

# Exhibition at Hannover Messe 2008 (April 21 - 25)

The Hannover Messe, the largest industrial products sample fair in Europe, was held in the city of Hannover, Germany for five days from April 21 through April 25, 2008. The Micromachine Center was one of the exhibitors and worked to publicize MEMS related research in Japan and industry trends, in cooperation with MEMS Industry Forum members Omron Corporation, Olympus Corporation, Matsushita Electric Works, Ltd., Mitsubishi Electric Corporation, the New Energy and Industrial Technology Development Organization (NEDO) and the University of Tokyo. IVAM Microtechnology Network, a MEMS Industry Forum overseas affiliate, sponsored a "Micro Technology Fair" sub-exhibition at the Hannover Messe. In the spirit of mutual cooperation with the Micromachine Center, IVAM has exhibited at the exhibition since 2006.

Each year a country is designated as the partner country for the Hannover Messe and a variety of events relating to that country are held during the period of the exhibition. Japan was the partner country for this year's exhibition, and JETRO and the Ministry of Economy, Trade and Industry played a leading role in coordinating these events. More than double the usual number of companies and organizations from Japan exhibited at the exhibition and related events were held almost daily.

On April 20, prior to the start of the exhibition, an opening celebration was held at the Hannover Congress Centrum in Hannover. Welcoming addresses were given by former Prime Minister Shinzo Abe of Japan and current Chancellor Angela Merkel of Germany. The featured entertainment was a troupe of dancers performing the famous "Awa-odori" folk dance.

This was the third year that the Micromachine Center has exhibited at Hannover Messe. The Center was able to secure a larger exhibition booth than last year, and exhibits from primarily MEMS Industry Forum members presented information about the MEMS industry in Japan. The exhibits focused on activities to promote industrialization and were divided into sections according to the following categories

### 1) Overview of the MEMS Industry Forum

- Promotional activities (through exhibitions, etc.)
- Policy recommendation activities for the planning of national government projects for next fiscal year
- Participation in NEDO / METI projects, promotional assistance and follow-up relating to project achievements
- Foundry service network activities
- Formation of network with universities, research centers, clusters, academies and other relevant organizations in Japan
- Formation of international affiliate network

### 2) Introduction of Micro/Nano 2008

- The 19<sup>th</sup> Exhibition Micromachine / MEMS
- 14<sup>th</sup> International Micromachine / Nanotech Symposium

### 3) Development of industrial technologies through NEDO projects

- Assistance for development of industrial technologies by means of industry-academia-government collaboration
- Scenarios for technical and industrial development in MEMS fields by means of a technical strategy map

### 4) Overview of NEDO projects

- Overview of Highly Integrated and Complex MEMS (Fine MEMS) Manufacturing Technology Development Project
- Development of selective nanomachine structure formation technology (University of Tokyo)
- Demonstration (device cross-sectional structure model currently under development)

### 5) MEMS packaging technologies (Matsushita Electric Works, Ltd.)

- Low-heat stress wafer level packaging
- Multilayer ceramic MID packaging
- Video: Introduction to MIPTec

### 6) MEMS Foundry (Olympus Corporation)

- Features of Olympus foundry
- Presentation of equipment and case studies

### 7) Project development in the optical field (Olympus Corporation)

- Optical scanner
- AFM cantilever
- MEMS flap actuator
- Exhibition of MEMS scanner samples

### 8) Sensing technologies (Mitsubishi Electric Corporation)

- Pressure Sensor, Accelerometer, Air Flow Sensor
- MEMS Switch, MEMS Package, Switched Capacitor Array
- Core processes: bulk micromachining, surface micromachining, 3D integration

### 9) Project development in the telecommunications field (Omron Corporation)

- Features of MEMS Microphone
- Applications
- MEMS microdemo

On the first day of the fair, Tamotsu Nomakuchi, director of the Micromachine Center visited the venue and expressed words of appreciation to all of the exhibitors for their hard work. He also had informal talks with Mr. Kleikens representing IVAM Microtechnology Network, a sponsor of the fair and a MEMS Industry Forum affiliate. On April 24, the economic minister from the North Rhine-Westphalia (NRW) province of Germany visited the booth and discussed the status of MEMS industrialization promotion activities in Japan and Japanese industry expectations with respect to IVAM's activities.



Mr. Kleikens of iVAM and MMC Director Nomakuchi



Business negotiations



Environment Minister from NRW Province visits the MMC booth

At the Forum held at the Microtechnology Fair venue, the second day of the exhibition (April 22) was designated Japan Day. The day's events opened with words of welcome from MMC Executive Director Keiichi Aoyagi, and this was followed by ten presentations (listed below) from both Japan and Germany regarding technical developments and project development.

Next year, the Hannover Messe will be held April 20 - 24, 2009. Korea will be the partner country.