GIGAFAB® Facilities

Maintaining reliable production capacity is a key manufacturing strategy at TSMC. The Company currently operates four 12-inch GIGAFAB® facilities – Fab 12, 14, 15 and 18. The combined capacity of the four facilities exceeded 12.74 million 12-inch wafers in 2024. Production within these facilities support 0.13μm, 90nm, 65nm, 40nm, 28nm, 16nm, 7nm, 5nm and 3nm process technologies and their sub-nodes. The GIGAFAB® facilities are coordinated by a centralized management system known as super manufacturing platform (SMP) to provide customers with consistent quality and reliability, greater flexibility to cope with demand fluctuations, and faster yield learning and time-to-volume production, as well as better-function and lower-cost product requalification.

In 2024, TSMC established 2nm advanced manufacturing facilities in Hsinchu and Kaohsiung, and expanded advanced packaging capabilities in Chiayi and Tainan. These efforts help clients accelerate innovation to meet the rapidly changing market challenges and satisfy greater demand brought by the growth of AI. Besides, to better serve the needs of global customers, TSMC has made significant progress at several overseas production sites, such as those in Arizona, U.S., and Kumamoto, Japan, enhancing the maturity and stability of its global operations.

		Mini	Mega	Giga
Profile	Monthly 300mm capacity (pcs)	~10K	~25K	>100K
	Operating cost	High	Medium	Low
	Flexibility	Limited	Medium	High
Customer Values	Ramp-up agility	Limited	Medium	High
	Cycle time	Long	Medium	Short
	Delivery precision	Limited	Medium	High

Related Information

Business Contacts >

TSMC EXHIBIT 1189
TSMC v. Marlin Semiconductor Ltd.
IPR2025-00865

Fab Locations

Technology Platforms

TSMC-ONLINE™ TSMC-SUPPLY ONLINE 360 DOCUMENT CENTER

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