

# (2) Examples of products and services originating in Kansai

- **1902 Spiral-shaped mosquito coil (Dainihon Jochugiku, Osaka)**

The company has greatly contributed to the prevention of malaria and other infectious diseases from mosquitoes. The spiral-shaped product was a revolutionary design by the company.



Provided by Dainihon Jochugiku Co., Ltd.

- **1912 Make a business out of comedy (Yoshimoto Kogyo, Osaka)**

Japan's first company to make a business out of comedy. Founded by a pioneering female entrepreneur, it has grown into an entertainment company with a wide variety of offerings in Asia.



**Daini Bungeikan theater YOSHIMOTO Sei**

Provided by Yoshimoto Kogyo Co., Ltd.

- **1958 Sushi-go-round (Genroku Sushi, Osaka)**

"Sushi-go-round" restaurants allow larger numbers of customers to enjoy the traditional Japanese dish. This has made it possible for people all over the world to enjoy sushi.



Provided by Genroku Industry Co., Ltd

- **1958 Chicken Ramen (Nissin Food Products, Osaka)**  
(The First Instant Noodles in the World)

- **1971 CUPNOODLES (Nissin Food Products, Osaka)**  
(The First Cup-type Instant Noodles in the World)

Loved across the globe, 100 billion units of Cup Noodles are consumed worldwide each year, helping to improve dietary traditions.



Provided by NISSIN FOODS HOLDINGS CO., LTD.

- **1967 Automated ticket gates system (Tateisi Electric Manufacturing (now Omron) , Kyoto)**

World's first automated ticket-taking system that solved commuting congestion during rush hours, which was a social issue at the time. This system enabled efficient mass transit and has greatly contributed to the modernization of urban cities.



Provided by OMRON Corporation

- **2002 The complete farming of bluefin tuna (A-marine Kindai, Wakayama)**

A-marine Kindai – the first company in the world that succeeded in the complete farming of bluefin tuna. This allows the production of tuna that are in popular demand, thus contributing to preventing decrease in the number of wild tuna.



**Completely cultured bluefin tuna**

Provided by Kindai University

# (3) Famous entrepreneurs from Kansai

(\* In random order with honorifics omitted)



**ONITSUKA Kihachiro**

ASICS Corporation  
[General sporting goods supplier]



**NAGAMORI Shigenobu**

NIDEC CORPORATION  
[General motor manufacturer]



**Konosuke**

Panasonic Corporation  
[General electronics manufacturer]



**SHIMA Masahiro**

SHIMA SEIKI MFG., LTD.  
[Computerized Flat Knitting Machine]



**INOUE Noriyuki**

DAIKIN INDUSTRIES, LTD  
[Comprehensive air-conditioning equipment manufacturer]



**ANDO Momofuku**

NISSIN FOODS HOLDINGS CO., LTD.  
[Food manufacturer]



**SHIMADZU Genzo**

SHIMADZU CORPORATION  
[Analytical/measuring instrument manufacturer]



**TORII Shinjiro**

Suntory Holdings Limited  
[Alcoholic/soft drink manufacturer]



**HORIBA Masao**

HORIBA, Ltd.  
[Analytical/measuring instrument manufacturer]



**YAMAUCHI Hiroshi**

Nintendo Co., Ltd.  
[Home entertainment products manufacturer]



**INAMORI Kazuo**

KYOCERA Corporation  
[Electronic components manufacturer]

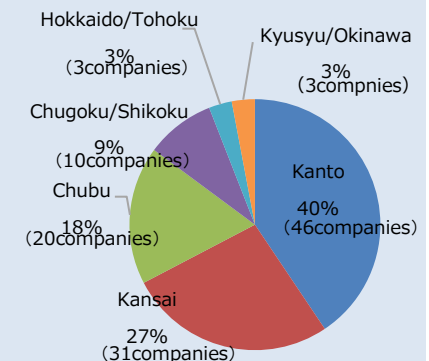


**TATEISHI Kazuma**

OMRON Corporation  
[Electronics manufacturer]

## ■ A hub for global top niche corporations

Kansai hosts an accumulation of small and medium enterprises with internationally-recognized technological capabilities. Approximately 30% of global top niche corporations with an advantage in a specific product or technology and a high global share are located in Kansai.



