



# Biocommunity Kansai (BiocK)

From “Accumulation” to “Collaboration”

Secretariat  
NPO Kinki Bio-Industry Development Organization  
Urban Innovation Institute



# Overview on Bioeconomy Strategy of the Cabinet Office

# Point of “Bioeconomy strategy follow-up”

- ◆ We formulated Bio Strategy 2019 and Bio Strategy 2020 as our overall targets to achieve the world's most advanced **bio-economy society** in 2030. We set targets for each market area and promote initiatives, based on such **basic policies as a backcast**, to expand our **market areas**.
- ◆ In addition to the 6<sup>th</sup> basic plan, considering the situation change, such as acceleration of the act with **climate change issue, vaccination, and medicine**, we will enhance specific initiatives, **show the actual plan of the strategy** and “**Biostrategy follow-up**” by brushing up the existing strategies.

## Expansion of Biotechnology related markets

Promote **market category policy** aiming for the market size of **¥92trillion in 2030**

Target market size in 2030

※1 2025

※2 Market size is out of public health care service

**Bio-manufacturing**

High function bio-material, bio-plastic, bio-production-system etc.  
**¥53.3trillion** ← ¥32.5trillion (2018)

- Development and production systems for the development of biotechnology products
- Promotion of efforts to support the development of production facilities and technologies based on the bioplastic introduction roadmap and to procure the government's initiative

**Primary production**

Sustainable primary production system  
**¥1.7trillion** ← ¥0.3trillion (2018)  
Large scale building using wooden, smart forestry  
**¥1.0trillion** ← ¥0.5trillion (2018)

- Promotion of initiatives at each stage from production to consumption and innovations such as carbon neutrality based on “Green food system strategy”
- Attempt of design technology of large building by using wood

**Health care**

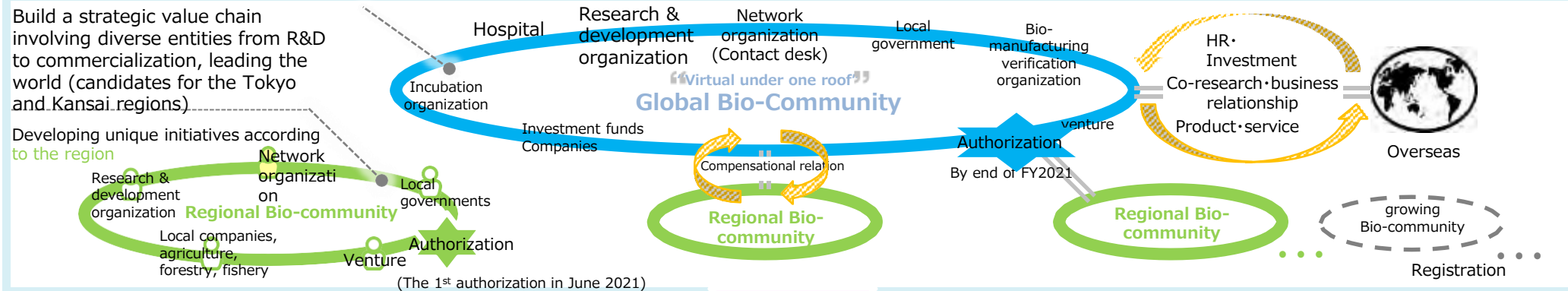
Lifestyle improvement healthcare, functional food, etc. **¥33.0trillion**※1  
← ¥25trillion (2016) ※2  
Bio-medicine/regenerative medicine  
**¥3.3trillion** ← 1.5trillion (2020)

- Strengthen biopharmaceutical development and production systems, including implementation of initiatives based on the Strategy for Strengthening Vaccine Development and Production Systems.
- Building a Large-Scale Genomic Data Base with Results from 3 major bio-bank

## Formation of Bio-community

A system to attract human resources and investment and supply products and services to the market

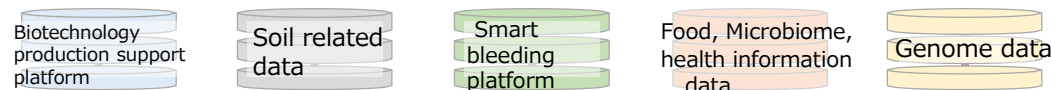
Establish value chain in each market by forming unique communities and supporting growth continuously in the country



## Data platform establishment

Data infrastructure necessary for research & development・Commercialization

Based on the common efforts of the entire government such as the Digital Agency, build an environment that enables a wide range of flexible data linkage including different fields



Guidelines for coordination and utilization of biodata (tentative name)  
(To be established in FY2022)

## 〔 Image of society 〕

Circulating society in which all industries are linked

Society where sustainable primary production is performed to fill the diverse needs

