



European Chips Act

Nmi 2024 Conference

Alvaro García-Delgado García
Counsellor for Digital Affairs and Space Policy



Delegation of the European Union to the United Kingdom of Great Britain and Northern Ireland

** Views are my own and do not necessarily represent those of the EU*

The context: we are/were in a crisis...

Slide 2

1

Severe shortage of semiconductor chips

In a context of...

- Accelerated digital transition
- Increased demand for semiconductors
- Concentration of production in Asia (Taiwan, Korea)

2

Security supply risk in the EU

Due to...

- Limited capabilities in manufacturing
- Insufficient expertise in manuf. at < 20 nm
- High entry fees / cost for new facilities
- Geopolitical tensions (e.g. South China Sea)

3

Detrimental effect across industries

Leading-edge semiconductor technology is central to...

- Competitiveness
- Security, safety and data protection
- Energetic performance of digital systems



*No single Member State can face these problems alone, need for:

- **EU & international partnerships**
- **Public subsidies**



European Chips Act

Chips Fund

Chips Joint Undertaking

Entry into force, 21 September 2023

Slide 4

Signatures 13 September, Publication 18 September 2023



Chips Act:

<https://eur-lex.europa.eu/eli/reg/2023/1781/oj>

Single Basic Act amendment:

<https://eur-lex.europa.eu/eli/reg/2023/1782/oj>

Roberta Metsola (European Parliament President)
José Manuel Albares Bueno (Council Presidency)

Three pillars of the Chips Act

European Semiconductor Board (Governance)

Pillar 1

Chips for Europe Initiative

- Initiative on infrastructure building in synergy with the EU's research programmes
- Support to start-ups and SMEs

Pillar 2

Security of Supply

- First-of-a-kind semiconductor production facilities

Pillar 3

Monitoring and Crisis Response

- Monitoring and alerting
- Crisis coordination mechanism with MS
- Strong Commission powers in times of crisis

Pillar 1: Chips for Europe Initiative

Why do we need an Initiative?

Slide 6

Situation today

- Strong in R&D, RTOs and in manufacturing equipment
- EU and Member States spend ~4 B€ in research and in part of the supply chain development in MFF programmes

What is the EU missing today

- Industrial capabilities in advanced production notably in leading edge nodes
- Design capabilities for leading-edge nodes
- Capability for translating R&D know-how into industrial innovation
- Market pull



EU + MS programmes address the above to a limited extent

Basic
Research

Applied
Research

Prototyping

Pilot lines

Production

Chips for Europe Initiative

Design platform - scope



Main objectives

- **Reduce entry barriers** and admin burden for EU companies in design
- **Facilitate access** to pilot lines and foundries
- Foster **collaboration** among EU stakeholders on new developments
- **Access training** and support to boost design skills



Instrument



Develop a **virtual design platform**, offering **cloud-based** access to tools, libraries and support services to accelerate development and reduce time-to-market

Chips for Europe Initiative

Competence Centres



EU support for at least one
centre per Member State



Co-investment with
Member States and
Regions



Supporting industry
and public services



Access to design
platform and pilot lines



Focus on
Semiconductors
Skills






A strong European
network of Competence
Centres

Pillar 2: Security of Supply




Objectives

- ▶ Two types of facilities to be considered as contributing to Europe's security of supply: **'open EU foundries' (OEFs)** and **'integrated production facilities' (IPFs)**

Label with benefit for companies:

-  Beneficial treatment of administrative applications
-  Priority access to pilot lines set up under the Initiative
-  Clear guidance how to demonstrate being “first-of-a-kind” in the Union

In return:

-  Compliance with requirements to ensure security of supply and resilience
-  Investment in innovation to the benefit of the Union's ecosystem
-  Contributing through priority rated orders in a crisis



No additional burden through parallelism of State aid and labelling: Substantive synergies between the two processes

Pillar 3: Monitoring and Crisis response

Coordination mechanism

Monitoring stage

- COM responsible for the monitoring of the value chain and strategic mapping of the sector
- Identification and regular monitoring by Member States of their key market actors



Crisis trigger

When **assessment of Commission provides evidence** of :

- serious disruptions in the supply or serious obstacles to trade in semiconductors causing significant shortages of semiconductors, intermediate products or raw or processed materials
- preventing the repair and maintenance of essential products used by critical sectors

Council implementing act

Crisis stage

- Emergency Toolbox activated
- Intensified coordination in the Board



International partnerships and frameworks

- Semiconductor value chain is global and spread over different world regions
- We need to **cooperate**, proactively managing **interdependencies** to ensure a reliable global **marketplace** for EU products and **security of supply** including in crisis situations

Bilateral

Digital Partnerships:

- ❖ Japan
- ❖ South Korea
- ❖ Singapore
- ❖ Canada

Trade and Technology Council (TTC):

- ❖ US
- ❖ India

Multilateral

Annual “Government/Authorities Meeting on Semiconductors” (GAMS) among US, EU, Japan, South Korea, China, Chinese Taipei: *exchange on regional support for semiconductors as well as compelling global issues signaled by the World Semiconductor Council (WSC) composed of Semiconductor Industry Associations from the 6 regions meeting annually before GAMS*

OECD Informal network on semiconductors:

