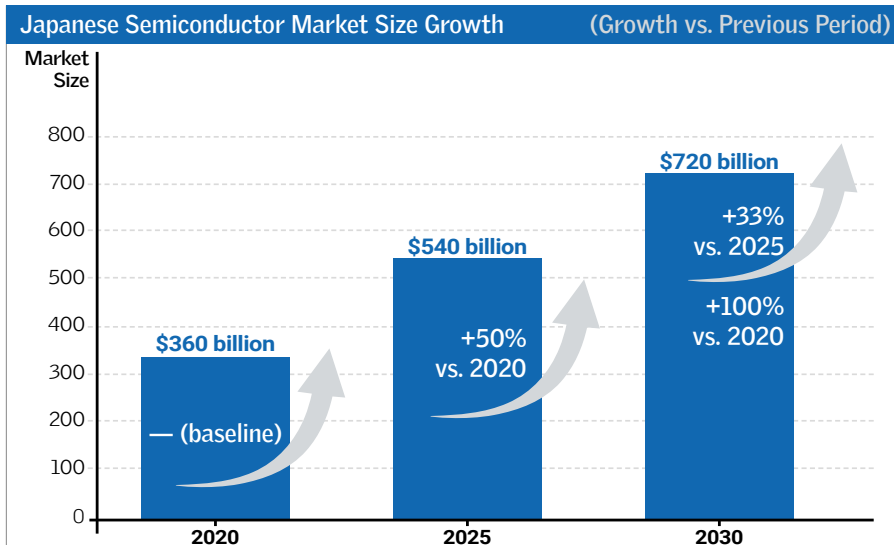


# Japan Crafts the Future of Innovation and Advanced Manufacturing

Japan's *monozukuri* spirit, built on precision, pride and innovation, is redefining advanced manufacturing, driving breakthroughs in semiconductors, materials, and sustainable technologies for a brighter global future. *By Daniel de Bomford*



Source: Commerce and Information Policy Bureau, Ministry of Economy, Trade and Industry

In a quiet workshop in Japan, an engineer adjusts a precision tool, the soft hum of machinery filling the air. Every movement calculated, every detail exact. To the uninitiated, it may seem like routine work. To the engineer, it's an art that transcends skill. This routine of refining, improving and never settling is known in Japan as *monozukuri*.

While the word translates simply into "making things," it carries a weight beyond its literal meaning. *Monozukuri* embodies the soul of Japanese manufacturing: pride in craftsmanship, respect for materials and the belief that innovation is born through dedication and thoughtfulness. It's a way of thinking as much as a way of working, and it's fitting for a country where manufacturing accounts for 20 percent of GDP.



"We will keep advancing precision, and we will align with the global shift toward automation and unmanned operations."

**Masaki Wakabayashi**, President,  
Mitsubishi Diamond Industrial Co., Ltd.

Today, that same spirit guides Japan's path at the forefront of advanced manufacturing. From bonding wires thinner than a hair to fiber materials that endure searing heat, Japanese companies are applying the timeless discipline of *monozukuri* to technologies that power our connected, digital world.

As the world rushes to shore up semiconductor supply chains for advanced technology, Japan is emerging as a reliable manufactur-

ing partner at the forefront. The country's semiconductor investment in Kumamoto is projected to create about 10,700 jobs and generate an estimated 9.2 trillion yen (\$51 billion) in economic ripple effects nationwide.

## Japan Leads in Solutions for Future Manufacturing

Nowhere is *monozukuri* more crucial or evident than in the semiconductor industry. Mitsubishi Diamond Industrial (MDI) has spent nine decades translating the art of Japanese craftsmanship into the precise language needed for semiconductor engineering. Founded as a maker of glass-cutting tools using natural diamonds, the company's journey reflects the evolution of Japan's manufacturing prowess, from hand tools to machines that cut crystal-line wafers with microscopic precision.

