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**MOLECULAR IMPRINTS SHIPS SEMICONDUCTOR INDUSTRY-FIRST NANOIMPRINT MASK  
REPLICATION SYSTEM TO DAI NIPPON PRINTING CO., LTD.**

**Perfecta™ MR5000 Positioned to Support Semiconductor Volume Manufacturing with 6025 Form Factor  
Nanoimprint Mask**

AUSTIN, TX. January 11, 2011 – [Molecular Imprints, Inc.](http://www.molecularimprints.com), the market and technology leader for [nanoimprint lithography](#) systems and solutions, today introduced the [Perfecta MR5000](#) — its new [Jet and Flash™ Imprint Lithography](#) (J-FIL™) imprint mask replication platform for the semiconductor industry. Representing the industry’s first nanopatterning system specifically designed to replicate 6025 imprint masks, the Perfecta MR5000 enables multiple identical replica masks to be fabricated from a single e-beam master, substantially reducing mask costs, an important component in delivering low cost of ownership for imprint’s use in advanced non-volatile memory architectures.

Molecular Imprints is also pleased to announce that [Dai Nippon Printing Co., Ltd.](http://www.dai-nippon-printing.com) (DNP), the leading merchant supplier of masks to the semiconductor industry, has taken delivery of the first MR5000 system, furthering the close and continuing collaboration between the two companies in the development of nanoimprint masks for semiconductor manufacturing at 2Xnm and beyond.

“A viable low-cost patterning technology will be an essential enabler in producing next generations of solid state memories cost effectively, particularly given the lithography intensive architectures in advanced memory devices such as 3D memory,” stated [Mark Melliar-Smith](#), CEO of Molecular Imprints. “Semiconductor manufacturers are already leveraging the high-fidelity patterning performance of our J-FIL technology in their development programs. The ability of the Perfecta MR5000 to deliver leading-edge, high quality imprint masks puts in place key infrastructure components necessary for nanoimprint’s manufacturing adoption.”



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“Our purchase of the Perfecta MR5000 reflects DNP’s continued technical leadership and commitment to serve the semiconductor industry with advanced photomask solutions,” according to Jun-Ichi Tsuchiya, General Manager of Electronic Device Operations at DNP. “We will be using this system to develop the mask replication process to provide replicas to our nanoimprint lithography customers and partners in 2011.”

Perfecta MR5000 represents a significant advancement in nanopatterning technology. Taking e-beam written leading-edge 6025 “master” masks, the system is capable of transferring the patterns flawlessly onto 6025 replicas that can be accepted by a manufacturing wafer imprint lithography system. Featuring the company’s enhanced IntelliJet™ Drop Pattern Generator technology, the Perfecta MR5000 dispenses picoliter resist droplets mapped to local feature density, enabling excellent residual layer thickness (RLT) uniformity for pattern transfer fidelity of 2Xnm features, while virtually eliminating the need for resist waste disposal. By generating multiple “replica” masks from a single “master,” mask cost of ownership can be significantly reduced and contribute to an overall low cost-of-ownership for the wafer lithography process.

“Our customers and industry partners continue to invest in nanoimprint technology as an alternative to the increasingly expensive and complex vision presented by optical patterning,” added Melliar-Smith. “Momentum continues to grow and the Perfecta MR5000 represents a critical step forward in building the infrastructure to deliver nanoimprint and J-FIL as a manufacturing solution for semiconductor memory applications.”

**About Molecular Imprints, Inc.**

Molecular Imprints, Inc. (MII) is the technology leader for high-resolution, low cost-of-ownership nanoimprint lithography systems. MII is leveraging its innovative Jet and Flash™ Imprint Lithography (J-FIL™) technology with IntelliJet™ material application to become the worldwide market and technology leader in high-volume patterning solutions for storage and memory devices, while enabling emerging markets in clean energy, biotechnology, and other industries. MII enables nanoscale patterning by delivering a comprehensive nanopatterning solution that is affordable, compatible and extendible to sub-10-nanometer resolution levels. For more information, visit [www.molecularimprints.com](http://www.molecularimprints.com).

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