

# Flow Chart of main support measures

Careful individual consultation suitable to each party's stage and support from the coordinator from the support organizations "Kihara Foundation" and "IDEC Yokohama"  
Intellectual property strategy, Business plan development, Matching, Project initiation, Financing, etc



## ● Matching event



● "LIP Yokohama Open Innovation Conference V"  
Matching event between major companies in various fields and small and medium-sized enterprises (Nov. 2019)



## ● Grant (idea verification, data backing, prototype development)

● LIP Yokohama Trial Grant  
Target: SMEs, universities, research institutes, hospitals, NPO corporations, etc. in the city  
Limit: 1 Million yen Grant rate: Within 10/10



## ● Technology/Needs Presentation

● "The 4th LIP Yokohama Network Seminar"  
Presentation of R&D projects that have received research grants from the "LIP Yokohama Trial"  
(Dec. 2019)

## ● Support for creating technical illustrations

● Support for enhancing public relations in the health and medical fields, in cooperation with the "Communication Design Center (YCU-CDC)" in the Advanced Medical Research Center at Yokohama City University.

## ● Promotion of collaboration between medicine and engineering

Support for addressing the firsthand needs of the medical field and participating in business meetings, conferences etc. This support is chiefly provided by the Yokohama Medical Device Business Group (comprised of approx. 60 manufacturing and IT-related companies focusing on medical device development etc. and related organizations).

## ● Overseas development

● Conclusion of a memorandum of mutual cooperation with BIOCUM (San Diego, U.S.) April 2017 (This is the first memorandum of this type concluded by a Japanese municipality.)  
● Holding the world's first business acceleration program, "The Springboard™ Program in Yokohama" in cooperation with CONNECT (an entrepreneurial support organization).



## ● Financing support (Pitch event)

● "The 13th Yokohama Venture Pitch" (Life Science Field)  
(Dec. 2019)



## ● Support for participating in exhibitions

● Exhibiting in BioJapan 2019, MEDIX, COMPAMED 2019, and CIIE 2019  
● First-time for the city to participate in "BIOCUM DEVICEFEST & DIGITAL HEALTH Conference"



## ● Healthcare Business

● In the Yokohama Wellness Partners, holding general meetings, exchange meetings, matching meetings, etc., conducting a "Survey on issues" at medical and nursing care sites, and soliciting proposals from companies for solutions to their problem

## ● National Strategic Special Zones and Comprehensive Special Zones for International Competitiveness

● Support for the realization of new business plans by taking advantage of the merits of special zones, such as: exceptional measures on regulations, tax support, financial support, and funding support



On the Frontlines of Continuous Innovation

**LIP** 横浜  
Life Innovation Platform YOKOHAMA



<https://businessyokohama.com/home/major-industries/life-science/>

LIP Yokohama is also introduced on this website:



