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DIGITALEUROPE's recommendations for the EU Chips Act: making the EU a catalyst for semiconductor investments



Executive summary

Industry supports a strong cohesive legal framework on chips to ensure the EU can deliver leadership in a geographically diversified, sustainable and resilient semiconductor supply chain. The European Chips Act needs improvements to be able to do so and more work will be needed in the upcoming legislative process for the EU to be a catalyst for R&D and manufacturing semiconductor investments.

We also believe the EU semiconductor strategy needs to expand to all key framework conditions to enhance capacity in Europe, including energy prices, talent pool, proximity between raw material as well as component suppliers and chip makers. Europe's share of global semiconductor production has declined from 22% in 1998 to 8% today.¹ Recent developments in Ukraine have only added to the urgency of ensuring the security of the European continent, by broadening the chip supplier base and diversifying supply chains to manage risk. A more geopolitically balanced production of chips is paramount in making the EU stronger and more secure.

Actors hailing from different segments in the chip ecosystem have come together to deliver their recommendations under DIGITALEUROPE. As the proposal for a Regulation moves forward, the co-legislators should:

- ▶ Clarify the terms and conditions for the development and third-party access to the virtual design platform and the pilot lines in Pillar 1

¹ Bruegel, [A new direction for the European Union's half-hearted semiconductor strategy](#), 2021

- ▶ Increase legal certainty in Pillar 2 by adding details on eligibility criteria for European first-of-a-kind semiconductor facilities and by foreseeing, in exceptional circumstances, “continued operating support” for the facility
- ▶ Designate a single, EU central entity for reporting requirements, rather than 27 different bodies, and remove confidential data from the scope of “crisis stage reporting obligations” in Pillar 3
- ▶ Boost the involvement of industry in the European Semiconductor Board and give them full membership rights of the Board’s sub-groups

DIGITALEUROPE appreciates the opportunity to work closely with the EU Institutions to ensure the most favourable business environment for semiconductor companies and the broader EU industrial base. Below we emphasise key aspects in the overall package and offer more detail on concrete recommendations on the proposal for a Regulation.



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Overall Chips Act Package

Commission President von der Leyen was right in saying “there is no digital without chips”. The role of semiconductors in powering Europe’s twin transition will only grow. In automotive applications, their value will almost triple to €100 billion worldwide by 2026.² Two-thirds of medtech companies have chips in more than half of their products.³ To succeed, the overall package should focus on:

- ▶▶ **Budget:** it is important to clarify the sources of the overall €43 billion sum that the Chips Act intends to mobilise. To date, the financial breakdown remains still vague.
- ▶▶ **Consistency between the Communication and the proposal for a Regulation:** the Regulation should properly reflect the investment goals described in the Communication underpinning the Act. Industry needs provisions, especially in Pillar II of the Regulation, that guarantee legal certainty and predictability for their private manufacturing investments.
- ▶▶ **Broader framework conditions:** there is a strong case to broaden the EU semiconductors strategy to other framework conditions that determine where industry place their private investments into capacity. Some of the key challenges of making chips in Europe are:
 - **High energy prices:** chip manufacturing in the EU suffers from an electricity cost disadvantage compared to regions like Asia. Electricity can account for up to 30% of a facility’s total operating costs⁴.
 - **Attracting talents from third-countries:** the upcoming “EU Talent Pool” initiative should streamline labour market tests for semiconductor-related jobs, given the strategic importance of the sector. Existing labour market tests can hinder employers from recruiting the skilled workers they need, as companies can hire workers from third countries only after demonstrating they have unsuccessfully searched for national workers, EU citizens or legal residents in the EU. Of all non-EU migrants coming to OECD countries, only 31% of highly educated migrants choose an EU destination.⁵

² Mordor Intelligence, [Global Automotive Semiconductor Market – Growth, Trends, Covid-19 and Forecasts](#)

³ Deloitte, [Semiconductor chip shortage hits medtech: Strategies to build resilient supply chains](#), 2021

⁴ The White House. [Building resilient supply chains, revitalizing American manufacturing, and fostering broad-based growth](#), 2021

⁵ OECD, [Europe is underachieving in the global competition for talent](#), 2016

- **Relocation of raw material and component suppliers outside the EU:** this can be due to several factors, including avoiding meeting requirements of robust environmental legislation like REACH (restriction and authorisation). Any relocation outside the EU of raw material processing factories and component manufacturing destabilises established supply chains in a given EU region. Developing a new supplier ecosystem raises the costs of doing chips for chip makers and increases uncertainty for suppliers. Moreover, blanket bans of chemical substances may decrease design flexibility and the potential for innovation. They could also inhibit planning certainty.
- ▶▶ **Synergy with the Industrial Alliance for Processors and Semiconductor Technologies:** we strongly recommend the Commission to kick off the work of the Alliance swiftly, to guarantee proper alignment with the Chips Act's goals.