Society where materials are produced by sustainable production method

A society where medical care and healthcare are linked, and people can participate in society for a long time

## 〔Market category〕

- |   |  |
|---|--|
| ① <b>High functional bio-material (lightness, endurance, safety)</b><br>Coordinating ministry METI  | <ul style="list-style-type: none"> <li>Expected expansion of the lightweight and tough biomaterial market</li> <li>Strengths in Material Technology and Utilization Areas (Vehicles, etc.)</li> </ul>  |
| ② <b>Bio-plastic (replacement of ordinary plastic)</b><br>Coordinating ministry METI  | <ul style="list-style-type: none"> <li>Environmental contamination by ocean plastic garbage is a global issue</li> <li>Strengthens the expertise in proper treatment and 3R of plastic materials</li> </ul>  |
| ③ <b>Sustainable primary production system</b><br>Coordinating ministry MAFF  | <ul style="list-style-type: none"> <li>Improving agricultural productivity in rapidly growing Asia and Africa is a challenge and expanding dietary needs</li> <li>Strengths in world-level smart agricultural technologies</li> </ul>  |
| ④ <b>Organic waste · organic wastewater treatment</b><br>Coordinating ministry METI   | <ul style="list-style-type: none"> <li>Growth in Asia and elsewhere is expected to expand the waste treatment and environmental cleanup-related market</li> <li>Strengthens the world's highest level of waste and wastewater treatment</li> </ul>                                     |
| ⑤ <b>Lifestyle improvement health care, functional foods, digital health</b><br>Coordinating ministry METI  | <ul style="list-style-type: none"> <li>Increase in lifestyle-related diseases, expansion of health-related markets. Countries focus on digital health.</li> <li>Strength in health data as a country with longevity</li> </ul>   |
| ⑥ <b>Biopharmacy, regenerative medicine, cell medicine, gene therapy-related industry</b><br>Coordinating ministry Health and Medical Strategy Office | <ul style="list-style-type: none"> <li>Full-scale industrialization of biopharmaceuticals, etc. and the creation of large markets are expected</li> <li>Strengths in traditional basic research and cell culture techniques</li> </ul>   |
| ⑦ <b>Bio-production system (Industry·food production (production by using biological function))</b><br>Coordinating ministry METI                     | <ul style="list-style-type: none"> <li>Production technologies using biological functions are growing rapidly, mainly in the United States.</li> <li>Strengths in Microbial Resources, Biological Resources, and Fermentation Technologies</li> </ul>                                  |
| ⑧ <b>Bio-related analysis, measurement, experiment system</b><br>Coordinating ministry METI   | <ul style="list-style-type: none"> <li>As a basis of bio-industry, big expansion is expected.</li> <li>Strength in advanced measurement technologies, robotics and other elemental technologies</li> </ul>   |
| ⑨ <b>Large scale building with wood, smart forestry</b><br>Coordinating ministry Forestry Agency  | <ul style="list-style-type: none"> <li>Wooden structure effectively reduce greenhouse gas and draws attention mainly in Europe and North America.</li> <li>Strengths in smart forestry in future, wood building technologies, beautiful design, and construction management</li> </ul> |



# **Regional characteristics, strengths, and challenges of Kansai**

# Kansai's strengths and challenges



## Accumulation of bio-related industries

- ✓ Historically, bio-industries such as pharmaceuticals, medical devices, and fermentation have been concentrated;
- ✓ Small and medium-sized manufacturing companies with advanced technologies, such as development and manufacturing of medical devices, are concentrated mainly in Eastern Osaka;
- ✓ Biorelated contract manufacturing organization (CMO) and contract development & manufacturing; organization (CDMO) businesses have been actively expanded in recent years.

## Accumulation of advanced research & development organization

- ✓ High-level research institutes and high-quality researchers are concentrated;
- ✓ Advanced research and development is progressing in the fields of regenerative medicine and immunity, such as iPS cells and cancer immunotherapy;
- ✓ Leading Research & development in cutting-edge fields, such as supercomputers;
- ✓ There are many research & development-type private companies;
- ✓ Diverse clusters in a wide range of fields have been developed and are compactly integrated.

## The charm of the area

- ✓ Internationally, the cities of Osaka, Kyoto, and Kobe are significantly recognized as attractive cities;
- ✓ Kansai International Airport is the gateway to Kansai and has strong ties overseas, especially in Asia;
- ✓ Office rent and industrial zone rent are also relatively reasonable and have excellent cost competitiveness.

