# Updated: Gartner's 5-Year Semiconductor Outlook by Application (2024-2028F)

Forecast from Sep'25

Gartner's Semiconductor Market Forecast by Application

- The overall semiconductor CAGR for 2024–2028 is 11.8% (as of Sep'25), up from the earlier forecast of 10.0% (Jun'25), driven by advanced silicon requirements and long–term structural demand shifts

- Growth strengthened across all segments, particularly in Datacenter & Server, and PC & Peripherals

2024–28F Semiconductor Revenue

CAGR: 11.8%

$656

$1,025

2024

$ Billions
40
55
59
81
136
128
155

2028F

50
72
89
111
151
164
389
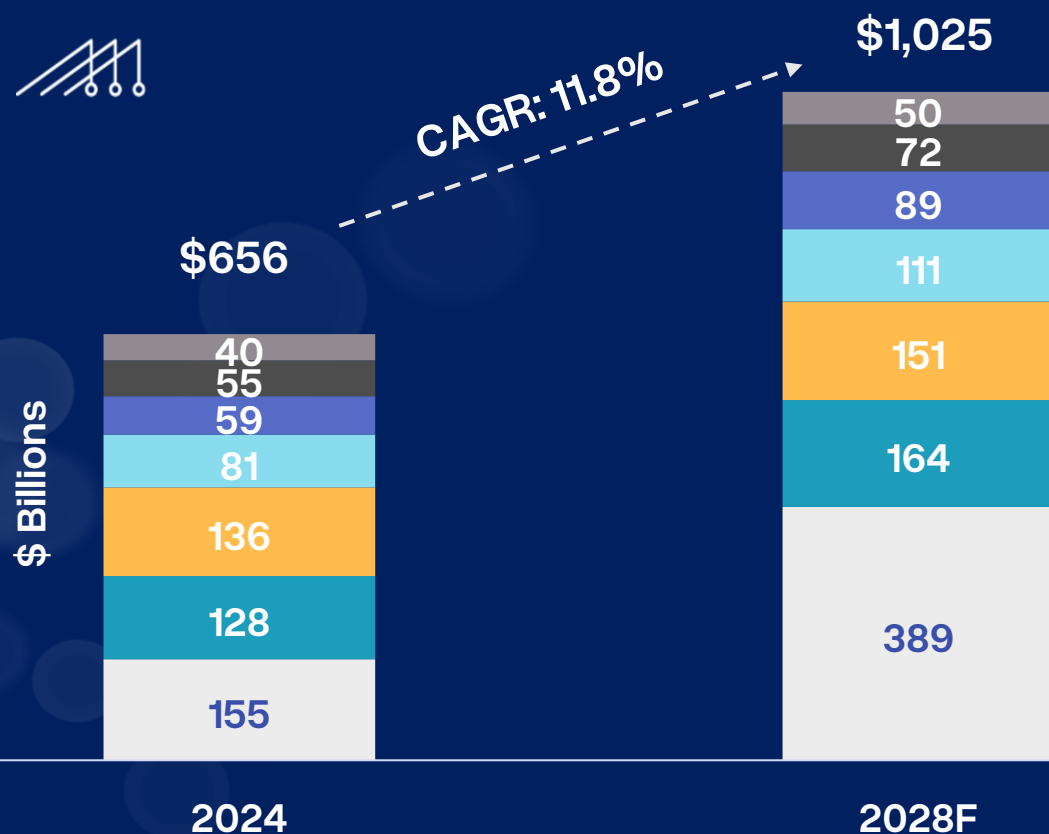
CAGR by Application (vs. Previous Quarter Forecast)

- Communication: +5.7% (vs. 4.5%)
- Consumer: +6.8% (vs. +5.9%)
- Industrial: +10.5% (vs. +9.5%)
- Automotive: +8.4% (vs. +8.2%)
- Mobile Phone: +2.6% (vs. +2.1%)
- PC and Peripherals: +6.3% (vs. +4.8%)
- Datacenter & Server: +25.7% (vs. +21.9%)

Growth Drivers Application

Category	Details
Key Growth Drivers	
Datacentre & Server	AI infrastructure and hyperscale data centers are the #1 demand engine, with GPUs, ASICs, and HBM* leading
PC & Peripherals	Maintained a stable rebound on the back of AI-enabled product refresh cycles
Steady Growth Segments	
Industrial Applications	Analog and industrial chips are recovering from a downturn, showing early signs of recovery with positive momentum in automation and industrial IoT applications
Automotive Demand	EV demand and higher electronics content boost growth, though supply chain and market risks persist; analog semiconductors for autos are rising
Communication	Healthy growth driven by network infrastructure upgrades, 5G expansion, and increased deployment of edge computing technologies
Slower Growth	
Mobile Phones	Premium and 5G-related components remain strong, but overall mobile device demand remains mixed
Consumer Electronics	After weak years, the segment shows signs of stabilization. Inventory reduction and refreshed product cycles are supporting moderate recovery

*HBM- High-bandwidth memory

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