

Present State and Issues of the Industrial Cluster Policy of Japan

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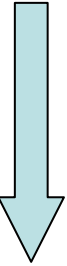
Director

**Industrial Cluster Projects Promotion Office
Regional Economy and Industry Group
Ministry of Economy, Trade and Industry
(METI)
Government of Japan**



Industrial decentralization/ development of regional core cities

(1970s ~ mid-1990s)



Decentralization of growth industry fields in Japan (attract enterprises outside of the area), creating a driving force behind the regional economy and surrounding areas

- Industrial Relocation Promotion Law (1972 ~)
- High-tech Industrial Zone Promotion Act (1983 ~ 1998)
- Knowledge-intensive Industry Location Act (1988 ~ 1998)
- Law for Comprehensive Development of Regional Core Cities with Relocation of Office-work Function (1992 ~)

Prevention of the hollowing-out of Japanese industry and support for development of new growth fields

(mid-1990s ~)



Revitalization of the underlying cluster, comprehensive support for development of new business

- Law on Temporary Measures for Activation of Specific Regional Industrial Agglomerations (1997 ~)
- Law for Facilitating the Creation of New Business (1998 ~)

Support for development of new competitive business in a global context

(2001 ~)

Industrial Cluster Projects ··· compiling of economic and industrial policies

Provide comprehensive support for development of new competitive business in a global context. It's extremely important to make an invisible trust network in the region to form industrial clusters. It is anticipated that these industrial clusters will support the development of new business by SMEs, and give rise to university-generated venture businesses.

Examples of typical overseas clusters (high-tech type)

Country	Area	Main fields	Economic scale (area, population, etc.)	Main universities and research organizations	Main companies and ventures	Development history
U.S.	Silicon Valley	Information communication	Area about 50km long and 15km across with population of approx. 2,300,000 (Santa Clara County) *1	Stanford University (little UC Berkeley, UCSF at a slight distance). Enormous number of venture companies	About 5000 high-tech companies (approx. 1500 manufacturers, 2000 R&D and service companies)*3, HP, Intel, Oracle, Sun Microsystems, etc.	Science park established in the 1950s. Spin-off from Fairchild. Major businesses from around the world set up research institutes in the 1990s.
	Austin (Texas)	Information communication	Workforce: About 100,000 (mainly high-tech companies)*2	University of Texas at Austin	About 1750 high-tech companies, including Dell.*2	National semiconductor research project in the 1980s. George Kozmetsky's activities led to large number of venture companies.
	Boston city zone	Medical apparatus, biotechnology	Population of about 700,000 concentrated along Route 128. (Boston + Cambridge)*4	MIT, Harvard University, Boston University, etc. Major hospitals such as Massachusetts General.	250 biotech companies (18% of US total). *3 Includes 65 venture companies. 100 medical device companies. Biogen, Genzyme.	Harvard and MIT researchers set up one biotech venture after another in the 1970s and 1980s
	Research triangle park (North Carolina)	Pharmaceuticals and bioproducts	Three cities of Raleigh, Durham and Chapel Hill cover an area 20km long and 30km wide. Workforce: about 40,000.	Three universities: North Carolina State, Duke, and North Carolina. National environmental science laboratory, Research Triangle Park, etc.	Core U.S. research institute of Glaxo Smith Kline. Approx. 140 biotech ventures*. 65 biotech service companies.	State research park set up in 1960s. Developed at State government initiative. Spin-offs GSK increased in the 90s. State promotes biotech ventures.
Britain	Cambridge	Bioproducts	Workforce within 50km radius of central Cambridge: 32,000+ *5	Cambridge University Cambridge Science Park St. John's Innovation Centre	1250 high-tech companies, including about 150 biotech companies*5,	Successive spin-offs from Cambridge University from 1980s. Next-level spin-offs from these in the 90s.
	Northeast Britain	Nanotechnology (new)	Population: approx. 2,600,000 (new high-tech enterprises have created about 13000 jobs)	Five universities including Durham, Newcastle, and Northumbria. COE project.	—	Northeast England development corporation established in 1999. COE in five fields including nanotechnology in cooperation with five universities.

Source: Ministry of Economy, Trade and Industry industrial cluster study group data FY2005 (compiled by the industrial cluster study group secretariat based on various data)