## Expectation to the future

- ✓ Many large-scale projects for Research & Development-type industrial promotion are being promoted;
- ✓ There is a foundation for producing start-up companies and it is expected;
- ✓ Osaka/Kansai Expo 2025 is scheduled, and future orientation is being cultivated.

## Challenges

- ✓ Lack of venture mindset, human resources and funds;
- ✓ Startup awareness is low;
- ✓ Lack of CXO human resources responsible for the management;
- ✓ There is no cohesiveness as Kansai.

# Accumulation of bio-industry and research bases in Kansai

**Industrial clusters with diversity and depth**

**Kansai's proud concentration of research centers**

Kyoto University  
Center for iPS Cell Research and Application (CiRA),  
Foundation for iPS Cell Research and Application (CiRA\_F)  
RIKEN (Keihanna)  
Research Institute of Innovative Technology for the Earth(RITE)  
Kyoto Research Park (KRP)

Osaka University  
University Public Corporation Osaka  
National Institute of Biomedical Innovation,  
Health and Nutrition  
National Cerebral and Cardiovascular Center  
National Institute of Advanced Industrial  
Science and Technology (Kansai Center)  
RIKEN (Suita)  
Saito, Kento, Nakanoshima  
Kansai Pharmaceutical Industries Association,  
Doshomachi  
LINK-J WEST  
Kinki Bio-Industry Development Organization  
Urban Innovation Institute

Kobe University  
RIKEN (Kobe)  
Kobe Biomedical Innovation Cluster (KBIC)  
/Supercomputer "Fugaku"  
Organization for Engineering Biology (OEB)  
Manufacturing Technology Association of Biologics (MAB)  
Biologics Center for Research and Training (BCRET)  
Harima Science Park City / Large Synchrotron Radiation  
Facility "SPring-8"

**By such efforts Of  
KSAC \*, KSII \*\*  
universities and  
research institutes  
Collaboration is  
progressing**

\*Keihanshin startup  
academia coalition  
\*\* Kansai  
Innovation Initiative



# About the Biocommunity Kansai



# About the Biocommunity Kansai



|                 |  |
|-----------------|--|
| <b>Vision</b>   | <b>Spreading a bio-first approach to build a Global Biocommunity and realize a sustainable society</b> |
| <b>Goal</b>     | <b>Creating an ultimate ecosystem for the bio-fields in Kansai</b>                                     |
| <b>Key word</b> | <b>Shifting from “Accumulation” to “Collaboration”</b>   |

