European Chips Act
State of Play and Outlook

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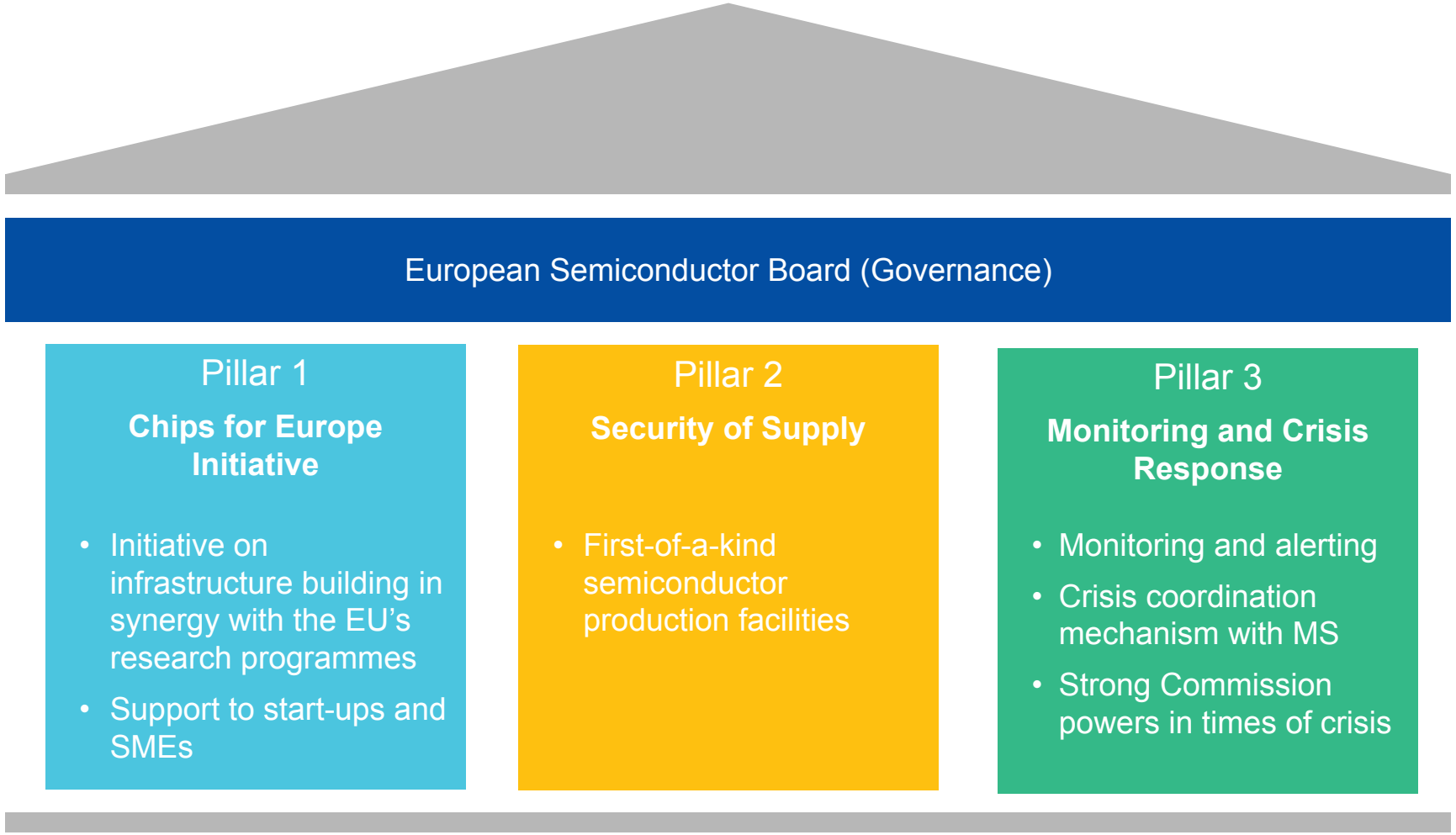
Chips Act



