

EU Chips Act: priorities, geopolitics, resources – the debate goes on

Article 2- Geopolitics: remaining open for business

This second article in our series on the continuing debate around the proposed [EU Chips Act](#) explores some of the geopolitical context – a context that has become ever more volatile over the course of 2022.

In February 2022, when the European Commission (EC) launched the EU Chips Act, it was against the backdrop of the Covid pandemic and global chip shortages. But the proposals also embody a wider and longer-held EU ambition for '[strategic autonomy](#)'.

Thierry Breton, EU Commissioner for the Internal Market captured some of this larger thinking in a [speech](#) to the Technical University of Eindhoven, September 2022: *"In **technology**, we have recognised that a global race is taking place and that our capacity to take our destiny into our own hands boils down essentially to the mastery of tomorrow's technologies. Breakthrough digital, dual and green technologies are becoming an essential driver of our resilience. Data, chips, quantum, hydrogen, batteries – these are key transformative technologies that we need to invest in for the real industrial revolution to happen."*

However, as Commissioner Breton stressed, the pursuit of European strategic autonomy is not about closing to the rest of the world or 'going it alone'. *"Our openness is deeply entrenched in Europe's DNA, and it will remain thus. We need international trade and global value chain integration for our economy to continue thriving."*

Policymakers stress cooperation

This insistence on remaining open is reflected in the EC's goal of cooperation with "like-minded" partners such as the US and Japan. The strategic research [paper](#) developed for the European Parliament notes that: *"Mutual dependence will persist. **No country is self-sufficient** when it comes to semiconductors due to the [complexity](#), geographic specialisations and **deep interdependencies** characterizing the supply chain."*

Martijn van Gruijthuijsen, Renew Europe member in the European Committee of the Regions (CoR) and shadow rapporteur on the EU Chips Act, made a similar [point](#) when speaking about the CoR's recommendations on the Act. *"We must remember that strategic autonomy is not the same as isolation. ... The semiconductor market is a global market, and it should stay that way. We cannot let Europe close itself off from the world out of fear for competition. While challenging, strategic autonomy and open competition can exist in harmony."*

Business remains global

In its position [paper](#), Orgalim shared the view that openness and partnership matter. *"We call for a European approach and industry-driven investments. Supply chains, production and research take place on a global scale. Europe can strengthen its position in the world only through pan-European and global cooperation in all areas, including financing."*



The McKinsey [report](#) of September 2022 likewise said: *“Technological autonomy is compatible with open economies and global collaboration. It can be achieved via multiple independent global sourcing options as well as a strong footprint of globally leading firms in Europe. But it will also require capability buildup by, and scaling of, European firms.”*

Beyond Europe

Yet alongside the EU’s emphasis on international cooperation, other realities exist. Many countries beyond Europe are investing heavily in their home-grown semiconductor industries. And international tensions are driving some to more protectionist positions.

The US – cooperation and trade tensions

In the US, President Biden signed into law the US Chips and Science Act in August 2022. The Act [provides](#) USD 280 billion dollars in new funding over the next ten years, with the bulk of this going to scientific research and commercialization. This said, USD 52.7 billion in subsidies and incentives are assigned to semiconductor research and expansion of semiconductor manufacturing in America.

Nonetheless, the US – like Europe – has seen opportunities in mutually beneficial cooperation. In 2021, this shared outlook led to the launch of the EU-US [Trade and Technology Council](#) (TTC).

At the inaugural TTC meeting in September 2021, the two parties expressed a commitment to: *“... building a partnership on the rebalancing of global supply chains in **semiconductors** with a view to enhancing respective security of supply as well as their respective capacity to design and produce semiconductors, especially, but not limited to, those with leading-edge capabilities.”*

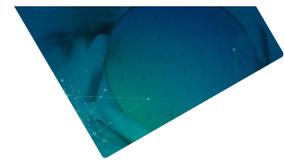
[Tensions](#) between the EU and the US over the US Inflation Reduction Act have threatened to overshadow the 3rd Summit of the TTC on 5 December 2022 in Washington. But the ambition to work together remains. Ahead of the meeting, industry association, Digital Europe [called](#) for the two parties to prioritize *“**Bolstering supply chain resilience**”* and to follow this with *“joint public-private R&D projects with industry on raw materials, chip design, manufacturing, assembly, and packaging.”*

Asia invests heavily

In Asia, major producing countries are also pumping money into their national industries. Last year, South Korea [announced](#) a ten-year USD 450 billion investment to strengthen its semiconductor industry. The European Parliamentary strategic research [paper](#) remarks: *“South Korea’s Ministry of Trade has likened chips to rice, an essential staple, and referred to them as “strategic weapons”. The government’s target is to double South Korean semiconductor exports to USD 200 billion in ten years, ...*

More recently, in November 2022, Japan has [said](#) that it will invest an initial USD 500 million in a new semiconductor venture to help revive its position as a leader in production of advanced chips.