Proposal for a Regulation on the Chips Act

Pillar 1 – Chips for Europe Initiative

- ▶▶ **Technology scope:** we strongly support the emphasis in Art. 4 on developing native design capabilities through the promotion of instruction set architectures like RISC-V. Funding for access to chip prototypes will spark innovation in Europe. The success of Europe's telecom infrastructure, for example, relies System-on-a-Chip (SoC) product designs for 5G and 6G, which are some of the most complex in the market.

We equally support the focus on pilot lines for new production capabilities, and urge it to embrace manufacturing, testing and experimentation of both advanced as well as mature technology nodes. Major industrial applications like automotive will need all spectrum of chips in the future. At the same time, we call for further clarifications from the EC on the terms and conditions for the development and third-party access to the pilot lines, as well as on the characteristics of the EU virtual design platform, its software and hardware content and access mode(s) by third parties.

We also support the goals of the network of competence centres in the EU, and point to the major role that reputable European research centres like Fraunhofer Institute, IMEC, CEA LETI/LIST and VTT can play in it.

All the activities in the Initiative will require a strong governance framework and project selection criteria to succeed.

- ▶▶ **Chips Joint Undertaking:** it should be industry-driven and focus on closing the gap between basic R&D at TRL 5⁶ (and below) and deployment of chips in commercial applications in Europe, like edge AI, automotive, manufacturing and telecommunications. There are two main actions to turn this into reality.

First, the CJU should embrace the whole chip value chain, from design, manufacturing, assembly, packaging, testing down to the embedded application. The new Art. 126 (1) (d) of the proposed revision of Regulation (EU) 2021/2085 setting up the CJU should make it clearer.

Second, the CJU builds the foundation for a continuous innovation flow for European microelectronics. Future IPCEIs can build upon the CJU's results and use them for industrial deployment. Art. 4 (1) of the proposal for a revision of Regulation (EU) 2021/2085 should explicitly acknowledge the CJU's possible role in supporting current and future chip-related IPCEIs. IPCEIs are about bridging the gap between R&D&I and first-industrial deployment. The CJU can accelerate this goal.

Pillar 2 – Security of Supply

- ▶▶ **Recognition of European first-of-a-kind facilities:** we welcome the Commission's clarifications on state aid possibilities for large semiconductor investments based on TFEU Art. 107 (3) (c)⁷ and appreciate the distinction between Integrated Production Facility (IPF) and Open EU Foundry (OEF) made in the proposal. These provisions will facilitate new needed investments in Europe. Yet, it is important to remind that the economics of semiconductor manufacturing are peculiar of the sector and are not necessarily the same in other industrial segments. The use of TFEU Art. 107 (3) (c) as legal basis for aid for semiconductors should not set a precedent for "picking winners" in other industrial domains. The EU should continue to invoke this provision in the Treaties only in the presence of market failures.

⁶ Technology Readiness Level. More information [here](#)

⁷ As outlined in its recent Communication '[A competition policy fit for new challenges](#)' – COM (2021) 713

In the text, we believe the definition of European first-of-a-kind semiconductor front-end/back-end facilities is broad enough to cover innovation across the segments of the semiconductor value chain. Yet, two eligibility criteria need more details:

- First, Art. 10 (2) (c) and Art. 11 (2) (c) must acknowledge the importance of international governmental cooperation whenever an entity is simultaneously subject both to third-country extraterritorial obligations and priority-rated orders in the EU.
 - Second, Art. 10 (2) (d) and Art. 11 (2) (d) should recognise ongoing and planned EU R&D&I activities by the applicant as part of its “commitment to invest in the next generation of chips”. Limiting the meaning of this commitment to investments to a single manufacturing site only would make it extremely difficult for applicants to meet this criterion over the entire lifetime of the facility.
- ▶ **Long-term viability and cost disadvantage of large manufacturing investments:** due process is critical in the application of Pillar II. Art. 12 (3) should limit the cases where IPF or OEF status is withdrawn, following a transparent process of consultation between the Commission and the operator of the European first-of-a-kind facility. Such process should also entail the possibility of appealing this decision of withdrawal. These safeguards are important to ensure predictable business conditions in Europe, and encourage industry applications for IPF or OEF status.

