



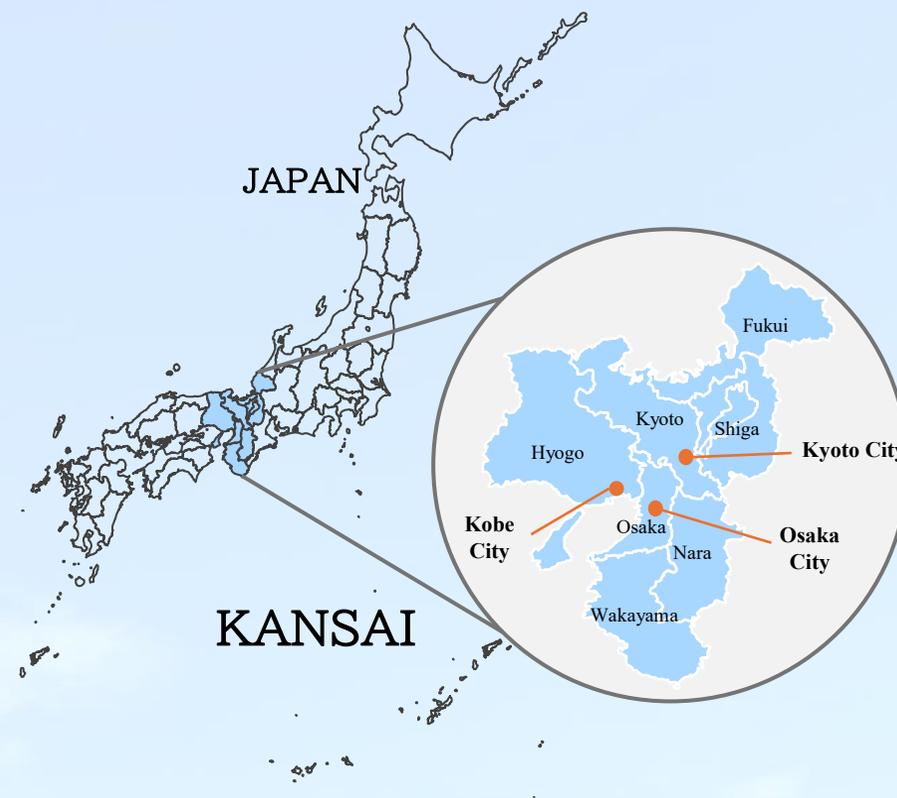
KANSAI × FOODTEC

Gateway to Your Business Success in Japan and Asia

INVEST JAPAN, INVEST KANSAI

ENGLISH

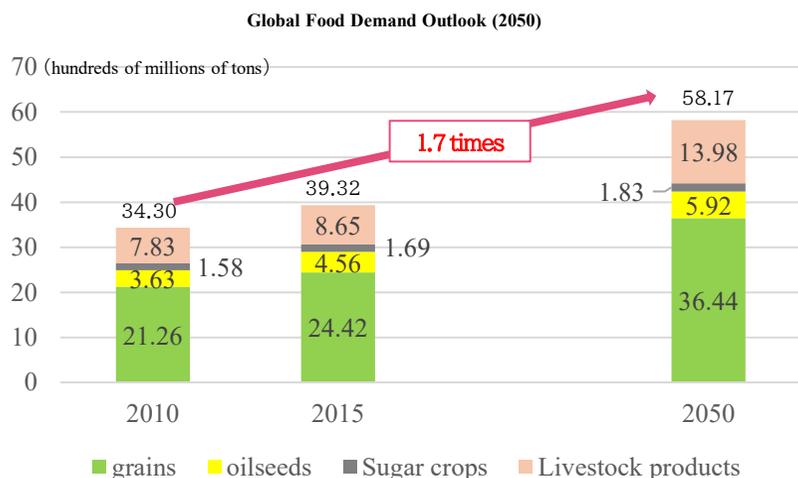
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Why Food Tech Is Attracting Growing Attention

Food tech is a coined term that combines “food” and “technology,” referring to new technologies in the food sector—from production and processing to distribution and consumption—as well as the business models that leverage these technologies.

The global population is expected to reach 9.7 billion by 2050, and food demand is projected to reach 1.7 times the 2010 level (5.8 billion tons) by 2050.



Source: Ministry of Agriculture, Forestry and Fisheries, “Guidance on Sustainable Management for Food Industry”

Against the backdrop of growing interest in the SDGs, the food industry is increasingly expected to address various social challenges, such as reducing environmental impact. At the same time, consumer values are diversifying, with rising interest in health and environmental consciousness.

In this context, there is a growing focus on creating new businesses that leverage food tech—not only to meet diverse food-related needs but also to accelerate the resolution of social issues.

Definition of the Food-Tech Sector in This Brochure

Food tech covers a wide range of fields that aim to address challenges in the food industry and create new value by utilizing advanced technologies such as AI, the IoT, robotics, and biotechnology. To present these diverse fields in a clear and accessible way, this brochure organizes them into three categories based on the major challenges surrounding the food industry and classifies the relevant technologies accordingly.

1 Technologies that enhance the enjoyment and health value of food and meet diverse consumer needs and personalization.

Enhancing the value of food

- **New Texture and Flavor Ingredients** (Fermentation, bio-synthesis)
- **Gourmet Technology** (Taste sensing, AI-based recipe generation)

- **Alternative Proteins** (Plant-based proteins, cultured meat)
- **High-quality Preservation and Freshness Control** (Refrigeration & freezing, IoT)

- **Food Loss Reduction & Upcycling** (Fermentation, AI-based demand forecasting, refrigeration & freezing, shelf-life extension)
- **Decarbonization & Circular Processes** (Emission gas recycling)

2

Technologies that reduce the environmental impact of the food industry and help create a sustainable society.

Sustainability

3 Technologies that improve efficiency in food production, cooking, and service operations, and address challenges such as labor shortages and heavy workloads.

Productivity / Labor shortage solutions

- **Supply Chain Optimization** (Blockchain, AI)
- **Digital Transformation (DX) in Food Factories and Food Service Industry** (Robotics, IoT, AI)

- **Smart Agriculture, Fisheries, and Livestock Industry** (Robotics, IoT, AI)

- **Sustainable Packaging** (Bioplastics, packaging technology)
- **Sustainable Production Materials** (Bio-fertilizers, bio-feed)

Main Five Countries with Strong Collaboration Potential

- Around the world, the use of food tech and the creation of innovations aimed at solving food-related challenges are rapidly advancing.
- This section highlights countries that have particularly strong synergy with the strengths of the Kansai region and where meaningful collaboration is especially promising.
- Among them, the Netherlands, Switzerland, Germany, Singapore, and Spain are promoting food-related innovation at the national level, driven by growing interest in food security and sustainability and by the adoption of advanced technologies.



Netherlands



Transition Toward a Circular Agriculture and Food Industry

The Netherlands has positioned the realization of a circular economy as a national priority under the Circular Dutch Economy by 2050” program, and is promoting a transition that focuses on advancing circular agriculture and accelerating the protein shift. In particular, the country has set a target of achieving a 50:50 ratio of animal-based to plant-based protein consumption by 2030 as part of its protein transition efforts.

A Leading Global Food Tech Hub

The Netherlands has a strong industry–academia–government ecosystem centered around Foodvalley—home to about 150 companies and research institutes—and Wageningen University. They are driving initiatives in protein transition, circular agriculture, and better health and nutrition, while also promoting technology development and pilot projects to boost productivity and reduce environmental impact, including the use of AI and robotics in agriculture.



Spain



Enhancing the Value of the Food Value Chain

Spain, one of Europe’s leading agricultural and fisheries producers, is driving robust food-tech policies through public–private collaboration to enhance the economic impact of its food value chain. Under the National Food Strategy (ENA), the agri-food sector is strengthened as a key policy pillar, with a focus on food security, technological innovation, and value creation.

A Platform for Testing and Showcasing Corporate Innovation

Led by the National Center for Food Technology and Safety (CNTA), the AgriFoodtech Sandbox has been established to support companies in piloting and validating innovative technologies and products. The Basque region (Bilbao) hosts Food 4 Future, one of the world’s largest exhibitions dedicated to food tech, which takes place annually.



Singapore



Building a Production System to Strengthen Food Security

Singapore relies heavily on imports for most of its food supply and has identified the strengthening of food security as one of its key national priorities. In this context, The Singapore Food Story 2 (SFS2) was formulated, setting ambitious targets for 2035: producing 20% of the country’s dietary fiber and 30% of its protein intake domestically.

A Global Hub for the Alternative Protein Industry

The Singapore Food Agency (SFA) introduced the world’s first regulatory framework for novel foods—including cultivated meat—in 2019, and in 2020 granted the first-ever approval for the commercial sale of cultivated chicken. In addition, approximately SGD 300 million has been invested in The Singapore Food Story R&D Programme to accelerate research and development of alternative proteins and high-efficiency production technologies.



Switzerland



A Hub for Global Food Industry Leaders and Startups

Switzerland is home to major global food companies such as Nestlé and Givaudan, as well as more than 300 food-tech startups engaged in diverse technological developments, including alternative proteins, algae-based foods, and insect-based ingredients. Food tech is also one of the country’s most active fields for patent applications, ranking second only to pharmaceuticals.

An Ecosystem Accelerating Industry–Academia–Government Collaboration

Switzerland has developed an ecosystem known as the Swiss Food & Nutrition Valley (SFNV), which brings together industry, government, and academia. The initiative connects more than 150 players—including multinational companies, universities, and over 100 startups—and is accelerating innovation for the future of the food system.



