

Semiconductor value chain monitoring

ICOS - International Cooperation On Semiconductors

04 2025

International Cooperations on Semiconductors



- Goal: Support the EC in building cooperation with third countries in semiconductors
- Client: European Commission DG CONNECT
- <u>Duration</u>: 2023-2025 / <u>Budget</u>: 3 M€
- <u>DECISION</u> leads the economic analysis
- 19 Consortium Members from 9 Member States



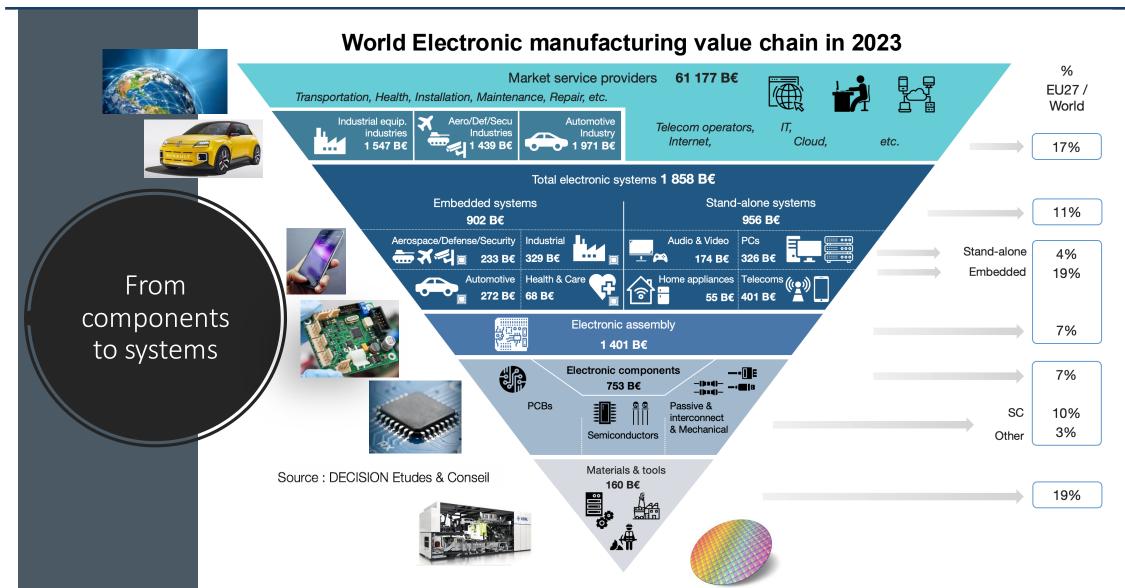




DECISION Etudes & Conseil



Our sectoral expertise: The analysis of the digital ecosystem, from components to systems and software



DECISION Etudes & Conseil

An independent strategic consulting firm since 1991



DECISION is a consulting firm active in economic and industrial studies, market research and forecasts, and strategic consulting specialized in the electronics industries since our inception in 1991

OUR EXPERTISE



Market Research

- Sector & Competitiveness analysis
- Market sizing & Economic forecasts
- Industrial landscape & player strategies



Strategy

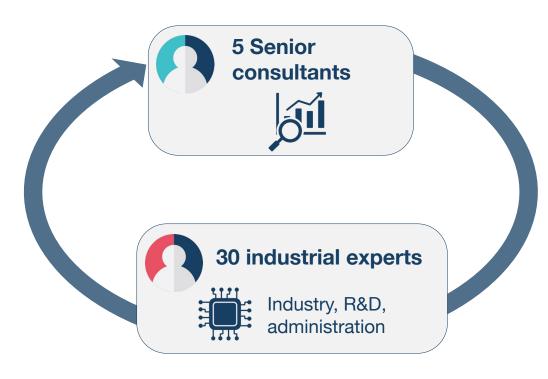
- Prospect identification & Partner prospection
- Investment (M&A, due diligence, make or buy...)
- Market opportunities



Influence

- Policy recommendations
- White papers, position papers







Report published early 2024 by DECISION for ICOS



Comparative Analysis of Semiconductor Ecosystems Worldwide



Ecosystems of 8 countries



- Market (by segment)
- Production (across the value-chain)
- Trades
- Investments
- Policy strategies (chips acts)
- Strengths & dependencies
- Roadmap for cooperation (confidential)



