

Japan Strategic Support for Regional Nanotech Development

-Highlights on the 3rd Nano Initiatives Workshop held in Nagoya on Aug. 1st 2005

The 3rd Nano Initiative – From Knowledge Cluster to Industry Cluster was held on August 1st 2005 at the Nagoya City of the Aichi Prefecture (where the Expo 2005 is currently held. The 2nd Nano Initiative was held in Nagano on Aug 3rd 2004 focusing on nanotech project presentations and discussions on collaborations opportunities.).

The event was by invitation only and well attended by regional government policy makers and local officials who consists of over 50% of the 100 attendants. The workshop theme was on Technology Transfer chaired by Dr Osamu Takenaka, Project Director of the Aichi/Nagoya Knowledge Cluster Headquarter-Nagoya Nano-Technology Manufacturing Cluster. Dr Takenaka gave an opening presentation on Technology Transfer – Germany Tech Transfer Model and Nagoya Model. Dr Takenaka started the outline of the technology concept and target of the Nagoya Nanotechnology Manufacturing Cluster, which is to produce autonomic Nano-Production Devices that could produce products with high value added and less environment hazard. “Nagoya University has world top nano processing technologies and Nagoya University of Technology has the world class materials technology, together with the existing industry infrastructure in Nagoya area (strong SME in precision manufacturing), with the Nagoya tech transfer model, we will position ourselves as one of the leaders in nanotechnology manufacturing industry in the world”, claimed Dr Takenana.

Dr Takenaka shared with the participants his findings during his recent site visits to Germany. He visited 4 organizations in Germany which have successful tech transfer experience with local industries in Achen (Advanced Medical Optics and Achen University of Technology), Berlin (The Federal Institute for Materials Research and Testing and The Fraunhofer Institute for Reliability and Microintegration and Saarbrucken (Institute of Nano Materials led by Prof. Helmut Schmidt).

There are 10 other speakers from government agencies, universities and industries which are involved in the Regional Science and Technology Promotion program funded by METI and MEXT:

1. Dr Horii Masaru, Engineering Faculty, Nagoya University, presented from University Seeds to Venture and Commercialization
2. Ms Sasaki Masako, METI Chubu (central Japan) Office presented Technology Transfer Policy and Infrastructure
3. Dr Kubo Yoshiichi, Nagano Regional Consortium R & D- Realizing small production in rich varieties of small and medium size OLED Panel manufacturing
4. Dr Ozawa Motoki, Central Japan Automotive Freeway Region (include Nagano and Yamanashi prefecture and between Nagoya and Tokyo) Industry Cluster Plan (including support of workshop/forum, technical network/forum and research projects)
5. Nishino Norikazu, from Kyushu University of Technology and Kyushu Cluster, presented Tech-transfer of the fusion areas in Nano- Bio- Electronics

6. Ichihara Tatsuro, Director of the Kyoto Nano Cluster presented the Kyoto Region Tech-transfer Current Status and Topics
7. electrode and hydrogen absorption materials for Fuel Cell Batteries
8. Mihara Takao, Cluster Manager of Osaka Science and Technology Center presented Manufacturing Cluster Association Business Outline (Nanotechnology Focused)
9. Tamura Toru, Chubu Division and Electricity/Gas North Japan Division, METI, presented Cooperation of the Creation of Hokuriku Region (North Japan) Manufacturing Industry Project and Knowledge Cluster Project
10. Izubo Akira, S & T Coordinator of Mie Prefecture Industry Support Center, presented Management of Research with Nurture University Seeds and Targeting at Commercialization

And finally Mr Maruse Susumu, from Aichi/Nagoya Knowledge Cluster made the concluding remarks.



Fig. 1: Dr Osamu Takenaka (Director of the Nagoya Knowledge Cluster) presenting the Nagoya Model for the Nanotechnology tech-transfer.

Background of the Nano Initiative and MEXT Knowledge Cluster

The full name of the cluster initiative is Promotion of the Cooperative Link of Unique Science and Technology for Economy Revitalization (CLUSTER) and it is under the Regional Science and Technology Promotion Program. The Nano Initiative workshop is an annual gathering of the nanotech related clusters/areas mainly driven by Kyoto, Nagoya and Nagano region. The nano initiative also facilitates cross region/area cooperation and network.

