



Healthcare New Frontier

A Challenge from Kanagawa, Japan

Kanagawa Prefectural Government

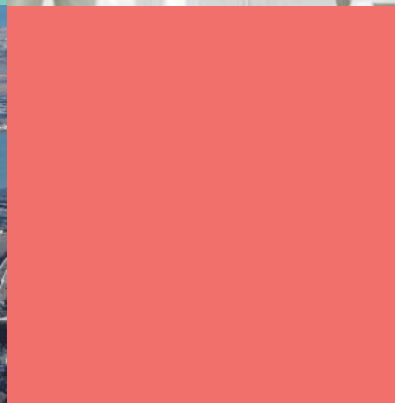
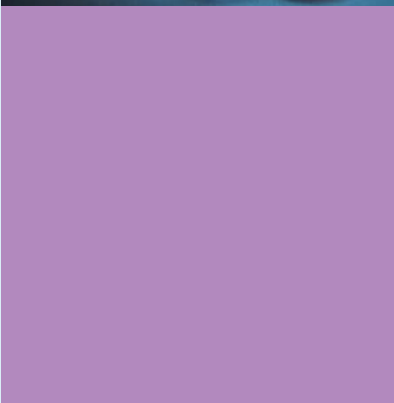


Photo by Kawasaki City Fire Department Aviation Firefighting Team

Message from the Governor



In order to create a brighter future vision for the era of the super-aged society, Kanagawa, the second most populous prefecture in Japan adjacent to Tokyo, has been promoting a grand policy package called “Healthcare New Frontier (HCNF).”

HCNF is a bundle of healthcare and industrial/regional policies. Its key concept is “Managing ME-BYO,” the scope of which is something broader than that of “disease prevention” in the context of Western medicine. Combining this concept with the utilization of advanced medical treatments and technologies, we aim to achieve healthy longevity of the citizens and to create new markets and industries at the same time.

I would greatly appreciate your understanding and support in fulfilling our goals. HCNF will provide a solid base for everybody to lead a better life in the coming years.

黒岩祐治

Yuji Kuroiwa
Governor, Kanagawa Prefecture

Recognized in 2022 by the United Nations
as one of the Healthy Ageing 50 :
Leaders transforming the world
to be a better place to grow older



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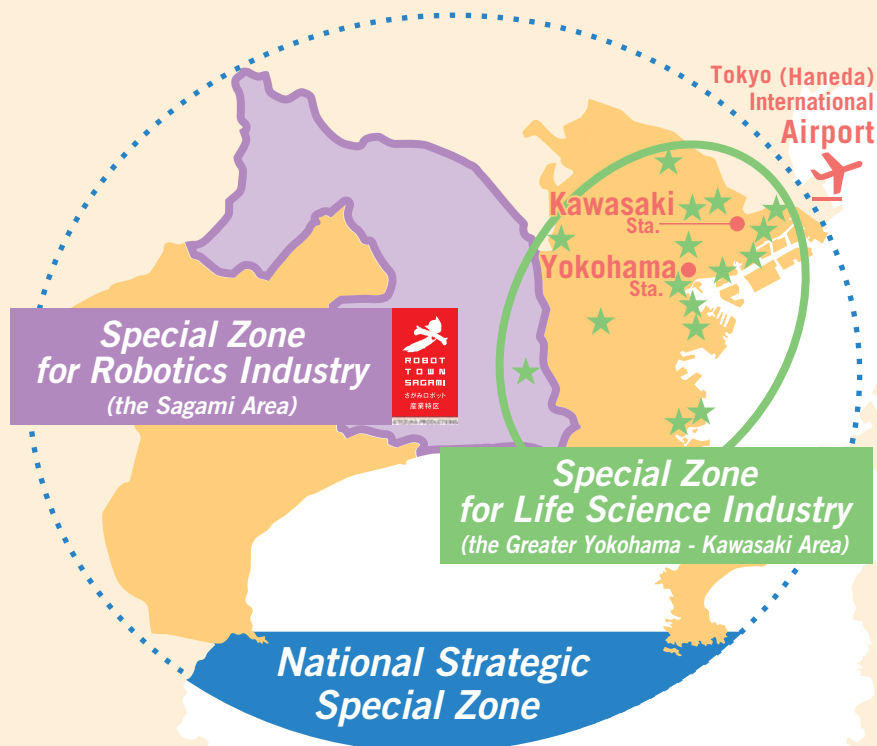
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Three Special Zones

