

# **Activating Industrial Clusters – On-the-spot Experience**

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(METI)

# Transition of regional industrial policies

## Postwar recovery period

**Recovery of four big industrial areas (Tokyo, Nagoya, Osaka, Kyushu)**

**Development of Pacific belt zone**

## 1960's

**Issues : Excessive concentration in four big industrial areas**

**Promoting heavy chemical industries in coastal zone**

**Laws : New industrial City Construction Promotion Law**

**Law on the Promotion The Development of Special Region for Industrial Development**

**Factory and others Restriction Law**

## 1970's

**Issues : Regional imbalances(income,employment,etc)**

**Environmental pollution**

**Deconcentration of factories**

**Laws : Industrial Relocation Promotion Law**

**Factory Location Law**

## 1980's

**Issues : Tertiary industrialization, High-value added economy**

**Inward industry complex of processing and assembly industry: Techopolis**

**Laws : Law for Accelerating Regional Development Based upon High-Technology Industrial Complexes (Technopolis Law)**

**Law to Promote The Group-Sitting of Designated Types of Businesses Contributing to More**

**Sophisticated Local Industrial Structure**

## 1990's

**Subjects : Hollowing out of industries**

**Support for new businesses with high growth rates**

**Self-sustained development based on existing industrial accumulation in regions**

**Laws : Law on Temporary Measures for Activation of Specific Regional Industrial Agglomeration**

**Law on Improvement and Utilization in City Center**

**Law on for Facilitating the Creation of New Business**

# Industrial Cluster Plan

## Background

- **Changes in international competition environment**
- **Collapse of Keiretsu relationship between big enterprise and small- and- medium sized enterprises**
- **Isolation of enterprises in local areas in spite of their high technical capabilities**
- **Checkmate of traditional regional industrial policy focusing moves of factories**
- **Application of the cluster theory**

## Definition

**“A cluster is a geographically proximate of companies and associated institutions in a particular field, linked by commonality and complementary**

**Michael .F.Porter. On Competition**

## Contents of Project

- **Formation of Human networks in regions**
- **Implementing supportive measures for cluster enterprise**

# Industrial Cluster Plan Project

## Main participants

- **Enterprises (5000 small-and- medium enterprises)**
- **Universities (200 universities)**
- **Bureaus of Economy and Industry of MATI (500 officials)**
- **Network organizations ,Secretariats**

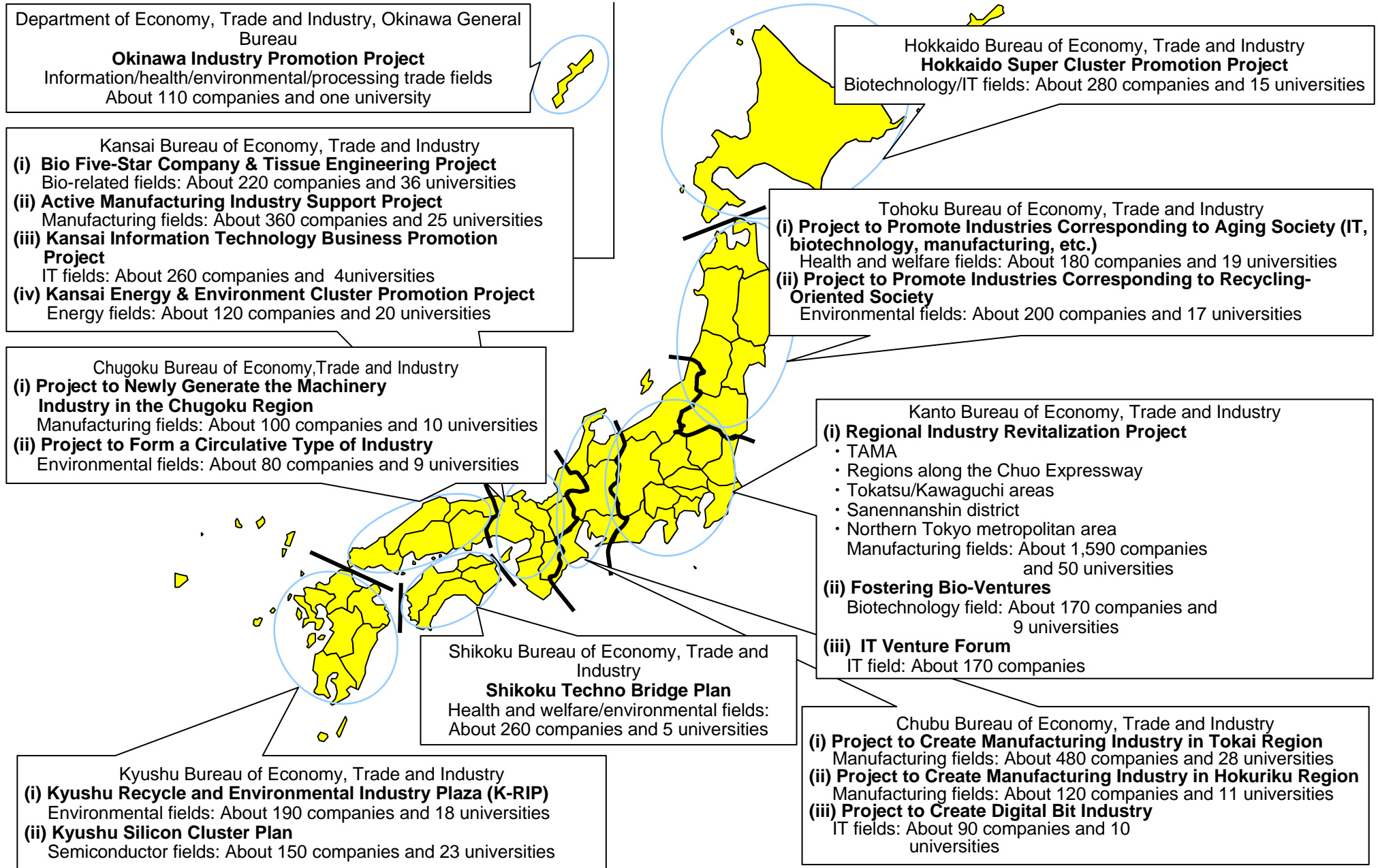
## Contents of activity

- **Support for academic, business, government circles**
- **Exchange program, seminars, workshops**
- **Promotion of exchange and cooperation helped by coordinators**