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Contact

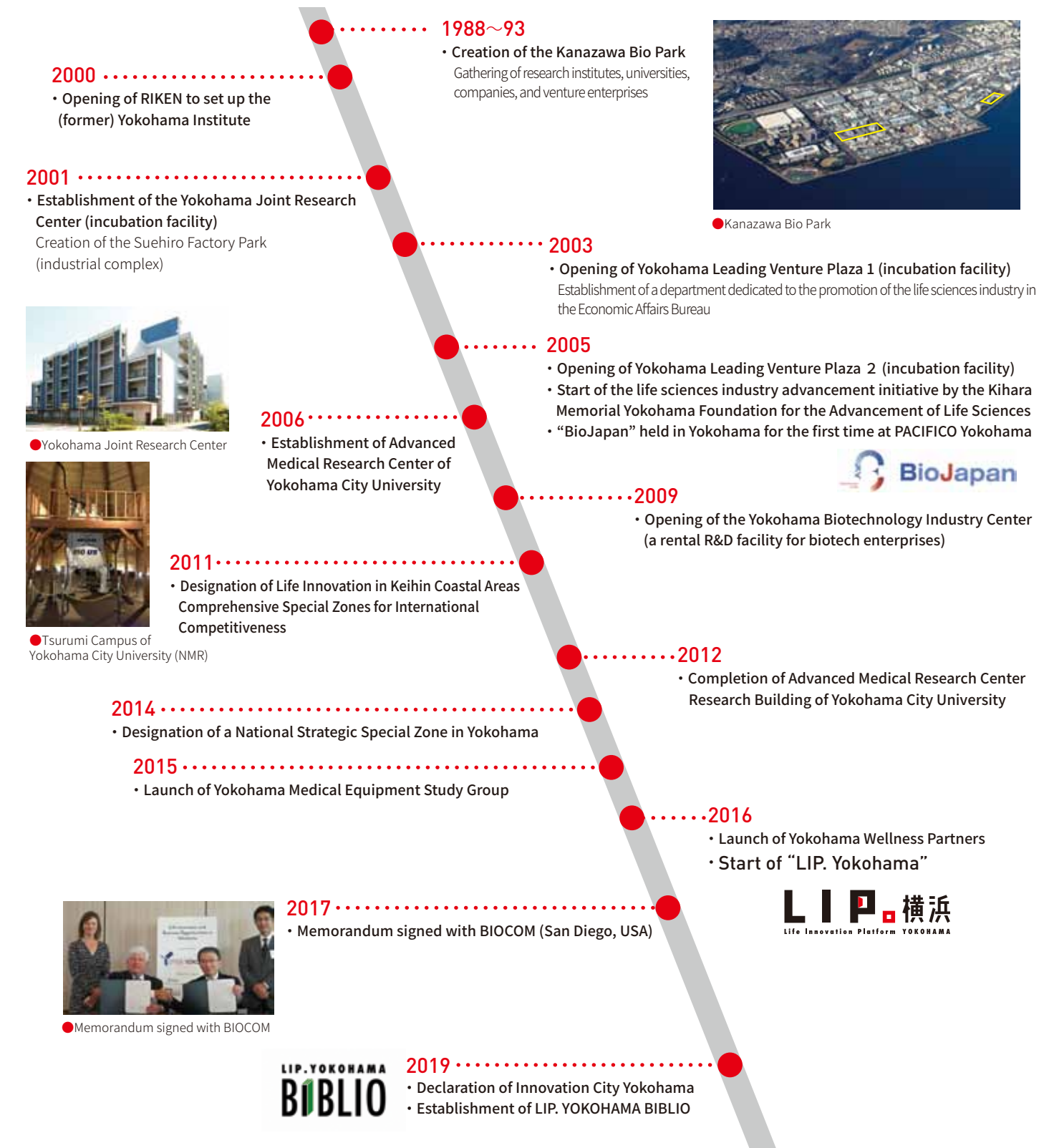
Business Alliance Promotion Division, Innovation City Promotion Department,  
Economic Affairs Bureau, City of Yokohama

6-50-10, Hon-cho, Naka-ku, Yokohama 231-0005 JAPAN Tel: +81-(0)45-671-3495 FAX: 045-664-4867 Mail: ke-lifePFG@city.yokohama.jp



# History of Life Innovation in Yokohama

The City of Yokohama recognized the growth potential of the life science industry early on. To promote this growth, the City has supported the establishment of leading-edge R&D infrastructure, such as the development of the Kanazawa Bio Park, inviting RIKEN to set up operations in Yokohama, and the establishment of incubation facilities. Currently, enterprises, universities, and research institutes located in the city are engaged in a variety of research and development projects.



