



Council of the
European Union

105317/EU XXVII. GP
Eingelangt am 20/06/22

Brussels, 20 June 2022
(OR. en)

10447/22

Interinstitutional File:
2022/0033(NLE)

COMPET 514
IND 243
MI 492
RC 36
RECH 392
TELECOM 284
FIN 683
CADREFIN 108

COVER NOTE

From:	General Secretariat of the Council
To:	Delegations
No. prev. doc.:	6171/22 - COM(2022) 47 final
Subject:	Proposal for a Council Regulation amending Regulation (EU) 2021/2085 establishing the Joint Undertakings under Horizon Europe, as regards the Chips Joint Undertaking - Opinion of the European Economic and Social Committee (EESC)

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OPINION

European Economic and Social Committee

Chips Joint Undertaking

Council Regulation amending Regulation (EU) 2021/2085 establishing the Joint Undertakings under Horizon Europe, as regards the Chips Joint Undertaking
[COM(2022) 47 final – 2022/33 (NLE)]

INT/986

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Referral	Council, 16/03/2022
Legal basis	Article 304 of the Treaty on the Functioning of the European Union
Section responsible	Single Market, Production and Consumption
Adopted in section	01/06/2022
Adopted at plenary	15/06/2022
Plenary session No	570
Outcome of vote (for/against/abstentions)	207/0/5

1. Conclusions and recommendations

- 1.1 Semiconductors are at the heart of strong geopolitical interests, giving countries the conditions to be able to act (militarily, economically and industrially) and to foster digital and ecological transitions. They are essential for strategic and industrial autonomy.
- 1.2 Therefore, the EESC shares the strategic objective of increasing the strength of Europe's semiconductor ecosystem and agrees that Europe needs to attract investment to design and produce the most advanced chips, but it believes that strength would be better achieved if European researchers, engineers and the skilled workforce were encouraged to stay in Europe through, among other things, financial incentives and competitive career opportunities compared to what is offered in Asia or the USA.
- 1.3 Given the urgent need to act, no impact assessment was carried out and no online public consultation was foreseen. The EESC takes this opportunity to raise some concerns about the absence of an impact assessment in the proposal. The EESC understands that a technical impact assessment of standard length would have taken too long to deliver due to the urgent situation, but the EESC believes that the Commission should have at least provided a smart matrix for dynamic simulation to help the co-legislators and civil society to foresee the potential impact of the proposal.
- 1.4 The EESC's concern about the budget allocated to the Chips Joint Undertaking is reinforced by the absence of an impact assessment, because civil society cannot form its own opinion on the rationale or methodology used by the Commission to define the budget. The Legislative Financial Statement annexed to the Chips Act is not sufficient.
- 1.5 The EESC believes that intellectual property is such a key element to compensate the investments and research efforts of EU innovators, while meeting the needs of implementers/users, and to make it possible to drive innovative semiconductors and create a solid state-of-the-art European chip ecosystem that it should be mentioned in the provisions of the proposal, and not only the explanatory memorandum, which has no legally binding effects.
- 1.6 The proposed Chips Joint Undertaking notably aims at reducing risks and uncertainties for industry that are related to investing in research and innovation activities and new technologies by sharing risks and providing investment predictability. A US chipmaker unveiled plans to invest up to USD 88 billion across Europe as part of an ambitious expansion aimed at reducing imbalances in the global semiconductor supply chain and shows the positive reaction from the investors for the proposed EU Chips Act.

2. Introduction

- 2.1 Automobiles, computers, smartphones, applications and infrastructures for health, energy, security, communication and industrial automation: in recent months, many sectors have been experiencing delays in delivery. The reason for this is a shortage of semiconductors, the very small components that equip our technological devices.

- 2.2 Semiconductors are at the heart of strong geopolitical interests, giving countries the conditions to be able to act (militarily, economically and industrially) and to foster digital and ecological transitions. Russia's war against Ukraine is likely to have many side effects in the medium to long term for the semiconductor industry, a top priority for EU digital sovereignty. The production of neon, palladium and C4F6, three materials that are crucial and irreplaceable for microchips, will be impacted by the situation.
- 2.3 The United States dominates the design of semiconductors and, in addition, in January 2021 the US Congress passed the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Act. Asian production is concentrated particularly in Taiwan and provides around 70% of the total production and 90% of the most technologically advanced chips. While the current shortages are partly due to the COVID-19 pandemic, the importance of the economic competition between Washington and Beijing should not be overlooked. This context of economic competition places Taiwan at the forefront of this technological competition between the two powers.
- 2.4 In this context, the aim of the proposed regulation is to jointly create a state-of-the-art European chip ecosystem, including production. It amends the current proposals to build on Europe's strengths and address outstanding weaknesses, to develop a thriving semiconductor ecosystem and resilient supply chain, while setting measures to prepare, anticipate and respond to future supply chain disruptions.
- 2.5 The proposal for a *Council Regulation amending Council Regulation (EU) 2021/2085 establishing the Joint Undertakings under Horizon Europe* ("the proposal") complements the proposal for a Chips Act. One of the goals of the proposed Chips Act is to set up the Chips for Europe Initiative to support large-scale capacity building. The actions under the initiative will be primarily implemented through the Chips Joint Undertaking, i.e. the amended and renamed current Key Digital Technologies Joint Undertaking.
- 2.6 The EU budget will support the Chips for Europe Initiative with a total of up to EUR 3.3 billion, including EUR 1.65 billion via the Horizon Europe programme and EUR 1.65 billion via the Digital Europe Programme. Out of this total amount, EUR 2.875 billion will be implemented through the Chips Joint Undertaking.

