Briefing

Pre-Legislative Synthesis

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Chips act 2.0

Guillaume Ragonnaud with Emilie Brévière, Members' Research Service

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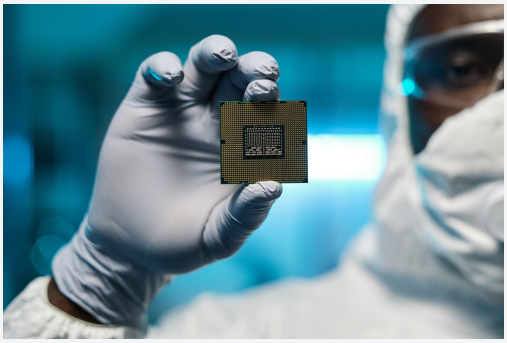
This European Parliamentary Research Service paper aims to inform Members on issues related to a forthcoming Commission initiative. It highlights the main choices which may shape the initiative and which Members may wish to explore ahead of formal Commission adoption. Based on documentary and other sources, it reflects the information available at the time of writing.

For further information on this topic, Members and staff of the European Parliament may contact the author.

Issues at stake

- Semiconductors (also known as chips) are a cornerstone of industrial policy, essential for the EU's competitiveness, security, and technological sovereignty.
- The global semiconductor market reached US$796 billion (around €704 billion) in 2025, following record growth driven by demand for data centres, artificial intelligence systems, and advanced logic and memory chips, with the logic and memory chip segments experiencing the largest gains.
- The 2023 Chips Act (Regulation (EU) 2023/1781) sought to bolster the EU's semiconductor industry but has faced significant criticism over its impact. The chips act 2.0, set for publication on 27 May 2026 as part of the 'tech sovereignty package', will aim to strengthen Europe's resilience and technological sovereignty in semiconductors.
- The proposal for a chips act 2.0 is expected to address the EU's manufacturing gaps for advanced semiconductor nodes and for other chip markets where the EU holds a competitive advantage; improve the monitoring of semiconductor markets; and simplify the regulatory framework.

In this briefing



Developments and insights – European Commission

The EU adopted the Chips Act (Regulation (EU) 2023/1781) in response to the unprecedented shortages that severely disrupted the semiconductor supply chain during the COVID-19 pandemic. The regulation requires a mandatory review by September 2026 (Article 40). The 2026 Commission work programme announced a chips act 2.0 for the first quarter of 2026. It is currently scheduled for publication on 27 May 2026, as part of a 'tech sovereignty package', which is expected also to include a cloud and artificial intelligence (AI) development act. The lead Directorate-General (DG) in the European Commission is the DG for Communications Networks, Content and Technology (DG CONNECT), and the responsible unit is Unit C3 'Microelectronics and Photonics'.

In the Joint Declaration of the European Parliament, the Council of the EU and the European Commission ('One Europe, One Market' roadmap), adopted on 24 April 2026, the proposal for a chips act 2.0 is listed among the highest-priority legislative initiatives, with the target date for final adoption of the file set to the second quarter of 2027.

The chips act 2.0 will form part of a toolbox designed to reinforce the EU's economic security. The proposed act's stated aim would be to strengthen Europe's resilience and technological sovereignty in semiconductor technologies and applications. According to the Commission, the revision of the Chips Act should consider the current geopolitical context, and focus on reducing dependency on third countries, in particular by expanding EU manufacturing capacity for advanced semiconductors in critical sectors. It should also improve monitoring of key market actors, supply chains, and the EU semiconductor ecosystem, to enhance crisis preparedness. The Commission explains that, to do so, it could propose targeted amendments to the Chips Act, to take account of the strategic nature of design and manufacturing capacity of both leading-edge chips and legacy chips, and define strategic projects to implement this policy. These amendments could also concern the data-gathering tools, with new mandatory provisions for the communication of certain information, for certain key market actors, in specific circumstances.

As part of the Chips Act revision, the Commission also plans to release a new EU semiconductor strategy, in a separate communication.

