

● Knowledge Cluster Initiative

# Collaboration with Other Ministries and Agencies

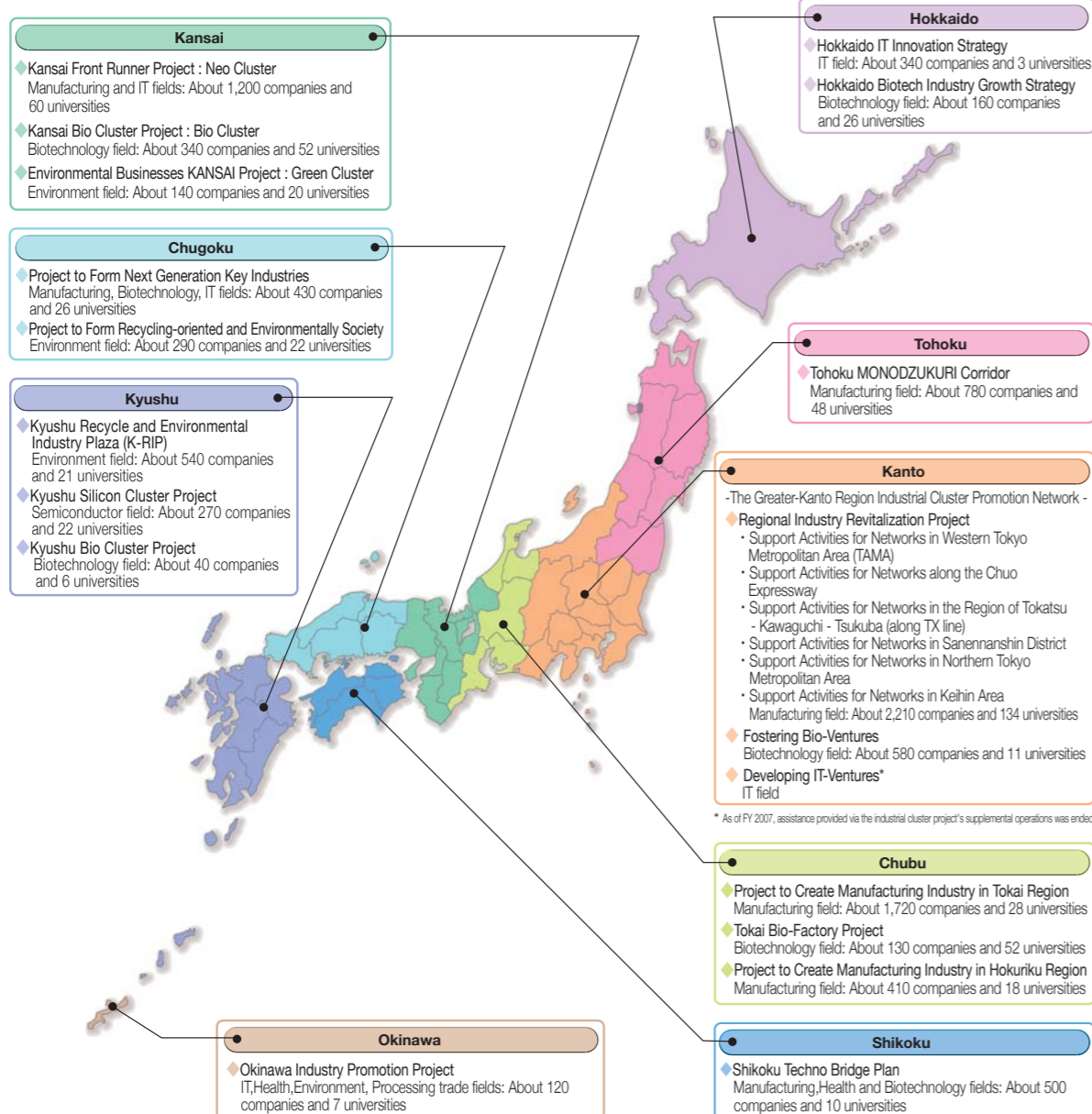
## Collaboration with METI(Industrial Cluster Project)

Collaboration with the Industrial Cluster Project promoted by the Ministry of Economy, Trade and Industry (METI) and other projects has been further promoted. In fiscal 2008, the successes of the efforts of both ministries were gathered at one venue in Yokohama as Cluster Japan 2008. In addition to this, three Regional Cluster Seminars were jointly sponsored in the regions.

