COMS 2004 in Canada, from Aug. 30 to Sept. 2

Sponsored by MANCEF, the 9th International Conference on the Commercialization of Micro and Nano Systems (COMS 2004) was held in Edmonton, Alberta from August 30th to September 2nd in order to discuss issues related to fostering MEMS commercialization. Each day during the conference earnest discussions were conducted on a variety of issues, including (1) general trends in industry, (2) starting an enterprise, (3) investment strategies for nanotechnology, (4) marketing strategies, (5) equipment vendors, (6) technical trends and topics, (7) technical transfer, (8) applications in specialized fields, (9) technology for specific disciplines, (10) reliability, (11) foundries, (12) micro/nano technology design tools, (13) NSF training program, (14) collaboration, and (15) dissemination and public relations.

I attended this conference as a representative from the Micromachine Center in order to investigate whether Japan could take any cues from the conference with regard to measures for promoting MEMS/micromachine commercialization. The following is a summary of the results of this investigation and my own impressions.

1) A total of about one hundred companies and institutions from the four hundred members of MANCEF gave presentations at this year's conference. Of the presenters, three were administrative bodies, thirty-two universities and research institutes, fifteen public institutions, and forty-six businesses. It is notable that only seven of the forty-six businesses giving presentations were major firms, while the others were small or medium venture businesses. A related exhibition being held simultaneously included forty-one exhibitor companies and institutes comprising thirteen public institutes, fifteen MEMS companies, three software vendors, and several others, including news agencies and patent firms.
2) There appeared to be about three to four hundred attendees, of which about ten were from Japan.
3) The following are some of the presentations that left an impression on me:

A. The national science advisor of the Canadian government announced that they had invested funds and established research facilities in five locations with the goal of becoming one of the top ten countries in nanotechnology by 2010.
B. A MEMS program representative from DARPA contended that MEMS must be approached differently than semiconductors due to the market scale, lot size, and other characteristics distinctive to MEMS. Specifically, the representative advocated the need for equipment and processing technology capable of performing processes for each chip.
C. The senior vice president of Philips described the progress made in developing LED light sources by system-in-package (chip-level packages), and began such open collaboration activities as co-developing RF MEMS capacitors with Nokia and developing bending displays by sharing facilities with Mi Plaza.
D. The Albuquerque Technical Vocational Institute noted that, based on MEMS growth, some seventy thousand technicians will be needed in the U.S. in 2005. The Institute also reported on training programs that were started in 2002 with cooperation from NASA and Sandia National Laboratories.

4) Overall I felt that this conference provided an opportunity to create a structure of collaboration and systems from the perspectives of technology, capital, and education and strives to foster MEMS/nanotechnology commercialization. This objective differs greatly from that of the MST/nanotechnology trade fair at Hannover Messe, which provides a venue for showcasing individual enterprises and technologies. Further, the major firms engaged in MEMS, such as Texas Instruments, Intel, and Hewlett-Packard, do not give presentations at this conference. This indicates that at large firms capable of producing and procuring their own products, conditions are quite different from those at venture businesses, which must collaborate with each other in respect of market share and capital.
5) On reflection, this is a good time to rethink the objectives and status of Japan's micromachine exhibit. Neither the conference nor trade fair mentioned above has succeeded in creating an opportunity to contact and communicate with users. I felt that this conference had become nothing more than a gathering for members of similar trades and suppliers of knowledge and technological sources. On this point, Japan has diverse industries and numerous businesses that are creating system products, in other words, the users of MEMS and micromachines. Those involved in MEMS and micromachines would place great value on an exhibition that arranges collaborations between manufacturers and users.

The Shaw Conference Centre is built into the banks of Edmonton's river valley. From the entrance, this pedway leads down, down to the conference area.