## Effect of Industrial Cluster Plan

- **Higher productivity**
- **Induced innovation**
- **Development of new businesses**

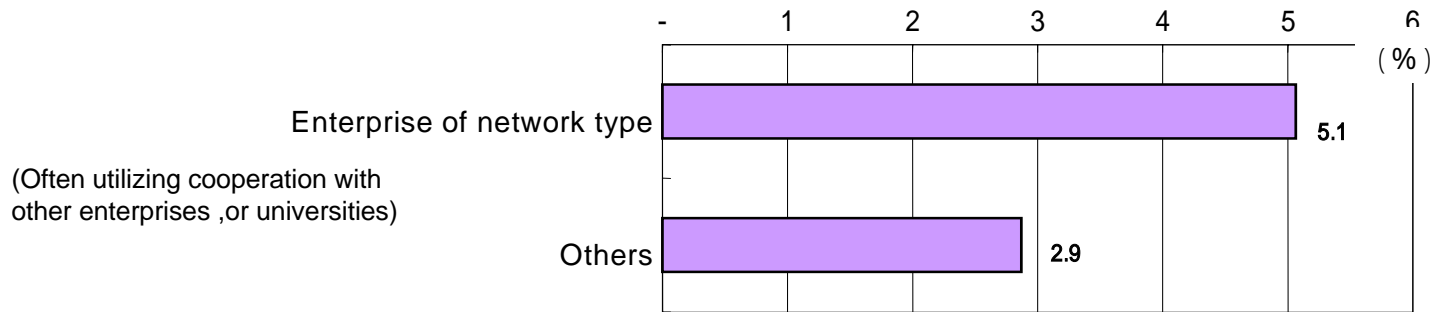
# - 19 projects nationwide, 5,000 companies and 200 universities -



# Networks in clusters :survey on Japanese enterprises (METI)

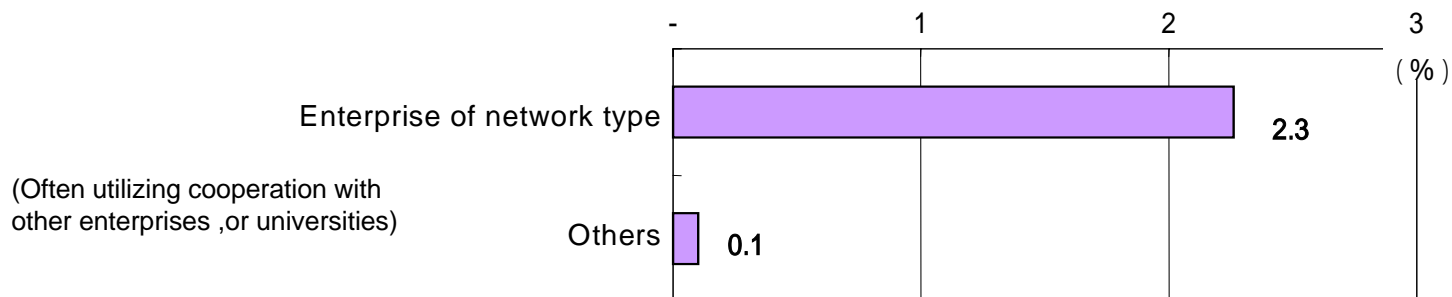
## Higher R&D investment rate of network-typed enterprises