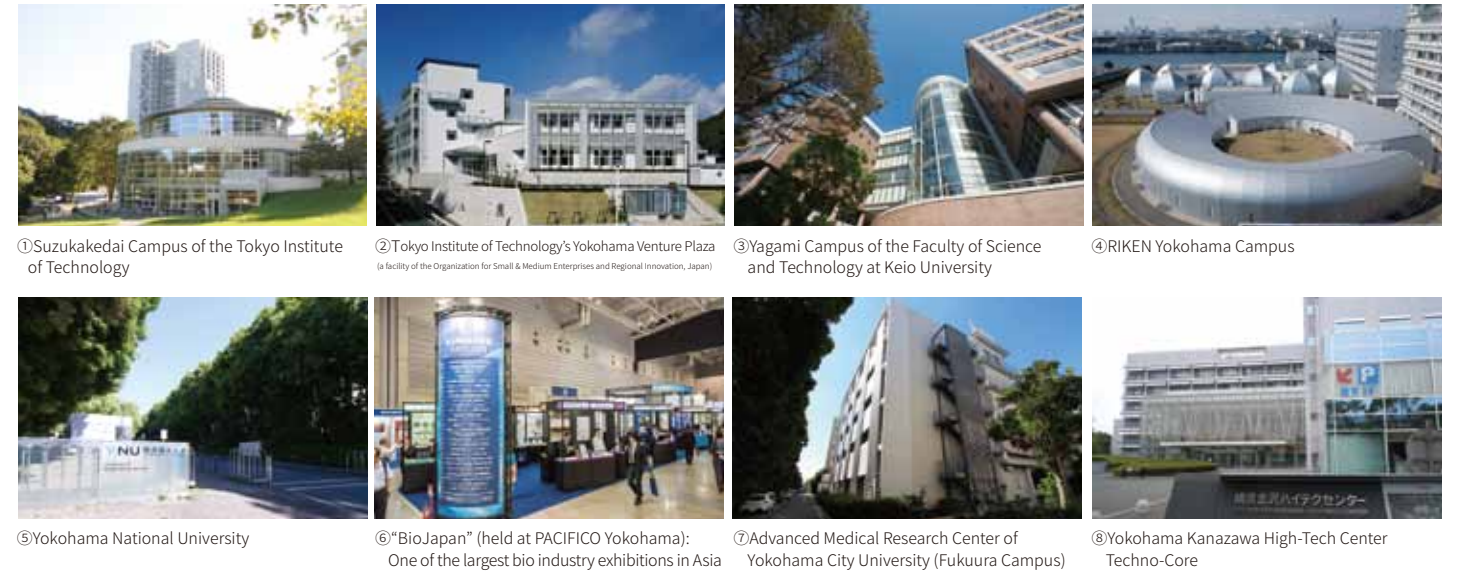
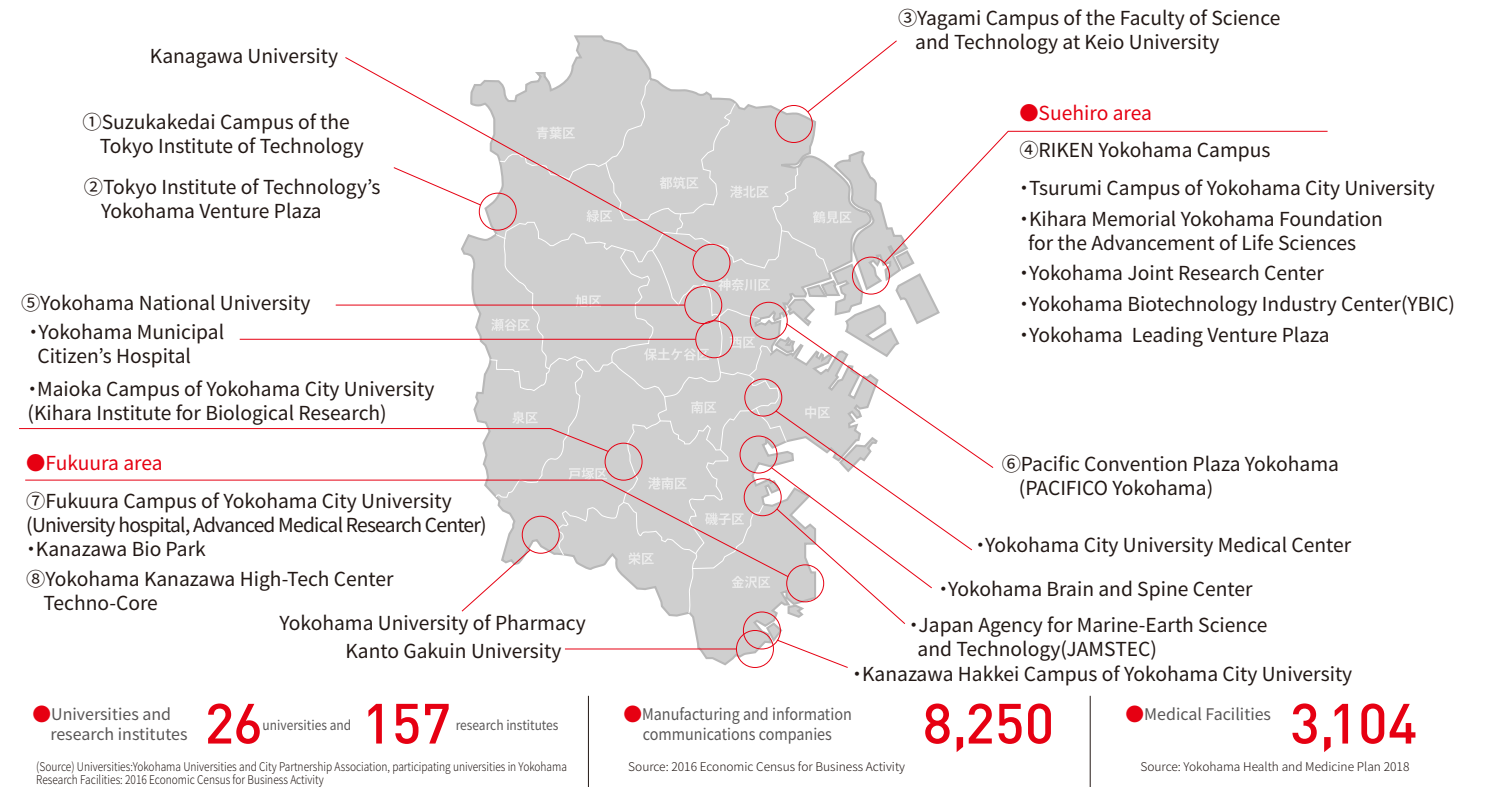
Promotion of Life Innovation



