

How Construction and Innovation Are Revitalizing Japan

From compact cities to digital infrastructure, Japan's construction leaders are rethinking how communities can thrive amid demographic decline. *By Bernard Thompson and Daniel de Bomford*

Japan's regions are entering a new era of renewal. Major investments in advanced manufacturing, such as TSMC's \$8.6 billion semiconductor plant in Kumamoto, are revitalizing local economies, creating thousands of skilled jobs and drawing global attention beyond Tokyo. With more affordable land, access to resources and strong community partnerships, once-overlooked areas are becoming magnets for both domestic and foreign investors.

For this momentum to endure, however, growth must rest on stronger foundations. Much of Japan's infrastructure remains outdated, fragile and costly to maintain. At the same time, construction firms face rising costs, labor shortages, and the end of scrap-and-build policies, which force them to adapt to new realities. These pressures, although daunting, have spurred a shift toward long-term planning, efficient resource use and sustainable maintenance.

It is in this adaptation that the real opportunity lies. By bringing their expertise to regional revitalization, construction companies are positioned to bridge Japan's demographic and economic divides and ensure that prosperity does not remain confined to Tokyo. In doing so, they are not only reshaping rural recovery but also redefining how Japan must rethink the future of its cities.

Compact Cities as a Survival Strategy

This promise of renewal requires confronting the country's looming population crisis, one that demands a bold reimagining. Research Institute of Architecture President and CEO Takashi Umezawa warns that many urban centers may retain only 30 percent of their current populations by 2050. To counter

this trajectory, he advocates for "compact cities" where amenities, infrastructure and mixed-use zoning converge around a vibrant core. "Our mission is to think about how to develop the center of a city," he says. Such models prioritize ease of living and community interaction, positioning urban hubs as catalysts for broader regional revitalization.

"Our mission is to think about how to develop the center of a city."

Takashi Umezawa,
president & CEO,
Research Institute of Architecture

Digital Tools Driving Efficiency

Technology is central to this shift. When integrated into urban planning, it supports the rise of smart cities that combine environmental goals with daily convenience. "Our key goal is to help realize a smart city," says Toshiaki Shinozaki, president of Ad-Sol Nissin. "ICT enables disaster prevention, renewable energy use, and safer, more convenient urban living for future generations."

Yet for such visions to take hold, construction companies must also confront immediate economic realities. "Customers are turning to renovation and conversion projects as a more cost-effective alternative," explains Yamashita PMC President Yuko Maruyama. Leaders like Toshikazu Hiraiwa, of Hiraiwa Construction, stress efficiency gains through task reallocation: "By taking on clerical work that non-technicians can do and following up with technicians to assist with surveying and other tasks, we are contributing to the development of a system that allows

field technicians to focus on work that only technicians can do."

Automation and Sustainability in Practice

Japan's cultural affinity for technology supports its rapid adoption of robotics and digital tools. "We grew up with a technology-based culture, so we think of robots as things that make our lives easier," said Tadahiro Kawada, president of Kawada Technologies. Digital transformation is also easing systemic burdens. "Digitalization can significantly improve operational efficiency ... across Japan's infrastructure as a whole," says Kimikazu Uemura, CEO of Index. Automation is particularly visible in rebar and precast concrete production, where "the real transformation, in my view, will come in how these machines are operated, shifting from manual control to software-based systems," explains Toyo Kensetsu Kohki president Yasuo Tanaka.

Sustainability frames these efforts within Japan's climate commitments: a 60 percent cut in greenhouse gas emissions by 2035 and net-zero by 2050. "Our strength lies in performance and sustainability," said Minoru Matsushima, president of Japan Ecosystem. "That balance is essential for long-term resilience."

Japan's path to regional revitalization lies in leveraging emerging technologies while preserving its culture. As rural areas seek renewal, construction and technology leaders are offering scalable, sustainable solutions. Through compact cities, digital infrastructure, and workforce reform, the country is reimagining its aging regions—not as relics of the past, but as cornerstones of its future.

