

Section 2

EXPECTATIONS FOR KANSAI'S INDUSTRIAL STRUCTURE: ATTRACTING INVESTMENT AND HUMAN RESOURCES

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1. Identification of industries with new strengths

In Section 2, based on the analysis in Section 1, strategies for attracting investment and human resources are discussed, and industries that will become new strengths in the Kansai region are considered.

What is important in this process is the perspective of “sustainable development” of the Kansai economy, and based on this viewpoint, it is necessary to work on the development of industries that can solve global challenges.

For example, the Osaka-Kansai Expo will focus on long-term, global issues such as carbon neutrality and the SDGs. This section therefore attempts to identify “industries that will become new strengths” of the Kansai region by referring to these issues.

(1) Desirable Industrial Structure of Kansai

[1] Problem-solving business

In order to achieve sustainable development, it is important to focus on areas that are considered long-term and global challenges and to solve those challenges as a business-based practice.

As for long-term global issues, in addition to “carbon neutrality” with a target year of 2050, “SDGs” has a target year of 2030.

If we look at the SDGs, common issues include “climate change,” “energy,” “health and welfare,” “food,” “disaster,” “population,” “poverty,” “peace,” and “education” (left side in [Table 3-2-1](#)).

On the other hand, the “Future Society Showcase Project¹⁾” to be held at the Osaka-Kansai Expo is attracting worldwide attention. If these projects are conducted on a business-base and lead to solutions to problems, they will contribute to the sustainable development of the Kansai economy (right side in [Table 3-2-1](#)).

Comparing long-term and global issues with the themes to be demonstrated

1) The Expo site will be regarded as a showcase in the society of the future, and the project aims to realize a part of the future society by introducing advanced technologies and systems.

Table 3-2-1

Long-term and global issues compared with demonstration projects at the Osaka-Kansai Expo

Long-term and global challenges	Osaka-Kansai Expo Future Society Showcase Project
Carbon Neutral	Green (Carbon Neutral)
Climate Change	
Energy	Green (Energy)
Health & Wellness	Future Life (Healthcare)
Food (Zero Hunger)	Future Life (Food and Agriculture)
Disaster	Future Life (Urban & Residential)
Population	Smart Mobility
Poverty	Digital
Peace	Virtual
Education, etc.	Art, etc.

Source: Right side of the Table is based on the "Future Society Showcase Project" prepared by the Japan Association for the 2025 World Exposition.

at the Osaka-Kansai Expo, "carbon neutrality," "energy," "healthcare," and "food" are corresponding promising problem-solving business fields.

[2] Osaka-Kansai Expo Themes and Problem-Solving Businesses

In the previous subsection, we listed promising problem-solving business fields for the Kansai region, and in this subsection, we will look at them again referring to more concrete businesses.

On December 24, 2021, the Japanese government released the "Osaka-Kansai Expo 2025 Action Plan Ver. 1" to help realize the concept of the Osaka-Kansai Expo as a "People's living lab," in which the Action Plan includes demonstration projects in a variety of fields. In preparation for the Action Plan (Ver. 4) to be released in June 2023, the local Kansai governments, the business society, and the Expo Association jointly requested the Japanese government to prioritize promotion and financial support for the host city. Table 3-2-2 lists the requested topics by area.

Table 3-2-2 includes promising problem-solving businesses such as carbon neutrality, which was discussed in the previous subsection. The table lists "the development and practical implementation of storage batteries, hydrogen, CO₂ capture, and next-generation solar cells." In life science and healthcare, actual projects include "industrialization of regenerative medicine using iPS cells and human somatic stem cells" and "promotion creating next-generation healthcare services toward the realization of a society with longevity and good health."

Table 3-2-2

Osaka-Kansai Expo-related projects requested of the Japanese government by local governments, business society, and the Expo Association in the Kansai region