In light of Japan's progression as a super-aging society, it is expected that the market for businesses involved in healthcare equipment and the health & medical field in general, especially in the fields of extension of life expectancy and preventive medicine, will expand in the future. Against this backdrop, the City of Yokohama plans to actively support innovative initiatives in the health & medical field.

# Yokohama's Creation of Bio Clusters

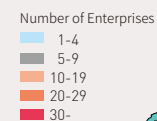
The city has a high concentration of universities and research institutes starting with the RIKEN Yokohama Campus as well as a large number of manufacturing and information communications companies, creating a favorable environment for research and development in the field of health and medicine.



## 【References】

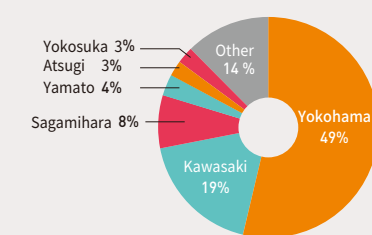
### Distribution of Bio Venture Enterprise Headquarters

As of the end of January 2015, 63 bio venture enterprises were based in Kanagawa Prefecture, which is ranked second among all prefectures in Japan. A total of 32 enterprises had their head offices in Yokohama.



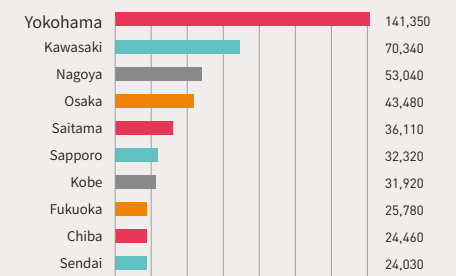
### Life sciences industry accumulation in Yokohama and Kanagawa Prefecture

There are 313 life sciences-related enterprises in Kanagawa Prefecture, of which 155 (49%) are located in Yokohama.