Initiative for National Strategic Special Zone



Kanagawa Prefecture has three special zones: the National Strategic Special Zone covering the entire prefecture, the Sagami Robotics Industry Special Zone located along the Sagami Jukan Expressway, and the Keihin Coastal Area Life Innovation International Strategic Comprehensive Special Zone centered around Yokohama and Kawasaki.

By utilizing the three special zones and combining the two approaches —utilizing advanced medical treatments and technologies, and managing ME-BYO— Kanagawa is promoting the HCNF Policy to create new businesses and innovations.

Advantage

1. Location and Population

Adjacent to Tokyo

- Japan's population: 123.8 million
- No.2 among 47 prefectures with 9.2 million residents
- Comparable to the population of Austria (9.17 million)

2. Size of Economy

Prefectural GDP of approx. US\$258.3 billion (\$1=¥144.55)

- Comparable to Kazakhstan (\$261.8 billion) and New Zealand (\$255.2 billion)
- (Source: FY2023 Kanagawa Prefecture Report on Prefectural Accounts)

3. Transportation

Travel time from Haneda Airport by Rail

- To Yokohama Station: approximately 30 minutes
- To Kawasaki Station: approximately 15 minutes

4. Corporations

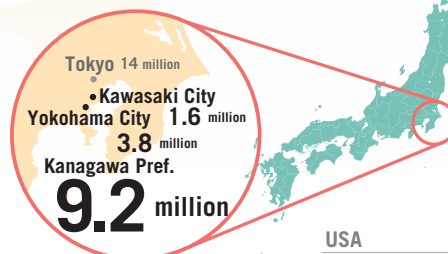
Number of Foreign-affiliated Firms: 318 (No.2 after Tokyo)

(Source: Toyo Keizai Inc. "Directory of Foreign-owned Companies in Japan 2022")

5. Human Resources and R&D

Number of Employees in Academic and R&D Institutions: 54,770 people

- Kanagawa has the second most R&D labs and offices in Japan



USA	27.3 trillion
China	18.3 trillion
Japan	4.2 trillion

GDP:
\$258.3
billion

Kazakhstan	261.8 billion
Kanagawa	258.3 billion
New Zealand	255.2 billion

30 min
from Yokohama
to Haneda Airport



318
foreign-affiliated
firms



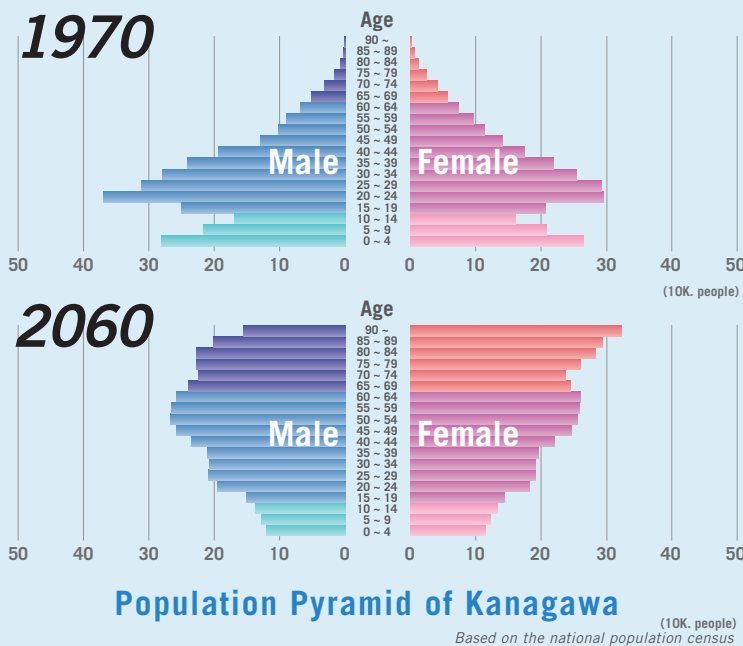
1st rank in Japan
for number of
employees in academic
and R&D institutions



