equipment for nuclear fusion reactors.

Sumitomo Electric, a global leader in the manufacture of electric wire and optical fiber cables which is also developing photovoltaic solar panels for energy generation, is another company that has been dedicating more investment in R&D to stay ahead of the curve.

Last year, its R&D expenditure amounted to 117.7 billion yen ($1.04 billion). For this year, it has raised its R&D budget to 125 billion yen.

“This dedication to R&D allowed us to create new businesses, such as a concentrator photovoltaic (CPV) system that has twice the conversion efficiency of standard crystalline silicon photovoltaic,” says Osamu Inoue, president and C00.

“While developing new businesses is a crucial goal of our R&D, we also focus on enhancing the quality of our existing businesses. We are also developing advanced optical fiber products. We have developed ultra-high density optical fiber cable, and we are currently developing even more advanced products soon to be commercialized.”

As Japanese companies such as DIC, Toyo Tanso and Sumitomo continue to invest more in R&D to develop new products with the spirit of monozukuri, the Land of the Rising Sun is ready to rise again, putting itself at the forefront of innovation for a changing world.
Energy co-existence: the sustainable future of fueling solutions

Thanks to its commitment to R&D, Tatsuno Corporation, a pioneer in the fuel dispenser field, has been providing innovative technologies in LPG, CNG, LNG and hydrogen to prepare the automotive industry for the age of sustainability.

Fossil fuel-powered vehicles have ruled the roads for a century, but over the coming decades, the number of vehicles running on alternative energy sources will grow as nations around the globe scramble to drastically reduce carbon emissions.

Electronic vehicles (EVs) have been hailed as the primary successor to fossil-fuel powered cars. According to a study by consultancy firm McKinsey, last year, global sales of new EVs passed a million units for the first time; and under the current growth trajectory, “EV producers could almost quadruple that achievement by 2020, moving 4.5 million units, around 5 percent of the overall global light vehicle market”.

But 5 percent is a tiny portion and many industry insiders are not entirely convinced that EVs will be able to completely replace vehicles powered by the traditional internal combustion engine. Rather than a draconian move to eradicate fossil-fuel powered cars completely, some propose a healthy mix of both traditionally and alternatively fuelled vehicles on our roads.

“Everyone investing in EVs is preaching for the righteous future of cars. I fully believe that EVs will be in demand, but it doesn’t mean that electric vehicles or battery-driven cars will completely replace the traditional engine,” says Hiromichi Tatsuno, President of Tatsuno Corporation, a century-old manufacturer of fuel pumps for the Japanese market, as well as mar-

and sustainable development of the right energy mix. EV technology is an innovation for the future and we are fully aware of its consequences. However, I am sure that it will not destroy our business.”

Tatsuno’s business may not be destroyed, but Mr. Tatsuno and others in the fuel industry are aware they will certainly see disruption over the years by the growth of EVs and hybrid vehicles. Another green alternative being championed in Japan is hydrogen fuel cell vehicles. Giants like Toyota and Honda are all already developing and introducing hydrogen fuel cell cars to the market; while earlier this year, an alliance of 11 Japanese firms, including automakers and energy firms, pledged to build 80 hydrogen fuelling stations by 2022.

Looking to the future for fuel pump manufacturers like Tatsuno, hydrogen fuelling stations represents a major opportunity in the face of disruption from EVs. The company is supporting the proliferation of hydrogen-powered cars and has already developed HYDROGEN NX, a hydrogen dispenser for fuel cell vehicles that is widely used in Japan. For more than a century, Tatsuno has innovated with the times, and the HYDROGEN NX is the latest example of the company’s innovations for a changing world.

“We are investing heavily in hydrogen and we now export dispensers to the U.S. and China. There are about 100 hydrogen stations in Japan of which Tatsuno owns a 50-percent share,” says Mr. Tatsuno.

“Hydrogen started out as a huge cost but we’ve been able to cut it down over time. Without lowering it, we can’t achieve a future where hydrogen is widely used in society. We’ll continue to invest in our R&D facilities and production facilities, because we want to further develop the hydrogen business.”