The R&D investment rate against sales



## Higher growth rates of sales of network-typed enterprises

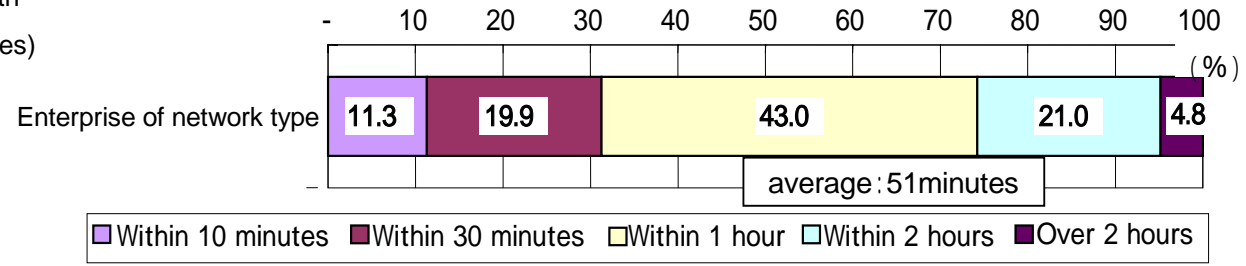
The sales growth rate



# Network cooperation reality: Time distance within two hours, face to face contacts

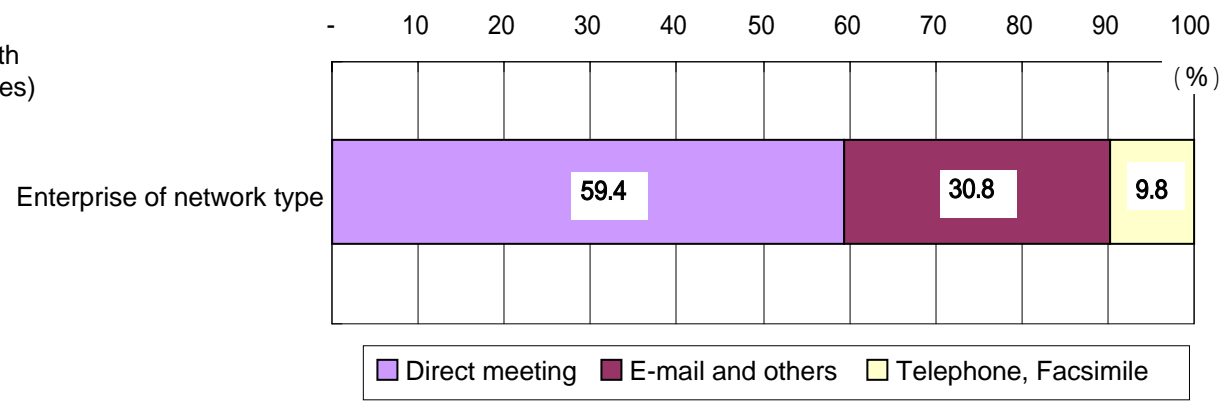
## Time distance

(Often utilizing cooperation with other enterprises ,or universities)



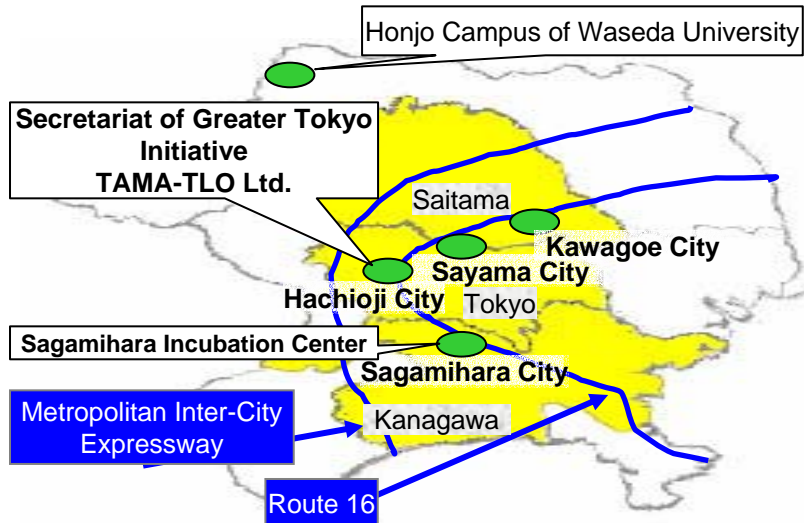
## Contact measures

(Often utilizing cooperation with other enterprises ,or universities)





# Manufacturing Clusters in the TAMA (Project to Revitalize Industry in the TAMA)



## Activities with the cooperation of the whole community (participating organizations, etc.)

Local governments	: 17 (Sayama City, Hachioji City, Sagami City, etc.)
Universities, etc.	: 28 (Tokyo University of Agriculture and Technology, University of Electro-Communications, etc.)
Public research institutes	: 3 (Tokyo Metropolitan Industrial Technology Research Institute, Kanagawa Industrial Technology Research Institute, etc.)
Business incubators	: 4 (Entrepreneurs Office of Fuji Electric Co., Ltd., Sagami Incubation Center, etc.)
Fund supply, etc.	: 62 (Seibu Shinkin Bank, TAMA-TLO Ltd., Sayama Chamber of Commerce and Industry, etc.)

## Participating companies

About 260 companies

## Accumulation of industries/technologies

- Cutting-edge product development-based companies, and basic technology-based companies
- About 40 universities of science and technology and major companies' research institutes

## Private promoting organizations and leaders

“Greater Tokyo Initiative”  
- Chairman: Yuji Furukawa (Academic Dean, Graduate School of Engineering, Tokyo University of Agriculture & Technology)

## Activities

(FY 2002)

- Managerial/technical assistance by coordinators responding to problems (A total of 289 coordinators were dispatched to 55 companies.)
- Holding of ordering-exchange meetings and technological presentation meetings (About 900 participants)
- Activities of regional exchange meetings (Mini-TAMA Councils)
- Provision of information via Web site (Number of hits: 2,000-3,000 per day, and 100,000 per month)

## Technological development utilizing public assistance

(FY 2001-2002)

¥1.73billion was invested in 37 cases (56 companies and 17 universities).

# Birth of TAMA

## Industrial and technological base

- Relocation of dominant factories from inner-city district and Keihin coastal area to TAMA area in pre-war era

- Accumulation of subcontract enterprises

Electricity ,Electron,Transportation,Precision machine

Small and medium enterprises with product development abilities.

1996 White Paper on Small and medium enterprise  
Clarifying flexible network connection of enterprises  
specializing high-tech areas.

Finding enterprises that utilize network systems in  
Tama area

1996: 「Research on developing type industry accumulation in wide Tama area (Kanto Bureau of Economy, Trade and Industry) 」

Research about actual situation of enterprises

Activities that utilize industrial accumulation and human network in wide Tama area

