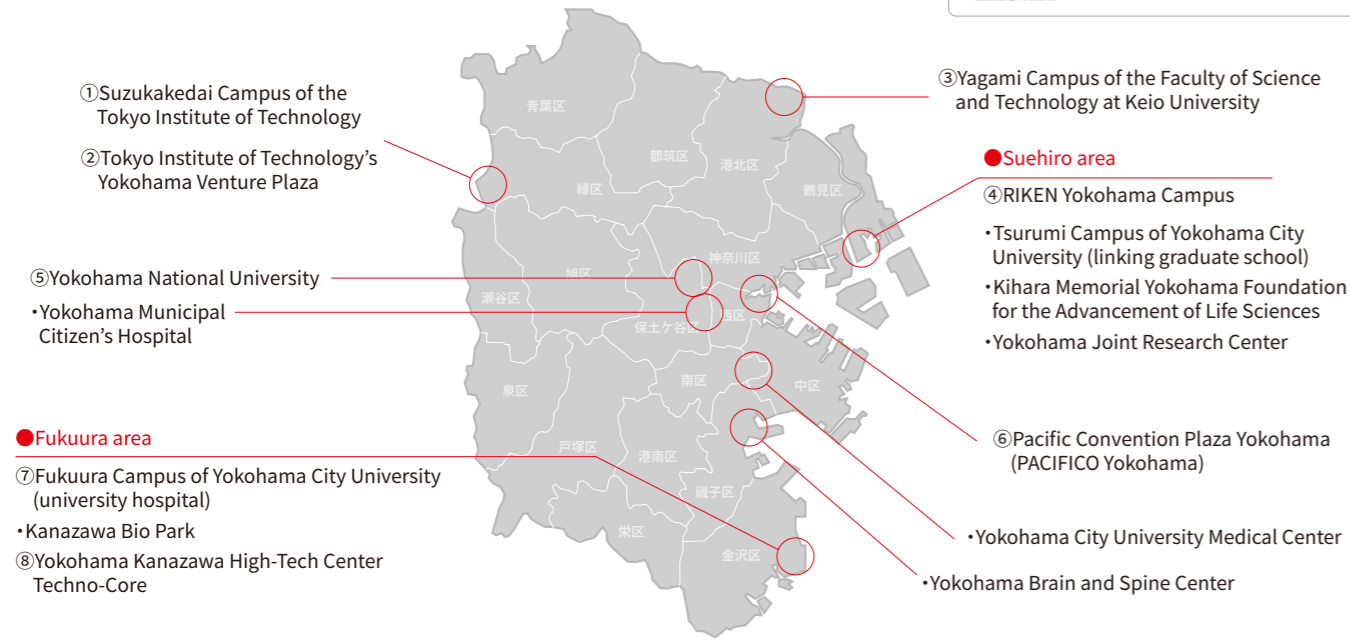


Bio Cluster Accumulation in Yokohama

Yokohama has a good environment for health & medical R&D, with many universities and research institutes being located here, including the RIKEN Yokohama Campus.

"Fastpass to San Diego, U.S.!"