The company rose to prominence during Japan's LCD boom, commanding roughly 90 percent of the global market for glass-cutting tools. Yet even at its peak, MDI continued to refine its methods. President Masaki Wakabayashi describes this drive as the company's defining ethos: "Whatever the field, whatever the product, always deliver the very best to our customers. That is the only way to create the future."

This pursuit now manifests in MDI's pioneering Scribe-and-Break technology. This process replaces traditional blade dicing and laser cutting with a cleaner and more sustainable method that requires no water and produces fewer defects.

## Continuous Improvement as a Standard

If precision cutting of semiconductor wafers represents one end of Japan's mastery in

microfabrication, the next begins at the point of connection. Nippon Micrometal Corp has built its reputation on something so small, it's almost invisible: the bonding wires that carry the signals through the chip and connect logic to memory.

The company has become a cornerstone of Japan's semiconductor ecosystem. It's copper and alloy wires, some thinner than a human hair, that power everything from electric vehicles to AI processors. "Japan's strength in manufacturing lies in our deep technological foundation," CEO Dr. Takashi Yamada says. "In our production processes, we emphasize the close, hands-on collaboration between skilled operators and engineers."

This creates a workplace culture where a feedback loop creates constant incremental improvements, known in Japanese as *kaizen*. "Kaizen isn't just a management buzzword in Japan—it's ingrained in our production mindset," Yamada says. "It's what enables us to pursue quality, efficiency, and innovation simultaneously." The company's flagship EX Series, a line of advanced bonding wire that has redefined global standards, embodies this continuous improvement.



"While providing a safe and comfortable work environment for our employees was a fundamental requirement, we also aimed to produce eco-conscious products."

**Akinobu Ogata**, President,  
NITTO KOHKI CO., LTD.

## Materials That Power the Semiconductor Revolution

Nissan Chemical Corporation works further upstream, developing high-performance materials that make those connections possible. From the photoresists used in extreme ultraviolet (EUV) lithography to temporary bonding materials for high-bandwidth memory, its performance materials division sits at the core of the global semiconductor supply chain.

President Shinsuke Yagi says Japan's strength in its depth of scientific expertise. "Japanese chemical industry has strong advantages in advanced technology, quality, and reliability," he says. "At Nissan Chemical, precise organic synthesis skills and knowledge based on the freewheeling thinking by our researchers are the major backbone of our business." Those researchers have made Nissan Chemical a trusted partner to the world's leading chipmakers.

### Chemistry Driving Precision and Sustainability

Japan's unique manufacturing landscape, centered on concepts like *monozukuri* and *kaizen*, naturally gives rise to companies that deliver one-of-a-kind products and services. Nippon Carbide Industries began producing carbide-based chemicals in 1935 and has evolved into a global supplier of advanced materials for semiconductor, electronics, and safety applications. "To achieve sustainable growth and contribute to society, our company is focused on creating unique value under the concept of 'Outstanding values = One & Only,'" says President and CEO Sugiyama Takahisa.

In the semiconductor field, Nippon Carbide's functional chemicals enable cleaner, more precise circuit formation, while its Nikalet ECR semiconductor mold cleaner has earned it a high market share across Asia. By combining innovation with reliability, the company's products uphold the "Japan brand" of trust and quality. Maintaining on that trust is essential in the digital age. As Takahisa says, "As we approach our 100th anniversary, we aim to remain a globally trusted company, one that embodies both innovation and the capability for sustainable growth."

### Resilience in the Heat: Japan's High-Performing Fibers

At the material frontier of Japan's industrial landscape stands MAFTEC, a company whose heat-resistant fibers protect the world's most demanding technologies. Developed initial-

ly within Mitsubishi Chemical in the 1980s, MAFTEC's materials have become essential to industries where performance under extreme heat is a defining factor of success. "Our technology is also applied in heat insulation for industrial furnaces, and more recently in emerging areas such as EV batteries and stationary batteries," says President Kosuke Matsuzaki.

