

Biotech Blastoff

An industrial cluster project in the Kinki region of south-central Japan is helping to position the lively local biotechnology industry and bio-related research environment as the driving force of the regional economy. **Tamura Mariko** reports.

The Kinki region is home to an impressive gathering of bio-related research institutions, including Kyoto University, Osaka University, and the Biomolecular Engineering Research Institute, as well as major pharmaceutical businesses such as Takeda Pharmaceutical Co. A number of local governments focus on the biotech industry as a means of revitalizing their local economies. Collaboration among the private, academic, and public sectors is therefore strong, and wide-ranging facility support is available. The Kansai Bureau of Economy, Trade and Industry (METI Kansai) is running an industrial cluster project in this high-potential area to promote the biotech industry, under the slogan of "Turning advanced technological seeds into businesses." It's called the Bio Five-Star Company & Tissue Engineering Project.

"The goal of the project is to help create business ventures and promote the growth of enterprises wishing to enter the global market," says Ito Tetsuro, head of the Bio-Industry Promotion Office at METI

Kansai. "The project offers positive policy support and information to leading midsize and smaller enterprises in the biotechnology field."

The Kinki Bio-Industrial Cluster Sectional Committee of the Kinki Bio-industry Development Organization (KBDO), which is a nonprofit organization, is positioned as the core promotional body of the project. KBDO was set up mainly by the late Yamamura Yuichi, a former president of Osaka University, other university researchers, and pharmaceutical companies in July 2002. Since 1985, its forerunner had been a non-judicial entity under Osaka Science & Technology Center. It was reorganized into a judicial organization in April 2003 and has around 230 member companies.

"The region has as many as 34 universities with bio-related departments and around 2,300 bio-related university researchers. It also has four leading pharmaceutical manufacturers and other companies with advanced capital and technical capa-

bilities in the chemical, food, fibers, precision equipment, and other industries. Moreover, some small and midsize businesses with excellent technical strength based in the city of Higashi Osaka and elsewhere in the region are entering the bio-related industry. It is possible to promote industrial development with core technology combined with peripheral techniques," explains Ito, who stresses that the Kinki district has significant potential in terms of biotechnological research.

In fact, the Kinki biotech program actively advertises for applications for public subsidies of the Ministry of Economy, Trade and Industry aimed at incubating and cultivating biotech ventures. It also offers assistance to research and development projects after approval for subsidization in collaboration with Osaka Science & Technology Center.

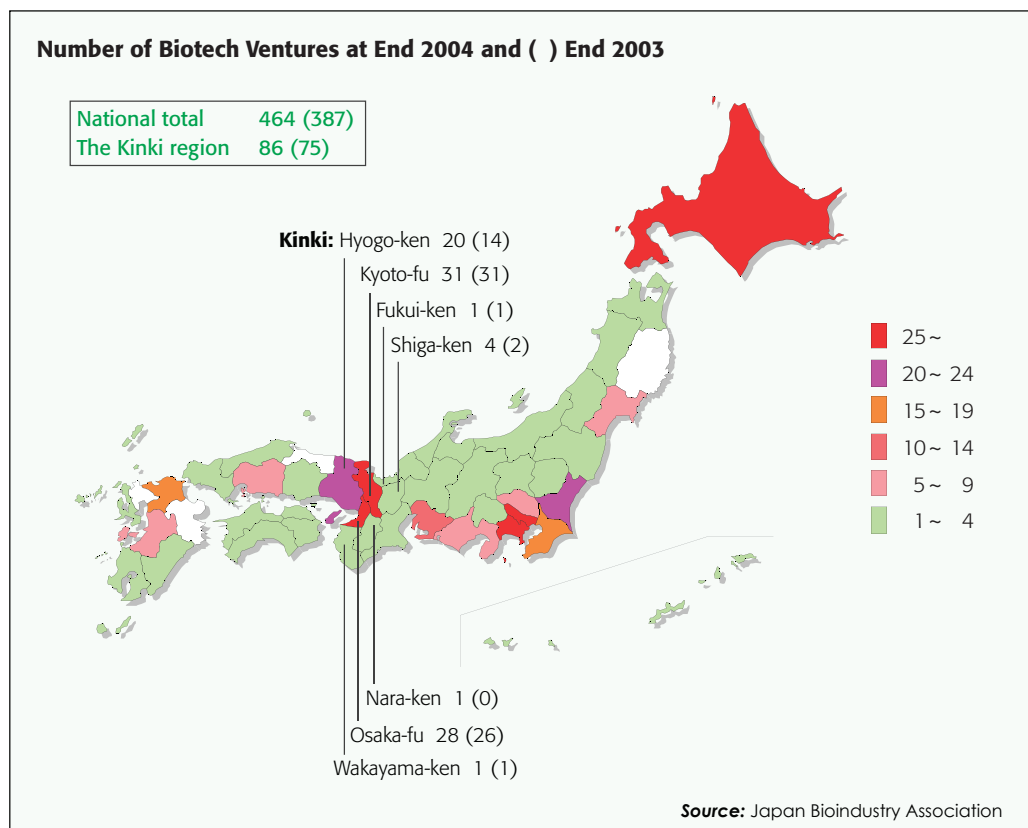
Fueling Optimism

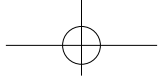
Major activities of the project include the operation of the Network Promotion Committee and the Coordinator Committee, both of which run under the aegis of the Kinki Bio-Industrial Cluster Sectional Committee. To establish the network, the Network Promotion Committee deliberates on projects, surveys, and funding plans that are needed for industry-government-academia collaboration in the bio-related industry.

