EUROPEAN CHIPS ACT 2.0

Industry Policy Blueprint for Semiconductor Sovereignty, Competitiveness and Resilience

Final Report

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Industry Advisory Group,
European Chips Act 2.0
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The IAG report reflects a broad consensus among participating companies. However, this does not imply that all participating companies support every statement in the document.

INDUSTRY ADVISORY GROUP MANDATE

The Industry Advisory Group (IAG), representing 16 leading semiconductor and technology companies across the value chain, was tasked with developing a report outlining key recommendations for “European Chips Act 2.0” (ECA 2.0). The report includes an assessment of “European Chips Act 1.0” (ECA 1.0).

EXECUTIVE SUMMARY

Semiconductors are the backbone of Europe’s economic security, industrial competitiveness, and digital sovereignty. While the ECA 1.0 successfully elevated semiconductors to a strategic priority and unlocked unprecedented policy instruments and investments in Europe, its impact has fallen short of Europe’s overall ambition – especially as other nations have also increased their achievements.

This policy document sets out a comprehensive, industry-driven blueprint for ECA 2.0, transforming the current framework into a structural, long-term industrial policy. The objective is to create conditions that support demand, enhance resilience, and improve the overall framework to unlock investments.

ECA 2.0 must be an integral part of a wider, market-driven European technology strategy. It must be implemented faster, become larger in scale, demand-driven, and governed through genuine public–private partnership. Finally, it must enable Europe to compete with the US and Asia, while reinforcing strategic sovereignty, resilience, and innovation leadership.

1. Strategic Context and Rationale

Global semiconductor competition has entered a new era characterized by:

- Unprecedented and accelerated growth in AI, cloud, and advanced computing.
- Digitalization and electrification transforming our economies and societies.
- Increased global competition on key foundational technologies.
- Geopolitical fragmentation with supply-chain interdependencies and disruptions.

ECA 1.0 was a necessary first step, but its funding, scope, and execution speed need to be optimized looking at the current global realities. Without a decisive upgrade, the EU risks value leakage and loss of strategic industrial assets in semiconductor technology.

Given the geopolitical challenges as well as unprecedented innovation speed of today, ECA 2.0 must become an agile instrument enabling the semiconductor ecosystem to simultaneously grow, create value, expand its existing leadership positions and fill technology gaps. ECA 2.0 provides a unique chance to create this necessary framework in order to maintain and strengthen Europe's technological relevance. It must particularly shift focus towards a full ecosystem approach, demand incentivization measures and institutionalize the involvement of the semiconductor industry in ECA 2.0 governance.

Structural disadvantages in Europe such as cost (energy, raw materials, labor, taxes) as well as bureaucracy and administrative burden must be resolved in a timely manner. This is equally important for supplier and user industries.

2. Assessment of European Chips Act 1.0

2.1. Achievements

ECA 1.0, being the first dedicated European semiconductor law, delivered meaningful results and impact across the chips value chain:

- Political recognition of semiconductors as a strategic sector.
- Enhanced state aid flexibility through introduction of the “first-of-a-kind” (FOAK) framework and thus enabling landmark manufacturing investments.
- Launch of the Chips Joint Undertaking, pilot lines and competence centers.

Against the backdrop of the chip shortage 2020-2023, a main focus was put on expanding chip production capacity on EU soil. The FOAK state aid framework provided the necessary conditions for important fab investments across Europe. and can be perceived as a milestone in EU semiconductor policy.

Regarding R&D, the Chips JU contributed to the creation of five pilot lines, strengthening the capabilities of Europe’s leading research and technology organizations (RTOs).

2.2. Structural Shortcomings

Despite the gains mentioned above, critical shortcomings of ECA 1.0 must be urgently addressed in the upcoming revision. These shortcomings concern all three pillars:

Pillar 1. R&D

Pillar 1 of ECA 1.0, in particular Chips JU, is characterized by a lack of industry involvement and industrialization focus when setting R&D funding priorities. Experience shows increasingly fragmented interests between industry, Member States and EU Commission, leading to projects of insufficient critical mass and a disconnect to market needs of semiconductor and end-user industries. A long-term (10 years +) but agile strategy concentrating resources on technology areas where Europe has a chance to take global leadership positions is missing. In addition, application and approval procedures remain complex and resource-intensive, resulting in a competitive disadvantage of Europe in an ever more agile global R&D, innovation and business environment.