As semiconductors and electric mobility drive global decarbonization, MAFTEC's lightweight, energy-efficient insulation helps reduce emissions and improve safety across production ecosystems. Now an independent company under Advantage Partners, MAFTEC is expanding in the U.S. and Europe, guided by the Japanese principle of *sampo-yoshi*, good for the seller, good for the buyer, and good for society.

### Engineering the Factories of the Future

If companies like MAFTEC and Nissan Chemical embody Japan's mastery of materials, Nitto Kohki represents the nation's precision in motion. The company has spent decades perfecting the unseen components that keep modern manufacturing running, from quick-connect couplers to pumps and power tools, enabling the world's factories. Its latest milestone is a state-of-the-art plant in Fukushima City, designed by renowned architect Kengo Kuma, where automation and architecture blend seamlessly. "Our goal is to operate the factory 24 hours a day, even during unmanned hours, to reduce the workload on our operators and make their jobs easier," says President Akinobu Ogata.

The Fukushima facility embodies Japan's next stage of *monozukuri*, a future that is smart, sustainable and designed with people in mind. By pairing robotics and AI with eco-conscious design, Nitto Kohki advances efficiency and revitalizes the regional industry by hiring local talent and fostering pride in craft. Ogata says the mission is clear: "We will continue to drive innovation, create new value, and pursue further growth in the global marketplace."

### Crafting the Future: Monozukuri in the Age of Automation

Across Japan's manufacturing landscape, from the diamond tools to bonding wires and smart factories, Japan's industrial philosophy thrives. *Monozukuri* is the thread connecting each innovation, where excellence is built and progress emerges from care, discipline and continuity.

In an era defined by automation, global competition and digital transformation, Japan's makers continue to demonstrate that technology and humanity are not at odds. Their world, built with semiconductors and advanced materials, reflects a national tradition of craftsmanship that rises to meet modern challenges.

As the world pursues cleaner, faster and smarter technologies, Japan's manufacturing ethos is proof that innovation is not just invention, but also integrity. It's the patience and commitment to endure and make things better, one precise layer at a time.

## Nippon Carbide's Bid to Be a 'One & Only' Materials Leader

Nippon Carbide Industries positions electronics and safety as its key focus areas and contributes to the realization of a more innovative and more sustainable society through its "One & Only" products, such as functional chemicals, semiconductor mold cleaner, retroreflective sheetings and 3D emblems. By Cian O'Neill and Paul Mannion

The innovations of the latter half of the 20th century were driven by Japanese industry. "Made in Japan" became synonymous with reliability, safety and freedom from worry. Founded in 1935 and commencing operations the following year, Nippon Carbide Industries was one of the companies that led this transformation. Its founding philosophy: "Contributing to the welfare of mankind through ultimate research in the carbide industry" lives on in the company's current group mission: "Creating new value with our technological capability, we help make society more prosperous."

President and CEO Takahisa Sugiyama states that Nippon Carbide Industries is committed to contributing to society while achieving sustainable growth by focusing on high-

value-added products that only the company can deliver.

A prime example is its retroreflective sheetings used in road signs and license plates. These products are engineered with highly precise optical simulation technology to ensure excellent nighttime visibility and offer outstanding weather resistance against UV exposure and harsh environmental conditions. In fields where safety and reliability are essential, the company's products have established a solid presence.

In the semiconductor sector, the company offers functional chemicals like azole compounds that enhance adhesion between copper wiring and insulating resins, and resist crosslinking agents that enable the formation of highly precise circuits. Its semiconductor mold cleaner is renowned globally for its sta-

ble cleaning performance. They are seeing increasing demand, especially in the Chinese market, where the semiconductor industry is expanding.

The company's 3-D emblems, which combine design and durability, are expanding from motorcycles to the broader automotive market. In Europe and North America markets in particular, the company is promoting these products alongside retroreflective sheetings and high-performance films to automotive manufacturers.

In 2026, Nippon Carbide Industries will mark the 90th anniversary of its operations. Looking ahead, President Sugiyama says, "As we approach our 100th anniversary, we aim to remain a globally trusted company, one that embodies both innovation and the capability for sustainable growth."