Germany



Driving Food-Sector Innovation Through Societal Challenges

Driven by social issues such as climate change, sustainability, and the growing vegan population, demand for innovation in the food sector is increasing. Based on government strategies such as Good Food for Germany and the German Sustainable Development Strategy (DNS), Germany is advancing the promotion of plant-based foods and the transition toward sustainable, circular agriculture.

Government Policies Supporting a Strong Growth Foundation

In the 2024 budget, the government allocated 38 million euros to research on Proteins of the Future. The High-Tech Strategy 2025 designates the use of AI and robotics as national priorities, with agricultural digitalization promoted as part of this agenda. They are also strengthening the growth foundation of the food-tech industry by enhancing the startup investment environment through public funding programs.

INTRODUCTION Japan Trends

- In Japan, the Council for Public-Private Partnership in Food Technology has played a central role in developing key players in the food-tech sector and creating new market opportunities. With food tech designated as one of the national strategic priorities in 2025, further public- and private-sector investment and expanded initiatives are expected in the coming years.
- Investment in the agri-food-tech sector has grown significantly in recent years, and Japan is steadily increasing its presence within the Asian market.

Policies and Strategies

The Council for Public-Private Partnership in Food Technology (2020)

The Council for Public-Private Partnership in Food Technology was established in October 2020 through collaboration among the Ministry of Agriculture, Forestry and Fisheries and other industry–academia–government partners, with the aim of advancing the food and agriculture sector and strengthening food security. As of November 2025, approximately 1,600 members—including food companies, startups, research institutions, and relevant government ministries—participate in the council, driving efforts to address shared challenges and develop new markets.

Main Activities

- Establishment of working groups and community circles for specialized discussions, including areas such as cellular agriculture, insect-based business, and plant-based foods.
- Facilitating business collaboration through member matchmaking and communication.
- Business competitions.

Positioning as a Priority National Strategy (Since 2025)

In 2025, the Japanese government designated food tech as one of its 17 national strategic fields. Discussions have begun on developing a public-private investment roadmap—which will outline concrete investment measures and policy packages—as well as formulating a detailed growth strategy for the sector.

Economic Trends

Expanding Investment in the Agri-Food-Tech Sector

Investment in Japan’s agri-food-tech sector grew dramatically in 2025. Japan’s share of total agri-food-tech investment in Asia has doubled—from 6.1% in 2024 to 13.0% in 2025—making it the third-largest market in Asia, following India and China.



Share of Investment in Japan’s Agri-Food Tech Sector

Source: Extracted and adapted from AgFunderNews

A Private-Sector-Driven Global Food-Tech Conference

SKS JAPAN

- SKS Japan is one of Japan’s largest food-tech conferences, driving solutions to global social challenges and the creation of new industries through food tech. Co-organized by UnlocX and U.S. media The Spoon, the conference celebrated its 8th edition in 2025.
- From primary industries such as agriculture and fisheries to food processing, distribution, food service, and even home cooking, SKS Japan explores challenges across the entire food value chain. The conference also addresses issues related to building regenerative food systems, as well as regional revitalization and community development. By bringing together key players from Japan and around the world, SKS Japan provides the opportunity for in-depth discussions on how food tech can be leveraged across diverse food-related domains to create meaningful social impact.



Source: UnlocX Co., Ltd. / SKS JAPAN 2025



1-1

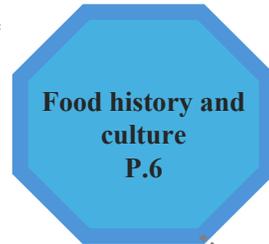
The Potential and Appeal of Food Tech in Kansai

Kansai's Key Characteristics in the Food-Tech Sector

- Kansai has long served as a central region of Japan, fostering a rich food culture and a robust food industry throughout its history. Building on this strong foundation, the region also offers a highly favorable environment for the development of the food-tech sector.
- Furthermore, the region benefits from the presence of academic institutions and research organizations that contribute to the advancement of the food-tech sector. There is also active open innovation across diverse players and industries.



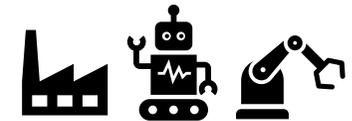
In Kansai, including Osaka, Kyoto, and Hyogo, there is a rich food culture shaped by history and nature. The appeal of Kansai's food is also highly valued internationally.



Kansai has food production bases blessed with rich agricultural, livestock, and marine resources. The region also has strong technological and branding capabilities that create high added value, a large market as Japan's second-largest economic area, and logistics infrastructure that enables efficient access in all directions. These elements together form a solid supply chain for the food industry.



Many universities focus on agri-tech and food science. In addition, Kansai has a strong concentration of universities and research institutes that create advanced technologies in areas such as AI, robotics, and biotechnology. These cutting-edge technologies are also being applied to the food industry.



As the food-related supply chain continues to grow, many companies and startups with advanced food-tech capabilities are also active.



Major companies operate open innovation hubs and actively promote cross-industry collaboration with diverse partners. They are working to create new technologies and new businesses through these efforts.



Local governments provide strong support for the food-tech sector, aiming to preserve food culture, promote food-related industries, and address social issues.



1-2

The Potential and Appeal of Food Tech in Kansai

Food History and Culinary Culture of Kansai

- Kansai is home to a diverse mix of regions, each shaped by influences from both within Japan and abroad, and each fostering its own distinctive food culture. The diverse cuisine that has emerged from this rich food culture is highly regarded both in Japan and overseas for its accessibility and exceptional quality.

Food History and Culinary Culture

In Kyoto, an ancient capital that flourished for more than 1000 years, ingredients and people gathered from all over Japan, creating a place where the cultures of the court, samurai class, and temples and shrines intersected. Within this environment, *Kyo-ryori*—a culinary tradition that values visual beauty, a sense of seasonality, and the natural flavors of ingredients—was born and has been carefully passed down through generations.



In Osaka, which has long developed as a major hub of land and sea transportation connecting regions across Japan—and as a city that attracted a wide variety of ingredients—an approachable food culture emerged through the fusion of merchants' ingenuity rooted in the *mottainai* spirit of using ingredients without waste and their deep passion for food.



Photo credit: Osaka Convention & Tourism Bureau

In Hyogo, a region with diverse climates and natural environments, each area has developed its own distinctive local specialties. It is particularly renowned as one of Japan's leading producers of sake. Moreover, through Kobe Port—a major international trading hub—Western food culture was introduced, contributing to the spread of Western-style cuisine in the region.



Fermentation Culture

Fermentation is the process of using the action of microorganisms—such as lactic acid bacteria and yeast—to create components like acidity, alcohol, and umami. Soy sauce, one of Japan's most iconic fermented seasonings, has its origins in the Kansai region, where production techniques were developed and refined over time. Furthermore, Kansai has a deeply rooted fermentation culture, fostered through its long history of producing diverse fermented foods, including sake brewing and many other products that make full use of the power of fermentation.



Popular Foods in Kansai

Kansai is home to many delicious dishes that are loved not only by locals but also by visitors from around the world.



Okonomiyaki



Kushikatsu



Matcha-based sweets

Photo credit: Osaka Convention & Tourism Bureau

Photo credit: Osaka Convention & Tourism Bureau

Kansai Is Highly Rated Worldwide



The world's best cities for food

Osaka Ranked **19**th

Source: Time Out's Best Cities for Food 2024



Michelin Guide Kyoto & Osaka
Number of Listed Restaurants

469

Source: Michelin Guide 2025

Osaka was the only city from Japan to make the Top 20, and it is recognized as a place where visitors can enjoy delicious food at affordable prices.

With more than 170 Michelin-starred restaurants, Kyoto and Osaka rank among the world's leading gourmet destinations.



1-3

The Potential and Appeal of Food Tech in Kansai Concentration of Food-Related Supply Chains

- The Kansai region combines diverse production areas, a strong concentration of food-processing industries, robust logistics infrastructure, and a large consumer market, giving it significant potential in the food-related supply chain.

A wide variety of agricultural products—including branded items such as Kyoto vegetables—are produced in the Kansai region through urban-periphery farming. The area is also endowed with rich marine resources supported by diverse waters, and it hosts livestock industries that produce some of Japan’s leading beef brands, making it a major hub for food production.

Agriculture Taking advantage of its proximity to major consumer markets, the area has developed strong urban-periphery farming, enabling the speedy supply of fresh vegetables and fruits. It is also known for the active production of branded agricultural products, including traditional items such as Kyoto vegetables (Kyoyasai) and Yamato vegetables.



Livestock industry



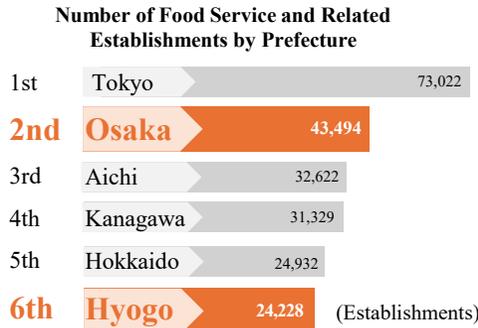
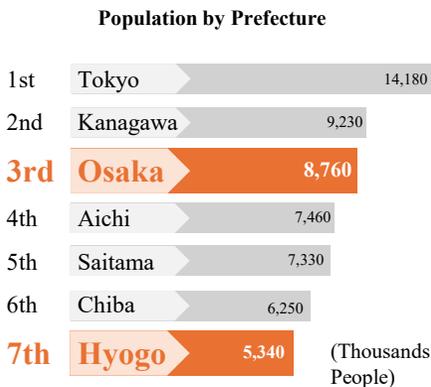
Supported by advanced feeding techniques and many years of breeding improvement, the area has developed into a leading producer of Japan’s branded beef. Kobe Beef and Omi Beef are especially well regarded for their fine marbling and rich flavor, and they are recognized worldwide as premium brands.

