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Gartner Forecasts Worldwide Semiconductor Revenue to Decline 11% in 2023

Semiconductor Revenue Totaled $599.6 Billion in 2022

Global semiconductor revenue is projected to decline 11.2% in 2023, according to the latest forecast from Gartner, Inc. In 2022, the market totaled $599.6 billion, which was marginal growth of 0.2% from 2021.

The short-term outlook for the semiconductor market has deteriorated further. Global semiconductor revenue is forecast to total $532 billion in 2023 (see Table 1).

“As economic headwinds persist, weak end-market electronics demand is spreading from consumers to businesses, creating an uncertain investment environment. In addition, an oversupply of chips which is elevating inventories and reducing chip prices, is accelerating the decline of the semiconductor market this year,” said Richard Gordon, Practice Vice President at Gartner.

Table 1. Semiconductor Revenue Forecast, Worldwide, 2022-2024 (Billions of U.S. Dollars)

	2022	2023	2024
Revenue	599.6	532.2	630.9
Growth (%)	0.2	-11.2	18.5

Source: Gartner (April 2023)

Memory Revenue to Decline 35.5% in 2023 but to Recover in 2024

The memory industry is dealing with overcapacity and excess inventory, which will continue to put significant pressure on average selling prices (ASPs) in 2023. The memory market is projected to total $92.3 billion, a decline of 35.5% in 2023. However, it is on pace to rebound in 2024 with a 70% increase.

The DRAM market will witness significant oversupply for most of 2023 due to weak end-equipment demand and high inventory levels despite flat bit production by DRAM vendors. Gartner analysts foresee DRAM revenue will decline 39.4% in 2023 to total $47.6 billion. The market will move to undersupply in 2024 and DRAM revenue is set to increase 86.8% as pricing rebounds.

Over the next six months, Gartner expects the dynamics for the NAND market will be similar to the DRAM market. Weak demand and significant vendor inventory will create oversupply resulting in strong price declines. As a result, NAND revenue is projected to decline 32.9% to $38.9 billion in 2023. In 2024, NAND revenue is projected to increase 60.7% due to a deep supply shortage.

“The semiconductor industry is facing a number of long-term challenges in the decade to come,” said Gordon. “The past decades of high volume, high-dollar content market drivers are coming to an end, notably in the PC, tablet and smartphone markets where technology innovation is lacking.” In addition, COVID-19 and the U.S. and China trade tension have precipitated the deglobalization trend and the rise of techno nationalism. “Semiconductors today are seen as a national security issue,” said Gordon. “Governments around the world are scrambling to build self-sufficiency in the semiconductor and electronics supply chain. This is leading the incentivization of onshoring initiatives across the world.”

Fragmentation of Semiconductor Demand

The PC, tablet and smartphone semiconductor markets are stagnating. The combined markets will represent 31% of semiconductor revenue in 2023 and total $167.6 billion. “These high-volume markets have saturated and become replacement markets devoid of compelling technology innovation,” said Gordon.

In parallel, both the automotive and industrial, military/civil aerospace semiconductor markets will achieve growth. The automotive semiconductor market is forecast to grow 13.8%, reaching $76.9 billion in 2023.

In the future, there will be many more but smaller end markets. End markets will be more fragmented, with pockets of growth coming from multiple different sectors in the automotive, industrial, IoT and military/aerospace sectors.

“End-market demand will be less exposed to consumer discretionary spending and more exposed to business capital spending. Supply chains will be more complex with many more intermediaries involved and varied channels to market, and to satisfy different end-market requirements, different types of capacity will be required,” said Gordon.

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