*1 2003 *2 1999 *3 1997 *4 2004 *5 1998

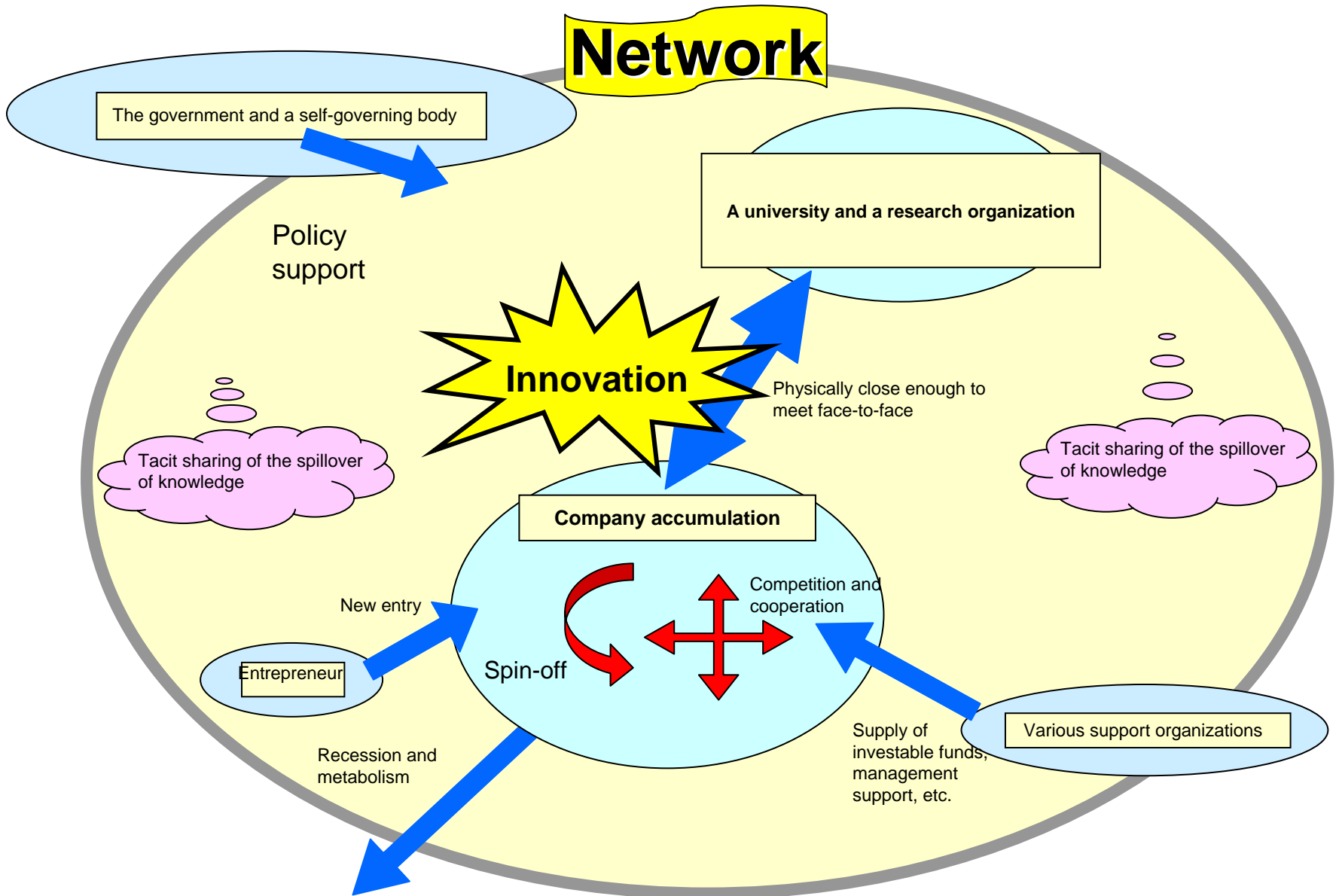
Country	Area	Main fields	Economic scale (area, population, etc.)	Main universities and research organizations	Main companies and ventures	Development history
Germany	Outskirts of Munich (especially the Martinsried area)	Pharmaceuticals and bioproducts	The population of Munich is about 1,300,000. 20% of Germany's biotechnology workforce is concentrated there. Biotechnology ventures are especially concentrated in Martinsried, 10km from central Munich.	Munich college of engineering, Ludwig Maximilian University, Max Planck Society new biology research institute, national environment and health research center, etc. BioM also plays a large role. About 20 venture companies.	Bayer, Hoechst, Boehringer-Ingelheim. About 100 biotech companies. 31 biotech ventures, including MediGene.*1	Bioregio cluster policy which promotes bio-industrial development in Germany launched in 1996, based around concentration of Max Planck Society research institutes.
Finland	Oulu	Information communication, biotech, medical treatment	Population: 1,240,000*2, more than 7500 of whom work in Technopolis enterprises.	Oulu university National technical research center (VTT) Technopolis	500 or more high-tech company in Technopolis. Nokia affiliates, etc.	Head of VTT proposed regeneration of Oulu city through a science park in 1980. As a result, Technopolis undertakes Incubation activities.
France	Sofia Antipolis	IT, environment, life science, etc.	24 square kilometers Employees: 22,000	National science laboratory, Nice university science laboratory, Paris ecole des mines graduate school, etc.	1100 companies including IBM, Air France, and France Telecom.	Concept developed in the 1960s. Specified as a national project in 1972. Took current form in 1980s. Ventures have been created since the 1990s.
South Korea	Daedeok Research park	High-tech	Employees: approx. 17,000 Students: about 30,000 Population of taejon City, approx. 5 kilometers to the west, is about 1,300,000	59 research organizations. 25 private sector research institutes. 30 government research institutes, 4 institutes of higher education, 7 government organizations.*3	300 tech ventures created since 1995. 130 companies in incubation facilities within universities.	National project announced in 1971. Many spin-offs since Asian currency crisis in 1997.
China	Zhongguancun (Northwest Beijing)	High-tech	360,000 or more people work in a 340 square kilometer area in northwest Beijing*1	Qinghua University, Beijing University and 30 other universities. 200 or more national research organizations.	10,000 companies. Increasing at the rate of 2000 companies every year.*3	Government specified high-tech industry development area in 1988, and Beijing specified science park in 1999.

Reference: Led by Michael Porter, the U.S. competition committee has undertaken 4 case studies on the research triangles and 4 other areas in 2001.

The Ministry of Education, Culture, Sports, Science and Technology's National Institute of Science and Technology conducted a study on elements contributing to the success of regional innovation and policies for promoting it. The study looked at Munich, Boston Zhongguancun and Daedeok Silicon Valley and the Boston city zone are frequently cited as model clusters, since the publication of Saxenian's "Tale of Two Cities."

Source: Ministry of Economy, Trade and Industry industrial cluster study group data FY2005 (compiled by the industrial cluster study group secretariat based on various data)

Conceptual figure of a cluster



Source: Cabinet Office, "Currents in the World Economy, Autumn 2004"

Outline of cluster-related policies of central governments overseas

	Britain Clusters devised by Regional Development Agencies (RDA)	Britain Micro- and nanotechnology network	Germany BIOREGIO	Germany INOREGIO	Finland Centers of expertise
Timeframe	1999 ~	2003 ~ (2008)	1996 ~ 2001	1999 ~ (2006)	1994 ~ (2004)
Central govt. jurisdiction and budget	Department of Trade and Industry (DTI) 10 billion yen (Allocation for local innovation in 2001)	DTI. Budget of about 18 billion yen (Basic fund 8 billion yen, 10 billion yen for research over six years)	Department of federal educational research About 12 billion yen (over five years)	Department of federal educational research About 28 billion yen (over six years)	Department of the Interior About 2.8 billion yen (total amount of basic government fund)
Region	Whole country (RDAs in 12 locations nationwide, with approx. 10 clusters each)	Whole country (promoted in cooperation with RDAs)	3 special areas (including Munich and Heidelberg), plus 14 other areas are specified	23 areas are specified. Dresden, Potsdam, etc.	22 areas specified (8 areas for phase 1, 8 areas for phase 2, 6 areas for phase 3). Oulu, Tampere, etc.
Central govt. policy	Promotion led by RDAs affiliated with DTI. Provision of local innovation fund.	Assistance for joint industry-university research Assistance for setting up research facilities (recommendation of RDA is required)	Assistance for joint university-industry research projects applied for by regions Assistance for establishment of public venture companies	Assistance for joint university-industry research projects applied for by regions	Provision of basic funding (positioned as pump-priming for investment)
Local promotion led by:	RDAs (special public corporations resulting from integration/ reorganization of central government's local agencies)	RDAs coordinate. RDAs also set up research institutes with own funds in some cases.	Public corporations (state government initiatives, city initiatives, etc.)	Public corporations (state government initiatives, city initiatives, etc.)	Technopolis company (science park management company) etc.

