



## **MEMSCAP EXPANDS MUMPs® STANDARD PROCESS PORTFOLIO WITH INTRODUCTION OF PIEZOMUMPs™**

***MEMSCAP is first in industry to offer Piezoelectric film-integrated MEMS prototyping service***

**Grenoble, France and Durham, North Carolina, July 02, 2013** – MEMSCAP (NYSE Euronext: MEMS), the leading provider of innovative solutions based on MEMS (micro-electro-mechanical systems) technology, today announces that it has expanded its standard process-based Multi Project Wafer(MPW) service with PiezoMUMPs™, the first publicly-available MPW service to incorporate a Piezoelectric film.

This addition gives MEMSCAP an unparalleled four unique standard process offerings in its Multi User MEMS Processes (MUMPs®): PolyMUMPs™, SOIMUMPs™, MetalMUMPs™, and PiezoMUMPs™.

After shipping chips last month from a successful pilot run featuring over 15 designs from MUMPs “Super Users”, an invitation-only group of advanced MUMPs and MEMS designers worldwide, MEMSCAP is planning the first publicly-available PiezoMUMPs run design deadline for Tuesday, September 17, 2013 with shipment in early December 2013. Subsequent runs will follow every calendar quarter for four offerings each year, matching the frequency of its most popular PolyMUMPs and SOIMUMPs runs.

“We’d been looking hard for another process to add to our service”, said Buzz Hardy, Business Development Manager of MEMSCAP’s Custom Products business unit, “but wanted to make sure it was something our loyal community would support. After attending the 2012 Transducers Conference in Hilton Head and hearing the number of presentations on Piezoelectric-based MEMS, it became quite clear that we needed to add something which exploited that domain. The number of interested Super Users, so many that we had to turn some away, told us instantly that we were on the right track to offering a process our customers wanted.”

Modeled after SOIMUMPs, PiezoMUMPs adds an Aluminum Nitride film to the established SOIMUMPs process. All other design rules and specifications remain the same as SOIMUMPs including device layer thicknesses, die size, laser dicing subdicing options, and deliverables for the standard MUMPs rates.

“Our mantra is to innovate, not invent,” said Steve Wilcenski, General Manager of the Custom Products business unit, “We’re successful because of our focus on leveraging the standard process modules in our fab to address individual customer requirements and minimize the cost

and time to market for our customer's development programs. This integration of SOIMUMPs to achieve PiezoMUMPs illustrates this commitment."

Piezoelectric MEMS span several device domains: energy harvesting, sensing, ultrasonic transducers, microphones, and actuators.

Fabricated out of the Research Triangle Park, North Carolina MEMSCAP facility for twenty years, the MUMPs prototyping service has been operated by listed company MEMSCAP since November 2002. Over 175 full fabrication runs have been shipped to academia, industry, and government users worldwide out of the RTP, NC facility.

Results from these devices have provided detailed proof-of-concept data for use in graduate theses, published conference papers and, most importantly, advanced commercial product development.

For more information on MUMPs, please contact Buzz Hardy at MEMSCAP at [info@memscap.com](mailto:info@memscap.com) or by phoning our office in Research Triangle Park, NC.

For the current MUMPs Run Schedule, Design Rules, and Pricing, please visit our website at [www.memscap.com/products/mumps](http://www.memscap.com/products/mumps).

#### ***About MUMPs®***

Originally developed as part of a DARPA-supported MEMS infrastructure program and initiated in 1992, MUMPs has quickly thrived as the standard MEMS process for thick metal (MetalMUMPs: 20µm thick nickel electroplating), SOI (SOIMUMPs: double-sided etch on bonded SOI-Silicon wafers; PiezoMUMPs: SOIMUMPs plus additional Aluminum Nitride film) or polysilicon surface micromachining (PolyMUMPs: double polysilicon structural layers).

The MUMPs service, characterized by easy and cost-effective access to multiple standard processes, addresses the lack of accessible and affordable standard processes necessary to advance the development of commercial applications in the MEMS industry. Via MUMPs, MEMSCAP exhibits the most diverse standard process portfolio in the industry available for its customers.

The unique features of MUMPs enable side-by-side individual designs on the same mask set from multiple customers for fabrication on regularly-scheduled standard process runs. To participate in MUMPs, customers purchase die sites and submit their own designs, adhering to the published design rules, in accordance with the published design deadline. For each 1cm x 1cm die site reserved, customers receive 15 chips after fabrication at MEMSCAP.

#### ***About MEMSCAP***

MEMSCAP is the leading provider of innovative micro-electro-mechanical systems (MEMS)-based solutions. MEMSCAP standard and custom products and solutions include components, component designs (IP), manufacturing and related services. MEMSCAP customers include Fortune 500 businesses, major research institutes and universities. The company's shares are traded on the Eurolist of NYSE

Euronext Paris S.A (ISIN: FR0010298620-MEMS). More information on the company's products and services can be obtained at [www.memscap.com](http://www.memscap.com).

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