Healthcare New Frontier Policy

Healthcare New Frontier (HCNF) is a package of policies developed by the Kanagawa Prefectural Government to assist everybody to live a long and healthy life in the face of the severe social changes resulting from the advent of the super-aged society.

Super-Aged Society Causing a Rapid Change in Population Structure



The advancement of an ageing society is a common concern among industrialized nations, with Japan experiencing the most rapid progress of an ageing society. Kanagawa is one of the fastest ageing societies in Japan.

Problems Arising from Changes in Population Structure

The current social welfare system with the working generation supporting elderly citizens will not be sustainable with the unprecedented changes in social structure demonstrated by the change in the population pyramid.

Dual Approaches to Solve the Issue of Population Ageing

Kanagawa Prefecture has been promoting the HCNF Policy in order to address the issue of population ageing. The HCNF Policy consists of two approaches: pursuing cutting-edge medical treatments and technologies, and managing ME-BYO.

Advanced Medical Technologies



iPS cell research



Life supporting robot
HAL®
Prof. Sankai,
University of Tsukuba/CYBERDYNE Inc.



Personal health record

Managing ME-BYO



Diet



Exercise



Social activities

Healthy Longevity

New Markets / Industries

Open Innovation Hubs in Kanagawa

① Kanagawa Science Park

Kanagawa Science Park (KSP) is Japan's first urban science park, located in an area with many cutting-edge companies and research institutions, just a 20-minute commute from central Tokyo.

Under the concept of "a hub where R&D-oriented companies are born, grow, and interact," approximately 120 companies are housed within its 55,362-square-meter site, employing about 3,900 people.

In collaboration with Kanagawa Institute of Industrial Science and Technology (KISTEC) located in this park, KSP serves as a hub for disseminating knowledge and information to foster the creation of new industries.



Photo by Kawasaki City Fire Department Aviation Firefighting Team

② KING SKYFRONT

KING SKYFRONT is an open innovation hub for life science in Tonomachi District of Kawasaki City, which is adjacent to Tokyo across Tama River. This area is a part of the National Strategic Special Zone and the International Strategic Comprehensive Special Zone. With an area size of approx. 40 ha, and a working population of more than 5,200, KING SKYFRONT is home to about 80 life science institutions. Tamagawa Sky Bridge, built in 2022, provides easy access to Tokyo (Haneda) International Airport in a fifteen-minute walk.

Life Innovation Center

Life Innovation Center (LIC) was established in KING SKYFRONT in 2016 by Kanagawa Prefecture to promote industrialization of regenerative medicine and cell therapy, a rapidly evolving field as next-generation medical technology. The tenants include cell manufacturers, companies and startups of regenerative medicine and peripheral industries.

School of Health Innovation

Graduate School of Health Innovation (SHI) was established in 2019 to foster human resources that can revolutionize social system and technology on the basis of ME-BYO concept.

The school provides innovative education including public health, technology, business, administration and practical training in healthcare-related fields, and offers the Master of Public Health (MPH) and the Ph. D. The classes are taught in both English and Japanese.



- Well-equipped R&D environment
- Functional and versatile common space
- Easily accessible to Haneda Airport
- Shared lab / Rental lab
- Foster venture business



Promoting cooperation among various technical seeds



To all over the world from Tokyo (Haneda) International Airport

Scheme

Purpose	Development of human resources that can create innovations in healthcare-related fields
Form of Installation	Graduate school of public health founded by Kanagawa University of Human Services
Address	Tonomachi, Kawasaki City, Kanagawa
Academic Degree	1) Master of Public Health (MPH) 2) Doctor of Philosophy (Ph.D.)
Terms of Study	1) 2 years 2) 3 years
Admission Capacity	1) 15 per grade 2) 2 per grade

③ Shonan Health Innovation Park



Shonan Health Innovation Park (Shonan iPark), established in 2018, is one of Japan's largest science parks. With a total floor area of approximately 300,000 square meters, it hosts a diverse range of companies and academia, including domestic and international pharmaceutical companies, biotech startups, cellular agriculture firms, and AI enterprises. This concentration of organizations fosters an ecosystem that accelerates innovation in the healthcare industry.

