

EU Chips Act: Efficiency, strategic implementation, and international cooperation are required

Based on the disruptions experienced in the semiconductor supply chain in the aftermath of the COVID-19 crisis, the EU Commission announced the EU Chips Act in February 2022. The most salient objective is a fourfold increase in the EU's current chips production, to reach a share in global production of 20% by 2030. The VDMA appreciates that 'electronic manufacturing equipment' is explicitly recognized as a critical part of the 'semiconductor supply chain'. Nevertheless, the EU Chips Act is no instrument for quickly resolving the semiconductor shortage. A catch-up process in chip design and production will take several years. Construction times of new chip factories alone take 2-3 years.

Resources must be used efficiently

In total, ca. 43 billion euros for public and private investments are intended to be mobilized. These resources must be invested efficiently and therefore a focus on international competitiveness is needed, especially considering the amount of public funding for the semiconductor industry in other parts of the world. Location factors such as infrastructure as well as energy and wage costs must be considered in this context. To avoid permanent subsidies, market-oriented viability in the medium to long term is required for all state support. We welcome that the EU Chips Act is not solely focused on establishing new semiconductor factories but also aims at reinforcing the semiconductor supply chain. A broader capacity building comprising R&D, chips design, systems integration, as well as re- and up-skilling the workforce, while emphasizing start-ups, scale-ups, and SMEs, guarantees a broad impact of the initiative.

Analyze and acknowledge industrial demands

Chips with node dimensions of 100 nm and above make up 60% of the current EU demand. The demand in the EU for chips with small node dimensions around 7 nm amounts to only 13% (Mc Kinsey, December 2021). Although capacity in Europe for most chip sizes is currently insufficient to cover local demand, priority for the Chips Act investments should be placed on the larger and some intermediate sizes. An increase in the demand for 'leading edge' chips can only originate in user industries, such as in the area of artificial intelligence, quantum sensors, or power electronics. A requirement analysis in the main user industries is necessary to avoid overcapacities and ensure targeted investments in capacity needs in the supply chain including Europe's equipment manufacturing. So far, a clear strategy for achieving the 20% target is missing. Due to likely higher production costs in Europe than in Asia, chips produced in Europe might lack international competitiveness and require permanent subsidies.

Use comparative advantages and expand European strengths

The EU should reinforce its leading market position in manufacturing equipment and raw materials (such as substrates and gases) for semiconductor production, in the design of chips for automotive, industrial equipment, and power electronics, as well as in research and development. Comparative advantages in these parts of the semiconductor value chain ensure international competitiveness without permanent subsidies.

Maintain state aid rules to avoid global and local subsidy races

The EU Chips Act lacks a concrete strategy how to avoid an international subsidy race. Even within the EU internal market, a subsidy race could occur if easily available funds in EU member countries lead to a frenzy among single member countries or individual industries in constructing new factories without a proper investment review. This contradicts the European idea and is deeply harmful to the internal market. The EU state aid law is the central pillar for preventing subsidy races among member states. The EU Chips act promises the approval of substantial state aid up to financing 100% of funding gaps. This must not become a precedent for a softening of state aid rules. We support that operational aid is only paid under strict conditions, especially only if profitability without such subsidies within a clearly specified time frame can be assumed. We also advocate for a degressive design of state aid and appropriate co-payments.

The concept of 'Open Strategic Autonomy' requires clear definitions and criteria

The EU Chips Act must be viewed as one element of the 'open strategic autonomy' concept presented in the EU's industrial strategy. This concept requires an unambiguous definition and clear criteria. The geographical concentration of supply chains is a necessary condition but not a sufficient criterion to define strategic products. The EU commission must strive for 'open' international collaboration in the sourcing of strategic products. As the EU Commission itself admits, self-sufficiency in a European semiconductor value chain is not an achievable target. The EU Chips Act should therefore put more emphasis on international alliances with like-minded partners beyond the mere exchange of information on semiconductor supply chains, for instance by means of trade agreements based on mutual dependencies. Crisis management as announced in the Chips Act must not undermine free trade. The determination of a semiconductor crisis must be based on distinct and transparent criteria. Primary responsibility for finding ways out of such a crisis lies with the industry. While common purchasing by the EU Commission on behalf of member states can be a reasonable instrument, priority rated orders and export controls must be limited and solely cover companies that obtained substantial state aid.

Conclusion

The EU Chips Act will only bring about a strategic impact on the European industry if it considers the needs and development along the whole semiconductor value chain, expanding European strengths, and promoting new technology and innovation through start-ups, scale-ups, and SMEs. When it comes to incenting new and expanded production capacities, a focus on international competitiveness is imperative, while maintaining strict EU state aid rules and avoiding a global subsidy race by means of international partnerships.

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