Fisheries



In addition to access to three major sea areas—the Pacific Ocean, the Sea of Japan, and the Seto Inland Sea—the region is also blessed with rich freshwater environments such as Lake Biwa, the Yoshino River, and the Kino River. These diverse waterways support the harvest of a wide variety of abundant marine products.

As Japan’s second-largest economic zone, the area has developed a powerful food market. Centered around Osaka and Hyogo, it features a large population and a high concentration of foodservice businesses, both of which strongly support food-related consumption and make it one of the largest markets in the country.



Source: MIC/METI “2021 Economic Census for Business Activity: Cross-Industry Tabulation”
*Including takedown and delivery food service activities.

The value added by the food manufacturing industry in Kansai amounts to approximately 1.7 trillion yen (2024). Companies in the region also generate about 10% more value added per employee than the national average, reflecting a strong concentration of firms with advanced technologies and well-established brands.

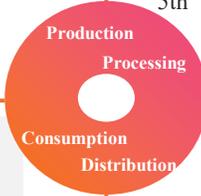
Value Added per Employee in the Food Manufacturing Industry (by Region)



Source: Processing from METI, “2024 Economic Conditions Survey, Survey of Manufacturing Establishments (Regional statistical table data)”
Note that regions are classified based on the jurisdictional areas of the Regional Bureaus of METI

Major Food Processing Companies Headquartered in the Kansai Region

- NISSIN FOODS HOLDINGS
- Ezaki Glico
- House Foods Group
- NH Foods
- Suntory Holdings
- DyDo GROUP HOLDINGS
- FUJI OIL
- EAT&HOLDINGS



The Kansai area is served by international ports and airports that provide connections to destinations across Japan and overseas, offering excellent access to both domestic and global markets. In addition, the region’s highly developed railway and expressway networks enable efficient transportation in all directions.



Major Transportation Networks in Japan (Time required)

| | | |
|-----------------------|----------------------|-----------------|
| Airplane | Sapporo/Shin-Chitose | 1 hour 50 min. |
| | Tokyo/Haneda | 1 hour 10 min. |
| | Fukuoka/Hakata | 1 hour 15 min. |
| Shinkansen | Tokyo | 2 hours 30 min. |
| | Aich/Nagoya | 50 min. |
| | Hiroshima | 1 hour 30 min. |
| Expressway | Fukuoka/Hakata | 2 hours 30 min. |
| | Tokyo | 6 hours 40 min. |
| | Aich/Nagoya | 2 hours 30 min. |
| | Hiroshima | 4 hours 20 min. |
| | Fukuoka/Hakata | 7 hours 40 min. |

*Flights depart from Kansai International Airport; Shinkansen and Expressways depart from Shin-Osaka.

Source: MIC, “Population Estimates” (as of October 2024)



1-4

The Potential and Appeal of Food Tech in Kansai Academic Institutions Cluster

- A large number of universities, including Kyoto University, are concentrated in Kansai, and many of them specialize in agri-tech and food science. In recent years, some universities have also introduced dedicated courses and curricula in food tech.
- Public research institutions specializing in agriculture, forestry, fisheries, and food sectors are established in each prefecture within Kansai. These institutions support the enhancement of technical capabilities and industrial development for companies and businesses.

Major Universities in Kansai Engaged in Food Tech, Agri Tech, and Food Science Fields

The Field of Agri-Tech and Food Science¹

- ① KYOTO UNIVERSITY (Agriculture, Engineering)
- ② The University of Osaka (Engineering)
- ③ KOBE UNIVERSITY (Agriculture, Engineering)
- ④ Osaka Metropolitan University (Agriculture, Engineering, Science, etc.)
- ⑤ KINDAI UNIVERSITY (Agriculture, Biology-Oriented Science and Technology)
- ⑥ Nara Institute of Science and Technology (Strategic Initiative for Research and Innovation)
- ⑦ Kyoto Prefectural University (Faculty of Agricultural and Food Sciences, Faculty of Science and Technology)
- ⑧ KYOTO UNIVERSITY of ADVANCED SCIENCE (Bioenvironmental Sciences)
- ⑨ RYUKOKU UNIVERSITY (Agriculture, Advanced Science and Technology)
- ⑩ Kwansei Gakuin University (Biological and Environmental Sciences)
- ⑪ KONAN UNIVERSITY (Frontiers of Innovative Research in Science and Technology)
- ⑫ SETSUNAN UNIVERSITY (Agriculture)
- ⑬ THE UNIVERSITY OF SHIGA PREFECTURE (Environmental Science)
- ⑭ UNIVERSITY OF FUKUI (Engineering)
- ⑮ Fukui Prefectural University (Bioscience and Biotechnology, Marine Science and Technology)
- ⑯ Fukui University of Technology (Environmentology)

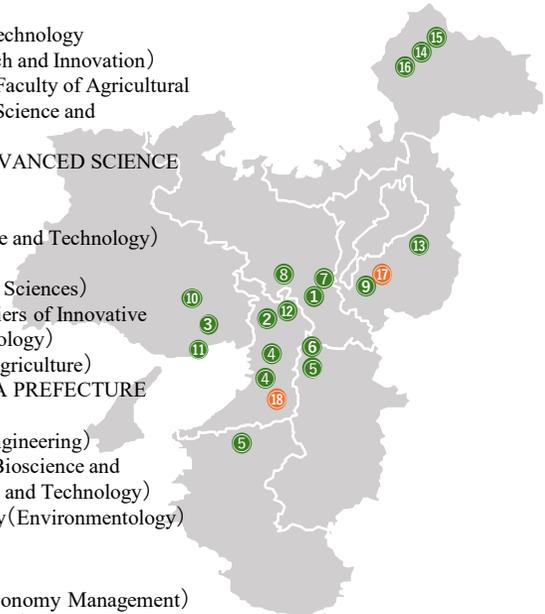
The Field of Food Tech²

- ⑰ Ritsumeikan University (Gastronomy Management)
- ⑱ Tezukayama Gakuin University (Food and Environmental Sciences)

Note

1. The Field of Agri-Tech and Food Science : Major universities offering curricula in the agri-tech and food science fields within agricultural, science and engineering, and STEM disciplines

2. The Field of Food Tech : Universities offering courses and curricula focused on food tech



Examples of University-Affiliated Facilities for Next-Generation Food Resource Production

Osaka Metropolitan University R&D Center for the Plant Factory (PFC)

URL: <https://www.omu.ac.jp/orp/plant-factory/en/>

- The facility serves as a cutting-edge R&D center for artificial-light plant factories in Japan.
- Our research focuses on minimizing production costs through ICT-driven automation and strategic personnel management. Furthermore, we strive to innovate cultivation technologies for functional crops and explore diverse plant varieties to meet on-demand production requirements..



Source: PFC, Osaka Metropolitan University (Website)

Kindai University Aquaculture Research Institute

URL: <https://www.kindai.ac.jp/english/research/research-center/aqua-research/>

- It is a leading research institute driving the development of aquaculture and seed production technologies for a wide range of fish species, including red seabream, yellowtail, and eel. It also pioneered the world's first full-cycle aquaculture for multiple species, notably bluefin tuna and blackthroat seaperch.
- In addition to fundamental research in nutrition, breeding science, and fish pathology, it conducts comprehensive research spanning applied fields such as hatchery seed production, hybridization, selective breeding, biotechnology, and alternative protein ingredients for aquafeeds.



Source: Aquaculture Research Institute, Kindai University (Website)

Public Research Institutes that Support Technological Development in the Region

The research institutes established in each prefecture provide support to local food-related companies and businesses in areas such as technological development, product development, and crop variety improvement. They also collaborate on joint testing and research projects.

Kyoto Prefectural Agriculture, Forestry and Fisheries Technology Center

URL: <https://www.pref.kyoto.jp/nougijyutsu/> (written in Japanese)

- A prefectural comprehensive research institute supporting technological challenges in agriculture, forestry, livestock, and fisheries across Kyoto Prefecture.
- Based on the Kyoto Food Tech Master Plan, the center is prioritizing the promotion of smart technologies suited to Kyoto Prefecture, the creation of new added value such as health functions, strengthening research that supports Kyoto Prefecture's agriculture, forestry, and fisheries in response to climate change and the SDGs. It also works to develop of human resources capable of utilizing cutting-edge technologies in production settings.
- The center also operates the "Kyoto Food Tech Researchers Conference", a cross-sector industry - academia - government collaboration platform working toward the realization of the "Kyoto Food Tech Master Plan".



Source: Kyoto Prefectural Office



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The Potential and Appeal of Food Tech in Kansai

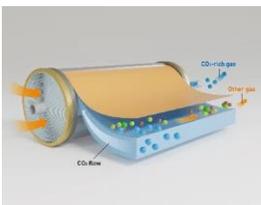
Academic Institutions Cluster

- Kansai hosts a substantial cluster of leading universities and research institutions that generate advanced technologies in diverse fields such as AI, robotics, and biotechnology. The application of these advanced technologies within the food industry is steadily progressing.

Cases of University-Originated Startups Applying Core Technologies to the Food Industry

Startups originating from Kyoto University

- OOOYO Ltd.
(Gas separation membranes)
- Symbiobe Inc.
(Biomufacturing technology focusing on marine photosynthetic bacteria)



Source: OOOYO Ltd.

