

Technopolis Construction Concept: To Bring High Technology to Provincial Regions; Door Will Be Open to Foreign Firms, Too

By Hidetatsu Furutate

Hidetatsu Furutate, born in 1943, is an economics correspondent for Nihon Kogyo Shimbun. Joining the industrial daily after graduating from Chuo University, he has covered international business at the foreign news desk and electronics and energy at the industry desk. He currently covers trade problems at the Ministry of International Trade and Industry.

"If a corporation is interested in advancing into Japan, it is important for it to direct its attention to the Technopolis concept promoted by the Ministry of International Trade and Industry," says J. Coleman, president of Recognition Equipment (Japan) Inc., a wholly-owned subsidiary of Dallas-based Recognition

Equipment Inc., the top-ranking U.S. optical character reading (OCR) equipment manufacturer. Recognition Equipment (Japan), which is currently engaged only in import, sales and maintenance of OCR equipment, plans to start OEM (original equipment manufacturing) production in Japan shortly, constructing its own factory and research laboratories. Coleman must have felt that MITI's Technopolis concept fits in with his company's corporate strategy.

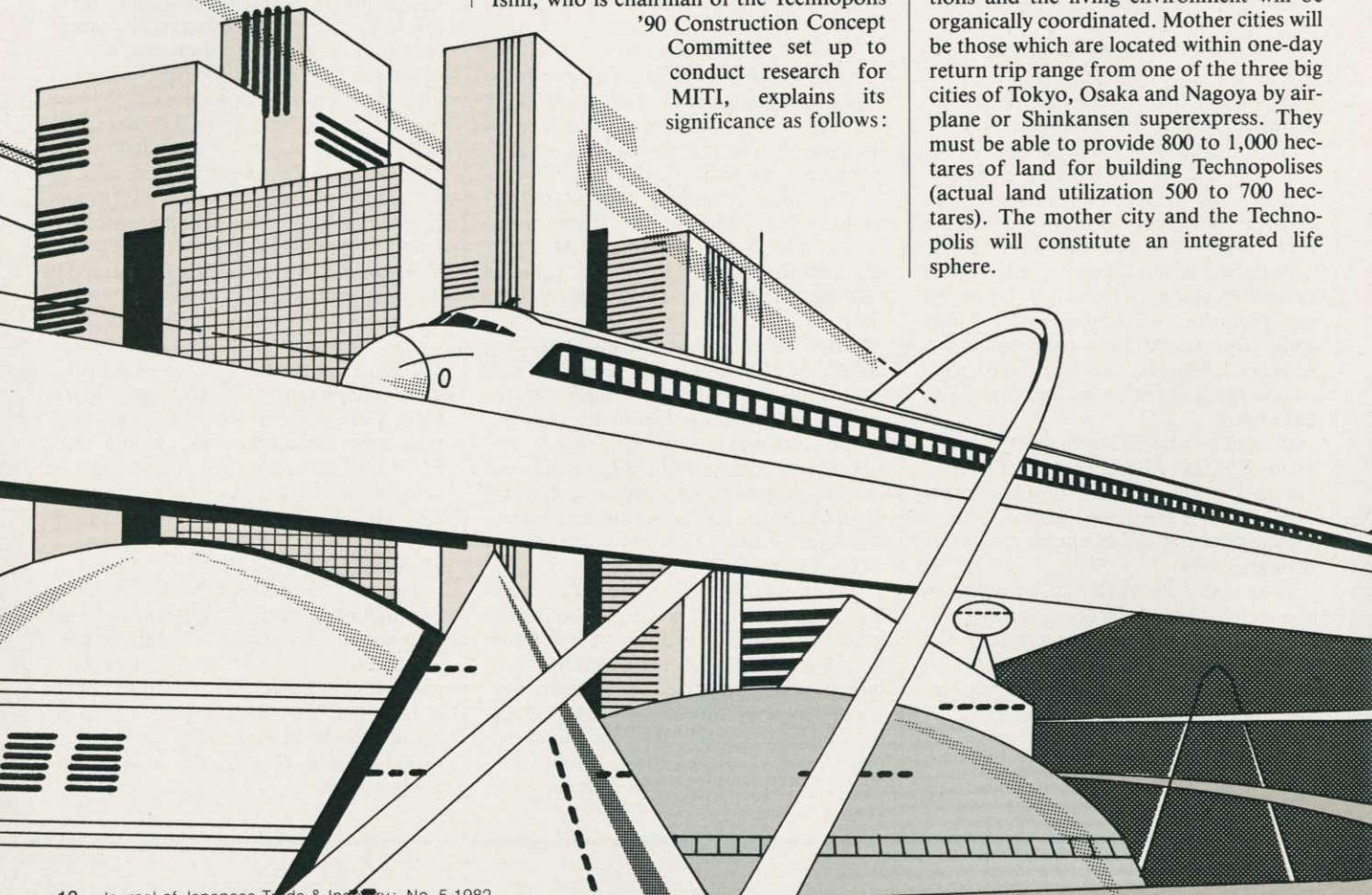
Ever since the Japanese Government declared its intention to open the Japanese market completely, MITI has received a steadily increasing number of inquiries about its Technopolis concept from foreign businessmen in Japan, typified by Coleman.