Retroreflective sheet



Functional chemicals



Semiconductor cleaning materials



3-D emblem

 NIPPON CARBIDE INDUSTRIES CO., INC.  
www.carbide.co.jp/en





Photograph courtesy of Matsui Corporation

## Nitto Kohki Empowers Regional Growth

**With a new state-of-the-art plant in Fukushima, Nitto Kohki is contributing to regional revitalization and eco-conscious manufacturing.**

*By Daniel de Bomford, Bernard Thompson and Sasha Lauture*

The future of manufacturing is not the elimination of the human factor, but rather a technological augmentation of human capability. Smart factories are sleek, yet familiar, where autonomous robots cart goods, and human workers carry out the precise operations. It isn't just grand technology; it's the hidden things like quick-connect couplers, tools, and pumps that will shape tomorrow's manufacturing.

Leading this evolution is Nitto Kohki. Founded in 1956, the precision manufacturing pioneers have continued to push the boundaries of what is possible. Akinobu Ogata, president of Nitto Kohki, regards the company's new plant, situated in Fukushima City, as the culmination of the company's philosophy.

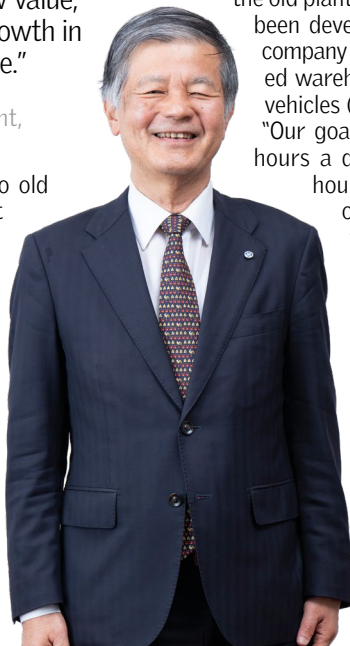
Constructed to replace two aging plant sites and increase efficiency, the new plant

**"We will continue to drive innovation, create new value, and pursue further growth in the global marketplace."**

**Akinobu Ogata, President,  
NITTO KOHKI CO., LTD.**

is situated between the two old sites. "The most important part of this transition was preserving both the manufacturing technologies and the employees," he states.

The plant itself is a masterpiece, designed by world-renowned architect Kengo Kuma as his first project of this kind, alongside Taro Ashihara, one of the most respected architects in this field. Kuma



"HHV CUPLA"  
fuel coupling for  
high pressure  
hydrogen

was immediately drawn to the natural surroundings of the site. "He walked the entire site, climbed the stairs to the highway, and noticed a stunning view of the mountains," Ogata says. "He told me he wanted to design a building that took full advantage of that landscape."

While some technology was brought from the old plants, a large proportion of it has been developed for the new site. The company has implemented an automated warehouse and automated guided vehicles (AGVs) to manage inventory. "Our goal is to operate the plant 24 hours a day, even during unmanned hours, to reduce the workload on our operators and make their jobs easier," the president states. Now that the operation has been fully realized, Nitto Kohki is looking to implement AI to detect early signs of equipment malfunctions and wear.

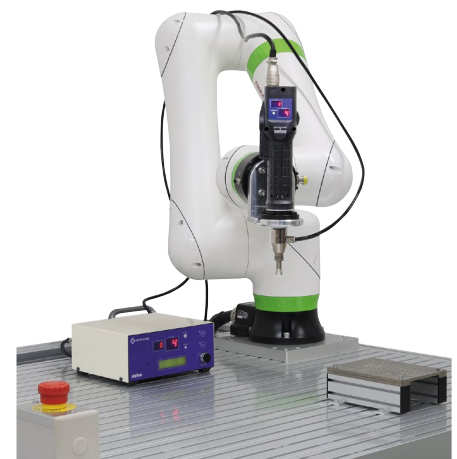
Ogata prioritized environmentally friendly operations for the new plant, with a focus on lower electricity consumption and reduced

emissions. "While providing a safe and comfortable work environment for our employees was a fundamental requirement, we also aimed to produce eco-conscious products that would build greater trust with society," the president says.