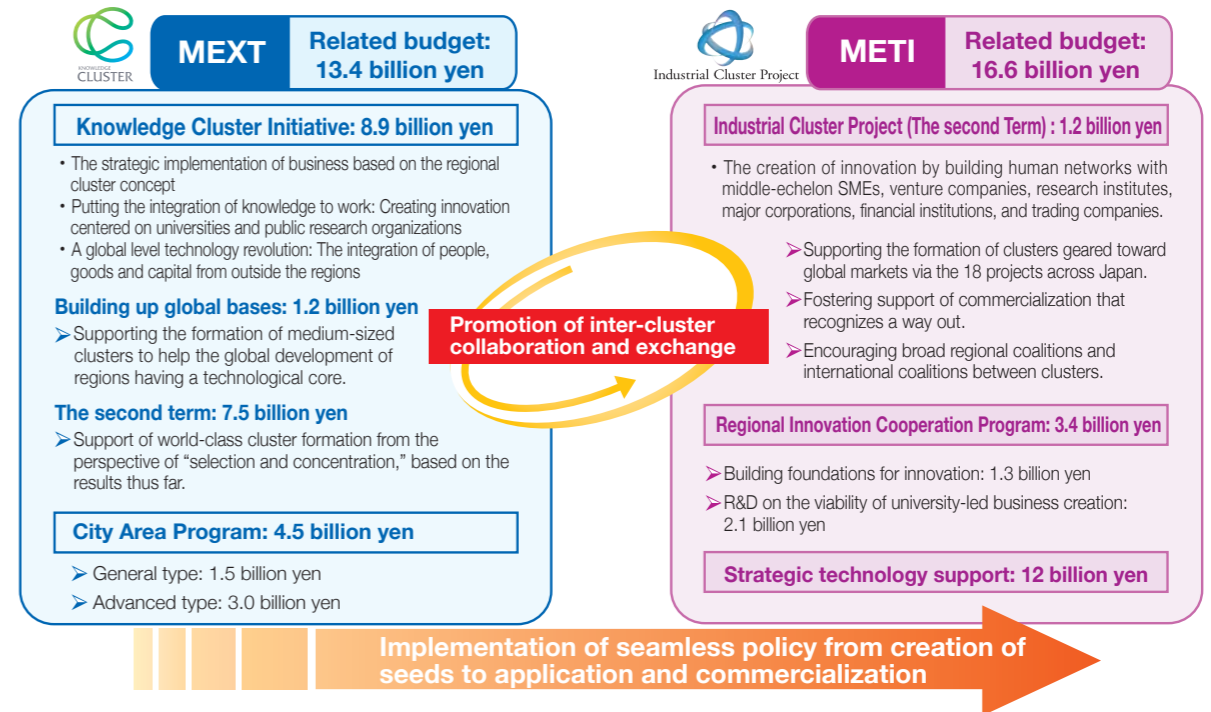
Policies of both ministries have been mutually complementary, e.g. the seed generation achievements of MEXT policies have been applied and commercialized by METI, and conversely, feedback of market needs has led to R&D of new seeds.



## Regional expansion of 18 Industrial Cluster Projects nationwide (FY2009)



## Outline of the budget related to Regional Clusters for FY 2009



## Publicity works for Promotion of Regional Cluster Creation

### The 8th Conference for the Promotion of Collaboration among Business-Academia-Government

(held on June 20-21, 2009 at Kyoto International Conference Center)  
 The main theme of the conference was "New challenges of open innovation-style collaboration among industry-academia-government developing from approaches towards various restrictions the world faces including environmental and resource restrictions." At the conference, frontline leaders and people with practical experience engaged in collaboration among industry-academia-government gathered together in order to carry out more in-depth discussions on new directions of collaboration among industry-academia-government. For this purpose, they shared various topics, extracted problems, exchanged information, held dialogue, and interacted with each other. New proposals were made regarding the best direction for future collaboration.



The Award for Contribution to Collaboration among Business-Academia-Government: Eleven awards including the Prime Minister's Award were granted to 17 projects and 43 people.



Exhibition booths: Industrial, academic, and governmental organizations(270) exhibited their research results.

In addition, the conference provided opportunities to hand out The Award for Contribution to Collaboration among Business-Academia-Government, to introduce examples of collaboration among industry-academia-government presented by universities, research organizations, TLO, and private companies, to report research results, to exhibit trial models, and to exchange informations and dialogue between participants results.

