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MCUs Sales to Reach Record-High Annual Revenues Through 2022

MCU sales and units shipments driven by the spread of embedded control in systems, more sensors, and the rush to connect end-use applications to the Internet of Things (IoT).

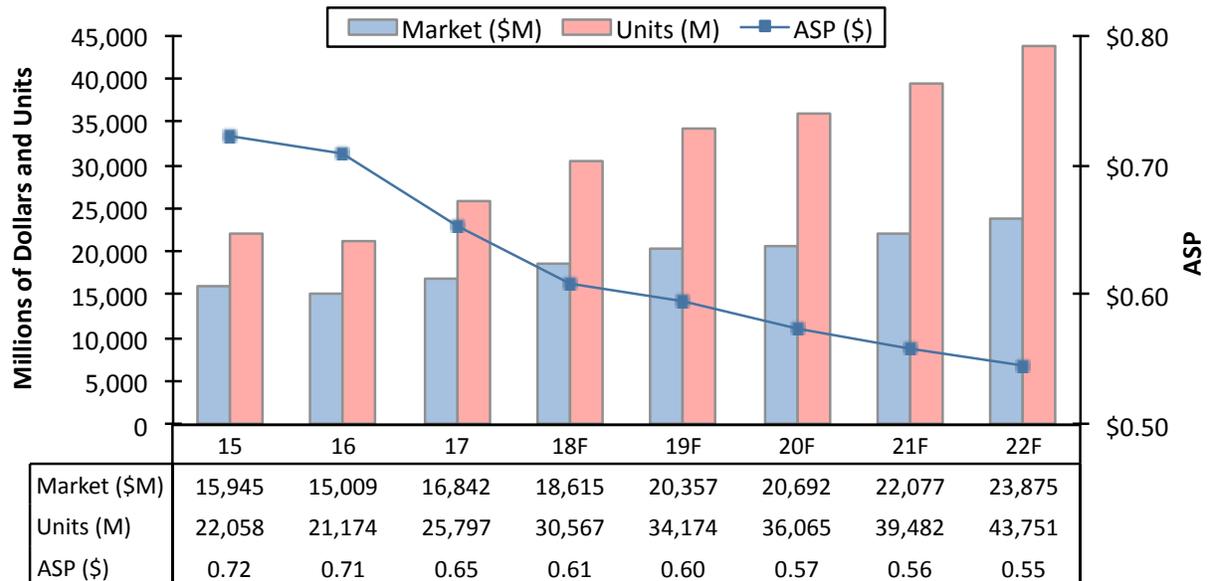
The market for microcontrollers—the IC industry’s original system-on-chip (SoC) product category—is expected to continue hitting record-high annual revenues through 2022 after worldwide sales dropped 6% in 2016 because of a slowdown in MCU unit shipments. After drawing down MCU inventories in 2016, systems manufacturers stepped up purchases of microcontrollers in 2017 with unit shipments surging 22% and strong growth continuing in 2018. In its

Mid-Year Update to The 2018 McClean Report, IC insights raised its projection for MCU shipments to 18% in 2018 with the unit volume reaching nearly 30.6 billion. MCU revenues are now forecast to rise 11% in 2018 to an all-time high of \$18.6 billion, followed by 9% growth in 2019 to about \$20.4 billion (Figure 1).

MORE INFORMATION CONTACT

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MCU Market History and Forecast



Source: IC Insights

Figure 1

The *Mid-Year Update* also raised the five-year growth projection of MCU sales to a CAGR of 7.2%, reaching nearly \$23.9 billion in 2022, with unit shipments increasing by a compound annual growth rate of 11.1% to about 43.8 billion in the final forecast year.

The ASP for microcontrollers fell to the lowest point ever in 2017 and prices are continuing to drop at about the same rate in 2018. However, the annual rate of decline has eased in the last five years compared to earlier this decade. The new forecast for MCU ASP shows the average selling price falling by a CAGR of -3.5% in the 2017-2022 period, much slower than the -5.8% decline seen during the 2012-2017 period and the 20-year CAGR of -6.3% between 1997 and 2017.

A key factor in the 2017 recovery of MCU sales from the decline in 2016 was a turnaround in the smartcard microcontroller segment. About 40% of total MCU shipments are currently for smartcard applications, but that is down from about half early in this decade. Excluding smartcard MCUs, sales of “general” microcontrollers for embedded systems, automated control, sensing applications, and IoT-connected *things* are forecast to grow 11% in 2018 to \$16.4 billion after rising 14% in 2017. Shipments of general MCUs are projected to climb 25% in 2018 to 18.9 billion units after rising 21% in 2017. General microcontrollers now represent a little over 60% of MCU unit shipments and are forecast to reach 68% of the total in 2022. Currently, general MCUs generate about 88% of total microcontroller revenues, and they are expected to reach 90% of the entire market value in 2022.

Across nearly all MCU applications, strong growth in 32-bit microcontrollers has reshaped the market as suppliers aggressively promote more powerful designs that are cost competitive with 8-bit and 16-bit devices, which have typically been used in consumer products and other high-volume systems. In some cases new 32-bit MCUs are being priced below the cost of 8-bit microcontrollers. On average, 32-bit MCUs were selling for about twice the amount of the ASP for all microcontrollers in 2012 (\$1.76 for 32-bit versus \$0.88 for total MCUs). In 2018, the ASP for 32-bit MCUs is expected to be just \$0.09 higher than the ASP for all MCUs, and by 2022, the difference is forecast to shrink to \$0.05 (\$0.60 for 32-bit versus an average of \$0.55 for total MCUs).

Report Details: *The 2018 McClean Report*

Additional details and trends within the IC industry are provided in *The McClean Report—A Complete Analysis and Forecast of the Integrated Circuit Industry* (released in January 2018). A subscription to *The McClean Report* includes **free** monthly updates from March through November (including a 200+ page *Mid-Year Update*), and **free** access to subscriber-only webinars throughout the year. An individual-user license to the 2018 edition of *The McClean Report* is priced at \$4,290 and includes an Internet access password. A multi-user worldwide corporate license is available for \$7,290.

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