Areas related to Osaka-Kansai Expo Action Plan Ver. 4	Major Osaka-Kansai Expo-related projects requested by the Japanese government, the business society, and the Expo Association in the Kansai region
Realization of carbon neutrality and the "Osaka Blue Ocean Vision"	Development and practical implementation of storage batteries, hydrogen, CO ₂ capture, next-generation solar cells, etc. Acceleration of behavioral change among businesses and local residents Realization of the "Osaka Blue Ocean Vision"
Promoting life science and next-generation healthcare	Industrialization of regenerative medicine using iPSCs and human somatic stem cells Promotion of creating next-generation healthcare services toward the realization of a healthy and long-lived society.
Realization of "smart cities" using advanced technology and creation of startups	Realization of smart cities using cutting-edge technology (promotion of "Yumeshima Construction" etc.) Utilization of digital ID and digital Local Currency Social implementation of "Common Ground," a next-generation urban spatial information platform Creation and development of startups
Promoting Smart Mobility	Realization of commercial operation of flying cars at the Expo Realization of automatic driving in the Expo site and on roads to the Expo site Provision of stress-free mobility services (MaaS) in the wide Kansai region. Utilization of zero-emission mobility (EV/FC buses, EV/FC boats) to access the Expo site.
Creation and dissemination of diverse attractions and promotion of further communication	Creation and dissemination of Osaka/Kansai's urban attractions Construction of water transportation network Utilization of urban space to communicate and experience the attractions of Osaka and the Kansai region. Establishment and operation of Kansai Pavilion International cultural exchange and promotion of culture and arts
Creating a welcoming environment for visitors	Promotion of the use of universal design taxis Improvement of Kansai International Airport's Acceptance Capacity Creation of an environment respecting the diversity of food

Note: Areas in red are those of long-term and global challenges listed in the previous subsection.

Source: Osaka Prefecture, Osaka City, Union of Kansai Governments, Kansai Chamber of Commerce and Industry, Osaka Chamber of Commerce and Industry, Kansai Association of Corporate Executives, Japan Association for the 2025 World Exposition (2023), "Requests for Projects Related to the 2025 Japan International Exposition (Osaka-Kansai Expo) Toward the Revision of the Japanese Government's '2025 Osaka-Kansai Expo Action Plans, Ver 3.0'"

[3] Startups and venture companies in Kansai

Table 3-2-3 is based on the list of 1,387 venture businesses in the Kansai region and the "Survey of Kansai Venture Businesses 2021" published by the Kansai Bureau of Economy, Trade and Industry (METI-Kansai). As the table shows, start-ups and venture companies in the Kansai region are concentrated in the areas related to the themes in the Osaka-Kansai Expo.

The table shows that "medical care" is the most common industry, and IT-related services such as "web," "application," "platform," and "system development" are also mainstream (refer to Fukuoka City as a good example of this industry concentration; see Box). In addition, "advertisement," "marketing," "food," and "bio-technology" are also common.

Table 3-2-3

Industries and Number of Companies in Kansai Venture Businesses

Area	Number of companies	Area	Number of companies	Area	Number of companies
Medical care	106	Robot	24	Arts	9
Web	88	Health	23	Sightseeing	9
Application	61	IOT	22	Hardware	9
Software	51	Semiconductor	21	Data Analysis	7
Platform	49	Environment	20	Artificial Intelligence (AI)	7
Human Resource Services	43	Drug Discovery	20	Education	7
System Development	41	Energy	16	Social	7
Advertisement	39	Product Development	16	Inbound	6
Marketing	37	Game	14	Digital Content	5
Food	37	AR/VR	13	Recycle	5
Bio-technology-	34	Agriculture	13	Apparel	5
EC	26	Sport	11	Community revitalization	4

Source: Compiled by the author based on the "List of Kansai Venture Businesses," Kansai Bureau of Economy, Trade and Industry (2022)

Box

Trends in Industrial Agglomeration in Fukuoka City

We held an interview with Fukuoka City, which has been successful in attracting many IT-related service companies, about its success factors (June 23, 2023).

Looking at the topography of the city, it is the only ordinance-designated city that has no first-class rivers and is poor in industrial water supply, making it difficult to build factories. Therefore, since the 1960s, the city has developed its industrial structure mainly in the tertiary industry, and currently the tertiary industry accounts for 91% of the city's gross regional product (in real terms) (based on the 2021 Basic Economic Census).

The city has a lower probability of earthquakes with seismic intensity of 6 or higher than other large cities. In addition, the proximity of the airport to the city center is uniquely favorable. This makes the city an ideal geographic location for companies that value backup functions.