Kanagawa Prefecture, Fujisawa City, Kamakura City, Shonan

Kamakura General Hospital, and Shonan iPark are working together to achieve the following goals:

- Establishing a leading hub for health innovation in the Shin-Shonan area
- Implementing innovative ideas in collaboration with the local community
- Creating new business and startups in the healthcare industry

Advanced Medical Technologies

Approach

Japan has made a number of basic research achievements including the development of iPS Cells, but practical application of these research results is rather slow compared with the West.

Kanagawa is promoting measures to turn the results of basic research into practical application such as development of revolutionary drugs, advanced medical equipment and regenerative medical products, while stimulating the growth of the industries in these fields.

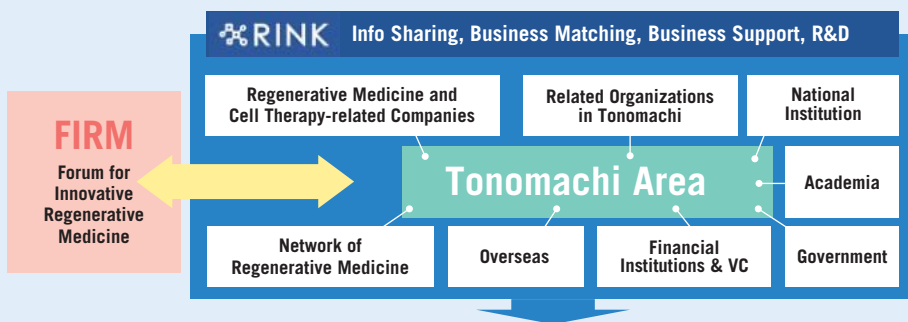
The objectives for combining Kanagawa's two approaches are to prolong people's healthy longevity, to expand areas for cutting-edge medical treatments, and to develop new business models in advanced medicine and the ME-BYO fields.

RINK

Regenerative medicine & cell therapy
Industrialization Network of Kanagawa



RINK is a network established for the purpose of promoting the utilization and industrialization of regenerative medicine and cell therapy. Based in the Tonomachi Area of Kawasaki City, this network aims to create innovation through collaboration with various entities such as academia and related organizations.



Accelerating industrialization of regenerative medicine and cell therapy from Kanagawa

Europe

- Finland (Oulu)
- Germany (Baden-Württemberg)
- UK (Cell and Gene Therapy Catapult)
- WHO

Asia

- Singapore
- India
- China (Liaoning)
- Vietnam

Kanagawa

In order to promote the ME-BYO concept New Frontier Policy, Kanagawa Prefecture overseas government agencies, organization prefecture aims to advance global business healthcare and life sciences. Kanagawa P Health Organization (WHO) to promote the l

Healthcare New Frontier Fund

For early realization of Healthcare New Frontier Policy, the prefecture has established Healthcare New Frontier Fund to enhance creation of the industries in the fields of ME-BYO and advanced medicine

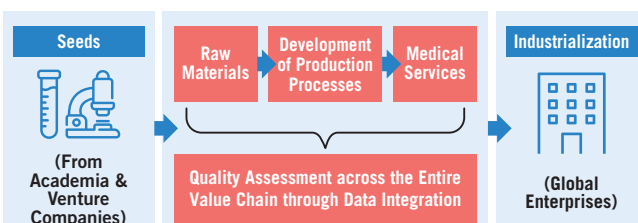
which have a high growth potential. The fund also supports ventures seeking solutions to social healthcare issues.