BRINGING COMMUNITY LIFE INTO THE FUTURE

By Paul Mannion and Kyann Edouard

Around the world, many cities are losing their vitality. At RIA, we don't just design buildings as an architectural firm—we seriously consider what must be done to revitalize entire towns and engage in community-based initiatives to offer a wide range of proposals. We believe that innovation is born from places where people gather, interact, and create lively atmospheres. Creating such spaces and hubs for connection is the core purpose of our work—and a theme that resonates globally.

In China, we have participated in numerous development project competitions and have been selected multiple times. We continue to steadily receive planning and architectural design commissions, with a particular focus on projects related to senior care. We have a structure in place that allows us to take on projects at any time where we can apply our technical expertise.



Beijing Cuncao Home for Elderly



Takashi Umezawa,
president & CEO,
Research Institute of
Architecture Co., Ltd.
www.ria.co.jp



RESEARCH INSTITUTE OF
ARCHITECTURE



A revitalization project in Kurashiki, Japan

Mapping Tomorrow's Cities

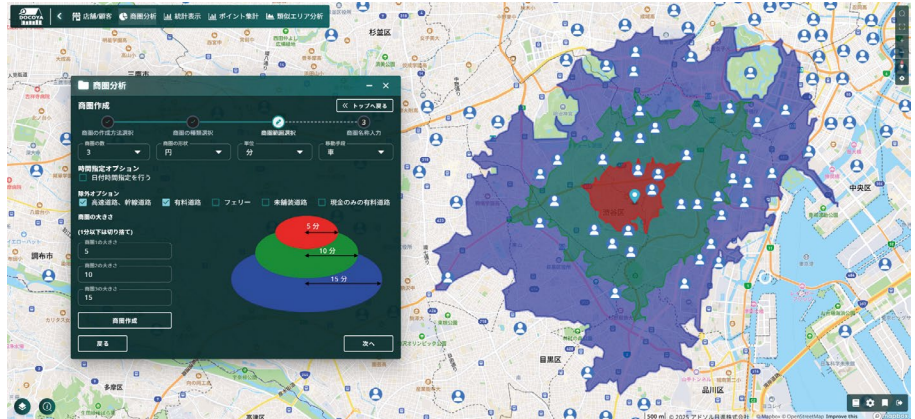
Ad-Sol Nissin uses GIS solutions to drive smart cities. *By Daniel de Bomford*



Toshiaki Shinozaki, president,
Ad-Sol Nissin Corporation

Ad-Sol Nissin Corp.

<https://adniss.jp/en>



As Japan faces depopulation and a shrinking workforce, the role of digital infrastructure has never been more urgent. Ad-Sol Nissin Corporation is meeting these challenges with Geographic Information System (GIS) solutions designed to help cities adapt and thrive.

Rooted in nearly 50 years of ICT experience, Ad-Sol Nissin's GIS technology is already being deployed in disaster prevention systems, urban redevelopment projects, among other areas across the country. In Tokyo's Oimachi district, the company is participating in Walkable Smart City projects under the Smart Tokyo initiative to create more efficient and connected urban spaces¹.

"We provide solutions based on our proprietary Geographic Information System technology to contribute to smart cities, including efficient use of renewable energy and disaster prevention and preparedness," President Toshiaki Shinozaki says.

Collaborative efforts with universities and municipalities, like those in Yokohama and Utsunomiya, show how public-private partnerships can accelerate innovation at the community level². The company's DOCOPA, an area marketing solution, supports regional revitalization and the enhancement of public services through its provision to transportation and tourism companies.

The company's efforts align closely with Japan's national priorities around regional revitalization and sustainable growth. By offering tools that support smarter planning and civic resilience, Ad-Sol Nissin is helping local governments face the future with data-backed confidence.

Ad-Sol Nissin's long-term goal is clear: to use technology not for its own sake, but to make cities safer, smarter and more livable.

¹ This project is part of a joint research initiative with Keio University.

² The collaboration in Yokohama is part of a joint research initiative with Keio University, while the Utsunomiya collaboration is part of a joint research initiative with Waseda University.

