

Semiconductor Inventory Down to Just Five Days for Some



New U.S. Department of Commerce report reveals that some private sector companies have just five or fewer days of semiconductor inventory on hand.

When the U.S. Department of Commerce sent a Request for Information (RFI) out to a selection of private sector semiconductor manufacturers and users in September, it was hoping to gain new insights into the global semiconductor supply chain and the current challenges that are plaguing this critical network.

Based on the more than 150 responses it received—including input from nearly every major semiconductor producer and companies across multiple consuming industries—the department made an alarming discovery. In some cases, it seems, the median inventory of semiconductor products is now less than five days, down from 40 days in 2019. And, the number is even smaller within certain key industries.

Other key findings from the Commerce Department’s [Results from Semiconductor Supply Chain Request for Information](#) include:

- Median demand for chips highlighted by buyers was as much as 17% higher in 2021 than 2019, and buyers aren’t seeing commensurate increases in the supply they receive. This is a major supply-and-demand mismatch.
- The RFI allowed the department to pinpoint specific nodes where the supply-and-demand mismatch is most acute, and it plans to target its efforts moving forward on collaborating with industry to resolve bottlenecks in these nodes. Respondents don’t expect this problem to be resolved within the next six months.
- The primary bottleneck across the board appears to be wafer production capacity, which requires a longer-term solution.

- Median demand for the chips highlighted by the buyers who responded to the RFI was as much as 17% higher in 2021 than in 2019, and buyers aren’t seeing commensurate increases in the supply they receive.
- In addition, companies identified material and assembly, test and packaging capacity as bottlenecks.

“The RFI results make it clear: America needs to produce more semiconductors,” the department states in its report on the findings. “Congress must pass funding for domestic semiconductor production, such as the U.S. Innovation and Competition Act, to solve our supply challenges for the long term.”

Tapping the Private Sector

The Commerce Department sees the nation’s private sector as being “best positioned” to address the near-term challenge posed by the current semiconductor shortage, and points to increased production, supply chain management to minimize disruption and product design to optimize the use of semiconductors as a few of the potential solutions.

From its RFI, the Commerce Department also learned that supply bottlenecks are concentrated in a few specific kinds of semiconductor inputs and applications, including:

- Legacy logic chips (used in medical devices, automobiles and other products)
- Analog chips (used in power management, image sensors, radio frequency and other applications)
- Optoelectronics chips (used in sensors and switches)

Despite the progress made since early 2021, the semiconductor shortage persists. The Commerce Department places some of the blame on the sheer complexity of the semiconductor supply chain, where producers don't always have a clear sense of demand, and chip consumers don't always know where the chips they need originate. "These barriers make it harder to develop solutions," it says.

What's Next?

In the coming weeks, the Commerce Department plans to take the information gleaned from the RFI and use it to engage the industry on node-specific problem-solving. It's also continuing its Early Alert System, which is focused on monitoring and taking action related to pandemic-related disruptions to the supply chain.

"In addition, we are engaging with companies that did not respond to the RFI, and those companies whose responses were not as comprehensive as their peers, to ensure we have the most accurate picture of what is driving supply chain bottlenecks," the Commerce Department states in its report. "We believe we will get the information we need. We will continue to use the tools at our disposal to increase transparency in the supply chain and ensure companies are not taking advantage of the shortage."