

Joint Proposal from the Spanish Semiconductor Ecosystem for the European Chips Act 2.0 Public Consultation Process

1.- Introduction and Context.

This document is the result of collaboration between representative organizations from different sectors of the Spanish semiconductor and related technology ecosystem, such as VaSiC, AESEMI, AMETIC, ADIGITAL, and COIT, along with universities, research centers, and companies within the Spanish semiconductor ecosystem.

Throughout 2025, these entities worked together to define a common strategic position for the European Chips Act 2.0 public consultation, with the aim of contributing to the review of the European regulatory and financial framework that will guide microelectronics policy in the coming years.

The text harmonizes the contributions of complementary perspectives from business associations and technology institutions. This proposal reflects a pluralistic, structured, and realistic vision, representative of the capabilities and ambitions of the Spanish ecosystem within the European context.

The European Chips Act 2.0 is not merely a continuation of the previous framework: it represents a strategic redefinition that seeks to balance technological leadership, industrial sovereignty, and the sustainability of the European semiconductor ecosystem. Thanks to public-private collaboration and the coordination of key stakeholders, Spain can play a significant role in developing capabilities in design, R&D, production, packaging, and talent development.

2. Objectives of the Proposal.

The overall objective of this proposal is to provide a comprehensive view of the Spanish ecosystem that complements the European industrial perspective and helps consolidate a coherent, efficient operational framework adapted to the sector's actual capabilities. To this end, the following strategic objectives are proposed:

1. Strengthen Europe's global competitiveness by balancing design, manufacturing, and advanced materials capabilities, prioritizing R&D excellence and support for technology-based companies.
2. Recognize the strategic value of the European fabless model, positioning design and intellectual property (IP) as central pillars of ecosystem growth. This model, which predominates in Spain with over 80% of companies in the sector, represents a structural advantage that should be strengthened through specific financial and regulatory instruments.
3. Promote the training, mobility, and specialization of talent through a European framework of micro-credentials, the expansion of dual training programs, and the creation of continuous learning pathways between vocational training, universities, and industry.

4. Align funding mechanisms and public aid with the actual pace of technological development, promoting flexible, predictable, and coordinated structures among Member States.
5. Boost private investment by creating a European guarantee mechanism that reduces the risk of advanced innovation projects and fosters cross-border cooperation.
6. Balance supply and demand policies by introducing incentives that encourage the adoption of European chips in key sectors such as automotive, energy, defense, healthcare, and telecommunications.
7. Strengthen the participatory governance of the Chips Act 2.0 by integrating industry associations and clusters into decision-making bodies, ensuring balanced and transparent representation.
8. Consolidate Spain's position as a hub for European innovation and cooperation, leveraging the coordination capacity among technology centers, companies, and public administrations.
9. Transform strategic priorities into operational instruments: define measures and criteria regulated at the European level (legal definition of Open EU Foundry, mandate for Chips JU on EDA/OpenTapeout, rules for a European Guarantee Facility, etc.) with public deadlines and responsibilities.
10. Guarantee the security, sustainability, and resilience of the supply of strategic raw materials through coordinated policies that ensure secure sources, processing capabilities, and recycling processes that reduce external dependence and support European industrialization

3. Key Recommendations.

3.1. Start-Up & Scale-Up – From Innovation to Market.

The European semiconductor ecosystem faces the challenge of transforming research into sustainable commercial outcomes. In this context, the fabless model has become a driver of competitiveness that must be supported through specific business scaling policies. This section addresses how the Chips Act 2.0 can serve as a catalyst for technological entrepreneurship, driving the transition from innovation to market.

Europe has a growing network of design and technology services companies that can compete globally if they have access to design tools, patient capital, and support during growth stages. Strengthening this segment is essential to reducing external dependence and ensuring technological sovereignty.

Recommendations:

- Introduce specific incentives for the fabless model, facilitating access to open EDA tools and shared tape-out services.
- Create a European Go-to-Market budget that covers the costs of commercialization, certification, and pilot testing.
- Establish a growth incentive framework that prevents the loss of aid or tax advantages when companies scale up.
- Strengthen access to private financing through a European Guarantee Facility for Semiconductors, which mitigates investor risk and complements public support.
- Simplify guarantees and promote mutual guarantee societies.

- Coordinate grant processes between the Commission and the Member States.

3.2. Talent, Training, and Microcredentials.

European competitiveness in semiconductors depends not only on infrastructure or financing, but fundamentally on talent. The shortage of professionals specializing in microelectronics, chip design, materials, and photonics represents one of the main bottlenecks in the European ecosystem. In Spain, the growth of research centers, startups, and industrial plants has increased the demand for engineers, technicians, and technology management professionals, generating the need for a coordinated strategy at the European level.

Training should be considered a strategic industrial policy. The Chips Act 2.0 should integrate a systemic vision that connects education, employment, and technological competitiveness policies, ensuring that the creation of new productive capabilities is accompanied by qualified and up-to-date talent.