## Name

Biocommunity Kansai  
Abbreviation: BioCK

## Action plan

1. Facilitating innovation;
2. Creating networks;
3. Disseminating information.

## Establishment

July 1st, 2021

## Certification

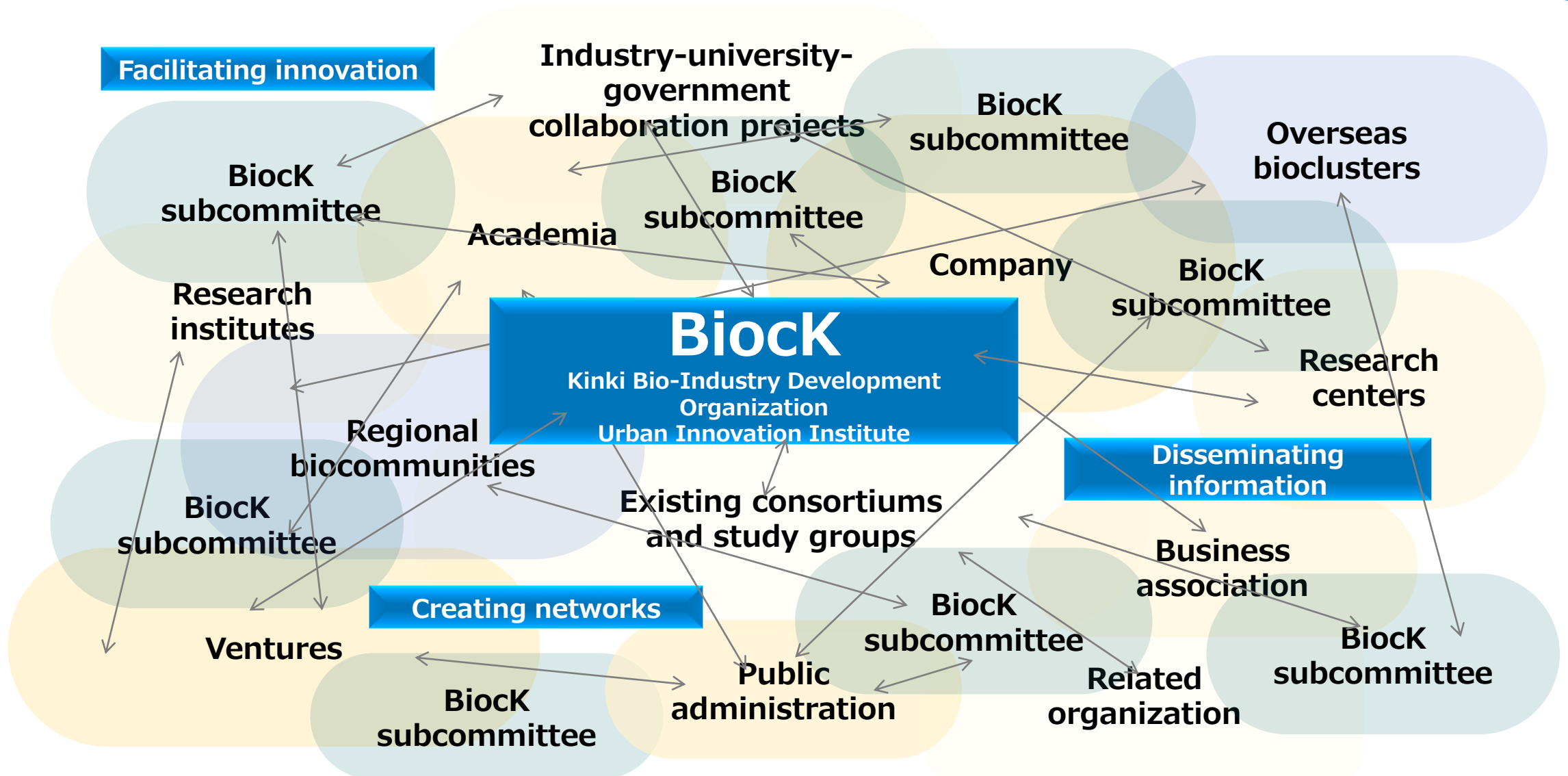
April 22, 2022

(Global bio-community certification  
by the Japanese cabinet office)

## How the biocommunity should be:

- ✓ Making a community focusing on industry;
- ✓ Strengthening collaboration across all of the biocommunity;
- ✓ Leading to new innovation.