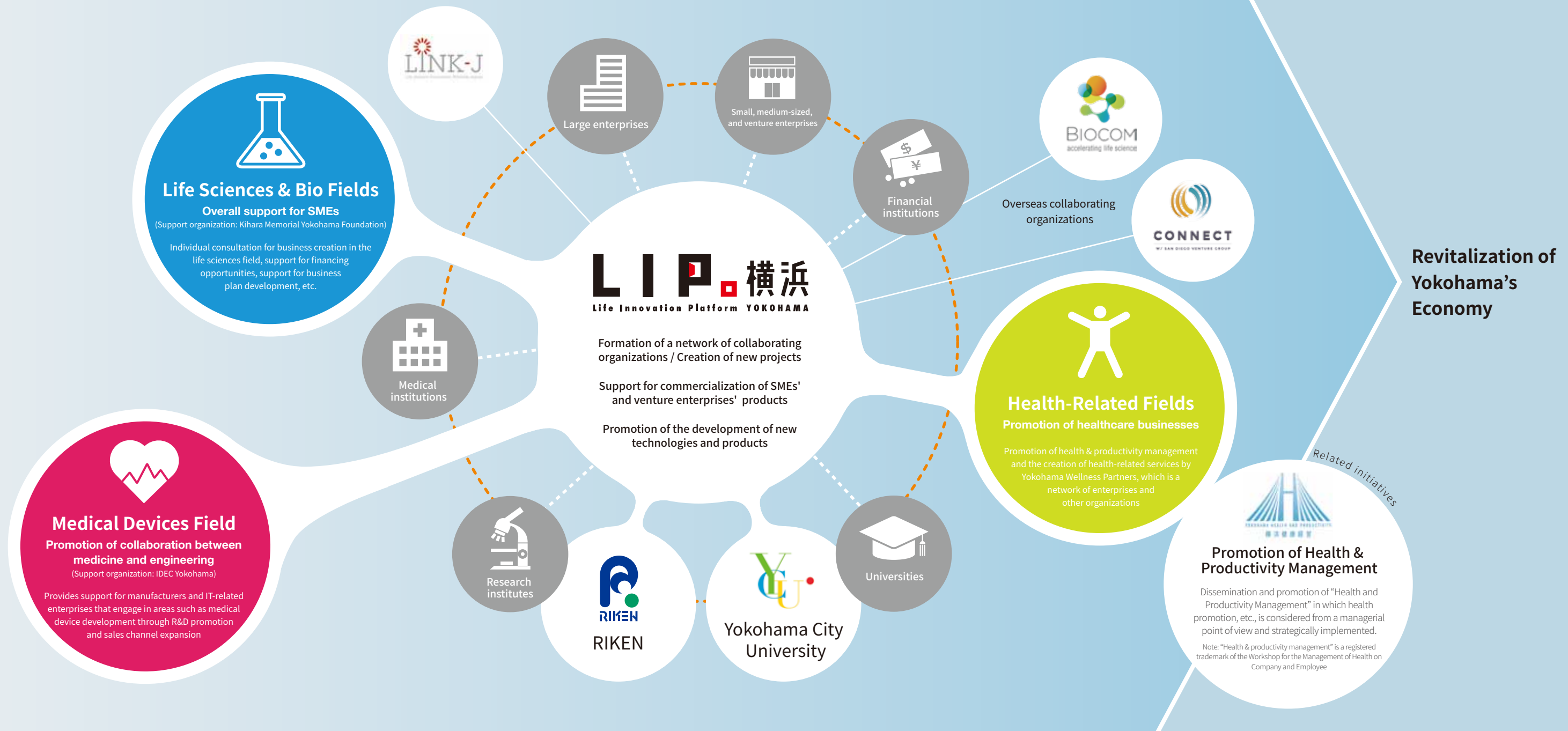
Source: Yano Research Institute Ltd. (as of Sept. 2018) Enterprises with their head office in Kanagawa Prefecture Note: Branch offices, etc., are excluded.

### Number of researchers and engineers (top 10 government ordinance cities)



Life Innovation Platform YOKOHAMA (LIP. Yokohama) is designed to help the City of Yokohama collaborate with the industry, academic, government, and financial institutions in order to provide continual support for innovation in the health & medical\* fields in Yokohama. Through this platform, a network of enterprises, universities, and research institutes develops innovative projects. At the same time, LIP. Yokohama supports the commercialization of small, medium-sized, and venture enterprises and promotes the development of new technologies and products.

\* Drug development, medical device development, diagnostic technology development, preventive medicine, regenerative medicine, nursing care & welfare, health services, etc.



### Utilizing Special Zones

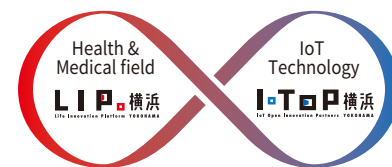
Support the promotion of R&D for drugs and medical devices through LIP. Yokohama by utilizing National Strategic Special Zones and Comprehensive Special Zones for International Competitiveness

**[Merits]** Exceptional measures on regulations, tax/financial/funding support

## Yokohama's Two Platforms

The City of Yokohama aims to achieve synergy between IoT technologies and health & medical initiatives by linking its two platforms (LIP. Yokohama and I-TOP Yokohama [IoT Opening Innovation Partners])<sup>\*</sup>.

<sup>\*</sup>I-TOP Yokohama is an open innovation platform aimed at creating new businesses, solving social problems, and supporting small and medium-sized enterprises (SMEs) that utilize IoT and take advantage of the "concentration of manufacturing and IT industry" that is a source of strength for Yokohama's economy.