Recommendations:

- Strengthen existing programs such as the Chip Chairs (a national call launched in 2023 in Spain, within the framework of the PERTE Chip program) and expand them at the European level.
- Develop a European micro-credential framework that recognizes skills in microelectronics and design, promoting labor mobility and transnational cooperation.
- Create modular training pathways that integrate vocational training, university, and continuing education at the European level.
- Facilitate the attraction of global talent through streamlined visas and mutual recognition of qualifications.
- Incentivize internal mobility within Europe through scholarships and cross-sector internship programs.

3.3. State aid and regulatory framework.

The revision of the Chips Act must address the lack of coherence between European funding instruments and national frameworks. The experience with the first Chips Act revealed bureaucratic limitations, a lack of flexibility, and slow disbursement of funds. An agile regulatory framework, tailored to the nature of the sector, is essential for Europe to compete with the large-scale state support programs of the US and Asia.

The new regulatory design should guarantee balanced competition among Member States, allow for state aid adapted to the size and maturity of companies, and incentivize private investment without distorting the market. Furthermore, improved coordination between the Commission, national governments, and innovation agencies is crucial.

Recommendations:

- Create a specific regulatory framework for the semiconductor sector, with rules that differ from those of other industrial sectors and that promote investment and R&D.
- Allow direct aid to design centers, equipment suppliers, and laboratories.
- Introduce a “sovereignty seal” to facilitate rapid access to national and European funding.
- Avoid administrative duplication and extend disbursement deadlines.
- Improve inter-ministerial coordination in the implementation of national programs derived from the Chips Act.

- Establish the obligation, at the national level and coordinated by the Commission, to develop availability maps and supply chains for strategic raw materials for semiconductors, including mining, chemical processes, and gas and resin suppliers.
- Explicitly integrate the priorities of the Chips Act 2.0 with the framework of the Critical Raw Materials Act.

3.4. European Competitiveness Fund (ECF) and Private Capital:

Access to financing is one of the biggest challenges for European technology companies. While public funds are necessary, they are not sufficient: a financial structure is needed that mobilizes private capital and allows for the financing of high-risk technology projects. The European Competitiveness Fund (ECF) should act as a lever for mixed investment, promoting pan-European projects and strengthening local value chains. Likewise, Europe needs guarantee instruments comparable to those of other international programs, which facilitate the entry of institutional investors and reduce barriers to access for startups and SMEs.

Recommendations:

- Establish a European guarantee mechanism that reduces the risk of private investment in semiconductors.
- Replace one-off funds with structured financing based on milestones and results.
- Promote a European Single Capital Market, which allows for cross-border investments in semiconductors.
- Maintain grants as the main tool for SMEs and technology centers.
- Include monitoring mechanisms to assess the social and technological impact of funded projects.
- Create instruments within the ECF to finance transformation and processing projects for strategic raw materials with conditions adapted to intensive CAPEX and long time horizons.
- Promote mechanisms to incentivize the flow of capital towards investment vehicles in strategic technologies in different formats (corporate venturing, venture capital, etc.).

3.5. Industry Associations, Governance, and Coordination.

The success of the Chips Act 2.0 will depend on the capacity for coordination among the different levels of governance. The active inclusion of associations, clusters, and regional networks will ensure the coherence and representativeness of the implementation process. The role of these entities should not be limited to consultation but should be incorporated as a structural part of decision-making.

Furthermore, European industrial diversity requires flexible governance that combines a common strategic vision with adaptation to national and regional realities. In Spain, the collaboration among all the actors involved in this document demonstrates the value of cooperative models. Recommendations:

- Integrate industry associations into the Chips Joint Undertaking (Chips JU) and the European Semiconductor Regions Alliance (ESRA), including national industry associations representing demand sectors.
- Create a European Committee of Semiconductor Industry Associations to channel joint positions to the Commission.

- Replicate inclusive governance models in Member States and enable stable operational funding for associations and clusters.
- Strengthen interregional cooperation through national platforms and European innovation networks.
- Implement specific funding and incentive mechanisms for industry associations in the different Member States.

3.6. Demand-side incentives and driving sectors.

The Chips Act 2.0 must go beyond supply-side support to become a driver of transformation for the entire European economy. The adoption of European chips in key industrial sectors will consolidate technological sovereignty, reduce external dependencies, and create sustainable economies of scale. Sectors such as automotive, energy, defense, telecommunications, and healthcare can act as technological drivers, boosting demand and strengthening the domestic market. Incentives should stimulate both innovative public procurement and strategic alliances between manufacturers and users.

Recommendations:

- Create incentive programs for the adoption of European chips in automotive, energy, defense, healthcare, and Industry 4.0.
- Promote co-development programs between chip suppliers and industrial users.
- Strengthen the competitiveness of European auxiliary industries (chemicals, materials, metrology).
- Promote innovative public procurement and "customer-first" strategies that accelerate the adoption of European solutions.

3.7. Strategic Challenges and Opportunities.

The current geopolitical context and global competition in cutting-edge technologies demand a more ambitious and cohesive European strategy. The Chips Act 2.0 should focus on those areas where Europe can differentiate itself, maximizing its industrial and technological impact. Integrated photonics, AI hardware, advanced materials, and energy efficiency are fields where Spain already excels and can contribute significantly to European leadership. This section identifies priority opportunities to transform public investment into an engine of strategic autonomy.

