Lithography Technology Trends from Equipment Industry’s point of view

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Moore’s law to continue for the foreseeable future, driven by connecting everything around us, generating massive data and enabled by geometrical device, architectural and circuit scaling.

Looking at Lithography equipment per sector, DUV equipment need to support continued demand given its cost advantage over EUV for less critical layers and some double patterning. Improvements in CD and overlay continued to be required for future nodes.

EUV lithography will enter high-volume manufacturing in 2019 to provide the necessary technology for continued scaling of integrated circuits. ASML is developing EUV scanners with higher throughput and tighter overlay specifications to further enhance productivity and capability. For integrated-circuit manufacturing beyond the first generation EUV, several fundamental topics are being addressed to allow EUV lithography to extend into the next decade with minimal use of double patterning. Moving forward, ASML and partner Zeiss are developing high-NA (0.55) EUV exposure systems to maintain continued scaling in semiconductor manufacturing well into the next decade.