3. **General comments**

3.1 **Human capital**

- 3.1.1 The EESC notes that the objective is not to become self-sufficient, which is not an achievable target, as interdependencies remain strong in supply chains with third countries, but to speed-up the process of achieving strategic autonomy, technological sovereignty and reform the global competition framework by reinforcing the common industrial policy in the EU.
- 3.1.2 The EESC shares the strategic objective of increasing the strength of Europe's semiconductor ecosystem and agrees that Europe needs to attract investment to design and produce the most advanced chips, but it believes that strength would be better achieved if European researchers,

engineers and the skilled workforce were encouraged to stay in Europe through, among other things, financial incentives and competitive career opportunities compared to what is offered in Asia or the USA.

- 3.1.3 One of the goals of the Chips Act package is to support large-scale capacity building through investment into cross-border research to enable the development of cutting-edge and next-generation semiconductor technologies including emphasis on start-ups and scale-ups.
- 3.1.4 The proposal provides a focus on supporting investment into cross-border and openly accessible research, development and innovation infrastructures set up in the European Union. The EESC notes that to achieve these goals, the EU must be able to rely on human capital, on researchers, as they are the only ones who can develop the innovation potential of the EU. The EESC wonders what concrete actions are being taken to ensure that our EU researchers do not seek to emigrate outside the EU and to ensure their active role in the foreseen network of competence centres across Europe?
- 3.1.5 Researchers and young engineers generally perceive remuneration and career progression to be better in non-EU countries. In this respect, the EESC asks the Commission to provide statistics in this regard that would make it possible to assess the trends in terms of brain-drain to other research and competence centres. A programme to speed up the process of recognition of foreign specialists may attract additional resources to the project. In effect, the objectives of the proposal will remain meaningless without researchers, engineers and a skilled workforce willing to work and stay in the EU.

3.2 **Impact assessment**

- 3.2.1 Given the urgent need to act, no impact assessment was carried out and no online public consultation was foreseen.
- 3.2.2 The urgency cannot be denied. Since the end of 2020, manufacturers have been facing a shortage of components, particularly semiconductors. This shortage is due to a series of cumulative factors:
- Lockdowns related to the COVID-19 health crisis that put production on hold, causing delays in deliveries,
 - Climatic conditions: severe droughts in Taiwan have notably impacted the manufacture of semiconductors, which requires a lot of water,
 - Increased demand for electronic equipment (computers, etc.),
 - The rise of electric vehicles,
 - The growing interest in mining cryptocurrencies requiring graphics processors composed of semiconductors,
 - The deployment of 5G which requires semiconductors in peripherals,
 - Plant automation, as part of industry 4.0 projects, which use semiconductors.

- 3.2.3 The EESC believes that the urgency is not the only issue, the problem is that 70% of semiconductors are manufactured by the TSMC and Samsung Electronics. Faced with high demand, they must prioritise certain customers and building a new production plant takes two to three years¹.
- 3.2.4 The EESC takes the opportunity to raise some concerns about the absence of an impact assessment in the proposal. In April 2021, the European Commission launched its Better Regulation Agenda with a view to "joining forces to make better laws"². It introduces the "one in, one out" approach which will become a key axis of EU policy from 2022 onwards.
- 3.2.5 The EESC understands that a technical impact assessment of standard length would have taken too long to deliver due to the urgent situation, and would have been useless in practice, but it believes that the Commission should have at least provided a smart matrix for dynamic simulation to help the co-legislators and civil society foresee the potential impact of the proposal.
- 3.2.6 The absence of an impact assessment has a negative consequence on the possibility of the EESC to form its own opinion on the rationale and methodology used by the Commission to define the budget of the Chips Joint Undertaking. The Legislative Financial Statement annexed to the Chips Act is not sufficient either. Civil society needs to precisely and concretely know where the financing comes from and where it goes.

3.3 Intellectual property

- 3.3.1 Intellectual property (IP) is a dangerously overloaded term. In the most general sense, it means any knowledge that is owned by someone. An example is a patent. The patent acknowledges the ownership of the knowledge and provides the terms of protection for it.
- 3.3.2 However, in the semiconductor industry, the term is well understood to mean a design or verification unit that is pre-packed and available for licensing. Semiconductor IP (SIP) and design IP (DIP) are generally the same thing and often just referred to as IP, IP blocks or IP cores. It is a piece of the design, such as a processor, that has been pre-verified and can be included in someone else's design.
- 3.3.3 In practice, the legal and managerial effort required to negotiate licenses also often exceeds the benefits of licensing IP designs. Semiconductor firms have therefore often used their IP in the form of patents. Large patent portfolios can be used both to limit competition and to improve their competitive position through cross-licensing.
- 3.3.4 The explanatory memorandum of the proposal refers to "user communities with (...) intellectual property (IP)", it mentions IP users but it keeps silent on the IP rights-holder. Then, it states that

¹ Journal du Net. 2/11/2021.

² Communication from the Commission to the European Parliament, the Council, the European and Social Committee and the Committee of the Regions, *Better regulation: Joining forces to make better laws*, COM/2021/219 final.

"competence centres will facilitate open, transparent, and non-discriminatory access to and effective use of the design infrastructure and the pilot lines".

3.3.5 Therefore, the EESC wonders whether the "non-discriminatory access" refers to the FRAND SEPs licensing approach. If so, the proposal should guarantee a balanced and pragmatic approach to FRAND licensing, one that focuses on increased transparency and finding a middle ground that will appropriately compensate EU innovators while meeting the needs of implementers/users and make it possible to drive innovation.

3.3.6 Last but not least, the EESC believes that IP is such a key element to achieve the goals of the proposal that it should be explicitly mentioned in the provisions of the proposal and not only the explanatory memorandum, which has no legally binding effects.

Brussels, 15 June 2022.

Christa Schweng

The president of the European Economic and Social Committee