Local cluster example	Example: Southeast British	Example: Northeast Britain	Example: Munich	Example: Dresden	Example: OURU
Resource	Many universities (includes area from south London to Cambridge)	Newcastle University, Durham University, etc.	Max Planck Association neuro-biology research institute, etc.	Dresden College of Engineering, etc.	OURU University, the national research institute VTT (electronics field, etc.)
Promoting body	Southwest British development public corporation	Promoting body Cenamps (installed by northeast British development public corporation)	BAIOEMU (established by the State of Bayern)	BIOMETTO (cooperation with technology-transfer companies of the Dresden College of Engineering)	Six forums are managed by industry, academia and government mainly by Technopolis Company
Project contents	<ul style="list-style-type: none"> • 15 incubation institutions are established in the area • Advisory groups are set up according to the field of cluster, and advise on industrialization 	<ul style="list-style-type: none"> • A large-scale research project conducted jointly by universities- and private-sector corporations (about 80 personnel) is promoted 	<ul style="list-style-type: none"> • Selection of a research project conducted jointly by universities and private-sector corporations, application, implementation • Establishment of public VC for application to biotechnology 	<ul style="list-style-type: none"> • Selection of a research project conducted jointly by universities and private-sector corporations, application, implementation • Maintenance of biotechnology center by the state government 	<ul style="list-style-type: none"> • Technopolis Company takes the lead and manages six forums by industry, academia and government • A practical project is promoted (fusion of a portable application, software, biotechnology, and IT).

Source: Ministry of Economy, Trade and Industry, FY 2004 industrial cluster study group data (created by industrial cluster study group secretariat based on various data)

Changes in society and in regional economy policy

Time	Classification	The 20th century	The 21st century
	Character	Industrial society	Knowledge-based society
Social needs		Meeting of the basic needs of life (food, clothing and shelter)	Meeting of diverse and advanced needs
Main innovations		Process innovation (reduction in cost)	Product innovation (new goods creation)
Key factors in company location		Land, natural resources, capital, labor	Knowledge creation infrastructure (universities, research organizations, talented people, etc.)
Regional economy policy	The required viewpoint	Low-cost, good-quality infrastructure is established in a district with the aim of resolving overcrowding and overpopulation (industrial complex, water for industrial use, etc.).	Maintenance of the innovation creation environment on the basis of networks, such as of companies, universities, and research organizations
	Typical measures	<ul style="list-style-type: none"> · Industrial rearrangement policy (moving factories, etc. from the three major metropolises to local areas) · Technopolis policy (base development of the high-tech manufacturing industry in a district) 	Cluster policies (industrial cluster plan, intellectual cluster creation project)
The situation faced by Japan		Drop in relative competitive power as the market economy progresses globally	Reconstruction of competitive power by the infrastructure development in response to the knowledge-based society

The Industrial Cluster Projects in Japan (19Projects)

A total of 19 projects nationwide, and about 500 of government staff of the regional bureaus of METI in cooperation with private promotion bodies have formed close working relationships with 5,800 SMEs and over 220 regional-university researchers, working to begin new businesses and promote the Industry Cluster Project.(FY2001 ~)

Department of Economy, Trade and Industry,
Okinawa General Bureau

Okinawa Industry Promotion Project

Information/health/environmental/processing trade fields:
About 150 companies and 2 universities

Hokkaido Bureau of Economy, Trade and
Industry

Hokkaido Super Cluster Promotion Project

Biotechnology/IT fields: About 300 companies
and 16 universities

Tohoku Bureau of Economy, Trade and Industry

An Industry Promotion Project for Information Technology, Life Science and Cutting-edge Manufacturing

IT/Health/Manufacturing fields: About 230 companies
and 21 universities

An Industry Promotion Project for a Recycling-oriented Society

Environmental/Energy fields: About 280 companies
and 20 universities

Chugoku Bureau of Economy, Trade and Industry

Project to Newly Generate the Machinery Industry in the Chugoku Region

Manufacturing fields: About 110 companies
and 10 universities

Project to Form a Circulative Type of Industry

Environmental fields: About 90 companies
and 9 universities

Kanto Bureau of Economy, Trade and Industry

~ The Greater-Kanto region Industrial Cluster Promotion Network ~ Regional Industry Revitalization Project

- TAMA
 - Region along the Chuo Expressway
 - Tokatsu/Kawaguchi areas
 - Sanennanshin district
 - Northern Tokyo metropolitan area
- Manufacturing fields: About 1,720 companies and 56 universities

Fostering Bio-Ventures

Biotechnology fields: About 210 companies and 13 universities

Fostering IT-Ventures

IT fields: About 200 companies

Kyushu Bureau of Economy, Trade and
Industry

Kyushu Recycle and Environmental Industry Plaza (K-RIP)

Environmental fields: About 200 companies
and 18 universities

Kyushu Silicon Cluster Project

Semiconductor fields: About 150
companies and 23 universities

Kansai Bureau of Economy, Trade and Industry

Bio Five-Star Company & Tissue Engineering Project

Bio-related fields: About 220 companies and 36 universities

Active Manufacturing Industry Support Project

Manufacturing fields: About 460 companies and 26 universities

Kansai Information Technology Cluster Promotion Project

IT fields: About 300 companies and 12 universities

Kansai Energy & Environment Cluster Promotion Project

Energy fields: About 110 companies and 23 universities

Chubu Bureau of Economy, Trade and Industry

Project to Create Manufacturing Industry in Tokai Region

Manufacturing fields: About 650 companies
and 29 universities

Tokai Bio Factory Project

Biotechnology fields: About 30 companies
and 34 universities

Project to Create Manufacturing Industry in Hokuriku Region

Manufacturing fields: About 140 companies
and 12 universities

Shikoku Bureau of Economy, Trade and
Industry

Shikoku Techno Bridge Plan

Health and welfare/Environmental fields:
About 290 companies and 5 universities

The activity outline of the industrial cluster plan

(1) Support for close industry-university-government networks in regions

Regional bureaus of METI act as the hub of these networks. In cooperation with private promotion organizations, they organize visits to enterprises, workshops, exchange meetings and seminars. Project coordinators also drive exchange and partnerships among businesses, universities and the government, as well as among enterprises. Consequently, enterprises, universities, research institutes, local governments and trading firms form wide-area human networks.

(4) Support for the cultivation of the market in cooperation with trading firm

- Support for the new products developed from the Industry Cluster Project with networks of specialized trading companies

(2) Support for development of technologies by taking advantage of regional

- Regional industry-university joint research commission expenses.
- Subsidy for the development of practical application technologies.