Agenda - Monitoring the semiconductor value chain



- 1. The globalized semiconductor value-chain: State of play in 2025
- 2. 1990s 2020s: A shifting Geopolitical Environment
- 3. Semiconductor: China's Rise and U.S. Industrial Policy Tools Aimed at Containment
- 4. Emerging countries: Newcomers of the semiconductor industry
- 5. Status of trades in semiconductor in this changing environment
- 6. The EU semiconductor strategy, Adapting to a Changing Geopolitical Landscape





(1)

Overview of the Semiconductor Industry

The World's Most Globalized Sector



Semiconductor front-end manufacturing installed capacities





Main countries where semiconductor production is located (Front-end) (% of world production, Q4 2022)

China ~23%

South Korea ~19%

Taiwan ~18%

Japan ~15%

The USA ~10%

Europe ~7%

Rest of the World ~7%



> Asian regions counting for 75% of global capacities

Source: DECISION Etudes & Conseil, SEMI



Semiconductor landscape in 2023

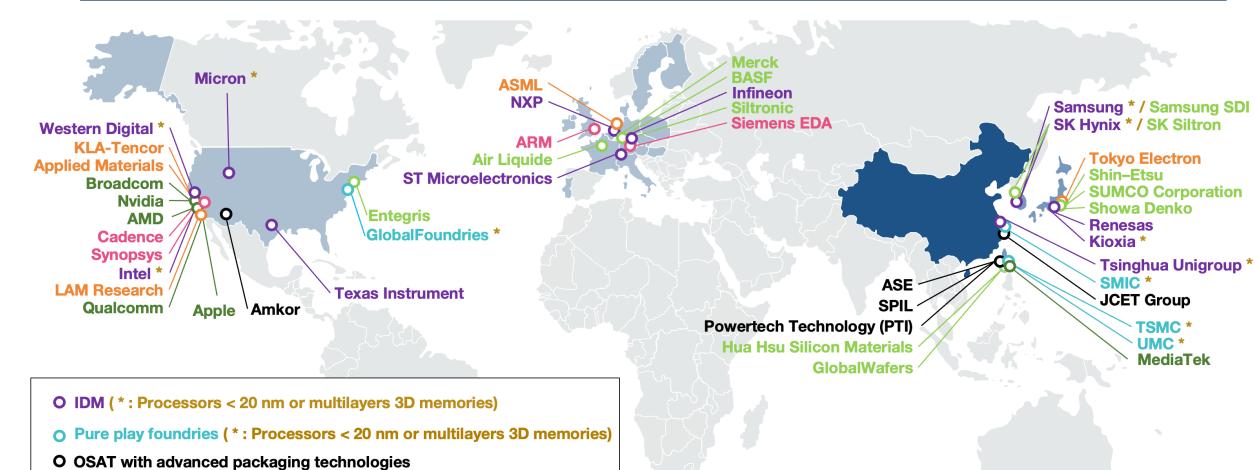
O Fabless

O IP & EDA

O Equipment

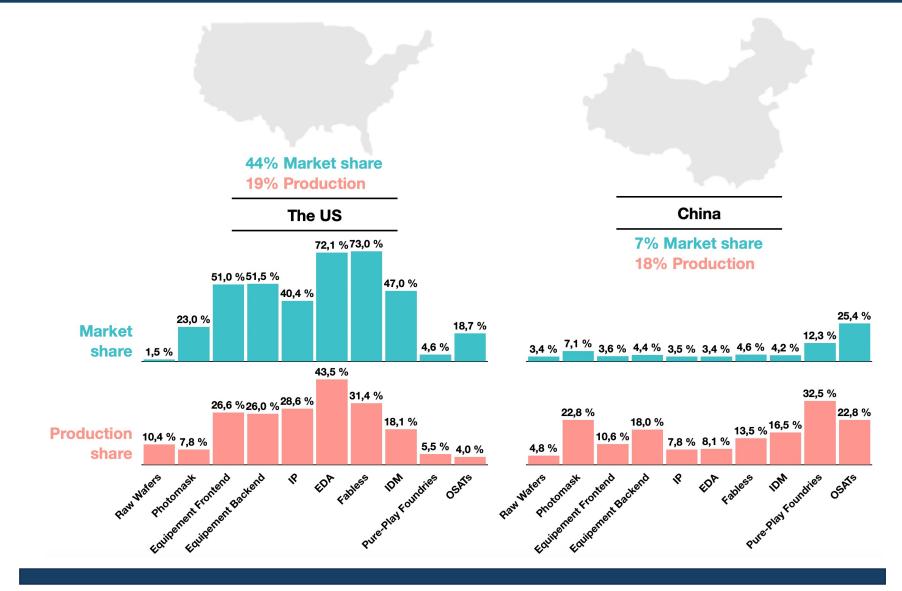
O Materials providers





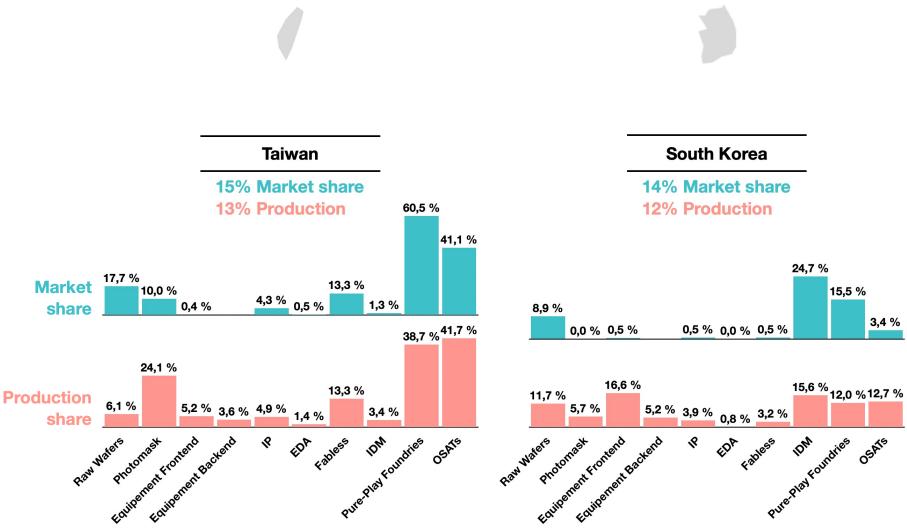






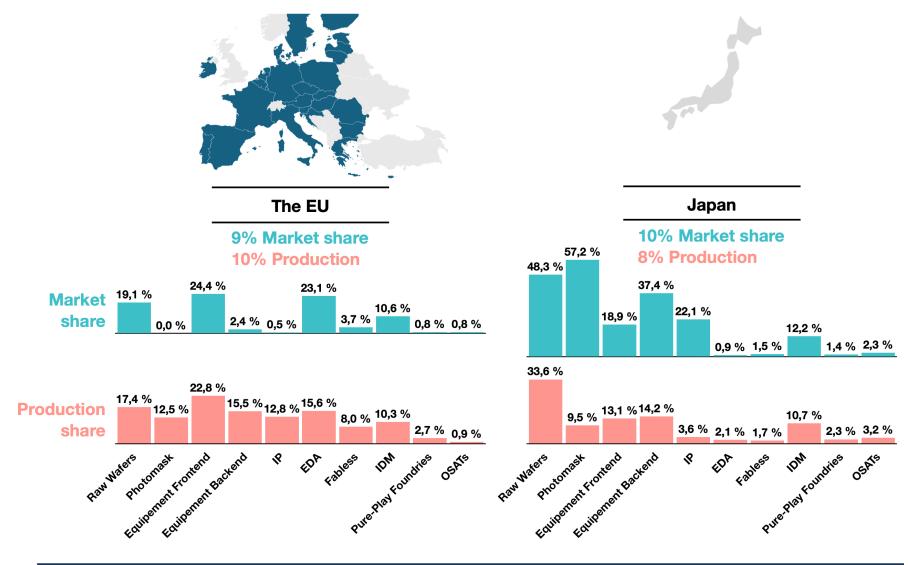






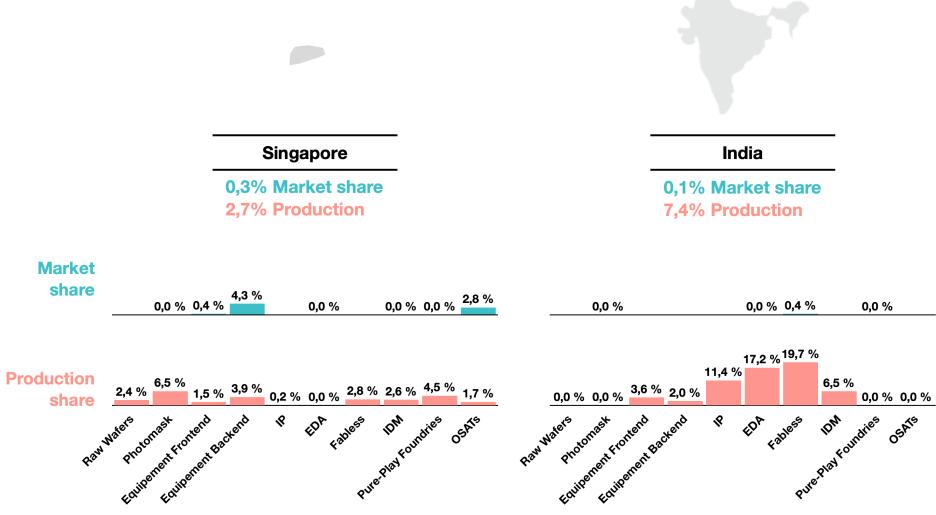














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(6)

