

Semiconductor Downturn to Continue Into 2020 Due to COVID-19 Impact; IDC Forecasts Worldwide Non-Memory Semiconductor Revenue to Decline 7.2% in 2020

SAN MATEO, California, May 4, 2020 – Ahead of the COVID-19 virus, worldwide semiconductor revenue declined 12.2% in 2019 to \$418 billion, according to the latest update of the IDC [Semiconductor Applications Forecaster \(SAF\)](#). The global economy in 2019 grew at its slowest pace since the global financial crisis in 2008, and US-China trade disputes grounded semiconductor sentiment and demand. Higher levels of inventory in specific areas like mobile phones and cloud infrastructure brought pricing pressure and negatively impacted semiconductor sales. Driving the downturn were declines of 37.3% and 27.7% in the DRAM and NAND markets respectively, after more than two years of strong growth.

While most companies witnessed revenue declines in 2019 a few outperformed the market. Intel regained its leadership in the market becoming once again the largest company in terms of revenues – due to a more diversified business seeing solid returns and better than expected PC demand from the Windows refresh in enterprise. MediaTek and AMD also grew revenues significantly last year as both companies began to see strong traction in their respective core businesses and gained market share. Sony achieved the highest growth among the largest semiconductor companies with its image sensor business taking advantage of the adoption and growth in the number of cameras on flagship smartphones.

Instead of an anticipated bottom and gradual recovery in 2020, the emergence of COVID-19 will drive another contraction in the overall semiconductor market. "The strength in demand in March and early April have made computing, connectivity, and memory products more resilient. However, the global shelter in place orders and ongoing

shift in buying behavior toward essential goods and services will negatively impact consumer and business spending in the second quarter, and second half of the year," said [Mario Morales](#), program vice president, Semiconductors at IDC. "The nature of the recovery will highly depend upon how quickly government stimulus plans stabilize the global macroeconomy and consumer confidence. As we reopen across the globe, including our borders, how long will it take us to get back to normal and start rebuilding our lives from shock of the pandemic?", Morales adds.

Based on the latest information available, IDC expects the overall semiconductor market to decline 4.2% as the global economy fights to recover from this unprecedented crisis in 2020. Excluding the DRAM and flash markets, semiconductors are expected to decline by 7.2%. The demand for semiconductors will be very uneven across the different industry markets.

Smartphones will continue to be the largest demand driver and will remain weak overall given the concentration in volumes being 4G. A large Chinese OEM will need to work down inventories after stuffing the channel over the past couple of quarters. This will drive the rest of the OEMs in China to concentrate on launching 5G devices to leverage potential

subsidies by carriers later this year. IDC expects 5G volumes will grow this year despite the demand uncertainty, driving strong semiconductor content as OEMs position 5G in lower tiers to broaden the reach. There are 5G phones that have started selling for under \$300 in China. Every percent drop in smartphone unit volume expectations will have a couple percentage points of impact on overall semiconductor revenues for the year.

Smartphone Unit Volume Scenarios; Impact on Semiconductor Revenue Growth			
UNITS/ VALUE	Current Scenario		Pessimistic Scenario
	Down 10%	Down 15%	Down 20%
Millions of Units	1,614	1,525	1,435
Total Mobile Semi Value (\$B)	\$111	\$105	\$99
Year-Over-Year Growth (%)	-1%	-6%	-12%
Overall Semiconductor Value (\$B)	\$401	\$394	\$388
Year-Over-Year Growth (%)	-4%	-6%	-7%

orders and shutdowns have had an uneven impact on the semiconductor markets. "Work from home, home schooling, and shelter in place mandates have enabled the computing, communications infrastructure, and connectivity markets to outperform other areas," says [Shane Rau](#), Research Vice President for Semiconductors at IDC.

"While some consumer areas will initially benefit from the adjustment to new situations, we expect reductions in consumer spending lasting deep into 2021 – given never before seen unemployment levels," says [Michael Palma](#), Research Director for Semiconductors and Enabling Technologies at IDC. "We also expect reduced spending on industry-specific verticals and digital transformation efforts among a wide range of enterprises, especially those dependent on consumer spending, such as the hospitality, retailing, and manufacturing sectors," Palma adds. For the year, IDC expects the consumer segment to see non-memory consumer semiconductor revenues decline 11.5% year over year in 2020.

The automotive and industrial semiconductor markets – which in the past were projected to outperform the other segments – have been particularly hit hard by the COVID-19 mandates. Automobile sales including light

commercial vehicles in 2019 declined 5.6% to 81.4 million vehicles, resulting in a decline in automotive semiconductor growth by 2.7% to \$38.4 billion.

"With the shelter in place orders and shutdowns of non-essential businesses, automobile sales will continue to decline significantly in 2020. Recovery depends on the length of these shutdowns and how fast consumers can recover from their economic losses. Government economic and stimulus policy will also have an impact on how fast automobile sales and automotive semiconductors can recover," says [Nina Turner](#), Research Manager for Automotive Semiconductors at IDC. For 2020, non-memory automotive semiconductors are forecast to decline another 14% and are not expected to return to growth until 2022.

Industrial semiconductors also experienced a downturn in 2019, down 6.6% year over year to \$37.8 billion. Previously forecast to recover slightly in 2020, IDC's new forecast projects a decline of 11.4% in 2020. As companies reduce manufacturing in response to the global economic slowdown and changes in consumer spending, the impact on the industrial market will negatively affect industrial semiconductor revenue through 2021.

IDC's [Worldwide Semiconductor Applications Forecaster](#) database serves as the basis for IDC semiconductor supply-side research, including our market forecasts and custom market models. This database contains revenue data collected from over 150 of the top semiconductor companies for 2015-2019 and forecasts for 2015-2024. Revenue for over twenty semiconductor device areas, four geographic regions, seven industry segments, and more than 65 end-device applications are included in the database and pivot tables. For more information about the SAF, please contact Nina Turner at nturner@idc.com.

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