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## The Five Biggest MCU Suppliers Accounted for 82% of 2021 Sales

*New ranking shows some revenue gaps expanding between the largest microcontroller manufacturers.*

Single-chip microcontrollers for embedded control and computing functions are ubiquitous and continue to be designed into more systems. Much of the new growth in MCUs is driven by embedded automation and the spread of sensors. The pervasiveness of MCUs was a key factor in suppliers being unable to keep up with the strong 2021 rebound from the 2020 global recession caused by the start of the Covid-19 virus pandemic.

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After falling 7% in 2019 because of a weak global economy and then dropping 2% in 2020 due to the Covid-virus crisis, MCU sales rebounded with a 27% increase in 2021 to a record-high \$20.2 billion. The 2021 surge was the highest percentage growth in MCUs since 2000. The average selling price (ASP) for MCUs climbed 12% in 2021—the highest annual increase since the mid-1990s. Production-constrained MCU shipments grew just 13% in 2021 to 31.2 billion units.

In the strong MCU recovery last year, the sales rankings of the five largest microcontroller suppliers remained unchanged from 2020, according to IC Insights' new second-quarter update of its 2022 *McClean Report* service (Figure 1). The *2Q Update* shows three of the 2021 top five MCU suppliers headquartered in Europe (NXP, STMicroelectronics, and Infineon), one in the U.S. (Microchip), and one in Japan (Renesas).

### Leading MCU Suppliers (\$M)

2021 Rank	Company	Headquarters	2020	2021	21/20 % Chg	2021 Marketshare
1	NXP	Europe	2,980	3,795	27%	18.8%
2	Microchip	U.S.	2,872	3,584	25%	17.8%
3	Renesas	Japan	2,748	3,420	24%	17.0%
4	ST	Europe	2,506	3,374	35%	16.7%
5	Infineon	Europe	1,953	2,378	22%	11.8%

Source: Company reports, IC Insights

Figure 1

The five largest microcontroller suppliers develop and sell ARM-based MCUs. These companies accounted for 82.1% of worldwide MCU sales in 2021 compared to 72.2% in 2016—meaning *the big keep getting bigger in microcontrollers*. The increase of the biggest MCU suppliers has resulted from major acquisitions and mergers since 2016. The five biggest MCU suppliers are significantly larger than the rest of the top 10 in microcontrollers, according to the update report. For instance, the second half of the top 10 (Texas Instruments, Nuvoton, Rohm, Samsung, and Toshiba) accounted for \$2.3 billion in MCU sales last year, or 11.4% of the market total. Outside the top 10, MCU suppliers had just 6.5% marketshare in 2021.

In 2021, top-ranked NXP in the Netherlands slightly widened its MCU revenue lead over second-place Microchip by \$103 million. Microchip increased its sales lead over third-ranked Renesas by about \$40 million last year, according new estimates in IC Insights' *2Q Update* report.

Fourth-place STMicroelectronics saw the strongest sales increase in the MCU ranking with revenues rising 35% in 2021, which nearly lifted the company past Renesas—putting it just \$46 million behind its Japanese rival. Renesas had been the largest MCU supplier through the first half of the last decade but was passed in 2016 after NXP acquired U.S.-based Freescale at the end of 2015. Renesas' marketshare in MCU sales stood at 17.0% in 2021 compared to 33.1% in 2011.

Germany's Infineon remained in fifth place in the 2021 microcontroller ranking with sales that increased 22% to \$2.4 billion—about \$996 million less than ST in MCUs last year. Infineon moved into the top five MCU ranking after acquiring U.S.-based Cypress Semiconductor in April 2020 for \$9.3 billion to expand further in automotive microcontrollers, power management, and other embedded systems applications.

## **Report Details: *The 2022 McClean Report***

*The McClean Report—A Complete Analysis and Forecast of the Semiconductor Industry*, is now available. A subscription to *The McClean Report* service includes the January *Semiconductor Industry Flash Report*, which provides clients with IC Insights' initial overview and forecast of the semiconductor industry for this year through 2026. In addition, the second of four *Quarterly Updates* to the report was released in May, with additional *Quarterly Updates* to be released in August and November of this year. An individual user license to the 2022 edition of *The McClean Report* is available for \$5,390 and a multi-user worldwide corporate license is available for \$8,590. The Internet access password and the information accessible to download will be available through November 2022.

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