The EU Semiconductor Strategy

Adapting to a Changing Geopolitical Landscape



EU leaders in the semiconductor value chain



Material Semiconductor









Source: DECISION Etudes & Conseil, 2023

Research & Technology Organizations



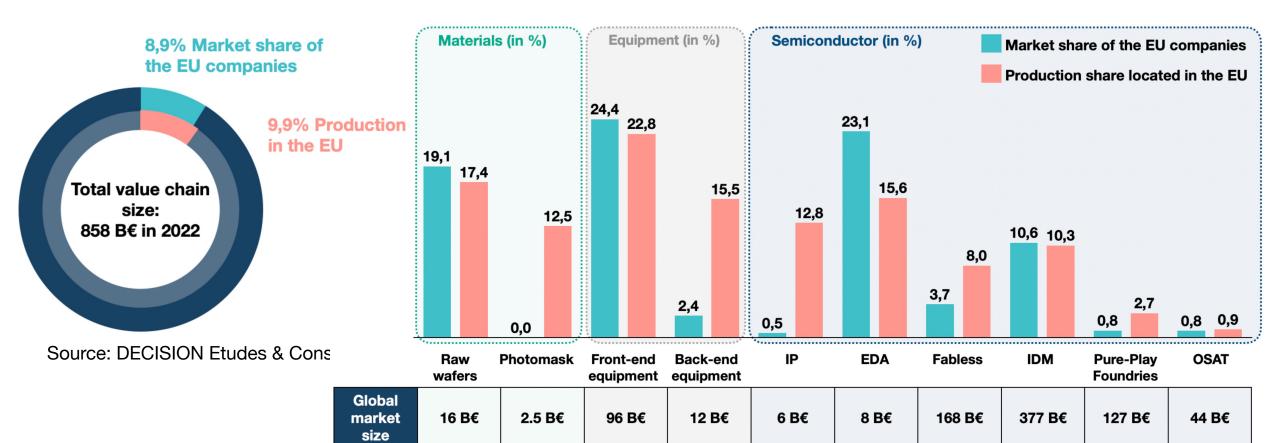






Market and production shares of EU players in 2022



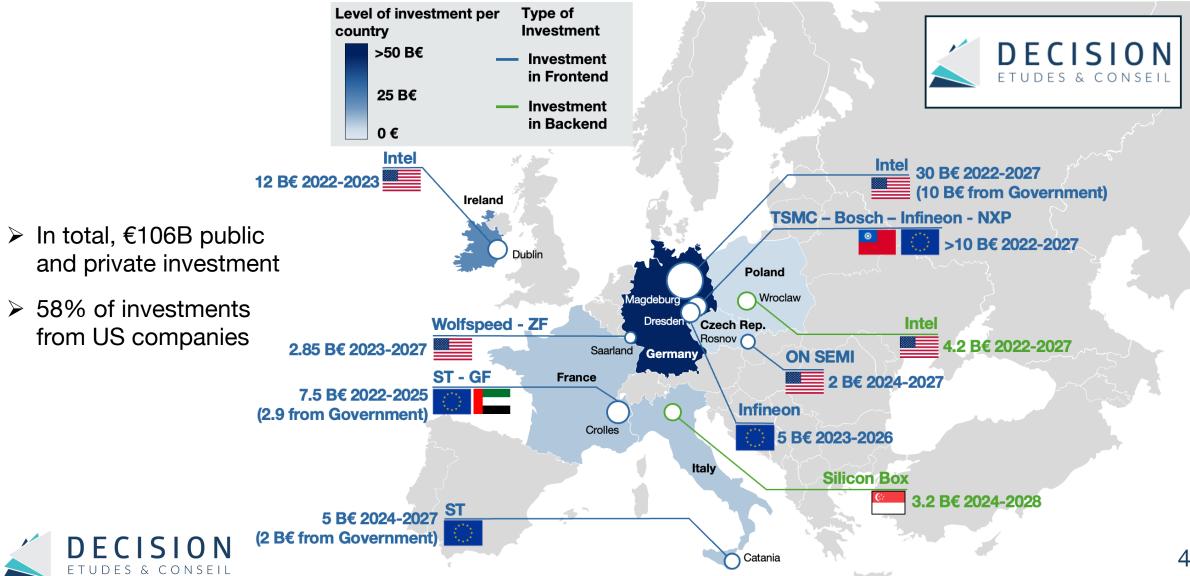


In comparison, the EU account for 17% of the global GDP in 2022³¹.



