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The European Chips Act

A Strategic Move Towards Semiconductor Autonomy

Semiconductors are devices ubiquitous in the modern world, being part of an ATM, automobile, train, and even modelled into military equipment. Their centrality to the 21st century cannot thus be overemphasised. The global chip shortage, which began in 2020 and is still seen today, honestly speaks to their importance in every sphere. It is out of this need that international entities, including the EU, have decided to develop domestic chip manufacturing plants. This raises a question: Does the act make the EU independent with regard to semiconductors?

Before these shortages, few countries, such as Taiwan, dominated the semiconductor market. Although the COVID-19 pandemic accelerated this shortage that began in 2020, the geopolitical tensions between China and the US, together with successive trade embargoes, were major contributing elements to its low supply. Reflecting on the critical shortages, the EU launched the European Chips Act to establish Europe as a prime global semiconductor market.

The European Chips Act aims at increasing the market share of Europe in the global semiconductor market to 20% by 2030. Its core agenda is to raise over €43 billion in public and private investments. All these funds must be invested in building new manufacturing facilities, encouraging research and development, and promoting innovation in semiconductor technologies. One of the major expected impacts this investment is to have, is not only to ensure the continuous production of semiconductors, but also to lower its dependence on foreign importers in the evermore volatile world. As a byproduct, the EU should expect economic growth and an increase in the number of high-skilled jobs.

Furthermore, the R&D and innovation priorities set by the Act will help drive Europe toward the development of cutting-edge semiconductor technologies that will enhance the EU's competitive edge in terms of technology

sovereignty. Strategic partnerships and reserves for strengthening supply chains will reduce the risk of future disruptions and ensure stable supplies of critical components.

Despite its ambitious and robust nature, the European Chips Act is likely to face severe challenges. Of course, €43 billion is a huge investment, but the semiconductor industry requires continuous capital infusion of a substantial nature. If this kind of funding is not available, the whole investment may become obsolete.

More than that, technological gaps vis-à-vis the leading semiconductor manufacturers in Asia and the US have to be narrowed down by Europe. Currently, this gap is mainly represented by the EU's lack of sufficient manufacturing capacities. Thus, it is not only is it important to advance European R&D capabilities, but also the manufacturing facilities. Obviously, this road to achieve parity with these global leaders will be long and difficult, especially as China and the US are already undertaking aggressive efforts to develop their respective semiconductor industries. Major initiatives to reach leadership in semiconductors in the respective countries are characterised by the US CHIPS Act and China's Made in China 2025.

Nonetheless, the European Chips Act should arguably become an instrument of prime impetus towards enhancement in chipmaking capacity and ensuring greater technological sovereignty for Europe. But complete autonomy of the chip industry needs continuous investment, relentless innovation, and correct handling of the global competition and geo-political factors.

While the European Chips Act provides a solid underpinning, this road to complete autonomy will be long and relentless. It requires relentless effort and coordination across many sectors. As ambitious and necessary as the Act is, it must be part of a more comprehensive and coordinated strategy for Europe to assume a lead position in the global semiconductor market. Such success will be of key importance during the process of stabilising the European economy and maintaining the technological leadership of Europe. Despite the challenges, currently, the European Chips Act is a progress-oriented strategy with significant promise to build up a resilient and competitive semiconductor industry in Europe.

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