Rebar Pioneer Eyes Asia's Construction Boom

Toyo Kensetsu Kohki is targeting rapidly growing construction markets in Asia to supply its industry-leading rebar processing machines and innovative solutions, built on decades of experience. *By Bernard Thompson*



Quality and reliability are crucial for the construction sector. Machine failures can lead to catastrophic downtime and cost blowouts. For rebar processing machine suppliers Toyo Kensetsu Kohki, the reliability of its equipment is paramount due to the unique niche of its machinery. Vice Chairman Yasuo Tanaka explains that rebar is typically manufactured and delivered the day before or on the day it is needed, due to space constraints in Japan. The company has found success in Japan, as Japanese firms don't compromise on quality for price. Toyo Kensetsu Kohki's machinery has an enviable cost-to-performance ratio, and its equipment can operate for more than 30 years when properly maintained.

Established in 1959, the company has captured 90 percent of the re-

bar machine market in Japan. It is leveraging its 66 years of experience to enter rapidly developing Asian markets, particularly in India, Indonesia, Thailand and the Philippines. "As emerging countries progress toward becoming advanced economies, their demand for quality and precision in construction will inevitably rise," Tanaka explains. Toyo Kensetsu Kohki can apply its expertise, accumulated in Japan, to these emerging markets, giving it a significant competitive advantage over local competition without a legacy of development in this sector. These markets can benefit greatly from the company's expertise. "We offer more than equipment; we provide end-to-end guidance, which we believe is one of our core strengths," he says.

The development of rebar machinery has reached a point where it's unlikely to see any more core breakthroughs in the technology itself.

Rather, Tanaka anticipates that the areas surrounding the machinery – pre-processing and post-processing – will be where the major improvements lie. "The real transformation, in



Line System

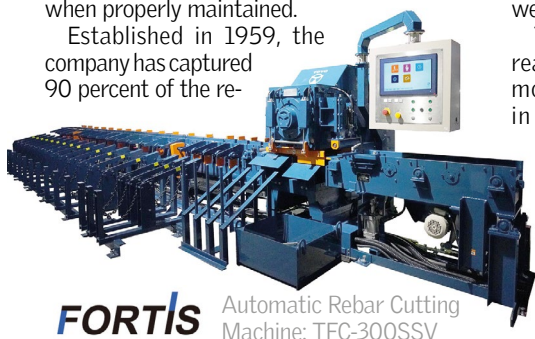
my view, will come in how these machines are operated, shifting from manual control to software-based systems," he explains.

Toyo Kensetsu Kohki is Japan's leader in rebar machinery and stands ready to power the next wave of construction in emerging economies.

"What sets us apart is our dominant market share in Japan."

Yasuo Tanaka, Vice Chairman,
TOYO KENSETSU KOHKI CO., LTD.

TOYO
www.toyokensetsukohki.co.jp



FORTIS

Automatic Rebar Cutting
Machine: TFC-300SSV

Hiraiwa Construction Leads Japan's Digital Transformation in Infrastructure

Embracing digital tools, international talent and sustainable practices, Hiraiwa Construction is reshaping Japan's construction industry for a smarter future. *By Daniel de Bomford and Arthur Menkes*



"Digital Transformation (DX) is a critical focus for us, as it directly contributes to improved productivity."

Toshikazu Hiraiwa, president, Hiraiwa Construction Co., LTD.

Japan's construction industry is like bamboo: remarkably resilient and engineered to adapt. It has withstood economic cycles, demographic shifts and natural disasters while supporting one of the world's most complex urban environments. Within this dynamic landscape is Hiraiwa Construction. A forward-thinking and innovative one-stop firm spanning design, construction, and maintenance, it is leveraging cutting-edge technology and a bold international strategy to build smarter and more sustainably.

The ongoing evolution of Japanese construction

Founded in 1946, Hiraiwa Construction combines its history and ex-

periences during the peak of the construction boom with advances in technology to meet the evolving demands of Japan's infrastructure. Toshikazu Hiraiwa explains that private construction and redevelopment projects are increasing at a time when the labor pool is shrinking, creating a shortage of contractors.