In 2014, the city was selected as a "Special Zone for Global Startups and Job Creation," a national strategic zone, and has focused on startups early on, promoting various initiatives. Since then, 801 companies have been created obtaining funds totaling JPY36.5 billion. In order to attract companies to the city, the city has supported the location of 571 companies between 2013 and

2022, 58% of which were in the IT and creative industries. Currently, the city ranks fourth among ordinance-designated cities in terms of the number of business locations in the information and telecommunications industry. The concentration of many IT and creative companies in the city has led to the establishment of many science and technology universities and technical colleges, and this virtuous cycle of matching human resources and companies has encouraged companies to expand into the local area.

Japan's first industry-academia-government-affiliated organization specializing in games, the Fukuoka Game Industry Promotion Organization, and an e-sports organization were established ahead of other cities, and the public and private sectors are working together to develop human resources and promote the entire industry.

In addition, after the aforementioned approval as a national strategic special zone, the Tenjin district was deregulated in terms of height restriction under the Civil Aeronautics Act, and tall buildings up to 115 meters high are now being constructed at a rapid pace. As a result, the city is now able to attract companies more aggressively than ever before, as office space can be increased or occupy an entire floor due to large-scale developments.

The "Tenjin Big Bang" redevelopment project in the Tenjin area involves the reconstruction of 70 buildings with an economic impact of JPY850 billion, while the "Hakata Connected" redevelopment project around the Hakata Station entails the reconstruction of 20 buildings with an economic impact of JPY500 billion.

(2) What is DX Business?

In Subsection 2.1 (1), we identified possible areas and businesses as promising industries in the Kansai region. Subsection 2.1 (2) presents a new perspective on DX business, which effectively utilizes goods and services and brings diverse values to the society, in order to link the insight in the previous subsection to profitable businesses in the future.

According to Onozuka Seishi (2022), DX businesses can be broadly classified into the following four categories, which exercise various effects on the transaction of goods and services.

- (i) Businesses that "expand supply and demand"
Match people who want to offer unused time and space with people who want to use it.
- (ii) Businesses that "create places"
Provide and share goods and services that were never traded.

- (iii) Businesses that “eliminate inefficiencies”
Eliminate “tasks that are essentially unnecessary” in transactions of goods and services.
- (iv) Businesses that “expand profit-earning opportunities”
Utilize data obtained from various media to create new value and expand profit-earning opportunities.

(3) Profitable Businesses: Finding businesses that will become new strengths of the Kansai region

It is difficult for the Kansai economy to escape from long-term stagnation if new businesses are examined as an extension of existing industry classifications. It is necessary to develop new businesses based on differing ideas and transform them into “profitable industries.” We tried to find “profitable businesses” without relying on existing industrial classifications by combining the problem-solving businesses and industries in Kansai identified in Subsection 2.1 (1) with the DX business concept described in Subsection 2.1 (2) (Figure 3-2-1).

This “multiplication” can be done in a variety of combinations. In this report, we have identified potential new businesses by combining the businesses and industries discussed in Tables 3-2-2 and 3-2-3 above with DX businesses. Based on this, “healthy life extension support service,” “support service to increase the number of tourists,” and “athlete meal catering service” were identified as examples of businesses that combine desirable industries and businesses in the Kansai region with DX businesses (Figure 3-2-2).

The business environment is constantly changing, and the pace of change is expected to accelerate even more. It is therefore necessary to continue discovering new businesses through “multiplication.” As an example of how new businesses can be found through “multiplication,” the METI-Kansai Greater EXPO “Let’s Expand Osaka-Kansai EXPO: Recommendations for Expo Activities Outside the Expo Site, Utilizing the Power (Geographical Advantage) of Hosting the Expo” is a good reference.

The theme of the report is “Future New Industry Chain,” and it introduces a conceptual method to the development of new businesses. The concept is not an extension of industry classification, but rather the combination of existing



Figure 3-2-1

The method of finding businesses that will become new strengths of the Kansai region

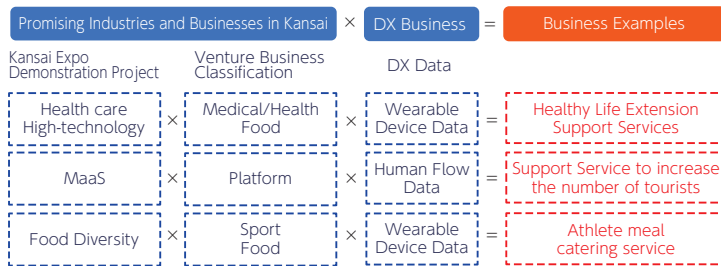


Figure 3-2-2 Examples of New Business Discovery

Source: Prepared by the author

industries with IT and other fundamental technologies to create a broad range of new businesses that have never existed before and that will expand widely.