Innovation policy + **Industry policy** + **Crisis management strategy**

European Commission

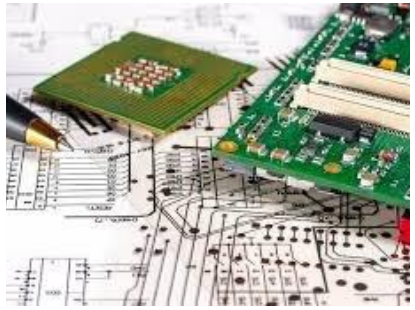
Pillar I – Chips for Europe Initiative

Infrastructures open to a wide range of EU users

5 launched

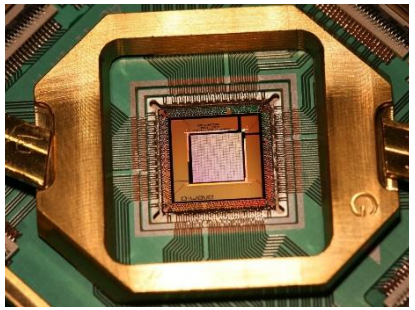
Pilot lines

Prototyping of validated designs
Testing of equipment
Validation of process flows



Competence centres

Access to technical expertise, helping companies to approach and improve design capabilities and developing skills



In 25 countries, more coming

Design Platform **In progress**

Help designing semiconductor devices, via access to Electronic Design Automation tools and IP libraries

Quantum chips **In progress**

Technology and engineering capacities for accelerating innovative development of quantum chips

Various topics in Chips JU WP2025 address the Initiative

Beyond 2025??

European Commission

Pillar II – Security of supply

First-of-a-kind facility (FOAK): offers innovation in terms of products or process (e.g. environmental performance) not yet present in the Union

All stages of semiconductor production are eligible

Wafer production → **Wafer processing** → **IC packaging / assembly**

Planned investments by major manufacturers exceeding **EUR 80 Billion**

The Commission ***approved*** State aid for the following projects so far:

Company	MS	Location	Investment (EUR Billion)	Technology
ST Microelectronics	IT	Catania	0.73	SiC wafer
ST Micro & GlobalFoundries	FR	Crolles	7.5	300-mm FD-SOI
ST Microelectronics	IT	Catania	5	SiC devices
ESMC (JV TSMC+Bosch/IFX/NXP)	DE	Dresden	>10	CMOS, FinFET
Silicon Box	IT	Novara	1.3	Advanced packaging

More projects in the pipeline, to be announced soon

Further, IPCEI ME-CT started in 2023 with over **EUR 21 Billion** investments

European Commission

Pillar III – Monitoring and crisis management

Anticipating and mitigating shortages of the semiconductor supply chain

Strengthening the Union's and Member States' **abilities to react to crises** related to disruptions of the semiconductor supply chain

Emergency Toolbox which the Commission is empowered to use to **ensure security of supply to critical sectors** in the crisis stage:

1. **Information gathering**
2. **Priority rated orders**
3. **Common purchasing**
4. **Export control**

Pillar III work strands:

- **Analysis of supply chains**, choke points, dependencies for chips *(e.g. legacy chips)* and raw materials *(e.g. Gallium, Germanium)*
- **Data collection** *(MS, JRC, think tanks, market reports)*
- Mapping of **Key Market Actors** with Member States
- Organisation of **crisis management** with MS and

European Commission

Outlook

Economic Security

- Joint **Risk Assessments** with MS, including in semiconductors
- Monitoring "**mainstream chips"** investments in third countries
- Analysis of dependencies on **raw materials**, e.g. Gallium, Germanium
- Analysis of US **AI diffusion rules** (see next slide)

Chips JU WP2025 topics

Beyond 2025??