As buildings continue to age, this leads to an exponential increase in demand from governments to maintain existing infrastructure. Companies like Hiraiwa Construction are also contracted to carry out disaster recovery work, and the president cites the recent road cave-in incident as an example of their vital work. "These administration collaborations are crucial, but they also mean we are balancing a full workload across both public and private sectors," he said. Additionally, various economic situations such as the war in Ukraine have caused material prices to increase dramatically.

Building a future-ready workforce

Hiraiwa Construction is tackling the labor challenges affecting Japan's workforce, improving employee retention and satisfaction, and enhancing overall competency. The company has worked to help alleviate its employees' inflated-related financial stresses by providing salary increases and meal vouchers.

Concurrently, it has appointed a Construction Director to reduce the workload of field tech-

nicians. The new Construction Director will take on clerical work that can be completed by non-technicians and assist with surveying and other tasks.

Hiraiwa's recruitment philosophy is skill-based, and the company is eager to hire staff with expertise regardless of their nationality. "We actively hire talent from various countries, including Vietnam, Myanmar, China and Mongolia," the president said. Older veterans in good health can stay beyond retirement age to mentor younger staff and pass on their valuable experience to the next generation.



A construction director at work

Construction's future is digital

Alongside its HR initiatives, Hiraiwa Construction is leveraging digital transformation (DX) to address labor shortages and enhance transparency. The company has pioneered the use of Building Information Modeling (BIM), a digital tool that creates 3D representations of infrastructure, providing a comprehensive view of projects.

"The use of a three-dimensional BIM model allows us to instantly perform tasks that used to take hours to reconcile multiple two-dimensional screens in your mind, at a glance," the president said.

So successful has the implementation of BIM been that two of the company's projects have been designated as BIM promotional models. These are projects in which the technology has been leveraged throughout the entire process, rather than only for mockups and presentations.

Beyond BIM, the company utilizes drones, 3D mapping and scanning technologies. The president stated that these tools are essential for large-scale projects and benefit not only the company but also local governments and communities.



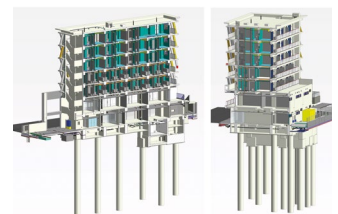
In-house designed building

Global ambitions realized with diversification

Hiraiwa Construction's vision extends well beyond Japan's borders. In Vietnam, the company has been active for seven years, supporting Japanese firms in the region. While currency fluctuations and economic headwinds have recently slowed momentum, signs of recovery are strong, with renewed inquiries and projects on the rise.

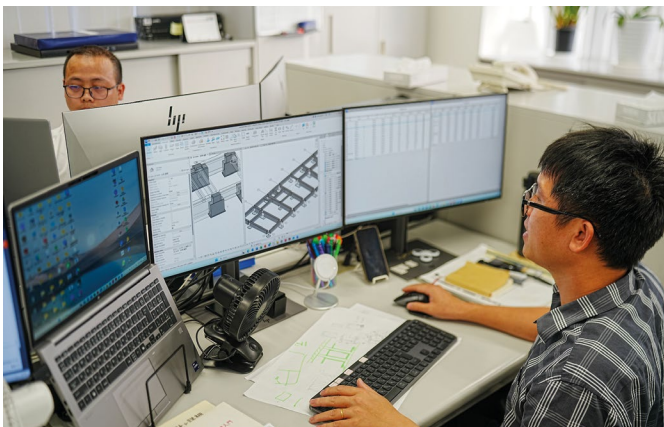
Looking ahead, Hiraiwa Construction aims to offer advanced construction expertise, particularly in cleanroom and precision facilities to Taiwanese companies, such as semiconductor manufacturers expanding into Vietnam.

The company is also considering non-construction ventures to diversify its portfolio, including the introduction of Japanese cultural experiences such as ryokans and medical-wellness services.



BIM 3D data

Hiraiwa Construction continues to blaze a trail by merging innovation and a global perspective. With strong roots in Japan and an expanding international reach, the company is poised to lead Japan's resilient industry into a new era with confidence.