Priorities:

- Promote integrated photonics and edge AI as key areas.
- Strengthen the role of RISC-V, open design, and sustainable AI hardware.
- Support the development of critical materials and processing equipment to reduce dependencies.
- Consolidate international cooperation with partners such as Japan, South Korea, and the US in advanced R&D.
- Prioritize investments in More-than-Moore/mature nodes (RF, analog, power, FD-SOI).

- Ensure a sustainable supply chain, develop capabilities in gases/resins/equipment, promote circularity, and establish forecasting systems/strategic reserves, research into substitution, and international supply agreements.

4. Conclusions.

This proposal consolidates the position of the Spanish semiconductor ecosystem as a strategic ally in building a more competitive and technologically sovereign Europe. In Spain, the coordination among all participating organizations, representing the broadest possible range of the Spanish semiconductor ecosystem, reflects the sector's maturity and its willingness to collaborate in defining and implementing a working Chips Act 2.0. In particular, we emphasize the need for the new framework to go beyond generic objectives and include definitions and operational mechanisms that enable the rapid and secure deployment of industrial capabilities. Priorities for immediate implementation include: measures to ensure access to design and prototyping, the consolidation of industrial capabilities accessible to the design community, financial instruments to mobilize private capital, and explicit measures to guarantee security of supply and strengthen the auxiliary and raw materials supply chain.

We reiterate our call for inclusive governance that incorporates industry associations and technical centers in the design and monitoring of instruments, as well as the creation of impact indicators and the execution of operational pilot projects to validate the proposed models before their full-scale deployment.

The participating entities reaffirm their commitment to actively participate in the technical and legal drafting processes, working groups, and pilot initiatives necessary for the Chips Act 2.0 to translate into real industrial capabilities, skilled employment, and strategic resilience for Europe.

5. Participants.

5.1 Coordination.

- Carlos G. Triviño — VaSiC (General Coordination)
- Alfonso Gabarrón — AESEMI
- Raquel Jorge — ADIGITAL
- Albert Anglarill — AMETIC

5.2 Sector Group Leaders and Technical Leads.

- Ignacio Astilleros — OPENCHIP (Start-up & Scale-up)
- Luis Fonseca — IMB-CNM/CSIC (Talent)
- José Capmany — iPRONICS (Integrated Photonics)
- Marisa López-Vallejo — Polytechnic University of Madrid (Telecommunications)
- Javier Martí — DAS Photonics (Defense / Space)
- Nuria Arenas — Broseta Abogados (Regulation and State Aid)
- Teresa Cerveró — BSC (AI and Semiconductors)
- Vanessa Iglesias — BSC (AI and Semiconductors)
- Antonio Alberola — ICMol-UV (Advanced Materials)
- Raquel Jorge — ADIGITAL (European Competitiveness Fund)
- Miguel Chanca — BOSCH GmbH (Automotive)
- Empar Martínez — FEMEVAL (Energy and Semiconductors)
- Marcos Martínez — Coordinator of the Microelectronics Working Group AMETIC.
- Josep Bosch — Policy Manager for the Electronics Industry AMETIC.

5.3 Technical Participation and Expert Collaborators.

(Participants who contributed to the technical working groups, sectoral roundtables, and proposal drafting).

- Researchers and technicians from: ICFO, CNM-CSIC, BSC, ICMol-UV, IMB-CNM, UPM, UPV, UC3M, UVigo.
- Business and technology representatives from: OPENCHIP, DAS Photonics, iPRONICS, Wiyo (Yocto Technologies), Imasenic, KDPof, ICMálaga, BOSCH GmbH, Ricardo Valle Institute of Innovation, Broseta Abogados.
- Representatives from clusters and associations: Valencia Silicon Cluster (VaSiC), Madrid Semiconductor Cluster, Catalan Semiconductor Alliance, CanaryChip, COIT.
- Specialists in materials, equipment, and manufacturing: Functional printing platforms, IMAPS, gas and resin suppliers.

5.4 Collaborating entities and participating organizations.

- Associations and clusters: Valencia Silicon Cluster (VaSiC), Spanish Association of the Semiconductor Industry, AMETIC, ADIGITAL, Fotonica21, SECPHO, SERNAUTO, GAIA, CanaryChip, Madrid Semiconductor Cluster, Catalan Semiconductor Alliance.
- Research centers and universities: ICFO, CNM-CSIC, BSC, ICMol-UV, IMB-CNM, UPM, UPV, UC3M, UVigo, University of Málaga, University of Las Palmas de Gran Canaria.
- Companies and industry: OPENCHIP, DAS Photonics, iPRONICS, BOSCH, fabless companies, suppliers of testing/packaging equipment and services.
- Government and support organizations: ICEX, regional innovation agencies and provincial clusters, COIT.
- Scientific and technical organizations: IMAPS, IEEE, Confederación de Sociedades Científicas de España, CEET.