(5) Cooperation with financing organizations

- Establishment of “Bridge Financing System” for subsidies of technology development in cooperation with “Industry Cluster Support Financial Forum”

(3) Enhancing business incubator function

Entrepreneur development facilities play an extremely important role in promoting the start-up of university-generated venture business and new business development by SMEs. The establishment of such incubators affiliated with universities is being promoted, as is the development of incubation managers who provide support to the tenants of such facilities.

(6) In addition to this

The example which raises an area and is tackling about personnel training required for the positive purchase activities in the private enterprises of the product of a venture business etc. and cluster formation which were produced within the cluster is also seen.

Policy Tools to Promote Industrial Cluster Projects

FY2005 draft budget (FY2004)

The national budget for the Industrial Cluster Projects \$540 million (\$470 million)

(1) Forming of industry-academic-government networks

Forming networks to promote Industrial Cluster Projects \$19 million (\$6.5 million)

Subsidies for network formation activities (such as study groups, seminars, and dispatch of coordinators) implemented by the private-sector body which promotes Industrial Cluster Projects.

In FY2005, as well as installing in the private-sector promoting bodies “cluster managers” who supervise cluster-related activities, recipients of subsidies will be expanded to include the activities of industrial support organizations that carry out network-forming activities in fixed fields or areas within the range of activities of a private-sector promoting body, in cooperation with that body.

Forming broad industry-academia-government networks \$5.0 million (new)

As part of the model project for power supply area promotion, there are projects to construct industry-academia-government networks which will serve as the base for the establishment of new enterprises in power supply areas. A commission will be paid to the implementing organization. This project will be carried out in the form of a model for industry-academia-government network formation in districts within the power supply areas.

Promotion of exchanges and tie-ups between clusters \$0.8 million (new)

Along with implementing promotion of exchanges and tie-ups between private-sector promoting bodies of Industrial Cluster Projects, projects to contribute to activities for cluster formation in local self-governing bodies are undertaken.

(2) Promotion of the technical development in which the characteristic of an area was harnessed

FY2005 draft budget (FY2004)

Local new consortium research-and-development enterprise \$131 million (\$110 million)

Commission expense to the research and development which utilize the technical seeds of a university or a public research organization, and are carried out under industry, academia and government's joint research organization.

The schedule which will found the cooperation frame for connecting without a break the technical seeds produced by the research-and-development measure of other government offices to utilization and industrialization in, and accelerates cooperation.

Moreover, the schedule which founds the reformist enterprise frame aiming at the bottom raising of the base technology of the backbone and small and medium-sized enterprises in advanced parts and a material industrial field simultaneously.

Local new industrial creation technical development expense subsidy \$61 million (\$59 million)

The subsidy to the high technical development of the risk for new foundation by the new field advance by the backbone and small and medium-sized enterprises, or the venture business.

(3) Strengthening the function of incubation

FY2005 draft budget (FY2004)

Strengthening the function of incubation

\$22 million (\$22 million)

It is a subsidy to the Organization for Small & Medium Enterprises and Regional Innovation, JAPAN (SMRJ) and a local self-governing body fix, and institution maintenance is advanced especially in recent years the inside of the site of a university, or centering on the adjoining university cooperation type institution, and, recently, the activity based on industrial cluster plans, such as the University of Tokyo Kashiwa campus, the Kyoto University Katsura campus, and Kyushu University, is installed in the active base.

Training of the development of incubation manager

\$1.2 million (\$0.8 million)

The auxiliary enterprise over the enterprise of strengthening of the entrepreneur support function by advice of cultivation of the incubation manager who offers various kinds of support to a venture business in order to promote the new enterprise creation which utilized the entrepreneur training institution, a skill rise of the incubation manager by on-the-job training, a specialist, etc.

Track records of industrial cluster project

Example1: Technology Advanced Metropolitan Area (TAMA)

- 280 companies, 35 academic institutions, 65 local/regional government agencies and chamber of commerce etc, 11 financial institutions.
- more than 40 alliances have so far been formed
 - 1 (Cooperation with universities and companies related with affiliates.)
- Approximately 400 products independently have been commercialized.
 - 2 (including facelift and new services)

< cooperation example >

Toyobody. Inc. + 4 companies

「development of the track body made from aluminum for lightweight small-size cars」
(putting into business)



Example2: Bio Five-Star Company & Tissue Engineering Project

- 230 companies, 50 academic institutions, 9 local/regional government agencies, 19 financial institutions.
- 130 joint research and development activities have been carried out.
- Support for the establishment of 20 bio-ventures.

< cooperation example >

Kyoto Monotech. Co

+ 7 universities .etc + 5 companies

「Development of the micro HPLC for post analysis,
(commercialization of part of this products)」

Capillary column

section of column



Example3: Hokkaido Super Cluster Promotion Project

- 360 companies, 21 academic institutions, 6 local/regional government agencies, 42 financial institutions
- 31() joint research and development activities or productization.
 - 2001fy ~ 2003fy The number of adoptions of Regional research & development consortium project.
- 47 university-generated venture businesses have been launched (IT・biotechnology fields 40 companies)

A university-generated venture business have been launched, which is based on the technology (Open SOAP) as the success that is commissioned research project of industry-university cooperation,
“ Development of middleware for share base of IT service enterprise” (April,2002)

TechnoFACE

About the basic idea of the industrial cluster policy

1 . The background of the industrial cluster policy

(1) Background

The necessity for competitive power strengthening of my domestic business in the inside of an international competition

The necessity for independence-izing of the regional economy by endogenous development

(2) Situation recognition

Although regional economy is still in a severe situation and serious exhaustion is progressing in some areas from overseas relocation of industry, competition intensification with overseas, and reduction of public works, in many areas, the movement toward a new industry and new enterprise creation is being seen by one side.

The backbone and small and medium-sized enterprises of an area are bearing many of "advanced component industrial accumulation" in which our country has a strong point, and the potential capability high to local industry, such as printing and performing ,in an on-site level exists.

Ignited by maintenance of an industry-university cooperation system, incorporation of the National Universities, etc., a university puts power into training of technology transfer, joint research, and an entrepreneur and special talented people etc., and is raising the local degree of close.

2 . The concept of the industrial cluster

(1) The concept of the industrial cluster

The industrial cluster is that for which action subjects, such as the company group which approaches geographically, a university and a research organization, an industrial support organization, a network organization, a technology licensing organization and an industry-university cooperation agency organization, and a specialist group, gathered considering the charm which each area has as a cause in the industrial fixed group which it relates mutually for each other.

