Sapporo IT Carrozzeria Cluster

Sapporo (Fiscal Year 2002-2006)

Life Sciences IT Environment Nanotech/Materials

Aiming to establish manufacturing/IT industry through a local initiative
Creating a human-centered manufacturing IT production base

Core Organization Northern Advancement Center for Science and Technology (NOASTEC Foundation)

Participating Research Organizations (Bold: Core Research Organization)

Industry…B.U.G., Inc., Micronet Co., Ltd., Softfront, Mechanical Engineering Research Laboratory, Hitachi Ltd., Atmark Techno Inc., C's Lab Co., Ltd., INFORNET CO., LTD., Chaos, DENSEI INC., Arm Design, Co., Ltd., CLEAT Inc., NEC Software Hokkaido Ltd., GeneticLab Co., Ltd., Data Craft Co., Ltd., Connect Technologies Corporation, intelligent Link Inc., and others

Academia…**Hokkaido University,** The University of Tokyo, Otaru University of Commerce, Kanazawa University, University of Yamanashi, Future University-Hakodate, Sapporo City University, Hokkaido Tokai University, Hokkaido Institute of Technology, Showa University, Hokkai-Gakuen University, and others

Government…Hokkaido Industrial Research Institute, National Institute of Multimedia Education, National Institute of Advanced Industrial Science and Technology

Project Overview

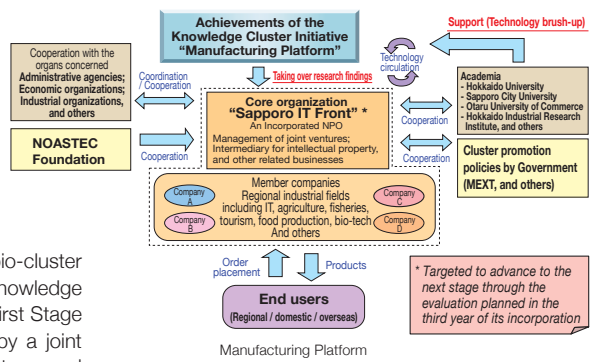
R&D was conducted in the IT industrial field during the period FY 2002 to FY 2006 to achieve the "Creation of Sapporo IT Carrozzeria" (Combining IT element technologies with design, usability and other industrial design techniques) as its Knowledge Cluster Initiative, and educational programs were conducted to transfer the R&D results to companies and engineers in the region, for this project aimed to create a system enabling local IT companies to rapidly create prototypes of quality products through a regional joint venture system.
The final goal was set as the development of a system "Manufacturing Platform," and since the launch of this project in this region, related R&D was conducted and categorized into two types of research: "fundamental research" for developing the "Manufacturing Platform," and "applied research" for applying fundamental research findings to create prototypes , and as well as the prompt prototype designing , the "Manufacturing Platform" spawned two prototypes, which was sufficient to validate its functionality.

Main Results

1. "Manufacturing Platform" constraction of a base

The Sapporo IT Carrozzeria project aimed to create a group of companies capable of providing comprehensive solutions, including product planning, software development, and prototype fabrication by transforming this region's IT products. To achieve the goal would mean creating a joint venture system utilizing the "Manufacturing Platform," whereby unified process management of various development environments is possible in the development of IT devices.

In Hokkaido University, a major research institution, "the Sapporo bio-cluster design 'Bio-S'" was Construction of a base developed as an knowledge cluster initiative in the Second Stage, while part of the result of the First Stage enterprise was developed as part of the same scheme; primarily by a joint research company, pursuing the continued research of the First Stage and tackling efforts to industrialization. Moreover, measures by which the NPO Sapporo IT front succeeded in forming the network of industry-academia-government containing researchers, with a particular focus on industrialization, were focused upon. The Northern Advancement Center for science & Technology which was a core organization, engages in management as a key member of the NPO, and supports the resulting industrialization "Northern Advancement Center for science & Technology" etc.



Manufacturing Platform

Information appliances-model products (SIP presence server & presence box)

2. Development of Information appliance-model products (SIP presence server & presence box)

An SIP presence server and a presence box incorporated in a system as a client were prototyped. Both have unique features, such as a presence (status monitoring) function that transmits real-time status information concerning devices on the Internet; and Instant Messaging, a real-time exchange of short texts.

*SIP (Session Initiation Protocol: A type of protocol used for exchanging messages on the Internet)

Development of MRR (Multi-Resolution Representation) Mesher

3. MRR (Multi-Resolution Representation) Mesher

The MRR Mesher is a system that can flexibly generate mesh data from various forms of raw data such as CAD, X-ray CT scanning and CG data. This mesh data is suitable for FEM analysis, which predicts overall behavior by dividing an object with complicated shape and properties into simple parts. The adoption of the unique MRR in this research enabled the high-speed generation of mesh data with drastically reduced numbers of elements while maintaining form accuracy and element quality.

4. Refined "My Logger" Talented-people education and commercial production by the formation of the Re-design

A joint workshop for product design was held with overseas design groups, and a mock-up of an IT device "My Logger (a USB digital phone recording system)" was created through a redesigning process.

Refined "My Logger" Talented-people education and commercial production by the formation of the Re-design