

Future-proofing the Semicon supply chain

Any semiconductor supply chain discussion should begin with the ubiquitous Moore's Law. Holding true for over five decades, Moore's Law observes that the number of transistors on a microchip doubles approximately every two years. The exponential effect is a **constant reminder for shippers and logistics providers alike to be prepared for the next giant wave**—because it's coming whether we're ready or not!

Putting our chips on the table

The market has spoken, and it wants smaller devices with more digital power. But that demand creates a paradox of sorts. Oddly enough, as semiconductors become smaller, the equipment to produce them gets bigger. A manufacturer looking to trade up from a deep ultraviolet unit (which weighs about 17 tons) to an extreme ultraviolet apparatus should expect it to tip the scales at a whopping 180 tons. Shipping, assembling and housing something that large makes for an equally colossal undertaking.

Projects like this might run for one to two years and require a controlled environment throughout the entire process to be successful. As capital equipment's dimensions, weight and intricacy grow by leaps and bounds, so do the logistics challenges. Will the whole thing fit on a plane? If shipped in pieces, do we eliminate problems or create new ones? What's the impact of using multiple modes of transportation?

The good news is there are people with answers. We just have to work harder to **promote conversations between the knowledge keepers and the knowledge seekers.**

Everybody chips in

Did you know the g-force tolerance level for equipment transported by air has decreased in the last decade? Or that the runway length affects Gs on takeoff? Chances are, somebody on your project team does know, but they may not have a clear path for communicating those vital insights to everyone else. From R&D to sales to logistics, people from all touch-points must align on the details to develop a seamless strategy.

While advanced semicon technology supersedes capital equipment, it also pushes collaboration and information-sharing to be bigger and better. We get a more robust logistics solution when the indispensable tidbits reach the right project contributor. A road transportation specialist who understands the equipment's vibration tolerance could recommend appropriate vehicles and routes to lower the in-transit damage risk. If the air freight pros are informed about how temperature changes affect the devices, they can implement procedures to prevent damaging fluctuations.

When communication flows well, it emerges as the cornerstone for building resilience. Teams are connected. They talk. They anticipate. They plan. They respond. And they do it with agility and expertise. All we have to do is let each conversation be an opportunity to make the semicon supply chain more future-proof.



“Supply chain resilience doesn't exist in a vacuum. To keep up with growth, we must scale up collaboration.”

John Desmond
Vice President
Key Account Mgmt. Europe
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