Startups originating from The University of Osaka

- Thinker Inc.
(Pre-Touch Sensor technology)

For details→P.13



Source: Symbiobe Inc.



Source: Thinker Inc.

Keihanna Science City: Developing a Base of Food Tech

- Keihanna Science City is a major science and innovation hub in Japan, developed across the Keihanna Hills spanning Kyoto, Osaka, and Nara.
- The area hosts about 160 facilities, ranging from universities such as Kyoto University and Doshisha University to national research institutes and corporate R&D centers, with over 10,000 researchers and professionals based there.



Source: Kyoto Prefectural Office (Website)

- Plans are underway to develop the Keihanna Science City Foodtech Hill, a hub bringing together cutting-edge food research and related manufacturing companies. By carrying out R&D in functional foods, next-generation foods, and frozen distribution technologies, and by combining food, technology, and Kyoto's rich traditions and culture, the initiative seeks to create food innovation distinctive to Kyoto.

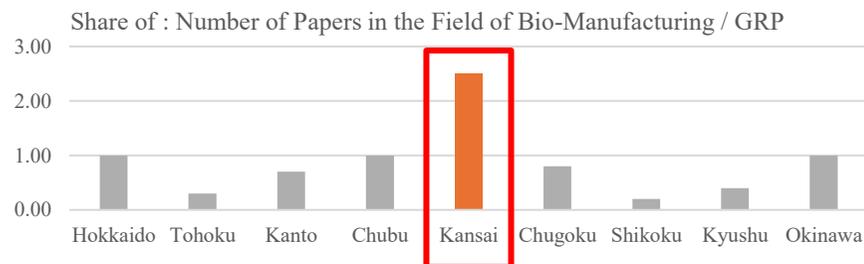
Bio-manufacturing Thriving in Kansai

- Under Japan's national bioeconomy strategy, the government has set a goal for 2030 to advance the development and adoption of smart agriculture, biotechnology-driven new varieties and technologies, and food tech. These efforts are expected to help mitigate future food shortages.
- Against this background, Kansai region is a place with strong advantages in the biotechnology field. When examining the publication of papers in the field of bio-manufacturing by institutions of the first authors, approximately 40% of them are from institutions in Kansai.

Publication Status of Academic Papers in the Field of Bio-Manufacturing

(Papers Including Keywords Related to Bio-Manufacturing)

| Hokkaido | Tohoku | Kanto | Chubu | Kansai | Chugoku | Shikoku | Kyushu | Okinawa | Total |
|----------|--------|-------|-------|--------|---------|---------|--------|---------|-------|
| 9 | 4 | 83 | 31 | 101 | 10 | 1 | 9 | 2 | 250 |



(Source) Extracted from METI-Kansai website, "Vision for the Formation of the Bio-Manufacturing Ecosystem in the Kansai Region."
(Papers) The number of papers is based on those published since 2014 that include relevant keywords in the title or abstract, with the institutions of the first authors being tallied.
(Patents) The number of inventors is based on domestic patent applications in the field of bio-manufacturing since 2014, with inventor addresses being compiled.
(Common) GRP is based on the Cabinet Office's "Prefectural Economic Accounts." The regional blocks are aligned with the jurisdiction of METI.



1-4

The Potential and Appeal of Food Tech in Kansai

Academic Institutions Cluster (Industry–Academia Collaboration Cases)

- In Kansai, a strong culture and environment for industry–academia collaboration has been established, and such initiatives are highly active. Through these collaborations, the region’s advanced research results are being translated into new value in the market.

Graduate School of Engineering, The University of Osaka

MATSUSAKI LAB.



URL: <https://www-chem.eng.osaka-u.ac.jp/matsusaki-lab/>

Research Activities

- We conduct research with applications in regenerative medicine and drug discovery. This research builds on biomaterials science, which studies materials that interact directly with living systems, and tissue engineering, which focuses on the artificial construction of complex human and animal tissues and organs.
- We are also applying the construction of three-dimensional biological tissue models to the field of food, conducting research on cultured meat that replicates the structure of real meat by three-dimensionally combining bovine muscle, fat, and vascular cells. By using 3D bioprinters to precisely reproduce the arrangement of muscle fibers and fat observed in marbled Wagyu beef, we can tailor and construct complex meat tissue structures that were not possible with conventional minced cultured meat, and we are advancing technological development toward practical application.

Industry-Academia Collaboration: Consortium for Future Innovation by Cultured Meat



URL: <https://cficm.jp/en/>

To advance the social implementation of cultured meat manufacturing technologies using 3D bioprinting, in 2023 our laboratory worked with companies and research institutions to establish the Consortium for Future Innovation by Cultured Meat. Alongside Osaka University the consortium includes 18 participating companies (as of June 2025), such as TOPPAN Holdings Inc., Itoham Yonekyu Holdings Inc., Shimadzu Corporation, SIGMAXYZ Inc., and ZACROS Corporation. In delivering cultured meat to society, it is essential not only to advance 3D bioprinting technologies, but also to build a value chain covering production through distribution, and to establish stable large-scale cultivation technologies and low-cost manufacturing processes that maintain quality. In addressing these challenges, the participating companies and research institutions are bringing together their respective strengths and collaborating on all stages, from technology development through implementation.



Cultured meat produced by reproducing the structure of real meat



Meatmaker (A future device for automated cultured meat production) using 3D bioprinting technology (Exhibited at the Osaka Healthcare Pavilion, Expo 2025 Osaka, Kansai, Japan)

<Message>

Having previously worked mainly with domestic institutions and companies, our consortium is now entering a new stage by expanding its outlook globally. We are also beginning focused discussions with overseas financial institutions, major food companies, and venture firms to promote global partnerships. As we work toward the commercialization and widespread adoption of cultured meat as a food of the future, we wholeheartedly welcome positive outreach from partners willing to take on this challenge with us.



Nara Institute of Science and Technology Strategic Initiative for Research and Innovation

Laboratory of Fermentation Science (Prof. Hiroshi Takagi Group)



URL: https://www.naist.jp/iri/index_en.html

Research Activities

- Focusing on yeast, a microorganism of major industrial importance, we analyze the mechanisms that enable it to tolerate a wide range of stresses encountered during fermentation, including high ethanol concentrations, elevated temperatures, freezing, drying, and high osmotic pressure. Based on these findings, we are advancing more sophisticated breeding technologies for industrial yeast. In parallel, we explore amino acid metabolism and functions related to fermentation performance, flavor and aroma diversity, nutritional enhancement and health maintenance, aiming to breed yeast strains enriched in specific functional amino acids.
- These research results have led to the development of practical industrial yeast strains—such as baker’s yeast with enhanced tolerance to freezing, high sugar, and drying stress, and sake, awamori, and craft beer yeasts that enhance fermentation stability and product quality. Through this work, we are contributing to new innovations in the field of fermentation and brewing.

Industry-Academia Collaboration: Product Development Using Yeast

We actively promote industry–academia collaboration to translate our yeast research into industrial applications. In the field of traditional fermentation, yeast strains developed in our laboratory have been utilized in the production of alcoholic beverages such as craft beer, sake and awamori. In collaboration with a wide range of local breweries, we have achieved practical outcomes such as the creation of alcoholic beverages with distinct banana- or rose-like aromas, and value-added drinks enriched with beneficial compounds such as ornithine. At the same time, we are advancing joint research with private companies on alternative proteins produced through biomass fermentation. By breeding yeast strains rich in compounds that contribute to meat-like flavor as well as nutritional and health benefits, and adding them into soy-based sausages and hamburger steaks, we aim to reduce undesirable bean odors while improving both palatability and nutritional value. Together with industrial partners, we continue to explore new potentials for yeast, from traditional fermented foods to next generation foods.

<Message>

Yeast not only enhances taste and flavor but also contributes to improved nutritional value and health functionality. Our laboratory has established an international joint laboratory with the University of California, Davis, USA, and is promoting research utilizing approximately 10,000 yeast strains. By harnessing these rich resources, we aim to pioneer a new future of “deliciousness” and “health” brought by yeast.

Looking ahead, we will strengthen global collaboration through our joint laboratory and advance research that applies the beneficial functions and breeding technologies of yeast to the field of precision fermentation—promoting Japan’s leading yeast science and fermentation technology to the world.



Three types of craft beer developed in collaboration with Golden Rabbit Beer (Nara city), using our original yeast strains.



Soy-based hamburger steaks made using the functions of yeast



1-5

The Potential and Appeal of Food Tech in Kansai

Interviews with Foreign-Affiliated Food Tech Companies

- Many foreign food tech companies have also entered the Kansai region, developing their businesses by taking advantage of its regional strengths. The region's effective business culture, which supports smooth collaboration, along with its quick and flexible decision-making style, encourages new challenges and innovation.



Wada FoodTech

Wada FoodTech Co., Ltd.

Address 26th Floor, Hankyu Grand Building,
8-47 Kakuda-cho, Kita-ku,
Osaka City, Osaka

Website <https://wadafoodtech.com/>



Business Overview

- A startup established in Hong Kong in 2018, offering hot-chain bento vending machine services. In June 2023, the company established its Japanese subsidiary in Osaka.
- The company operates a "hot-chain" platform that keeps food at a warm temperature. Its self-developed hot-chain vending machines allow consumers to enjoy freshly heated bento in just 17 secs. By leveraging engineers from the Kansai region, the company is working to enhance automation solutions and aims to expand exports to other developed countries, with Osaka serving as its hub.

Background of expansion into Kansai

We chose to expand into Kansai because we felt that its startup culture was more conducive to our business than other regions in Japan. The execution power and speed of people in Kansai are truly impressive, and we were strongly drawn to the region's unique environment, business atmosphere, and its people. Additionally, Osaka, as Japan's second-largest city, has a large number of potential end-user in our target market, making it the ideal region for our business.



