



## **TSMC's N7+ Technology Is First EUV Process Delivering Customer Products to Market in High Volume**

**Hsinchu, Taiwan R.O.C., Oct 7, 2019** – TSMC (TWSE: 2330, NYSE: TSM) today announced that its seven-nanometer plus (N7+), the industry's first commercially available Extreme Ultraviolet (EUV) lithography technology, is delivering customer products to market in high volume. The N7+ process with EUV technology is built on TSMC's successful 7nm node and paves the way for 6nm and more advanced technologies.

The N7+ volume production is one of the fastest on record. N7+, which began volume production in the second quarter of 2019, is matching yields similar to the original N7 process that has been in volume production for more than one year.

N7+ is also providing improved overall performance. When compared to the N7 process, N7+ provides 15% to 20% more density and improved power consumption, making it an increasingly popular choice for the industry's next-wave products. TSMC has been quickly deploying capacity to meet N7+ demand that is being driven by multiple customers.

EUV technology enables TSMC to keep driving chip scaling as the shorter wavelength of EUV light is better able to print the nanometer-scale features of advanced technology designs. TSMC's EUV tools have reached production maturity, with tool availability reaching target goals for high-volume production, and output power of greater than 250 watts for day-to-day operations.

“With AI and 5G unlocking so many new ways for ICs to improve our lives, our customers are full of innovative leading-edge design ideas, and they are relying on TSMC's technology and manufacturing to make them real,” said Dr. Kevin Zhang, TSMC Vice President of Business Development. “Our success in EUV is another great example of how TSMC not only makes those leading-edge designs possible, but also delivers in high volume with our manufacturing excellence.”

Building on its successful experience, N7+ sets a path for future advanced process technologies. TSMC will bring N6 technology into risk production in the first quarter of 2020 for volume production by the end of the year. With further application of EUV, N6 will offer 18% higher logic density over N7, and design rules fully compatible with N7 enable customers to greatly shorten time-to-market.



## About TSMC

TSMC pioneered the pure-play foundry business model when it was founded in 1987, and has been the world's largest dedicated semiconductor foundry ever since. The company supports a thriving ecosystem of global customers and partners with the industry's leading process technology and portfolio of design enablement solutions to unleash innovation for the global semiconductor industry.

TSMC serves its customers with global capacity of more than 12 million 12-inch equivalent wafers per year in 2019, and provides the broadest range of technologies from 0.5 micron plus all the way to foundry's most advanced processes, which is 7-nanometer today. TSMC is the first foundry to provide 7-nanometer production capabilities, and is headquartered in Hsinchu, Taiwan. For more information about TSMC please visit <http://www.tsmc.com>.

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