If a cluster is formed, while intellectual value, such as accumulated technology, know-how, and knowledge, will circulate quickly through the horizontal network which became meshes of a net, mobile correspondence of as opposed to [the active innovation by the mechanism of competition and cooperation is started, and] change of business conditions is possible.

Political participation is collected by two, complementing the composition element of a ? industrial cluster, and the things (promotion of formation of an industry, academia and government network, and the research-and-development project of industry, academia and government cooperation, support of a cross-industrial cooperation enterprise, etc.) for which the interaction between ? composition (network organization and industry-university cooperation agency organization establishment-, growth support [of the core company of an area], personnel training, etc.) elements is promoted.

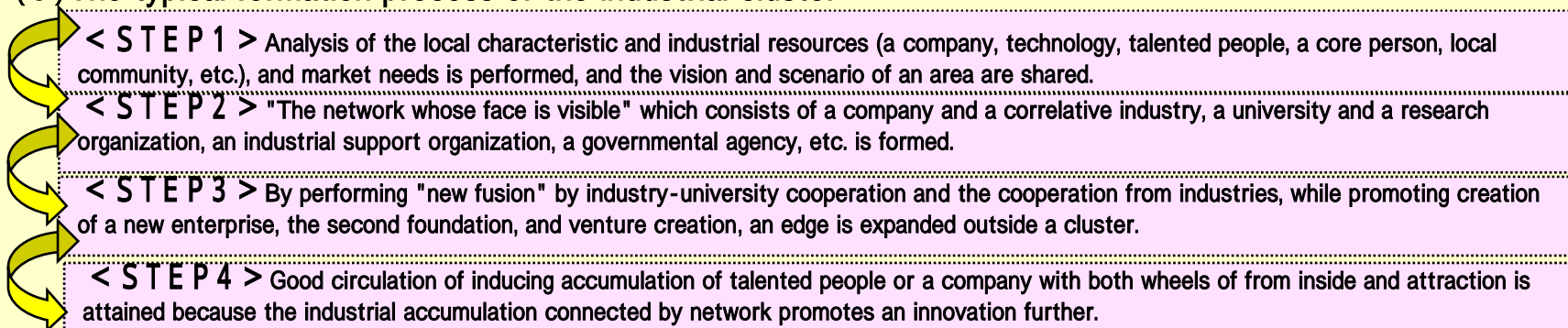
(2) Meaning of the industrial cluster

Generating of an external economy effect: Heighten the external economy effect of business conditions by strengthening the mutual complement relation of industry, and a related many organizations and many systems in the fixed area which approached geographically.

The chain of an innovation: A new industry and a new enterprise make it easy for the synergistic effect by the chain between different industries to create the chain of various innovations conjointly in addition to industry, academia and government forming the horizontal network which it related for each other closely, and to be born.

Acceleration and quality[of quantity]-izing of accumulation: The industrial cluster formed in this way heightens talented people, a company, and the centripetal force of investment, and it is [acceleration or] making it quality[of high]-ize much more about accumulation of industry.

(3) The typical formation process of the industrial cluster



3 . The framework of the industrial cluster policy

(1) Policy meaning

The industrial cluster "by horizontal networks, such as industry, academia and government cooperation and cooperation between companies Innovative business conditions by which the new enterprise which utilized mutual management property is produced one after another are born. Determine it as the thing in the state where the industry which has a comparative advantage as this result serves as a core, and industrial accumulation progresses", and formation of this "industrial cluster is aimed at for the policy meaning of an industrial cluster policy. Creating a new industry and a new enterprise by promoting the innovation of an area, while forming the network of industry, academia and government cooperation and the cooperation from industries in national every place", and a setup

(2) Policy purpose

Business conditions to which the innovation by "new fusion" is born are improved.

What new industry important as a national strategy is developed for regionally (it is made to unearth and root)

It cooperates with the promotion industrial local performed by an area serving as a subject, and a synergistic effect is raised.

(3) Policy scheme

Network formation : Formation (maintenance of an over-a-very-wide-area private sector promotion organization) of a cluster core "the network whose face is visible", marginal-outside cluster expansions (cooperation with the industrial support organization of every place etc.)

Enterprise support : Research and development assistance, market exploitation support, foundation support, maintenance of an in KYUBESHON organization, cross-industrial cooperation support, management reformist support, personnel training support

Promotion of a tie-up with the organs concerned : Promotion of a tie-up with a financial institution, a trading company, educational facilities, etc.

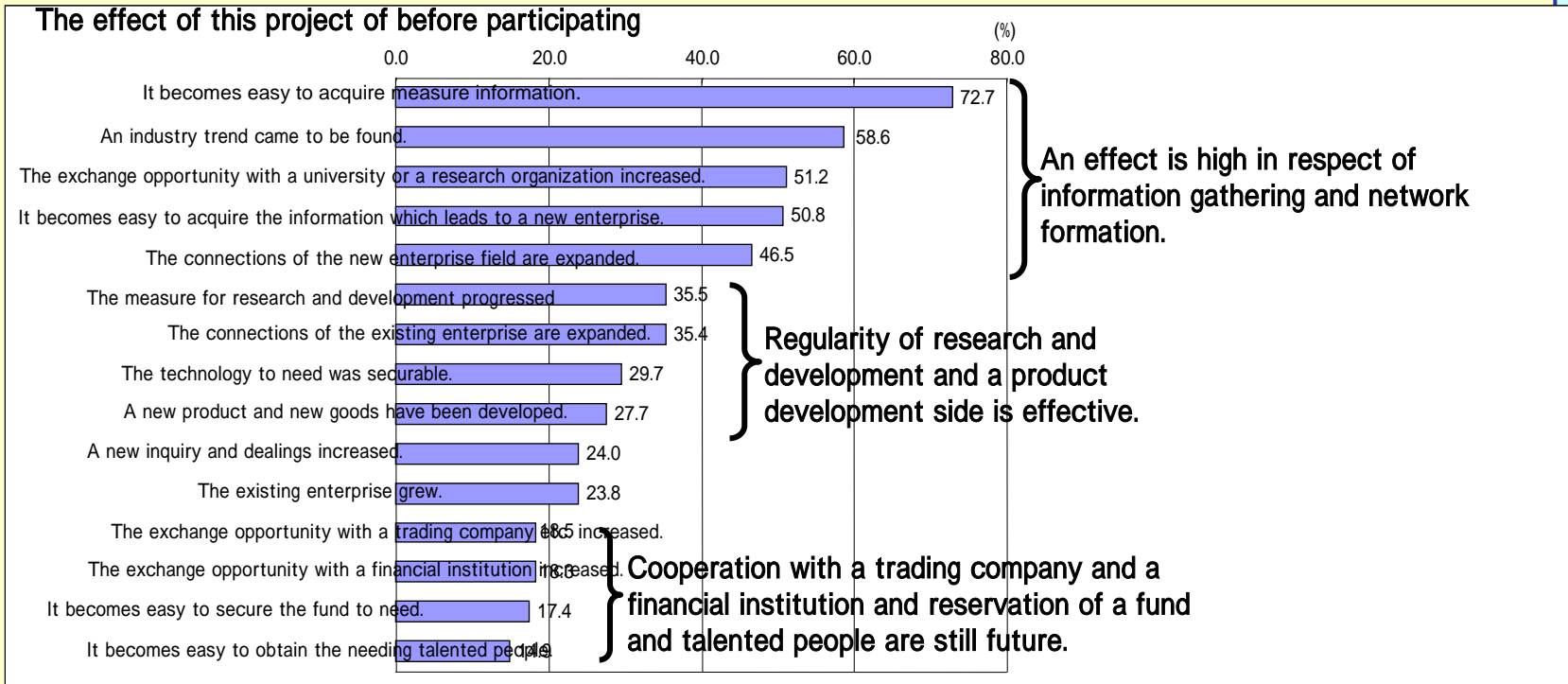
The old result of the industrial cluster policy