Taiwan too is seeking to retain its industry leading position with government support for its semiconductor sector, including a recent [announcement](#) on tax breaks. And Taiwanese chip maker



TSMC has been pursuing investment opportunities opened up by the US Chips, such as development of a new [facility](#) for advanced (3 nm) manufacturing in Arizona.

In its analysis, the European Parliamentary research [paper](#) adds a warning about the reasons behind such moves: *“Experts claim that TSMC is shifting production abroad to ease the catastrophic effect on the global economy of a potential Chinese attack or blockade cutting off the supply of chips from “possibly the most important company on the planet” to the rest of the world.”*

Foreign investment – possibilities and realities

For its part, the European Commission has [reached out](#) to Japan, South Korea and [Taiwan](#). But at this stage, concrete cooperation between the EU and ‘like-minded’ Asian partners remains limited.

Over 2022, Lithuania and Taiwan strengthened their political and trading relationship. And in November it was [announced](#) that Taiwan’s Industrial Technology Research Institute would cooperate with a Lithuanian company to build semiconductor technology capabilities in the country, with an investment of 10 million euros.

However, larger initiatives such as possible [investments](#) from Taiwan’s TSMC and South Korea’s Samsung have yet to materialize.

US companies expand facilities in EU

On the other hand, the proposed EU Chips Act has helped boost investment from the US. In March 2022, Intel [announced](#) plans to invest up to 80 billion euros in the European Union over the next decade in semiconductor research and development, manufacturing, and packaging technologies. Among these, the company aims to create a 17-billion-euro ‘first of a kind’ leading-edge mega-site fab in Magdeburg, Germany.

US-based company, GlobalFoundries, has also [announced](#) multi-billion euro investments in Europe. These include joint development of a new 300 mm semiconductor manufacturing facility at Crolles, France, in partnership with STMicroelectronics. Plus, it has [plans](#) for one billion euros of investment in facilities at its site in Dresden, Germany.

These inward investments come alongside commitments from major European producers such as [Infineon](#), [Bosch](#) and [STMicroelectronics](#) – reflecting the stimulus of EU initiatives in the industry.

Nonetheless, as industry analysts [indicate](#), prevailing global market conditions in 2023 may bring into question future investment plans not only in Europe but worldwide.



Political issues, industrial impact

Besides market forces, today's tense geopolitical situation is having a direct impact on the semiconductor industry worldwide. This is especially evident in the relations between the US and China.

In the summer of 2022, the US launched its [Chip 4](#) initiative and it has taken ever stronger [measures](#) to block China's access to chips and chip-making technology. Reporting on these actions in October, the Asia News Network [wrote](#): *"To strengthen chip access and weaken Chinese involvement, the United States recently launched a working group dubbed "Chip 4" in cooperation with Japan, South Korea and Taiwan. Wang [Taiwan's Economic Affairs Minister Wang Mei-hua] said Taiwan is participating in the alliance to make the semiconductor supply chain more resilient, adding that Taiwan is keen to sustain semiconductor development in tandem with other democratic countries."*

Views vary on the effectiveness of the US's actions. Some industry specialists believe they may have unintended consequences. An [article](#) in the Asia Times, in October 2022, said these actions: *"... will also elicit an all-out Chinese effort to replace American chip-making and design technology. CapEx and R&D will shrink drastically in the US semiconductor industry while China allocates a massive budget to the sector."*

The European Parliament's strategic research [paper](#) comments that such moves *"...may push China to move away from the fast-follower strategy..."* China is believed to be close to being capable of producing advanced 7 nm nodes. And the paper warns that *"... the rapid upscaling of a highly subsidized Chinese trailing-edge "fab sea" risks to undercut foreign chip prices and to put enormous pressure on foreign competitors that are producing such less advanced chips elsewhere in the world."*

An article in the Fall [edition](#) of Issues in Science and Technology draws conclusions about the impact on chip makers in the US and beyond.

"For all chip makers, including those in the United States, a prolonged absence from the Chinese market carries its own risk. If China successfully develops solutions independent from American suppliers, it will effectively shut US vendors out of the world's largest market. Although the CHIPS Act may provide a boost to domestic companies, America's long-term global leadership in semiconductor technology will be more secure if China remains within the orbit of American products, rather than allowing it to flourish without US participation."

These remarks may primarily apply to the US, nonetheless they illustrate that the effects of political, economic and technological policy decisions can rarely be decoupled. As European policy makers have stressed: mutual dependency cannot be eliminated entirely in today's globalized markets.