- Contributing solutions for social issues
- Support for the challenges SMEs face
- Creation of new business models

## Innovation City Yokohama

In January 2019, Mayor Hayashi declared Yokohama an Innovation City. Together with local companies and universities, the city will work to further business creation and exchange amongst professionals throughout the city. Under the slogan "YOXO," which stands for Yokohama Crossover, the City of Yokohama will work toward the creation and development of new businesses in collaboration with commercial industry, academic, government, and financial institutions. At "YOXO BOX," an exchange hub for venture companies established in the Kannai area in October 2019, the city is implementing support programs for venture companies and entrepreneurs and also hosting event to promote exchange amongst innovative professionals.





# Collaborating Organizations

LIP. Yokohama aims to create new health & medical technologies and products in Yokohama through collaboration between industry, academic, government, and financial institutions. Organizations that agree to contribute to LIP. Yokohama related initiatives will participate in the platform as “collaborating organizations.”

## Universities and Research Institutions in Yokohama participated in LIP.Yokohama



As the only comprehensive natural science research institute in Japan, RIKEN, with bases in various locations across the country, promotes research in a wide range of fields. The RIKEN Yokohama Campus is home to four research centers that explore life science and the environment; the Center for Integrative Medical Sciences, Center for Biosystems Dynamics Research, Center for Sustainable Resource Science and RIKEN SPring-8 Center.



Yokohama City University excels in the fields of cancer, regenerative medicine, and infectious diseases, with a world-class level of research activity. The Fukuura Campus has become a site for translational research, with the School of Medicine, University Hospital, and Advanced Medical Research Center closely located. The Tsurumi Campus has a joint graduate school program with RIKEN, and provides a world-class research environment.



Taking advantage of its location in the simultaneously global and local city of Yokohama, Kanagawa, Yokohama National University is poised for the global 21st century. In order to achieve its goal of global excellence as an international education hub, the university openly collaborates with businesses from around the world in a variety of sectors and prioritizes contribution to society as well as interdisciplinary education and research.



Tokyo Institute of Technology is committed to reforming education, research, and governance with the aim of becoming one of the top ten research universities in the world. At the Suzukakedai Campus, we set up the “Institute of Innovative Research” consisting of multiple research institutes, research centers, and research units, and are promoting leading research in a wide range of fields such as the life sciences, materials, and energy.

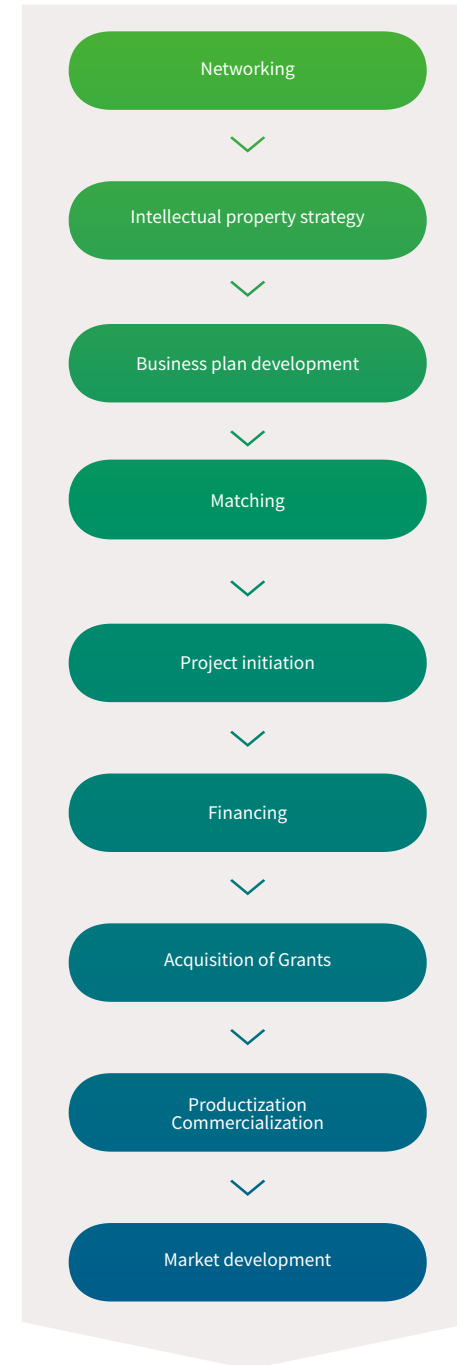


At the Yagami Campus located in Kohoku Ward, research activities focusing on science and technology are underway, and by using Keio Leading-edge Laboratory of Science and Technology (KLL) as a window for collaborating between industry-academia-government, we promote giving back to society via cutting-edge research results and research collaboration with companies. It is also characterized by strong collaboration within the university, such as medical-engineering collaboration that makes use of Keio's strength as a comprehensive university.