Pillar 2. Manufacturing & Security of Supply

Despite the important achievements of ECA 1.0, its impact has been constrained, not because Europe failed to reach the 20% market share goal, but because the FOAK instrument focused too narrowly on one part of the value chain: semiconductor manufacturing. The FOAK instrument did not address other critical phases of the semiconductor value chain. For instance, design and product development activities undertaken by equipment and equipment component suppliers were not covered under Pillar 2 despite their strategic importance in innovation. As a consequence, their essential contributions to semiconductor supply chain resilience and technology enhancement in Europe was constrained.

Long and fragmented permitting and state aid approval procedures add to this, with national procedures differing significantly from another and several EU Commission departments being involved. The narrow interpretation of the FOAK concept caused additional complexity, due to the necessity to prove technological novelty, instead of focusing on scaling manufacturing.

All of the above results in a competitive disadvantage for Europe.

Pillar 3. Monitoring & Crisis Response

Pillar 3 of ECA 1.0 implements monitoring and crises response measures, with the European Semiconductor Board (ESB) as main coordination body. Since entry into force of ECA 1.0, the following structural weaknesses can be identified:

- Ineffective governance.
- Lack of industry involvement in strategic ESB discussions.
- Limited expertise and lack of trustful collaboration with industry.

Pillar 3 intends to provide a toolbox for EU Commission and Member States to use in case of semiconductor supply crises. One key goal is the anticipation of supply shortages as well as getting deeper insights into the European semiconductor supply chain. These goals could not be achieved so far. One key challenge remains the ad-hoc way of working of the ESB with data requests to industry. Even though these requests have been limited in number, it remains unclear how collected data was used, interpreted and how it contributed to increased crises resilience. One key weakness is the lack of institutionalized, structured industry engagement with ESB and trustful collaboration between EU Commission, Member States and industry.

3. Recommendations for ECA 2.0

3.1. Three Core Objectives for ECA 2.0

1. **Stimulate demand**

   Incentivizing and stimulating sustained European demand for European chips across all industrial end-user segments must be a key objective of ECA 2.0, requiring a new ecosystem approach as well as thoughtfully crafted political demand measures based on economic security considerations. Europe must retain and expand its vital role and share in the global semiconductor ecosystem. Equally important will be a stronger footprint in design as well as the amelioration of framework conditions for industry overall, being a key precondition for demand.

2. **Increase resilience**

   ECA 2.0 requires a strong focus on anchoring design, R&D, innovation, IP creation and advanced manufacturing capabilities and capacities in Europe, guided by market needs. The existing toolbox must be assessed accordingly and adapted where necessary to support these areas of high strategic relevance. The acceleration of innovation-to-market cycles must be at the heart of ECA 2.0, prioritizing areas where Europe can maintain and reach sustained leadership positions within the next 5-10 years, incl. connectivity, edge / physical AI, cloud AI and robotics.

3. **Improve framework conditions**

   A concentrated effort is needed to reduce bureaucratic burden across the entire semiconductor ecosystem from its suppliers to end-users. This includes the simplification of state aid rules, permitting and approval procedures, as well as the reduction of regulations standing in the way of greater competitiveness.

3.2. Eleven Action Points for ECA 2.0

Focus 1. Stimulate Demand

ECA 1.0 was focused mainly on supply-side drivers for enabling ecosystem growth. However, innovation, deployment, and economic viability across the semiconductor ecosystem are driven by both new capabilities in design and products as well as end market demand. Therefore, ECA 2.0 should be focused on addressing demand-side drivers and promote linkages with semiconductor end markets to encourage uptake.