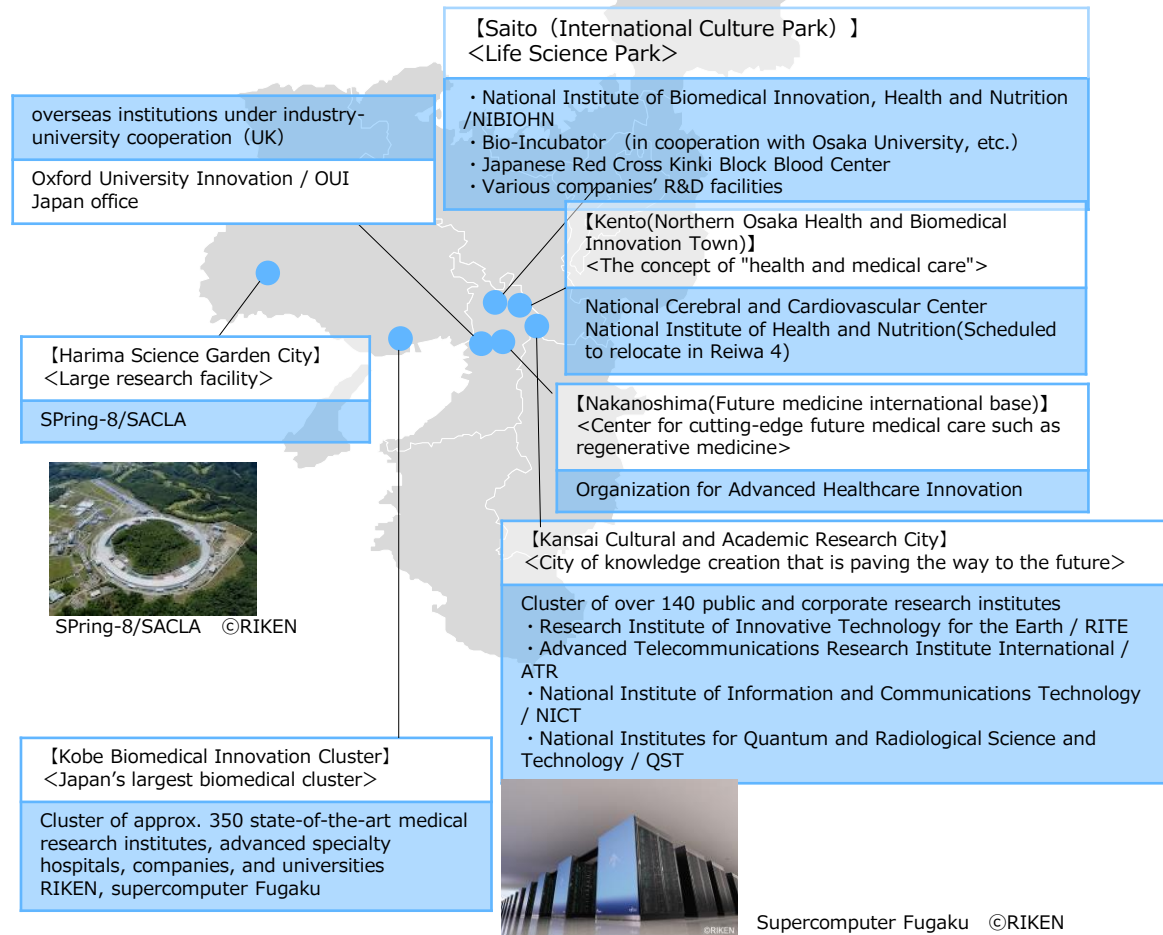
(Source) 2020 "Global Niche Top Companies Selection 100", METI (June 2020)

# (4)University/Research Institute Clusters

From "INVEST JAPAN, INVEST KANSAI"

- **Kansai is home to a cluster of prestigious universities and research institutions.**
- **Distinctive research and development bases have been formed and a large number of prestigious universities are clustered in the region, and industry-university cooperation is robust and growing.**
- **Kansai has produced many Nobel Prize winners. Furthermore, many overseas institutions engaged in industry-university cooperation are located in Kansai.**

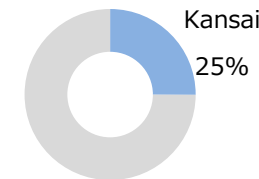
## Main research and development bases and overseas institutions under industry-university cooperation in Kansai



## Industry-university joint research spending

In terms of monetary amount, 25% of industry-university joint research throughout Japan is conducted in Kansai, and the amount of money received per research project is higher than the national average.

