Display Panel

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Intel's Glass Substrates Achieve No SeWaRe: Challenges and Key Supply Chain Role of TGV Process

Topology Research Institute

With Google, Meta, and MediaTek all considering adopting Intel's EMIB packaging technology, Intel's technological progress in advanced packaging and glass substrates has once again attracted significant attention in the industry. In particular, Intel showcased the first sample at NEPCON Japan on January 22nd 2026 that combines Intel's EMIB packaging with a glass substrate, capable of supporting a chip twice the reticle size, with bump pitch shrunk to 45µm, and claimed to have achieved No SeWaRe (no micro-cracks) during testing, implying that glass substrates are one step closer to mass production. On the other hand, besides Intel, TSMC, Samsung (SEMCO), Rapidus, and SK Absolics are also expected to achieve mass production of glass substrates successively between 2027 and 2028.

This report mainly provides in-depth analysis of: (1) trends in large-size chip packaging; (2) the advantages of glass substrates; (3) the glass substrate technology roadmaps of major foundries/OSATs; (4) challenges in mass production of glass substrates; (5) glass substrate solutions and corresponding suppliers; and (6) an overview of the glass substrate supply chain and opportunities for Taiwanese manufacturers. This report analyzes current demand drivers for glass substrates, technological bottlenecks, supplier performance, and potential supply-chain opportunities for Taiwanese companies.

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Deployment in Large-Sized Packaging for FOPLP among Foundries/OSATs

Foundry/OSAT	Packaging Size (mm)	End Application	Progress
TSMC	310×310	AI chip	Scheduled for mass production in 2028.
Intel	-	AI chip	Scheduled for mass production in between 2026 and 2030.
Samsung	-	AI chip	Scheduled for mass production in 2027.
	510×415	PMIC, CPU	Now under mass production.
Rapidus	600×600	AI chip	Scheduled for mass production in 2028.
ASE/SPIL	310×310	AI chip	Scheduled for mass production in 2027.
	600×600	CPU, PMIC, RF	Now under mass production.
Amkor	650×650	AI chip	Under evaluation.
SK Absolics	510×510	AI chip	Scheduled for mass production in 2026.
PTI	510×510	AI chip	Scheduled for mass production in 2027.
	510×510	CPU, PMIC, RF	Now under mass production.
Innolux	620×750	PMIC、RF	Now under mass production.

Source：TrendForce

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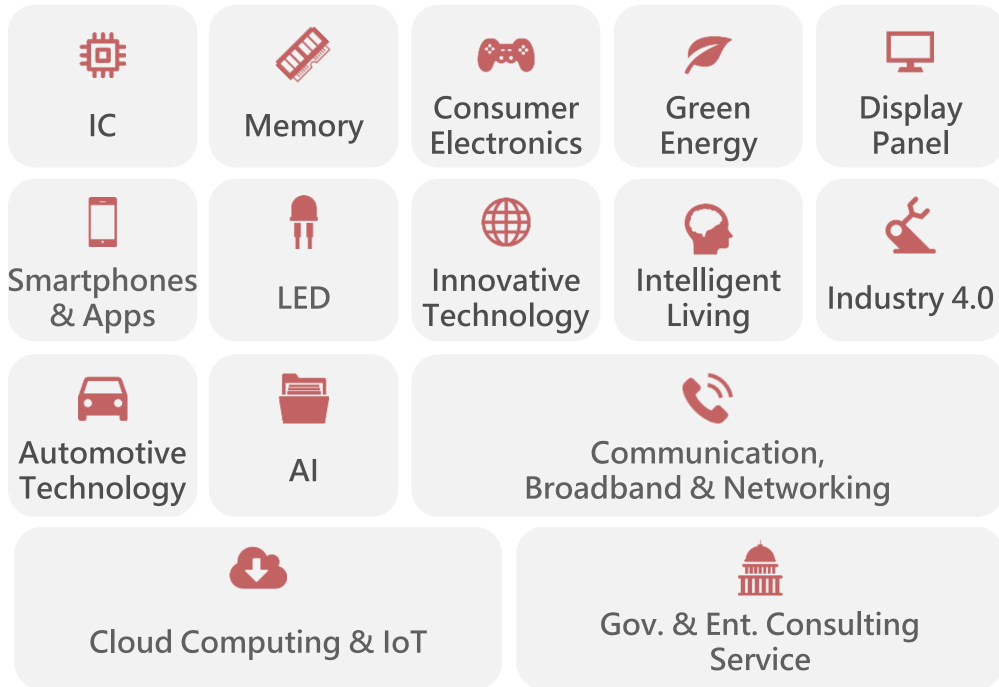

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