Contributions by employees

Japan Ecosystem's Green Future

Japan Ecosystem Corporation is transforming infrastructure and wastewater treatment with sustainable innovation, strategic M&A and a commitment to public interest capitalism rooted in Japanese values. *By Daniel de Bomford*



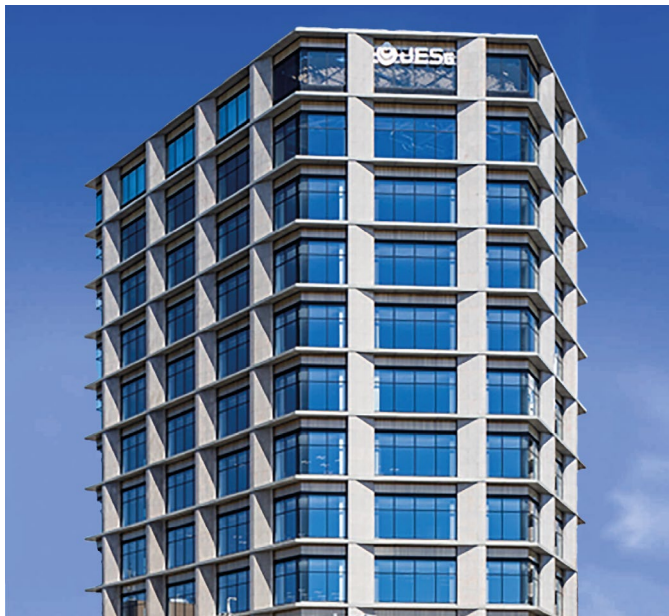
Vibrant Tanabata Matsuri Celebrations

Wandering the streets of Japan, there is a noticeable transition taking place. Where once there was a boom in new constructions, there is now an effort to maintain what already exists in a country grappling with a shrinking population. This presents an opportunity for those with the vision to build a new future that is worth inheriting for future generations.

Japan Ecosystem Corporation is reimagining development through a sustainable lens and championing public interest capitalism that serves the community. President Minoru Matsushima says that the move to sustainable development leverages Japan's innate cultural character. "It's that meticulous

attention to detail and commitment to quality that define Japanese craftsmanship," he explains. Even the company's Tokyo Stock Exchange securities code, 9249, carries a purpose. The numbers phonetically spell "contributing to a better country" in Japanese, which reflects the company's mission.

The company's focus on the small, essential details is evident in its gratitude to its shareholders. It provides QUO cards as a benefit, purifying them through the traditional Japanese ritual of "go-kitou," a prayer ceremony. By performing the ceremony, Japan Ecosystem expresses heartfelt gratitude and prays for the prosperity and good health of its stakeholders.



Innovative New Head Office

Meeting modern infrastructure challenges

The postwar construction boom has transitioned into a new paradigm centered on maintaining existing infrastructure. However, with a declining population and tightened budgets following decades of economic sluggishness, new challenges have emerged.

Matsushima states that we are in an era where municipalities favor bundled services, and comprehensive single-provider contracts are becoming increasingly common. Japan Ecosystem's integrated model encompasses every stage from design to maintenance, making it easier for municipalities to manage and for the company to deliver.

Sustainability innovation in wastewater treatment

One of the pillars of Japan Ecosystem's sustainability strategy is its biobased wastewater treatment technology. The company has developed wastewater treatment chemicals that improve treatment plant efficiency and enable more compact systems. Sludge is a critical pain point, particularly in food manufacturing and water treatment incur significant costs.

"Our technology allows existing infrastructure to handle greater loads without requiring costly expansion," the president states. This technology cuts operational costs and supports decarbonization by reducing the resources and space needed for water treatment. It is currently applying for patents for oil sludge treatment in Japan, the U.S., India, China and the EU.

Strategic growth into 2027 and beyond through M&A

The company has executed around 35 mergers and acquisition transactions in Japan, around five per year, adding depth and diversity to its profile. Looking ahead to 2027, the goal is bold: to triple revenue from ¥10 billion to ¥30 billion and pursue larger-scale acquisitions, including publicly listed firms. "We're dreaming big, and we're ready to scale globally," Matsushima says.

A key part of this strategy is the company's recent expan-



"We care deeply about precision, and that mindset permeates everything we do."

