DELL Technologies

The Pulse of the Semiconductor Market

Dell Technologies, in partnership with Electronic Design, conducted a survey to learn how semiconductor companies are addressing the accelerating demand for chips, and how engineers are using innovative technology to reduce semiconductor time-to-market and manage cybersecurity threats.

The semiconductor market, while resilient, faces *many* challenges:

Supply chain disruptions were the **#1 risk** to domestic and corporate growth, according to executives across industries and regions[1]

63% of semiconductor companies reported that they experienced supply chain shortages due to COVID-19[2]

The chip shortage cost the automotive industry **roughly $210B** in revenue in 2021[3]

Cloud vs. On-prem:

Over **60%** of semiconductor firms archive data continually throughout the design process because they require fast access to perform upgrades to designs or address bugs

Nearly **70%** of companies report that manual and time-consuming processes are the most challenging part of storing and managing data

41% of companies surveyed state they are not planning to move workloads to the cloud, opting for storage in a local data center infrastructure because of security risks or issues with running multiple simulations in parallel

Only **21%** of respondents have moved some of their data storage to the cloud

Security:

66%

of companies surveyed state that cybersecurity and data protection are more important considerations for data storage than scalability, multi-protocol access, cloud connectivity, or AI

58%

of those polled have a DR (Disaster Recovery) plan in place, which requires a local data center and remote site to restore lost or corrupted information

37%

of semiconductor businesses reported implementing a ransomware protection plan in the event of successful cyberattacks

Future trends in semiconductor design and manufacturing:

Increased focus on security within a cloud environment

Companies will continue to rely on previous chip designs as they try to enter new markets

Greater reliance on AI and machine learning for innovation in design tools, infrastructure, and technologies to address growing consumer demand for the latest mobile devices, IoT/IIoT applications, autonomous vehicles and more

For more insights from The Pulse of the Semiconductor Market study, download the report here.

[1] McKinsey & Co., "McKinsey Global Survey," 2021.
[2] Global Semiconductor Alliance/KPMG, "The Impact of COVID-19 on the Semiconductor Industry," 2020.
[3] AlixPartners, "Shortages Related to Semiconductors to Cost the Auto Industry $210 Billion in Revenues This Year," 2021.