## Two support organizations

Careful individual consultation suitable to each party's stage and support from the coordinator from the support organizations “Kihara Foundation” and “IDEC Yokohama”



The Kihara Memorial Yokohama Foundation for the Advancement of Life Sciences (Kihara Foundation) was established in 1985 to commemorate Dr. Hitoshi Kihara. Dr. Kihara achieved world-class results in the fields of genetics and evolutionary biology, primarily with a focus on wheat research, and he established the genome concept as a world first. As an affiliate organization of the City of Yokohama, the foundation encourages life sciences research and supports R&D and business development in the field of life sciences. LIP. Yokohama provides support primarily to life sciences and bio-related SMEs in Yokohama. LIP. Yokohama strives to uncover promising ideas, business seeds, and technologies held by enterprises and academia in Yokohama, developing them via matching and project development to promote practical application and social implementation.



Yokohama Industrial Development Corporation is the only SME support center in Yokohama designated by the mayor of the city through the Small and Medium-sized Enterprise Support Act. The corporation's coordinators support SMEs in the city when they need to collaborate with a large company or utilize the intellectual properties of universities in order to enter a new market or to develop new technologies. LIP. Yokohama promotes collaboration between entities involved in medicine and engineering, primarily to develop medical devices and other technologies. It engages in activities designed to create business opportunities, such as the provision of information on the needs of the clinical field and matching with medical device manufacturers.

## LIP.YOKOHAMA BIBLIO

Health and medical-related venture support base (Minato Mirai permanent support site)

Key assistance features \* Free to use on normal weekdays from 10:00 to 17:00. Note: advance reservations are required.

- Provides support in the form of online tools for searching articles and research and development data.
- Over 100 books/magazines related to health and medical research, market research reports, etc. are available for perusal.
- For research and business topics within the health and medical industry, consultation is provided by coordinators from pharmaceutical companies with in-depth knowledge of the drug development field and the Pharmaceuticals and Medical Devices Act. (Note: advance reservations are required.)
- Consultations on intellectual property rights are provided by patent attorneys from pharmaceutical companies. (Note: advance reservations are required.)
- Seminars, study sessions, exchange events, etc.



## Development of new anticancer drugs J-Phama Co., Ltd.

We are developing novel anticancer drugs for half of Japanese people who suffer from cancer, in the combination of "the anticancer drug JPH203 targeting only cancer cells" and "diagnosis for the efficacy of that anticancer drug" with Kyorin University, Osaka University, and Chiba University. As for the new anticancer drug JPH203, Phase I clinical trial to confirm safety has been completed, while Phase II clinical trial to demonstrate its efficacy is being conducted.

- Utilization of a grant from the City of Yokohama to promote R&D
- Kihara Foundation's Support
  - Business development consulting
  - Business Matching
  - Grant application support
  - Provision of information related to research and development



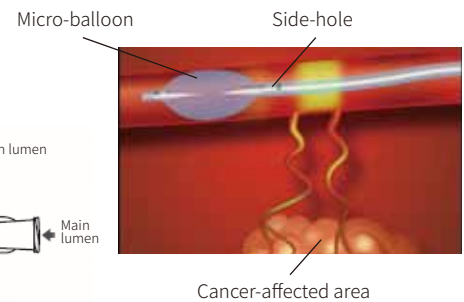
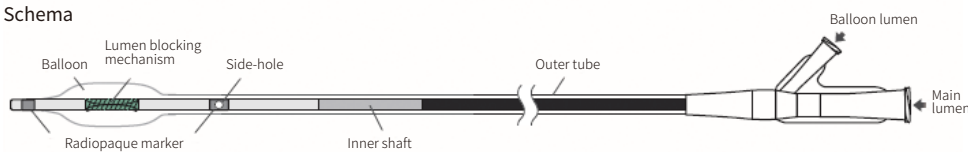
New anticancer drug JPH203