Another key driver of decision-making was the plant's contribution to regional revitalization. Across the country, workers are migrating from regional towns to population centers like Tokyo for work.

"Our decision to build a new plant in Fukushima was intended to help reverse that trend, and I believe it already has," Ogata says. He believes that they have begun to reverse the trend, having hired 46 employees from the local region, and setting targets to hire between 10 and 20 each year.

Nitto Kohki's new Fukushima plant embodies the company's vision of combining innovation, sustainability, and regional revitalization to shape the future of manufacturing.



"Delvo" electric screwdriver for automatic screw fastening

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# MAFTEC Leads Heat-Tech Evolution

Born from Japan's spirit of craftsmanship, MAFTEC transforms advanced materials into global solutions. The company is driving cleaner mobility, energy efficiency, and sustainability worldwide. *By Daniel de Bomford, Arthur Menkes and Paul Mannion*



"Our goal is to build a company that can endure and thrive for 100 years."

**Kosuke Matsuzaki,**  
President, MAFTEC Co. Ltd.

Like silkworms spinning threads that withstand both time and flame, MAFTEC has woven its legacy into the very fabric of modern industry. Born in the crucible of Japan's manufacturing renaissance, its fibers now stretch across continents, insulating the engines of cars, the furnaces of steelworks, and the batteries powering a sustainable future. What began as a single strand of material science in the 1980s has become a global tapestry of resilience, technology and trust.

Born in the 1980s within Mitsubishi Chemical, MAFTEC rose as a trusted name in high-performance insulation. Since becoming independent under Apollo Global Management in 2022, President Kosuke Matsuzaki

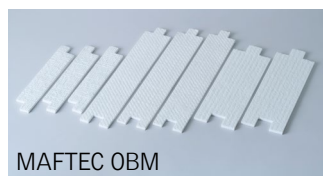
zaki says the brand's spirit and values have stayed firmly intact.



## The Power of MAFTEC

At the heart of the company's success is its MAFTEC blanket, which has been engineered for exceptional heat resistance and versatility. The company processes the blanket into specific forms, such as MAFTEC Bulk and MAFTEC OBM. The material primarily serves as a thermal barrier in temperatures exposed to extreme heat.

MAFTEC materials are primarily used in the automotive industry for parts like catalytic converters, but Matsuzaki sees opportunities in critical sectors. "Our technology is also applied in heat insulation for industrial furnaces, and more recently in emerging areas such as EV batteries and stationary batteries," he says.



## Enabling a Green Industrial Revolution

He says there's no question that batteries for EV vehicles represent one of the most promising opportunities for MAFTEC, where EVs are projected to account for 30 percent of light vehicles on the road in the next 20 years. With its brand carrying recognition and trust in the automotive industry, the company has a significant advantage in expanding into the EV market.



Simultaneously, MAFTEC's skid post block, a rigid insulation for steelmaking furnaces, offers a leap forward in energy efficiency. Traditionally, cement or metal has been used for the pillars in furnace systems. "These conventional materials are heavy, prone to cracking under high heat, and can allow energy loss when they fail," Matsuzaki says. "Our skid post blocks, by contrast, are lightweight, durable, and capable of withstanding temperatures up to 1600 degrees Celsius without breaking." The skid post block is also excellent at reducing CO<sub>2</sub> emissions by preventing heat leakage and simplifying installation.



high-temperature materials like MAFTEC's, as catalytic converters move closer to engines and face harsher conditions. Commercial vehicle demand is rising in emerging markets like India, Africa, and South America, with trucks using about ten times more material than passenger cars, which will drive steady growth through 2030.

Following its independence, MAFTEC established MAFTEC US and MAFTEC Europe to strengthen global operations. The company is actively seeking strategic partners in the United States, particularly within the steel industry. Matsuzaki personally attended the AIST (Advanced Iron and Steel Technology) event in May 2025, meeting with potential American partners to accelerate market entry.