Minoru Matsushima,
president,
Japan Ecosystem Corporation

sion into Florida. Matsushima explains that its current approach is to gather intelligence on the local market in the United States, its infrastructure, and management companies, and to explore potential M&A opportunities.

The company maintains flexible criteria for acquisitions, which supports its long-term vision and shared values over short-term financial gains.

Capitalism for the many

Central to the company's philosophy is the concept of public interest capitalism, an economic model that balances profit with sustainability, ethics and community well-being. This isn't just a guiding principle for Japan Ecosystem, but rather a strategy that centers people to create long-term value for all stakeholders, whether that be shareholders, employees or society at large.

Partnerships with like-minded allies are essential, and the company views M&A not merely as a means of control or absorption but as a collaborative effort to co-create the future together. Japan Ecosystem is seeking strategic alliances with companies that aim to balance profit with social contribution, collectively championing the cause of public interest capitalism.



www.jp-eco.co.jp

Japan's Yamashita PMC Leads Facility Strategy

Tapping into innovation and trust, Yamashita PMC empowers clients with more intelligent planning, asset growth and resilient project solutions. *By Daniel de Bomford, Paul Mannion and Cian O'Neill*

In the current economic climate, the Japanese construction industry is moving away from transient buildings and "scrap and build" policies and moving towards finding long-term value through thoughtful design and maintenance.



Calm Daikanyama Project
Groundbreaking Ceremony

Yamashita PMC shapes projects around the long-term needs of the businesses that operate inside, ensuring that facilities are built with purpose and resilience. The company shapes not only buildings and the future value they will hold, but also, through its corporate values, ensures that each project is designed, timed and executed to serve its purpose for decades to come.

Founded in 1997, Yamashita PMC was among Japan's first independent project and construction management firms. President Yuko Maruyama describes the company's role as working on behalf of clients and assembling an effective team made up of contractors and designers. "Ultimately, our goal is to create a three-way win: for the owner, the contractor and society," she states.

The Japanese construction industry faces a turning point. The postwar scrap-and-build model still dominates, but to-

day's soaring material costs and a shortage of skilled labor are rewriting the rules. Yamashita PMC helps clients navigate this new reality by identifying the best timing for investment, analyzing regional conditions and forecasting when resources will be available to start work. "Rather than focusing solely on reducing costs, we also help [clients] enhance income, which is just as critical in today's environment," Maruyama says.

The firm's values were perhaps most visible in the aftermath of the Great East Japan Earthquake. In Ishinomaki and Onagawa, the local community prioritized rebuilding the fish markets as the first priority, recognizing it as a central part of their livelihoods and local culture.



Morinaga America Foods Factory No.2 in NC, USA

In Japan, most construction contracts are lump-sum contracts. However, historically, Yamashita PMC has supported the government and municipalities in adopting cost-plus-fee separate contracting, which is the global standard for construction procurement.

Yamashita PMC leverages its expertise beyond Japan's borders, as

many of its clients are global companies. When it comes to its clients' overseas projects, the company's international strategy is to follow and support them and at times, collaborate with local project management and design firms. Yamashita PMC has worked on projects in the Association of Southeast Asian Nations (ASEAN), such as real estate investment in the Philippines and Vietnam, and factories in the USA.

In Ho Chi Minh City, Yamashita PMC managed the development of the Sotetsu Grand Frésa Saigon, a hotel designed to meet rising demand for high-quality hospitality in Vietnam's growing urban market. While in Manila, the company oversaw the Yuchengco Centre, an office tower that combines sustainability features with modern branding



The Yuchengco Centre in Manila, Philippines

expands Morinaga's production capacity for confectionery while the existing facility maintains operation. The Japanese owners needed to collaborate with local design and construction suppliers, a significant challenge for Japanese companies.

Conversely, they guide foreign investors into Japan's property sector, offering credibility in a market where reputation is currency. "If our company is involved and supports the investor in approaching the market together, it adds credibility and helps build trust," Maruyama says.