The Regional Science and Technology Promotion Program funded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) started 2002 within the framework of the Japan 2nd Science and Technology Basic Plan where 240 billion USD (assuming a 100yen equals to a 1USD), 1% of Japan GDP over the period of 2001-2005 was allocated for R & D. The Regional S & T Promotion Program consists of Knowledge Cluster Initiative, City Area Program and Innovation Plaza focusing on the 4 priority areas including IT, Nanotech, Environment/Energy and Life Sciences. The program aims to a) enhance the cooperation with the Ministry of Economy, Trade and Industry (METI) Industry Cluster Program, b) foster talents in each region of Japan, c) strengthen human resource development, and d) address the needs for safe and secure society. The program

is also to compensate the decline in the local government budget. A committee for Regional Science and Technology Policy was set up Feb. 2002. The committee consists of 14 members and reviewers who specialize in the 4 priority areas (IT, Nano, Environment and Life Sciences). They are Presidents of universities/national institutes, CEO of SME, lawyers/patent attorney and bank directors. The committee provides analysis, suggestion and implementation of the MEXT policy. The committee also selects, evaluates cluster projects and City Area projects. The selection criteria of the Knowledge Cluster include 1) Basic Factors (research focus, Core Organization, and Infrastructures), 2) Technical Factor (R & D competence and commercialization potential), 3) Systems for Promoting Projects (core organization support capability and structure of the cluster headquarter), and 4) Program carried out by each region (local government systems for promoting S & T, local government long term plan for knowledge cluster and leadership of the local government).

The program is for 5 years with budget starting from USD 170million in 2002 and gradually increasing to USD 220 million in 2005. So far there are 18 Knowledge Clusters established, each with USD 5million /year. The Knowledge Cluster Initiative is to create an innovative and internationally competitive regional base integrates research institution (including universities) and local industries. See Fig.2 for details in its structure.

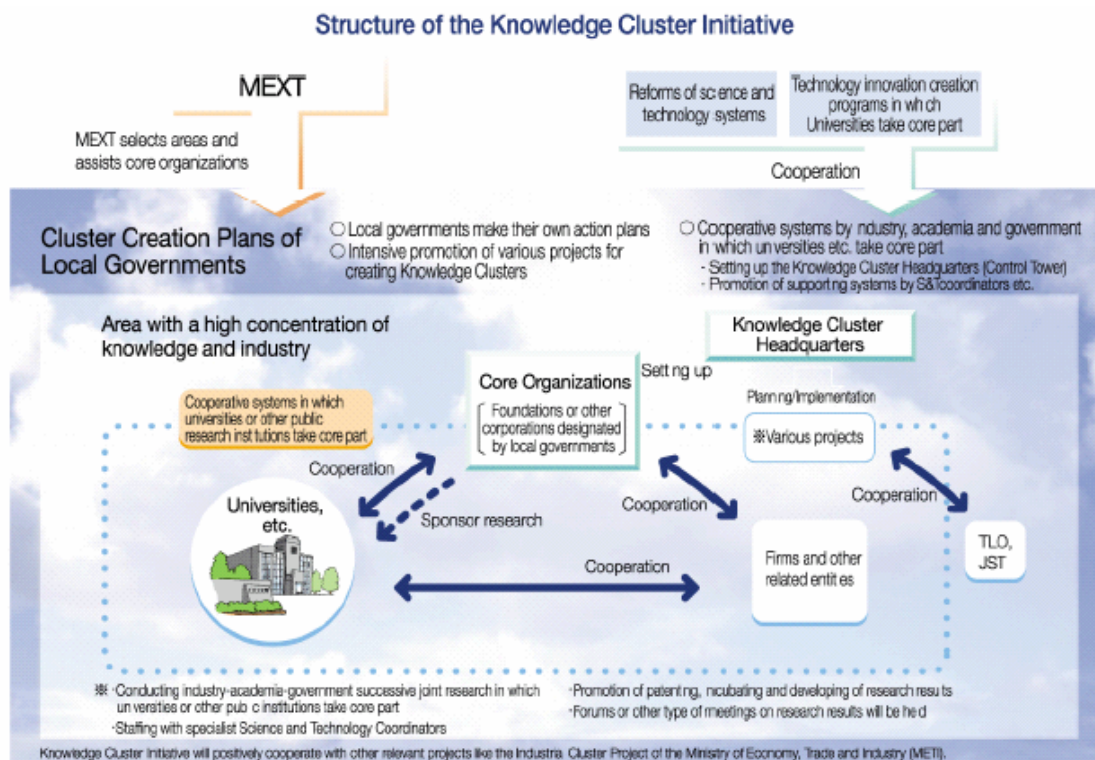


Fig. 2 (source from MEXT)

There are 4 main nanotech Knowledge Cluster including Kyoto Nano Cluster, Nagoya Nano-Technology Manufacturing Cluster, Nagano/Ueda Smart Device Cluster and Toyama Medical-Bio Cluster. See geographic distribution in Fig. 3 for details.

