

GUIDANCE ON PILLAR 3

Emergency Toolbox and European Semiconductor Board

Brussels, 11 October 2022

I. Introduction

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*”)¹. The European semiconductor industry welcomes the proposed “*EU Chips Act*” as a very important step to strengthen the European chip ecosystem.

It is important to understand that the current semiconductor shortage is not caused by a crisis in chip production due to major disruptions in manufacturing facilities or raw materials supply. The shortage is a consequence of rising demand for chips needed during the pandemic, coupled with big fluctuations in purchasing behaviour of important sectors such as automotive and industrial that did not take into account the inertia and complexity of the semiconductor value chain. This triggered a rippling supply-demand imbalance felt across the world. Hence, the shortage is linked to market dynamics.

In addition, the situation whereby a semiconductor shortage would be caused by (upstream) disruption of the supply of raw materials, chemicals, equipment, or silicon wafers, etc. is not covered or addressed in the proposal; even though they could certainly be reasons for causing a crisis in the supply of semiconductors.

The proposed measures of Pillar 3 of the “*EU Chips Act*” would mirror the United States’ “**Defense Production Act**” (DPA). However, the rationale of the DPA is continuity of national defence, public health and safety, and the scope is broader (applicable to the whole economy). In comparison, the rationale of Pillar 3 is based on management of an economic “*semiconductor crisis*”, without giving a sound definition of such. It is only covering the production of semiconductors. Hence, the rationale of the DPA differs significantly from Pillar 3 of the “*EU Chips Act*” proposal.

To make sure that the “*EU Chips Act*” provides the right measures to effectively enhance the resilience of the European industry as a whole, we urge the European Parliament and Member States to take the following remarks and suggestions specifically on Article 15², as well as Articles 19 to 25³ into account. Those articles elaborate on the supply chain monitoring, on the provisions of the **emergency toolbox** under Pillar 3 and detail the functioning and authorities of the **European Semiconductor Board** (ESB). In view of institutionalising exchanges and consultations with the semiconductor industry in Europe, ESIA is once again calling for the launch of the

Alliance on Processors and Semiconductor Technologies. Although it was announced in July 2021, the Alliance has yet to be formally established and its activities started.

II. Monitoring stage

Article 15: Monitoring and alerting

While, in principle, ESIA is not opposed to a voluntary exercise of supply chain monitoring, there are several avenues to improve on the mechanism: the Commission should establish a regular, institutionalised exchange with all relevant stakeholders of the semiconductor supply chain. Ideally, this could be achieved through a formal role of the **Alliance on Processors and Semiconductor Technologies** as an advisory body to the European Semiconductor Board.

In the proposal, the “*regular monitoring of the semiconductor value chain*” is delegated to Member States and their national competent authorities. In order to avoid administrative burden and a duplication of requests across several Member State, the regular monitoring should be **centralised with one organisation / agency** collecting it for industry and passing it on to the European Commission, who would aggregate the information and share it with the European Semiconductor Board.

Separate from the monitoring activities, ESIA encourages national competent authorities to invest in long-term mapping of strategic intra-EU and cross-regional interdependencies within the semiconductor value chain (see more on [page 5](#)).

III. Semiconductor supply crisis

Complexity of the supply chain: the semiconductor industry is also a user

The scope of the semiconductor crisis as described in the proposal does not consider the complexity of the semiconductor supply chain, whereby semiconductor companies also need specific raw materials, chemicals and equipment to produce. Shortages arising in the sectors upstream to the semiconductor industry can also lead to serious disruptions in the supply of semiconductors.

ESIA urges the EU to develop a more holistic view of a crisis in the semiconductor supply chain.

Article 19: Emergency toolbox

If adopted as proposed, Pillar 3 of the “*EU Chips Act*” allows for far-reaching and unprecedented market interventions that require thorough assessment by Member States, the affected industry stakeholders, and the Commission. ESIA is concerned that such provisions may negatively affect the EU’s attractiveness for (domestic & foreign) private investments. The proposed measures must never be wielded in a proactive manner, but rather to create an equal footing to protect and secure mutual dependencies between regions. Furthermore, if the draft response measures are

not adapted, ESIA deems it unavoidable that they will significantly disrupt the semiconductor ecosystem and user industries.

The proposed measures of the **emergency toolbox** are not reflecting the complexity and uniqueness of the semiconductor supply chain, the requirements of the users (downstream) as well as the manifold reasons why a disruption / shortage may occur. Instead of a toolbox with concrete measures, an agile and flexible approach is needed.

Article 20: Information gathering

Imposing mandatory disclosure obligations on private companies would threaten the **confidentiality** of commercially sensitive data, where – in addition – antitrust concerns must be taken into account. This remains an underserved matter in the proposal. Therefore, ESIA suggests considering a several aspects when approaching information gathering. The Commission must establish **clear guidelines** that apply to the treatment, storage, and handling of the data obtained through Article 20. For each request, these guidelines shall define the **purpose** for which the information is gathered, why it is necessary to collect the information, and clarify why the Commission deems the request proportionate. A statement containing the aforementioned explanations must be accompany the information request.

