

MEMS, Microfluidics and Microsystems Executive Review



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MEMS IN EUROPE: A PERSPECTIVE FROM TRONIC'S MICROSYSTEMS

TRONIC'S Microsystems was founded in 1997 as a spin-off from **LETI**. The company has enjoyed impressive growth and is one of the leading **MEMS foundries** in the world. We recently spoke with TRONIC'S CEO **Peter Pfluger** about the interesting **start ups** they are seeing in Europe, the new **Minatec MEMS and nanotechnology center** as well as other interesting insights and trends in the MEMS industry.

MEMS Investor Journal: What has TRONIC'S been up to lately?

Peter Pfluger: TRONIC'S Microsystems has experienced strong revenue growth and tripled production output since opening the Crolles facility in October 2003. We have confirmed our leadership in transforming complex custom-MEMS concepts into completely industrialized high-performance products. We are now building on this momentum and extending our custom MEMS manufacturing, packaging and testing capabilities as well as the services offered to our partners through the addition of MEMS electronic interfaces development resources. We have actually recently announced that we have completely shifted our 4" line to 6" wafer technology and that we are currently installing new testing and characterization equipments in order to further increase the services provided to our customers.

MEMS Investor Journal: As a provider of MEMS foundry services in Europe, which MEMS applications do you see driving the strongest demand at this point?

Peter Pfluger: As a contract manufacturer of custom MEMS components our views on the MEMS foundry requirements are probably incomplete. Indeed our customers are requiring much more from us than simply standard wafer processing. At the end of the day, our OEM partners are expecting qualified and tested custom products, not wafers or dies, usually delivered in the form of a packaged component that they can integrate directly in their system. For us the demand is now strongly driven by System in Package (SiP) requirements and we are continuously structuring ourselves to tackle those OEMs requirements.

In terms of applications, we currently see the strongest demand from systems and sub-systems manufacturers in the medical devices and industrial control and metrology fields. The demand is indeed growing for custom capacitive inertial transducers and sensors as well as for the customization of our miniature capacitive pressure sensor technology platform.

MEMS Investor Journal: How will that change in a few years? Which applications do you think will experience the strongest growth?

Peter Pfluger: The MEMS life sciences and lab automation applications are today in an early stage of maturity. The first products are starting their market introduction but there are much more to come. Companies in those fields have recognized the perspectives offered by those technologies. It is now a question of time to build the necessary fundamental knowledge and solutions, and to structure an adequate supply chains for companies which are unfamiliar with those technologies.

MEMS Investor Journal: In general, what are the main differences in terms of MEMS business in Europe as compared to North America or the Far East?

Peter Pfluger: Through our customers in the 3 continents we recognize some cultural differences in doing businesses. In an early stage, Europe is usually a little more system oriented and thus requires custom solutions compared to the US which is more product oriented. Our offer therefore differs from one continent to the other. While we sell complete integrated projects in the US we build relationships step by step in Europe. Far East is patience: customers are very long to convince but once the trust and complementarity between the partners is understood, companies are willing to go fast and share risks and returns.

MEMS Investor Journal: The Minatec Center for micro and nanotechnology recently opened in Grenoble, France. What role do you think the center will play in the development of MEMS industry in Europe?

Peter Pfluger: The idea behind Minatec is to have the necessary technological, financial and human infrastructures to transform those innovative technologies into a growing and profitable industry. By bringing all together in the same location students, researchers and engineers and providing them with an access to the latest tools and technologies, Minatec will become the biggest think tank for micro and nanotechnologies in Europe. Our proximity to Minatec is for us a superb opportunity as it represents a great source of scientific expertise as well as a source of new product innovation and new technology investigation.

MEMS Investor Journal: Philips recently launched an electrowetting display startup Liquavista. What other interesting MEMS startups have you seen this year in Europe?

Peter Pfluger: The top-of-mind company would certainly be TraciT Technologies which has just been acquired by SOITEC for its thin-film layer transfer and molecular adhesion know-how applied to SOI wafers for MEMS and other applications. This acquisition by the market leader of advanced substrates is remarkable just three years after the creation of the company. Many start-ups have been recently created and we already see that there are a few great ones on their way in different labs in Germany but also in the UK which is now massively investing in MEMS and nanotech. To name a few, microPelt (D), Posic (CH), Perpetuum (UK), Presens (NO) and Sophion Biosciences (DK) are amongst promising projects.

MEMS Investor Journal: MEMS microphones have received much attention recently. Which MEMS microphone provider do you think has the best product and why?

Peter Pfluger: As we seek partnerships with customers looking for unique and high value-add product solutions, the commodity microphones have been away from our targets until now. The dominant driving forces for the integration of those components seem to be the cost of the devices and the cost of assembly to save pennies. I am sure the providers will find ways to cope with those requirements but at the end of the day, the market access will certainly be key and Knowles and Sonion most certainly have an advantage here.