What then is the Technopolis concept? Tokyo University professor Takemochi Ishii, who is chairman of the Technopolis '90 Construction Concept Committee set up to conduct research for MITI, explains its significance as follows:

"The Technopolis concept aims to establish technology centers throughout Japan to advance regional polarization and development, and in this context it could be the start of the 'regional era'."

He went on to explain: "At the same time, it is a project that could stimulate domestic demand and is one of the steps for restoring Japan's economic vitality without creating friction with other countries."

The Technopolis concept was conceived as a means of cultivating advanced industries as the backbone of the Japanese economy in the 21st century. In its report on the basic concept, the committee recommended that new cities be created with existing regional cities of more than 200,000 population as their core (mother city). High technology industries, academic and scientific research organizations and the living environment will be organically coordinated. Mother cities will be those which are located within one-day return trip range from one of the three big cities of Tokyo, Osaka and Nagoya by airplane or Shinkansen superexpress. They must be able to provide 800 to 1,000 hectares of land for building Technopolises (actual land utilization 500 to 700 hectares). The mother city and the Technopolis will constitute an integrated life sphere.



As for the high technology industries to be situated in a Technopolis, the following 14 industries were recommended: (1) aircraft, (2) space, (3) optics, (4) biotechnology, (5) medical electronics (ME), (6) industrial robots, (7) integrated circuits, (8) computers, (9) word processors, (10) metal-based new materials, (11) fine ceramics, (12) medicine and medical supplies, (13) industrial machinery and (14) software.

Local autonomous bodies, economic organizations and private enterprises have shown great interest in MITI's Technopolis concept. It was originally expected that basic research and surveys would be conducted on about seven or eight candidate sites for Technopolis cities. Eventually the number rose to 19, covering all Japan from Hakodate in Hokkaido to Kokubu-Hayato in Kyushu. Kenichi Imai, professor at Hitotsubashi University and chairman of the R&D Subcommittee of the Technopolis '90 Construction Concept Committee, excitedly remarked: "Leaving the technical aspect aside, we conducted our study mainly from the economic aspect. We were surprised by the enthusiasm shown for this project by the local authorities. Never before have they given so much serious thought to regional development as they do now."

Local authorities, on their part, have good reason to become enthusiastic about the Technopolis concept.

Its attraction is entirely different from that of the old regional promotion measures under the New Industrial City Promotion Law (1962) and Industrial Improvement Special Regional Development Promotion Law (1964) of the days of high economic growth in the past. The New Industrial City Promotion Law promoted