Hot-chain vending machines

Attractiveness of Kansai

One of the main attractions of Kansai is how smoothly partnerships and client relationships develop. Along with the friendly and approachable people, Osaka has a business culture rooted in "getting things done" and "delivering results." I found that the collaborative relationships here are both realistic and highly effective. Another appealing aspect of Osaka is its "perfect size." It's neither too big nor too small, and the concentration of business partners and clients within easy reach makes relationship-building very convenient.

Message

When establishing a base, I believe there are two key factors to consider: The first is determining whether the region is "suitable for your business". The second is assessing whether the "the local temperament and culture align with the entrepreneur's lifestyle", which is just as important as the business considerations.



CEO Jason Chen



CRUST JAPAN K.K.

Address 26th Floor, Hankyu Grand Building,
8-47 Kakuda-cho, Kita-ku,
Osaka City, Osaka

Website <https://www.crust-group.com>



Business Overview

- A startup established in Singapore in 2019 that produces and sells alcoholic/non-alcoholic beverages using surplus ingredients. In February 2021, it opened a Japan office in Osaka.
- We work with many companies in Japan and overseas, aiming to create a circular economy and a more sustainable society under the concept of delicious upcycling. Starting in 2025, we will expand our activities beyond collaborations in Japan by growing the product lineup of Japan's CRUST, including Pale Ale and IPA. We also plan to widen our reach by considering exports to overseas markets, including Singapore.

Background of expansion into Kansai

While Singapore, where the company was founded, is a leading country in the fields of finance and technology, the country itself is not so large. The Japanese concept of *mottainai* is close to the ideal we aim for. It also provides a strong foundation for people to relate to our unique approach of producing beverages that are 100% upcycled. This is one of the reasons we are currently based in the Kansai region. Going forward, we aim to increase our domestic partnerships and develop "Japanese craft beer by CRUST" for overseas markets.



Beer brewed from unused bread

Attractiveness of Kansai

Kansai has many small and medium-sized companies, and their quick decision-making and business-oriented mindset match well with our style of planning and launching new projects. This environment has become a driving force that supports our activities.

Message

Although Japan may seem open from the outside, it has traditionally been considered difficult to enter its "inner circle." However, with the increase in inbound tourists and the growing number of foreign residents, the ways to enter the Japanese market are becoming more diverse. Instead of avoiding Japan because it seems unfamiliar or difficult, I believe it is important to start by making proposals and taking action.

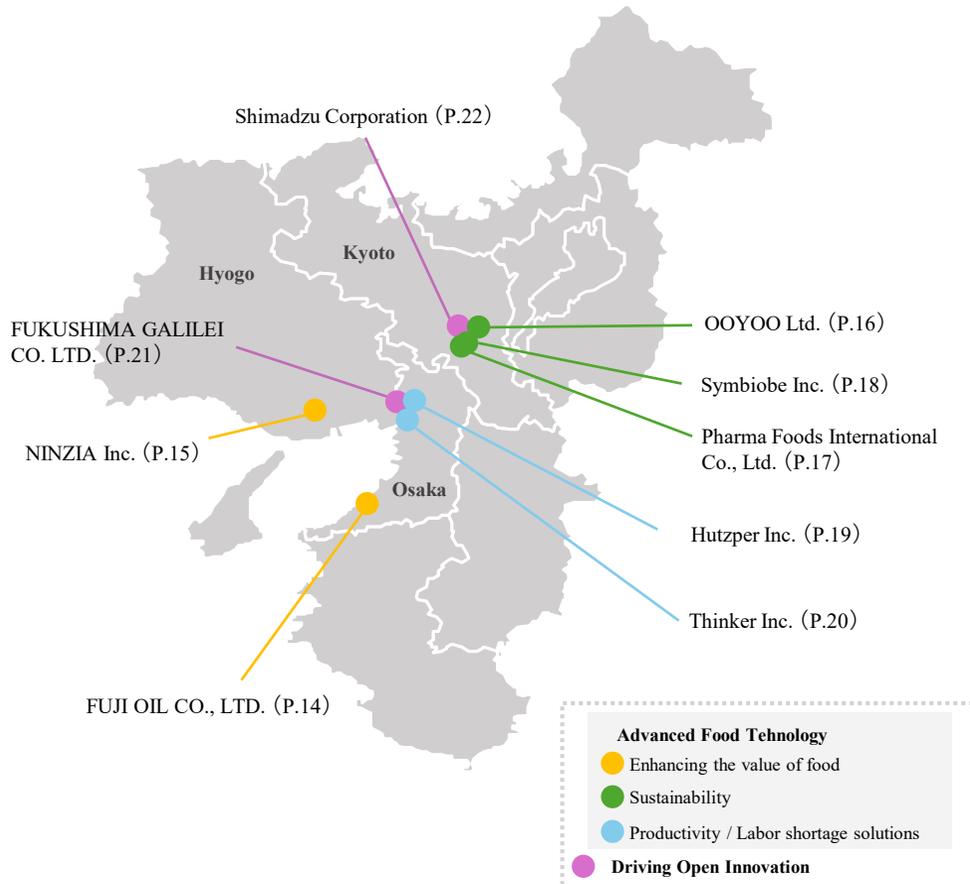


Director
Hiroyuki Hirano

2 Leading Food-Tech Innovators in Kansai

- Kansai is home to a highly concentrated food-industry supply chain, providing an environment where numerous companies with advanced food-tech capabilities are driving innovation. Major corporations across the region also operate open-innovation hubs, fostering dynamic, cross-industry collaboration with a diverse range of partners. Together, these strengths position Kansai as a vibrant center of food-tech development.
- In Kansai, the high proportion of patent applications in the food-tech sector demonstrates its position as one of Japan's leading centers of technological capability.

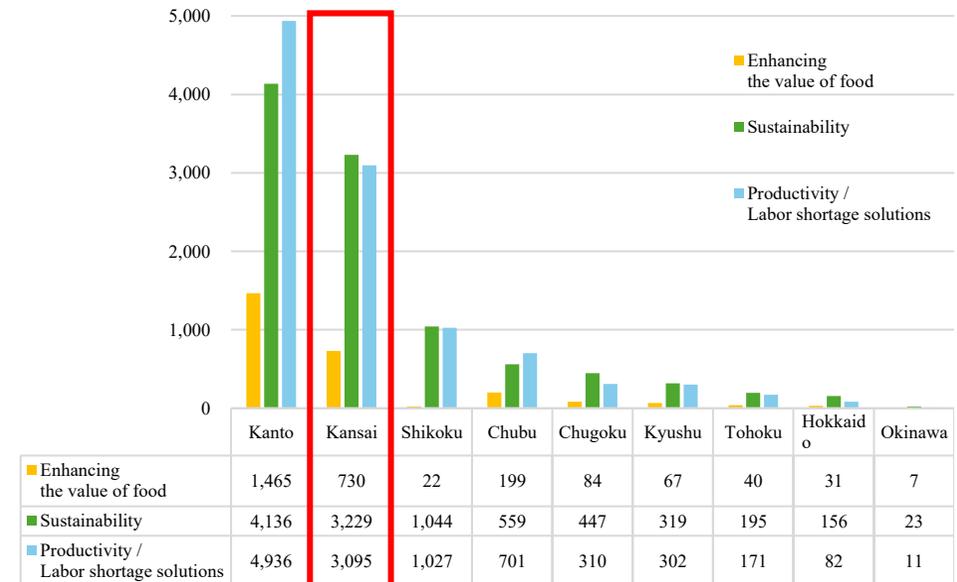
Leading Food-Tech Innovators in Kansai



Kansai's Strengths as Seen Through Patent Filings

- Over the past ten years, Kansai has ranked second nationwide—after the Kanto region—in the number of food-tech-related domestic patent filings across all domains covered in this booklet (p. 2).
- Although Kansai accounts for less than 20% of Japan's nominal regional GDP and manufacturing shipment value, it represents roughly 30% of the nation's food-tech-related patent applications. This highlights the strong concentration of technological capabilities in the food-tech sector within the Kansai region.

Number of Patent filings in the Food Tech Field



Source: Patent information was compiled based on applications filed over the past ten years, as of January 15, 2026.
 Research cooperation: MOLTON (Quants Consulting)
 Data on nominal regional GDP and manufacturing shipment ratios: Overview of the Kansai Economy — Kansai's Economic Indicators

“MIRACORE®” –
technology that
makes plant-based
foods as “satisfying”
as the animal-based
foods

Location

1 Sumiyoshi-cho, Izumisano-shi, Osaka



Company Website MIRACORE®



Company Website

<https://www.fujioil.co.jp/en/>

MIRACORE®

<https://www.miracore.jp/en/>

FUJI OIL CO., LTD.



Company Overview

- Since our establishment in 1950, we have pursued the possibilities of food and created new value to share with the world, developing and supplying food ingredients based on vegetable oils and fats.
- Today, we deal with food ingredients in four business; vegetable oils and fats, industrial chocolate, emulsified and fermented ingredients, and soy-based ingredients, supporting the global food industry in the BtoB sector and operating overseas offices, including in the Netherlands and Singapore.
- We hold the No. 1 share in Japan and top-three share worldwide in vegetable oils and fats for chocolate and industrial chocolate. In addition, we own 3,488 patents(as of March 2025), mainly in the fields of vegetable oils and fats and plant-based proteins.