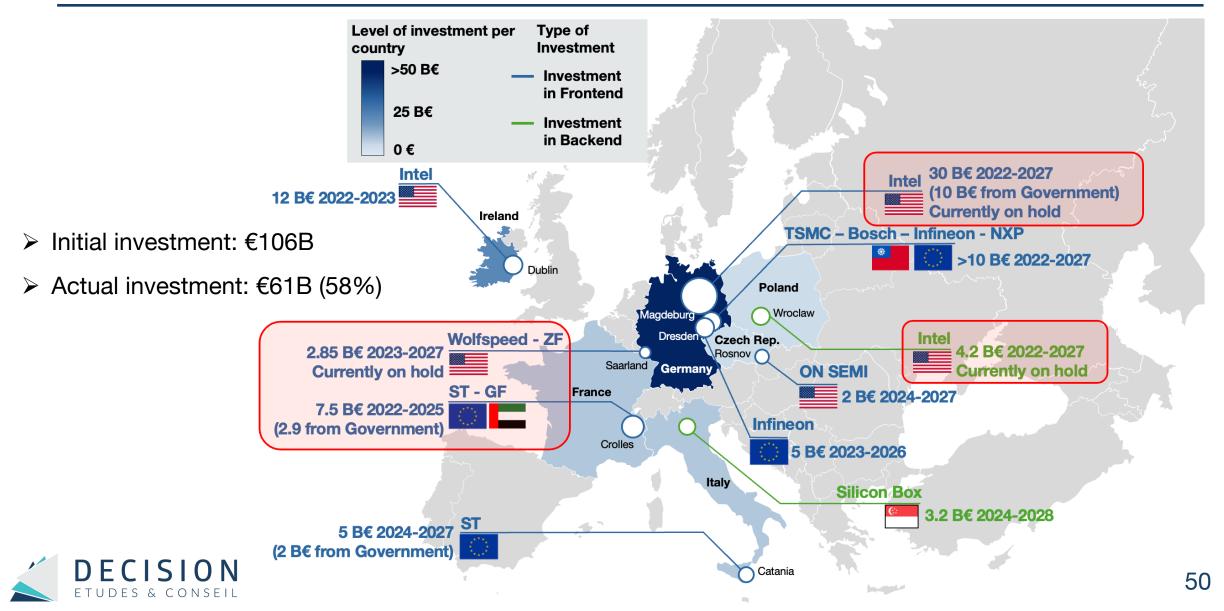
EU Chips Act - Key investments in the EU (>1B€) in 2024





EU Chips Act - Key investments in the EU (>1B€) in 2025





EU semiconductor talent gap



2022

- Chips shortage & subsidies race EU target of 20% production share by 2030
- Talent gap: 350 000 workers lacking by 2030 (PwC)

2024

- Realistic investments forecasts by 2030
- Talent gap: 75 400 workers lacking by 2030 (DECISION)