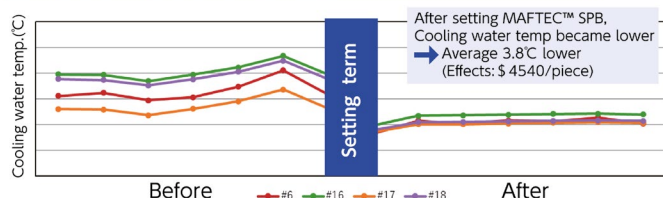
"Direct engagement is crucial for building long-term relationships," he says—a philosophy that mirrors Japan's tradition of relationship-driven business while reflecting a modern, global outlook.

## Backed by Strength, the Next 100 Years

MAFTEC's next chapter is backed by Advantage Partners, one of Japan's leading private equity firms. With a record of supporting over 70 companies, it brings strategic expertise to help MAFTEC accelerate innovation and global growth.

For Matsuzaki, who became president in 2024, success is measured in legacy as much as market share. His vision is to build "a company that can thrive for 100 years," founded on sustainability and mutual effort. "In Japan, we call this concept Sampo-yoshi—'good for the seller, good for the buyer, and good for society,'" he says. "This philosophy underpins everything we do."

## Sample of improvement effects



	Co.A①	Co.A②
Setting Post	4 post	28 post
ΔT	-4.0°C	-3.8°C
Heat loss(per post )	460 GJ	351 GJ
Energy-Saving effects(per post)	\$ 5947	\$ 4540

**MAFTEC™ SPB** can recover its investment within one year or in an equally short period of time.

## Navigating Shifting Markets

EV adoption may have slowed, but tightening emissions rules are fueling demand for

**MAFTEC**

<https://maftec.co.jp>



# Nippon Micrometal: Bonding Wire Innovator

Driven by innovation and precision, Nippon Micrometal leads the global semiconductor industry with advanced bonding wire solutions that boost performance and reliability. *By Daniel de Bomford, Cian O'Neill and Bernard Thompson*



"Our goal is to firmly establish ourselves as the world's number one bonding wire company."

Dr. Takashi Yamada, CEO,  
Nippon Micrometal Corp.

If semiconductors are the brain tissue of modern technology, bonding wires are the neurons that carry the signals that direct every function of our digital world. Hidden deep within phones, data centers and AI processors, these microscopic threads form the vital circulatory systems of modern electronics.

Since its inception in 1987, Nippon Micrometal has been at the forefront of the semiconductor industry, advancing the science of connection and developing solutions for the critical sector. CEO Dr. Takashi Yamada speaks to this: "Our ambition is to become a full-solution provider across all key application areas: from auto-

motive and AI to memory, mobile and power semiconductors."

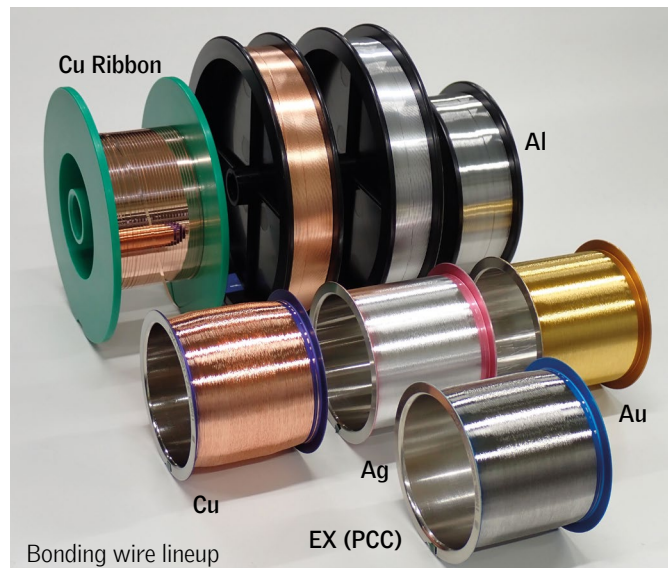
## The EX Series: Innovation in Every Strand

Nippon Micrometal's EX series has been a revelation for bonding wire, a critical technological component. Originally developed as a cost-effective, high-performance alternative to gold bonding wire, the series became the de facto worldwide standard.