Addressing framework conditions is an essential element of demand stimulation. While not direct demand drivers, framework conditions that encourage a competitive business climate are a precondition for demand to materialize and be sustained. ECA 2.0 must be part of a holistic approach to tackle regulatory fragmentation across Member States, reduce energy costs and increase infrastructure quality, solve the skills and talent shortage, and reduce bureaucracy overall. Equally important is consistency across different policy initiatives, such as AI regulation and other initiatives, to fully exploit their demand creation potential.

Additionally, incentivizing end-user industries to jointly develop products with European chip makers must be a key priority of ECA 2.0. Such an ecosystem approach should be eligible for financial support via an agile, fast and flexible state aid regime, filling the gap between pre-competitive R&D and manufacturing project funding.

Building a strong European position in chip design is another leverage for demand which should be clearly reflected in ECA 2.0. This will be particularly important for creating a leading-edge technology ecosystem in Europe.

Policy Actions

- Provide a framework for end-user industries and semiconductor designers / manufacturers to bilaterally or multilaterally drive system designs and product innovations with a clear industrialization path (see "Expand First-of-a-Kind (FOAK) Instrument" and "Semiconductor Ecosystems as Strategic Assets").
- Streamline and simplify regulation to minimize compliance costs for companies.
- Address permitting speeds by introducing set timelines and guillotine clauses, ensuring that investments stay aligned with short innovation cycles (see "Reduction of Bureaucracy and Regulatory Simplification" and "Expand First-of-a-Kind (FOAK) Instrument").
- Ensure access to energy, also with competitive pricing, encouraging growth across the semiconductor supply chain incl. end-users.
- Enhance availability of funding and access to finance, also through a revised and dedicated funding vehicle (see 'Dedicated EU Semiconductor Budget').
- Ensure consistency of ECA 2.0 with other sectoral policies, e.g. the Cloud and AI Act, AI Continent Action plan, Apply AI Strategy, the Cyber Resilience Act, ensuring that the material impact on demand for semiconductors stemming from these policies is achieved.
- Give pre-commercial commitments, and / or advanced purchase commitments – including for applications and products in semiconductor-driven public sector end markets (see "Scaling up Start-ups").

In addition, to grow chip demand in Europe, a robust "Trusted Supplier of Chips" (TSC) concept should be carefully drafted and enforced by the ESB with structured support by industry, based on economic security and value chain resilience considerations. Such policy should benefit chip design, R&D&I, manufacturing capacity and the systematic deployment of trusted semiconductor technologies in European strategic applications and public infrastructure. The EU Commission should assess measures to encourage sourcing of components stemming from such "trusted suppliers". In addition, in certain segments, the EU and Member States should act as anchor customers through structured public procurement programs, providing multi-year revenue-backed demand commitments.

Focus 2. Expand First-of-a-Kind (FOAK) Instrument

The "first-of-a-kind" (FOAK) instrument must advance beyond its current scope and become a comprehensive industrial accelerator that covers the entire semiconductor value chain. It must include design and product development throughout the supply chain, including equipment, technology, and capacity development with end user industries. This instrument must be speedy, agile, flexible, and bureaucracy-light.

Bringing additional chip production capacity to Europe by either scaling up capacity or transferring innovative semiconductor technologies to Europe must be one core priority of a revised ECA 2.0.

Equally important is the expansion of scope beyond manufacturing. The new instrument must strengthen product development and engineering activities, which are highly cost-intensive and critical innovation stages across the semiconductor sector, in particular in the equipment sector. By including product development and engineering activities and supporting relevant investments and projects within ECA 2.0, the semiconductor value chain could enhance its innovative capacity across a wide range of technology domains. including the materials and equipment sectors, enabling breakthroughs in device performance and next generation chip design.

Going beyond FOAK, another key focus must be demand generation by incentivizing partnerships between semiconductor value chain companies and the end-markets they serve. ECA 2.0 must contribute to the development of a robust, demand-driven cycle that integrates end-markets.

New design firms developing IP for semiconductor design, process design, system designs or other product innovations should be equally eligible to receive funding under the revised instrument.