1 . The old result of the industrial cluster policy

(1) Network formation track record

(participation company: about 5,800 companies, participation university : about 220 universities)

The network formation effect has shown up and a future preponderant subject is creation of concrete business.

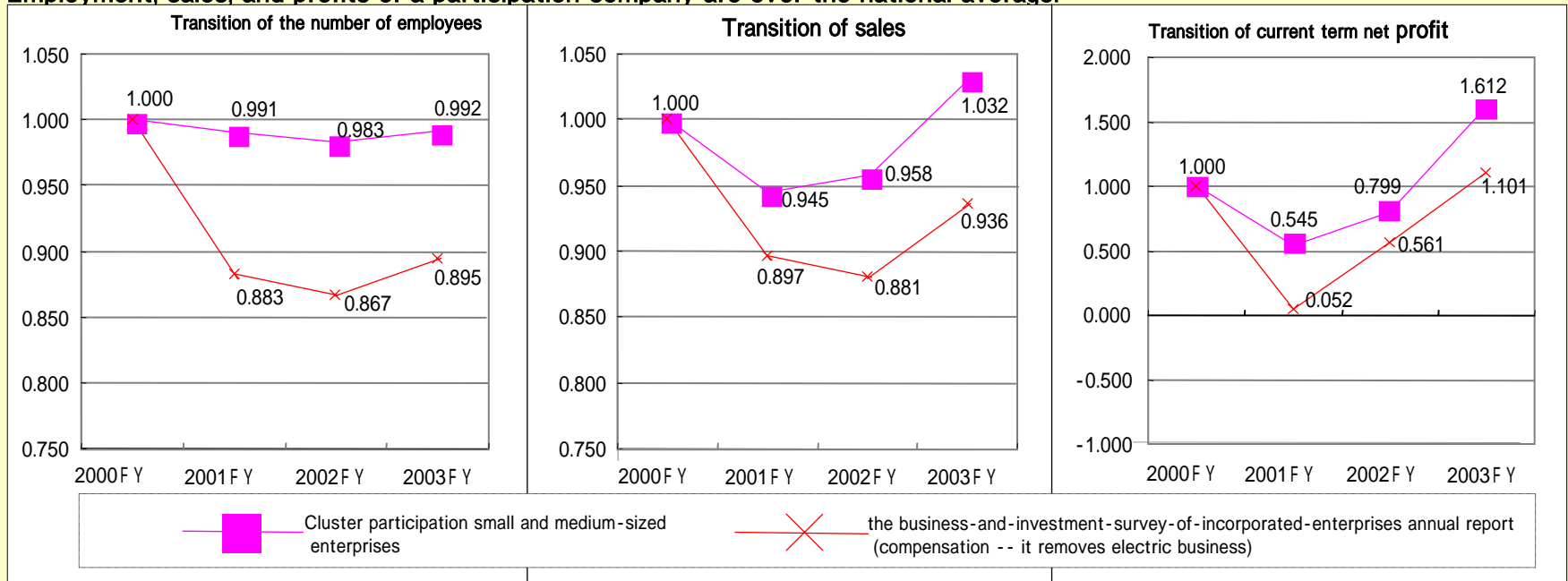


Source: Participation company questionnaire (enforcement in December, 2004 - January, 2005)

(3) Participation company questionnaire result
The innovation effect by network formation
is considered .

The company where cooperation newly started	38.5%
The company which started the new enterprise	58.7%
The company which performed the second foundation	18.9%
University venture total	133 affairs

(4) Transition of the achievements of a participation company (total except the big business)
Employment, sales, and profits of a participation company are over the national average.



Notes: Cluster participation small and medium-sized enterprises total only for the company which has acquired data for four consecutive terms. Industrial classification percentage is set up as the same as an industrial cluster planned participation company, and the numerical value of the business-and-investment-survey-of-incorporated-enterprises annual report adjusts it. Exhibition: Teikoku Databank COSMOS2 data, finance "business-and-investment-survey-of-incorporated-enterprises annual-report" each year version

1 . A setup of the target range of the cluster policy

< 1st term (2001 ~ 5) Industrial cluster's starting term >

Based on the actual condition and the policy needs of a cluster, about 20 are started as an industrial cluster planned project which a country takes the lead and advances, and "the network whose face is visible" used as the foundation of an industrial cluster is formed, a self-governing body cooperating with the cluster developed uniquely.

< 2nd term (2006 ~ 10) The growth phase of the industrial cluster >

The concrete enterprise is developed while advancing network formation succeedingly. Moreover, management innovation of a company and venture creation are promoted simultaneously. In addition, reexamination of a project and starting of a new project are performed flexibly if needed.

< 3rd term (2011 ~ 20) Autonomous development term of the industrial cluster >

While promoting network formation and concrete enterprise deployment further, independence-ization with the financial aspects of industrial cluster activity is attained, and autonomous development of an industrial cluster is aimed at.

2 . An industrial substantial cluster plan and introduction of a policy management (PDCA) system

Individual plan: It decides upon the individual plan which consists of a vision, a scenario, a target, etc. for every project for a target range 2nd term term, and policy evaluation by the PDCA (Plan-Do-Check-Action) method is performed.