# Shifting from “Accumulation” to “Collaboration”

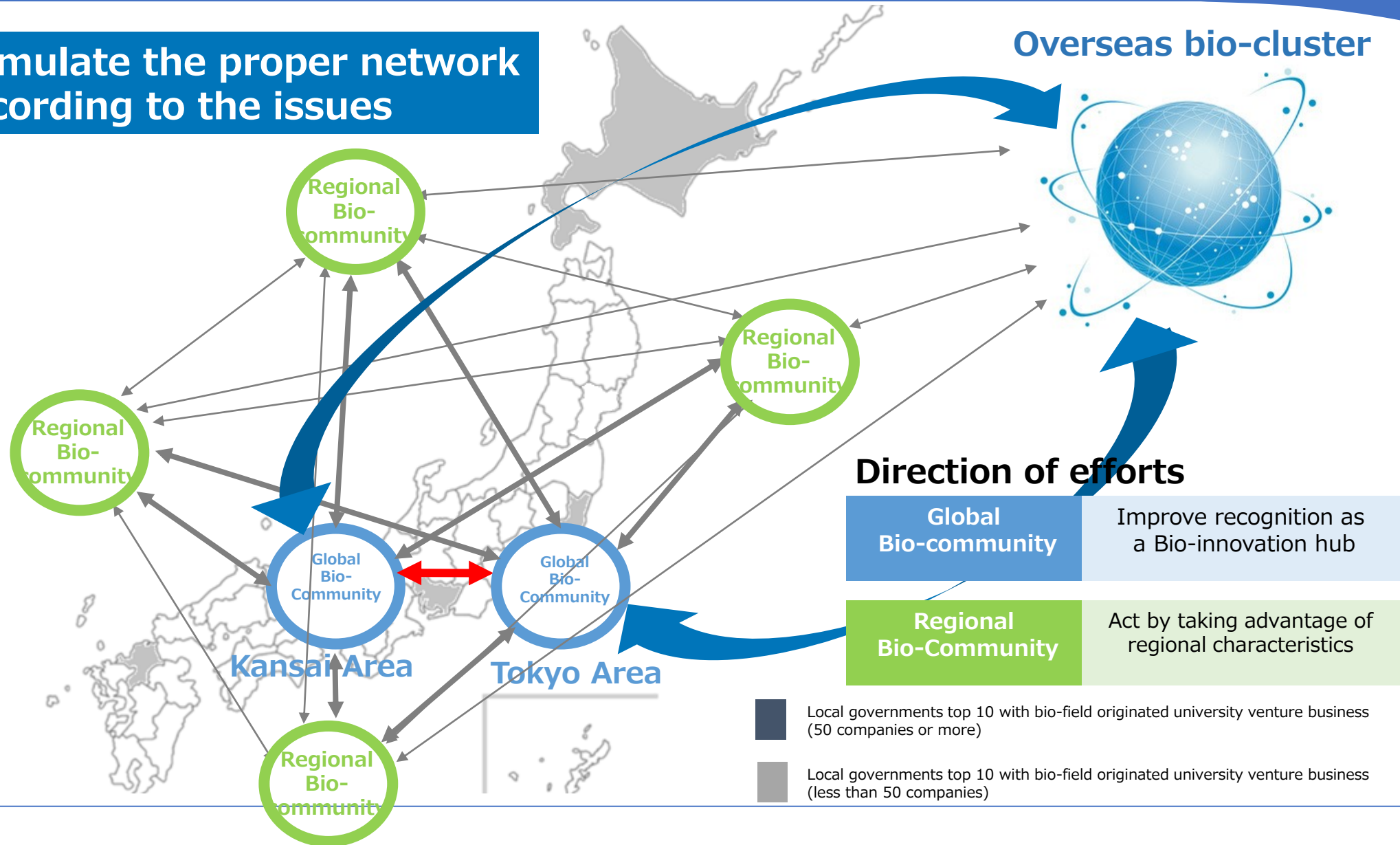


# Formation of global Bio-community

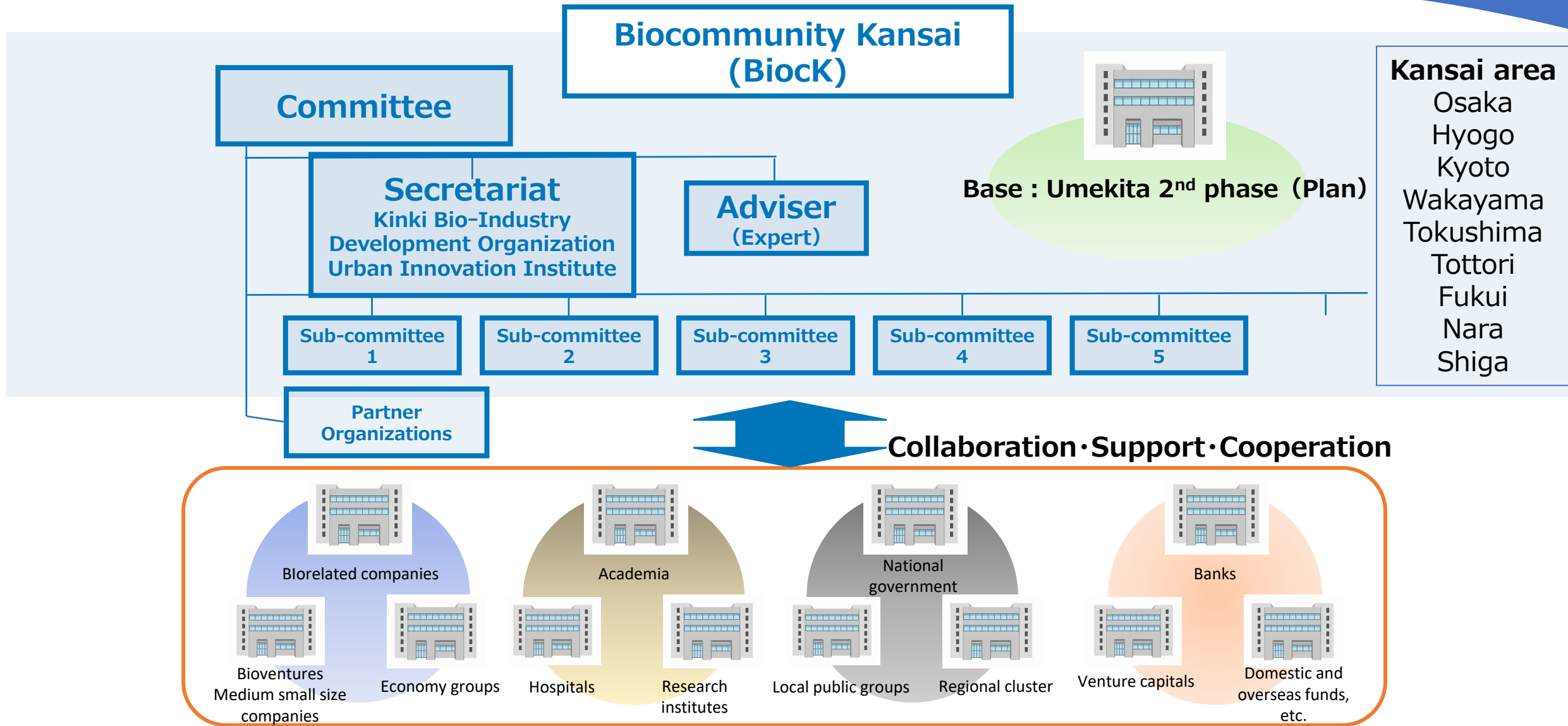
Imaging the points of Material of Cabinet Office "Bio-strategy 2020" (Basis policy)