Policy Actions

- Create a new path for ECA 2.0 projects via a "Strategic Competitiveness Instrument" (SCI) with a focus on fortifying all aspects of the EU's semiconductor value chain in addition to the FOAK path.
- Expand scope to cover the expansion and upgrading of existing manufacturing facilities or existing industrial capacities, based on criticality, indispensability and urgency of gaps in the EU semiconductor value chain and the market needs they address.
- Include product development and engineering activities of equipment, equipment components and materials companies into scope, maintaining competitive market positioning and enabling next-generation process innovation.
- Support bilateral / multilateral, joint product development of chip design firms and IDMs with end-user industries beyond a pre-competitive scope, accelerating the adoption of new technologies and contribute to demand creation.
- Fund design firms developing critical IP, such as RISC-V-based chip architecture.
- Approve projects within a six-month period and, if not explicitly granted by the competent authorities, consider approvals automatic after six months.
- Add a fast-track process for technologies developed within IPCEIs to get access to support within the ECA 2.0.

A revision would ensure a better balance between the innovation requirements of FOAK and the capacity needs of public and private markets. This would be a key improvement of the existing state aid framework, having the potential to be a real game-changer in advancing Europe's semiconductor strengths, filling technology gap as well as contributing to Europe's competitiveness beyond chips.

Focus 3. Strengthening the Foundations of Digital Sovereignty

To secure Europe's leadership position in foundational technologies in a rapidly changing world, the ECA 2.0 must support areas where Europe already excels: power semiconductors, microcontrollers, analog-/mixed signal- and sensor technologies as well as semiconductor equipment technologies.

Europe holds an opportunity to capitalize on these unique strengths in foundational semiconductor technologies through bold, timely action in physical AI, enabling a wide range of future applications, services and autonomous systems from e.g. humanoid to industrial robots and their deployment in i.a. med-tech and healthcare to manufacturing, aerospace and defense.

Further areas which should be prioritized in ECA 2.0 include:

- **AI-enabled digital R&D:** Driving breakthrough innovations through the application of AI in semiconductor devices and embedded SW development, as well as in technology and materials research. This also includes accelerated digital R&D through virtual development, simulation, and modelling (Digital Twins).
- **Powering AI Gigafactories:** featuring, high-speed connectivity, including high-performance mixed-signal processing, advanced microcontrollers for intelligent infrastructure management and computing accelerators for inferencing.
- **Trusted Distributed Systems:** Solutions for securing critical data communications (broadband networks) also in a postquantum era, traffic and energy infrastructures, cyber security, defense incl. autonomous machines, IoT devices, sensor networks, down to chiplet-level security.
- **Low Power Systems:** Chips for battery-powered devices (e.g. health, defense, in particular drones), incl. sensors, communication protocols, software, related methodology & architecture competencies.
- **Trusted & Sovereign Communications:** Full-stack solutions for LEO (low earth orbiting) satellite communication networks, next generation cellular, Low Power Wide Area Network (LPWAN), and other communication networks.
- **Quantum Technologies:** World-leading ecosystem for quantum computing solutions (processor technologies, related electronics, SW, algorithms, etc.) and quantum sensing modules (esp. gyroscopes, magnetic field sensors, chip scale atomic clocks).

Capitalizing on these opportunities and challenges requires bold measures across the entire innovation chain: targeted R&D&I investments to push technological frontiers, combined with strengthening and expanding existing industrial capabilities and capacities and successful collaborations.

Policy Actions

- Accelerate strategic innovation and reinforce support in emerging domains, especially physical AI, by supporting R&D&I with a view to subsequent industrial production and commercialization of embedded advanced AI into autonomous machines, robots, broadband networks and next-generation connected devices
- Strengthen Europe's full innovation chain through targeted R&D programs from foundational technologies to leading edge innovation (AI-enabled digital R&D, quantum technologies, trusted distributed systems, low-power systems, secure communications) and by scaling subsequent industrial capacity and partnerships
- Secure Europe's digital and economic sovereignty by supporting end-to-end semiconductor system solutions including for physical AI, data centers, secure post-quantum communications, and low-power autonomous systems, reinforcing resilience across industry, critical infrastructures and defense

Together, these actions will reinforce Europe's semiconductor ecosystem and secure its long-term global competitiveness.