Whole plan: It decides upon a whole plan based on an individual plan. A plan period is made into five years (it will be middle evaluation in 3rd), and the whole target and policy tool common to the plan according to each are collected.

Monitoring of the policy effect: It is important to perform more efficient feedback by performing the many-sided grasp which called the c business-conditions improvement effect and d innovation result with the b area resource fullness effect and the flow base as the a policy cooperation effect and a stock base, and was called e economical result as a final effect as monitoring of the policy effect.

3 . Decision of an individual project plan

Vision concerning industrial cluster formation: Development prospect which analyzed the present condition (industrial resources, local characteristic, etc.) of regional economy industry, and was based on this Creation. Moreover, it is based on the view and plan concerning industrial policies, such as "Nakagawa Report (Toward a Sustainable and Competitive Industrial Structure)", "an industrial technical strategy and a technical strategy map", and "Science and Technology Basic Plan", and a science and technology policy.

The scenario and target of the project : The scenario (about start time and a plan period, it adjusts independently by judgment of each project) and target concerning a target range 2nd term are set up.

(Common target) The new enterprise start number of cases (per company the number of the whole in a participation company, number)

(Selection matter) An industrial scale (sales in the area of an object type of industry), the number of venture creation, and participation company. The number of the second foundations, the number of success examples, the number of employers, and sales which can be set Etc.

Strategy for target achievement: Formation of 1. network, 2. cooperation enterprise support ((1) research and development, (2) foundation, (3) market exploitation, (4) cross-industrial cooperation, personnel training, etc.), cooperation with 3. organs concerned

fiscal year plan: The degree creation of every year. Progress of a situation is always fed back to a scenario.

4 . The subject according to support field

Support for networks : Cooperation with a local self-governing body and an industrial support organization (core support organization of especially a local platform), organization strengthening of a promotion organization

development : Cooperation strengthening with a technology licensing organization, a public establishment test research organization, and a public organization, intellectual property protection

Incubation organization : Strengthening of the soft support for a company, and formation of a mini cluster

Market exploitation : Tie-up with specialists, such as practical use of a selling substitute system, a trading company, IT, etc., and marketing

Cooperation with a supply-of-investable-funds organization : Linkage with functional strengthening of relation cypridium banking

Personnel training : Training of an excavation and training of a core person, the production talented people of a thing, and judge talented people

5 . Expansion of the framework of the industrial cluster policy

(1) Construction of cooperation organization with other government offices concerning a local cluster policy

"A local technology cluster cooperation measure group" is set up under Council for Science and Technology Policy, and a liaison conference with a related government office is installed in a center and a district block. Cooperation with an intellectual cluster enterprise is strengthened.

(2) Maintenance of the nationwide network concerning a new industry and new enterprise creation support

While improving the national network which obtained broad participation of the industrial cluster promotive body of an every place region, an industrial support organization, a university, the industrial world, etc., cooperation with the core-support organization of an area is strengthened.

(3) Cooperation activities with an overseas cluster

The network of the overseas aiming at oversea market exploitation, a direct inward investment, and information dispatch is formed.

The example of the development strategy in an industrial cluster planned project, and a subject (production field of a thing)

·At TAMA, it aims at a world leading new industrial creation base by connecting by network taking advantage of local potential.

·By Machine Project to Newly Generate the Machinery Industry in the Chugoku region, ME field which was tackling regionally is taken up, and the activity in sub-cluster is thought as important and it is developing.

	A common matter also including other project examples (notes)
<p>The conditions of a cluster</p> <ul style="list-style-type: none"> ·Element conditions (talented people, a fund, technology, etc.) ·Competition environment · A related supporting industry ·Demand conditions 	<p>Although industrial former type accumulation is becoming weaker, on the other hand as advanced parts and a supply base of material, it has a new appreciation.</p> <p>Although there is also a place which the scientific research organization for performing industry-university cooperation is locating, there are not many places where industry-university cooperation is progressing completely.</p> <p>The talented people supporting the production of an advanced thing are downward tendencies.</p>
<p>The development strategy of a cluster</p>	<p>Industry-university cooperation, the cooperation from industries, and cooperation of various support organization aim at the new product development of the existing company, and new enterprise deployment. (The second foundation support)</p> <p>Together with activity in a wide area, cooperation with "base" activity of a city zone and prefecture level is strengthened.</p> <p>Narrowing down of the important field.</p>
<p>Concrete subject</p>	<p>Thick cluster activity which focused.</p> <p>Full-scale network formation</p> <p>Further industry-university cooperation, cooperation result appearing in great numbers from industries</p> <p>Organization strengthening of independence-izing in respect of the financial affairs of a promotion organization etc.</p> <p>Cooperation strengthening with the policy of a Knowledge Cluster and a local self-governing body.</p> <p>A coordinator's cooperation strengthening.</p> <p>Utilization technical development and personnel training of the production of a next-generation thing.</p> <p>Market exploitation and strengthening of the support organization in a marketing side (even if it succeeds in technical development, industrialization is impossible, and there is no sales performance).</p> <p>Cooperation strengthening with a local financial institution.</p> <p>A coordinator's skill rise and the excavation by the coordinator.</p>

Notes: It was aimed at 9 projects of An Industry Promotion Project for Information Technology, Life Science and Cutting-edge manufacturing (Tohoku), Regional Industry Revitalization Project (Kanto), Project to Create Manufacturing Industry in Tokai Region (Chubu), Project to Create Manufacturing Industry in Hokuriku Region (Hokuriku), Active manufacturing Industry Support Project (Kinki), Project to Newly Generate the Machinery Industry in the Chugoku region (Chugoku), Shikoku Techno Bridge Plan (Shikoku), Kyushu Silicon Cluster Project (Kyushu), Okinawa Industry Promotion Project(Okinawa).

The example of the development strategy in the industrial cluster planned project, and a subject (biotechnology field)

- A large number [in Kinki / a university, a medicine manufacture company, etc.]. The biotechnology venture creation used as a cluster core is thought as important.
- In Hokkaido, a company aims at large-boned research and development and business matching as a whole in little.