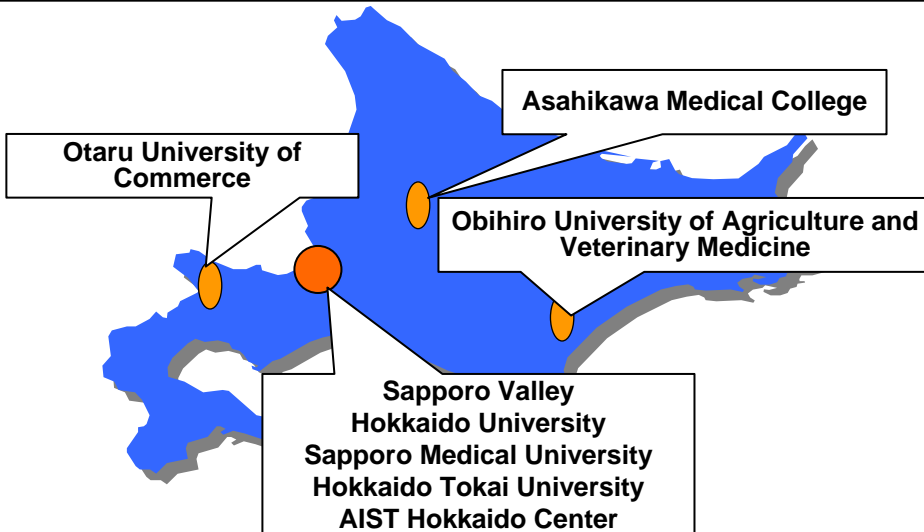
1997: Preparatory committee for wide Tama area local industrial vitalization council

enterprises, universities, official research organization, commerce groups, government organizations, and others (total 54 organizations)

1998: TAMA industrial vitalization association

328 members (190 enterprises included)

## Hokkaido IT/Biotechnology Industrial Clusters (Hokkaido Super Cluster Promotion Project)



### Participating companies

IT: About 230 companies  
Biotechnology: About 50 companies

### Accumulation of industries/technologies

- Information-related industries (around the north exit of Sapporo Station, etc.)
- Bio-related industries such as food-manufacturing industry
- World-class researchers in sugar chain engineering, etc.

### Private promoting organizations and leaders

“Hokkaido IT Cluster Forum”  
- Chairman of the Working Council: Akinori Takahashi, (President CEO, Datacraft Co., Ltd.)  
“Hokkaido Bio-Cluster Forum”  
- Chairman: Kenichi Kosuna (President, Amino Up Chemical Co., Ltd.)

### Activities with the cooperation of the whole community (participating organizations, etc.)

Local governments : Hokkaido Prefecture, and Sapporo City Universities, etc. : 15 (Hokkaido University, Otaru University of Commerce, etc.)  
Public research institutes: 5 (Hokkaido Industrial Research Institute, AIST Hokkaido, etc.)  
Business incubators : 5 (Collabo Hokkaido, Innovation Plaza Hokkaido, etc.)  
Fund supply, etc. : 44 (Hokkaido Venture Capital Inc., Hokkaido Technology Licensing Office, Co., Ltd., Hokkaido Economic Federation, etc.)

### Activities

(FY 2002)

- Creation of technological database, etc. for publishing the technical capabilities of IT/biotechnology companies (for 458 companies)
- Holding of business exchange meetings and technology exchange meetings (About 700 participants)
- Formation of diversified business support networks such as the Partners Outside Hokkaido of Hokkaido Biotechnology Industrial Clusters(\*) (683 organizations in total)  
\*With the participation of 40 venture capital companies outside Hokkaido

### Technological development utilizing public assistance

(FY 2001-2002)

¥2.18 billion was invested in 56 cases (73 companies and 26 universities).

### Cooperative Projects for Creation of Intelligent Clusters

Creation of Sapporo IT Carrozzeria (Hokkaido)

## History of Information Manufacturing Industry in Sapporo

1976: The study group of Micro Computer was established by Professor Aoki, Hokkaido University.

(The first year of micro computer in Sapporo)

1977: Hudson entered the micro computer market.

1981: MZ-80 by Sharp adopted Hu BASIC of Hudson.

1982: Software makers supplied applications to personal computers.

Hudson contracted business cooperation with Soft bank

(This contract contributed to rapid growth of Soft bank)

1987: Tomcat in Asahikawa contracted development of personal computers compatible with EPSON98.

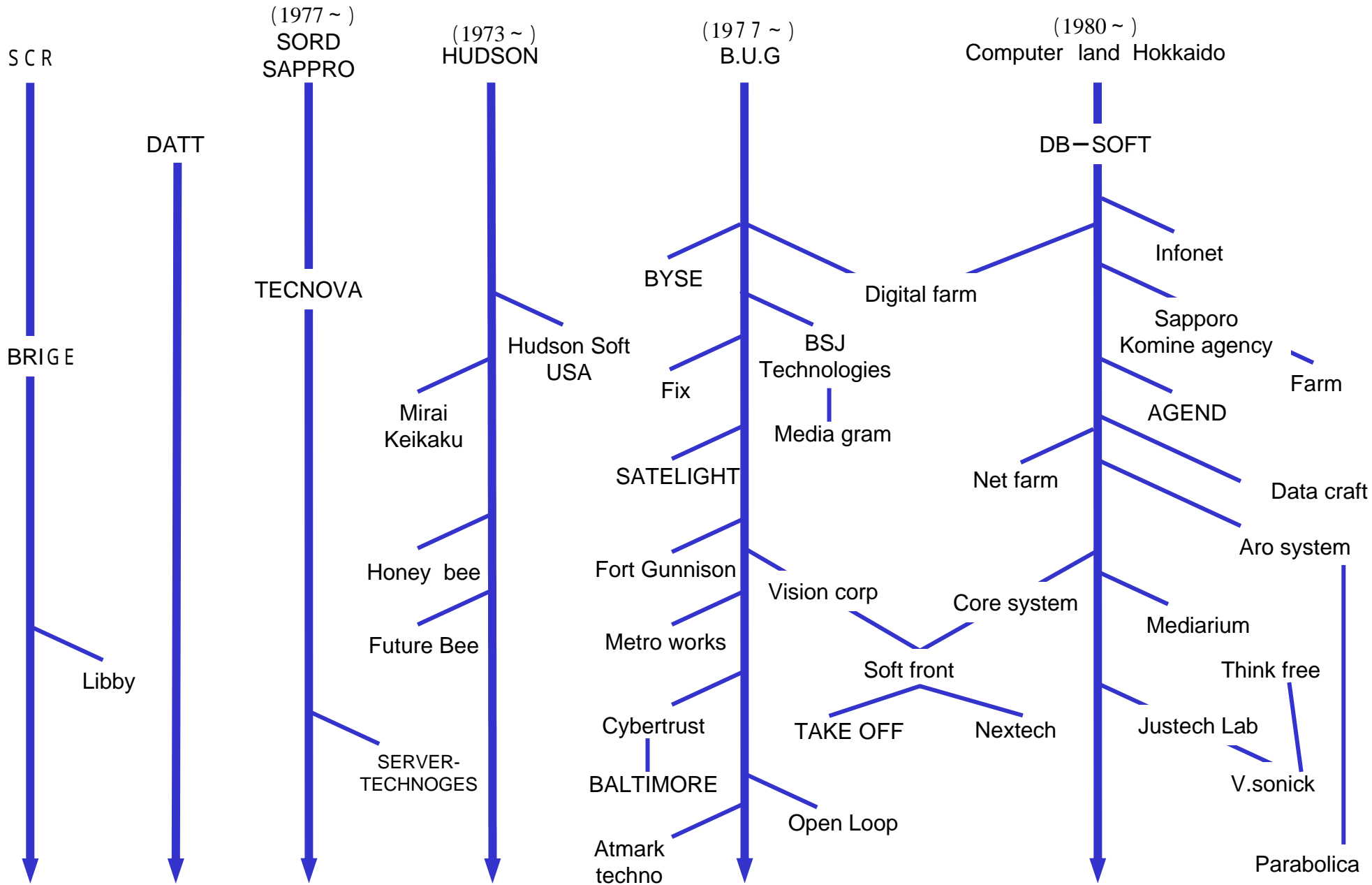
1992: B.U.G developed a router with the highest share in ISDN area.