Tatsuno has innovated with the times and displays its innovations at the showroom in its Yokohama plant.
Cutting-edge equipment for the future of fire-fighting

Morita has been pioneering fire-fighting technology for more than 110 years and is currently developing a groundbreaking fire-truck which can extinguish fire without using water.

In a natural disaster-prone country like Japan, the nation’s fire and safety equipment manufacturers are constantly trying to innovate and come up with new ways to tackle fire and rescue issues in treacherous circumstances, such as in the aftermath of earthquakes.

One such company that has been doing that for over a century is Morita. Founded in 1907, Morita was responsible for the development of Japan’s first gasoline-powered fire pump in 1910 and its first fire truck in 1917. Since then, the company has continued to develop state of the art fire-fighting technology, working as a leading manufacturer of fire trucks for more than 110 years.

Some of the company’s most important innovations have come about from lessons learned in the wake of Japan’s biggest natural disasters. The Great Hanshin-Awaji Earthquake in 1995 was one of the biggest-ever recorded earthquakes in Japan and killed more than 6,400 people. However the worst of the damage was not caused by the earthquake itself, but in the fires that ensued in the aftermath.

“We witnessed what happened and realized that the fire trucks could not cover the full scale of the fire. The fire hydrants were broken at the time, and vehicles only had a limited amount of water in their reservoirs. They could not get a new source of water in a timely fashion,” recalls Morita CEO, Masahiro Nakajima.

“That was one of the most tragic points of that event. The company took that as a lesson and returned to the R&D office to research further preventive measures against natural disasters. Shortly after, we created a vehicle that could carry out effective fire control with less water in an area with poor access to water resources.”

In the aftermath of the Great East Japan earthquake in 2011 and resultant nuclear disaster at the Fukushima Daiichi Nuclear Power Station, Mr. Nakajima says that water could not be used at all because of the tsunami. Again the company took what it had learned from the disaster to develop a revolutionary fire-fighting vehicle that doesn’t require water, known as the MiracleN7.

This MiracleN7 removes oxygen contained in the air to extinguish fire, and provides a glimpse of the technology which could be used in the fire trucks of the future. Morita also developed a miniature model based around the MiracleN7 called the “Habot-mini”, which won the prestigious German Design Award in 2017.

“The MiracleN7 is used in Aomori, which has nuclear power-related facilities. Throughout all these disaster episodes, our company has adapted to the needs and necessities that can occur from unforeseen events, whether they are natural or artificial,” adds Mr. Nakajima.

“Morita pays special attention to what is happening. We want to feel the pulse of society to determine what could be the next step for the company’s future.”

Earlier this year the company also unveiled the “MVF21”, the latest in its series of MVF fire trucks, multi-purpose fire-fighting vehicles that are currently deployed in municipalities around Japan for firefighting, rescue, and storage of material and equipment.

This latest “MVF21” model is equipped with a 21-meter aerial platform and basket capable of carrying a maximum load of 400kg, the first of its kind in Japan. The basket was co-developed by Morita and its consolidated subsidiary Bronto Skylift of Finland in a process that utilized the best of each company’s technology. Also fitted with a compressed air foam system (CAFS) in order to fight fires using relatively little water, “MVF21” has a 900-liter water tank and ample storage space.

As it continues to develop next-generation fire and rescue vehicles like the MiracleN7 and “MVF21”, 111-year-old Morita is readying for the challenges of the next century – putting itself at the forefront of the future of fire-fighting with its innovative and award-winning technology.
Hidden champions: the secret behind Japan’s manufacturing success

While some of Japan’s best-known manufacturers have lost ground to regional rivals in recent years, it is the country’s *chukenkigyo* – strong, medium-sized companies – that continue to fly the national flag, enjoying outsize global market shares in niche areas.

Global industry depends.

Smaller in size, greater in corporate flexibility and highly specialized in precise products, these ‘hidden champions’ have built upon Japan’s historical manufacturing expertise to transform themselves into qualitative and innovative powerhouses.