Formulate the proper network according to the issues



# Organization of Biocommunity Kansai



# Biocommunity Kansai committee organization

August 1st, 2022



## Committees

|             |  |                        |   |  |  |
|-------------|--|------------------------|---|--|--|
| Committees  | Chairperson of the committee   | Takuko Sawada          | Chairman, Kansai Economic Federation Venture Ecosystem Committee  |  |  |
|             | Vice chairperson of the committee  | Ryuichi Morotomi       | Vice Chairman, Venture Ecosystem Committee, Kansai Economic Federation<br>Chairman, Kansai Association of Corporate Executives "Bridge Forum Committee"   |  |  |
|             | Vice Chairperson of the committee, Executive Supervisor  | Tsuneaki Sakata, Ph.D. | Chairman, NPO Kinki Bio-Industry Development Organization<br>Vice Chairman, Life Science Promotion Committee, Osaka Chamber of Commerce and Industry<br>President, All Japan BioCommunity Liaison Committee |  |  |
|             | Secretary General  | Kiyofumi Takata        | Senior Director, NPO Kinki Bio-Industry Development Organization  |  |  |
|             | Deputy Secretary General   | Masaki Ikui            | Senior Director, Urban Innovation Institute   |  |  |
|             | Kansai Economic Federation<br>Kansai Association of Corporate Executives   |                        | Osaka Chamber of Commerce and Industry<br>Kyoto Chamber of Commerce and Industry<br>Kobe Chamber of Commerce and Industry   | Osaka University<br>Kyoto University<br>Kobe University<br>Tokushima University<br>Osaka Metropolitan University   | Osaka city, Osaka Pref.<br>Kobe city, Hyogo Pref.<br>Kyoto city, Kyoto Pref.<br>Tokushima Pref.<br>Tottori Pref., Nara Pref.<br>Wakayama Pref.<br>Sakai city |
|             | National Institutes of Biomedical Innovation, Health and Nutrition<br>National Cerebral and Cardiovascular Center<br>National Institute of Advanced Industrial Science and Technology Kansai Center<br>National Agriculture and Food Research Organization<br>RIKEN<br>National Institute of Technology and Evaluation<br>Research Institute of Innovative Technology for the Earth<br>Advanced Telecommunications Research Institute International<br>Kansai Health and Medical Care Innovation Council |                        |   | Kansai Pharmaceutical Industries Association<br>Japan External Trade Organization Osaka Headquarters<br>Kinki Headquarters, Organization for Small & Medium Enterprises and Regional Innovation, Japan<br>Life Science Innovation Network Japan<br>Japan Bioindustry Association |  |
| Secretariat | NPO Kinki Bio-Industry Development Organization  |                        | Urban Innovation Institute  |  | 13   |

# Action Plan (1) Facilitating innovation



**By forming a responsible consortium (subcommittee) to promote open innovation to solve social issues, we'll take on challenges that cannot be solved by one company or one research institution.**

## ① Facilitating of open innovation by companies

- Themes are solicited mainly from Kansai companies, and the core companies get the commitment of the management and become responsible leaders.
- Leader companies play a central role in forming and managing subcommittees involving Kansai and related organizations in Japan and overseas.

## ② Collaborate with industry-academia-government collaboration projects

- Cooperate with industry-academia-government collaboration projects promoted by the national and local governments, and give them a role as subcommittees, as necessary.
- Aim to improve the overall results by utilizing the BioCK network, such as by collaborating with other subcommittees

**Special attention will be given to the following issues, which will be the basis for all activities, and subcommittees will be formed to address them**