Bonding wire is responsible for carrying electrical signals to and from semiconductors, making it a crucial component in advanced electronics. Everything from consumer electronics to advanced AI relies on bonding wire to function.

While others had created copper alloys, Nippon Micrometal took a different approach by coating copper wire with palladium at the nanoscale to enhance corrosion resistance without sacrificing conductivity.

Yamada says achieving an ultra-thin uniform quality while maintaining mechanical integrity was "extremely challenging" and required a complete reengineering of plating systems to operate at a nano level. "The result is a product that achieves the desired trifecta of electrical, mechanical and environmental resilience, and it has been very well received in the market," he says. EX1S, the latest in its series, offers superior corrosion protection while maintaining an electrical resistivity of 2.4 microhm-centimeters, equal to that of pure gold wire but at a significantly lower cost.



Nippon Micrometal holds over 300 patents across more than 10 countries. These include innovations with silver alloy wire for devices where copper is not always suitable, as well as heavy copper and aluminum wires, which are well-suited for modern power devices with higher current capabilities.

## Smart Manufacturing for a Smarter Future

While product innovation is essential, companies must adapt their business practices to remain competitive and meet modern challenges. With acute labor shortages forecast for Japan as its population shrinks, Nippon Micrometal is investing heavily in digital transformation, automation and smart factory initiatives. "Our goal is to scale production output while minimizing dependence on manual labor," Yamada says.

The company develops its core technologies in Japan while simultaneously expanding its global manufacturing footprint. With remote monitoring, Nippon Micrometal can monitor and control its production lines anywhere in the world. "This system captures live production data and enables us to send technical feedback or corrective instructions instantly," Yamada says.

Demand is increasing for bonding wire worldwide as countries scramble to diversify their sup-

ply chains. With facilities in Japan, China and the Philippines and representatives worldwide, Nippon Micrometal is supporting customers' evolving demands through high production capability, uncompromising quality, and advanced technical support.

## Scaling Innovation Across Borders

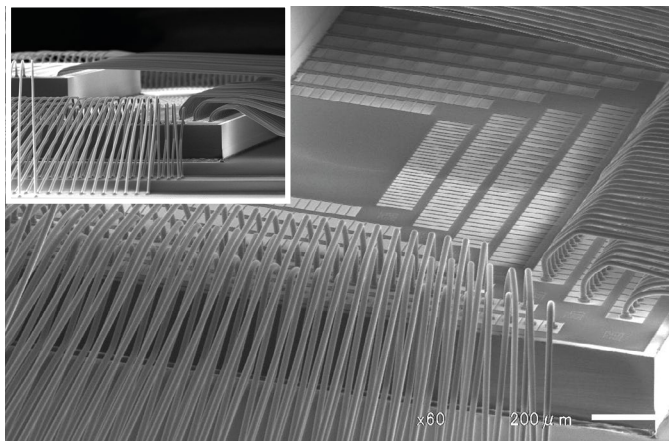
Beyond technology, processes have been standardized globally. Every site receives identical equipment, instructions and work manuals, ensuring uniformity and consistent quality. Yamada says that through these systems, the company achieves identical results from all its factories globally.

This year, Nippon Micrometal focused on scaling its facilities in China and relocating into a new, more advanced factory. Now, the company is looking to expand its facilities in Japan and the Philippines.

Leveraging advanced materials science, Nippon Micrometal supports steady, efficient and sustainable data flow that defines the digital era. It ensures signals continue to flow efficiently through every device, from the smallest sensor to the most powerful AI processor.