Technological/Service Strength

MIRACORE® uniquely recreates the satisfying experience of animal-based foods by mimicking the structure and interaction of fats and proteins—using only plant-based ingredients. Through our extensive research and development, we have accumulated knowledge about the functions and structures of plant-based oils and proteins. We use this knowledge to precisely design the combinations and states of plant-based oils and proteins to deliver satisfying eating experience. Today, this technology has been applied to MIRA Dashi™, a completely plant-based flavor soup base (dashi). Beyond developing a wide variety of products, we are also actively collaborate with partner companies to co-develop MIRA Dashi™ based products and menus.

Challenges we can contribute

By delivering satisfaction without relying on any animal-derived ingredients, this technology supports dietary diversity such as vegan and religious diets, as well as health-conscious needs, and greatly contributes to expanding available food choices. It also facilitates handling country- and region-specific matters, such as restrictions on animal ingredients and export regulations, making it easier to expand overseas operations and develop menus for inbound visitors.

Message

To date, we have created a wide variety of products and menus through the collaborations with Japanese companies. Under the slogan “Making plant-based food more delicious, creating a sustainable and bright future,” we also aim to extend these co-creation initiatives to overseas companies, strengthen the collaboration with the partners who share our values, adapt the approach to fit each country’s or region’s food culture and needs, and contribute to the well-being of both people and the planet.



Plant-based bonito-style broth



Serving plant-based Tonkotsu Flavor ramen made with MIRA-Dashi™ for Muslim

Texture and binding technology using konjac dietary fiber

Location

KiP, 56 Naniwa machi, Chuo-ku, Kobe, Hyogo



Company Website

<https://ninzia.jp/en/>

NINZIA Inc.

Company Overview

- Texture engineering startup founded in 2016, developing products and technologies using dietary fiber from konjac, a traditional Japanese food ingredient, to create extraordinary eating experiences, free from compromise and restriction.
- We are actively expanding our business in overseas markets, including the United States, Singapore, and Malaysia.
- Awards: Spain Food 4 Future “FOODTECH INNOVATION AWARD 2024,” SMBC Financial Group “Mirai X” Impact Award, and others.

Technological/Service Strength

Our technology is an innovative approach that leverages the unique properties of glucomannan, a dietary fiber contained in konjac, a traditional plant-based food in Japan. When mixed with water, glucomannan powder turns into viscous paste, and once it reacts with alkali, the fibers bind strongly to one another, forming a network structure that gels like jelly. We have established our proprietary technology that precisely controls this gelling process so that it remains in paste form without fully solidifying. By applying this technology, we developed “NINZIA Paste,” which offers strong binding performance when mixed with other ingredients and then heated, frozen, or dried. It can therefore be used as an alternative to many conventional binders such as starch syrup, sugar, and wheat gluten, enabling application in a wide variety of foods and making it possible to achieve textures and shapes that were previously difficult to realize.

Challenges we can contribute

By using NINZIA Paste, it becomes possible to develop a wide range of products, including gluten-free staple foods, fortified snacks and cereals, and allergen-free items. In addition, because NINZIA Paste is highly heat resistant, it can be applied to ingredients that could not withstand high temperature and pressure and were therefore difficult to process into canned or retort foods. These characteristics enable the development of longer-lasting foods and new cooking methods, offering consumers a wider variety of food choices.

Message

We will continue to place our proprietary technology at the core of our business as we work to create extraordinary eating experiences, free from compromise and restriction.
We are highly interested in collaborating with partners that develop products using our technology, as well as with companies and organizations that can help bring our products and technologies to market.



Protein granola made with the binding technology of NINZIA Paste, a plant-based ingredient derived from konjac



“Non-soggy” canned udon noodles (Emergency Food for the Future), jointly developed with Fuji Oil Co., Ltd. and Sachiumi Heroes LLC

A sustainable, clean CO₂ separation membrane technology acting as a basis for future devices and can also be applied to the food industry

Location

134 Chudoji Minamimachi, Shimogyo-ku, Kyoto-shi, Kyoto



Company Website

<https://www.ooyoo.co.jp/en/>

Ooyoo Ltd.



Company Overview

- We are a deep-tech company leveraging advanced polymer technologies from Kyoto University that was founded in 2020. We are developing high-performance CO₂ separation membranes that dramatically reduce the cost of CO₂ capture.
- We have an agreement with TOPPAN Holdings Inc. for the development and mass production of separation membranes. We have also established partnerships with major Japanese companies such as Sumitomo Chemical Co., Ltd. and GS Yuasa International Ltd. for module development.
- At COP28 in 2023, we were selected as one of ten companies from Japan to exhibit in the Startup Village, which brought together innovative technologies from around the world. In 2025, we exhibited at Food 4 Future 2025 as a foodtech company.

Technological/Service Strength

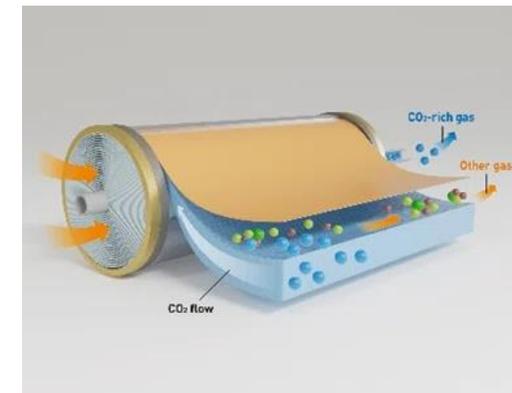
CO₂ separation and capture using conventional chemical absorption methods require large amounts of thermal energy, posing significant cost challenges and becoming a bottleneck to achieving carbon neutrality. In response, we have developed a proprietary high-performance CO₂ separation membrane that combines multiple polymers to achieve both high selectivity and high permeation speed. This unique design enables highly efficient separation of CO₂ from other gases, achieving significant reductions in energy costs and equipment size compared with conventional technologies. Our separation membrane delivers approximately three times the processing speed of conventional technologies, a major strength that enables high separation performance even with more compact equipment. Conventional amine absorption methods rely on ammonia-derived chemicals, making them difficult to adopt in the food industry, where sensitivity to taste and odor is critical. By contrast, our separation membranes use chemical-free materials, allowing safe adoption in the food industry and enabling a wide range of applications.

Challenges we can contribute

The food industry is one field where this technology is expected to see significant future demand. There are diverse possibilities, such as capturing CO₂ emitted from bio-fermentation plants using this technology and converting it into calcium carbonate, or using it as a material for plant factories. We are, therefore, currently conducting demonstration experiments with multiple food-related companies. We believe that our technology can enhance the sustainability of food manufacturing, reduce environmental impact, and further increase corporate value.

Message

Our strength lies in developing separation membranes. The assembly modules incorporating these membranes is carried out in cooperation with partner companies. Going forward, we aim to expand collaborations overseas with companies that can jointly undertake module assembly processes. We would also like to advance demonstration experiments with CO₂-emitting companies both within Japan and overseas.



Separation membrane developed by Ooyoo



Demonstration experiment conducted with Masuda Tokubee Shoten Co., Ltd. on the separation and recovery of CO₂ generated during the sake brewing process

An upcycling technology producing unprecedented new value from familiar food ingredients

Location

1-49 Goryo-ohara, Nishikyo-ku, Kyoto



Company Website



Upcycling Business

Company Website

<https://www.pharmafoods.co.jp/en>

Upcycling Business Initiatives (written in Japanese)

<https://www.pharmafoods.co.jp/sustainability/upcycle>

Pharma Foods International Co., Ltd.



Company Overview

- Founded in 1997, we are a research-driven biotechnology company that develops a wide range of products and services across B2B and B2C, from functional food ingredients to drug discovery, based on the concept of integrating pharmaceuticals and foods.
- One of our flagship products is the functional ingredient PharmaGABA®, effective for stress management and health maintenance. It has been widely adopted by food manufacturers and health food companies both in Japan and overseas.
- We are also actively promoting global expansion by increasing our sales channels in North America, China, Southeast Asia, and other regions.

Technological/Service Strength

We have been engaged in the research, development, and manufacture of materials that harness the functional properties of scientifically evaluated beneficial components found in naturally derived ingredients such as eggs and lactic acid bacteria. Building on these technological capabilities, previously discarded resources - including green bananas, wine lees, and sesame oil cake - are upcycled by identifying new functionalities and transforming them into materials for applications in beauty, immunity, and dietary fields. In addition, technologies are being developed to reuse eggshells, which are discarded in massive quantities worldwide and largely incinerated, contributing to CO2 emissions, as a highly valuable upcycled resource. As a result of these efforts, a new material, *ovoveil®, has been developed by blending components derived from solubilized eggshell membranes into regenerated cellulose fibers using proprietary technology. Research and development are also being further strengthened toward the commercialization of upcycled eggshell membrane-based electrode materials and agricultural materials (biostimulants).

Challenges we can contribute

In food processing settings, many by-products generated from fruits and vegetables, grains, and animal-derived materials are not fully utilized and are treated as waste, producing environmental burdens and monetary costs. Our technology simultaneously reduces waste and recirculates resources by extracting new functionality from previously unused food by-products and regenerating them into valuable materials.

Message

We have also been actively expanding our overseas sales channels by supplying functional ingredients and conducting product sales in collaboration with local partner companies. To fully leverage our technologies and drive further market expansion, we aim to deepen collaboration with companies that utilize our materials, as well as partners with strong sales and marketing capabilities.