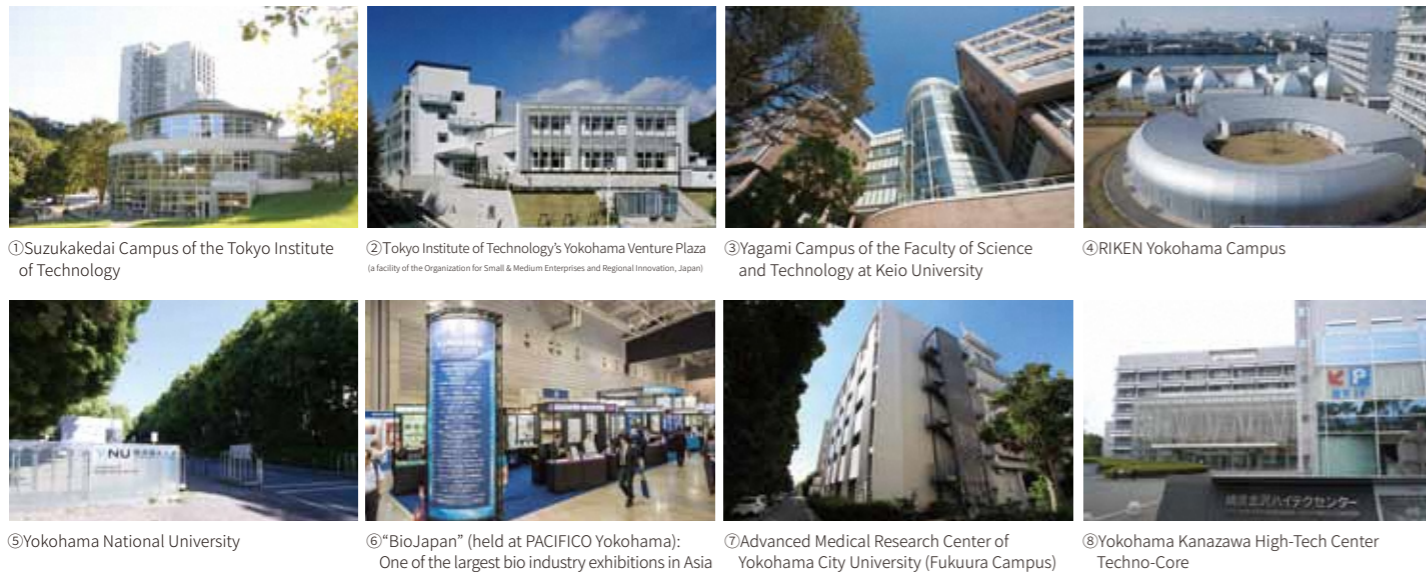
You can accelerate your businesses by utilizing a network with BIOCOM (core organization), CONNECT (entrepreneur support), and WTC SD (regional economic organization) in San Diego, which is the world's life sciences center!



●Universities and research institutes **26** universities and **180** research institutes
Source: 2012 Economic Census for Business Activity

●Number of life science related companies **9,000**
Source: 2012 Economic Census for Business Activity

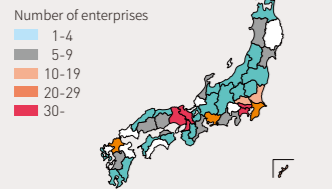
●Medical facilities **3,104**
Source: Yokohama Health and Medicine Plan 2018



【References】

Headquarters of bio venture enterprises

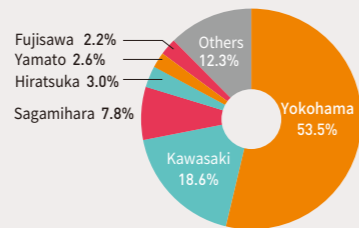
• As of the end of January 2015, 63 bio venture enterprises were based in Kanagawa Prefecture, which is second among all prefectures in Japan. A total of 32 enterprises had their head offices in Yokohama.



Source: Number of bio venture enterprises by prefecture (January 2015), published by the Japan Bioindustry Association

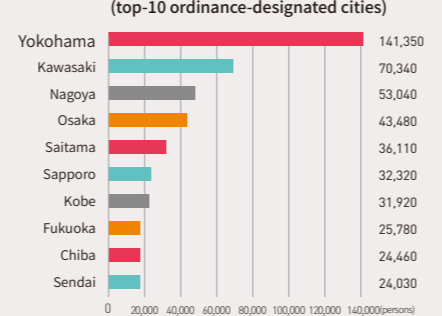
Life sciences industry accumulation in Yokohama and Kanagawa Prefecture

• There are 269 life sciences-related enterprises in Kanagawa Prefecture, of which 144 enterprises (53.5%) are located in Yokohama.



Source: Yano Research Institute Ltd. (as of April 2014) Enterprises with their head office in Kanagawa Prefecture Note: Branch offices, etc., are excluded.

