European
Semiconductor
Industry
Association

POSITION

A Chips Act for the European Union

Brussels, 25 March 2022

Introduction

In the March 2021 "*2030 Digital Compass*", the European Commission states its ambition to doubling Europe's share in the cutting-edge semiconductor manufacturing to "*at least 20% of world production in value*".[1] On 5 May 2021, the update to the "*New Industrial Strategy*" identified semiconductors as one of six strategic areas, reiterating the need for an industrial *Alliance on processors and semiconductor technologies* and calling for "*a multi-country and inclusive European Flagship Project*" as an Important Project of Common European Interest (IPCEI). It also urges a "*substantial increase in the production capability in Europe of semiconductors and embedded systems*".[2,3]

On 15 September 2021, President of the European Commission Ursula von der Leyen gave her 2021 State of the Union (SOTEU) speech[4] to the European Parliament plenary in Strasbourg, France. Most significantly, President von der Leyen emphasised the importance of semiconductors, arguing that there "*is no digital without chips*", and announced a new "*European Chips Act*" for the second quarter of 2022[5] to create "*a state-of-the-art European chip ecosystem, including production*".

On 8 February 2022, the European Commission unveiled its proposal for a "*Regulation establishing a framework of measures for strengthening Europe's semiconductor ecosystem*" (hereinafter: the "*EU Chips Act*")[6], alongside a Communication[7] and amendments to the *Key Digital Technologies Joint Undertaking* under *Horizon Europe*[8].

Chips for Europe Initiative

ESIA, as the voice of the semiconductor industry in Europe, is welcoming the *Chips for Europe Initiative*. Concerning the *Initiative*'s operational objective of "*building up advanced large-scale design capacities*", the explicit mention of adopting open-source Reduced Instruction Set Computer (RISC-V) and neuromorphic architecture for artificial intelligence (AI) is much appreciated. Constructing an EU chip architecture ecosystem is key for EU's technology resilience.

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Research & development

Nonetheless, it ought to be emphasised that the programme is targeting European industry needs in an adequate manner. To that end, ESIA would like to call on EU institutions to focus on intellectual property design in key verticals like automotive, industrial, 6G, health, personal electronics as well as smart home and energy, keeping them in mind during budget negotiations for the ***Chips Joint Undertaking* (*Chips JU*).**

Moreover, ESIA deems following an "*R&D ecosystem*" approach as consequential and proper; however, a balance between research & technology organisations (RTOs), universities, and industry must be ensured. Hence, research & development & innovation (R&D&I) programmes should take rapid commercialisation into account. ESIA believes that fast-track and / or *ad-hoc* funding instruments are needed to focus on a limited amount of well-defined EU priorities, such as 6G, energy, space, and defence.

Security of Supply

Defining new concepts

Under the second pillar of the proposed regulation, the European Commission has introduced several concepts with well thought-out definitions. As the *EU Chips Act* is making its way through the ordinary legislative procedure, ESIA is advocating for preserving these clarifications.

The definition of "*'first-of-a-kind' in the Union*" is a positive example for enabling facilities for Europe for which it today depends on other regions. This will develop the ecosystem in the EU in an accelerated manner, enhancing innovation and supply chain resilience.

ESIA welcomes that the scope is not restricted to certain technologies and / or node sizes, allowing for projects serving the EU economy's particular demands, e.g. semiconductors in the 40 / 28-12 nanometre range as well as other important technology fundamentals for the electronic systems such as memory. Despite allusions to "*leading-edge nodes below two nanometres*" in the *EU Chips Act*, there are currently no reliable, independently commissioned forecasts that would point to a surge in demand for such technologies in Europe. Moreover, the meaning of the term "*leading-edge node*" varies strongly based on applications: for instance, in today's automotive industry, leading-edge nodes range from 28 nanometres to 40 nm. Continued and still growing demand for nodes above 16 nm is more likely to persist for at least the next 10-15 years. In that regard, ESIA would suggest declaring "*EU benefit*", "*EU demand*", and "*EU security of supply*" to be key criteria when selecting projects.

Likewise, it is appropriate and good that the required evolution path towards the "*next generation of chips*" is not narrowly defined either. Thanks to the flexible approach, innovations may be envisaged not only in the digital area, but also for power – i.e. silicon carbide (SiC) and gallium nitride (GaN) – and analog / mixed signal integrated circuits. In addition, it remains possible to define next steps in close alignment with market needs, such as improving digital logic and memory design to address the increasing pervasiveness of AI, data, and connectivity.

Supply chain monitoring and crisis response

Unprecedented market intervention

If adopted as proposed, Pillar 3 of the *EU Chips Act* is allowing for far-reaching and unprecedented market interventions. ESIA is concerned whether such provisions may not negatively affect the EU's attractiveness for (domestic & foreign) private investments.

