

Brussels, 25 April 2022

AIOTI Views on the Chips Act

AIOTI welcomes the proposed EU Chips Act as it lays the foundation to spur advanced semiconductor R&D, rebalance manufacturing capacity, help to overcome short term semiconductor supply chain challenges and boost long-term security and resilience.

Europe's semiconductor strategy must take the intensifying technological competition in other parts of the world into account while not losing sight of the global value chains to establish a level playing field. In this regard, AIOTI highlights important gaps that need to be closed to keep Europe competitive in this field:

- Resilience of supply chain as a prerequisite for Electronic and Communication Services (ECS) and any downstream industry, being aware that resilience through a fully European supply chain is impossible. In this context, AIOTI strongly agrees with the need for international cooperation with like-minded countries that is reflected throughout the proposed Act.
- Targeted incentives have a role to play in securing the necessary investments to increase European semiconductor manufacturing capacity, and R&D aimed at improving the security and resilience of the global supply chain. This is a strong signal for Europe to stay competitive at a global scale.
- Europe is missing any footprint in the memory market segment (DRAM, NAND, Flash) which is a key semiconductor component in any electronic system.

Recommendations/comments on the Chips Act proposal:

- **We welcome the 5 main objectives of this Chips Act and commend the approach to foster investments in R&D, design and manufacturing across the semiconductor sector. We note especially the fact that** the Chips Act will **set the technology ambition level broadly** by targeting production expansion for leading-edge nodes, as well as for mature nodes and less sophisticated chips, that are critical **for industrial application sectors** (e.g. automotive, home appliances, edge) and offer potential for further innovation (see below).
- We **welcome the objective of the Chips for Europe program** (under the regulation proposal) to also **increase design capacities** for integrated semiconductor technologies **and establish pilot lines** for production, testing and experimentation. AIOTI would appreciate clarifications on the access to and functioning of the design platform and pilot lines.
- The proposed **new Chips Joint Undertaking (currently KDT JU) should be industry- and application-driven** and must focus on closing the gap between basic R&D (lower TRL Levels <5) and industrial applications (AI, automotive,...), **covering the whole value chain** from design, manufacturing, assembly, packaging and testing to the embedded application, and this **in synergy with the actual IPCEI2 activities (overlap must be avoided)**

- **Further secure and grow basic and applied research in microelectronics** through academia and RTOs. Europe has world class RTOs such as Fraunhofer Institute, IMEC, CEA LETI/LIST and Lukaszewicz Research Network and many others. The envisaged Network of Excellence centers could be a step towards a virtual microelectronics center of excellence with the leading RTOs at the core. Research focus topics: Chip design (RISC-V, EPI, ROIC, signal processing), advanced packaging and edge computing. In particular, these have a high potential for more energy-efficient processors thus contributing directly to the EU's sustainability objectives.
- The **specific Chips Fund, including SME's and startups**, should aim at **stimulating the growth of fabless SMEs** and Startups that will develop the chips for tomorrow's markets.
- **We trust innovation can also be fostered in all connected downstream industries** (e.g. automotive, manufacturing, healthcare and so on) **that consume chips** including to let Europe be seen as a leader in key industries that are driving innovation **so that Europe also remains an attractive place to invest** in ECS value chains.
- The definition of **first-of-a-kind facilities** seems sufficiently broad to include **manufacturing investments in technology node, substrate material, product and process innovation to serve all user industries** (e.g. automotive industries, edge applications, 5G/6G, HPC) that require mature nodes as well as leading-edge nodes and less sophisticated chips. The same alignment is required for the envisaged IPCEI2 activities. In relation to the definition of Open EU Foundries, while the amount should not be minimal, the proportion of own production capacity vs capacity for third parties should be market driven and based on business needs that might change over time.
- Under the EU State Aid rules for first-of-a-kind facilities, the European Commission should ensure an harmonised application of those rules across Member States in order to avoid unfair competence and to guarantee legal certainty.
- Highly **welcomed is the obligation for member states to ensure national fast-tracking of permit granting procedures** for the first-of-a-kind facilities.
- Under the **Coordination Mechanism pillar** of the regulation proposal, we fear that a **fragmented (and different) Member State implementation of monitoring process and structures (as proposed) could lead to unnecessary delays and reporting duplications**. We recommend involving industry and adopt common approaches, by building upon the common European Toolbox (see EC Recommendation) and providing one EU central reporting desk.
- Moreover, AIOTI questions the Articles on the crisis monitoring mechanism in the proposal as they are intrusive in nature and could potentially discourage foreign investments. It must be clear under which circumstances market interventions – and how 'crisis' is actually defined – are planned and how they affect the investing company.
- Clarifications are needed on the priority orders, joint procurement and export controls. A patchwork of national requirements for export controls needs to be avoided in particular.
- Considering the importance of the **European Semiconductor Board** in the monitoring, assessing and response to crisis processes, **a well-balanced industry participation in the Board is key, as well as an efficient synchronization with the Industrial Alliance on Processors and Semiconductor technologies**, launched in July 2021, and given an advisory (and not only an observer) role for this Regulation.