Number of researchers and engineers (top-10 ordinance-designated cities)



On the Frontlines of Continuous Innovation

LIP 横浜
Life Innovation Platform YOKOHAMA



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About LIP. Yokohama

Life Innovation Platform YOKOHAMA (LIP. Yokohama) is designed so that the City of Yokohama can collaborate with the industry, academic institutions, the government, and financial institutions in order to continuously support 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, and health services, etc.



Yokohama's two platforms
Yokohama aims at synergy between IoT technologies and health & medical initiatives by linking its two platforms (LIP. Yokohama and I.TOP Yokohama [IoT Opening Innovation Partners]).



Collaborating organizations

LIP. Yokohama aims to create new health & medical technologies and products in Yokohama through collaboration among the industry, academic institutions, the government, and financial institutions. Organizations that agree to the purpose of LIP. Yokohama's related initiatives are participating in the platform as "collaborating organizations."



Major universities and research institutes participating in LIP. Yokohama



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

Collaboration with LIP. Yokohama: RIKEN is promoting joint research with Yokohama City University for the "Medical Science Innovation Hub Promotion Program." In this program, patient data in certain disease areas is analyzed using artificial intelligence, etc., and is utilized for the development of new treatment technologies, etc.



Outline: Yokohama City University has strengths in the fields of cancer, regenerative medicine, and infectious diseases, etc., and has research capabilities at a world-class level. The School of Medicine, Yokohama City University Hospital, and the Advanced Medical Research Center are located side-by-side in Fukuura, forming a translational research base. In Tsurumi, the university has set up a linking graduate school with RIKEN Yokohama Branch, creating a world-class research environment.

Collaboration with LIP. Yokohama: Yokohama City University is creating/promoting various research projects while actively utilizing idea seeding from the university and collaborating with various enterprises.



● Flow Chart of main support measures

Individual consultation/ support by the coordinators of “Kihara Foundation” and “IDEC Yokohama” (Two Support Organizations of LIP Yokohama)
Intellectual property strategy, business plan formulation, matching, project development, financing, acquisition of grants, etc.



● Open Innovation Conference



- “LIP. Yokohama Open Innovation Conference”
A matching event between major enterprises and venture, small, and medium-sized enterprises in different business fields (Oct, 2017)
- “LIP. Yokohama Open Innovation Conference II”
A matching event between Kyushu Academia and venture, small, and medium-sized enterprises (March, 2018)



● Seminar- support for business plan development (Nov, 2017- Feb, 2018)

- Discussion: “New Business Cannot Succeed Using Only an R&D-oriented Mindset!”
A lecture on how to lead new health/medical business development to success
- New business development seminar: “Practical Lecture for Commercializing New Ideas”
A lecture for gaining business insight, from idea generation to marketing, planning, and implementation

● Grant (verification of idea, backing by data, prototype development)

● Seminar- project creation

- Seminars and networking events for the utilization of health and medical big data



● Technology/ Needs Presentation

● Promotion of collaboration between medicine and engineering

the Yokohama Medical Equipment Business Study Group (approx. 50 enterprises/organizations) for manufacturing and IT-related enterprises that are working on medical device development, etc.

● Overseas development

- Conclusion of a memorandum on mutual cooperation with BIOCOM (San Diego, U.S.)
April 2017 (This is the first memorandum of this type concluded by a Japanese municipality.)



● Financing support (Pitch event) (March, 2019)

- “Yokohama Biological Sensing Business Partnering”
A matching event aiming to create funding opportunities for venture, small, and medium-sized enterprises



● Support for trade show exhibitions

- “BIO 2017 (San Diego, U.S.)”
- “Medtec Japan 2017” “COMPAMED 2017 (Germany)” and “BioJapan 2017”
- Healthcare business exhibition (held at the same time as the Yokohama Health & Productivity Management Conference)



● Health & productivity management and healthcare business

- Yokohama Wellness Partners (approx. 200 enterprises/organizations) holds general assemblies, networking events, new-entry promotion seminars, and matching events. It also conducts a “survey of difficulties” in practical medical/nursing care business and invites enterprises to make proposals to resolve issues