2. Examination of new developments in existing industries

In Subsection 2.1, we discussed new industries (profitable industries) that can solve long-term and global issues by taking advantage of Kansai’s strengths.

In order for the industry as a whole to become more profitable, existing industries must also be transformed into profitable entities. In particular, small and medium-sized enterprises (SMEs), which account for the majority of all Japanese companies, need to improve their profitability.

Many SMEs in the Kansai region are manufacturers, and “improving productivity and added value” is critically important for increasing their profits.

Subsection 2.2 introduces some examples of such efforts.

(1) From the Economic Debate

At the “APIR Forum Economic Debate (Kansai Economy)” held in March 2023, discussions focused on the efforts of SMEs under the theme of “Toward a Shin-Economic Virtuous Circle in the Kansai Region.” Three representatives from top-level companies in the Kansai region with proven track records of increasing productivity and added value were invited to discuss the relationship between “increase of productivity and added value” and a “virtuous circle of growth.” (See Figure 3-2-3 for an overview of the forum.) The following is a brief summary of the results obtained from this discussion.

In the discussion session, we first asked whether productivity improvements have been able to increase wages in SMEs, which account for the overwhelming share of the manufacturing industry in the Kansai region, and found that they not only allocate the increased profits generated by productivity improvements

[Reference] APIR Forum, Economic Debate 2022 <Kansai Economy> Theme: Toward a Shin-Economic Virtuous Circle in the Kansai region

March 13, 2023 (Monday) 15:00-16:30

Face-to-face: Grand Front Osaka, North Bldg. Tower C, 8F

Knowledge Capital Conference Room C01 +C02 /Online: Live Webcast via Zoom

Part 1: Keynote Speech "Short-term Outlook for the Kansai Economy"

Hiroaki Irie, Professor, Department of Business and Economics, Kindai University Junior College

2: Discussions (in no particular order)

Ms. Hiroko Kusaba, Representative Director, Seiko SCM Co.

Mr. Takenosuke Yasufuku, President and Representative Director, Kobe Shushinkan Breweries

Co. Mr. Yuki Yamamoto, President and Representative Director, HILLTOP Co.

Moderator: Yoshihisa Inada, Professor Emeritus, Konan University, APIR Research Director/
Directorate and Center for Quantitative Economic Analysis

Figure 3-2-3

Outline of the Economic Debate <Kansai Economy>

Source: Excerpted from Asia Pacific Institute of Research (2023)

to wage increases, but also tend to focus on investment in human resources (reskilling) for the future.

Next, three companies introduced their efforts to "increase productivity and added value" as follows.

The speakers pointed out that the key points are "improvement of productivity and added value" through DX and premium products, "market globalization," and "employee reskilling." Each company seems to be actively working on a virtuous cycle for their own growth.

<Increasing productivity and added value>

In terms of "increasing productivity and added value," companies focused on moving away from being a subcontractor, increasing its independence as a company, and creating a risk tolerance that would not be affected by the fluctuation of the economy. Specifically, they aimed to become a global niche company, which will be discussed in a later subsection.

<Globalization>

In the area of "globalization," companies sought to increase their corporate value and further expand their business in overseas markets, which were expected to grow even more in the future since domestic demand decreases due to a shrinking population.

<Reskilling >

Regarding reskilling, companies worked to expand their business by shifting

highly skilled craftsmen who became redundant as a result of increased productivity through DX to upstream businesses (design and development) and new businesses with high productivity.

<Proposals>

Finally, as a result of the discussion toward an economic virtuous circle in the Kansai region, the following were proposed.

It is important to create an enabling environment in which SMEs can be independent business entities and become equal partners with large enterprises in value-added manufacturing.

In addition, it was proposed that mass production and consumption are outdated and that it is important for companies and governments to work together to actively promote consumption behavior that respects people, society, community, and the environment. In this economic discussion, it was suggested that large corporations and SMEs should work together to create new value-added products by taking advantage of their respective strengths and by creating new value-added products with keywords such as “SDGs” and “environment,” thereby creating a “virtuous cycle of growth” for corporations and ultimately leading to the realization of an economic virtuous circle in the Kansai region.