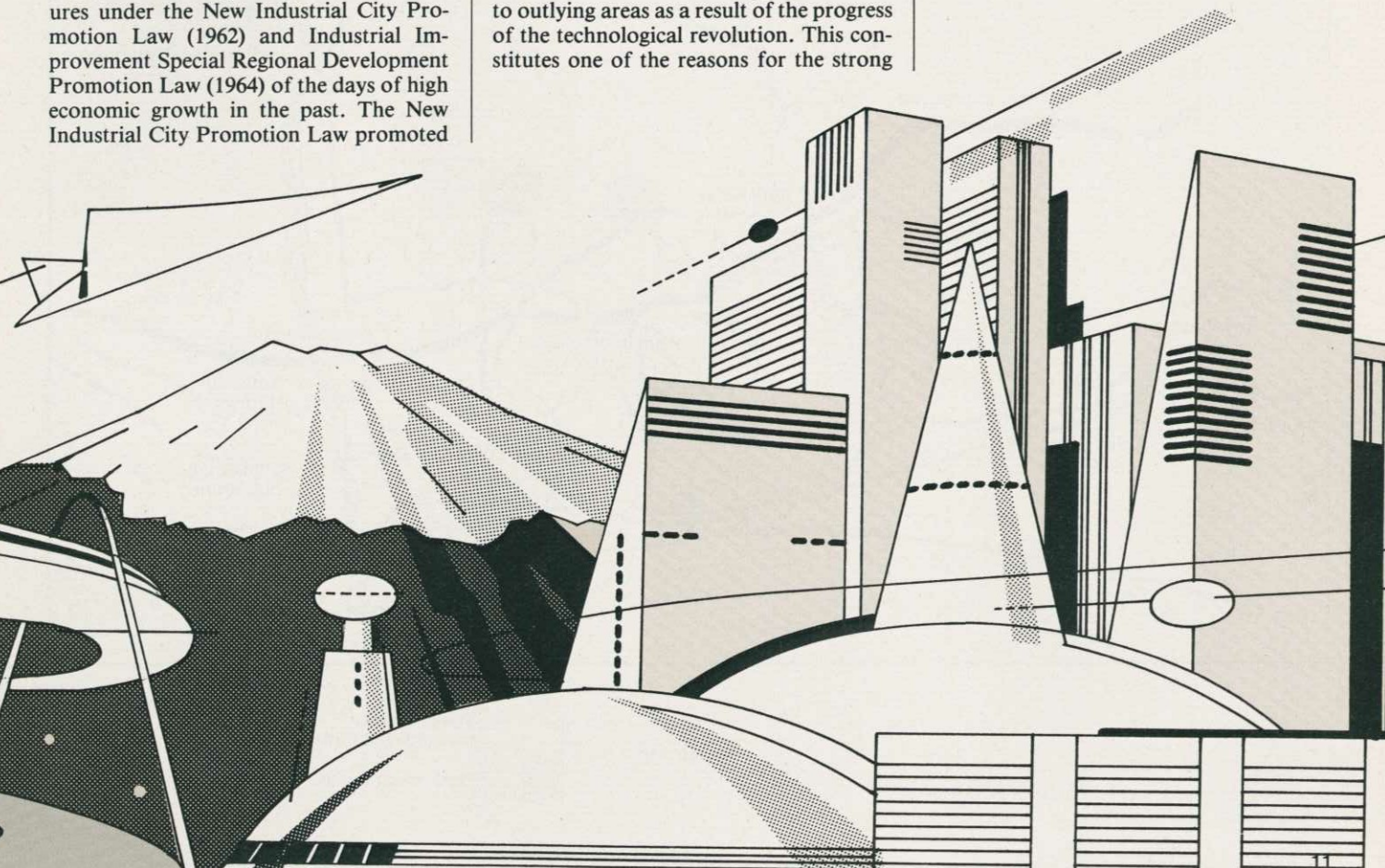
the construction of bases for resource-intensive key industries which required the construction of industrial infrastructure such as ports and harbors, huge tracts of land, and a large-scale industrial water supply system. The Technopolis concept, on the other hand, is aimed at constructing bases for "technology" centering around footloose high-technology industries. In other words, whereas the new industrial city concept attached priority to hardware, the Technopolis concept attaches greater importance to software, consisting of the three major elements of manpower, technology, and information, according to the explanation given by Genichi Fukuhara, director general of the Industrial Location and Environmental Protection Bureau of MITI. To put it plainly, the enthusiasm of the local authorities stems from their great expectation that their towns will become technology-intensive cities dependent on high technology industries.