1997: Cyber Trust (digital certification service) was established in cooperation with GTE in USA.

1999: Soft front developed the fastest VOIP in the world.

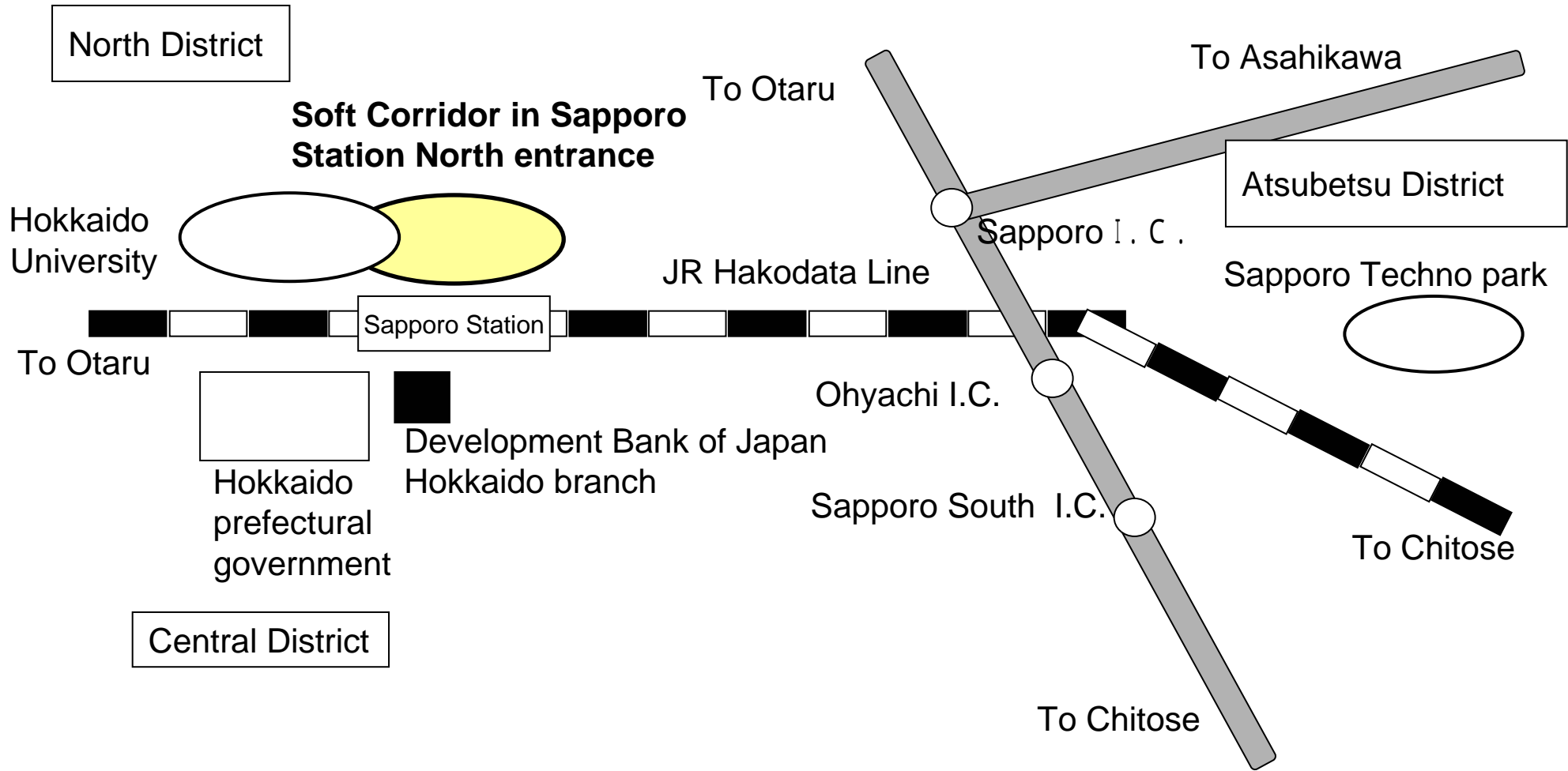
Source: Ikkei Matsuda, President of Hokkaido Venture Capital