	A common matter also including other project examples (notes)
<p>The conditions of a cluster</p> <ul style="list-style-type: none"> ·Element conditions (talented people, a fund, technology, etc.) ·Competition environment · A related supporting industry ·Demand conditions 	<p>There is a base where many medicine system universities used as a core, medicine manufacture companies, research organizations, etc. exist, and the base where such company accumulation is weak also exists by one side.</p> <p>Although a biotechnology venture is being born in recent years, management talented people are insufficient.</p> <p>Participation of the big business to cluster activity is a small number.</p> <p>The market scale of new biotechnology industry is 1,300 billion circle.</p> <p>The competition in the international market of demand industries, such as pharmaceuticals industry and agriculture, is weak.</p>
<p>The development strategy of a cluster</p>	<p>Support with emphasis on creation training of a biotechnology venture, especially concentrated-investment support of research and development.</p> <p>In accordance with activity in a wide area, cooperation with "base" activity of a city zone and a prefecture level is strengthened.</p>
<p>Concrete subject</p>	<p>Promotion of cooperation with the big business and a biotechnology venture.</p> <p>Organization strengthening of a promotion organization</p> <ul style="list-style-type: none"> · Cooperation strengthening with the policy of a Knowledge Cluster and a local self-governing body. <p>Promotion of the further research and development, promotion of industry-university cooperation.</p> <p>Incubation institution maintenance (wet lab).</p> <p>Expand the coordination function for supporting growth of a biotechnology venture, and support enterprise cooperation and market exploitation.</p> <p>Maintenance of a biotechnology venture investment fund etc.</p> <p>A key person's excavation, training of judge talented people.</p> <p>Cultivation of the management talented people who bear industrialization of biotechnology, and technical talented people.</p> <p>Environmental maintenance of promotion of biotechnology industrialization (the national promotion of an understanding, proposal to maintenance of various standard and systems).</p>

Notes: It was aimed at 4 projects of Hokkaido Super Cluster Promotion Project (biotechnology industrial cluster)(Hokkaido), Fostering Bio-Ventures (Kanto), Tokai Bio Factory Project(Tokai) and Bio Five-Star Company &Tissue Engineering Project (Kinki).

The example of the development strategy in an industrial cluster planned project, and a subject (IT field)

- In Hokkaido, the company group of various roots cooperates strategically and aims at business opportunity expansion.
- In a metropolitan area, it aims at creation of IT venture business accepted in the world by harnessing and connecting the greatest accumulation in domestic by network.

	A common matter also including other project examples (notes)
<p>The conditions of a cluster</p> <ul style="list-style-type: none"> · Element conditions (talented people, a fund, technology, etc.) · Competition environment · A related supporting industry · Demand conditions 	<p>(Soft system)</p> <p>In a metropolitan area and other areas, it is a gap to the degree of company accumulation, and its contents of composition.</p> <p>The company about an inclusion system and the area which a researcher accumulates also exist.</p> <p>(Hard system)</p> <p>The big business and the related company of the semiconductor field are accumulated.</p>
<p>The development strategy of a cluster</p>	<p>(common to a soft system and a hard system)</p> <p>Creation of a venture business.</p> <p>Creation of the model case which can lead an area.</p> <p>The technical development by the strategic cooperation in the industrial world and the universities and the product from industries, academia and government cooperation is promoted.</p> <p>Creation of the company internationally accepted in a metropolis.</p> <p>the area towards market expansion -- a measure across boundaries.</p> <p>(Hard system)</p> <p>The expansion of a local company with the competitive power accepted in the world with the latest technology and growth are supported.</p> <p>Personnel training and industry, academia and government wide area network construction which used the university as the core.</p>
<p>Concrete subject</p>	<p>(common to a soft system and a hard system)</p> <p>Promotion of cooperation with other types of industry and area outside.</p> <p>Training and mobilization of management system talented people.</p> <p>Construction of the business model which gazed at internationalization.</p> <p>Shift to self-supporting activity of a promotive body etc.</p> <p>Acceleration of success case creation.</p> <p>Acceleration of support for close industry-university-government .</p> <p>(Hard system)</p> <p>Cross-industrial cooperation, such as a car and biotechnology, is subjects.</p>

Notes: It was aimed at 4 projects of Hokkaido Super Cluster Promotion Projects (information industry cluster) (Hokkaido), Fostering IT-Venture(Kanto), Kansai Information Technology Cluster Promotion Project, and Kyushu Silicone Cluster Project.

The example of the development strategy in an industrial cluster planned project, and a subject(Environmental field)

- Deployment which harnessed accumulation of the correlative industry in three eco-town plans and an area in Kyushu.
- In Tohoku, it thinks that a local company utilizes the characteristic technology of a university as important. Cooperation with a local coordinator is thought as important on promotion.

	A common matter also including other project examples (notes)
<p>The conditions of a cluster</p> <ul style="list-style-type: none"> •Element conditions (talented people, a fund, technology, etc.) •Competition environment • A related supporting industry •Demand conditions 	<p>The area where the eco-town plan is developed is seen.</p> <p>The industry which is characteristic in an every place region, and a research organization accumulate energy or an environmental related maker, industrial complex, etc.</p> <p>In the measure for an once antipollution measure, the technology of the measure against environmental damage caused by mining is accumulated, or the area in which industry, academia and government's network is formed also exists.</p>
<p>The development strategy of a cluster</p>	<p>The characteristic enterprise field which employed the technical seeds of an area efficiently is developed, and it sets in the energy field and the environmental field, and is appearing in great numbers of a world top company.</p> <p>The research-and-development project formation through cooperation of industry, academia and government, improvement in technical power of small and medium-sized enterprises, production of a mechanism that leads to the advance to the environmental field.</p> <p>Promotion of an eco town enterprise, and promotion of cooperation of an eco town mutual .</p> <p>Sub cluster is formed for every enterprise field and industry, academia and government cooperation and industrialization support are strengthened.</p> <p>There is also an area which introduced the verification system about the environmental load reduction effect, and it is .</p>
<p>Concrete subject</p>	<p>It is faced with many subjects towards industrialization of the result of network activity, and continuous support is required.</p> <p>Management of a promotive body is put on track.</p> <p>Training of environmental business talented people is required.</p> <p>A mutual complement and cooperation with artery industry and vein industry.</p> <p>Acceleration of cooperation by substantial network organization, such as coordination activities.</p> <p>It is injection strengthening synthetically about measures, such as a verification system about public supply, the special administrative region region by structural reform, and the environmental load reduction effect.</p>

Note: It was aimed at 4 projects of an Industry Promotion Project for a Recycling-oriented Society (Tohoku), KANSAI Energy & Environment Cluster Promotion Project (Kinki), Project to Form a Circulative Type of Industry (Chugoku), Kyushu Recycle and Environmental Industry Plaza (K-RIP) (Kyushu) .

(Reference) The example of a success (bio-business network)

Hokkaido Bio-Industrial Cluster's Developing Process

