

## Creating a world-class center for integrating "intelligence" and "technology" in the optronics industry, and making this industry a foundation for new industry in the Hamamatsu area

### Overview

Our goal is to focus on "super-visual imaging technology", and thereby support next-generation industry and medicine. By combining the "seeds" of technology, which come primarily from regional universities, with the application manufacturing technology and product/technology development skills which are distinctive to the area, we shall selectively promote basic and applied technology research on imaging devices and imaging systems, and thereby create new businesses, new industries and new employment in the area. We plan to: promote active participation by corporations outside the area; use deregulation to establish a zone for promoting concentration of optic technology related industries; and facilitate teamwork by researchers, research organizations and leading companies both within and outside Japan.

### Cluster Headquarters

- **President** ..... Kazukiyo Ishimura (Chairman, Organization for Hamamatsu Technopolis; Vice Chairman, Hamamatsu Chamber of Commerce & Industry)
- **Project Director** ..... Yoshifumi Shibata
- **Chief Scientist (CS)** ..... Takao Ando (Professor Emeritus, Shizuoka University)
- **Science and Technology Coordinators** Toshihiro Kashima  
Takatoshi Okumura  
Yutaka Tsuchiya

### Core Organization

Organization for Hamamatsu Technopolis

### Participating Research Organizations

(Bold: Core Research Organization)

Industry ··· Alpine Electronics, Inc., IKEGAMI TSUSHINKI CO.,LTD., Innotech Corporation, NEC Viewtechnology, Ltd., OLYMPUS CORPORATION, Sanei Hytechs Co.,Ltd., GMA, SHARP Corporation, SUZUKI Motor Corporation, NALTEC, Inc., Nikon Corporation., Nihon Computer Co., Ltd., Panasonic Mobile Communications Shizuoka R&D Lab., Hamamatsu Photonics K.K., Pulstec Industrial Co.,Ltd., PHOTRON LIMITED, Fuji Photo Optical Co.,Ltd., HONDA ELECTRONICS CO.,LTD., Yamatake Corporation, YAMAHA CORPORATION, Yokogawa Electric Corporation.

Academia ··· **Shizuoka University, Research Institute of Electronics**, Faculty of Engineering, Faculty of Information, **Innovative Joint Research Center**  
**Hamamatsu University School of Medicine, Photon Medical Research Center**, Faculty of Medical



Project Director  
**Yoshifumi Shibata**

### Creating a Regional Cluster Focused on Optic Technology

The Hamamatsu area has been designated as a zone for promoting concentration of optic technology related industries, and is promoting various projects involving cooperation between academia and industry. One of these is the project for the Knowledge Cluster Initiative. In the field of optic technology, joint research by industry and academia is very active in areas like "super-visual imaging technology" (in the project of the Knowledge Cluster Initiative) and "high-output laser technology" (in other projects).

The above projects all aim to create a Regional Cluster, but in order to achieve even better results, I feel that we need to strengthen links between the coordinators who are managing the project. I think this will involve more than just formal cooperation; it will require deep discussion, right up to the limits imposed by the non-disclosure policies of individual businesses. I believe that promoting such links is also my mission for the future.

For the Knowledge Cluster Initiative, we have created an imaging technology commercialization research group as one strategy for commercialization. Participating in this group are many highly motivated companies from within Shizuoka Prefecture (whose center is the Hamamatsu area) and these companies are all trying to create

new business, whether or not they are currently working to develop business related to imaging technology. In this research group, we promote various projects while listening closely to the needs of the participating companies. Our aims for one of the companies participating in the study group to create a new business or product as soon as possible, so work is exciting every day.

**Yoshifumi Shibata** is a former vice chairman of Hamamatsu Chamber of Commerce & Industry and he is now the chairman of San-En-Nanshin Vitalization Promotion Council. (San-En-Nanshin means a part of Aichi, Shizuoka and Nagano Prefecture.)

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

In this project, we shall develop basic technology for "intelligent image capture, and easy display". This will be useful for tasks like: (1) reducing the injury accidents which accompany the advent of the "car society", and facilitating comfortable driving, (2) accurate diagnosis in the medical field, and disease treatment with fewer complaints, and (3) ensuring safety in daily life via a sophisticated security environment.

Specifically, we are developing the following through a joint effort by industry, university and government:

- Next-generation imaging devices which feature a previously unattainable wide dynamic range, and smart imaging to enable efficient acquisition of only the necessary image information.
- Highly functional microscope systems, endoscope systems and brain surgery support systems for supporting the sophisticated medical treatment and diagnosis of the future, and imaging systems enabling faithful recreation of color, which is indispensable in medical diagnosis.
- Camera devices of the high-energy rays used for non-destructive inspection and X-ray CT