Okada Manila in Manila, Philippines

Today, investors from Southeast Asia, particularly Hong Kong, Singapore and Malaysia are driving new interest in Japan's property market. Many are newcomers without local networks, making Yamashita PMC's ability to bridge cultural, regulatory, and business practices especially valuable.



THE WESTIN TOKYO

"Our core philosophy is to always put the client first."

Yuko Maruyama,
president,
Yamashita PMC Inc.

ypmc
Your Edge
<https://en.ypmc.co.jp>



Kawada Technologies Builds the Future

Blending century-old craftsmanship with robotics, sustainability and global partnerships, Kawada Technologies confronts Japan's construction challenges while shaping a safer, greener and more connected future for industries worldwide. *By Daniel de Bomford, Arthur Menkes and Paul Mannion*



"Japan should be working on infrastructure projects because it has the most experience."

Tadahiro Kawada, president,
KAWADA TECHNOLOGIES, Inc.

The blacksmith's forge was the heartbeat of its community, shaping the tools and materials that built civilization and carried humans through the ages. For Kawada Technologies, that forge still burns, only now the hammers are joined by robotic arms developed to solve tomorrow's challenges.

"Our company's background was always steel," said Tadahiro



The EG-Guide device guides suspended loads

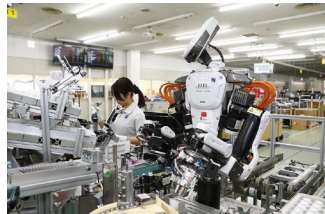
Kawada, president of Kawada Technologies. The president comes from a line of blacksmiths, metalworkers and engineers, and that experience is built into the fabric of the organization. "It doesn't matter if it is steel, concrete or hybrid. That thinking is still found in our company," he said.

With the construction sector facing unprecedented challenges, the company is addressing these headwinds with innovative, inclusive solutions. Kawada states that it is a difficult time to be in the industry, given its aging workforce, shortage of skilled labor, and dramatic cost increases, but also sees this time as an opportunity for Japan to evolve.



AGVs passing through a narrow inspection road

Kawada Technologies is reshaping job sites with innovations that merge human skills



Collaborative robots working with people NEXTAGE (GLORY Ltd. Saitama Factory)



3D welding mask system



Akashi Kaikyo Bridge

with advanced robotics: automated ground vehicles (AGV) to transport heavy loads, the EG-Guide to steady suspended beams with a single operator and a 3D welding mask that shortens the years needed to master the craft. Kawada says that technology can encourage and support young people in honing their craft, citing it as the reason that they develop technology like the welding mask. "That is the strength of the Kawada Group," he said.

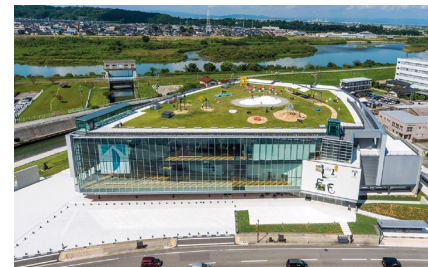
Collaborative robots like NEXTAGE work alongside crews, freeing them for higher-skilled roles. Drones and artificial intelligence (AI) are also becoming part of the toolkit, predicting safety risks by analyzing near-miss data and preserving the knowledge of veteran engineers for future generations.

Kawada Technologies' sustainability strategy ranges from using "green steel" in bridge projects to installing solar panels at all three factories. A rooftop greening system called Midori-chan, first developed to conserve water in Japan's urban gardens, is now drawing interest from drought-prone regions worldwide.

Overseas, Kawada prefers partnerships over outposts, from Hong Kong's Midori-chan installations to Swiss distributors for NEXTAGE robots. "I want to find good business partners wherever it makes sense," Kawada said, noting opportunities in earthquake-

prone "Ring of Fire" countries that could benefit from Japan's anti-seismic expertise.

Kawada Technologies' commitment to the Valuable 500 inclusion initiative extends beyond policy. The firm supports Avatar Robot Cafe DAWN, where homebound individuals control service robots remotely. Kawada envisions similar systems allowing older or disabled workers to perform construction oversight



Greening system "Midori-chan"

from safe, comfortable locations.