For the first time in the healthcare field, the prefecture has introduced the Social Impact Measurement for the purpose of developing the ventures. This leads to the higher enterprise value for investee ventures.

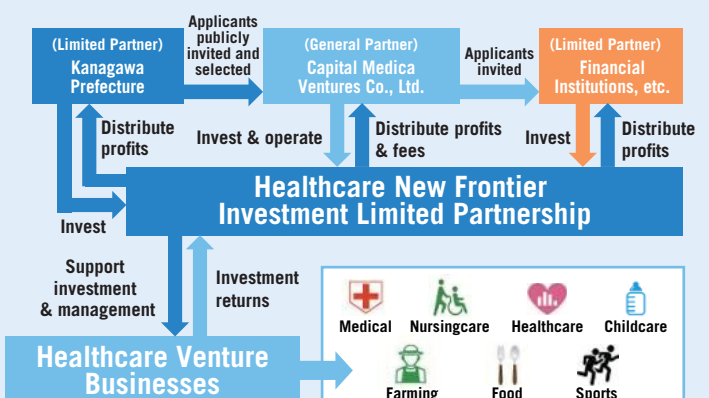
CReM TONOHANE



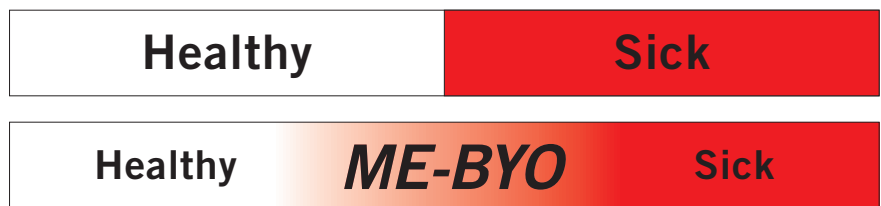
CReM TONOHANE (Cluster for Regenerative Medicine in Tonomachi Haneda) is based in the Tonomachi area of Kawasaki, Kanagawa and the Haneda area of Tokyo. It was established to promote the practical application and global expansion of regenerative medicine and cell therapy. By collaborating with industries, academia and the governments, CReM aims to develop safe and effective regenerative medicinal products and services both domestically and internationally.



Scheme



Approach Managing ME-BYO



Instead of clearly defining people's physical and mental condition as being either healthy or sick, under the concept of ME-BYO (未病), the physical and mental conditions evolve continuously between healthy and sick states, and ME-BYO applies to all conditions between being "healthy" and "sick."

Hence, in order to stay physically and mentally healthy, it is important for individuals not to wait until they become sick to take action. Rather, it is important for them to monitor closely their ME-BYO condition in daily life and take active steps to maintain and improve their physical and mental conditions. The prefecture is promoting initiatives to stimulate changes in their health awareness and behavior patterns.

U.S.A.
• Maryland
• Stanford Univ.

Japan

Global Strategy

and global collaboration in the Healthcare is building partnerships and networks with and academia. Through these efforts, the exchanges and opportunities in the field of Prefecture is also collaborating with World healthy ageing initiative globally.

ME-BYO Index in Collaboration with WHO

ME-BYO Index

Under the concept of ME-BYO, it is important that people work responsibly to manage their ME-BYO status by changing their behaviors into more healthy ones. To encourage their behavioral change, the prefecture has developed the ME-BYO Index.

The ME-BYO Index is a numerical value to indicate where people stand on the gradation scale between being healthy and being sick. The prefecture developed the Index in collaboration with academia and WHO. ME-BYO Index also has the future prediction function.



ME-BYO STYLE



ME-BYO STYLE Ambassadors communicate with women in their 20s to 50s regarding lifestyles that can easily incorporate ME-BYO management in their daily lives. Events are held in cooperation with municipalities and companies.



CHO

An initiative by companies to promote health management by appointing a CHO (Chief Health Officer) in the company and making health promotion for employees and their families a part of corporate management.