# The family tree of IT enterprises in SAPPORO VALLEY



Source : papers by Akinori Takahashi(President of Data craft)and Thoshihiro Murata(President of Soft front)

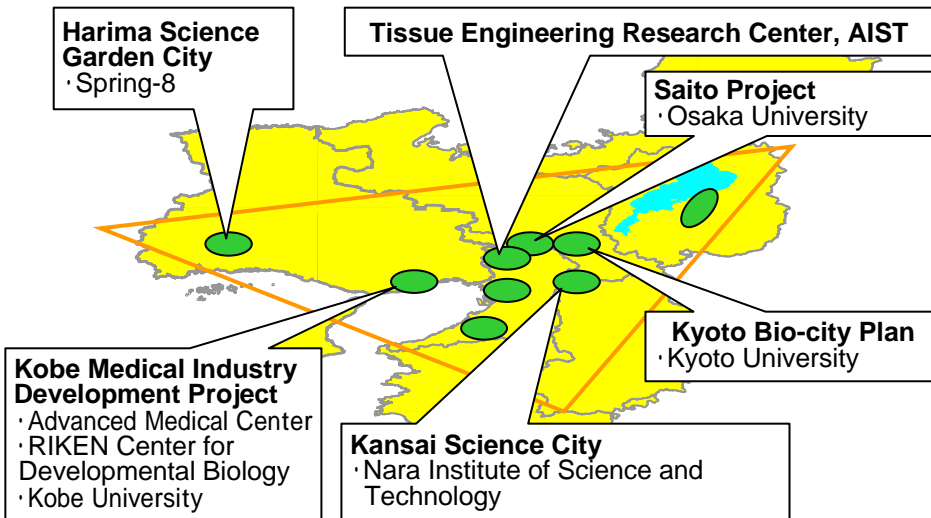
# The geometrical acumulation of IT enterprises in Sapporo City



Source : Development Bank of Japan

# Kinki Bio Clusters

(Bio Five-Star Company & Tissue Engineering Project)



## Participating companies

About 220 companies

## Accumulation of industries/technologies

- Four major pharmaceutical companies, and relevant industries such as chemistry, food and textile
- 34 bio-related universities: About 2,000 researchers
- Global research institutes in tissue engineering/medical fields

## Private promoting organizations and leaders

“Kinki Bio Industrial Cluster Council,  
Kinki Bio-Industry Development Organization”  
- Chairman: Masanao Shimizu (Counselor of Dainippon Pharmaceutical Co., Ltd.)

## Activities with the cooperation of the whole community (participating organizations, etc.)

- Local governments : 9 (Osaka Prefecture, Kobe City, etc.)
- Universities, etc. : 36 (Kyoto University, Osaka University, etc.)
- Public research institutes : 14 (AIST Kansai, RIKEN Center for Developmental Biology, etc.)
- Business incubators : 20 (Kyoto Research Park Co., Ltd., Senri Life Science Center, etc.)
- Fund supply, etc. : 24 (Daiwa Business Investment Co., Ltd., Angel Securities Co., Ltd., Osaka Science and Technology Center, Kansai Technology Licensing Organization Co., Ltd., etc.)

## Activities

(FY 2002)

- Holding of workshops and seminars (About 2,300 participants)
- Holding of technology presentation meetings and exchange meetings (About 380 participants)
- Provision of information via Web site/e-mail magazines (Number of e-mail magazines issued: 51 per year. 17,800 cases in total)

## Technological development utilizing public assistance

(FY 2001-2002)

¥3.18 billion was invested in 96 cases (81 companies and 93 universities).

## Cooperative Projects for Creation of Intelligent Clusters

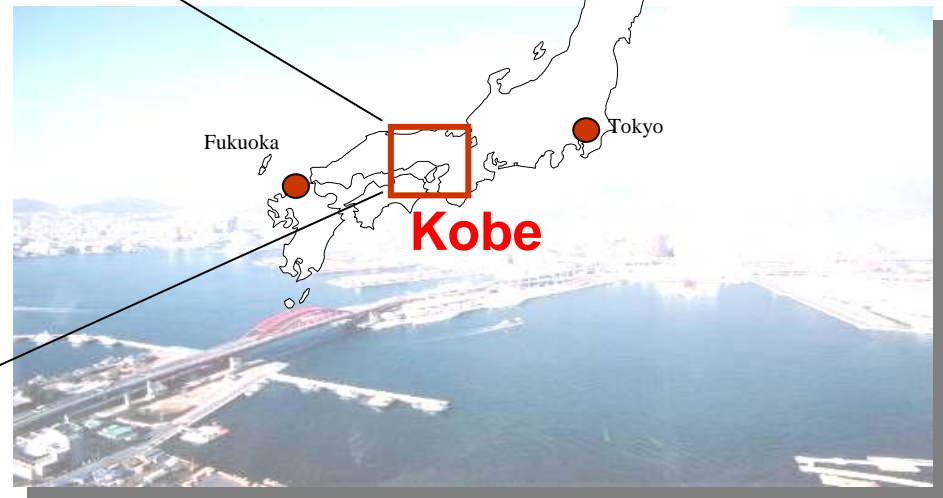
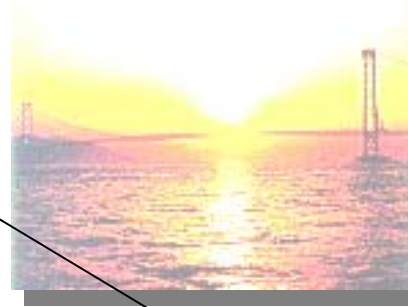
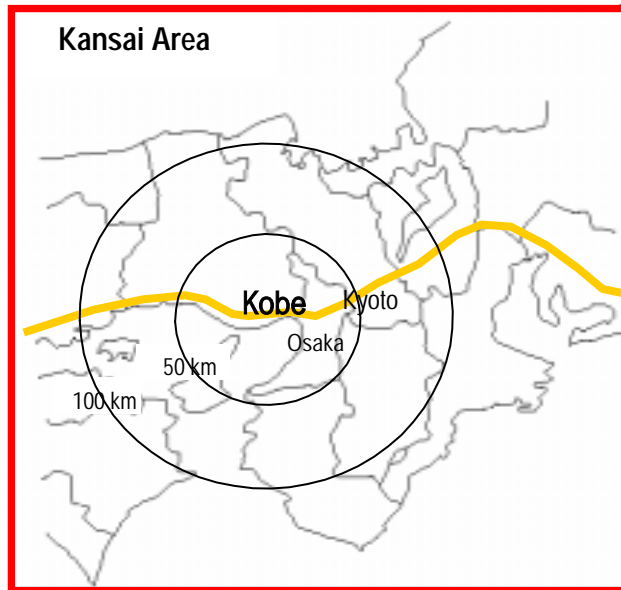
- Kansai Broad Cluster (Northern Osaka Prefecture, and Kobe Medical City)
- Research Project for the Creation of Human L-cube Industry (Kansai Science City area)



