

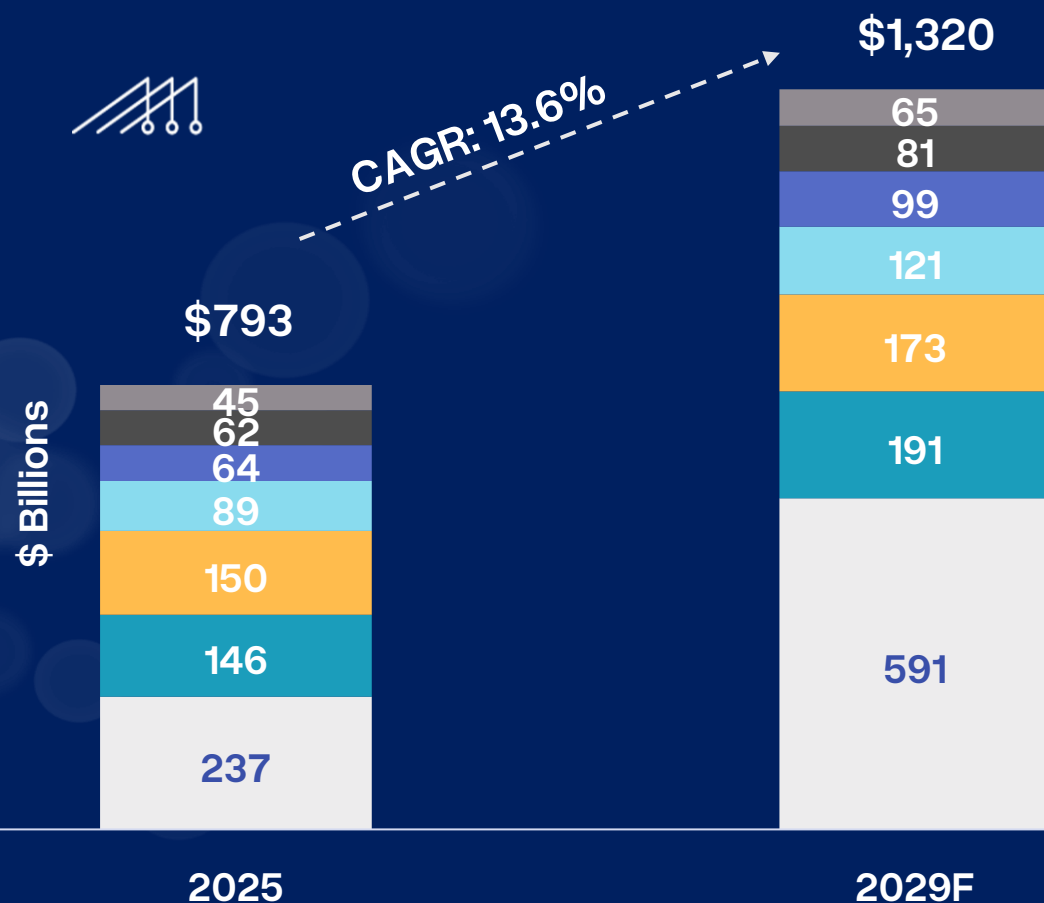
Updated: Gartner's 5-Year Semiconductor Outlook by Application (2025–2029F)

Forecast from Dec'25

Gartner's Semiconductor Market Forecast by Application

- Worldwide semiconductor revenue increased by 21% YoY in 2025
- The overall semiconductor CAGR for 2025–2029 is 13.6% (as of Dec'25), up from the earlier forecast of 11.8% (Sep'25), driven primarily by massively stronger-than-expected AI datacenter spending
- Growth strengthened across all segments, particularly in Datacenter & Server, and Communications

2025–29F Semiconductor Revenue



CAGR by Application (vs. Previous Quarter Forecast)

- Communication: +9.7% (vs. +4.9%)
- Consumer: +6.9% (vs. +6.3%)
- Industrial: +11.5% (vs. +11.3%)
- Automotive: +7.9% (vs. +7.3%)
- Mobile Phone: +3.7% (vs. +2.8%)
- PC and Peripherals: +6.8% (vs. +5.7%)
- Datacenter & Server: +25.7% (vs. +17.0%)

Growth Drivers Application

Category	Details
Key Growth Drivers	
Datacentre & Server	AI hardware and inference workloads boost datacenter spending to dominate ~45% of the semiconductor market by 2029
Steady Growth Segments	
Industrial Applications	Edge AI, robotics, and factory electrification are driving double-digit growth after a weak 2024
Communication	Second-largest upgrade in Dec'25 revision, driven by hyperscale AI datacenter buildouts. Networking silicon demand surges as hyperscale GPU clusters expand
Automotive Demand	EVs and autonomous platforms drive chip intensity, but near-term demand softness (inventory correction, slower EV adoption), continues to weigh on the segment
Consumer Electronics	AI-enabled devices (smart home devices, wearables, and gaming consoles) stabilize the segment, lifting it modestly after years of stagnation
Slower Growth	
PC & Peripherals	AI PC refresh cycle supports steady growth, while mature units, long enterprise refresh cycles, and limited consumer upgrade, limits overall growth
Mobile Phones	Market saturation and long replacement cycles keep smartphones the weakest growth segment despite GenAI adoption



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