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**EE Times:**

### **Molecular Imprints is upbeat about 2009**

[Mark LaPedus](#)

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SAN JOSE, Calif. -- Bucking the trend in the slumping equipment industry, Molecular Imprints Inc. (MII) is expected to grow and hire in 2009.

MII (Austin, Texas) also disclosed its new roadmap and is also looking to enter the nano-imprint mask replication equipment business in 2010. The company already fields nano-imprint lithography systems for use in the production of disk drives, LEDs and semiconductors.

"We're growing," said Mark Melliar-Smith, chief executive of MII. "We're not shrinking."

MII is seeing growth in all markets despite the downturn. And while most equipment vendors are seeing declining sales and having layoffs, privately-held

MII expects to see its revenues climb from \$15 million in 2008, to \$25 million in 2009. In 2007, MII had sales from \$10-to-\$15 million.

To date, the company has 120 employees and is still hiring. Since it was founded in 2001, it has garnered \$72 million in venture capital funding and \$19 million in government funds--for an aggregate total of \$91 million. Investors include Brewer, DNP, KLA-Tencor, Lam, Zeiss and others.

In total, MII has sold around 30 systems. It expects to boost its shipments in 2009 despite a major downturn in the market.

For many equipment makers, "it's going to be a tough year," Melliar-Smith said. "Some of the smaller companies will have a tough time surviving in the market."

Unlike many equipment makers, MII is not pushing its machines for "capacity buys." Instead, the company is enabling new and emerging applications, which is why it is seeing success.

In semiconductors, for example, MII has shipped a tool to Toshiba Corp. The Japanese company is using the system for NAND flash development. Last year, MII shipped its latest Imprio 300 to Sematech. The tool resides in a facility within Albany Nanotech in Albany, N.Y.

Like all nano-imprint vendors, MII claims that it can lower the lithography costs in chip production. Nano-imprint tools sell for a fraction of optical systems.

Still, nano-imprint is struggling to get acceptance in the IC community. The real problem for nano-imprint is throughput and overlay. IC makers also are somewhat resistant to move to a new lithography technology. In fabs, it is too risky to move to nano-imprint--at least for now.

Over time, there could be a shift towards nano-imprint for next-generation memory devices. Nano-imprint could enable the development of crossbar memory devices, Melliar-Smith said.

Perhaps MII's biggest opportunity is within the disk drive industry. To date, it has shipped 10 tools to the disk drive industry. Customers include Hitachi, Fujitsu and others.

Current disk-drive technology is hitting the wall. Nano-imprint could enable the development of disk drives based on next-generation,

"patterned media" technology, he said.

Over time, MII hopes to expand its efforts in disk drives, ICs and other areas. To boost its fortunes in semiconductors, the company is currently developing the Imprio 3xx for use in 22-nm prototyping. Overlay is 20-nm and throughput is aimed for 4 wafers an hour.

The system is targeted for shipment by year's end. In 2010, the company hopes to roll out a faster version for 22-nm process integration. Overlay is 15-nm and throughput is aimed for 20 wafers an hour. In 2011, the company hopes to roll out a model for 22-nm manufacturing. Overlay is 8-nm and throughput is aimed for 20 wafers an hour.

In 2010, MII hopes to ship a new tool for hard-disk drive production. The system is geared for the 360-dph production and doubled-side systems.

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