

# Ryuki Engineering: Pioneering Environmental Solutions

Ryuki Engineering, a Japanese leader in environmental solutions, navigates market expansion and demographic shifts under President Nishimura's strategic guidance.



"Our mission and values are to address the social challenges of today's environment."

Satoshi Nishimura, President & CEO, Ryuki Engineering

In the heart of Japan's industrial landscape, Ryuki Engineering stands tall as a beacon of innovation and reliability. Specializing in crafting optimum environments for solving production-related challenges, the company has carved a niche for itself in diverse sectors ranging from dust collection to dehumidification and water treat-

ment. Satoshi Nishimura, President and CEO of Ryuki Engineering, embodies the company's commitment to using cutting-edge technology to tackle pressing societal issues.



Dust collector to process dust from blasting in tunnel

"With a 75% share of the domestic rental market for dust collectors in tunnel construction," Mr. Nishimura proudly states, "Ryuki Engineering's impact is palpable." This market dominance reflects the company's dedication to excellence and its ability to deliver tailored solutions for complex projects.

Mr. Nishimura's vision extends beyond tunnel construction, as he affirms the company's strategic

expansion into 13 other business segments. This progressive approach underscores Ryuki Engineering's commitment to continuous growth and innovation.

In the face of Japan's demographic challenges, including an aging workforce and a contracting domestic market, Ryuki Engineering remains resilient. Mr. Nishimura emphasizes the company's focus on labor-saving technologies and digital solutions to mitigate shortages in the construction industry.



Large dust collector (3,000 m<sup>3</sup>/min)

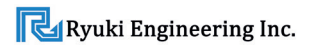
"Our mission and values are to address the social challenges of today's environment," he declares, highlight-

ing Ryuki Engineering's commitment to societal well-being. This dedication to environmental stewardship guides the company's research and product development efforts.



ECO Clean LFP for PFAS treatment

As the world evolves, Ryuki Engineering stands poised to lead the charge in pioneering environmental solutions. With a steadfast commitment to innovation and a global perspective, the company continues to shape a sustainable future for generations to come.



[www.ryuki.com/english](http://www.ryuki.com/english)

# Tanaka Sash: Crafting Specialized Doors for a Safer World

Tanaka Sash is pioneering the specialized door industry, revolutionizing fire prevention equipment with its bespoke products and personalized business model.



Yokohama MM21

Established over 100 years ago as a steel door manufacturer, Japanese firm Tanaka Sash became the first in Japan to develop and commercialize a glass fireproof door. The company's bespoke products can be found in buildings throughout Japan, including offices, hospitals and hotels.

Tanaka Sash specializes in fire prevention equipment such as a fire-proof door that automatically closes when its sensors detect a



"Our work is about more than just doors; it's about creating meaningful contributions to society and embracing enduring fulfillment."

Yasuo Takahashi, President, Tanaka Sash Co., Ltd.

fire. Tanafire, the company's flagship product, is a soft visibility fireproof door made from a combination of fireproof glass and steel.

According to the company's president, Yasuo Takahashi, the product went through rigorous testing and inspection before launch to ensure standardization. The resulting product is a transparent fireproof door enabling swift evacuations and im-

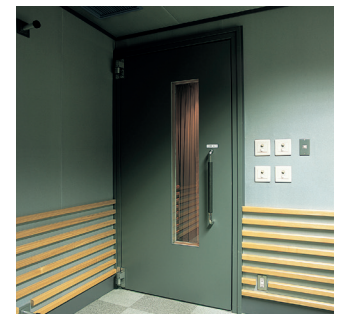


TANAFIRE (Firedoor with heat-resistant glass)

proved efficiency of emergency assistance in the event of a fire.

Since its inception, the Tanafire product line has expanded due to customer demand. Mr. Takahashi explains: "The addition of specialized functions is a response to clients' specific needs, such as the level of heat resistance or the level of durability of the glass, even including soundproofing functions."

It is this personalized approach to



Broadcast studio door

business as well as undertaking the entire process from production to installation that Mr. Takahashi attributes to the company's success. Mr. Takahashi points out: "Our services go beyond just being a regular manufacturer. Even after the delivery of our product we ensure proper installation of the product and take care of all the requirements needed until the building is open for the public to see."