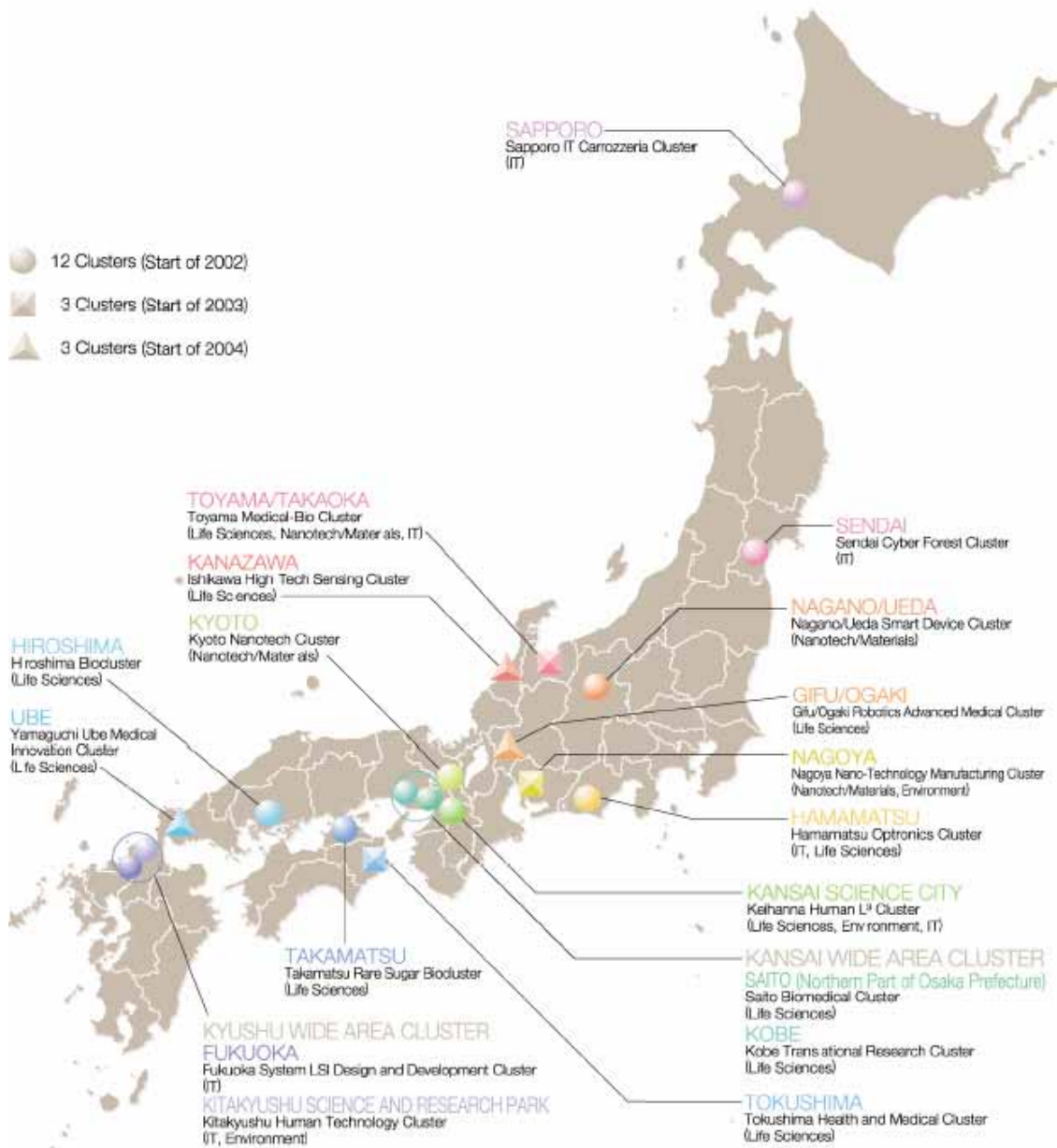


Fig.3 Clusters Distributions (source from MEXT)

The City Area program is to promote industry-academia-government cooperation for generating new technologies and industries. So far there are 27 areas being funded, each area receives USD1million/year for 3 years. The Nanotech focused areas include Central Fukui, Yamagata-Yonezawa, Centra. Iwate-Kamaishi, the Kitagami River Basin, Harima, Kiryu-Ota, Kumamoto, Wakayama, Mie-Ise Bay, and Ehime East.

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