- **The proposed European Union Toolbox should be the central EC instrument to monitor and assess chip shortages or disruptions** of the chip value chain, supervised by the foreseen EU Semiconductor Expert group. **In this Semiconductor expert group, industry and Semiconductor R&I stakeholders should also be members**, on equal footing with EC and Member States.
- Semiconductors are the product of diverse and highly complex supply chains that stretch across borders. AIOTI encourages the EU to promote transatlantic collaboration and coordination among industry, government, and academia, especially in research. The TTC provides an ideal platform on which to agree suitable topics for research cooperation and coordination, and to build a deep understanding of semiconductor supply chains and how partnerships can facilitate a steady and secure supply of chips.
- We advise to make large manufacturing investments sustainable in the long term to attract more investments of microelectronic fabs across all Member States to strengthen European economy resilience, reduce supply chain disruptions and bottlenecks as European industry is facing today in form of IC chip supply crisis.
- **Europe must urgently put much more efforts into “Attracting and training the right talents”**. The objective must be to improve academic, technical and information technology education, to update it along these new industrial requirements and more specifically to increase the talent pool for the semiconductor industry in Europe. A strong digital talent pipeline is critical to attract investments in Europe.
- We support investments to build a highly skilled semiconductor workforce. To promote next-gen R&D and manufacturing capabilities, Europe should partner with universities and vocational colleges to attract new talent and build a pipeline of skilled workers that fuels leading-edge semiconductor breakthroughs. In this regard, make sure that **enough semiconductor expertise is developed, and STEM students are willing to undertake careers in ECS industries**. The Pact for Skills backed by EC, industry companies and academic organizations is a first step in the right direction.

About AIOTI

AIOTI is the multi-stakeholder platform for stimulating IoT Innovation in Europe, bringing together small and large companies, start-ups and scale-ups, academia, policy makers and end-users and representatives of society in an end-to-end approach. We work with partners in a global context. We strive to leverage, share and promote best practices in the IoT ecosystems, be a one-stop point of information on all relevant aspects of IoT Innovation to its members while proactively addressing key issues and roadblocks for economic growth, acceptance and adoption of IoT Innovation in society.

AIOTI's contribution goes beyond technology and addresses horizontal elements across application domains, such as matchmaking and stimulating cooperation in IoT ecosystems, creating joint research roadmaps, driving convergence of standards and interoperability and defining policies. We also put them in practice in vertical application domains with societal and economic relevance.

AIOTI is a partner for the European Commission on IoT policies and stimulus programs, helping to identifying and removing obstacles and fast learning, deployment and replication of IoT Innovation in Real Scale Experimentation in Europe from a global perspective.

AIOTI is a member driven organisation with equal rights for all members, striving for a well-balanced representation from all stakeholders in IoT and recognizing the different needs and capabilities. Our members believe that we are the most relevant platform for connecting to the European IoT Innovation ecosystems in general and the best platform to find partners for Real Scale Experimentation.