Position Paper

Industry Recommendations for the EU Chips Act 2.0

Submitted by Svensk Elektronik / Semicon Sweden

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Summary

The electronics ecosystem is the foundation of Europe's technological sovereignty, industrial competitiveness, and green transition. The **EU Chips Act 2.0** represents a crucial opportunity to consolidate Europe's position in global semiconductor value chains and ensure a resilient and innovation driven industrial base.

Svensk Elektronik, representing Sweden's electronics and semiconductor industry, welcomes the Commission's continued commitment to strengthening Europe's semiconductor capabilities. We call for a balanced and industry aligned approach that supports the *entire electronics value chain* — from design and materials, components and equipment to manufacturing and systems integration.

To achieve these goals, we propose the following key priorities:

1. Align policy measures with industrial and end-market realities.
2. To strengthen Europe's position in global semiconductor value chains.
3. Integrate research and innovation with industrialization.
4. Improve financing instruments and establish a dedicated semiconductor budget.
5. Develop a strategy for strategic electronics manufacturing in Europe.
6. Build resilience to ensure stable semiconductor supply for critical sectors.
7. Bridge the scale-up gap for European start-ups and SMEs.
8. Focus on Europe's strengths and opportunities in AI.
9. Enable innovation across the entire electronics value chain - focusing on resilience.

Policy background
The **EU Chips Act (2023)** laid an important foundation for Europe's semiconductor ambitions, mobilizing public and private investments to enhance capacity, R&D, and resilience.
However, rapid technological evolution, geopolitical developments, and increasing industrial interdependence require a more integrated and forward-looking approach. Clear focus should be on industrial deployment when revising the research dimension of the EU Chips Act. Today's research should be aimed at winning tomorrow's markets.

The next phase — **EU Chips Act 2.0** — should focus on connecting innovation to industrialization, ensuring financing continuity, and extending strategic attention on conditions to innovate across all segments of the supply and value chains and strengthen the industrial innovation infrastructure. Europe should focus on areas of European strength and identify areas of critical and strategic technologies where Europe has the capacity to lead.

Svensk Elektronik, in partnership with the Swedish Government, relevant ministries, national and EU counterparts, contributes actively to shaping this future through industrial coordination and policy dialogue.

The Electronics and Semiconductor Industry in Sweden
Sweden hosts a highly advanced, diversified, and export-oriented electronics industry that plays a critical role in Europe's technological landscape. The sector comprises 8,000 companies and 260,000 employees, ranging from global industrial leaders to specialized SMEs, with strengths in telecommunications, automotive systems, defense electronics, energy technologies, industrial automation, and medical technology.

At the heart of this ecosystem lies a growing semiconductor and microelectronics community, covering design, power electronics, embedded systems (incl autonomous driving), photonics, and manufacturing equipment.

Sweden's capabilities extend throughout the electronics value chain — including design, testing, manufacturing and system integration — forming a strong foundation for innovation and resilience in European supply chains.

Key national strengths include:
- World-leading research institutions and innovation clusters, such as KTH Royal Institute of Technology, Chalmers University of Technology, Lund University and RISE (Research Institutes of Sweden).
- Global industrial leaders with extensive knowledge in systems integration.
- Innovative start-ups.
- Robust industrial collaborations bridging academia, start-ups, and multinational corporations.
- A strategic government focus on semiconductor policy, with participation in the European Semiconductor Coalition and the Semiconductor Coalition Declaration, under the leadership of the Swedish Ministry of Climate and Enterprise in collaboration with other Swedish Ministries such as Ministry of Defence and Ministry of Foreign Affairs.
- Coordination involving agencies such as Tillväxtverket, Vinnova, and the Swedish Defence Materiel Administration (FMV), ensuring alignment with national security and industrial policy objectives.

Through Svensk Elektronik / Semicon Sweden, the Swedish industry is taking a leading role in shaping a National Semiconductor Strategy, ensuring that Sweden contributes actively to — and benefits from — Europe's broader semiconductor framework.

Sweden's vision is to serve as a strategic innovation hub within the European semiconductor value chain, combining technological excellence, sustainability, and industrial competitiveness.

Key Industry Recommendations for the EU Chips Act 2.0

1. Alignment with Industrial and End-Market Needs

For Chips Act 2.0 to achieve real impact and strengthen Europe's position in the global value chain, it must be firmly anchored in the operational realities of Europe's industries and end-markets. Europe should leverage its strengths and align with market trends and demands. Semiconductor policy should not be developed in isolation but integrated with industrial strategies for key sectors such as automotive, energy, defense, telecommunications, medical technology, and industrial automation. European competitiveness relies on access to technologies that are both cutting-edge and industrially deployable. Therefore, funding priorities should reflect real market demand, ensuring that research and innovation lead to tangible, scalable, and economically viable manufacturing outcomes.