[www.tanakasash.co.jp](http://www.tanakasash.co.jp)

# JGI Leads in Technology for Subsurface Exploration



"Our geophysical exploration technology packages provide a digital twin of unknown subsurface structure."

Susumu Abe,  
President, JGI Inc.

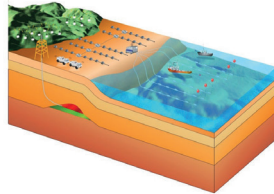
We are all used to having detailed maps of the land around



Structural exploration in urban areas using Vibroseis

JGI offers a variety of unique technology packages to create high-resolution subsurface models for a myriad of applications, from resource exploration to carbon storage projects.

us at our fingertips, but what lies beneath the surface of the earth and oceans is often unknown. One of the companies offering subsurface modeling is Japan's JGI Inc.



Seamless data acquisition

Founded in 1983, the company specializes in 3D visualization technology packages for a wide range of applications, including oil and gas exploration, disaster prevention, submarine hydrothermal deposits exploration, geothermal resource development, civil engineering, and CCS-CCUS (Carbon Capture, Utilization and Storage). As company president Susumu Abe says: "We have a variety of exploration technology pack-

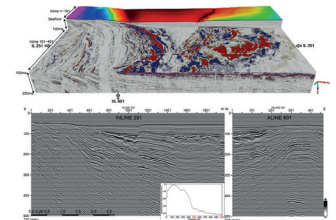


Marine data acquisition

ages that provide vertical and horizontal subsurface resolutions depending on the target, enabling **seamless data acquisition from land to sea**, especially in shallow water areas." JGI is also developing exploration techniques related to CCS, a key technology in mitigating global warming. Mr. Abe explains that JGI's focus is on delineating subsurface structures for CCUS, monitoring changes in CO<sub>2</sub> plume behavior, and subsurface risk management required for CCS-CCUS projects.

JGI is currently working with **multiscale 3D exploration technologies** to address engineering and seabed risk assessment in seabed geotechnical investigation for

offshore wind farms and CCS site evaluation. In addition, JGI is pursuing the construction of an **advanced monitoring system, using complex fiber optic sensing and massive signal processing with AI**.



3D visualization of subsurface

Mr. Abe reveals exciting plans to leverage the company's technology to expand into the medical and space development fields, adding further examples to JGI's company motto of "Visualization of All Targets."

 株式会社 地球科学総合研究所  
<https://jgi-inc.com>

# Revolutionizing Agriculture with Microorganism Technology

Adoption of Kyowa Kako's cutting-edge technologies will naturally result in a decreased reliance on chemical fertilizers.



"Combining our experience and expertise with our passionate young employees is a strong driving force."

Toshiharu Yoshimura,  
President, Kyowa Kako Co., Ltd.

Kyowa Kako, founded in 1959, has emerged as a pioneer in revolutionizing agricultural practices through innovative microorganism technology.

"Our core value is to focus on the soil and the related microorganism as well as the environment around it," says President Toshiharu Yoshimura, emphasizing the company's commitment to sustainable agriculture. Kyowa Kako's hyperthermophilic aerobic composting technology has garnered

international recognition for its effectiveness in converting organic waste into nutrient-rich fertilizer.



Institute of Environmental Microbiology

Highlighting the company's impact on global waste management, Mr. Yoshimura recalls a meeting with a French company seeking insights into Japan's advanced sewage sludge treatment methods.

"The U.S. and France recognized these issues and decided to change their systems to incineration or to the microorganism treatment of the sludge," he explains, underlining the global shift towards sustainable waste management practices.

Kyowa Kako's innovative approach extends beyond waste management to address Japan's agricultural challenges. With the country's self-sustenance rate hovering at

58%, the company is spearheading efforts to promote organic fertilizer usage. "Japanese Prime Minister Fumio Kishida stated that the use of fertilizers from sewage sludge treatment in agriculture was necessary," highlights Mr. Yoshimura.

Discussing international expansion, there is an emphasis on partnerships as a cornerstone of Kyowa Kako's growth strategy. The company's collaborations with Brazilian counterparts aim to leverage its composting technologies for local agricultural growth.