This is not all. With the progress made in the switchover to knowledge-intensive industries and in the accessibility of technology, there is a possibility of a "grass roots technological revolution" taking place in Japan. This is evident from the fact that not only big enterprises but also many small and medium enterprises are vigorously trying to raise productivity and to reduce production costs by relying more on electronic equipment, computers and robots. It has become extremely easy for small and medium enterprises to move to outlying areas as a result of the progress of the technological revolution. This constitutes one of the reasons for the strong

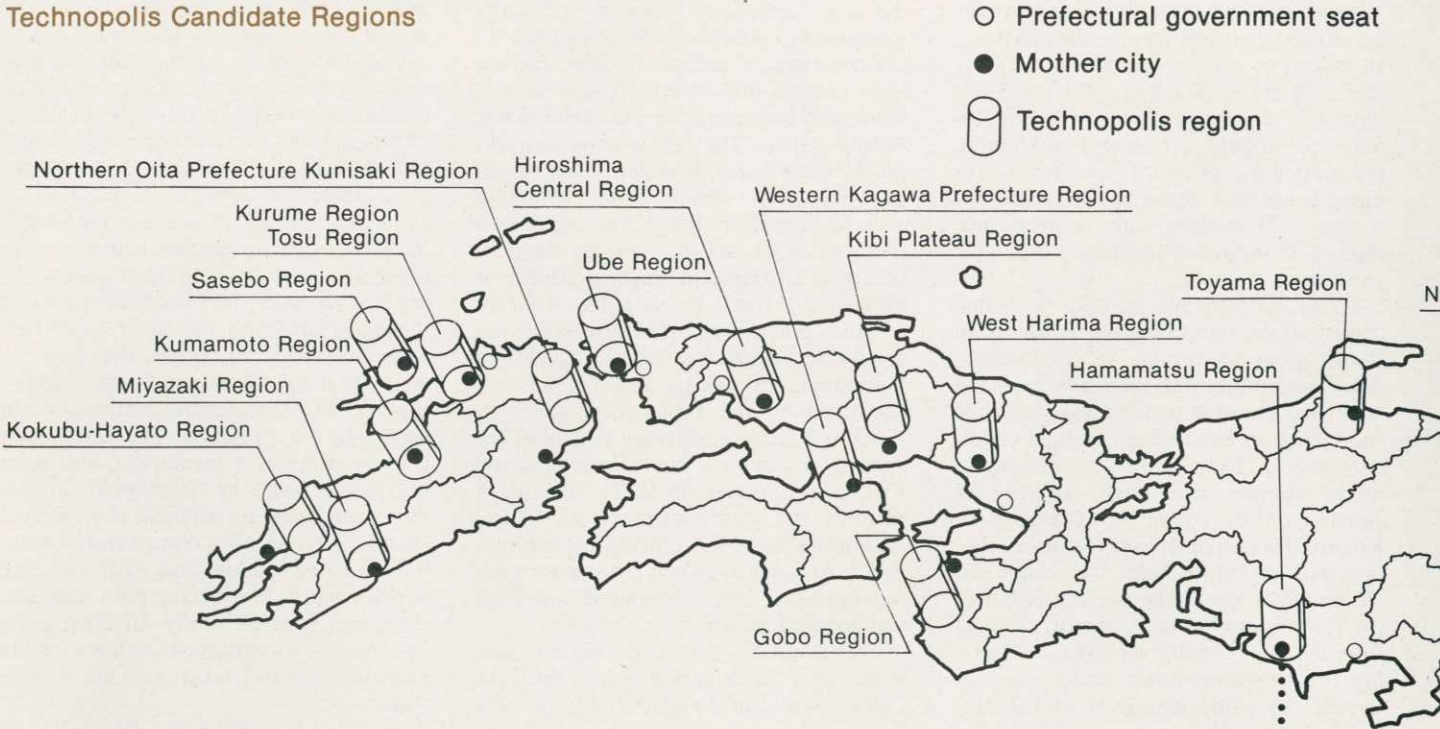
interest and enthusiasm shown in the Technopolis concept by local authorities.

The Technopolis concept aims in particular at dispersing technology and R&D functions as well as production facilities. "Consequently, the Technopolis concept," says Fukuhara, "can create in regional communities attractive opportunities for employment in which workers will be able to display their originality and can make regional economies genuinely independent." At the same time, Technopolis is one means of attaining the basic conditions necessary for a comprehensive environment for man's life originally envisaged in the Third Comprehensive National Land Development Program. Fukuhara adds that by promoting technology industries in regional areas, the Technopolis concept "also can assist in realizing the national economic target of making Japan a technology-based nation and thus ensuring her survival." The Technopolis concept, therefore, is significantly different from the regional development policies of the past not only in background but in substance.