All information and documentation submitted pursuant to an Article 20 request must be **carefully protected** by public authorities, reflecting the sensitivity of the trade and business secrets and other sensitive and confidential information contained. The Commission and Member States must ensure this protection in accordance with EU or national laws. The Commission and Member States must ensure that trade and business secrets and other sensitive and confidential information are **not downgraded or declassified** without the prior written consent of the originator of the information in question. The Commission must ensure that data sources **cannot be reverse engineered**. In other words, the information obtained must be anonymised, aggregated, and / or obscured in such a way by the Commission that the originator cannot be the identified.

Any breach of the confidentiality, integrity, or anonymisation of information shall result in a full investigation by an independent authority, and if necessary, trigger the Commission to revise the guidelines on treatment, storage, and handling of data.

Notwithstanding, ESIA acknowledges that gathering information at global level and building a trustworthy database on chip inventory and demand from user industries with a specific timeframe would be beneficial for the use of the semiconductor industry to increase Europe's preparedness to avoid any possible chips shortages in the future.

Policymakers must be aware that gathering relevant data would require significant dedicated resources from authorities and industry, both in terms of workforce as in technical expertise to assess and interpret the data correctly.

Article 21: 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.

ESIA favours a provision that ensures the **right** of companies to explain and **defend** their possible non-acceptance of the priority rated order. The company shall be entitled to notify the Commission – within a reasonable timeframe – why it is not possible or appropriate to comply with a priority rated order. Reasons for such a refusal may range from insufficient production capacity at the time of the request, absence of appropriate manufacturing equipment to produce with particular technical specifications, to risking undue administrative and economic burden or legal action if the order were to be fulfilled.

Moreover, due to the **complexity** of the semiconductor value chain and the high **diversity** of chip technologies, priority rated orders are not an effective tool to address a potential supply shortage. Today, an average car consists of ~1,000, a smartphone of ~160 different semiconductor devices. Moreover, chips are – to a large extent – not “*off-the-shelf*” or “*one-size-fits-all*” products and come with specific sets of technical specifications and certification requirements per customer. In addition to long lead times (see [box](#) below), 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.

Also, questions on the practicality occur. Critical or important sector entities are users of a broad range of semiconductors. Only a few of these chips will be manufactured by Integrated Production Facilities (IPFs) or Open EU Foundries (OEFs). Therefore, effectiveness is limited.

Effect on lead times in manufacturing

Chips supplied to user sectors are mostly customised, application-specific, and not “*off-the-shelf*”. According to a *McKinsey & Company* study, typical lead times for chips that are well established in production lines are already longer than four months⁴. Building additional and new manufacturing capacity would add several months (if not years) in existing fabs. Switching to a different manufacturer typically adds another year or even more, because a chip’s design requires alterations to match specific processes of new partners. And some chips can contain user-specific intellectual property that may require alterations or licensing.

Also, chip suppliers in certain sectors (e.g., automotive) must go through a lengthy and complex qualification process. Given that, it would be a very complex, delayed and hardly implementable obligation for a semiconductor manufacturer to change its manufacturing lines on a short notice and direct to another sector and / or company. Even if such obligations are pursued, it is likely to cause disruptions and final product delays in the sectors or for users whose orders are deprioritised.

Article 22: Common purchasing

It is not clear what the Commission would do after purchasing such crisis-relevant products. Semiconductors are mostly customised products with specifications based on end-user needs. Dealing with business-to-business industries – such as semiconductors – requires specific market and

technology knowledge of original equipment manufacturers based on their sectors and applications, which a public organisation does not have.

Such purchasing would include confidential information and trade secrets, or other information exchanged between supplier and customer, which cannot be shared with third parties. Doing so would have long-term negative effects on the European semiconductor industry, revealing its confidential information.

IV. European Semiconductor Board

If set up as proposed, the **European Semiconductor Board (ESB)**, 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.

Institutionalising the relationship between the ESB and the **Alliance on Processors & Semiconductors Technologies**, which will host industry representatives for thematic issues along the semiconductor value chain, should be a priority. This way, representatives from Europe's semiconductor value chain – from R&D to chip manufacturing to applications – will have a direct role and an official mandate contributing to the Board's policy responses by providing business insights.

Mapping

Since it is going to gather representatives from national competent authorities, it should be a strategic priority for the ESB to encourage Member States to invest in long-term strategic mapping of interdependencies within the semiconductor value chain. Member States, large and small, that host world-class semiconductor capacities and capabilities in research and manufacturing, can take the lead in this task.

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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.

¹ 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 08/09/2022)

² *Ibid.*, p. 45-46.

³ *Ibid.*, p. 48-52.

⁴ BURKACKY Ondrej, LINGEMANN Stephanie, POTOTZKY Klaus (27/05/2021). *Coping with the auto-semiconductor shortage: Strategies for success*, McKinsey & Company. URL: <https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/coping-with-the-auto-semiconductor-shortage-strategies-for-success> (retrieved 09/09/2022)