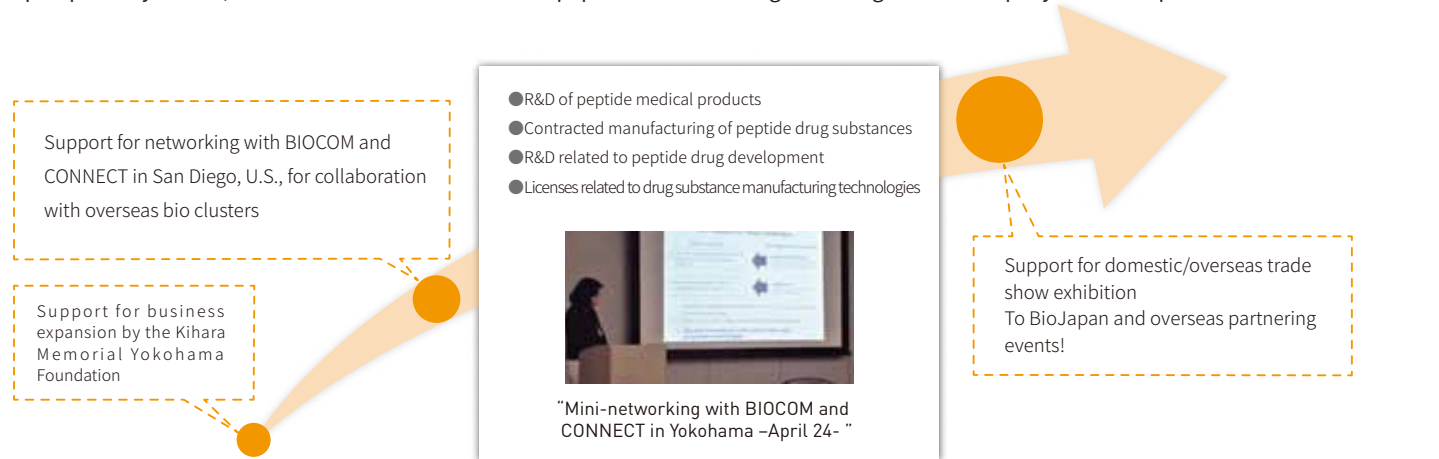
● National Strategic Special Zone and the International Strategic Comprehensive Special Zone

- Support for the realization of new business plans by making the best of the advantages of special zones, such as exceptional measures on regulations, tax support, financial support, and funding support

● Support by LIP. Yokohama (Examples)

Japanese peptide medical products disseminated to the global market JITSUBO CO., LTD.

JITSUBO is a venture enterprise from the Tokyo University of Agriculture and Technology that engages in the R&D of “peptide medical products,” which are attracting attention in the field of new drug development. The company has a world-class synthesis technology and engages in the R&D of new drugs and generic drugs. Its new-generation peptide synthesis technology employs the advantages of the solid-phase synthesis method and liquid-phase synthesis, which are conventional standard peptide manufacturing technologies. The company holds two patents.



"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 that enhances the stability of surgical procedures while doctors and other medical staff are forced to stay standing for long periods of time when carrying out medical operations.

- The R&D was promoted utilizing the subsidy provided by the City of Yokohama.
- 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 prototype demonstration experiment. Doctors actually used the prototype during medical operations and assessed/verified usability, etc.



A new proposal to promote the health of the elderly and children! Qoled Inc.

“Foot Puzzle” was developed by a company located in Yokohama in order to strengthen the sole muscles of the feet of the elderly and children. Matching with daycare centers and elderly health support organizations was conducted for the demonstration experiment, along with a questionnaire survey regarding a prototype of the product.



“Foot Puzzle” was designed to prevent floating toes in children and injuries from falls in the elderly. Qoled wanted to verify that “people of all generations can grip the product with their toes,” and the City of Yokohama introduced the company to facilities that provide services to children and the elderly. As a result, the company was able to commercialize the product.



Demonstration experiment (children aged 3 to 5)

