

Activities of the G-device Project

Owing to a supplementary budget in FY 2009, a new research task entitled "Advanced sensor network system and environmentally friendly fabrication processes" was newly added to the New Energy and Industrial Technology Development Organization (NEDO)-sponsored "Hetero-functional Integrated Device Technology Development Project (BEANS Project)." Nicknamed the "G-device Project," this research task is a short, one-year intensive project that was officially launched in April this year.

An advanced 8-inch MEMS production line is to be installed at the Tsukuba Innovation Arena (TIA) in the Tsukuba Center of the National Institute of Advanced Science and Technology as a testing ground, and a sophisticated network system configured of MEMS sensors will be used to resolve pressing issues that must be overcome to achieve green innovation. Here, green innovation is an approach for reducing energy consumption in clean rooms used in semiconductor and MEMS processes, improving energy efficiency in the processes themselves, and preserving the environment. This approach includes studying the feasibility of sensor devices as means for verifying various achievements in the BEANS Project and assessing the characteristics and configuration of the 8-inch production line. Hence, six new businesses, making a total of fifteen, the National Institute of Advanced Science and Technology (AIST) serving as the core of the development centers, and Ritsumeikan University serving as the Kansai base have been newly added to the BEANS Laboratory, bringing the total number of organizations in the project to eighteen when the Micromachine Center (MMC) is included.

The G-device Project was officially launched at the MMC's Techno Salon in Akihabara on April 8 at 2 p.m., where participating members and researchers gathered with guests from the Ministry of Economy, Trade and Industry (METI) and NEDO.



Following greetings and words of encouragement from Tomosaburo Yano, Director of R&D Coordination at METI, and Katsuya Okano, Senior

Official at NEDO, BEANS Project Leader Atsushi Yusa presented the objectives of the G-device Project within the overall framework of the BEANS Project. Ryutaro Maeda, President of the G-device Cooperative, enthusiastically laid out the

approach and ambitions of the project and vowed that all members would attain their research goals.

While the construction of an advanced 8-inch MEMS production line is an important item for tackling the R&D in this project, it is also a major investment. In order to ensure that equipment was selected prudently, a public meeting was held on May 14 to provide information on the required equipment. More than sixty representatives of companies in Japan that handle MEMS manufacturing equipment were present at the meeting. The attendees were given a summary of the more-than-forty types of equipment needed and a description of the bidding process and responded with numerous questions.

After receiving a good number of bids, an impartial selection committee meeting was held, and most of the sources for our equipment orders have been determined as of today. Company names are listed on the BEANS Laboratory Web site. We are currently ordering the equipment as needed and intend to begin installing the equipment according to the original plans (around the end of October).

We are also making steady progress on our R&D efforts. The president of the G-device Cooperative and the respective directors of the G-device Center based at AIST Tsukuba and the G-device Center Kansai based at Ritsumeikan University are participating in monthly meetings to discuss the progress and challenges of R&D projects at the respective centers. The meetings have produced lively discussions on various problematic points and necessary changes in approach. To date, we have held two meetings, both of which have been attended by NEDO representatives.

Although the G-device Project has just gotten underway, it is our intention to continue with these lively discussions and to proceed with an aggressive approach in order to ensure that the president and center directors can perform timely and appropriate development management for producing the targeted results within the allotted one-year period.



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