In addition, Pillar II of the regulation should envisage, in specific exceptional circumstances, the possibility for “continued operating support” for the facility, i.e. the use of long-term incentives to sustain the long-term viability of a semiconductor manufacturing project. One example of demand-side incentives for the longer-term could be an EU-level voucher scheme to maintain orders for the facility. Today, the Commission rightfully looks at profitability metrics in its evaluation of state aid compatibility. This is key to guarantee public investments are spent wisely and industries can be competitive without over-relying on public aid. We support a continued focus on profitability in state aid decisions. Yet, in determined, extensively justified cases, the Commission could complement profitability metrics with other ones that can fully capture the unique challenges of semiconductor manufacturing. Semiconductor projects face significant cost disadvantages in the EU compared to other locations worldwide.

- ▶ **National fast-tracking of permit granting procedures:** we fully support the provisions in Art. 14 as they recognise the strategic relevance of

semiconductors and the public interest of European first-of-a-kind facilities. Encouraging faster permitting processes is a concrete way to improve doing business in Europe.

The text should also foresee a provision committing public authorities to eliminate or minimize restrictions to the business operations and supply chain of the IPF or OEF facility, in consideration of the public funding support received.

- ▶▶ **Guidance on funding gap analysis:** we call for further guidance from the Commission on how entities must determine the funding gap for state aid requests. We also need guidance on the level of evidence they need to produce to prove the counterfactual scenario, which corresponds to the situation where no Member State awards any state aid to the applicant. Such guidance should also clarify what is meant by “realistic assumptions” when it comes to quantifying specific aspects of the funding gap.
- ▶▶ **Certification of chips:** any initiative seeking to establish the certification of trusted, secure and green chips should be based on market-driven international standards and foresee a strong involvement of industry in developing the standards. It is also vital to consider that the environmental performance and the cybersecurity of chips have different risk metrics. As a start, we suggest the EU to develop voluntary schemes that industry can adopt faster in the market.

Pillar 3 – Monitoring and Crisis Response

- ▶▶ **Monitoring and alerting:** we call for a single designated body at EU level where to report relevant information, rather than 27 national authorities across Europe. As it stands, Art. 15 leaves it up to Member States to articulate their own reporting arrangements. This may lead to fragmentation, procedural divergencies and inconsistencies, as well as duplicative reporting requirements. The recent experience from the fragmented implementation of reporting obligations under NISD⁸ substantiates the clear risks of a country-by-country reporting approach.
- ▶▶ **Information-gathering:** it is critical to ensure that production capacity data is out of the mandatory reporting requirements in Art. 20. In the identified “crisis stages”, the Commission should balance the goal of greater visibility in the supply chain with the legitimate need of businesses

⁸ [Directive \(EU\) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union](#)

to minimise any risk of exposing sensitive data. The proposal would not guarantee this balance as it stands. Any security incident or data breach in the transmission, handling or storage of production capacities data may allow malicious, unauthorised third parties to infer critical company aspects like future turnover. The same would apply with an unintended exposure of data on demand for specific chips. We welcome the safeguards in Art. 27 (1), but believe they are insufficient to guarantee the protection of existing data in the scope of Art. 20. They are limited to the commitment of relevant authorities to respect data confidentiality. In addition, the single body for information reporting at EU level, which we are asking for, should transmit data to third-country authorities only in a narrow, well-justified set of scenarios to be further clarified in the text. The provisions in Art. 27 (2) risk to further exacerbate data exposure concerns, as they entail the possibility of further transmission and exchange of data between competent authorities, potentially at global scale.

- ▶▶ **Priority-rated orders:** we call for more clarity on the business operation provisions in Art. 21 and on more international collaboration on this issue, given the potential extraterritorial scope of similar provisions in third countries mentioned in Art. 21 (3). Like in the case of information sharing, industry should work more closely with the EC to define the details of these requirements and identify essential sectors in need of chips. While fair access to chips supply by all sectors is an important goal for the EU to strive for, priority orders would not be a silver bullet to address gaps in security of chip supply as companies may suffer from upstream supply chain disruptions (e.g. suppliers of substrates or fabrication equipment).
- ▶▶ **Common purchasing:** we urge for clarity on the specific functioning of the mechanism in Art. 22 for the Commission to act as a central purchasing body for semiconductor-related products, if and when applied. Similar purchasing provisions in the EU and third countries have been used for specific defence-related government contracts, as in the US Defense Production Act, or for ramping up production of vaccines, as in the EU Advance Purchase Agreement, which governments then administered through hospitals.⁹ We identify two problems for the set-up of this mechanism.