Member States founded the "Semicon Coalition", seeking strong cooperation and fast-track action from the European Commission to address the semiconductor industry as a strategic asset and necessity for Europe's competitiveness, resilience and strategic autonomy.

2. Strengthening Europe's Role in Global Value Chains

Semiconductors are at the core of an interconnected global ecosystem. Europe's strategic goal should be **to strengthen its position within global value chains**, not to isolate itself from them. This means fostering global partnerships while reinforcing Europe's role in advanced design, materials innovation, specialized manufacturing, and high-reliability systems. Europe's comparative advantage lies in high-value segments — such as power electronics, advanced sensors, and system integration — which should be further leveraged through coordinated industrial and trade policies.

The Chips Act 2.0 should therefore support **open and secure value-chain participation**, ensuring that European actors remain indispensable partners in the global semiconductor landscape, while safeguarding supply security and critical technologies through strategic autonomy measures.

3. Integrating Research and Development with Industrialization

Europe's research base is world-class, but too often innovation stops at the laboratory stage. To regain global competitiveness, Europe must close the gap between research excellence and industrial execution.

Chips Act 2.0 should therefore prioritize **programs that directly link R&D activities to industrial outcomes** and expand support for:

- **Pilot lines and demonstration facilities** that enable the validation of new technologies in real production environments
- **Public–private partnerships** that bring together research institutions, large companies, and SMEs
- **Cross-border technology testbeds** to accelerate technology transfer across Europe

By aligning innovation policy with manufacturing policy, Europe can shorten the time from concept to commercial product, ensuring that new technologies are produced in Europe rather than transferred abroad.

4. Improved Financing Tools and a Dedicated Semiconductor Budget

Access to financing remains one of the most significant barriers to innovation and industrial growth. Semiconductor investments are capital-intensive, risky, and long-term in nature — conditions that often exceed the scope of existing EU and national funding programs.

Chips Act 2.0 should introduce a **dedicated semiconductor financing framework**, including:

- A **semiconductor-specific EU budget line**, ensuring sustained and predictable support for strategic projects
- Simplified application and approval procedures, particularly for SMEs
- Coordinated national co-financing mechanisms to maximize leverage of public and private investment

Such mechanisms should also encourage cross-border collaboration and the establishment of **IPCEI-like initiatives** that span the entire value chain. A more coherent financial architecture will strengthen Europe's ability to attract and retain advanced semiconductor investment.

5. Develop a Strategy for Strategic Electronics Manufacturing in Europe

Europe needs to increase the pace of the **innovation cycle** — connecting research, design, prototyping, volume manufacturing, and system integration. Semiconductor manufacturing must be recognized not only as an industrial activity but as a **strategic capability** essential for Europe's competitiveness, resilience, and sovereignty.

To stay competitive Europe needs also **volume product manufacturing in the region**. Without commercially viable production of high-volume products, European industry cannot achieve the economies of scale required to be **price-competitive** in global markets.
Today, much of Europe's semiconductor and electronics production depends on manufacturing in Asia, where large-scale ecosystems create cost advantages through concentration of suppliers, workforce, and logistics. This model undermines Europe's competitivenss in several ways:

- **Fragmented supply chains** reduce flexibility and innovation speed.
- **Loss of know-how and industrial learning** occur when manufacturing is located outside Europe.
- **Strategic dependency** on non-European regions poses risks to both industry and security.
- **Distance from end markets** increases lead times and logistics.

For Europe to remain competitive, **volume products are needed to build around** — products that justify investment in manufacturing capacity, supply-chain infrastructure, and skills.

Chips Act 2.0 should therefore:

- Secure **manufacturing** within Europe, especially in sectors of strategic importance.
- Stimulate **industrial clustering** that co-locates R&D, pilot lines, and volume manufacturing to strengthen innovation loops.
- Encourage **strategic partnerships** to ensure sustained production volumes.
- Promote **regional hubs** that can scale innovation to industrial mass production.

Only by anchoring strategic manufacturing in Europe can the continent achieve sustainable competitiveness, retain technological sovereignty, and secure its position in the global electronics industry.

6. Building Resilience in the Semiconductor Supply Chain

The pandemic and recent geopolitical tensions have highlighted Europe's dependence on external semiconductor supply. A resilient ecosystem must be capable of absorbing shocks without jeopardizing critical industries.