Like the blacksmiths of old, Kawada Technologies is creating the materials that will take society into a new era. The company's mission is rooted in the spirit of Happo Yoshi, an expanded version of the traditional Japanese principle Sanpo Yoshi, emphasizing benefit for all stakeholders. "I want our engineers, salespeople and everyone that works with us to be proud," Kawada said. "By the day I retire, I hope I have achieved all of that."

KAWADA

www.kawada.jp

Building Sustainability with Index

Index blends traditional Japanese values with digital innovation to reshape infrastructure through sustainable, globally minded public-private partnerships. *By Daniel de Bomford, Paul Mannion and Cian O'Neill*



"We believe this spirit of *SHIKKAI* gives us a unique competitive edge when managing global projects."

Kimikazu Uemura,
CEO, Index Group

The Japanese term *SHIKKAI* is a concept rooted in kimono making. The *SHIKKAI*-ya would oversee the team of craftsmen as they completed the 40 specialized steps of kimono making.

Kimikazu Uemura, CEO of project management company Index, says the *SHIKKAI* spirit is the company's central philosophy. Index offers end-to-end project support, from concept to realization, and seeks to transform global systems of water and the environment. In turn they aim to address the issue of inequality, through projects in construction, social and public infrastructure.

Like the *SHIKKAI*-ya, Index is a master of working with diverse

stakeholders to navigate the complexities of Japan's evolving construction industry. "One of our greatest strengths lies in our ability to unite Japanese companies and financial institutions around a shared vision and purpose, and to organize and execute complex projects with precision and coordination," he says.

One of Japan's most pressing construction challenges is in the public sector—hospitals, schools, and urban infrastructure—where inflated prices are forcing developers to pause projects. General contractors are at full capacity, and quotes have doubled compared to five years ago. "It's becoming financially unfeasible to move forward under current conditions," Uemura says.

With one in four workers over 60, Japan's labor shortage will only worsen. While long-term solutions like immigration reform remain distant, Uemura sees digitization and automation as critical. He emphasizes, "Embracing digitalization isn't just about efficiency—it's also essential for making the industry more appealing and sustainable for future generations."

Uemura cites a Spanish utility visit where more than 100 personnel were found at a Japanese water treatment plant—compared to just 10 in Spain. "It opened my eyes to how far behind we are in digital adoption," he says. "Digitalization can significantly improve operational efficiency—not just in water utilities, but across Japan's infrastructure as a whole."

Uemura recently launched the "Basin Carbon Neutral Platform",



Kindai University Osaka Medical Campus, Japan ©Shinwa Co.,Ltd

which targets decarbonization across Japan's major watershed areas. The initiative coordinates public and private stakeholders to implement more than 30 localized projects, aiming to modernize energy systems, improve conservation and serve as a scalable national model.

and the Indo-Pacific, built around the "Core-Japan" model, uniting Japanese expertise with global partnerships. Guided by *SHIKKAI*, it aims to balance profitability with purpose, reinvesting infrastructure value back into society to maximize long-term impact.



Master Planning of The "New Kharkhorum City", Mongolia. ©Infinite Vision

"I believe the most critical phase for achieving carbon neutrality is actually during operational management," Uemura states. He explains that few companies have practical experience in this area, and demand is increasing from the design stage. Progress in this area is still slow, especially when it comes to public-private partnerships (PPP), where processes and systems are complex.

Managing PPPs is particularly important in Index's global ambitions. Uemura envisions the company becoming the world's leading PPP infrastructure company by 2031, driving sustainable development through innovative, transparent and inclusive project models.

Its strategy focuses on high-impact projects in Africa, ASEAN,

"Our goal is to redefine the PPP model and share our philosophy globally. Ideally, we envision the *SHIKKAI* spirit becoming a new global standard in the world of infrastructure," Uemura says.

Index is charting a path toward global infrastructure leadership by integrating traditional Japanese values with modern demands. Through sustainable practices, digital innovation, and a refined PPP model, it aims to reshape how projects benefit both communities and the environment.



Expo 2025 Osaka, Kansai, Japan, Qatar Pavilion

Index



<https://index-group.co.jp/en/index>

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