(2) Global Niche Perspectives

The “premium products” mentioned in the discussion of “increase of productivity and added value” described in Subsection 2.2 (1), are those that increase the value of the products and differentiate them from other products, and can increase profitability through high profit margins even without increasing sales volume.

On the other hand, by occupying an overwhelming share, even if it is only a part of the supply chain, a company can minimize the impact of price competition and increase profitability. From this perspective, a new development could be the pursuit of “global niche” products that leverage company strengths.

The Ministry of Economy, Trade and Industry (METI) selected 113 companies for the “2020 Global Niche Top 100 Companies,” which selects companies that are succeeding in niche fields in the global market and excellent companies with enterprises such as functional-materials that are becoming increasingly important in the supply chain amid the changing international situation.

(Hereafter, global niche top 100 companies are referred to GNTs.) Of these, 27 were located in the Kansai region (see [Reference Table 3-2-1](#) below).

The net profit margins (FY 2019 and beyond) of SMEs in the Kansai GNT show that many companies have remained stable and profitable during the FY

2020-22 COVID-19 pandemic (Table 3-2-4).

According to the results of the interview survey conducted on GNT companies selected by METI, many of the interviewees responded that the strategy they should take is to “utilize their core technologies to expand into other fields” and “expand transactions with new customers and build a business structure that is not influenced by the management of the buyers to whom they deliver their products” (Figure 3-2-4).

In this way, SMEs can ensure business stability by creating global niche products that take advantage of their strengths, and can also look to develop

Table 3-2-4 Performance of SMEs as global niche in the Kansai region (Ratio of net income to net sales)

Company Name	FY 2019	FY 2020	FY 2021	FY 2022
Nisshin Kogyo Co.	4.7%	0.6%	5.2%	4.6%
Okamura Engineering Co.	10.3%	6.5%	8.6%	10.1%
Futa-Q Co.	0.2%	2.0%	2.6%	2.3%
Nabel Co.	1.6%	18.0%	18.7%	14.9%
Kataoka Co.	1.2%	1.0%	0.8%	1.3%
Riko Float Technology Co.	13.5%	13.7%	-2.1%	35.0%
Fukui Seisakusho Co.	12.3%	11.0%	12.8%	7.1%
Itoh Denki Co.	11.2%	9.1%	14.9%	17.4%
Shiraishi Kogyo Kaisha Co.	2.2%	2.4%	3.5%	3.3%
Kohoku Kogyo Co.	18.4%	24.0%	38.8%	35.8%
Optex, Co.	11.2%	7.5%	16.0%	13.0%
Figaro Engineering Co.	9.2%	4.6%	7.6%	15.4%
Patlite Co.	7.4%	3.6%	4.4%	5.1%

Note: Calculated based on public information of each company and data from Teikoku Databank and Tokyo Shoko Research. Shaded years are the three fiscal years during the COVID-19 pandemic.
Source: Ministry of Economy, Trade, and Industry (2020), “The 100 Top Global Niche Companies in 2020.”

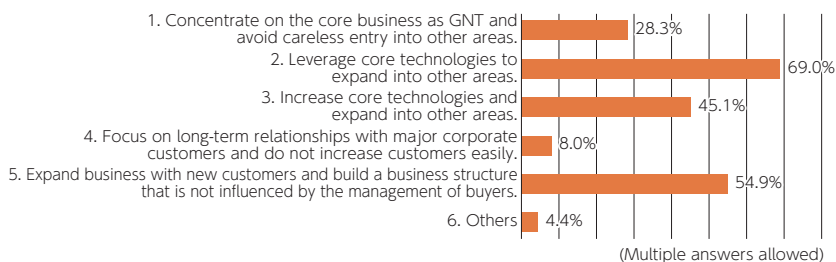


Figure 3-2-4 Strategies to be taken by GNT

Source: Ministry of Economy, Trade and Industry (2020) “2020 Global Top 100 Niche Companies.”

new businesses that utilize their technologies. This could also lead to the creation of a virtuous growth cycle as a company.

3. Summary

The key points of the “Expected Industrial Structure of Kansai” discussed in Section 2 can be summarized as follows.

(1) To find industries that will become new strengths, we looked at businesses and industries such as “carbon neutral” and “healthcare” as promising industries in the Kansai region, based on the theme of the Osaka-Kansai Expo and from the perspective of problem-solving businesses. In addition, we classified startups and venture companies in Kansai and identified “profitable businesses” by combining them with DX businesses.