The Commission has highlighted several critical issues the proposed act would address.

- The EU currently lacks the manufacturing capacity for advanced semiconductor nodes (below 10 nanometres, known as 'leading-edge chips'), and relies entirely on third countries for their supply. These chips are essential for strategic sectors, including defence, security, automotive, space, and high-performance computing. Securing access to them is therefore a priority for the EU.
- Europe faces growing challenges from non-market policies and practices in third countries, particularly in the market for mainstream and essential semiconductors, such as power electronics, microcontrollers, photonics and sensors. In these sectors, where the EU holds a competitive advantage, innovation should be actively fostered, particularly in areas such as security and energy efficiency.

- There is limited insight into the resilience of key market actors, supply chains, and the overall EU semiconductor ecosystem. The EU and its Member States do not yet have a sufficient understanding of supply-chain resilience or the broader ecosystem to guarantee security of supply or effectively address disruptions and crises. From an economic security perspective, the current understanding of vulnerabilities, such as the risk of technology leakage among key market actors, remains insufficient.
- There may be opportunities to reduce administrative burden and simplify the process for applying State aid measures to 'first-of-a-kind' facilities under pillar 2 of the Chips Act (see Box 1 below).

On 26 March 2026, the Executive Vice-President of the European Commission for Technological Sovereignty, Security and Democracy, Henna Virkkunen, chaired an implementation dialogue on the Chips Act, where industry representatives discussed recommendations for its forthcoming revision. The Industry Advisory Group (a working group of the Industrial Alliance on Processors and Semiconductor Technologies) presented a report with 11 recommendations for the chips act 2.0. They include stimulating demand for European chips; extending the scope of the first-of-a-kind tool to cover the entire value chain; supporting chip segments where the EU already excels, such as power semiconductors; supporting start-ups in scaling up; making a targeted effort to support EU companies in the chip design sector; strengthening the link between research and industrial applications; focusing on the entire chip value chain, not just manufacturing; allocating ambitious EU funding to the sector (between €30 billion and €60 billion in EU funding over the next seven years to leverage up to €300 billion in investment); reducing bureaucracy; involving the chip industry in the governance of the Chips Act; and addressing skills and talent gaps in the sector.

Why is the initiative important?

Strategic role of semiconductors in the global economy

Similarly to the steam engine, chips are considered one of the few general-purpose technologies – groundbreaking innovations that have opened up whole eras of technical progress and economic growth. Chips have made possible the development of information technologies and the ongoing digital transition. The three main categories of semiconductors are: logic chips – the 'brains' of electronic devices, executing complex computing operations; memory chips, storing information; and discrete, analogue and other chips (DAO), such as voltage regulators and optical sensors.

Advances in chip manufacturing process technology are typically described as 'nodes' – referring to the size in nanometres (nm) of the transistor gates (the key components of chips). The most advanced chips are based on the smallest nodes (below 10 nm) and consist of tens of billions of transistors.

Semiconductors are integral to modern electronics, typically embedded in the printed circuit boards of virtually every device. As dual-use items, their applications span both civilian and military sectors, including computers, medical devices, 5G networks, data centres, AI systems, aerospace, and defence and energy systems.

Chips manufacturing is highly complex. It involves three main steps: chip design; production (in 'foundries' or 'fabs'), the most capital-intensive stage (a fab for advanced chips costs around US$20 billion, or around €17.7 billion); and final assembling, testing and packaging, the most labour-intensive stage. The supply chain relies on around 300 inputs, such as ultra-pure silicon wafers,

gases and chemicals, as well as on more than 50 classes of high-tech manufacturing equipment. The complexity of the global supply chain, owing to geographic concentration and specialisation, the interdependence of the actors involved, and the industry's capital-intensive nature (a barrier to entry in the sector), exposes this system to a wide range of potential disruptions.

The global semiconductor market continued its rapid expansion in 2025, reaching US$796 billion (around €704 billion), a 26 % year-over-year increase, one of the industry's most significant annual expansions. This growth was primarily driven by surging demand for data-centre infrastructure and AI systems, with the logic and memory chip segments experiencing the largest gains.

