



After Three Consecutive Years of Growth, IDC Forecasts Worldwide Semiconductor Revenue to Decline by 7.2% in 2019

SAN MATEO, Calif., May 15, 2018 – After three consecutive years of growth, with year-over-year growth of 13.2% in 2018, the latest forecast update to the [Semiconductor Applications Forecaster](#) (SAF) from International Data Corporation ([IDC](#)) forecasts that worldwide semiconductor revenue will decline to \$440 billion in 2019, down 7.2% from \$474 billion in 2018. The SAF also forecasts that semiconductor revenues will recover in 2020 and log a compound annual growth rate (CAGR) of 2.0% from 2018-2023, reaching \$524 billion in 2023.

After a multiyear growth cycle of strong demand and appreciating average selling prices (ASPs) for DRAM and NAND, the end of last year brought oversupply, which will continue throughout the year and into 2020. Despite the challenging fourth quarter, the DRAM and NAND memory markets grew to \$99 billion and \$55 billion in 2018 respectively, reflecting year-over-year growth rates of 36% and 12% for 2018. Excluding DRAM and NAND, the overall semiconductor market grew by 8% year over year. For 2019, non-memory semiconductors are forecast to grow 1% to \$319 billion. Both DRAM and NAND are expected to decline in 2019 and 2020.

The strong memory market resulted in Samsung Electronics retaining the top semiconductor manufacturer position and enabled memory manufacturers to be three of the top four semiconductor companies this past year. Revenue concentration also continues to increase for the overall market, with the top 10 companies making up 62% of the semiconductor market compared to 60% in 2017 and 56% in 2016.

IDC expects market consolidation will begin to accelerate as the industry gets more clarity on the trade tariff dispute between China and the U.S. So far this year, there have already been six notable M&A deals announced and one large divestiture by Intel. IDC expects more moves in 2020 and 2021 in the sensor, connectivity, automotive, and AI and computer vision markets as suppliers look to drive more top-line growth and improve access to new markets.

"The current market downturn is being driven by a broad weakness in demand specifically centered in China and an ingestion of excess inventories in some of the major markets including automotive, mobile phones, and cloud infrastructure," said [Mario Morales](#), program vice president, Semiconductors at IDC. "We expect the market to bottom by end of the third quarter this year as we work through inventories and demand begins to gradually return. Cloud infrastructure investment, 5G mobile devices, WiFi 6 adoption, Smart NICs, automotive sensors,

powertrain technologies, AI training accelerators, and edge inference SoCs will be instrumental in our growth expectations for 2020 and beyond."

In 2018, the automotive market and the industrial markets, excluding memory, grew at 4.8% and 7.8%, respectively. "While electrification, infotainment, and advanced driving features are increasing semiconductor content per automobile, the decline in automobile unit sales in 2018 lowered overall growth in automotive semiconductors. Economic deceleration and declining vehicle sales will continue to put pressure on the automotive semiconductor market throughout this year," said [Nina Turner](#), research manager for Semiconductors at IDC. "However, our long-term thesis remains intact. The automotive market remains one of the strong growth drivers over the forecast horizon as semiconductor content and design activity for autonomous enabling technologies will continue to drive 3-4 times more growth than the overall market."

Other key findings from IDC's Semiconductor Application Forecaster (excluding memory) include:

- While the computing industry experienced strong growth in 2017 and 2018, the SAF forecasts semiconductor revenue for the computing industry segment to decline 5.1% this year but will show a positive CAGR of 1.3% for the 2018-2023 forecast period. Two bright spots for the computing segment are x86 servers and SSDs, growing with an 11.3% and 9.8% CAGR respectively for 2018-2023.
- Semiconductor revenue for the mobile wireless communications segment will grow 1.8% year over year this year with a CAGR of 4.8% for 2018-2023. Semiconductor revenue for 4G mobile phones will experience a slowdown as 5G phones begin to ramp up in 2020, becoming mainstream by the middle of the next decade. RF subsystem in mobile devices will continue to drive the majority of the revenue growth as the subsystem continues to support more complexity, additional antennas, and the increase in bands on every phone.
- The consumer semiconductor segment will grow at a 6.4% CAGR for 2018-2023 as consumer IoT devices and home automation continue to gain traction and scale. Connected devices will continue to drive more sensors and processing at the edge.

Additional information can be found at IDC.com:

The IDC report, [Worldwide Server DRAM DIMM by Workload Forecast, 2019–2023](#) (IDC #US44944719), provides an outlook for the server DRAM DIMM market for the 2018–2023 period.

The IDC presentation, [Worldwide Memory Demand and Supply 4Q18–4Q19 and 2019–2023 Update](#) (IDC #US44919519), provides the 4Q18 memory (DRAM and NAND) vendor share results and forecasts for both the short-term (4Q18–4Q19) and the long-term (2019–2023) worldwide memory market.

The IDC pivot table, [Worldwide Mobile Connectivity Forecast Pivot Table](#) (IDC #US44988319), includes the yearly data for mobile connectivity for the 2005–2023 period. This document looks at all the products that incorporate mobile connectivity from the perspective of silicon suppliers.

The IDC pivot table, [Worldwide Mobile Phone and Tablet Application Processor Market Shares, 4Q18](#) (IDC #US43824719), provides 4Q18 data for application processors in mobile phones and tablets.

IDC's [Worldwide Semiconductor Applications Forecaster](#) database serves as the basis for IDC semiconductor supply-side documents, including market forecasts and consulting projects. This database contains revenue data collected from over 150 of the top semiconductor companies for 2015-2018 and market history and forecasts for 2014-2023. Revenue for over twelve semiconductor device areas, four geographic regions, seven industries, and more than 65 end-device applications are also included in the database.

For more information about the SAF, please contact Nina Turner at nturner@idc.com

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,100 analysts worldwide, IDC offers global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly-owned subsidiary of International Data Group ([IDG](#)), the world's leading media, data and marketing services company that activates and engages the most influential technology buyers. To learn more about IDC, please visit www.idc.com. Follow IDC on Twitter at [@IDC](#) and [LinkedIn](#).

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