Focus 4. Scaling up Start-ups

Europe has cultivated a generation of innovative semiconductor companies that possess both the ambition and capability to compete on a global scale. However, the primary challenge lies not in the quality of European innovation itself, but in the structural conditions that influence whether these companies can evolve from startups into industrial leaders in Europe and beyond. Europe is strong in research and active in start-up creation but fails in the phase of scaling because commercialization pathways are missing. ECA 2.0 must address this competitive disadvantage and include a dedicated start-up scaling strategy. This strategy must contain separate instruments for start-up and scale-up support. Whereas horizontal measures such as tax incentives, visa reform, regulatory simplification will all help, they do not solve EUR 100+ million capital gaps, 3-year qualification cycles, or the absence of ≤10nm European fab access today. Semiconductor scale-ups need a sector-specific industrial policy, where ECA 2.0 can be a key building block.

Policy Actions

- Deploy pre-commercial procurement (PCP) and public procurement of innovation (PPI) as a strategic tool, establishing a clear pathway to purchase.
- Establish an EU demand aggregation mechanism to coordinate purchasing intent across Member States, providing necessary volume visibility to support manufacturing qualification and capacity investment.
- Close the funding gap through the creation of lightweight seed and pre-seed financial instruments.
- Develop a dedicated blended finance facility offering EUR 30–500 million per company for semiconductor scale-ups covering tape-out costs, software ecosystem development, manufacturing qualification, and customer deployments.
- Reduce application-to-decision timelines for public funding to six months.
- Combine ECA 2.0 grants, InvestEU / InvestAI guarantees, and national promotional bank co-investment to de-risk private participation and amplify the impact of public investments.

A start-up and scale-up strategy being part of ECA 2.0 would provide a path to enable new European semiconductor leaders, increasing their chance to stay, scale and create value in Europe. This will be of strategic importance for growth areas such as physical and cloud AI, data centers and HPC.

Focus 5. European Chip Design Leadership

Europe must increase its sovereignty in chip design as a basis for long-term value growth in Europe. A strong position in design is a precondition for a thriving semiconductor ecosystem incl. manufacturing. Design capabilities must be strengthened across the ecosystem, from start- and scale-ups to Integrated Device Manufacturers (IDMs) and critical digital systems providers. For ECA 2.0, the existing toolbox must be assessed accordingly and adapted where necessary to onshore and strengthen Europe's chip design competencies and capabilities of scale.

Policy Actions

- Foster EU companies engaged in designing chips for edge / physical AI, cloud computing, data centers, and telecommunications through new or existing support instruments (FOAK, SCI).
- Strengthen EU leadership in microcontrollers (MCUs), sensors, MEMS, power electronics, analog-/mixed signal, and connectivity solutions.
- Make EU a relevant player in RISC-V architecture IP.
- Attract global design talent and capabilities to establish EU-based design centers, with a focus on AI and other innovative market segments.
- Mandate the use of chips designed by trusted partners in EU-funded cloud projects and public sector workloads.

These measures would make a significant contribution to developing a scale-driven design ecosystem with anchored IP and system know-how in Europe. An improved flow from design to manufacturing would also help channeling additional manufacturing investments to Europe.

Focus 6. Industry-Driven and Value-Chain Integrated R&D Support

ECA 1.0's Pillar 1 should not only be evaluated on research excellence, but on measurable acceleration of industrial deployment and time-to-market performance. R&D&I efforts under ECA 2.0 must explicitly cover and interconnect the entire semiconductor value chain to ensure that innovation is not developed in isolation but translated into competitive European industrial value creation. From an industry perspective, future R&D&I must therefore evolve into a deployment-oriented framework that structurally links research excellence with industrial scale-up across Europe.