Europe's most valuable company, ASML, produces the advanced equipment needed for manufacturing cutting-edge chips. Recently, the company raised its full-year sales forecast, driven by the AI boom. Recent geopolitical tensions involving Nexperia, a Dutch chipmaker majority-owned by China's Wingtech since 2019, have exposed significant vulnerabilities in the EU's semiconductor supply chain. As a supplier of 40 % of the European automotive industry's semiconductor needs, potential disruptions at Nexperia could bring EU automotive production lines to a halt within weeks. The European semiconductor ecosystem supports around 200 000 jobs directly, and up to 1 000 000 related jobs in systems, applications and services in Europe.

The Draghi report on EU competitiveness noted that the EU's semiconductor sector suffers from insufficient investment and complex governance, with lengthy processes and uncoordinated action by Member States. Since the Chips Act, €100 billion in investments have been announced, mostly through State aid by Member States, with only €3.3 billion from the EU budget. The report urges the EU to de-risk its supply chains, and focus on supply-chain segments where it can compete. It should boost research and development (R&D) in areas such as larger nodes, develop chip design and manufacturing, and support leading EU firms in semiconductor equipment and materials.

Under the Digital Decade policy programme, by 2030, the EU aims to produce at least 20 % of the world's cutting-edge semiconductors by value.

Chips Act: Core pillars and priorities

The Chips Act is organised around three pillars.

- **Pillar 1, the 'Chips for Europe' initiative** – designed to bridge the gap between 'the fab and the lab' – aims to achieve large-scale technological capacity building and support research and innovation activities throughout the EU chip value chain. The initiative is implemented by the Chips Joint Undertaking, set up in September 2023 under the Horizon Europe and Digital Europe programmes. It is responsible for developing 'pilot lines' – shared facilities that provide shared access for companies and researchers to test new chip designs, equipment and processes at near-industrial scale prior to mass production. The five pilot lines cover ultra-low-power semiconductors (FAMES), beyond-2 nm systems-on-chip (NanoIC), advanced packaging (APECS), wide-bandgap semiconductors for power and radio frequency electronics (WBG), and photonic integrated circuit technology (PIXEurope). They represent a combined EU and national investment of €3.7 billion.

- **Pillar 2, focused on boosting projects improving the EU's security of supply and resilience** by attracting investment and enhancing production capacities, defines two EU statuses providing a range of benefits to the awardees (including preferential access to the pilot lines): 'integrated production facilities' (IPF) and 'open EU foundries' (OEF). To obtain one of these statuses (through a Commission decision), a facility has to qualify as a 'first-of-a-kind facility' (FOAK facility), i.e. bringing an innovative element to the internal market regarding the manufacturing processes or the final product. By March 2026, five semiconductor projects across the EU have been awarded IPF or OEF status.
- **Pillar 3, monitoring and crisis response**, is a coordination mechanism between the Member States and the Commission to better anticipate and mitigate the effects of shortages, including a monitoring scheme and a crisis mechanism with a dedicated toolbox of measures that can be triggered in the event of a crisis.

The European Semiconductor Board, composed of Member State representatives and chaired by the Commission, advises the Commission on the implementation of the Chips Act. The European Parliament holds observer status.

Despite its ambition, the Chips Act has faced mounting criticism. In its 2025 special report on the EU's strategy for microchips, the European Court of Auditors (ECA) acknowledged that the Chips Act had brought momentum to Europe's semiconductor sector, and noted reasonable progress in its implementation. Nevertheless, the ECA identified several flaws in the act's design and implementation. Notably, the act was prepared urgently and published without an impact assessment. According to the ECA, this rushed approach meant the act failed to analyse why the 2013 strategy for micro- and nanoelectronic components and systems had fallen short of its goals, risking a repetition of past mistakes. The ECA also questioned whether the act would stimulate the required level of investment. Moreover, the ECA acknowledged progress in monitoring, but noted that crisis response mechanisms are not yet ready for deployment. Furthermore, the ECA found the Chips Act lacked clarity regarding targets and monitoring across all three pillars. Finally, the ECA warned that the 20 % global market share target by 2030 was unlikely to be achieved, and stressed that the Commission's own forecast projects only 11.7 % by 2030.