Industry – university joint research across the nation (Value-basis)



The amount of money received per research project

Kansai	3,409
Japan	2,721

(Thousand yen)

(Source)  
Implementation status of industry-university cooperation and performance of joint research  
(on an institution-by-institution basis)  
Ministry of Education, Culture, Sports, Science and Technology (FY 2019)

## Kansai has produced many Nobel Prize winners

(Nobel laureate with a connection to Kansai)

16 out of 28 Japanese laureates are from Kansai area

iPS cell



©Center for iPS Cell Research and Application, Kyoto University

# (Reference) Major universities in Kansai

\*Rankings are among domestic universities.

## Osaka University

Operating grant amount (budgeted amount for FY2022)	38.9 billion yen (4th)
Number of joint research projects with private companies (FY2020)	1,382 (2nd)
Number of joint research projects with foreign companies (FY2020)	14 (4th)
Number of licenses acquired (2022)	70 (4th)
Intellectual property rights and other income (FY2020)	612,000 yen (2nd)
Number of related venture companies (FY2020)	168 companies (3rd)

## Kobe University

Operating grant amount (budgeted amount for FY2022)	18.3 billion yen (13th)
Number of joint research projects with private companies(FY2020)	586 (10th)
Number of joint research projects with foreign companies(FY2020)	11 (6th)
Number of licenses acquired (2022)	17 (15th)
Intellectual property rights and other income (FY2020)	84,000 yen (13th)
Number of related venture companies (FY2020)	38 companies (19th)

## Kyoto University

Operating grant amount (budgeted amount for FY2022)	48.7 billion yen (2nd)
Number of joint research projects with private companies (FY2020)	1,300 (4th)
Number of joint research projects with foreign companies (FY2020)	23 (2nd)
Number of licenses acquired (2022)	71 (3rd)
Intellectual property rights and other income (FY2020)	812,000 yen (1st)
Number of related venture companies (FY2020)	222 companies (2nd)

### 【Source】

(Operating grant amount)

•The Ministry of Education, Culture, Sports, Science and Technology (MEXT), Detailed Information on the Accounts of the General Accounting Office for the 4th Year.

(Number of joint research projects with private companies and foreign companies, income from intellectual property rights, etc.)

•Japan Business Federation, Ministry of Economy, Trade and Industry, Ministry of Education, Culture, Sports, Science and Technology, University Fact Book 2022 (Number of licensed pieces)

•Intellectual property portal site 「Patent Ranking」

(Number of related ventures)

• Ministry of Economy, Trade and Industry, FY2020 Survey of University Ventures: Summary of Results.
















# (5) Life Innovation

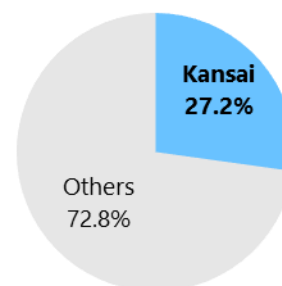
## [Strength of concentration in the medical device / pharmaceutical field]

From "INVEST JAPAN, INVEST KANSAI"

- Kansai has been a base for medicine since ancient times, and continues to be so with a large cluster of pharmaceutical company headquarters.
- A large number of foreign companies and medical equipment manufacturers are located in Kansai, where the world's first therapeutic agent was developed using clinical research that applied iPS cells.

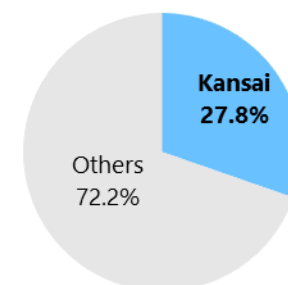
A large cluster of pharmaceutical company headquarters	Concentration of research and development bases and core institutions
 Kaigen Pharma  SHIONOGI  KOBAYASHI  Sumitomo Dainippon Pharma  Mitsubishi Tanabe Pharma  Takeda Takeda Pharmaceutical Company Limited  Ono Pharmaceutical  FUSO Pharmaceutical Industries, Ltd.  Santen Pharmaceutical	Kansai Branch of Pharmaceuticals and Medical Devices Agency (PMDA) West Japan Supervising Department of Japan Agency for Medical Research and Development (AMED) Center for iPS Cell Research and Application, Kyoto University Saito Life Science Park Kobe Medical Industry Development Project RIKEN
Medical equipment manufacturers concentrated in this area	A large number of foreign companies are advancing to Kansai as well
 NIPRO  OMRON  SHIMADZU Shimadzu Corporation  sysmex Sysmex	 AstraZeneca K.K.  Eli Lilly Japan K.K.  Bayer Yakuhin, Ltd  PRA Health Sciences K.K.