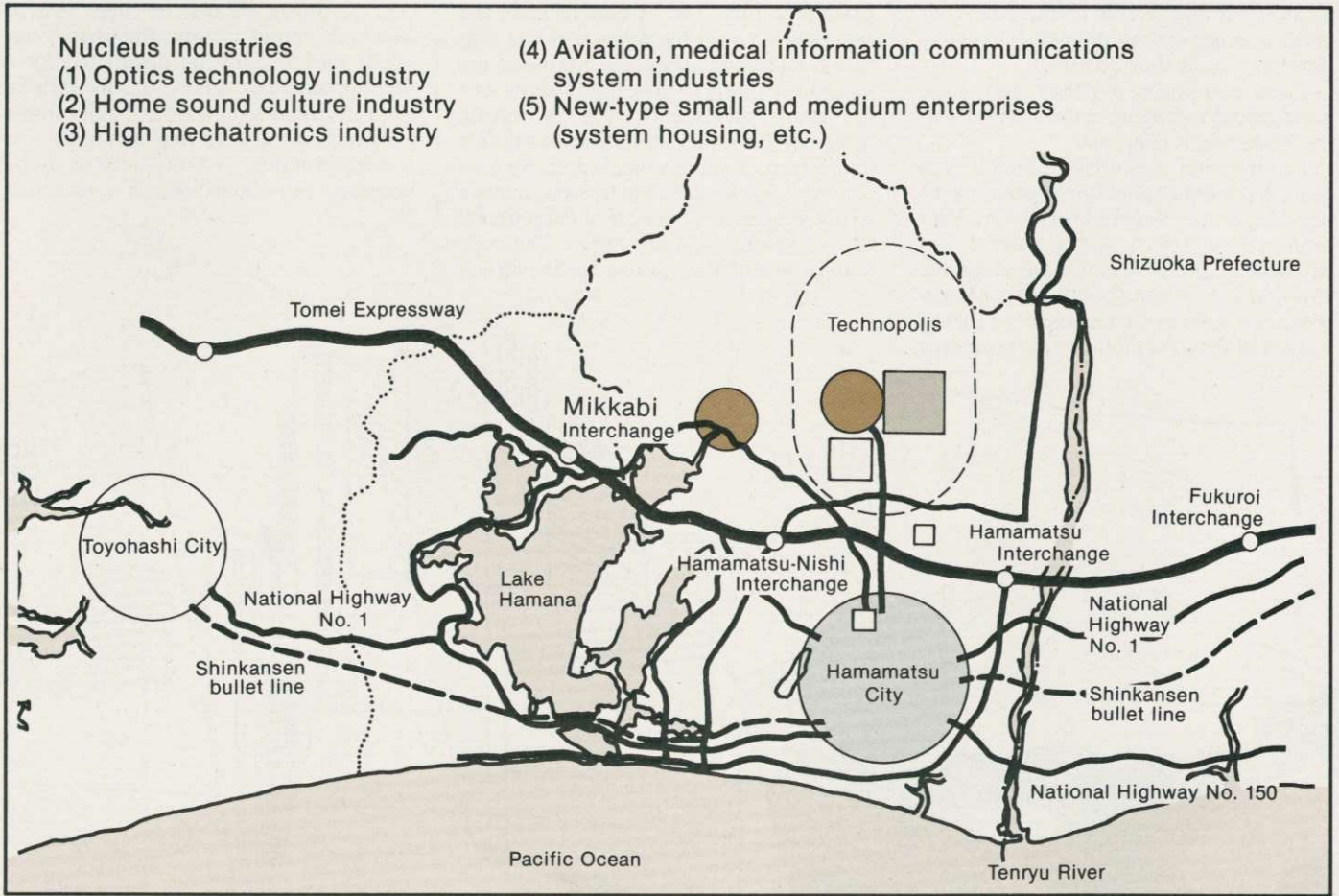
Regional authorities are showing great interest and zeal in the Technopolis concept obviously because of these reasons and background factors. But that is not all. If their regions are designated for a Technopolis, they can expect, in addition to preferential treatment in public works projects, central government support and assistance in many aspects, such as fiscal, taxation, and financing, in connection