Here, The Worldfolio presents some of these so-called hidden champions, pioneers of high-performing technologies and solutions on which their worldwide clients rely.

**Components manufacturer diversifies**

Nabell Corporation started as a leading manufacturer of high-quality camera bellows. As the company grew and markets changed, it saw an opportunity to apply its expertise in new industries. Today, the company has a specialty in the design and manufacture of “functional covers” for applications in a wide range of industrial fields. With offices and manufacturing in Japan, Korea, China and in the United States and through leadership and devotion to innovation, Nabell has poised its products in many major markets including optical, medical, machine tool, material handling, semi-conductor, amusement, and many others.

In gearing up for the fourth-industrial revolution, one characterized by a fusion of new technologies that is blurring the lines between the physical, digital, and biological spheres, Nabell’s latest diversification is into the robotics industry, providing bellows technology that enables these high-tech automated machines to function.

As for what makes Japanese *monozukuri* special compared to the manufacturing sectors of other regional rivals, Nabell president Norio Nagai explains: “Firstly, we have, since ancient times, an eye for precision and accuracy. We make our products very precisely not only in terms of function, but beauty. This is our sense of manufacturing. This means that even for something as simple as a cup, we will try to make it more beautiful while retaining its function.

“Secondly, in Japan, every step of the supply chain is here. This means we can create long-term quality control. The ‘five Ms’ we have are very important to this: man, machine, method, material and measurement. However, some countries often require just one ‘M’ – money – so they can copy easily and can sell at a tenth of the price. That’s fantastic, but is it sustainable?

“For example one of our customers uses our bellows and fully understands our specifications. They went through 10 years’ worth of endurance testing with it. If we changed something, they wouldn’t be able to trust us, and they wouldn’t be able to maintain quality for their customers. This commitment to quality is very important and is why everyone returns to the Japanese market.”

**Replication of manufacturing processes is perfectly okay, clarifies Mr. Nagai, but only if the intention is there to learn from it in order to improve on what’s come before. After all, innovation rarely occurs without replication in the first instance.**

“Copying is okay,” he says. “For example, Japan started off copied the U.S.! We copied their methods 60 years ago. While copying teaches you about know-how, it does not teach you about know-why, and that’s a big difference. But Japanese compa-
"Year after year, our customers trust us for the efforts we make to respond to their needs"

Akihiko Yoneda, President and CEO, Banshu Electric Co. Ltd.

Akihiko Yoneda, President and CEO of Banshu Electric, a leader in the manufacture of wire harnesses for the automotive industry, agrees that while Japanese manufacturers cannot compete with China or South Korea on price, those same competitors cannot match Japan on quality.

"Quality is our main advantage and those other countries cannot compete with our quality standards," he says. "As an original equipment manufacturer providing solutions for large companies on demand, we need to deliver high quality for customers."

"As our clients come from a variety of industries, our research is tailored to the individual requirements of each customer"

Yasuhiro Nomura, President, Katayama Chemicals

For Banshu Electric, it is important to incorporate the Japanese spirit of wabi-sabi—a world view centered on the acceptance of transience and imperfection—when implementing the manufacturing process of monozukuri, explains Mr. Yoneda.

"Wabi-sabi allows us to focus on appreciating something for what it is, rather than focusing on what something could be. In that sense, we focus on the uniqueness of Japanese monozukuri’s characteristic for its high quality, rather than focusing on low prices. Our customers choose us because we make efforts to respond to their needs to keep that level of high quality and because of that they keep trusting us year after year.

"At Banshu Electric we deliver high-quality products. Our strategy aims to improve quality standards as opposed to our competitors’ approach to reduce costs while reducing quality. The wire harnesses that we manufacture with great care involve 90-percent handmade work. This silent knowledge cannot be found in any manual, and this spirit of wabi-sabi is at the heart of our products. It is not easy to appreciate this silent knowledge while competitors are just highlighting cost competitiveness, but we want to explain that know-how is what really matters to deliver reliable products."

