

## Linking Technologies to Future Fabs

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To keep pace with Moore's law and the International Technology Roadmap for Semiconductors (ITRS), semiconductor manufacturers will have to utilize equipment with new capabilities that go beyond that of today's production equipment, particularly in the lithography area. Next generation manufacturing processes will need to be incorporated into the facility which will be required to support these new systems. Project delivery time for the next generation Fab will be expected to decrease even though system complexity, and therefore the facility, increases. The return on investment for design and construction of the next generation of facilities must be enough to justify the initial capital expenditures. Three main ways are available for the facility to payback this investment: schedule compression (timely project delivery leads to increased capture of market share), decreasing the overall lifecycle cost of the facility, or making the facility flexible, extendible, and scalable.

This paper will explore the implications of the next generation of technologies on the future Fab and discuss the role of the facility in support of the manufacturing processes.