

A STRATEGIC CITY FOR LIFE SCIENCES AND MEDICINE

The city of Osaka in Japan is making great strides towards becoming **AN INTERNATIONAL HUB** in biomedical innovation.

With many emerging technologies on the cusp of taking off, it's an exciting time to be working in biomedicine. For example, "through regenerative medicine, we're gradually reaching towards the point of being able to repair organs that were almost impossible to treat in the past," says Shizuo Akira, the president of Osaka Bio Headquarters, a bureau of industry-academia-government collaboration responsible for accelerating the growth of life-science industry in Osaka. "By further advancing genomic medicine, we may be able to predict which diseases people are likely to develop. Ultimately, I believe this will lead to individualized medicine tailored to each person."

Located in western Japan, Osaka is one of the world's most strategic places to ride the crest of the biomedical

revolution, thanks to its unique concentration of world-class medical facilities and research centres. Three of these lie at the heart of Osaka's strategy for medical technology: KENTO, also known as the Northern Osaka Health and Biomedical Innovation Town, the International Hub for Healthcare Innovation, which is scheduled to open in Nakanoshima, and Saito, a hub for drug discovery.

"This trio of biomedical centres in Osaka contributes to the city's highly conducive environment for research and development in the life sciences and biotechnology," says Akira.

COMMUNITY CENTERED

Based in a residential area, KENTO is a bold initiative in community medicine. Resembling a village more than

a medical centre, it boasts parks, wellness residences for the elderly, sports facilities, shops and restaurants.

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KENTO provides an ideal environment for trialling new products and services that are still under development, and it will have two national research institutes at its core: the National Cerebral and Cardiovascular Center, and the National Institute of Health and Nutrition, which will relocate from Tokyo by early next year.

"By creating a world-class medical cluster centered on

these two national research institutes, we anticipate many health and medical-care companies will establish a presence there," explains Akira. "We believe this project will foster innovation through encouraging collaboration between the community, industry and academia."

CUTTING-EDGE TECH

Located in Nakanoshima in central Osaka, Organization for Advanced Healthcare Innovation will advance biomedical innovation through promoting the practical application and commercialization of cutting-edge medicine based on regenerative medicine, genomic medicine, artificial intelligence, and the Internet of Things.

Furthermore, the International Hub for Healthcare Innovation —



▲ The National Cerebral and Cardiovascular Center, a core institute of KENTO.

scheduled to open in the spring of 2024 — will serve as a central base for these efforts at Organization for Advanced Healthcare Innovation. The new building, which is under construction, will be a medical complex that will include an R&D centre with wet labs, a hospital and clinics, and a conference centre. "The concept behind the International Hub for Healthcare Innovation is to promote the commercialization of regenerative medicine and other emerging medical technologies," explains Takeshi Oba, director of the Life Sciences Industry Division of Osaka Prefectural Government. "As its name implies, the centre will make international contributions by providing future medicine to patients in Japan and overseas."

DRUG-DISCOVERY HUB

Established in 2004 near Osaka University Hospital, Saito is a centre focused on discovering new drugs for tackling a range

of conditions. The area is now a major hub for research and development in life sciences, including biotechnology and pharmaceuticals.

The hub also hosts three incubation facilities, where pharmaceutical companies and biotech startups are concentrated. "The site's proximity to Osaka University has made it a major centre for companies that are conducting joint research with these research institutions as well as facilities that are developing research and technology in various fields of the life sciences — including biotechnology, pharmaceuticals, food and healthcare," explains Akira.

BIGGER PICTURE

In addition to establishing the three biomedical centres in Osaka, the Osaka Prefectural Government is promoting collaboration in the wider Kansai area, including the cities of Kyoto and Kobe, which are renowned for major medical

advances in areas such as regenerative medicine and immunotherapy.

The move supports the Japanese government's ambitious goal of making Japan the world's most advanced bio-economy society by 2030, through the formation of 'global bio-communities' that will lead the world in the field of biotechnology. In April 2022, the Kansai region was accredited by Cabinet Office as a Global Biocommunity. Known as Biocommunity Kansai (BiocK), this collaborative effort among research institutes, pharma companies and local government aims to attract talent and investment in the biotechnology field to the Kansai region and to create innovative products and services.

GLOBAL VISION

To showcase cutting-edge medical technology and life-science industries, the Osaka Prefectural and City Governments are planning

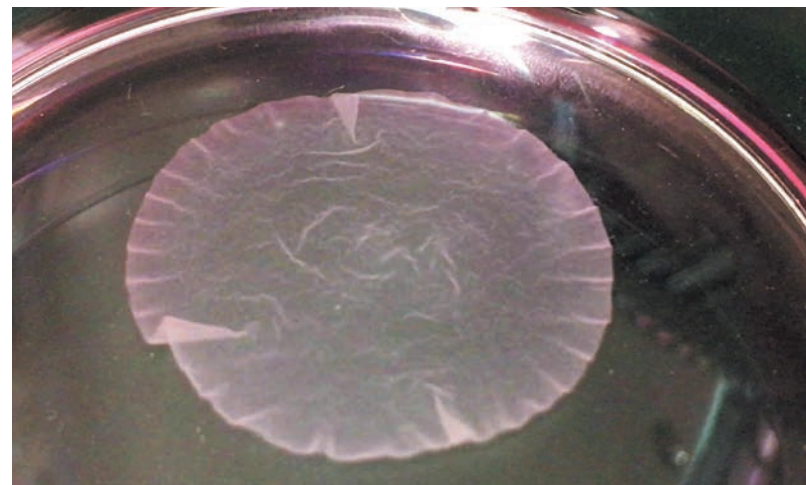
to have a pavilion on the concept of futuristic urban life at the World Expo in Osaka in 2025. This will be a perfect opportunity to show international visitors the exciting innovations in healthcare and medicine that are taking place here.

The city's vision is a global one, says Oba. "Through this strategy, we intend to develop life science and drug-discovery research in the broader Kansai region, and then to spread the strategy more widely across Japan and the world," he says.

Akira agrees: "By sharing information and collaborating with partners, each organization in our network supports researchers, start-ups and innovators," he says. "We hope to attract researchers and start-ups from around the world." ■



▲ Shizuo Akira (left) is excited about the potential of the field of regenerative medicine. Osaka University Hospital performed the world's first transplantation of iPS cell-derived myocardial sheets (right) on a heart-disease patient.



Osaka University