2025

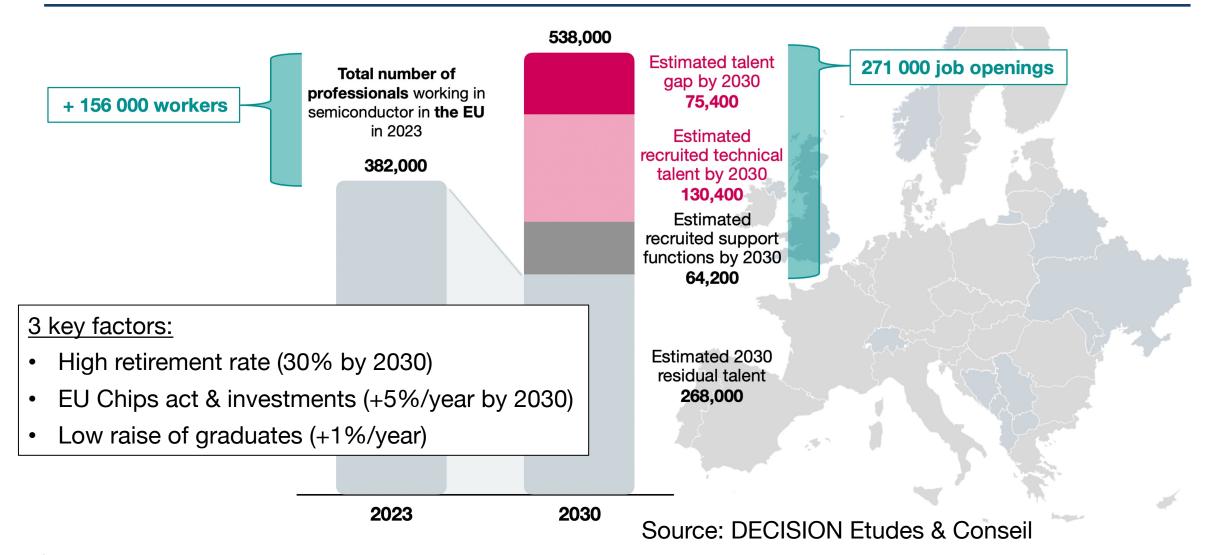
- €45B investments cancelled or delayed + downcycle of EU market
- At least -7000 employees needed
- Talent gap: 68 400 workers lacking by 2030 => 10 000 per year across EU (DECISION)



EU semiconductor talent gap (2023-2030)











The ECSA published the Skills Strategy 2024 – What's inside?

- Published in October 2024
- EU Semiconductor talent gap by 2030
- Thorough qualitative analysis of skills
 Shortage and profiles needs
- Results from the 2024 survey (130 answers)

https://chipsacademy.eu/wp-content/uploads/2024/11/ECSA-Skills-Strategy-2024.pdf





EU semiconductor talent gap

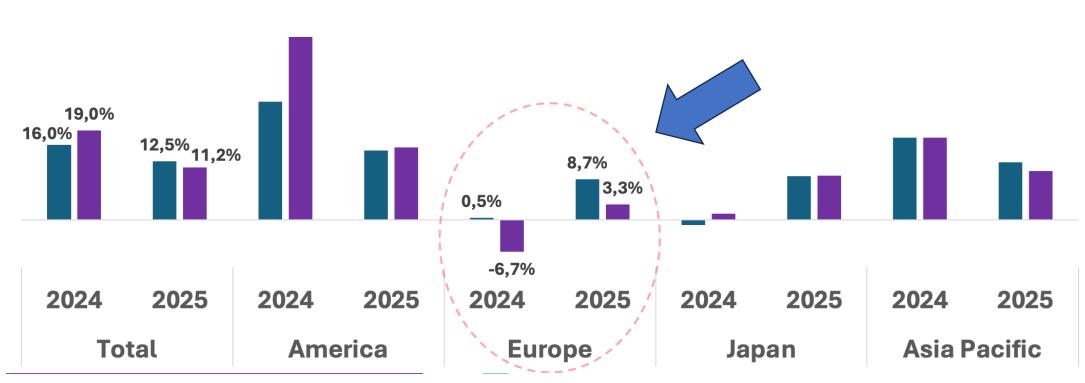
■ WSTS forecasts - June 2024



Need for talent gap forecast update: Downward revision of semiconductor market growth forecasts, primarily driven by Europe.

■ WSTS forecasts - December 2024











Sponsor the Skills Strategy's for 2025

- We are looking for organizations interested in sponsoring this year's ECSA Skills Strategy report. You can support DECISION and ECSA to ensure this year's report includes both quantitative and *qualitative* analysis of the talent gap!
- ECSA project proposal included only an update of the *qualitative* assessment of the Talent Gap.
- Without extra support, only the skills survey (*qualitative* analysis) for in-demand and emerging skills needs will be produced in next 3 years.







Supporter Package (5K):

- Logo placement on the final report
- 2. Acknowledgment in social media posts and newsletters
- 3. Early access to the key findings of the final report

Partner Package (10K):

- 1. All benefits from the Supporter Package
- 2. Personalized presentation of the final report
- 3. 1:1 Q&A session with DECISION's team to discuss the findings
- 4. Priority speaking slots at the ECSA webinars presenting the report





Interested in becoming a sponsor?

- Email us at <u>saint-martin@decision.eu</u>
- Deadline to express your interest: April 2025
- Looking for a custom package? Feel free to also reach out and we can discuss options



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