### Share of production value in quasi-drug industry



(Source) "Statistics of Production by Pharmaceutical Industry"  
Ministry of Health, Labour and Welfare (2019)  
— production of quasi-drugs, import, shipment, and inventory value by region

### Share of products manufactured and shipped in the pharmaceutical industry



(Source) "Report by region of the 2019 Census"  
Ministry of Economy, Trade and Industry (2019)  
— Statistical Tables by Respective Industry (4-digit industrial subclassification) by Prefecture

### Kansai Life Science Cluster PR Booklet

This booklet introduces the Kansai region as a whole by integrating life science-related information related to each prefecture in Kansai!

#### Strengths in the life science field in Kansai

~ World-leading industry-academia accumulation ~

In collaboration with world-leading research institutes, universities, and companies in the field of life science, various clusters can be moved in the region of the three cities of Kyoto, Osaka, and Kobe, within about 30 minutes to 1 hour of large scale accumulation of Kansai region as a entire large-scale life science cluster. This location makes the whole Kansai area large scale life science cluster.



(PDF) [https://www.kansai.meti.go.jp/3-1toukou/\\_INVEST\\_support\\_eng/lifescience/2020lifescience\\_en.pdf](https://www.kansai.meti.go.jp/3-1toukou/_INVEST_support_eng/lifescience/2020lifescience_en.pdf)



Regenerative medicine, discovering disease mechanisms, drug discovery, etc.

## [Strength in lithium-ion / fuel cell related fields]

Created based on "INVEST JAPAN,  
INVEST KANSAI "

- Kansai is a major base for development and production in energy-related industries, including lithium-ion battery and fuel cell manufacturers.
- The industrial cluster consists not only of battery manufacturers but also of related component/material and device manufacturers.

### Cluster of unique companies related to lithium-ion batteries and boast top market shares!

- Component/material manufacturer  
Yodogawa Precision Co., Ltd., Tanaka Chemical Corp
- Device manufacturer  
HIRANO TECSEED CO., Ltd., Nishimura MFG. Co., Ltd.
- Battery manufacturer  
Panasonic Corp., GS YUASA

### Major companies related to fuel cells in Kansai

- Fuel cell manufacturers  
Panasonic, Kyocera, Hitachi Zosen
- Fuel cell-related device and parts manufacturers  
Fujikin, Samtech, Nissha FIS, Takaishi Industry, TECHNO TAKATSUKI, Yamato H2Energy Japan, KAJI TECHNOLOGY, TOYOBO, Nippon Shokubai
- Hydrogen manufacturers and storage companies  
Iwatani Corporation, Kawasaki Heavy Industries, Air Water Inc, Kobelco Eco-Solutions
- Inspection / evaluation relations  
Shimadzu, HORIBA, Kobe Material Testing Laboratory

### nite National Institute of Technology and Evaluation



National LABORatory for advanced energy storage technologies  
The world's largest constant-temperature testing and evaluating facility  
for large-scale battery energy storage systems

### 住友電工



Long-life energy storage system  
"Redox Flow Battery"

### LIBTEC

### Lithium Ion Battery Technology and Evaluation Center



Evaluation of battery materials and trial production of electrodes  
and batteries for evaluation  
(Left) Charge / discharge device, (Right) Prototype battery

### 大阪ガス Daigas Group



Household use fuel cell  
cogeneration system

## [Accumulation of companies in hydrogen-related fields]

### Examples of hydrogen-related companies in Kansai (Companies listed in the data collection of the governmental agency Reiwa 2)

#### Hydrogen-related company data collection in Kansai

There are many hydrogen-related companies in Kansai, and it is said that the technology and market potential in the hydrogen and fuel cell fields are high. Here is an example of a company that has a base in Kansai and has entered the hydrogen field.

(PDF) [https://www.kansai.meti.go.jp/5-1shiene/smart\\_energy\\_initiative/hydrogen\\_data/00\\_zentai\\_english.pdf](https://www.kansai.meti.go.jp/5-1shiene/smart_energy_initiative/hydrogen_data/00_zentai_english.pdf)



#### Iwatani Corporation

The only liquid hydrogen supplier in Japan operates 3 bases and 6 plants in Japan. In 2014, the first commercial hydrogen station in Japan was opened in Amagasaki City, and currently 38 stations are in operation.



Iwatani hydrogen station in Morinomiya, Osaka

#### Kawasaki Heavy Industries, Ltd.

The world's first large-scale marine transportation to Japan of liquefied hydrogen has been technologically demonstrated. The company has strengths and full processing capabilities in cryogenic temperatures, large structures, high-speed rotating bodies, and clean combustion of the entire supply chain.