Member State positions and interested parties' opinions

The criticism outlined in the previous section was echoed by the Member States. On 29 September 2025, the Semicon Coalition, composed of the 27 Member States, called for an 'ambitious and forward-looking' revision of the Chips Act, to strengthen Europe's position in the global semiconductor value chain. Member States underlined that, while global competitors are significantly increasing investment, 'much of the semiconductor industry's value creation is occurring outside the EU'. According to the coalition, the proposed revision of the Chips Act is built on three strategic objectives: (i) prosperity through a competitive ecosystem; (ii) indispensability by securing critical control points in the value chain; and (iii) resilience in the supply of semiconductors for critical sectors. They argued that the semiconductor sector should be prioritised as a strategic industry on a par with aerospace and defence, emphasising the need for a coordinated agenda that aligns national and EU funding, fast-tracks strategic projects through simplified procedures, and establishes a European Chips Skills

programme to build a strong talent pipeline. Member States emphasised that the target of a 20 % market share is unrealistic and overly broad, lacking a clear strategic focus.

In its conclusions on the ECA special report on the EU's strategy for microchips, the Council of the EU noted the findings regarding the lack of EU-level coordination of national investments – limiting strategic alignment and comprehensive oversight – as well as a sense of urgency, which have led to several gaps in the design of the initiative. The Council equally recognised the need for enhanced efforts to attract and retain private investment, including by reducing administrative burden, ensuring regulatory predictability, and coordinating private and public investment more effectively. The Council invited the Commission to accelerate preparatory work in view of revising the Chips Act in 2026. The Council agreed with the special report's recommendation on the need to start working on the new semiconductor strategy in 2026 with clearer, measurable goals.

Industry groups have widely criticised the Commission's proposal for a multiannual financial framework (MFF) for 2028-2034 for not having a dedicated semiconductor budget line. For instance, in its report on the Chips Act of 18 November 2025, SEMI Europe called for a 'dedicated semiconductor budget [in the post-2028 MFF] that sends a strong signal of commitment towards this critical industry'. In addition, SEMI Europe has highlighted the importance of ensuring harmonised coordination between Horizon Europe and the proposed European competitiveness fund, to create a seamless 'lab-to-fab-to-market' pathway, allowing continuous support from research through industrial deployment.

The European Semiconductor Regions Alliance, a coalition of European regions with established semiconductor ecosystems, advocates for a place-based chips act 2.0. It should leverage the strengths of the EU's regions by bolstering regional clusters, promoting inter-regional collaboration, and connecting regional specialisations across the chips value chain.

Trade association DigitalEurope argued that the Chips Act should evolve 'from an emergency response into a strategic industrial policy', and aim to strengthen the entire semiconductor value chain. Its objectives should be 'realistic' and 'market-driven'. According to DigitalEurope, the chips act 2.0 should address actual market demand for semiconductors, building on the EU's existing strengths, and aim to launch five semiconductor alliances by 2030, covering for instance automotive, energy, defence, healthcare, telecommunications, data centres, and AI applications. The EU should become indispensable in the global chips supply chain by focusing investment in areas where it can lead, such as manufacturing equipment, while also targeting breakthrough opportunities such as quantum chips. To attract semiconductor investment and skilled workers, the chips act 2.0 should introduce EU-wide tax incentives, streamline permitting, ensure affordable energy, and develop critical infrastructure. The trade association argues that closing Europe's semiconductor workforce gap requires targeted training and recruitment. Moreover, EU production should be energy-efficient and circular. Finally, the act should be able to mobilise €200 billion in combined public and private funding by 2035, including a dedicated EU budget line of at least €20 billion under the proposed European competitiveness fund.

