

Top chipmakers embrace ASML's \$400M machines, agree to crucial chipmaking change

Leading chipmakers Samsung Electronics and Taiwan Semiconductor Manufacturing Co. announced plans to adopt ASML's latest chipmaking machines in the next several years—and they also joined Intel in agreeing to a crucial technology change that could boost chip production on the new machines by 40 percent.

This signifies the semiconductor industry's broader embrace of high NA EUV photolithography technology that can cost up to \$400 million per machine and is only provided by the Dutch technology company ASML, Bloomberg reports. The technology would allow chip designers to implement even smaller features in potentially more powerful and efficient next-generation chips produced for AI data centers and consumer electronics such as smartphones, tablets, and laptops.

ASML's EUV (extreme ultraviolet) lithography machines enable chipmakers to use powerful laser light to imprint patterns in silicon wafers, layer by layer, and gradually form the computer circuitry that makes silicon chips work. But improving such EUV technology has required finding more powerful sources of light with even shorter wavelengths capable of creating even smaller features on silicon wafers.

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