Along with Banshu Electric’s main business area, which provides wire harness solutions in the automotive, motorcycle and construction industries, the company also provides plastic and rubber parts, mostly for motorcycles. Mr. Yoneda says that while the traditional monozukuri craftmanship that defines Banshu Electric’s products will live on, the company is now adapting to technological innovation to complement its processes.

"Regarding the Fourth Industrial Revolution, I think that we will see some changes in the scenario of our products, but the wire harness business will not die, we will still need them in the future. Automation is the trend nowadays, but we want to preserve the high precision that we are able to provide through our craftmanship process, so we will gradually adopt this technology, but without reducing our high precision standards."

Katayama Chemicals

A leader in the Japanese chemical industry—the country’s second largest manufacturing segment behind transportation machinery—Katayama Chemical develops, manufactures, and sells reagents, chemical products, special synthesized medicines, xenodiagnostic products, and medical raw materials.

Founded in 1908, Katayama Chemical established a joint venture with American water firm Ecolab four years ago that has since become the “number one water treatment company in the world,” says the company’s president, Yasuhiro Nomura. "We believe this made us become a ‘glocal’ business. To us ‘glocal’ means ‘think globally act locally’.

As well as ‘glocality’, Katayama Chemical is a business firmly focused on sustainability, given both the nature of its products, and the nature of Japan—a country synonymous with environmental action being as it is the birthplace of the Kyoto Protocol (the international agreement committing countries to limit greenhouse gas emissions).

Our main policy is how to save the resources of earth," explains Mr. Nomura. "We have a lot of experience in the seawater cooling treatment and we supply these chemicals. These chemicals have been checked by the Japanese Fish Association and verified for their environmental safety.

Taking the example of seawater, Katayama Chemical has developed a product that prevents
A clear vision for the future of ophthalmology

Universal View has developed groundbreaking technologies such as its ‘pinhole’ contact lens, and wants international partners to help bring its innovative products to the enormous potential global market.

“With pinhole lenses, there is only one design and it fits almost everyone suffering from presbyopia or close-sightedness.”

Taro Suzuki, President, Universal View

Taro Suzuki, President of Universal View, a company focused on developing ophthalmic medical devices such as next-generation contact lenses, is passionate about vision and even more passionate about improving it.

“Did you know that 83 percent of the information we absorb comes from your vision?” he says. “Our vision represents the greatest proportion of how we understand the world. As the most crucial sense available to humans, Universal View’s goal is to create innovative ways to enhance our eyesight and eliminate the use of glasses.”

Myopia, more commonly known as short-sightedness, affected 145 billion, or 27 percent of the world’s population in 2010. That figure is estimated to grow to 5 billion people by 2050, according to a study published by the American Academy of Ophthalmology. Mr. Suzuki points out that the growing use of technology such as smart phones is a major cause of the increase.

“The rise of digital technology and smartphones is increasing the amount of screens present in our daily lives and the amount of myopic children will go up. We want to create innovative products that can enter the global market and provide a solution to this issue,” he says.

“To bring its innovative products global, the company is looking for investors and international partners. It is already working with Toray Industries, a Japanese multinational focused on organic synthetic chemistry, polymer chemistry and biochemistry; while INCJ Ltd (Japanese Government Fund) is its major shareholder.

“When it comes to small start-ups like us, our strategy is to partner with larger firms and wisely utilize them to increase our brand recognition overseas,” adds Mr. Suzuki.

Currently there are three common options for a person with myopia: glasses, contact lenses or laser surgery. But Universal View has worked on a new emerging fourth solution: orthokeratology lenses called Breath O correct™, which are worn at night and correct vision during sleep.

“What the orthokeratology lenses do is when you wear it at night, it pulls the focal point to the end of the retina and changes the shape of it, so that in the morning, when you remove the lens, your eyesight will already have been corrected during the night,” explains Mr. Suzuki.

One of the company’s latest innovations is the world’s first ‘pinhole’ contact lenses, which have enormous advantages over regular lenses, as explained by Mr. Suzuki. “If you look through this pinhole, you can see things more clearly. Whereas normal contact lenses enhance the depth of focus, this pinhole technology actually deepens it, effectively allowing you to see better. With pinhole lenses, there is only one design and it fits almost everyone suffering from presbyopia or close-sightedness.”

