



By: *Tomorrow's Affairs Staff*

The microchip shortage is easing, but it's too early to declare victory



One of the last major disruptions to the global economy caused by the COVID-19 pandemic has been rapidly receding, and has been pulling the market out of turbulent waters.

The chip shortage that has shaken global supply chains since the start of the pandemic is ending, and forecasts say that this year could be the year of market stabilisation.

However, the recovery from one of the most severe consequences of the pandemic comes only partly from the industry itself and its supply chains.

Much of the credit for ending the semiconductor shortage is due to a slowdown in the global economy, which would give manufacturers at both ends of the supply chain room to consolidate and rebuild their networks.

Beneficial weakening of chip demand

Chips became a bottleneck in production chains at the very beginning of the pandemic, the first quarter of 2020, due to the growth in demand, which manufacturers simply could not satisfy.

Losses were made by every industry that uses microchips as its smallest segment, which means almost every production chain, from the phone industry and computers to the car industry.

The latter has been the hardest hit sector during the three-year shortage. The losses of the auto industry have been colossal, estimated by AlixPartners to have been 210 billion USD in 2021.

The slowdown in the global economy will also reduce the demand for semiconductors, which has seen tremendous growth over the past three years. Consultant firm Gartner estimates that microchip industry revenue will decline by 3.6% this year compared with 2022.

This decline will allow the entire supply chain to consolidate, primarily to shorten delivery times.

At the end of 2022, a trend of a slight shortening of these deadlines was observed, and at the beginning of 2023 it has been between 26 and 52 weeks, regarding standard microchips.

This trend suggests that later in the year the deadlines could be further shortened, for example in sectors outside the auto industry, to below 35 weeks, which is shorter than now, but still longer than in the period before the pandemic.

State incentives are a long-term way out of the crisis

Regardless of these signals of stabilising microchip supply, the crisis has forced several major markets to think strategically and to anticipate some future shortages.

Their efforts have aimed to bring chip production back home, and reduce dependence on Asian manufacturers, who still dominate the world semiconductor market.

This is the purpose of several so-called Chips Acts, where the largest consumers of semiconductors try to regionalise their production and not fear any future disruptions of supply chains.

In December, the European Commission formalised its platform, which it will soon use in order to negotiate with the parliament. Its goal is to double its market share by 2030, from the current 10% to 20%.

In the US, the Chips Act provides 52 billion dollars of incentives over the next five years for the research and production of semiconductors in the country.

The support package for South Korea's domestic chip industry is even larger, amounting to 450 billion dollars, and the goal

is to make this economy a semiconductor powerhouse by the end of the decade.

"We don't want to create a situation where the United States, which created the semiconductor industry and Silicon Valley, would be completely dependent on other nations for that product", said Al Thompson, who leads Intel's US government relations.

His company, once a long-time global leader, now in third place behind Taiwan's TSMC and Korea's Samsung Foundry, has been hoping to return to the top with the Chips Act stimulus.

Previous disruptive factors persist

Although such decisions increase inflationary pressures, they are the only ones that offer an opportunity to avoid similar future disturbances.

Their goal is to shorten the supply chain, both in time and space, keeping producers and buyers within the same national or regional economy.

But such changes are expensive and will require a lot of time, so the complete stabilisation of the semiconductor market will have to wait.

During that time, tension on the market would be maintained by the previous disruptive factors: for example, issues related to manufacturing operations in East Asia due to health restrictions during COVID-19.

There have been disturbances in the raw materials market, particularly due to the war in Ukraine, which at the moment seem unresolvable in the short term.

Russia and Ukraine, for example, were the biggest exporters of krypton, a gas used in the production of microchips. Ukraine supplied more than half of the world's demand for neon, a crucial material for chip manufacturing at giants TSMC, Intel and

Samsung.

Until large subsidies in the markets of the largest consumer of chips take effect in a few years, shortages will remain a constant threat to the production chains of technologically sophisticated products.