Consisting of young researchers, including graduate students, and post-doctoral researchers, as well as of venture capital and audit corporations, the Coordinator Committee evaluates the business feasibility of new products and technologies, to report the results to the Network Promotion Committee.

In addition, the project organizes open public conferences for the seeds of biotechnology and follow-up study groups as part of its collaboration promotion activities. Open public conferences offer an opportunity of making a ten-minute presentation of the outline for each seed. They also include a poster session and time for personal questions and answers and exchange with interested participants in the exchange meeting. Other activities include research into seeds and needs, international symposia, and meetings for presentation of research papers.

Among these events, the Japan Biotechnology Business Competition has been discovering potential business opportu-





COURTESY OF MORISHITA RYUICHI



Professor Kondo Akihiko of Kobe University (partly obscured) and Ohnishi Noriyuki from Chisso Corporation receive their prize in the Fourth Japan Biotechnology Business Competition, April 2004

nities from Japan and overseas and turning research results into businesses. Dr. Morishita Ryuichi, a member of the evaluation board and a professor for the Division of Clinical Gene Therapy at Osaka University Graduate School of Medicine, comments, "We will see biotech technologies find a great deal of practical application in the future. The results of the activities in the Kinki bio-related project are such that we can feel proud of them and optimistic about future development."

In fiscal 2004, sixty-two business plans were submitted as entries for the competition. Winners of the first prize included the presentation by Professor Kondo Akihiko of the Faculty of Engineering at Kobe University and Ohnishi Noriyuki from Chisso Corporation entitled "Development of Thermo-Responsive Magnetic Nano Particles and their Application to Biotechnology."

The project is steadily stepping up its efforts to provide financial support and seek out business plans. These efforts include affiliations with bio-venture investment funds. The JAIC Bio First Limited Liability Investment Association is set to invest primarily in biotech ventures that last seven years or less, especially those still at an early stage.

Start-ups and Alliances

The Kinki Bio-Industrial Cluster Sectional Committee has been continuously dedicated to these activities since it was still a non-judicial body. As a result, several biotech ventures have come into being since 1999. It is not surprising to hear that nearly 40 percent of the 100 university-created business ventures in the Kansai region belong to the biotechnology sector.

They include Green Bio, Inc. established in 1999, AnGes MG, Inc., also started in 1999, Gene Design, Inc., which got underway in 2000, Bio Energy, Co, Ltd., founded in 2001, and Kringle Pharma, Inc., also established in 2001. Green Bio devel-

ops biodegradable plastics from biomass, while AnGes provides genetic medical care solutions, Gene Design develops synthetic gene production technologies, Bio Energy produces bio-diesel fuels by the enzyme method, and Kringle Pharma develops medications for tumor dormancy therapy.

Other biotech ventures have emerged since 2002, including GenomIdea, Inc., which develops polymer introduction technologies, and BioLeaders Japan Corporation, which develops functional lactobacilli.

In addition, the Committee has been pushing the evolution of technological seeds into businesses by means of procuring research funds.

As part of its assistance in the application for the research and development support scheme, it provided support for an application of the development of energy-saving technology to produce poly-L and -D lactic acid materials from biomass, for adoption as a consortium R&D project for regional revitalization by METI Kansai in fiscal 2003.

Morishita explains that behind the steady progress of the Kinki biotech proj-

businesses are based in the R&D Center of As One Corporation and in the Kansai Industry-Academia-Government Collaborative Research Building. Put into operation in July 2004, the Saito Life Science Park has all the facilities needed for incubation of university business ventures and accommodates several bio-related business ventures that originate from the Kinki biotech project. Many enterprises and research institutions from the Kobe Medical Industry Development Project have also launched their businesses at the Saito Life Science Park.

"The Kinki region has a well-balanced combination of three cities with their own characteristics: Osaka with drug discovery, Kyoto with its collaboration of medicine and engineering, and Kobe with regeneration medicine. This project is about to produce effects. If the industrial cluster proceeds with technical partnership and business expansion, the whole area will be revitalized," insists Morishita. He is convinced that the biotech industry will be the driving force of the region.

"This region has three advantages: a dense accumulation of research resources, an accumulation of unique small and medium enterprises, and diversity and profundity

Saito Life Science Park

Saito Life Science Park (SLSP) houses R&D facilities that support high-level experiment while endorsing international exchange of talent and information and promoting the advancement of life science in the coming era. Additionally, it functions as a frontier for utilizing new findings to best serve the community. Furthermore, SLSP acts as the neighboring Osaka University's "Research Park."

Source: Saito Life Science Park



Transparency to the fore at the SLSP head office of biotech venture AnGes MG, Inc.

COURTESY OF MORISHITA RYUICHI

ect there is sound collaboration with bio-related projects operated by local governments such as Osaka Prefectural Government and Kobe City Government, and with the intellectual cluster program of the Ministry of Education, Culture, Sports, Science and Technology.

There are many programs underway for exchange with overseas bio-related institutions. Taking advantage of the industrial exchange project of the Japan External Trade Organization (JETRO), they support exchange with fifty-one organizations in fourteen countries. Included is an industrial exchange with Scotland in the field of medical care and medical and welfare equipment that commenced three years ago.

Alliances with bio-related incubation facilities are growing. Biotech venture

of manufacturing," says Ito. He hopes that the regional accumulation with ample diversity will accelerate innovation among different industries.

Morishita points out that there is little time allowed for preparing to win the development race with overseas enterprises. So it will be a challenge to establish a framework for ensuring that research achievements in biotechnology and other advanced technologies lead to drug discoveries and actual medical care.

Let's hope that a world-class biotech venture does emerge from the Kinki region. ■

TAMURA Mariko is a bureau chief of the Japan Academic Society for Ventures and Entrepreneurs.