## Catheter with selective infusion function Piolax Medical Devices, Inc.

We succeeded in the commercialization of LOGOSSWITCH®, a proximal, side-hole, and microballoon catheter which has a selective blood vessel injection function activated by temporarily obstructing the blood vessel during endovascular treatment of liver cancer and the like. The tip of the catheter is obstructed simultaneous to the inflation of the microballoon, which makes it possible to effectively inject a drug solution from the side-hole of the catheter into the fine blood vessel leading to the area affected by the cancer.

- Utilization of a grant from the City of Yokohama to promote R&D
- During medical and engineering collaborations, we provide support in the form of individual consultations together with Yokohama Industrial Development Corporation (IDEC Yokohama) via the initiative for collaboration between medicine and engineering.

Schema



## "Archelis" NITTO Co., Ltd.

Archelis is a wearable chair developed due to clinical need for a "chair which can be put on." NITTO developed a "wearable leg support device," which reduces the muscle fatigue of doctors and other medical staff and enhances the stability of surgical procedures that require doctors and other medical staff to stay standing for long periods of time.

- Utilization of a grant from the City of Yokohama to promote R&D
- The project was supported through the Yokohama Industrial Development Corporation (IDEC Yokohama) via the initiative for collaboration between medicine and engineering.
- Yokohama City University cooperated in the prototype demonstration experiment. Doctors actually used the prototype during medical operations and assessed/verified its usability, etc.



## Technical Illustrations Pinpoint Photonics, Inc.

LIP, Yokohama and the Advanced Medical Science Research Center of Yokohama City University “Communication Design Center (YCU-CDC)” provided support to create technical illustrations (pictures and charts that visually convey scientific explanations and techniques).

An illustration that provides a visual representation of a complicated mechanism, with a simple design that captures the core functions of the technology, can be effective means of demonstrating the selling points of a company’s technology and products.



Example



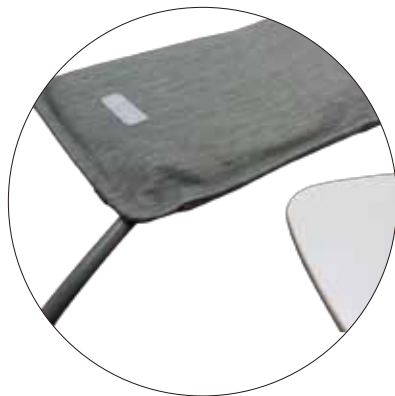
When creating a technical illustration, I noticed features that I would not have noticed normally. By showing a good illustration at an exhibition, I didn't need to explain the introductory appeal of the product, making it easy to proceed smoothly to the technical explanation.

## Next-generation monitoring systems for nursing care: supporting product development for companies in the city

## TAOS Institute, Inc.



Example



AiSleep

Using the “Yokohama Wellness Partners” network, we matched the company with nursing homes, and conducted demonstration tests for product improvement. We succeeded in creating a renewed monitoring system called "Aisleep" made for the purpose of securing the safety of elderly patients and reducing the workload for caregivers. It is possible to monitor respiratory rates, detect the state of sleep, and check when the patient gets out of bed with a pneumatic sensor.

By introducing a nursing care facility to act as a demonstration test location, we were able to listen to the opinions of people working in the field to incorporate functions that will be useful on site.



## Developing a health management promotion program for small and medium-sized companies in the city

## Yokohama Healthcare Consortium

The Yokohama Healthcare Consortium was formed by Sotetsu Group, NTT Docomo Group, the City of Yokohama, and others to develop a health & productivity management promotion program for employees of the city’s SMEs. Using wearable devices and dedicated apps, the consortium visualized the effects of health & productivity management, economized on manpower for collecting and managing health data, and provided health advice in line with individual values. This program helped people foster health awareness, and aimed to improve corporate productivity and promotion of the healthcare industry.

\*Ministry of Economy, Trade and Industry Business Creation Projects and Business Selection Projects for the Industry for Extending Healthy Life Expectancy

### 【Details of support from Yokohama Wellness Partners】

- Recruitment of participant companies utilizing corporate networks
- Establishment of open innovation systems for participating companies



Dedicated apps



Wearable devices