# Background

- Concentration of life-science related industry in the Kansai area : Close collaboration between industry, academic and government bodies
- What Kobe has to offer

Transportation infrastructure      Living environment      Close collaboration with other  
Asian regions      Technological capability      Information infrastructure



Source: Kobe City

# Core Facilities

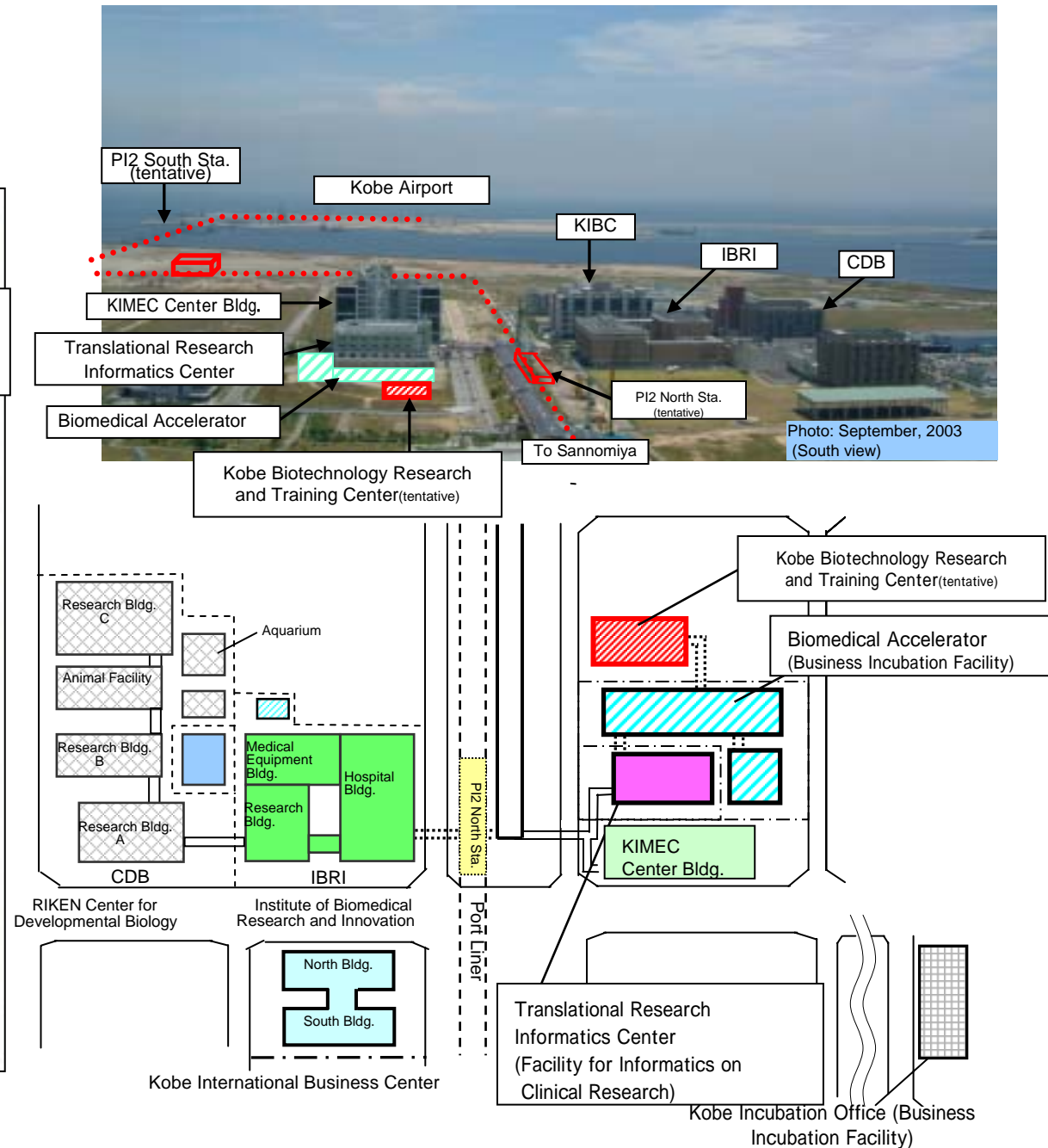
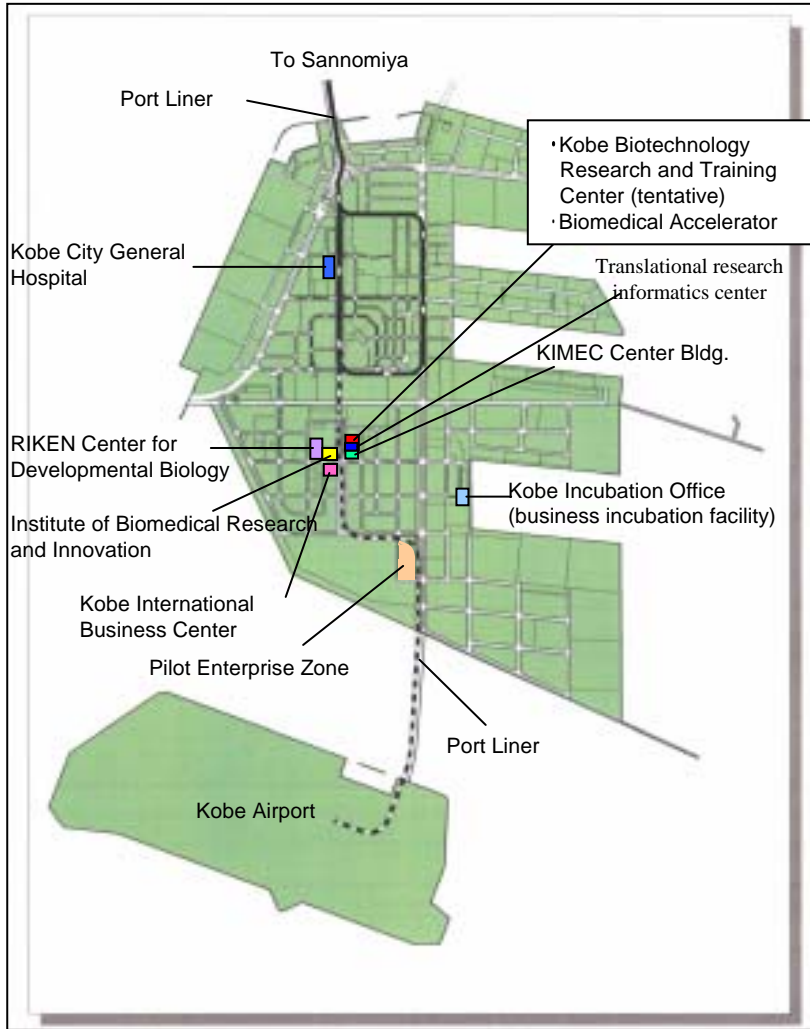