| category                            | Task  | Direction of efforts  |
|-------------------------------------|---|---|
| <b>Startup support</b>              | Lack of venture mindset, human resources, and funds;<br>Low recognition from overseas;<br>Extremely small numbers of ventures, especially in the later stages of development. | Development of CXO human resources (business plan development, intellectual property securing, etc.);<br>Series B and subsequent funding;<br>Cooperation with Osaka/Kyoto/Hyogo Kobe Consortium, KSAC, KSII;<br>Proposal of funding mechanism that is not bound by the existing frameworks. |
| <b>Securing human resources</b>     | Lack of CXO personnel to manage startups;<br>Lack of human resources involved in bio-manufacturing.   | Launch of CXO Human Resources Discovery Program through Human Resources Exchange;<br>Approach to high-school students to foster their entrepreneurial mindset;<br>Collaboration with a biomanufacturing human resources development Project.  |
| <b>Biofoundry</b>                   | Establishment of biomanufacturing technology requires technology development and upfront investment;<br>If we can build a value chain, it will be a great strength.           | Strengthening projects related to biomanufacturing technology and cell-manufacturing technology;<br>Utilization of CDMO, CMO, bio-manufacturing bases of operating companies;   |
| <b>Data linkage and utilization</b> | Creating rules for collecting, integrating, and using biorelated data;<br>Building a system that can be operated sustainably.   | Construction of data linkage system from Kansai;<br>Realization of Society 5.0.   |

# Subcommittee

As of December 1, 2022



| Name of the subcommittee                                  | Social Issues Areas  | Content of Efforts   | Leadership Organization                         | Remarks   |
|---|--|--|---|---|
| Biomethane subcommittee                                   | Environment and energy                                       | Carbon neutralization of energy                                  | Osaka Gas Co., Ltd.                             | Many research institutions from industry, government, and academia are scheduled to participate |
| Plastic subcommittee                                      | Environment and energy                                       | Bioplastic   | Saraya Co., Ltd.                                |   |
| Mental health subcommittee                                | Healthcare   | Improving social productivity                                    | Shionogi & Co., Ltd.                            |   |
| Personal data subcommittee                                | Healthcare   | Use of personal data   | Nippon Telegraph and Telephone West Corporation |   |
| Wellbeing Subcommittee on Aspergillus (national bacteria) | Lifestyle modification healthcare                            | Elucidation of health and cosmetic effects of Aspergillus oryzae | Gekkeikan Sake Co., Ltd.                        |   |
| Life Style DX subcommittee                                | Digital Healthcare   | Updating Lifestyles with Digital                                 | Suntory Global Innovation Center Limited        |   |
| Smart cultivation subcommittee                            | Continuous primary production system                         | Maximizing the use of biotechnology in the primary industry      | Yanmar Holdings Co., Ltd.                       |   |
| Utilization of wood and CLT with DX subcommittee          | Large scale and Mid-to-high-rise building using wood and CLT | Reuse of CLT with Building Information Modeling (BIM) data       | TAKENAKA CORPORATION                            |   |
| Biofoundry cluster subcommittee                           | Manufacturing Value Chain                                    | Biomanufacturing   | Baccus Bio innovation Co., Ltd.                 |   |
| Start-up subcommittee                                     | Support for start-up   | Support for start-up in Kansai                                   | Sumitomo Mitsui Banking Corporation (SMBC)      |   |
| Big data healthcare subcommittee                          | Overall  | Biodigital   | Biogrid Center Kansai (non-profit)              |   |



# Subcommittee

As of December 1, 2022



| Name of the subcommittee   | Social Issues Areas   | Content of Efforts   | Leadership Organization                                 | Remarks                  | Many research institutions from industry, government, and academia are scheduled to participate |
|--|---|--|---|--------------------------|---|
| Subcommittee on digital biohealth  | Healthcare  | General health industry city   | National Cerebral and Cardiovascular Center             | Field of JST co-creation |   |
| Subcommittee on photonics life engineering   | Healthcare  | Photonics biotechnology  | Osaka University  | Field of JST co-creation |   |
| Well-being with bright eyes subcommittee   | Healthcare  | Social implementation of happy lifestyles through digital health big data with a focus on ophthalmology  | Tohoku University                                       | Field of JST co-creation |   |
| Food loss subcommittee   | Continuous primary production system  | Innovative low food loss co-creation base  | Osaka University  | Field of JST co-creation |   |
| Future urban subcommittee  | Sustainable society   | Dissemination of future intellectual infrastructure models   | Osaka University  | Field of JST co-creation |   |
| Biomass subcommittee   | Carbon neutral  | Realization of carbon zero emissions through biomass technology  | Tokyo University of Agriculture and Technology (TUAT)   | Field of JST co-creation |   |
| Subcommittee on cell production  | Regenerative medicine   | Construction of an ecosystem for cell production   | Osaka University  | AMED                     |   |
| Regenerative Medicine subcommittee<br>~kansai Regenerative therapy initiative~ (kRi) | Regenerative medicine   | Evolve regenerative medicine by building a regenerative medicine ecosystem, social enlightenment, human resource development, and global Expansion | Osaka University  |                          |   |
| Subcommittee on modality   | Healthcare  | Manufacture of antibodies, gene therapy products, and vaccines   | Manufacturing Technology Association of Biologics (MAB) | AMED · NEDO              |   |
| White bioindustry subcommittee   | White bioindustry   | Biofoundry business  | Osaka University (representative sponsor)               | NEDO                     |   |
| Subcommittee on digital green  | Continuous primary production system / Digital healthcare/ Bioproduction system | Realization of a sustainable society in which Keihanna Science City and nearby rural villages complement each other                                | Nara Institute of Science and Technology                |                          |   |