By anchoring early research to clear industrial perspectives, R&D&I can bridge the gap between advanced scientific results and market-ready technologies, thereby maximizing the impact of public funding and contributing to Europe's technological sovereignty.

The role of industry in R&D&I in the framework of ECA 2.0 must be significantly strengthened. Structural involvement of industry in decision-making on R&D&I needs is essential for ensuring relevance, feasibility, and rapid uptake of research results. This should become a core principle of public–private research cooperation under the revised Chips Act.

Policy Actions.

- Anchor R&D&I and funding roadmap in industrial acceleration and align topic selection more effectively with the Electronic Components and Systems (ECS) industry roadmap, increasing time-to-market, scalability, manufacturing readiness, and successful transfer into high-volume production in ECA 2.0 projects.
- Create a C-level Semiconductor Advisory Board, ensuring that strategic objectives are aligned with industrial realities, and that investments are directed to areas of highest impact thus making certain that European companies remain competitive in a fast-moving global environment.
- Develop a broader Lab-to-Fab accelerator mechanism as a core pathway to support industrialization of R&D&I within vertically integrated manufacturing environments.
- Create a structured Lab-in-Fab mechanism with co-located R&D corridors within pure-play foundries, thus supporting rapid industrialization of new foundry developed process modules and integration schemes directly within their production environments, reflecting the Open EU Foundry concept.
- Establish a targeted EU fund to support research and development in advanced chip design, focusing on leading edge technologies (≤3nm), providing grants and incentives for digital systems providers, and chip designers, fostering partnerships with leading universities and research institutes.
- Designate leading-edge (≤3nm) technology initiatives as strategic R&D&I projects. ensuring the EU remains competitive in the global semiconductor race and in critical digital systems.

Together, these measures position R&D&I as a true cornerstone of ECA 2.0: strengthening technological leadership, ensuring strong industrial ownership of R&D&I priorities, and transforming research excellence into scalable industrial and economic value. Crucially, these activities must evolve from a predominantly research-driven framework into an industrial acceleration engine that directly connects public R&D&I investment with manufacturing scale-up and rapid market deployment in Europe.

Focus 7. Semiconductor Ecosystems as Strategic Assets

Europe's strategic objective must go beyond increasing semiconductor manufacturing capacity to equally aim at strengthening Europe's position across the entire value chain with the goal of capturing greater value at system level.

To position Europe as an indispensable partner in global technology supply chains and a credible alternative to unilateral dependencies, building strong value chains from design via silicon to applications must be a core priority of ECA 2.0.

Currently, fragmentation across technologies, platforms, and markets restricts scale, competitiveness, and global visibility of European solutions. It will be vital to overcome these challenges by building critical mass around open platforms, minimizing duplication, and speeding up innovation. Priorities of ECA 2.0 must tie into this goal, pursuing a system-level approach across all programs and initiatives.

Supporting Europe's distinctive strengths and emerging opportunities are equally crucial for Europe's competitiveness, including semiconductor equipment technologies, edge / physical AI, advanced packaging, photonics, broadband communications, and quantum computing technologies.

Policy Actions.

- Allocate ambitious funding to support comprehensive European reference platforms integrating hardware, software, AI stacks, tools, and applications
- Focus on priority technology areas, including RISC-V based platforms, high-performance computing (HPC), AI systems-on-chip (SoCs), chiplet architectures, advanced system-in-package technologies, 6G connectivity chips, photonics, quantum technologies, secure communications and enabling technologies such as equipment and equipment components
- Provide dedicated support for open-standard software and developer enablement programs, aiming to reduce fragmentation, improve portability, and accelerate ecosystem consolidation
- Implement strategic public procurement to stimulate early demand, scale up priority ecosystems, and support vertical markets such as physical AI, automotive systems, secure IoT, and data infrastructure.

In addition, ECA 2.0 should allocate resources to a select group of strategic sectors where advanced digital control systems and secure semiconductor technologies are vital. Concentrating efforts in these areas is essential for safeguarding the Union's security, enhancing its resilience to global challenges, and maintaining international competitiveness. Strategic sectors should include aerospace & defense, mobility and transport, telecommunications and secure connectivity, artificial intelligence and data-center infrastructure, energy systems, industrial automation, and health- and demographics-related technologies. These projects should be prioritized for design support, including dual-use digital technologies driven by defense requirements.