“This pinhole contact lens will help Japan’s aging population. As you age, you lose your vision, and there are no contact lenses designed to help you as you get older. When it comes to the large players in the market, they don’t have any designs targeting the aging population. Since we are creating a whole new market, we have no direct competitors,” he adds.

“It is scheduled to enter the Japanese and European market in 2020. Once we gain approval in Japan and CE marking, we will partner with global firms to penetrate overseas markets at once. The pinhole contact lens will be an introduction to the smart contact lens, which will be a combination of pinhole technology and connectivity.”

Mr. Suzuki truly believes that the pinhole contact lens can change lives and wants international investors, partners and distributors to come on board to help this revolutionary product reach the potential billions of poor eyesight sufferers across the globe.
Satake: the ‘perfect mixer’ for a cocktail of Asian industries

Just shy of its 100th anniversary, Satake has used a century of operations to create a highly successful blend of experience and innovation in order to become Japan’s number one industrial mixing company.

Since its establishment in 1920, Satake has cemented its place as one of Asia’s top manufacturers of mixers, as well as also becoming a pioneer in environmental testing equipment technology.

For almost a century, Satake has continuously maintained the top share in Japan’s mixing sector – a specialist industry that provides services and apparatus for diverse fields such as food, medicine and chemistry – and has continued to exhibit success in various production scenarios across the world, establishing bases in Korea, China, Taiwan, Malaysia and Thailand.

President of Satake, Mitsutoshi Nishioka, attributes much of the company’s modern-day achievements and impressive expansion to its laboratory specializing in mixing technology, the first one in Asia, which was initially established back in 1987.

"Since then, we have expanded – including joint ventures – in Asia and developed our business into South East Asia as well," he says. "Our basic philosophy is that unless we have expertise in a specific field, we cannot lead the joint venture or establish overseas business locally. That’s why we specialize in mixing technology. Therefore, making such a laboratory was crucial to our expansion, as mixing technology supports almost every type of industry and company."

Indeed, while the concept of mixing is simple – the process of combing two or more different qualities to form one substance or mass – depending on the size of the job, the materials involved, and the type of industry that requires it, then mixing can be a specialist job requiring sophisticated equipment. And this is where Satake has come into its own, providing mixing solutions for almost every sector you can think of: from paints and water treatment to breweries and energy generation. Satake’s largest business share, however, can be found in the chemical and fine chemical field.

"In these areas, the most important matter we are requested to look into is the balance between safety and quality. Our ability to provide the most appropriate and efficient high-level mixing technology is the most important concern for us," explains Mr. Nishioka.

"Other areas such as the food industry, water treatment, or garbage recycling, have asked us for many types of mixing techniques. We develop different technologies for each industry’s needs. How to address these concerns is important to us, so we do a test for every customer and develop the most appropriate method based on their requirements."

Having started out as a mixer manufacturer, Satake has additionally moved into the area of environment testing equipment; technology that performs performance testing of industrial products at a high accuracy.

"The objective was to add a technical essence, making our products more profitable and more unique. That’s why we selected to develop both mixing machines and environment testing machines. Bio-reactors are an extension of these technologies, too" says Mr. Nishioka, referring to Satake’s third major business line.

In the field of bio-reactors, Satake offers a range of solutions from small-scale laboratory equipment and pilot machines to large-scale production machines in order to undertake the optimum commercial production and industrialization in the field of cell cultures.

"Technologically speaking, it is easy to get into the bioreactor market, but there are giants in the industry that we cannot copy or replicate. That’s why we put another essence into these technologies," says the Satake president, proudly underlining that its “3D floating iPS cell differentiation induction bioreactor is one of the only animal cell reactors worldwide”.

Looking forward to the company’s centenary in just over a year’s time, Mr. Nishioka states that the ideal anniversary gift would be to further establish Satake’s top market position, with perhaps another new business venture [for example, a newly developed item, highly precise wet process classifier] or two providing the perfect icing on the cake.