#### Kobe Steel, Ltd.

Heat exchangers for hydrogen stations have been introduced in Japan and overseas and are ranked number one in the industry. Compressors are widely used in hydrogen purification equipment, hydrogen stations, and high-pressure hydrogen test equipment.



Stationary type compressor for hydrogen stations

#### NEW COSMOS ELECTRIC CO., LTD.

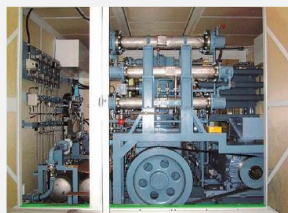
Gas alarm manufacturer. Hydrogen warning systems for hydrogen stations are used in more than 80% of facilities in Japan.



Gas detector for hydrogen station

#### Kaji Technology Corporation

These compressors had been employed in a total of 29 hydrogen stations by FY2019.



Compressor for hydrogen station

#### Takaishi Industry Co., Ltd.

O-rings that can withstand high-pressure hydrogen at  $-40^{\circ}\text{C}$  and 70Mpa are used in equipment for hydrogen stations in Japan and overseas (emergency detachment couplings, dispensers, compressors, etc.).



O-ring that can withstand high-pressure hydrogen at  $-40^{\circ}\text{C}$  and 70Mpa

#### Nakakita Seisakusho Co., Ltd.

Control valves and isolation valves that control liquid hydrogen used in rocket fuel supply lines have been developed and manufactured by this company.



Butterfly valve and adjustment valve for liquid hydrogen

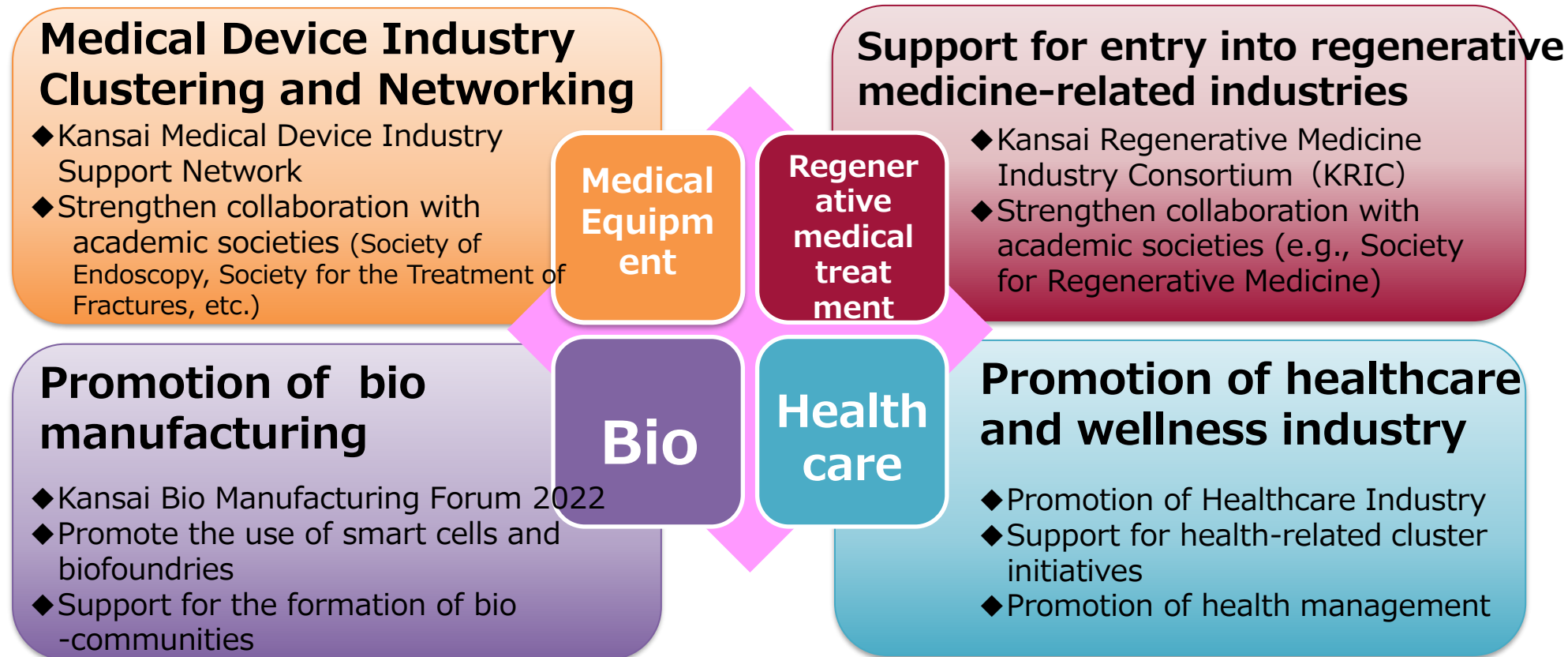
### 3. METI-Kansai Initiatives to Support Innovation