The supply crisis response mechanism must be positioned in relation to similar tools in other regions. Such provisions must never be wielded in an "*offensive*" manner, but rather to create an equal footing to protect and secure mutual dependencies between regions. Favourable framework conditions for companies such as low energy prices, a well-trained workforce, and a secure legal environment, is of utmost importance. Besides that, ESIA is convinced that leveraging the global semiconductor ecosystem will advance chip technology and its rapid progression the most.

The current lack of definitions for terms as "*crisis*" or "*critical sectors*" is raising questions, not least as to the potential politicisation of prioritising certain industry sectors over others.

Priority rated orders

The freedom of contract is rightly held in high esteem across EU Member States, and unwarranted loss of business to European companies must be avoided at all cost. Therefore, "*priority rated orders*" – if at all – should only be enforced on a very exceptional basis, and if absolutely necessary for reasons of EU security and to protect the lives of Europeans.

Moreover, ESIA would deem it indispensable to propose new legislation specifically defining the products or materials subject to a "*priority rated order*". In that regard, early and close alignment with industry would be of utmost importance.

Overall, it remains questionable how such measures could be enforced and practically implemented. In addition to the long lead times, it must also be considered that not all semiconductor products are "*off-the-shelf*" or "*one-size-fits-all*" components. They can come with very specific technical specifications per product and customer. A chip developed for one industry (e.g., automotive) cannot easily be used by another (e.g., personal computers). Similar restrictions apply to the location of fabrication since semiconductor factories are not homogeneous and are often only able to manufacture a specific range of node sizes and transistor technologies.

ESB consultations

If set up as proposed, the European Semiconductor Board, with its wide-ranging competences, should institutionalise regular consultations with the semiconductor industry and other stakeholders to support transparent, balanced, and appropriate measures. In addition, the role of the ESB in the wide canon of other existing and upcoming bodies needs to be described in more detail.

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ABOUT ESIA

The European Semiconductor Industry Association (ESIA) is the voice of the semiconductor industry in Europe. Its mission is to represent and promote the common interests of the Europe-based semiconductor industry towards the European institutions and stakeholders in order to ensure a sustainable business environment and foster its global competitiveness. As a provider of key enabling technologies, the industry creates innovative solutions for industrial development, contributing to economic growth and responding to major societal challenges. Being ranked as the most R&D-intensive sector by the European Commission, the European semiconductor ecosystem supports approx. 200.000 jobs directly and up to 1.000.000 induced jobs in systems, applications and services in Europe. Overall, micro- and nano-electronics enable the generation of at least 10% of GDP in Europe and the world.

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[1] EUROPEAN COMMISSION (09/03/2021). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. 2030 Digital Compass: the European way for the Digital Decade. COM(2021) 118 final*, p. 6. URL: https://ec.europa.eu/info/sites/default/files/communication-digital-compass-2030_en.pdf (retrieved 29/11/2021)

[2] EUROPEAN COMMISSION (05/05/2021). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery. COM(2021) 350 final*. URL: https://ec.europa.eu/info/sites/default/files/communication-new-industrial-strategy.pdf (retrieved 29/11/2021)

[3] EUROPEAN COMMISSION (05/05/2021). *COMMISSION STAFF WORKING DOCUMENT: Strategic dependencies and capacities Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery. SWD(2021) 352 final*, p. 88. URL: https://ec.europa.eu/info/sites/default/files/swd-strategic-dependencies-capacities_en.pdf (retrieved 29/11/2021)

[4] European Commission (15/09/2021). *2021 State of the Union Address by President von der Leyen*, Speech. URL: https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_21_4701 (retrieved 26/11/2021)

[5] European Commission (19/10/2021). *ANNEXES to the COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. Commission work programme 2022: Making Europe stronger together, COM(2021) 645 final*, p. 2. URL: https://ec.europa.eu/info/sites/default/files/com2021_645-annex_en.pdf (retrieved 26/11/2021)

[6] EUROPEAN COMMISSION (08/02/2022). *Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing a framework of measures for strengthening Europe's semiconductor ecosystem (Chips Act), COM(2022) 46 final*. URL: https://eur-lex.europa.eu/resource.html?uri=cellar:ca05000a-89d4-11ec-8c40-01aa75ed71a1.0001.02/DOC_1&format=PDF (retrieved 24/02/2022)

[7] EUROPEAN COMMISSION (08/02/2022). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS. A Chips Act for Europe, COM(2022) 45 final*. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022DC0045&qid=1645701283635&from=EN (retrieved 24/02/2022)

[8] EUROPEAN COMMISSION (08/02/2022). *Proposal for a COUNCIL REGULATION amending Regulation (EU) 2021/2085 establishing the Joint Undertakings under Horizon Europe, as regards the Chips Joint Undertaking, COM(2022) 47 final*. URL: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52022PC0047&qid=1645701283635&from=EN (retrieved 24/02/2022)