Technopolis Candidate Regions



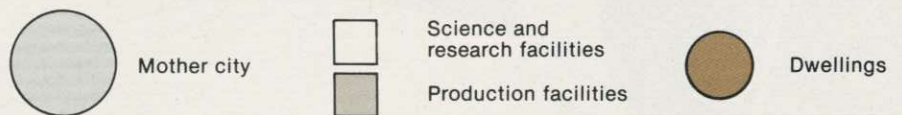
Hamamatsu Technopolis (Shizuoka Prefecture)

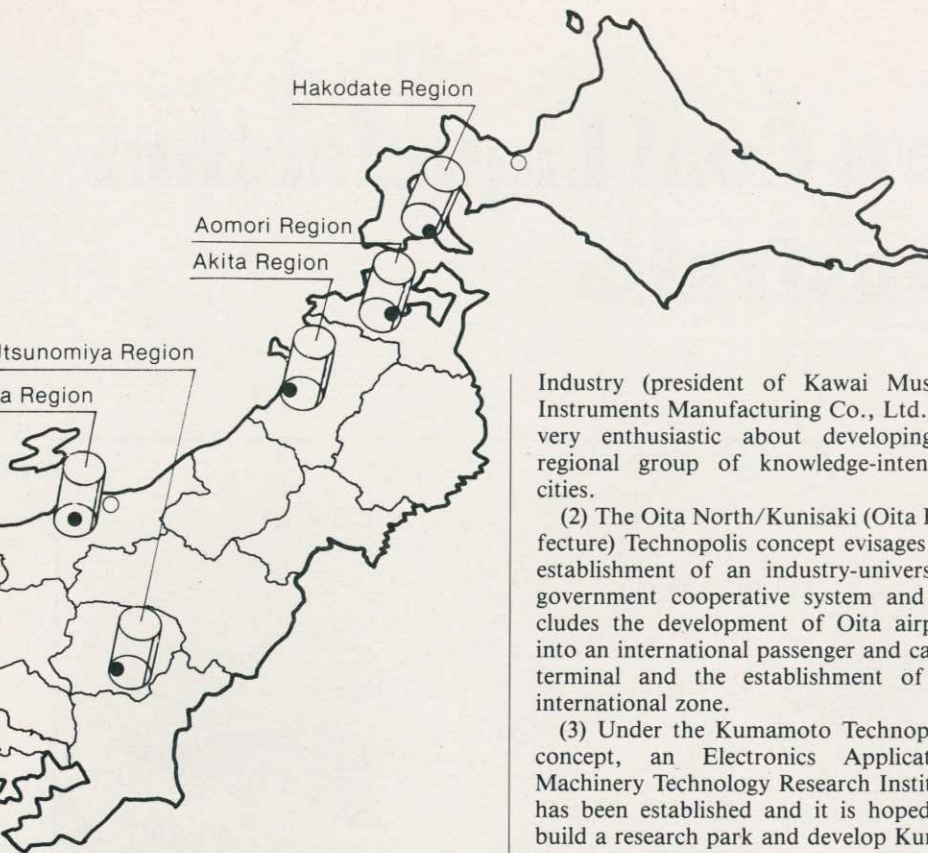


Nucleus Industries

- (1) Optics technology industry
- (2) Home sound culture industry
- (3) High mechatronics industry

- (4) Aviation, medical information communications system industries
- (5) New-type small and medium enterprises (system housing, etc.)





with the relocation into their regions of private enterprises and the construction of plants and facilities.

As Fukuhara remarked: "Local authorities involved in the new industrial city program of the past looked to financial aid from the central government. However, this time it is the policy of the Technopolis concept promoters to have local governments finance the construction of Technopolis, because the national government is deep in the red." Whatever MITI's thinking, however, many regional authorities are in fact anticipating "assistance and financial aid, both tangible and intangible, from the central government."

At any rate, 19 places have announced their candidacy as sites for the construction of new Technopolis cities, each with its own aims and expectations. Each candidate site is now writing a scenario to put itself in a good light.