Focus 8. Dedicated EU Semiconductor Budget

A reform of European semiconductor financing is urgently required. Today, funding is dispersed across the ECA 1.0's Pillar 1, Pillar 2, IPCEIs, and various national and EU-level channels. This results in a siloed landscape, limited scope, inefficiencies, and a variety of inconsistent administrative requirements.

To deliver on the Union's semiconductor ambitions and enhance Europe's competitiveness compared to other regions, a unified, ambitious EU semiconductor budget is needed. This budget should focus on strategic priorities where EU's semiconductor ecosystem can grow, gain, and sustain significant global market share. Such a dedicated EU-level instrument would enable a more coherent, coordinated, efficient allocation of financial resources for R&D&I and capacity building.

Policy Actions.

- A new EU-level funding vehicle should be introduced under EUCA 2.0. This funding vehicle must foresee a separate, dedicated tranche for start-ups and scale-ups. It should also allow for topping-up of national allocations.
  - The following funding targets, with predictable timelines, are recommended as a basis for planning:
    - Over the next seven years: EUR 30-60 billion in EU funding, supplemented by EUR 50-60 billion from Member States, resulting in a total public plus private investment of EUR 200-300 billion.
    - For start-ups and scale-ups: a dedicated complementary fund of EUR 20-30 billion.

Eligible initiatives for the EU semiconductor budget should include strategic projects related to chip and system design, product development, manufacturing, workforce development, and talent acquisition. The scope should cover the entire semiconductor value chain, encompassing materials, equipment, end-user industries, start-ups, and scale-ups.

To enhance agility and minimize administrative complexity, up-front CAPEX funding should be made available. For projects that are strategically critical, OPEX funding should also be considered. Streamlining approval processes is essential. Procedures must be simplified and expedited to support rapid implementation.

Focus 9. Reduction of Bureaucracy and Regulatory Simplification

Europe must match the speed set by global competition. To boost its semiconductor competitiveness and ensure ECA 2.0 to be impactful, it will be critical to streamline funding mechanisms, speed up permitting processes, modernize state aid procedures, and facilitate cross-border operations. These efforts are essential for strengthening the European semiconductor industry, its suppliers, and its customers.

Current regulatory fragmentation across the 27 Member States creates structural costs for companies operating in more than one EU country - particularly in legal, human resources, tax, compensation and state aid / funding reporting rules - that non-EU competitors do not face.

Additionally, bureaucratic burden and inconsistent regulation are hampering innovation, development and market uptake of cutting-edge technology solutions across industries in Europe. Examples include the AI Act and Cybersecurity Resilience Act.

ECA 2.0 must tackle these obstacles by simplifying its procedures as well as laying grounds for a dedicated “28th Regime” for semiconductors.

Policy Actions.

- Introduce an optional “28th Regime”, specifically harmonizing talent mobility, work visa processes, tax procedures and reporting obligations.
- Accelerate state aid procedures by simplifying administrative requirements, avoiding duplicated efforts within the European Commission and between EU Commission and Member States.
- Ensure fast permitting by mandating binding timelines (see “Expand First-of-a-Kind (FOAK) Instrument”).
- Launch “competitiveness checks” of the existing regulatory landscape for the semiconductor industry, suppliers and customers.

ECA 2.0 requires a mindset shift in terms of agility and speed. This must apply to inherent ECA 2.0 processes but, equally important, follow an ecosystem approach. For instance, reducing bureaucracy and regulation for user industries will help to free up space and resources for product innovation, enhancing Europe’s global competitiveness.

Focus 10. Industry-Centric Governance

The present ECA governance model is centered on the European Semiconductor Board (“ESB”), with implementation assigned to the EU Commission. For R&D&I, EU Commission relies on the Chips JU to carry out the measures. This scheme has revealed limitations, in particular in the alignment on the strategic objectives of the EU and the main actors of the industrial ecosystem, from end markets to semiconductor specialists.