Hyperthermophilic aerobic composting plant

"Through our hyperthermophilic aerobic composting technology, we are trying to create a local treatment plant to implement the circular economy of the sewage sludge treatment into agriculture," the president explains.



Lettuce cultivation

Reliance on unsustainable classical chemical fertilizers is becoming less viable, even in developed countries heavily reliant on crops from agricultural nations. Kyowa Kako's sustainable solution of transforming organic waste into fertilizer safely and sanitarily, accessible even in developing countries without high-tech machinery, addresses global challenges of organic waste management. The company's initiatives align with sustainable development goals (SDGs), fostering collaboration between public and private sectors for a better future.

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[www.kyowa-kako.co.jp](http://www.kyowa-kako.co.jp)

# GPSS Holdings: Empowering Futures with Renewable Harmony

GPSS, founded by a visionary with a global perspective, pioneers energy solutions and fosters harmonious collaboration with local communities, emphasizing sustainability and diverse cultural integration.



"At GPSS, we're not just building power plants; we're constructing a future where energy sustains life and diversity thrives."

Masaaki Mezaki, CEO,  
GPSS Holdings Co., Ltd.

It is fair to say that Masaaki Mezaki, CEO of GPSS Group, has led an interesting life. Eager to establish his own company, his professional career began at Merrill Lynch, where, in his own words, he "witnessed how the world economy works."

He soon became disillusioned, however. "Banking," he says,

"is about expanding your own interests at the expense of other people's." After an extensive period of traveling, a time that pushed him "to think about the real purpose of our lives and society", he returned to Japan and moved into the energy business.

Working in the energy sector, Mr. Mezaki believes, enabled him to resolve the conflict of interest he had experienced in investment banking. "As we expand, we make money," he explains, "but our expansion is also good for society, making it a win-win situation." Material gain, in other words, accompanied by an increase in spiritual wealth.

Business-wise, of course, moving into energy has proved a shrewd move. As well as well-documented challenges such as an aging population and shrinking domestic labor market, Japan, as Mr. Mezaki sees it, is also beset by other issues. These include, but are not limited to, "a reliance on imports, a lack of natural resources" and the "high cost of energy."

Though renewable energy has its detractors, it offers a



The Matsunoyama Onsen: community power generation

clear solution to the problems mentioned above. GPSS Holdings deals in five different types of renewable energy: solar and wind as variable energy, and geothermal, hydro and biogas as baseload energy.

Mr. Mezaki praises geothermal for its stability, and is also keen to point out that it needn't have a detrimental effect on communities. "There is a misconception," he says, "that when you use geothermal power, you deplete the resources of the hot spring, but that simply isn't true." Indeed, in places like Beppu, geothermal plants and hot springs co-exist happily alongside one another.

Mr. Mezaki again: "Sometimes when people start a project, they go to local communities and lease or buy properties as cheaply as possible in order to maximize profits. We, on the other hand, establish joint ventures with local communities so that they can become stakeholders themselves."

A case in point is a recent partnership project in Gunma Prefecture, where GPSS has renovated an old power plant to generate hydropower using water flow from the Sukawagawa River, a move which has enabled the local community to have clean and easy access to the

irrigation water. "The project," Mr. Mezaki confirms, "is also contributing to the maintenance and development of regional agriculture through the benefit returned to the local community."

Looking to the future, Mr. Mezaki is hoping to make a difference in isolated island nations such as Sri Lanka, where inhabitants face similar issues to those present in Japan.

Equally important, with a recently launched Taiwanese subsidiary and partners in 11 foreign countries, is the promotion of a culture that is creative, open and internationally-minded.

"To me," Mr. Mezaki confirms, "having a tolerant culture is vital, and this in turn promotes diversity. I've always pushed for a more international mindset, and we now have 26 different nationalities working for GPSS, making it possible for our employees to act as a bridge to local communities."

Internationalism, that is, as a means of fostering communication and co-development on a global scale.



Sukawagawa small hydro power plant



GPSS is also working on farming solar power generation



Water intake of Sukawagawa hydro power plant



<https://gpssgroup.jp>