First, it would be ill-fit to deal with B2B industries such as semiconductors. Chips are tailored to the specific needs of original equipment manufacturers (OEMs) based on their sectors and applications. It is

⁹ CFR, [What is the Defense Production Act?](#), 2021

unclear what would be the feasibility and concrete benefits of this scheme in a B2B supply crisis scenario.

Second, any effective common purchasing mechanism would need to rely on detailed information. In a B2B context, that would entail confidential and privileged information exchanged between supplier and customer, like pricing and orders. Collecting it would expose businesses to material risks of trade secret theft.

- ▶▶ **Export controls:** Art. 19 (3) (a) of the proposal would allow the Commission to introduce export restrictions when a significant ‘shortage’ of an essential product is declared.¹⁰ Yet, there is little detail on the type of export controls that the Commission would consider, including based on the advice of the European Semiconductor Board. We call for further clarity on the type of protective measures potentially considered in the Act and how these measures would be put in place. We point out how in globalised supply chains export controls often do not end up meeting their stated goals, the EU’s export restrictions on medical equipment during the COVID-19 outbreak being a recent example.

Governance

- ▶▶ **Role of industry in the European Semiconductor Board:**
 - there must be a more formal engagement of industrial players in this body. The Act should ringfence membership seats with voting rights in the sub-groups for businesses designing, supplying, or using chip-related products. That should include future members of the Industrial Alliance on Processors and Semiconductor Technologies. The Act will call the Board to play a technically demanding role in decision-making in matters with a high degree of business complexity, like chip certification, technology deployment in the CJU and identification of shortage scenarios. Industry know-how cannot depend on ad-hoc invitations as observers to the Board, as the proposal now envisages.
 - Art 23 (2) (c) should specify at what stage of the process will the European Semiconductor Board contribute to chip standardisation activities which are defined in the Act and highlighted in the Commission’s 2022 Annual Union Work Programme for European standardisation.¹

¹⁰ [Regulation \(EU\) 2015/479 of the European Parliament and of the Council of 11 March 2015 on common rules for exports](#)

Data confidentiality and penalties

- ▶▶ ***Protection of intellectual property and trade secrets contained in chips***: confidentiality measures should not only apply to the business data that authorities handle as part of Pillar 3. We call on Parliament and Council to include in Art. 27 legal safeguards against any circumvention of technological protection measures (TPM) and use of confidential data contained in chips by malicious actors. Similar measures exist already for some other forms of intellectual property (IP), like copyright or trade secrets. Investments in state-of-the-art chip design rely on strong legal IP protection. Such safeguards would also significantly help in the fight against illicit products sold in the EU.

FOR MORE INFORMATION, PLEASE CONTACT:

 Ray Pinto

Digital Transformation Policy Director

ray.pinto@digitaleurope.org / +32 472 55 84 02

 Vincenzo Renda

Senior Policy Manager for Digital Industrial Transformation

vincenzo.renda@digitaleurope.org / +32 490 11 42 15

 Andrzej Prokesz

Intern for Digital Transformation Policy

andrzej.prokesz@digitaleurope.org

About DIGITALEUROPE

DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies. DIGITALEUROPE ensures industry participation in the development and implementation of EU policies.

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National Trade Associations

Austria: IOÖ

Belgium: AGORIA

Croatia: Croatian Chamber of Economy

Cyprus: CITEA

Czech Republic: AAVIT

Denmark: DI Digital, IT BRANCHEN, Dansk Erhverv

Estonia: ITL

Finland: TIF

France: AFNUM, SECIMAVI, numeum

Germany: bitkom, ZVEI

Greece: SEPE

Hungary: IVSZ

Ireland: Technology Ireland

Italy: Anitec-Assinform

Lithuania: Infobalt

Luxembourg: APSI

Moldova: ATIC

Netherlands: NLdigital, FIAR

Norway: Abelia

Poland: KIGEIT, PIIT, ZIPSEE

Portugal: AGEFE

Romania: ANIS

Slovakia: ITAS

Slovenia: ICT Association of Slovenia at CCIS

Spain: AMETIC

Sweden: TechSverige, Teknikföretagen

Switzerland: SWICO

Turkey: Digital Turkey Platform, ECID

Ukraine: IT Ukraine

United Kingdom: techUK