 **Nippon Micrometal Corporation**  
[www.nmc-net.co.jp/en](http://www.nmc-net.co.jp/en)

**ChemMat**  
[www.nscm.nipponsteel.com/english](http://www.nscm.nipponsteel.com/english)



18μm EX wire bonding

# Vista2027: Nissan Chemical's Vision

Nissan Chemical is driving Japan's innovation frontier, advancing sustainable technologies in chemicals, agriculture and semiconductors while shaping a smarter, greener future through its ambitious Vista2027 strategy.

By Daniel de Bomford and Cian O'Neill



"The Japanese chemical industry has strong advantages in advanced technology, quality and reliability."

**Shinsuke Yagi, President,**  
Nissan Chemical Corporation

In the future, when the next generation enjoys the natural world, with the smells of flowers in bloom and the sights of crystal-clear waters, it will be a gift from today. Likewise, in the workplaces of the future, which will be equitable, inclusive and supportive, these environments will be shaped by the decisions companies make today. To reach this future, innovation is crucial, from the chemicals we use to the workplaces we operate.

For Japan, industrial innovation is deeply ingrained in the country's DNA, especially in the chemical sector. Japanese companies have led countless scientific and industrial discoveries. Shinsuke Yagi, president of Nissan Chemical

Corporation, notes that numerous Nobel Prizes have been awarded to Japanese researchers, and the country attracts some of the world's top researchers.

He points to these researchers as the foundation of the industry: "At Nissan Chemical, precise organic synthesis skills and knowledge based on the freewheeling thinking by our researchers are the major backbone of our business." This expertise is integrated across the company's business segments and reflects the core strength of the organization.

Nissan Chemical launched its six-year midterm plan, Vista2027 in 2022. Stage I concluded in 2024, marking a period of strong financial performance, particularly in performance materials and agricultural chemicals. A core part of the company's foundation in 1887 was its commitment to contributing to society through the advancement of agriculture. This vision was reflected in Stage I's agricultural focus, resulting in a sales increase of 20 billion yen (\$129 million) and an 18 percent increase in revenue.

In performance materials, the widespread adoption of AI has driven the growth of Nissan Chemical's advanced materials, like its Extreme Ultraviolet Lithography (EUV) and temporary bonding material for High Bandwidth Memory (HBM). To support its ambitions, it has opened its first pesticide factory in India and a third facility in Korea to support its semiconductor materials business.

Having set ambitious growth, sales and profit targets for Stage II, Nissan Chemical emphasizes a swift time-to-market for its products. At the same time, Yagi recognizes the importance of ensuring the company can scale production to meet demand.



Semiconductor Process  
Materials Research Dept.  
in Toyama prefecture

Semiconductors and agro-industries remain a core focus for growth. "Our mid-term strategy outlines that 70 percent of our operating resources will be allocated to agricultural chemicals and performance materials divisions," Yagi says. During this phase, the company is also expanding into new areas such as healthcare, through the development of pharmaceuticals and materials for regenerative medicines.

Vista2027 isn't solely about financial growth and development. Sustainability plays a key role in Nissan Chemical's mid-term strategy.

One of the company's key performance indicators is its "sustainable agenda," which measures the contribution of each product to society. "Improving that ratio is a central objective for us," Yagi says.

The company has a history of sustainability, having exited the petrochemical sector while pursuing ambitious CO2 reduction targets. Beyond the natural environment, the company is working to improve diversity and equity within the workplace with a focus on recruiting women and foreign nationals.

For Yagi, the real challenge comes from shifting mindsets; researchers give their all and are resistant to giving up. At each stage of product development, progress must be assessed, and a decision must be made to either halt or continue. "Making these decisions at the right time is key to improving our overall success rate," he says.

But at every step, every decision is being made with future generations in mind. Yagi summarizes Nissan Chemical's philosophy, "At its heart, our goal is to make a meaningful contribution both in Japan and globally through our products."



Granulation Tower: Symbol of  
Toyama Plant



GRACIA® is a fast-acting, broad-spectrum pesticide with minimal impact on honeybees

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