Photo: September, 2003 (South view)

Source:Kobe City

# Formation of the CLUSTER for Translational Research in Regenerative Medicine in KOBE

In collaboration with the Osaka (Saito) area, will create a life science `super cluster' based in the Kobe area.

Core organization: Foundation for Biomedical Research and Innovation

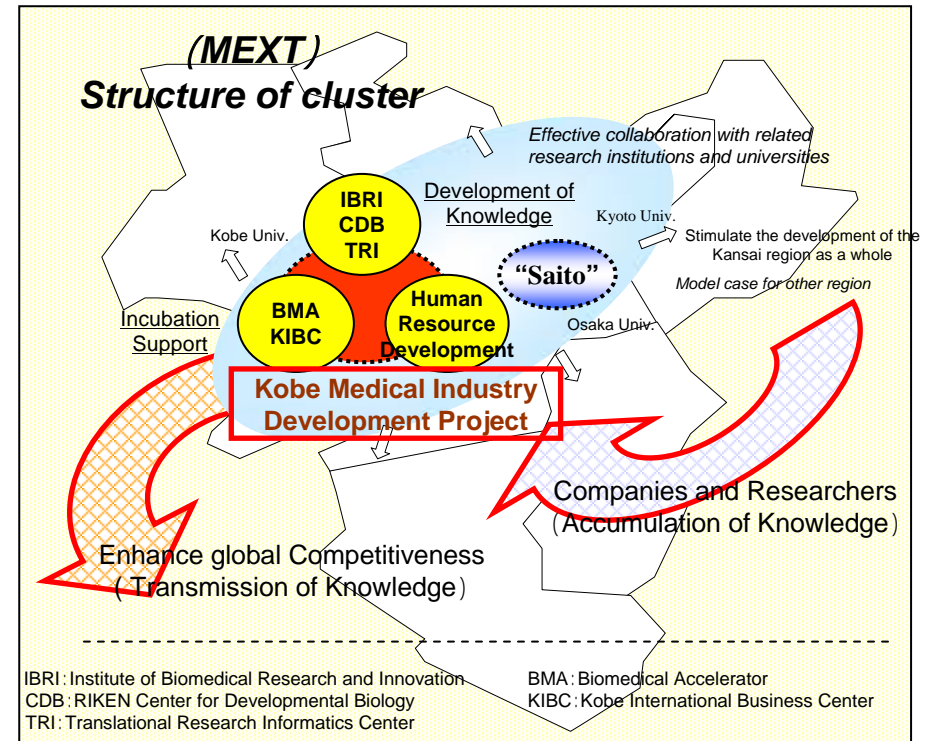
Development of technology necessary for the practical application of advanced medical treatment such as regenerative medicine

- Participation of a wide range of research and industrial organizations in the Kansai region.

- Comprehensive and systematic joint research, based on 4 themes including neural and vascular stem cells.

Creation of a system to promote translational research and commercialization of advanced medical treatment

Incubation capabilities for early-stage start up businesses



## Headquarters

Advisor Hiroo IMURA, Chairman, Kobe Medical Industry Development Project Study (Group)  
 Director General Masaaki TERADA, President, Institute of Biomedical Research and Innovation  
 Project Director Shuji HIGUCHI, Executive Director, Foundation for Biomedical Research and Innovation  
 Research Director Shin-ichi NISHIKAWA, Deputy Director, RIKEN Center for Developmental Biology