Risk categories:

Technology security and technology leakage

Resilience of supply chains

Critical infrastructure

Weaponization of economic dependencies / economic coercion

COM recommendation on list of critical technology areas (Oct 2023)

Joint risk assessments with MS (delivered Q1 2024):

1. **Advanced semiconductor technologies**
2. Artificial intelligence technologies
3. Quantum technologies
4. Biotechnologies

European Commission

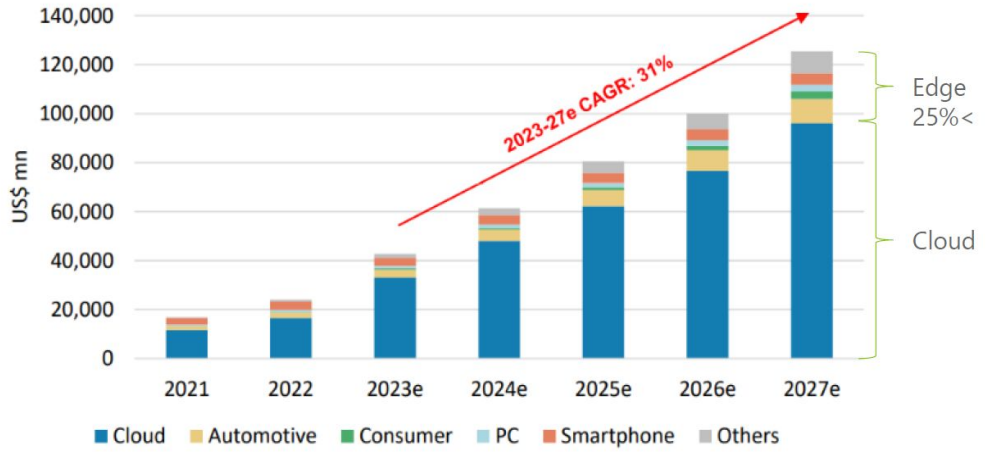
AI Chips

- Booming **AI market** to drive substantial semiconductor growth
- EU industries (automation, telecom, aerospace, defence) will require fine-tuning of AI models with own proprietary data
- Biden's Framework for AI Diffusion rules go against EU Single Market and AI ambitions
- EU cannot just rely on US HW+SW
  - High risk of vendor lock-in and technology dependence
- EU has strong R&D competences and innovative startups in low-power embedded AI, but lack of funding leads to brain-drain

Chips JU WP2025 topics

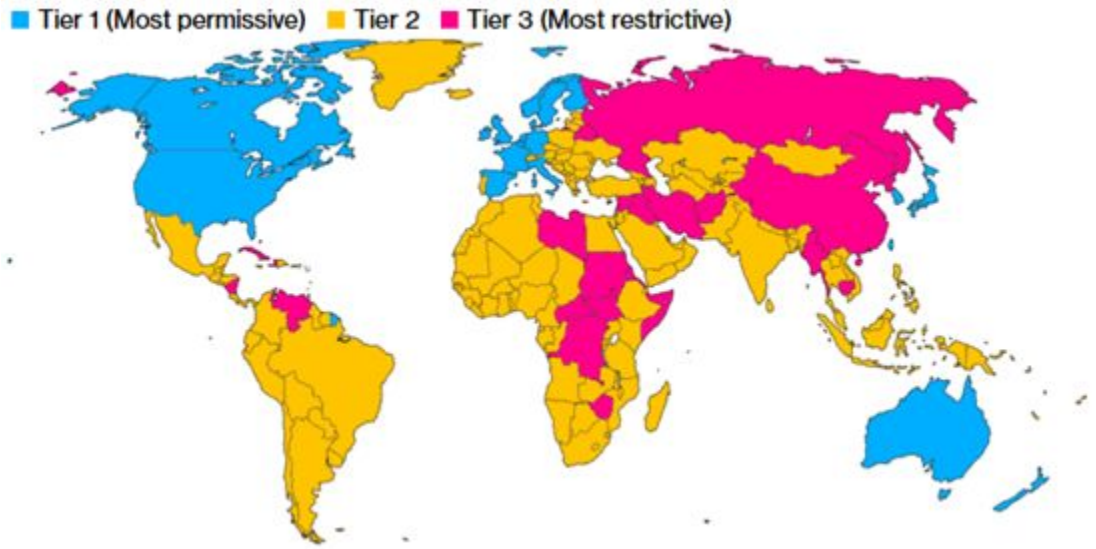
- Low-power Edge AI Chips (20 M€)

Beyond 2025??