Banafine®: A functional ingredient developed from immature green bananas that supports innate immunity



Next-generation sustainable fiber ovoveil® and eggshell membrane (raw materials) (Exhibited at the Osaka Healthcare Pavilion, Expo 2025 Osaka, Kansai, Japan)

A biomanufacturing technology that turns air into resources through the power of microorganisms

Location

Kyodai Katsura Venture Plaza, South Building 1-39 Goryoohara, Nishikyo-ku, Kyoto-shi, Kyoto



Company Website

https://www.symbiobe.jp/en/

Symbiobe Inc.

Company Overview

- We are a startup founded in 2021 based on biotechnology from Kyoto University that creates resources from air. We possess proprietary cultivation technologies for photosynthetic bacteria, as well as production technologies such as fertilizers and feed. By leveraging these technologies, we aim to utilize carbon and nitrogen sources contained in exhaust gases and wastewater to promote local production for local consumption. In 2026, we start to work with Idemitsu Kosan Co., Ltd. and Seibu Oil Co., Ltd. to build a bench-scale plant with an annual biomass production capacity of one ton and began demonstration experiments using this facility.

Technological/Service Strength

The photosynthetic bacteria, on which we are basing our technologies, inhabits seawater worldwide. These microorganisms can utilize various carbon and nitrogen sources, including carbon dioxide and nitrogen contained in exhaust gases, and by fixing them within their cells and, through photosynthesis, produce a variety of organic compounds and metabolites. We possess biomanufacturing technologies for efficiently cultivating these bacteria. We then use the resulting products as a raw material to produce Air Fertilizer®, a high-nitrogen organic fertilizer, Air Feed®, a highly nutritious alternative to fishmeal and other products. These bacteria are difficult to genetically engineer and have thus only seen limited research and little attention as host organisms for biomanufacturing. We are advancing foundational technologies for utilizing these microorganisms and enhancing cultivation and production processes to expand their potential applications.

Challenges we can contribute

The chemical fertilizers and fishmeal currently used in agriculture and aquaculture produce high environmental burdens and face sustainability challenges. Air Fertilizer® and Air Feed® deliver growth performance equivalent to conventional fertilizers and feeds while serving as alternatives to chemical fertilizers and fishmeal. Our technology promotes a circular economy by converting industrial exhaust gases and wastewater into resources, while enabling food production with a lower environmental impact.

Message

We place high value on the concept of "local production for local consumption." We aim to create a circular system in which exhaust gases and wastewater generated in a given region are upcycled into fertilizers, feed and other products using our technology and then reused within the same region. We believe that building such systems and contributing to the realization of resource circulation is the essence of our technology, and we seek to collaborate with those who share this vision.



Nitrogen fertilizers for agriculture Air Fertilizer®



Cultivation equipment inside the bench-scale plant

High-precision AI solutions that turn cutting-edge technology into reliable labor sources

Location

Shinosaka-CSP building North-4F, 1-11-16
Nishinakajima, Yodogawa-ku, Osaka City



Company Website

<https://hutzper.com/en/home/>

Hutzper Inc.

Company Overview

- Founded in 2020, Hutzper Inc. is an AI startup serving the manufacturing sector. We provide AI solutions addressing on-site challenges such as visual inspection, workforce allocation, LLM development, and demand forecasting, supporting labor reduction and productivity improvement.
- Starting in 2026, we will establish a representative office in Thailand and accelerate overseas expansion centered on Southeast Asia.
- Awards: Jury Award, FOOMA Award 2024; Next Generation Award, CEATEC AWARD 2025

Technological/Service Strength

We deliver manufacturing solutions centered on proprietary AI technology. Our flagship system, Hutzper Vision, performs instant quality judgments from camera-captured images and is used in food production for detecting foreign objects, deformation, and burn defects during visual inspection.

Unlike general AI that handles abstract classification, our in-house AI reads concrete product-specific features, enabling precise detection of subtle shape differences and fine defects. This technology also extends beyond manufacturing. With Marubeni Corporation, we developed a smartphone application that estimates cattle weight from a single side-view image, achieving fast and accurate results through combined acceleration technology.

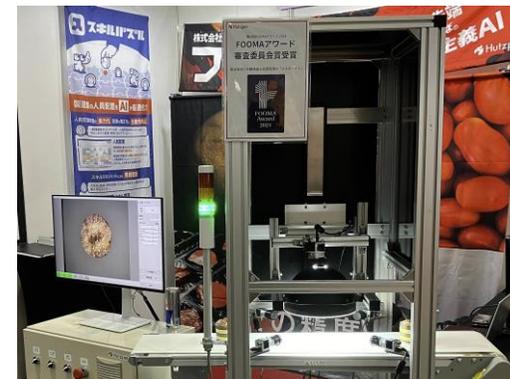
Challenges we can contribute

Our inspection AI is deployed together with optical design — including cameras and lighting — selecting optimal algorithms based on inspection targets and requirements to match real production environments. Automation of manual processes reduces workload and improves operational efficiency in food manufacturing.

The AI also handles variability in ingredient appearance and criteria that are difficult to standardize. As a result, it contributes not only to automation but to improving overall quality control accuracy.

Message

As part of our global expansion, we are promoting AI deployment in manufacturing — particularly food production — in collaboration with local partners, starting from Thailand. By applying quality standards and operational expertise cultivated in Japan, we aim to enhance quality and efficiency in a region with strong food manufacturing activity. Supported by extensive collaboration with Japanese companies, our core AI technologies can extend to international technical partnerships. We continue advancing Japanese quality principles globally and welcome inquiries from organizations interested in AI adoption or quality improvement worldwide.



Case Study: Hutzper Vision at a Western-Style Confectionery Plant



Cattle Weight Estimation App
Jointly Developed with Marubeni Corporation

“Pre-Touch Sensor”: Evolving Robot Hands into Thinking Fingertips

Location

Osaka Center Bld. 6F #188, 4-1-3 Kyutaro-machi,
Chuo-ku, Osaka-shi, Osaka



Company Website

<https://www.thinker-robotics.co.jp/en/>

Thinker Inc.



Company Overview

- Founded in 2022, we are a startup originating from the University of Osaka, built on the cutting-edge “Pre-Touch Sensor” technology, which enables non-contact detection of the position and shape of objects.
- We develop and provide robotic hands and end-effectors equipped with our proprietary pre-touch sensors, driving the development of “robot hands that can perceive, think, and judge objects on their own.”
- In July 2025, we were selected for the “2025 Innovation Showcase” at the Japan-U.S. Innovation Awards held at Stanford University. That same year, we were named one of Forbes Japan’s “100 Next Generation Leaders.”

Technological/Service Strength

Our core technology, the “Pre-Touch Sensor,” combines infrared technology with our proprietary edge AI to rapidly detect the position and shape of objects in a non-contact manner, without relying on cameras. When integrated into a robot hand, the sensor enables it to handle transparent, fragile parts and food items that were previously considered difficult to grasp. The sensor has already been deployed in manufacturing environments, and in the food sector it is capable of handling even delicate products. The robot hand “Think Hand F,” which integrates the Pre-Touch Sensor with flexible joint technology, enables a new approach to manipulation—tracing, feeling around, and actively picking up objects like human fingertips—without relying on visual information. In addition, in collaboration with Yuasa Trading Co., Ltd., we are co-developing a robot arm system that combines suction pads with the sensor, enabling the safe handling of thin and fragile products. This system can be applied to tasks such as picking easily breakable items, including cookies.

Challenges we can contribute

In the food industry, automation is increasingly being adopted; however, conventional robot hands still struggle to handle soft or irregularly shaped food items, leaving a large part of the process dependent on manual labor.

Our technology enables the development of robot hands capable of handling these delicate food ingredients, helping to automate tasks that previously had to be performed by humans.

Message

We seek to collaborate with partners who can work with us to promote the use of robots from initial implementation and integration through to full adoption and ongoing value creation.

In particular, we place great importance on co-creating with companies that share a vision for the future use of robots in the field and can work with us to transform the nature of society and industry.



Picking with the Robot Hand “Think Hand F”
Equipped with the Pre-Touch Sensor



Suction-Type Robot Arm System
Co-Developed with Yuasa Trading Co., Ltd

FUKUSHIMA GALILEI CO. LTD.



MILAB
– A place where new connections spark food innovation

Company Overview

- As Japan’s pioneer in commercial refrigeration equipment manufacturing, we were the first to establish standards and begin mass production of professional refrigerators. We continue to lead the field as a comprehensive food equipment manufacturer, with a core focus on commercial refrigerators and freezers for restaurant kitchens, as well as refrigerated and freezer display cases for supermarkets.
- With multiple overseas bases in Asia, including Vietnam and Indonesia, we are driving global growth through expansion in international markets.
- We have also extended our expertise beyond the food sector, leveraging our advanced temperature control technologies to the development and sale of medical and scientific equipment.



Various types of kitchens in MILAB equipped with refrigeration, freezing, and kitchen equipment

Overview of Our Approach

As a food equipment manufacturer, we have accumulated extensive expertise and technologies in the food industry. However, in order to generate new and unprecedented technologies and ideas, it is essential to collaborate with external partners—such as companies from different industries, universities, research institutions, and entrepreneurs. To promote such co-creation in earnest, we established MILAB in 2019, a base for food innovation that will “open up the future”.

At MILAB, we have established a kitchen area equipped with a wide range of our latest freezing and refrigeration units as well as other state-of-the-art kitchen equipment, enabling ingredient testing, menu development, and cooking trials using these machines.

MILAB also includes an event hall suitable for meetings, seminars, and lectures, serving as a hub for knowledge exchange and networking within the food industry. Furthermore, an incubation office has been established to support domestic and international startups engaged in food-related businesses. By hosting companies with strong potential for co-creation, we aim to generate new business opportunities by combining our technologies and ideas.