### Regional Cluster Seminar

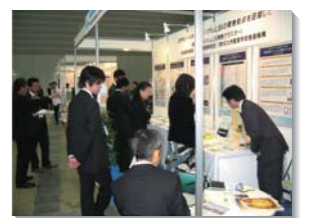
The Regional Cluster Seminar has been held since FY2005. The purpose of the seminar is to infiltrate/spread cluster policies in individual region and to promote cluster formation based on regional initiatives. The seminar provides opportunities for collaboration and interaction to create a desirable cluster in individual region and for discussing strategies for regional cluster formation by workers from local industry, academia, and government. The seminar is held in three different regions per every year; in FY2008, it was held in Shimane, Fukushima, and Ehime.



Regional Cluster Seminar (November 20, 2008 at Big Pallet Fukushima)

### Cluster Japan 2008

"Cluster Japan 2007," a biggest cluster-related event in Japan, was held in FY2007. As a project continued from the previous year, "Cluster Japan 2008" was held in FY2008. The Japan-EU Cluster Forum was also held in collaboration with EU.



Cluster Japan 2008 Techno Fair (December 2 and 3, 2008 at Pacifico Yokohama)

Support for the Center for industry-academia-government collaboration

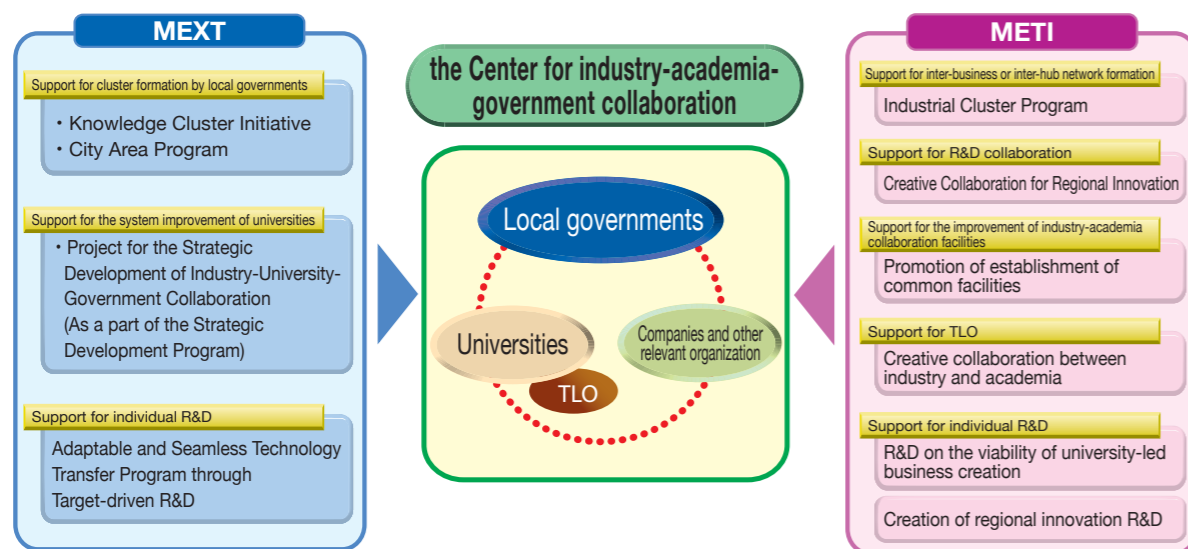
The Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Ministry of Economy, Trade and Industry (METI) are aiming to establish an innovation ecosystem, which enables the continuous and constructive creation of innovation. To accomplish this, the ministries are working collaboratively to select two types of the Center for industry-academia-government collaboration as described below. Organically combined with various policies enforced by relevant ministries or local government, the center will be executed comprehensively or intensively. It enables industry, academia, and government to collaborate organically so as to advance activities including human resource development and basic researches as well as commercialization and industrialization.

“the Regional center for industry-academia-government collaboration”

The center is for collaborative activities of the industry-academia-government collaboration. It aims to enhance the competitiveness of regional industries and to reform industrial structures through creating new industries by utilizing the region's characteristics and strengths.

“the Global center for industry-academia-government collaboration”

The center is for collaborative activities of the industry-academia-government collaboration in various fields and integrated areas while utilizing the region's characteristics and strengths. It boasts the world's leading R&D potentials including the world's best-quality and widest-scale researchers as well as accumulated research infrastructure.