ECA 2.0 provides an opportunity to strengthen coordination and collaboration between public and private stakeholders and establish a real, impactful ecosystem approach. The deepening of understanding and expertise of the European semiconductor industry, its complex supply chain, global character and international interdependencies must be a key focus of the ECA revision, establishing the necessary structures and formats.

In parallel, it will be of utmost importance to set up as close as possible alignment process with industry on innovation and market trends, making sure that policy and support measures are focused, impactful, create growth and contribute to Europe’s overall global competitiveness.

Policy Actions.

- Enhance ESB and Chips JU by establishing permanent industry representation, ensuring integration of industry perspectives into decision-making processes, alignment with market realities and technological developments.
- Institutionalize collaboration among industry stakeholders, Member States, and EU institutions by prioritizing structural consultation with the industry, gathering firsthand insights into market needs and industry challenges, ensuring policies are informed by practical, real-world experience.
- Make industry an integral part in the crisis monitoring and response mechanism, enabling rapid and informed responses to emerging risks, challenges and opportunities in the semiconductor supply chain.

Geopolitical challenges as well as rapid technology innovation cycles require a revised mindset and new ways of strategic public-private interactions. ECA 2.0 can become a key instrument in creating a “Team Europe” approach around critical, strategic industries, ensuring all relevant stakeholders to push towards the same goals and ambitions.

Focus 11. Skills and Talent

Talent remains the cornerstone of growth, competitiveness, and resilience for the European semiconductor ecosystem at every stage of the value chain. The current demographic outlook in Europe presents significant challenges. Automation alone cannot address the gaps in research and development, chip design, or specialized, hands-on roles that require unique problem-solving, such as maintenance or process engineering within factories.

The talent gap can be roughly segmented into two broad areas: Technicians and engineers who design, validate, and operate European manufacturing sites and talent for wider design and R&D&I activities, which are typically developed through STEM tracks at universities and at private and public research facilities.

Acknowledging that education is Member State competence, ECA 2.0 should make tangible suggestions on how to improve the situation.

Policy Actions.

- Strengthen attractiveness of STEM education for vocational students by opening paths towards university education up to PhD level.
- Streamline relocation and employment conditions for skilled technicians and STEM professionals from non-EU countries, including implementing an effective skill validation mechanism, simplifying the visa process, and running promotional campaigns.
- Improve talent mobility within the EU by streamlining labor laws / national HR-related processes.
- Open the current Erasmus program to facilitate internships / stagiaires at the electronics sector.
- Get support for promoting attractiveness of the electronic industry to students.

The semiconductor industry must be perceived as highly strategic and attractive for young people to work in. Campaigns and joint public-private initiatives targeting even elementary-level education systems can help to anchor interest at the earliest possible stage.

4. Conclusion

European Chips Act 2.0 must mark the shift from a crisis-driven response to a permanent, forward-looking industrial strategy. Europe today possesses the technological capabilities, industrial depth, and research excellence needed to lead globally in semiconductors — but realizing this potential requires policy instruments that match the scale, speed, and ambition of global competitors. ECA 2.0 must therefore become broader in scope, faster in execution, and firmly anchored in a genuine public–private partnership that strengthens every part of the value chain.

By stimulating demand, expanding FOAK into a true industrial accelerator, strengthening design leadership, scaling start-ups, modernizing R&D governance, and reducing structural barriers such as bureaucracy and fragmented regulation, the EU can create a competitive environment where innovation thrives and industrial investments materialize in Europe. A dedicated semiconductor budget, industry-centric governance, and decisive action on talent will ensure that Europe not only retains, but expands, its strategic position.

ECA 2.0 is an opportunity to build a resilient, innovative, and globally competitive semiconductor ecosystem that safeguards Europe's economic security and technological sovereignty. With rapid implementation and unified commitment from the EU Commission, Member States and industry, Europe can firmly position itself as a leading hub for semiconductor innovation and production for decades to come.

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