



# Fukuoka

(Fiscal Year 2002-2006)

## Creating new industries in the area of system LSI design and development

### Core Organization Fukuoka Industry, Science & Technology Foundation

#### Participating Research Organizations (Bold: Core Research Organization)

Industry...Logic Research Co., Ltd., FUJITSU LABORATORIES Ltd., Jedat Innovation Inc., Ueno Seiki Co., Ltd., Kyushu Mitsumi Co., Ltd., New Japan Radio Co., Ltd., SONY Semiconductor Kyushu Co.,Ltd., Saga Electronics Co., Ltd., FUKURYO SEMICONDUCTOR ENGINEERING CORPORATION, System JD Co., Ltd., Software Research Associates Nishi-Nihon, Inc., SHARP CORPORATION, Network Application Engineering Laboratories Ltd., TOYO Corporation, CATS CO., LTD.

Academia...**Graduate School of Information Science and Electrical Engineering (Kyushu University)**, **System LSI Research Center (Kyushu University)**, Graduate School of Engineering (Kyoto University), **Faculty of Engineering (Fukuoka University)**, Kyushu Institute of Technology, Waseda University

Government...Institute of Systems, Information Technologies and Nanotechnologies (ISIT), Fukuoka Industrial Technology Center, Fukuoka Industry, Science & Technology Foundation (Fukuoka IST)

### Project Overview

Fukuoka prefecture has been vigorously promoting its original concept known as the“Silicon Sea Belt Fukuoka Project (SSB Project)”with the collective efforts of industry, academia and government. The concept of the SSB project involves aiming to become a hub of system LSI design and development in Asian regions (the Silicon Sea Belt linking South Korea, Kyushu, Shanghai, Taiwan, Hong Kong, Singapore, etc.) with intellectual resources and industrial concentrations in the system LSI design and development field. Moreover, we set up a LSI division in the core organization - Fukuoka Industry, Science & Technology Foundation – which acts as a catalyst to promote the SSB project.

#### I) Human resources development

We established the College of System LSI, Fukuoka in 2001 to focus on system LSI design education, with totally 2,800 engineers having been nurtured through the training program until 2006.

#### II) R&D Support

We carried out more than 80 projects in 2006 to stimulate the latest research and development in advanced system LSI-related thematic projects. It was based on both the strategy of the knowledge cluster initiative project and the nascent consortium of a regional R&D project of the Ministry of Economy, Trade and Industry (METI).

#### III) Venture business development and support

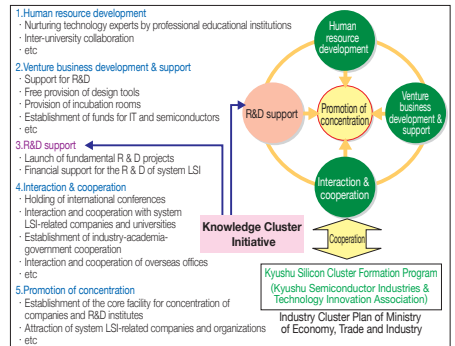
We are supporting system LSI-related small- and medium-sized venture companies with our knowledge cluster initiative program featuring continued collaboration with Fukuoka prefecture, and Kitakyushu and Fukuoka city governments. At the Fukuoka Institute of System LSI Design Industry, we allow small- and medium-sized venture companies to use EDA tools to design digital circuits and verify prototype devices at a very modest cost. We received a grant from the Ministry of Economy, Trade and Industry (METI) to introduce the EDA tool license system in 2003. EDA tools have been frequently utilized by companies following their introduction into the laboratory, and for a total of 14,800 hours by users. Meanwhile, we established a regional fund in 2005 to encourage technological innovation for semiconductor-related venture companies.

#### IV) Interaction & cooperation

Fukuoka prefecture has been proactively promoting the “Silicon Sea-Belt Fukuoka Project” on a top-down basis since 2003. The Silicon Sea-Belt Summit represents one of the annual conferences attracting famous worldwide experts each year.

#### V) Promotion of Concentration

The Fukuoka Institute of System LSI Design Industry was established in November 2004 as a fully-integrated core facility of the Silicon Sea Belt project that has promoted the development of human resources, research and development and business development. Moreover, as well as the system LSI research center of Kyushu University (SLRC), Fukuoka Laboratory for Emerging and Enabling Technology of SoC(FLEETS), and College of system LSI Fukuoka, of which setup offices are included inside, this building also includes an opened laboratory for venture companies capable of using equipment to design digital circuits and verify prototype devices.

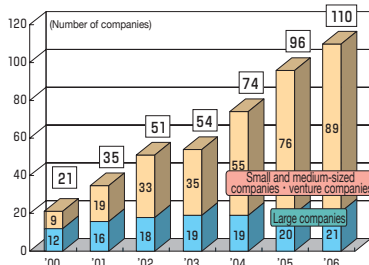


We are working on the Silicon Sea-Belt Project, based on the five pillars, as a unique regional cluster policy

### Main Results

1. Compared with the beginning year, about 110 system LSI-related companies are accumulated in the Fukuoka, Kitakyushu and Iizuka regions, and the total has increased more than fivefold.

- ◆The number of small and medium-sized companies and venture companies has increased from 9 to 89.
- ◆About 20% of system LSI researchers nationwide were concentrated in Fukuoka.



We will continue to exploit the research achievements of the knowledge cluster initiative (the Second Stage), in order to contribute to the regional economic prosperity.

2. Successfully developed commercial software with embedded software tools

To improve reliability for embedded software development, we focused on R&D technology that can track massive and complex problems of state transition tables. We have also developed a testing tool called Garakabu that works in coordination with the ZIPC CASE tool from Cats Co Ltd. Cats has set up an institute at the Fukuoka Institute of System LSI Design and Industry.



ZIPC(Upper) & Garakabu(Lower)