The regions selected as “the Global centers for industry-academia-government collaboration” in FY2009

Center's name	Proposing municipalities	Proposing universities	Proposing Companies
Hokkaido University Research and Business Park	Hokkaido Prefecture, Sapporo City	Hokkaido University	Hokkaido Economic Federation
Tokai region The formation of an environmentally-friendly and high-value-added manufacturing hub center	Aichi Prefecture, Gifu Prefecture, Mie Prefecture, Nagoya City	Nagoya University, Nagoya Institute of Technology, Toyohashi University of Technology, Gifu University, Mie University	Nagoya Chamber of Commerce and Industry, Chubu Economic Federation, Gifu Industry Associates
Kansai Bio Medical Cluster	Osaka Prefecture, Hyogo Prefecture, Kobe City, Osaka City	Osaka University, Osaka Prefecture University, Osaka City University, Kobe University, University of Hyogo	Kansai Economic Federation, Osaka Chamber of Commerce and Industry, Osaka Pharmaceutical Manufacturers Association, Kobe Chamber of Commerce and Industry
Collaboration center for future-oriented industry formation launched by Kyoto	Kyoto Prefecture, Kyoto City	Kyoto University, Doshisha University, Kyoto Institute of Technology	Kyoto Chamber of Commerce and Industry
Integrated collaboration center for new-growth industry clusters	Fukuoka Prefecture, Fukuoka City, Kitakyushu City	Kyushu University, Kyushu Institute of Technology, University of Kitakyushu, Kurume University, Waseda University	The Fukuoka Advanced System LSI R&D Hub Promotion Committee, General Meeting of Fukuoka Prefecture Bio-Industry Center Promotion Conference, General Meeting of Fukuoka Strategy Conference for Hydrogen Energy, Kitakyushu Chamber of Commerce and Industry, Fukuoka Chamber of Commerce and Industry

● Ten regions are selected as “the Regional centers for industry-academia-government collaboration” and five are selected as “the Global centers for industry-academia-government collaboration” as of June, 2009.

Application of Research Achievements

■ Hamamatsu (Hamamatsu Optronics Cluster)

Research Theme : Highly functional microscope and operation navigation systems

The Hamamatsu region developed a basic technology based on its research theme of Knowledge Cluster Initiative, “Highly functional microscope and operation navigation systems.” They created a trial model of the operation navigator to a practical level as a METI Consortium R&D Project for Regional Revitalization (implemented in FY2007). By utilizing the developmental achievements of the FY2007 projects, we succeeded in developing the world's first navigator for endoscopic surgery, which can follow the patient's movements, as a METI Creation of Regional Innovation R&D Project (implemented in FY2008).

They cultivated technologies in the Knowledge Cluster Initiative projects and utilized them to make a trial model leading to practical application as a METI project. The region grew to be designated as a Special District for Development of Advanced Medical Care. They started the region's own project to improve the trial model for commercialization in FY2009.



Development of basic technologies

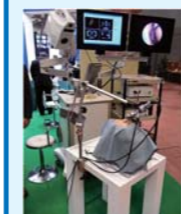
FY 2002 - 2006

As Knowledge Cluster Initiative (1<sup>st</sup>stage) projects, collaborative researches were conducted with Hamamatsu University School of Medicine, Shizuoka University, Pulstec Industrial Co., Ltd., and Amelio Co., Ltd.. As a result, they successfully developed 1) a 3D measurement scanner with the grating pattern projection method, which enables the rapid measurement of facial shapes, using optical shape measurement technology and 2) a sinus surgical instrument equipped with elaborately aligned multiple markers. The basic principle of the surgical navigation system that they developed is as follows: the CT data for the patient's neck and head are obtained from the CT images taken in advance of the surgery. The data are aligned with the data of the patient's facial shape measured during surgery. Also, the location of the tip of the surgical instrument is calculated during surgery. By combining these data, the location is automatically displayed in three cross sections of CT images in a few seconds.



Creation of trial models for practical application

FY 2007-2008



Utilizing the METI Consortium R&D Project for Regional Revitalization, Hamamatsu University School of Medicine, Shizuoka University, Pulstec Industrial Co., Ltd., and Amelio Co., Ltd. co-developed trial models based on the achievements of the Knowledge Cluster Initiative projects while considering practical application. Also, the world's first endoscopic navigator that follows the patient's movements was developed as a METI Creation of Regional Innovation R&D Project



Improvement for commercialization

FY 2009-

After the METI Creation of Regional Innovation R&D Project ended, they started the region's own project. It aims to support safer endoscopic surgery, and the trial models that they have developed have been improved. They are also developing a surgical navigator that displays the location of the tip of the surgical instrument more accurately as well as a new device that displays the location of the endoscopic view precisely.

Realization of secure, safe, and prompt medical treatment by developing highly functional microscope and operation navigation systems