# METI-Kansai Initiatives in the Life Science Sector

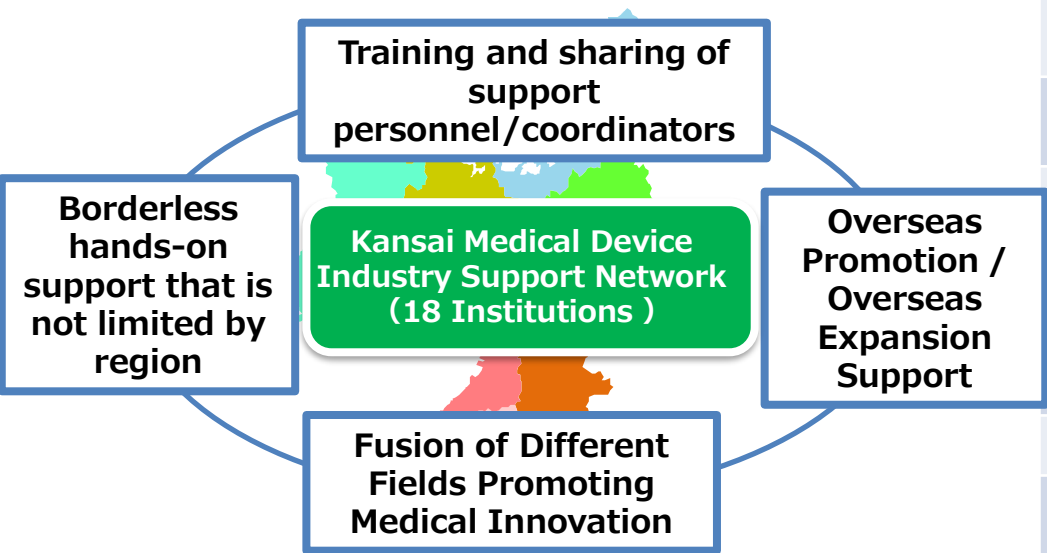
~Bio/healthcare industry to make the Kansai region healthier~

- Maximize the potential of the Kansai region in bio-healthcare and other fields to create and strengthen health-related industries, which are expected to become growth industries.
- Collaboration with various related organizations in the Kansai region to create a unified promotion system in the Kansai region.



**In the bio-venture creation and development support,** seminars, hands-on support, matching events, etc. are provided to venture companies to support them from start-up to market launch as horizontal support for the above four fields.

- ◆ For the purpose of **supporting new entry into the medical device industry** by manufacturers and others, as well as the **development of medical devices**, we have **established a network with industrial support organizations and local governments** in the Kansai region. Based on autonomous local initiatives, we jointly implement projects that should be coordinated with other organizations and projects that can be expected to be more effective if undertaken in an integrated manner in the Kansai region.
- ◆ Specifically, we provide wide-area **medical-industrial collaboration matching, matching with medical device companies, consulting services by coordinators, support for overseas expansion, etc.**



## Collaboration in the Kansai region

	Institution
1	Fukui Well-being and Healthy Industry Council
2	Shiga Prefecture Industrial Support Center
3	KYOTO Industrial Support Organization 21
4	Advanced Science, Technology & Management Research Institute of KYOTO (ASTEM)
5	Kyoto Research Park
6	Osaka Chamber of Commerce and Industry
7	Osaka Design Center
8	Sakai City Industrial Promotion Center
9	Yao City Small and Medium Business Support Center
10	Higashi Osaka City Industrial and Creation Workers Support Organization
11	Osaka Research Institute of Industrial Science and Technology
12	Osaka Bio Headquarters
13	Union of Kansai Governments
14	The New Industry Research Organization
15	Foundation for Biomedical Research and Innovation at Kobe
16	The Himeji Chamber of Commerce and Industry
17	The Public Utility Foundation for Nara Prefecture Regional Industrial Development
18	Wakayama Industry Promotion Foundation