(2) To scrutinize potential new development of existing industries, many SMEs in the Kansai region are in the manufacturing industry, and “increasing productivity and added value” is critically important to improving their profitability. In the discussion in this economic debate, the key points were “increasing productivity and added value” through DX and premium products, “market globalization,” and “reskilling of employees.” In addition, creating global niche products that leverage the company’s strengths also leads to a virtuous cycle of corporate growth.

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Reference Figure 3-2-1

List of Kansai Companies Selected as One of the Top 100 Global Niche Companies in 2020

Sector	Company Name	Location	Business Scale	Global niche top products and services
Machinery & Processing	NIDEC MACHINE TOOL Co.	Shiga Pref.	Large enterprise	Gear machine tools (hobbing machines, gear shaping machines, shaving machines, gear grinding machines)
	HORIZON Inc.	Shiga Pref.	Second-tier company	4-Clamp automatic radio binding machine BQ-480
	Nisshin Kogyo Co.	Shiga Pref.	SME	Stainless steel caps and cases for lithium-ion coin batteries, cases for automotive ABS solenoid valves
	Okamura Engineering Co.	Shiga Pref.	SME	Butterfly valve for marine exhaust gas treatment equipment
	Ishida Co.	Kyoto Pref.	Large enterprise	Automatic weighing and packaging valuing machine (WM-AI Super, Dtop-UNI, Wmini-UNI)
	Kanken Techno Co.	Kyoto Pref.	Second-tier company	Semiconductor manufacturing exhaust gas abatement equipment
	FUTA-Q Co.	Kyoto Pref.	SME	6 mm or less inner small-diameter pipes made of beta-titanium alloy
	Nabel Corporation	Kyoto Pref.	SME	Automatic chicken egg washing, sorting and packaging machine
	Kataoka Co.	Kyoto Pref.	SME	Charge-discharge inspection equipment for lithium-ion secondary batteries
	Torishima Pump Mfg. Co.	Osaka Pref.	Large enterprise	Large pumps for desalination plants
	Riko Float Technology Co.	Osaka Pref.	SME	Floats for industrial
	Fukui Seisakusho Co.	Osaka Pref.	SME	Safety valves for LNG carriers
	Kanzaki Kokyukoki Mfg. Co.	Hyogo Pref.	Large enterprise	World standardized integrated hydraulic continuously variable speed axle drive (IHT)
	Kawasaki Heavy Industries, Ltd.	Hyogo Pref.	Large enterprise	Gearbox products for aviation
	Ito Denki Co.	Hyogo Pref.	SME	Motor rollers for conveyor drive
Materials & Chemicals	JTEC Corporation	Osaka Pref.	Second-tier company	X-ray mirrors for synchrotron radiation used in large synchrotron radiation facilities and X-ray free electron laser facilities
	Daiichi KIGENSO KAGAKU KOGYO Co.	Osaka Pref.	Second-tier company	Materials for automotive exhaust gas purification catalysts
	Shiraishi Kogyo Kaisha Co.	Osaka Pref.	SME	Calcium carbonate for sealant and adhesive industry
	Osaka Titanium Technologies Co.	Hyogo Pref.	Large enterprise	Sponge titanium
Electricity & Electronics	Kohoku Kogyo Co.	Shiga Pref.	SME	Highly reliable optical device for submarine cable
	Optex Co	Shiga Pref.	SME	Automatic door sensor
	SCREEN Graphic Solutions Inc.	Kyoto Pref.	Large enterprise	Roll-type high-speed full-color inkjet printing press
	ESPEC Corporation	Osaka Pref.	Large enterprise	Environmental testing equipment that artificially reproduces environmental factors such as temperature, humidity, and pressure to ensure the reliability of industrial products.
	Tayca Corporation	Osaka Pref.	Large enterprise	Ceramic transducer for medical ultrasound imaging
	Figaro Engineering Co.	Osaka Pref.	SME	Carbon monoxide (CO) gas sensor
	Patlite Corporation	Osaka Pref.	SME	Audible & Visual Signaling Devices
Furuno Electric Co.	Hyogo Pref.	Large enterprise	Radar for Merchant Marine	

Source: Ministry of Economy, Trade and Industry (2020), quoted from the "2020 Global Top 100 Niche Companies."