Results from the Commission consultation

From 5 September 2025 to 28 November 2025, the Commission held a call for evidence and a public consultation on the Chips Act**,** to prepare its evaluation and the impact assessment accompanying the proposal for the chips act 2.0. The consultation received 209 responses, primarily from businesses (32 **%**), academic and research institutions (26 %), and business associations (15 %). In their response to the consultation, trade union IndustriALL Europe advocated for 'a more comprehensive

industrial strategy for the semiconductor sector'. It also emphasised the importance of semiconductor manufacturers respecting social conditionalities and producing in Europe, if they are recipients of public aid.

The Centre for a Digital Society (CDS) at the European University Institute highlighted the importance of combining greater industry initiative with more strategically targeted public intervention. The CDS also argued that semiconductor capabilities should be developed not in isolation but as part of a 'broader, layered digital ecosystem': from raw materials and energy, through chips, networks, etc. The CDS stressed that, while investment in advanced nodes is possible, it should be paired with an industrial and economic-security strategy that addresses underlying structural conditions. Finally, it emphasised the importance of EU-level data-gathering to ensure that the Commission possesses the complete information necessary for risk assessment, investment monitoring or crisis preparedness.

Regional and national public authorities emphasised the need to substantially increase EU funding for semiconductor production. The Bavarian Ministry of Economic Affairs, Regional Development and Energy called for greater investment in chip manufacturing, while stressing the importance of strengthening demand-side measures to make European production profitable for companies. Both the Bavarian Ministry and the Austrian Federal Economic Chamber highlighted the important role of chips in the defence industry, advocating for secure supply chains and closer integration between the chips act 2.0 and broader defence-industrial policy tools. The Austrian Chamber further stressed the need for reforming financing mechanisms through the proposed European competitiveness fund in order to reduce subsidy competition among Member States, while also calling for monitoring systems to track potential disruptions in third countries. The Danish Ministry of Industry, Business and Financial Affairs echoed these monitoring concerns while arguing for a focus on emerging critical technologies such as quantum chips, rather than attempting to catch up in traditional semiconductor manufacturing.

European Parliament views

In its January 2026 resolution on European technological sovereignty and digital infrastructure, the European Parliament expressed concern over excessive dependencies on non-EU actors in critical sectors such as semiconductors, where market concentration and foreign control risk undermining Europe's competitiveness, democratic resilience and security. It stressed that the EU's industrial and technological policies should prioritise key strategic technologies of the future, such as semiconductors, that contribute to open strategic autonomy and are essential for the green, digital and defence sectors. Parliament called for urgent action to strengthen EU domestic semiconductor manufacturing, including measures to improve supply-chain resilience through strategic global partnerships, support for start-ups and innovation, cross-border collaboration in advanced semiconductor development, and the provision of financial incentives, regulatory support and market access. Parliament also urged that additional funding under the next MFF be allocated to developing semiconductor production capacities and next-generation technologies and processes, such as photonic chips, wide-bandgap chips, as well as design, manufacturing, testing, assembly and advanced packaging, within the EU.

In its January 2026 resolution on drones and new systems of warfare, Parliament emphasised supply chain vulnerabilities, citing that 60 % of components for military drones, including navigation chips and semiconductors, originate in the United States and China.

In March 2025, more than 50 MEPs from across five political groups (EPP, S&D, ECR, Renew and the Greens) reportedly wrote to Commission Executive Vice-President Virkkunen, urging action to boost Europe's tech sovereignty. In their letter, they are said to have called for increased R&D funding, stronger investment incentives, and a strategy to leverage Europe's existing industrial strengths. They also pressed the Commission to develop critical infrastructure and strengthen partnerships between industry, research institutions and key suppliers.

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Contact

E-mail: eprs@ep.europa.eu

Intranet: https://eprs.in.ep.europa.eu/

Internet: https://www.europarl.europa.eu/thinktank

Blog: https://epthinktank.eu