



PRESS RELEASE

Europe's Heterogeneous Technology Alliance (HTA) Developing Packaging and Testing for MEMS Used in Space Missions

*CEA-Leti, CEA-Liten, CSEM, Fraunhofer Group for Microelectronics
and VTT Combining Expertise To Help European Aerospace Industry
Maintain Leading Position*

NEUCHÂTEL, Switzerland – November 8, 2011 – The Heterogeneous Technology Alliance (HTA), a team of leading European technology institutes, is developing new methods for packaging and testing microelectromechanical systems (MEMS) devices to meet performance requirements of space missions.

As part of the Wafer-Level Encapsulation in Microsystems (WALES) project, HTA members are studying how wafer-level packaging (WLP) can be used to connect and protect MEMS devices in hermetically sealed structures to withstand extreme weather and radiation conditions encountered in space. The project also will provide the European Space Agency (ESA), which is funding the project, a simple and fast standardized test to evaluate the suitability of MEMS for space missions.

Led by CSEM, the project is developing procedures for sealing and testing MEMS WLP for a piezo-electrically actuated resonator from CSEM and a capacitively actuated resonator from CEA-Leti. Fraunhofer Institute for Electronic Nano Systems ENAS is applying special measuring and testing processes to guarantee the reliability of these MEMS systems. VTT, the Technical Research Centre of Finland, will join the project consortium; negotiations are currently under way.

Reliability is a major issue for MEMS in space applications, and establishing new, proven and reliable packaging concepts can dramatically extend the lifetime of MEMS devices and therefore expand their suitability for space missions. Moreover, MEMS in space will benefit Europe's space industry by increasing overall flight-and-exploration reliability through the use of more sensing devices, and reducing costs through smaller payloads.

Launched in 2006, the HTA is designed to maintain Europe's leading position in microsystems by combining competencies of each member, facilitating the exchange of ideas between them, and enabling each to contribute to the alliance's joint-development projects with industry partners.

The combined technological infrastructure of the members offers business and industrial partners a one-stop shop for complete system solutions for a variety of markets, including automotive, healthcare and wellness, information and communication, home automation, energy, security, consumer, space and industrial process control.

"The HTA's participation in the WALES project is an excellent example of Europe's leading research institutes combining their expertise for the benefit of European companies in an industry where we must maintain our leading position," said HTA Chairman Jussi Tuovinen, vice president at VTT. "The synergies and cooperation of

the partners assure that the impact of this project will reach far beyond MEMS packaging."

About the Heterogeneous Technology Alliance (HTA)

The HTA is a novel approach to creating and developing microtechnologies, nanoelectronics and smart systems for next-generation products and solutions. By pooling the capabilities and facilities of CEA-Leti, CEA-Liten, CSEM, Fraunhofer Group for Microelectronics and VTT, it brings coherence and synergies between leading teams and research infrastructures in the fields of miniaturization and system integration. Operated as a "one-stop-shop" for complete system solutions, HTA guarantees simple access to an enlarged portfolio of technologies, and is structured to facilitate technology transfer to European and international companies. With a combined staff of more than 5,000 scientists and a portfolio of more than 3,000 patents, HTA is de facto the largest European institute in the field. Visit www.hta-online.eu for more information.

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Contacts:

WALES project leader

Antonia Neels

Antonia.NEELS@csem.ch

+41 (32) 720 5195

HTA

Kirsi Jaatinen

Kirsi.jaatinen@vtt.fi

+358 20 722 6757

Press Agency

Amelie Ravier

raviera@loomisgroup.com

+33 (0) 1 58 18 59 30