



## Optical maskless litho needs three years, customers, says ASML

[Peter Clarke](#)

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PARIS -- Optical maskless lithography, where an addressable digital spatial light modulator is updated on the fly to give different masking patterns, could be shipped by ASML Holding NV within three years according Doug Dunn, chairman and chief executive officer of the lithography equipment maker.

However, doubts remain as to whether the technique is commercially viable the executive said during an invited keynote speech Wednesday (February 18, 2004) for a session on lithography within the International Forum on Semiconductor Technology (IFST) held here.

Maskless lithography is a possible solution to escalating mask costs but has the disadvantage over conventional lithography of reduced throughput. Companies that make high volumes of standard products, such as Intel Corp. and Samsung Electronics Co. Ltd. would have less need for maskless lithography but also have a significant influence on the commercialization of lithography techniques and extensions.

ASML finally announced the formation of a joint venture to develop an optical maskless lithography system, with Micronic Laser Systems AB about two years after the original intention was announced back in 2001 (see [July 18 2003 story](#)).

During the talk Dunn gave on Wednesday he showed photographs of the Micronic spatial light modulator, which has an active area of 8-mm by 33-mm.

"Are there enough customers to make this worthwhile? I am not sure. It's still a research program," said Dunn. "Optical maskless lithography will fit into the same platform (as conventional lithography). We could ship within three years," Dunn said.

"The technique applies to low volume, high cycle runs," Dunn told the IFST delegates.

Other companies believed to be working on maskless lithography tools, include Canon Inc., E-Beam Corp., Mapper Lithography NV and Leica Microsystems Inc.

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