Spreading the ME-BYO Concept Worldwide

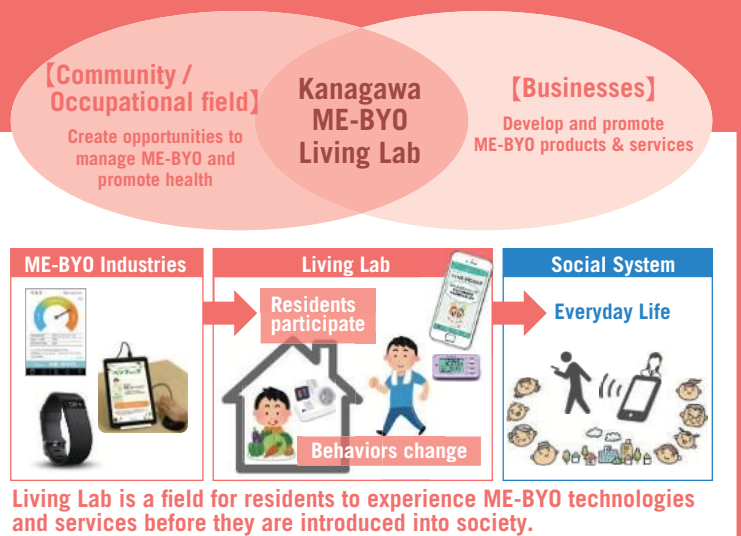
In order to spread the ME-BYO concept around the world, the prefecture has registered ME-BYO as an international trademark. It is publicizing the term ME-BYO in overseas exhibitions and other PR activities to raise its international recognition.

ME-BYO®

Kanagawa ME-BYO Living Lab

To build a new healthcare social system that addresses the challenges of a super-aged society, Kanagawa implements the ME-BYO Living Lab in cooperation with industries, government, academia and citizens. Kanagawa provides test fields where residents can safely experience ME-BYO management, while companies can evaluate the effectiveness of their products and services.

The prefecture provides support, including coordination with relevant organizations, establishing test fields, and recruiting participants, with an aim to foster higher-quality ME-BYO products and services for social implementation.



ME-BYO Industry

ME-BYO Industry refers to the industries that, in addition to conventional prevention and diagnosis, provide products and services for 'ME-BYO management' that optimizes conditions of whole body and mind. Kanagawa aims to build and expand ME-BYO Industry as a new business model in the super-aged society. The measures include establishing evidence, branding strategy, business matching, and social implementation projects through academia-industry-government collaborations.

Association for ME-BYO Industry



ME-BYO BRAND

Kanagawa certifies excellent ME-BYO-related products and services as ME-BYO BRAND.



One example is the wearable cyborg HAL® series and "Neuro HALFIT®," ME-BYO Management Program incorporating HAL. It is the world's first cyborg-type robot designed to improve, assist, augment, and regenerate physical functions. ME-BYO Management Training uses HAL for individuals who have difficulty walking unaided due to the aftereffects of accidents or ageing.

Exhibitions

demonstrating the advanced ME-BYO-related products and services



ME-BYO Summit Kanagawa

The ME-BYO Summit is an international symposium where municipalities, companies, and academia from Japan and abroad gather to communicate the concept of ME-BYO and the importance of managing ME-BYO as well as to discuss a wide range of topics including the future directions for initiatives of ME-BYO management and the vision of the future society.





Europe

- **Finland** (Oulu)
- **Germany** (Baden-Württemberg)
- **UK** (Cell and Gene Therapy Catapult)
- **WHO**

Asia

- **Singapore**
- **India**
- **China** (Liaoning)
- **Vietnam**

Kanagawa, Japan

U.S.A.

- **Maryland**
- **Stanford Univ.**

Global Strategy

In order to promote the ME-BYO concept and global collaboration in the Healthcare New Frontier Policy, Kanagawa Prefecture is building partnerships and networks with overseas government agencies, organizations and academia. Through these efforts, the prefecture aims to advance global business exchanges and opportunities in the field of healthcare and life sciences. Kanagawa Prefecture is also collaborating with World Health Organization (WHO) to promote the healthy ageing initiative globally.