Examples of Collaboration

We are also advancing collaboration with tenant companies in our incubation office, as well as with our partner vendors.

For example, in partnership with Dahaland Co., Ltd., a company that provides IT solutions mainly for restaurants, we jointly developed pickup management system for a cold locker by combining our refrigeration technology with their reservation and pickup management software. This cold locker has been widely used across Japan, including for takeout services at restaurants and in supermarkets.



Pickup management system for a cold locker developed through joint collaboration

Message

We are expanding our business across Southeast Asia, building on our strong foundation in the Japanese market. We are now seeking partners to collaborate with us in customizing products tailored to local needs.

Guided by our corporate purpose of “Leading the Way for the Future of Food and Life,” we are also promoting collaboration and co-creation with companies that address key challenges such as environmental sustainability, food waste reduction, and health and well-being.

Location

2-6-18 Takejima, Nishi Yodogawa-ku, Osaka,



Company Website



MILAB

Company Website

<https://www.galilei.co.jp/en/>

MILAB

<https://www.galilei.co.jp/galilei/en/#milab>

**KYOLABS:
A Space for co-
creation and
collaboration to
discover questions
and answers**

Location

1, Nishinokyo Kuwabara-cho, Nakagyo-ku,
Kyoto



Company
Website



KYOLABS
Website

Company Website

<https://www.shimadzu.com/>

KYOLABS Website (written in Japanese)

https://www.shimadzu.co.jp/research_and_development/kyolabs/

Shimadzu Corporation



Company Overview

- Founded in 1875 as a precision equipment manufacturer, Shimadzu operates four main business segments: Analytical and Measuring Instruments, Medical Systems, Industrial Machinery, and Aircraft Equipment.
- Guided by our corporate philosophy of "Contributing to Society through Science and Technology," our core Analytical and Measuring Instruments segment leverages cutting-edge analytical technologies to contribute to R&D and quality control in a wide range of fields, including healthcare, food, and the environment and energy.
- We have over 100 overseas locations (including branches). Additionally, we have established innovation centers in the United States, Germany, China, and Singapore, working with partners around the world to create new technologies and innovations.

Overview of Our Approach

Positioning the healthcare sector as a key growth market, we opened KYOLABS, a co-creation facility designed to promote open innovation, in 2019.

At KYOLABS, we have established healthcare-related themes as our research areas, including technologies supporting food.

Our analytical and measuring instruments handle a wide range of tasks, from raw material characterization and component analysis to the measurement of texture and flavor, supporting innovation at numerous beverage and food companies. Utilizing these instruments at KYOLABS, our product development engineers collaborate with external partners—such as companies, universities, and research institutions—to conduct R&D aimed at developing innovative new products and solving social issues.

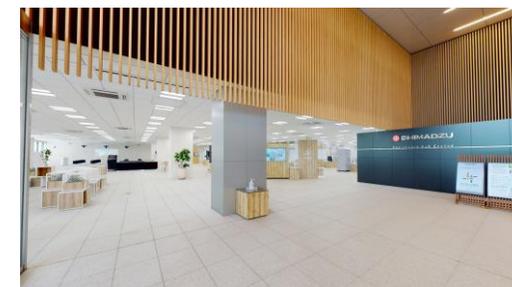
Examples of Collaboration

We collaborate with NARO (the National Agriculture and Food Research Organization), an institution engaged in R&D ranging from basic to applied research for the advancement of agriculture and the food industry. In this collaboration, we use our instruments to conduct detailed analyses of functional components in agricultural products. The obtained component data not only aids NARO in breeding new varieties and advancing cultivation techniques but also provides us with critical insights leading to the establishment of component analysis methods that support food manufacturers' product development. Through such mutually complementary efforts, both parties utilize their respective strengths to advance value creation that supports the future of food.

Message

To date, we have served as an open hub for a wide range of partners, including companies and research institutions, and have engaged in numerous joint research projects with overseas universities and companies.

Moving forward, at KYOLABS, we aim to further promote collaboration with overseas companies and institutions, focusing on themes where mutual synergy can be expected.



KYOLABS



NARO Shimadzu Testing Laboratory
(Collaborative Lab with NARO)

3 Food Tech Programs Implemented by Local Governments

- Local governments in the Kansai region are actively promoting initiatives in the food-tech field to preserve food culture, strengthen food-related industries, and address social issues.

Kyoto Prefecture, Keihanna Science City

In 2023, the Kyoto Food Tech Master Plan was formulated to address challenges faced by food-related industries in the prefecture and to enhance the added value and international competitiveness of Kyoto's food. It achieves this goal through food tech initiatives that integrate traditional cultivation techniques for products like Kyoto vegetables and Uji tea, a high concentration of cutting-edge technologies held by universities and globally renowned companies, and a food culture that is the pride of the world. Under this plan, efforts are underway to develop key facilities and equipment and to build networks.

<Kyoto Food Tech Master Plan>

1. Three key hubs to support from R&D through to practical implementation

By developing cross-disciplinary research hubs at the Agriculture, Forestry and Fisheries Technology Center, the Kyoto Premium Ready-Made-Meal Open Innovation Lab for developing functional foods for the ready-to-eat market, and the Keihanna Science City Food Tech Hill to promote research integration in next-generation foods and related fields, a research framework for agriculture, forestry, fisheries, and the food industry is being established within the prefecture.

2. Building networks with universities, research institutes, and companies

A Kyoto Food Tech Researchers Conference, comprising researchers from universities, research institutions, and companies, has been established to promote joint research, along with the Gakken Food Tech Co-Creation Platform, in which researchers participate to address domestic and global challenges.

3. Strengthening and supporting open innovation initiatives

To apply Food Tech to food-related industries, Kyoto is building an open innovation framework and created the Kyoto Food Tech Research Liaison Council as a venue for generating new products and services, thereby enhancing the added value and competitiveness of Kyoto's food sector.

Kyoto Food Tech Expo



- Kyoto Food Tech Expo is an exhibition and networking event that aims to address challenges and promote the development of food-related industries by combining Kyoto's traditional food culture and ingredients with cutting-edge technologies.
- During the event, there are exhibitions of technologies and services by companies and universities, as well as seminars, startup pitches, and business matching sessions.



Hyogo Prefecture, Kobe City, and JETRO (Japan External Trade Organization)

Hyogo Prefecture is home to internationally recognized food-related brands such as Kobe Beef, Kobe Sweets, and Nada sake. At the same time, social challenges—such as the diversification of food demand and the aging and declining population—have become increasingly complex in recent years. In light of this situation, a food-tech business matching program called NEXT KITCHEN has been held since 2023 with the aim of fostering innovation in future food-related industries.

NEXT KITCHEN



- A business matching program that connects overseas food-tech companies aiming to solve social issues in the field of food with companies and other organizations in Hyogo Prefecture.
- In 2026 (its fourth round), the program, which is attracting increasing attention worldwide, received applications from about 50 companies, and 10 selected companies visited Japan.

○ Program

- Business matching:** Holding one-on-one business meetings with 30 domestic companies, mainly from Hyogo Prefecture
- Conferences and pitches:** Presentations on the latest trends and business pitches by startups.
- Site visits and networking:** Tours to factories and retail stores, as well as networking events for participants.



Business matching



Conference

4 Information related to investment in Japan

Promotion content

【INVEST JAPAN, INVEST KANSAI】

https://www.kansai.meti.go.jp/3-1toukou/invest_kansai/en/e_index.html

You can get a wide range of information, including an overview of the Kansai economy, its extensive infrastructure and location, the concentration of universities, research institutes, and diverse industries, as well as support information from the major local governments in the region.

Separate Volumes



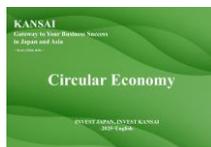
▲2025 Ver.



▲Life Science



▲Hydrogen



▲Circular Economy



▲Innovation



▲5-minute video



▲Short video

"WHY NOT DO YOUR BUSINESS IN KANSAI? - INVEST JAPAN, INVEST KANSAI -" is a video that introduces the attractions and strengths of Kansai as an investment environment.

5-minute video >> <https://youtu.be/ANHz-82Uqrs>

Short video >> <https://youtu.be/ET8MKZb4IFQ>

Contact points for business support in Kansai

| | |
|--|--|
|  Japan External Trade Organization | JETRO, the organization responsible for attracting foreign direct investment to Japan, offers comprehensive support to foreign companies looking to enter the Japanese market and expand their business. This support includes everything from information dissemination and company scouting to assisting with establishing a presence in Japan and expanding business operations within the country. |
| Osaka | JETRO Invest Japan Business Support Center, Osaka (JETRO IBSC Osaka) TEL: +81-6-4705-8660 URL: https://www.jetro.go.jp/jetro/japan/osaka |
| Hyogo | JETRO Invest Japan Business Support Center, Kobe (JETRO IBSC Kobe) TEL: +81-78-231-3081 URL: https://www.jetro.go.jp/jetro/japan/kobe |
| Kyoto | Kyoto Overseas Business Center TEL: +81-75-366-4364 URL: https://www.kyoto-obc.jp/en/ |
| Osaka | Osaka Business and Investment (O-BIC) TEL: +81-6-6944-6298 URL: https://o-bic.net/ |
| Osaka | Osaka International Business Promotion Center International Affairs Department (IBPC Osaka) TEL: +81-6-6615-7130 URL: https://www.investosaka.jp/eng/ |
| Kobe | Hyogo-Kobe Investment Support Center (HKIS) TEL: +81-78-271-8401 URL: https://hyogo-kobe.jp/his/en/top-English/ |



KANSAI × FOODTEC

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One-window support for investment in Kansai

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