**Companies" and "Industry-Academia-Government Collaboration Projects" that will play a central role in the new subcommittee are now being recruited.**



# Contribution to social issues by subcommittees

As of October 1, 2022



| Name of the subcommittee   | Market Areas in Bio Strategy 2020 |          |                   |        |         |               |             |           |           | SDGs      |
|--|-----------------------------------|----------|-------------------|--------|---------|---------------|-------------|-----------|-----------|-----------|
|  | ①Material                         | ②Plastic | ③Primary industry | ④Waste | ⑤Health | ⑥Medical care | ⑦Production | ⑧Analysis | ⑨Forestry |           |
| Biomethane subcommittee  |                                   |          |                   |        |         |               |             |           |           | 7, 13, 9  |
| Plastic subcommittee   |                                   |          |                   |        |         |               |             |           |           | 12, 14    |
| Mental health subcommittee                                       |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| Personal data subcommittee                                       |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| Wellbeing subcommittee on <i>Aspergillus</i> (national bacteria) |                                   |          |                   |        |         |               |             |           |           | 3, 2      |
| Smart cultivation subcommittee                                   |                                   |          |                   |        |         |               |             |           |           | 2, 3, 13  |
| Biofoundry cluster subcommittee                                  |                                   |          |                   |        |         |               |             |           |           | 8, 9, 3   |
| Start-up subcommittee  |                                   |          |                   |        |         |               |             |           |           | 8, 9      |
| Big data healthcare subcommittee                                 |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| Well-being with bright eyes subcommittee                         |                                   |          |                   |        |         |               |             |           |           | 3, 11, 9  |
| Subcommittee on digital green                                    |                                   |          |                   |        |         |               |             |           |           | 15, 8, 11 |
| kansai Regenerative therapy initiative (kRi)                     |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| Subcommittee on digital biohealth                                |                                   |          |                   |        |         |               |             |           |           | 3, 11, 9  |
| Subcommittee on photonics life engineering                       |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| Food loss subcommittee   |                                   |          |                   |        |         |               |             |           |           | 12, 9, 8  |
| Future urban subcommittee  |                                   |          |                   |        |         |               |             |           |           | 11, 9, 12 |
| Biomass subcommittee   |                                   |          |                   |        |         |               |             |           |           | 13, 12, 9 |
| Subcommittee on cell production                                  |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| Subcommittee on modality   |                                   |          |                   |        |         |               |             |           |           | 3, 9      |
| White bioindustry subcommittee                                   |                                   |          |                   |        |         |               |             |           |           | 9, 13     |

# Action plan (2) Creating networks



## Toward forming Ecosystem of Bioeconomy

### Domestic collaboration

Strengthen cooperation;  
Tokyo area (GTB\*);  
Regional biocommunity;  
Kansai area biorelated organization;  
Whole nation biorelated organization.

Registering collaborative organization.

Implementation of  
「Bio KANSAI」  
(Business Matching Event : Online)

Creating synergy effect  
Calling human resources  
/investment  
Creating new industry

### Overseas communication

Attending overseas bio-event  
BioJapan;  
Individual communication;  
Implementation of events ;  
and business supports.

Bioeconomy strategy talk seminar;  
Interdisciplinary fusion promotion seminar, exchange event;  
Implementation of joint projects with collaborative  
organizations;  
Discussion for forming a bioecosystem.

\*Greater Tokyo Biocommunity

## Dissemination of Bioinformation from Kansai

- ✓ Dissemination of information on activities and potential in Kansai;
- ✓ Information dissemination involving citizens;
- ✓ Transmission of information regarding economic security.

## Building Kansai brand

- ✓ Awareness of Osaka, Kyoto, and Kobe is high, but awareness of Kansai is low;
- ✓ We would like to contribute to establishing and improving the value of the Kansai brand by disseminating bioinformation as a whole Kansai.

## Osaka / Kansai Expo2025

- ✓ Participating in the demonstration of experiments;
- ✓ Realizing social implementation;
- ✓ Making a chance to appeal to the World.



Logo, homepage, pamphlet, movie, seminar, symposium, individual meeting, and others,

**Visit our website !**

BiocK



<https://bioc.kjp/en>

- Information
- Subcommittee