"If I had to talk about an objective for 2020, we would like to be the number one in Asia for mixer technology and environment testing equipment," he says. "As we are developing a reactor for iPS animal cells it would also be good if we could launch an in-house venture or allow another company to use this technology. That would be a wonderful way to bring in our 100th anniversary."
State-of-the-art rubber products for safety and disaster mitigation

Shibata is looking to expand its offering of high-quality rubber products in the U.S. and beyond.

Established in 1923, Shibata Industrial is a manufacturer of specialized rubber materials that started out as a shoemaker. Today the company stills makes a range of safety boots with high-quality rubber for several industries, but it is also a leading manufacturer of rubber-based marine, civil engineering and disaster mitigation products.

In the marine industry, Shibata’s rubber fenders, which it has been developing since 1960, are used in the safe berthing of ships and marine vessels across the globe. The ShibataFenderTeam Group, organized within Shibata Industrial and headquartered in Germany with offices in the Americas, Europe and Asia, brings together a dedicated team of true fender experts delivering safety critical fender systems that protect people, ships and port infrastructure.

More than a dozen port operators in the U.S. already depend on ShibataFenderTeam’s fender systems – from Washington State and California on the west coast, along Texas and the gulf coast onto Florida, North Carolina, New Jersey, Philadelphia, New York and Maine on the east coast, even including Hawaii and Alaska – and the company is looking to further expand its footprint in the Americas, Europe and across the world.

“Our marine-related products have great potential in developing countries such as in Africa and India. This is because countries that are starting to develop economically need to set up their infrastructure,” says Atsuki Shibata, president and CEO.

“There is also a great deal of potential for our products in developed countries, such as in Europe, the United States and Singapore. This is due to container ships and the logistic environments surrounding them, as well as the tendency for cruise ships increasing in size. In order to respond to these large ships, improving port environments is one of their tasks. Consequently, there is great potential for our marine-related products in both developed and developing countries.”

Shibata’s second focus is expanding the use of its disaster mitigation products worldwide. Japan is a country prone to natural disasters such typhoons, earthquakes, volcanic eruptions, tsunamis and heavy flooding. And it is as a result of operating in this environment that Shibata has gained unrivalled experience in developing rubber-based products used in the most state-of-the-art disaster mitigation systems.

The company’s investments in innovation and R&D have enabled it to develop hybrid materials such as ‘Rubber Steel’. Debris barriers in Japan are usually made from concrete, which become worn and damaged after being subjected to repeated erosion over time.

Shibata’s answer to the problem was the development of Rubber Steel, which is attached to the surface of the concrete barrier surface to prevent wear and damage, and this extends the service life of the structure and reduces the frequency of repair and maintenance, and subsequent running costs. A truly original Shibata innovation, Rubber Steel is now widely used as a disaster prevention product in concrete structures at rivers, streams, canals, waterways, dams and coastal areas.

Other Shibata innovations include a bridge restrainer system developed to reduce the impact of earthquake disasters, structure protection materials for soil and water conservation projects, and waterproofing equipment against flood disasters, such as its metal disaster mitigation products worldwide.

“There are still natural disasters all over the world, so we would like to provide comprehensive solutions to these areas affected by disasters”

Atsuki Shibata, CEO, Shibata Industrial Co., Ltd.

and rubber-metal flood protection doors used in buildings, subway stations and public facilities.

“We are looking into expanding the market for our disaster mitigation products and safety boots overseas,” says Mr. Shibata.

“We have heavy rains and flooding throughout Japan. There was also a big earthquake in Hokkaido that caused the electricity supply to stop. We are now making proposals to ensure lifeline to these areas as well as other products for their safety and disaster mitigation.

“We actively work to contribute to society domestically. There are still natural disasters all over the world such as in the Philippines so we would like to provide comprehensive solutions to these areas affected by disasters.”

HSS-001 Rubber Safety Lace-up Boots Conforming to ISO20345

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