Chips Act 2.0 should therefore include:

- Support for diversification of supply sources and regional manufacturing
- Crisis coordination mechanisms among Member States and key industries

7. Bridging the Scale-Up Gap

While Europe produces world-leading semiconductor start-ups, too few of them reach global scale. The transition from R&D to industrialization and volume manufacturing remains a structural weakness in the European innovation system.

Chips Act 2.0 should therefore establish a Scale-Up Acceleration Framework, providing:

- Access to pilot and shared production facilities
- Tailored financing instruments for industrial scaling
- Mentorship and partnership programs linking start-ups with established manufacturers

Bridging the scale-up gap will ensure that promising innovations stay in Europe, creating jobs, strengthening regional clusters, and building the next generation of European semiconductor leaders.

8. Focus on Europe's strengths and opportunities in AI

Europe should build on its industrial strengths and innovation capacity to take a leading role in the next generation of AI semiconductors. The growing importance of AI makes it essential that Europe develops and produces the chips that power this transformation.

We recommend an approach supporting both foundational AI chips and European leading-edge AI chips.

Foundational Chips for AI (Edge and Physical AI)
Europe should ensure a leadership position in the next wave of AI innovation. Edge AI allows for real-time data processing, analysis, and decision making directly on smart connected devices when challenges such as latency and data security increase. Leadership in Edge AI is necessary for winning the next global technology race in intelligent systems and robotics, and Europe already has a pole position in necessary key components such as microcontrollers and smart sensors. The approach should also include powering AI, addressing the growing electricity demand and need for energy efficiencies to reduce the overall power consumption of AI server systems and data centers. To promote foundational chips for AI in Europe, the EU Chips Act 2.0 should contain dedicated instruments enabling the semiconductor ecosystem in Europe to become global leaders.

European Leading-Edge Chips for AI
An approach to drive European leading-edge chips for AI should be developed to ensure Europe's leadership position in research, manufacturing processes, and semiconductor manufacturing equipment. It should also identify and address technology gaps and include a concept to increase Europe's tech sovereignty, in close alignment with the industry.

In addition, Chips Act 2.0 should prepare Europe for disruptive AI technologies — including quantum computing — and promote strategic international partnerships to access complementary know-how where needed.

9. Enabling Innovation Across the Entire Value Chain - and Focusing on Resilience

The success of Europe's semiconductor strategy depends on the strength and interconnection of its full electronics ecosystem. Chips alone do not create value; it is through integration that they enable competitive and innovative end products.

Advanced packaging and **chiplet technologies** represent a shift in semiconductor manufacturing. Instead of relying solely on ever-smaller transistor nodes, they enable multiple chips or functional blocks ("chiplets") — often produced in different process technologies or by different suppliers — to be combined within a single package. This approach delivers higher performance, lower power consumption, and faster time-to-market while reducing dependence on single-node manufacturing capacity.

These technologies are becoming the backbone of next-generation computing, AI accelerators, automotive systems, and edge devices.

Chips Act 2.0 should recognize the critical role of **advanced packaging**, **chiplet integration**, **printed circuit boards (PCB)**, and **electronic manufacturing services (EMS/PCBA)** within the semiconductor value chain. These sectors form the essential bridge between semiconductor design and system-level innovation.

Together, they:

- Anchor semiconductor capabilities in Europe's industrial base by linking design, manufacturing, and application
- Enable heterogeneous integration and rapid prototyping for high-value, low-volume production
- Shorten innovation cycles by connecting chip design with system-level testing and deployment
- Strengthen resilience by retaining key assembly, packaging, and manufacturing capabilities in Europe
- Ensure that Europe can compete not only in chip design and manufacturing, but also in the advanced integration technologies shaping the future of electronics

By embedding **sustainability and full value-chain integration** into Chips Act 2.0, Europe can not only enhance competitiveness and resilience but also demonstrate **global leadership in responsible, high-value manufacturing**.

Conclusion

The **EU Chips Act 2.0** should serve as a catalyst for an integrated, resilient, and competitive European semiconductor ecosystem. By linking research, industrialization, and full value-chain participation, Europe can ensure its long-term technological leadership and economic security.

Svensk Elektronik/Semicon Sweden remain committed to active collaboration with the European Commission, Member States, and industry partners to advance this shared vision.

About The Swedish Electronics Trade Association (Svensk Elektronik)

Swedish Electronics represents Sweden's electronics and semiconductor industry. Its mission is to promote the industry's interests at national and European levels, ensuring a sustainable business environment and strengthening global competitiveness. As a key enabler of innovation, the industry drives industrial development, supports economic growth, and addresses major societal challenges. Swedish Electronics' members support a total turnover of SEK 300 billion and 97,000 jobs in Sweden.