Source: Morgan Stanley Research estimates

US Framework for AI Diffusion rules



Source: Bloomberg reporting
Note: Mapped data show level of restrictions on chip shipments for distinct markets

International Cooperation, Skills

- **Multilateral engagement:** G7, OECD, GAMS
- **International cooperation on semiconductors**
  - TTC with US, India
  - Digital Partnerships with Japan, Korea, Singapore, and Canada
- **Skills**
  - European Chips Skills Academy, vocational training (upskilling/re-skilling)

Chips JU WP2025 topics

- Boosting R&I cooperation between EU and Japan on semiconductors (1 M€)
- A Pan-European infrastructure for Chips Design Innovation (12 M€)

Beyond 2025??

European Commission

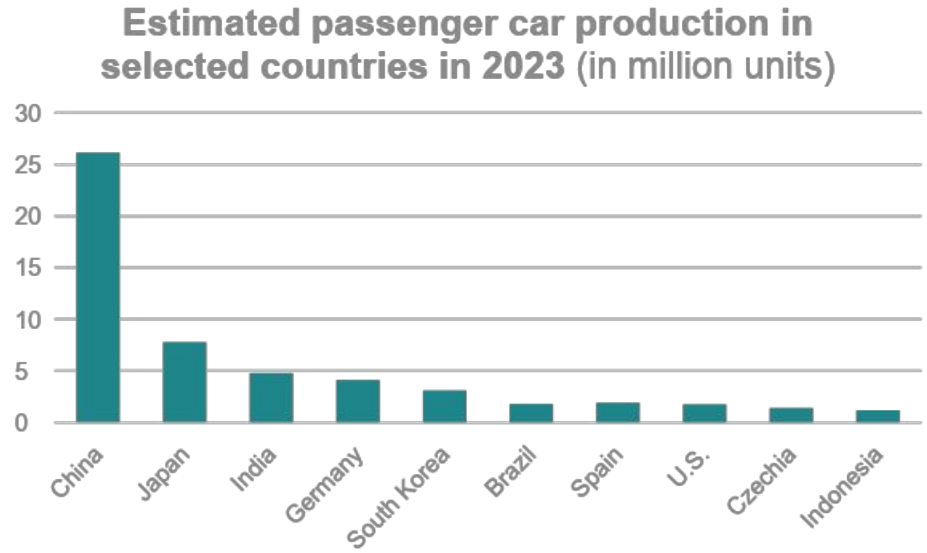
Automotive

- **Competitiveness Compass** announces **Strategic Dialogue** on future of European automotive industry and **Industrial Action Plan**
  - Addresses challenges around innovation and leadership in future technologies
- Working Group under Alliance

Chips JU WP2025 topics

- Heterogeneous integration for high-performance automotive computing (20 M€)
- RISC-V Automotive Hardware Platform (80 M€)

Beyond 2025??



Source: OICA (2024)

European Commission

Chips Act review

Chips Act review due by September 2026

- To identify trends and define future needs/priorities, need to consult and involve closely:
  - Member States (ESB), Parliament
  - Industry in the context of the Industrial Alliance on Processors and Semiconductor Technologies

- Impact assessment and studies to review the Chips Act will be launched shortly

- Input from Court of Auditors report, mid-term assessment Horizon Europe, …

 Need to show clear results and impacts!

Thank you

European Commission