

## Creating new regional industries and developing business in the area of high-tech sensing and knowledge handling technology/Building a safe, anxiety-free, healthy and vigorous proactive society

### Overview

The Kanazawa area (Ishikawa Science Park) has high research potential in the field of brain function measurement and knowledge handling technology (Brain Technology). By exploiting this advantage, the area will develop a supporting system for diagnosis of early stage dementia and prevention as a main target in this project. By cultivating the research outputs of brain technology and integrating existing industries such as electronics, machinery and fibers, this region aims to establish a high-tech sensing cluster which will yield medical and IT industries as the core industries of a proactive society, and will design brain examination systems for inhabitants as well.

### Cluster Headquarters

- **President** ..... Masanori Tanimoto (Governor, Ishikawa Prefecture)
- **Vice President** ..... Hirotooshi Shibuya (Chairman, Ishikawa Machinery and Electronics Association)
- **Project Director**..... Shuichi Nakagawa
- **Chief Scientist (CS)** ..... Ryoji Suzuki (Director, Human Information System Laboratory, Kanazawa Institute of Technology)
- **Science and Technology Coordinators** Osamu Ishihara, Yoshimi Kakui

### Core Organization

Ishikawa Sunrise Industries Creation Organization (ISICO)

### Participating Research Organizations

(Bold: Core Research Organization)

Industry···Shibuya Kogyo Co., Ltd., Yokogawa Electric Corp. Eagle Technology Inc.,  
Ishikawa Seisakusho, Ltd., Hitachi Software Engineering, Co.,Ltd., Fujitsu Hokenriku Systems, Ltd.  
Academia··**Kanazawa University, Kanazawa Institute of Technology,**  
**Japan Advanced Institute of Science and Technology (JAIST),** Kanazawa Medical University  
Government···Industrial Research Institute of Ishikawa,  
Medical and Pharmacological Research Center Foundation



Project Director

**Shuichi Nakagawa**

### Towards Healthier and Longevity Society

The purpose of the Ishikawa High-tech Sensing Cluster is to develop technologies for early diagnosis of dementia -- a problem in an aging society.

Development themes include diagnosis equipment, diagnosis protocols, monitoring equipment which covers the behavior of patients in daily life, and clinical evaluation of the efficacy of these devices.

We expect the developed sensing technologies to be used widely, not only for dementia but also for safety and environmental measurement.

In perfecting these technologies, we would like to contribute to achieving a safe and healthy society, while revitalizing the industries of Ishikawa prefecture.

**Shuichi Nakagawa:** 1992 Director of Technical Development and Director of Central Research Facility at Yokogawa Electric Corp.; 2000 President of Yokogawa Research Institute Co., Ltd.

## Outline of the Joint Research by Industry, Academia and Government

The purpose of our joint research is to finish the basic design of a "Diagnosis supporting system for early stage dementia". This will be done by integrating the research activities of regional universities, research institutions and industries with expertise in the field of high-tech sensing/knowledge handling technology. At the same time, we will attempt to establish a basis for new brain diagnostic examination systems for hospitals and communities of the aging society. We will also work to organize a high-tech sensing cluster, and to launch new businesses and industry using the "seeds" created from the cluster.

These research activities will be integrated first into a preventative medical care/diagnostic system, second into a health recovery and self care system, and third into environmental conservation and food-safety systems, and these systems will constitute the proactive society of the future.

### Subjects for joint research

- Developmental research for early stage dementia diagnosis support systems
- Developmental research on fundamental technologies for early stage dementia diagnosis support system and application research in new fields
  - Ultra-sensitive magnetic field sensing technology
  - High-performance biosensor technology
  - Information integration technology
- Development of health recovery and self care systems