Given below are some of the more noteworthy scenarios:

(1) The Hamamatsu (Shizuoka Prefecture) Technopolis concept has the catchphrase "sound, light and color." This catchphrase stands for the sound of music representing the musical instrument industry, light representing optics technology, and color representing the textile fashion industry. In concrete terms, the Hamamatsu region aims at promoting joint research in high technology through the establishment of a general research institute of optical information technology, while creating an arena for exchange of international culture, information, and fashion. Shigeru Kawai, president of the Hamamatsu Chamber of Commerce and

Industry (president of Kawai Musical Instruments Manufacturing Co., Ltd.), is very enthusiastic about developing a regional group of knowledge-intensive cities.

(2) The Oita North/Kunisaki (Oita Prefecture) Technopolis concept envisages the establishment of an industry-university-government cooperative system and includes the development of Oita airport into an international passenger and cargo terminal and the establishment of an international zone.

(3) Under the Kumamoto Technopolis concept, an Electronics Application Machinery Technology Research Institute has been established and it is hoped to build a research park and develop Kumamoto airport into an international airport and air cargo terminal.

(4) The Central Hiroshima Technopolis concept aims at building an "innovation city" which blends academic research and technology in green surroundings.

(5) The Nagaoka Technopolis concept in Niigata Prefecture includes the establishment of a Nagaoka Technopolis development organization which will assist and promote venture businesses.

MITI has already selected the regions for which development concepts will be worked out. The selection was made on the basis of four elements emphasized in the interim report compiled by the Technopolis Committee (chaired by Sadakazu Shindo, board chairman of Mitsubishi Electric Corp.), a personal advisory body to the director general of MITI's Industrial Location and Environmental Protection Bureau. The four elements which the committee said are necessary are: (1) the possibility of attracting and nurturing an industry which can become the nucleus of the region; (2) the possibility of establishing ample R&D facilities; (3) the capability of conducting R&D through the cooperation of industry, university and government; and (4) a concrete plan for building a good living environment, including educational facilities for the children of the researchers and technicians. MITI plans to designate some of the regions as possible recipients of subsidies in fiscal 1983.

Toru Kobayashi, director of MITI's Industrial Relocation Division, says that those regions which are not designated this time will be added to the list in accordance with the progress they make in improving conditions for the four ele-

ments above. In other words, MITI's intention is to carry out the program over the long term, designating regions by stages in accordance with the progress made in creating the necessary environment.

In order to encourage the development of local ventures, it is planned to establish a Technopolis development organization consisting of local autonomous bodies and economic organizations and to give financial assistance and other support through this organ.

Under study at the same time is the creation in MITI of what is temporarily being called The "Regional Internationalization Promotion Office" to stimulate the advance of foreign enterprises into Japan, including Technopolis regions. This office will coordinate organizations concerned such as JETRO and the Regional Promotion Corporation and conduct such activities as supplying information, assisting in obtaining industrial sites, and providing guidance in industrial development. Also under study is the use of the credit system of the Japan Development Bank.

MITI has clearly shown that it "welcomes wholeheartedly the advance into the Technopolis region" of not only big business but also smaller businesses and small and medium foreign enterprises, according to Kobayashi. A "new city" to be built through the cooperation of MITI, local governments and economic organizations certainly should be attractive to foreign capital interests.

On the other hand, the Technopolis concept is also having its birth pains. For one, the price of land in the planned regions is rising sharply. For another, business corporations are saying, as a top executive of a major electrical machinery manufacturer put it: "When we consider the education of the children of research and technical staff, we would prefer to have our research facilities located within the urban sphere of big cities." Existing data show that this is the frank opinion of more than 60% of private enterprises. There is also the problem of obtaining a consensus among the various government departments. Then, there are voices demanding that the position of Technopolis be clarified within the existing laws. On top of all this are the current fiscal difficulties of the government.

On the other hand, the government is fully cognizant of these problems in pushing the Technopolis concept. Moreover, it is clear to anyone that the concept will become an effective trigger for reactivating regional economies. Thus, if there is a consensus in the government centering around MITI and if the regional community has the awareness and the enthusiasm, it is certain that the creation of new industrial cities will materialize in preparation for the 21st century. ●