Coordinated approach to gain a better understanding of global semiconductor ecosystems through information sharing on identified parts of the value chains and policy efforts across countries

- ❖ 38 OECD members + accession candidates
- ❖ Launched in June 2023;
- ❖ 3rd meeting took place in December 2023

European Chips Act

Chips Fund

Chips Joint Undertaking

Chips Fund



- **European Innovation Council** of Horizon Europe - promotes breakthrough innovation
- **EIC Accelerator:** support startups and SMEs to bridge the financing gap between R&D and market take-up
- Funding in the form of grants, equity and blended financing
- Thematic funding for semiconductor start-ups: **EU EUR 300 million** → ~EUR 900 million with partners



- **InvestEU** - Debt and equity programme to mobilise private and public investments in key areas through EU guarantees
- Implemented in partnership with EIB, EIF, financial institutions and promotional banks
- Funding available in the form of equity and debt products for R&I and production
- Thematic funding for semiconductor SMEs and scale-ups: **EU EUR 125 million** → ~EUR 1.25 billion with partners

European Chips Act

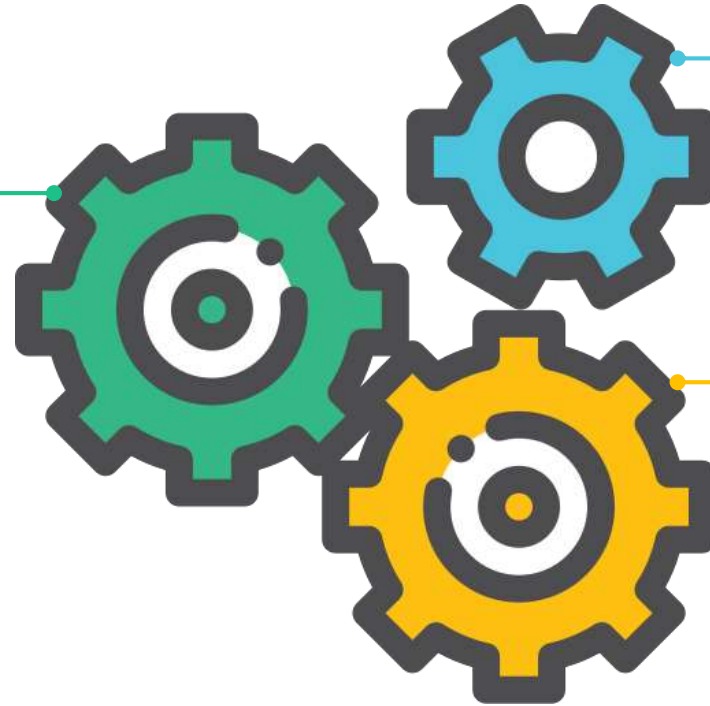
Chips Fund

Chips Joint Undertaking

State of Play

Chips JU

Implementing vehicle of the
Chips for Europe Initiative



First calls on **pilot lines** launched on
1st December. For ~ EUR 3.3 billion

EUR 5.75 billion [EU + MSs]
investment in infrastructures expected
by 2027

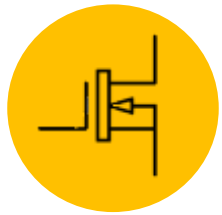
Chips Joint Undertaking

1. Set up innovative pilot lines. Check out call for tenders!
2. Launch a call for a cloud-based Design Platform for users across the EU; the call is expected to be published in Q2/Q3 2024.
3. Establish a network of competence centres across the EU. The Member States are currently nominating their designated candidate competence centres. In July 2024, the JU will launch a call for those designated candidates.
4. Support the development of advanced technology and engineering capacities for quantum chips, for which first actions will be taken in the course of 2024.

- Members: EU + 27 EU countries + IL, NO, IS, TK + trade associations
- UK joined on 13 March 2024
- It follows the UK's rejoining of Horizon Europe and Copernicus programmes on 1 January 2024.
- On 12 May 2024 the UK rejoined EuroHPC (Joint Undertaking on high performance computing)

Chips for Europe Initiative – current status (I)

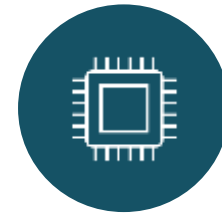
Pilot lines



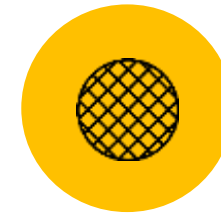
FD-SOI scaling
towards 7nm



Leading-edge
nodes below 2nm



Heterogeneous
systems integration
and assembly



Wide-bandgap
semiconductors

Calls launched **1st December 2023**.

Where to find more information

Information on InvestEU

- Browse the EIF's online brochure for InvestEU on the EIF website:
- <https://engage.eif.org/investeu/equity>
- <https://investeu.europa.eu/investeu-advisory-hub>

Chips JU

- <https://www.chips-ju.europa.eu/Pilot-lines/>
- UK RI info seminar: <https://iuk.ktn-uk.org/wp-content/uploads/2024/03/Horizon-Europe-Chips-JU-March-24-Slides.pdf>
- Embassies of the EU Member States as info access points

Thank you



https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/european-chips-act_en



[@EU_Microelectronics](https://twitter.com/EU_Microelectronics)

