EE Times EUROPE
NOVEMBER 2022

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Is Semiconductor Sovereignty Really What We Need?

By Andrea De Luca, Flusso

"It seems that recently, nearly everyone knows the difference between potato chips and semiconductor chips. Politicians and policy makers have suddenly woken up and realized semiconductors must be at the center of their strategies.

But all this noise around semiconductors has been a real relief for me. Because finally, people are beginning to know what my job is all about!"

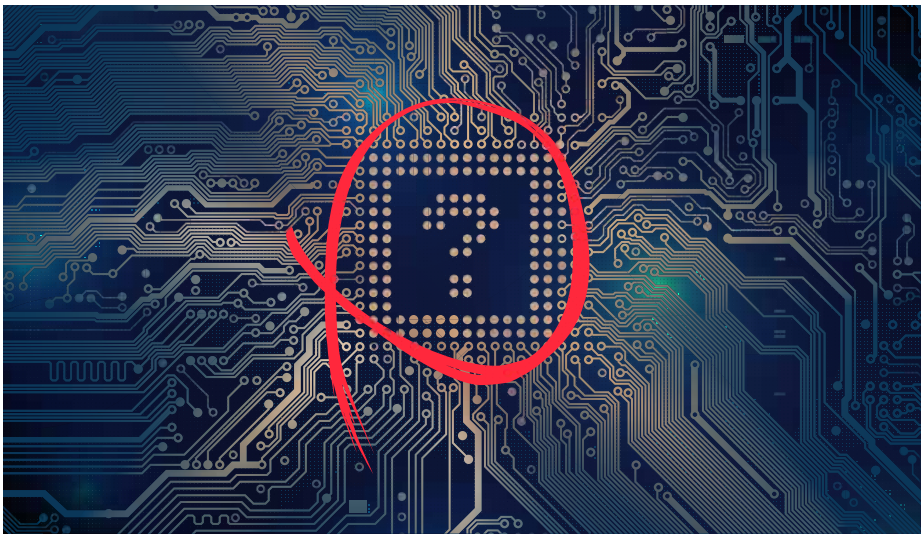
That was the introduction I wrote for one of our company newsletters a year ago. We were already in the middle of the semiconductor shortage, and its repercussions were rippling throughout the economy. Even people with no previous semiconductor industry knowledge were learning about chips and their critical importance to modern society, and nearly everyone was taking every possible opportunity to weigh in. Chips had become a fashionable topic.

One year later, they still are. That's because we're still mired in the shortage and dealing with its economic ramifications, with no real clue as to when it will end. And as the geopolitical and economic climates have grown increasingly tense, "semiconductor sovereignty" has become a hot political topic.

I was recently talking to a friend in Italy who told me he had ordered a car only to be told it would take four months to arrive because of the chip shortage — and might take longer if chip delivery times slipped even further.

He didn't understand how this could possibly be the case, when so much money had been pumped into the economy through the Chips Act.

I was shocked. First, I never would have imagined he would even know about the Chips Act. But then I wondered whether he really thought governmental intervention could remedy short-term problems like the one he'd described. His naïve answer was, "Of course. Why would they have gotten involved otherwise?"



Everyone knows the U.S., EU, China, and the world's other large trading partners want to achieve semiconductor sovereignty so they can finally make all those chips that have been almost impossible to find for more than a year. And that's exactly how an average member of the public might view the situation. The problem is that most people have almost no clue what "finally making all those chips" will entail.

It takes a long time to build a foundry, packaging, or testing facility. It takes time to "furnish" it with the right equipment and even more time to staff it with people with the right skills and expertise to get it up and running. It is a multiyear, long-term investment.

Obviously, it is fine for governments to invest in long-term strategic areas. What is not fine is to give the public the wrong expectations, justifications, and context for those investments. And yet, too often, the message that is put across to build a political case is that it's all about one nation taking the lead in solving the crisis.

My friend who is waiting for his new car doesn't care where the chips are made or who makes them. He's just like everyone else who wants to buy a new car, the latest phone, or the best medical equipment. They simply want to choose what they want and get it quickly, at a reasonable price.

Now let's consider the engineering perspective. The world is facing huge challenges with sustainability, and the push to net-zero emissions will drive significant innovation in the 21st century. But as one of my hardware engineers recently told me, and as someone with "skin in the game," the chip shortage is putting serious limits on creativity.

Engineers want to innovate, to create technology breakthroughs, and to see their ideas benefit society. And much like my car-buying friend, they do not care where their chips are made, who makes them, and what else they can be used for, as long as they can get what they need, at commercially acceptable prices.

So what are the customer's needs?

This is the question that starts off all new product development activities, and it's worth taking a similar approach to the chip shortage. The public and the engineering community both want to have chips quickly available again and at sensible prices. But how can we achieve that, and what steps can we take to prevent ourselves from getting into this situation again?

The answer is collaboration — long-term collaboration, borderless collaboration — and putting customers, not politicians, at the center of it all. ■

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IMAGE: SHUTTERSTOCK