Semiconductor Ecosystem TAIWAN

Main Stakeholders

POLICYMAKING

1. **Ministry of Economic Affairs** (MOEA)
2. **Department of Industrial Technology** (DOIT) under the MOEA
3. **National Science and Technology Council** (NSTC)

RESEARCH ORGANISATIONS

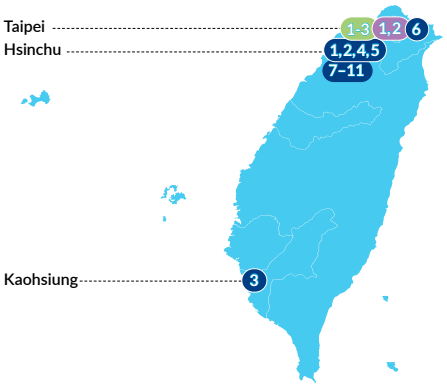
1. **Industrial Technology Research Institute** (ITRI)
2. **National Applied Research Labs** (NARLabs), incl. **Taiwan Semiconductor Research Institute** (TSRI)

INDUSTRY ASSOCIATIONS

1. **Taiwan Semiconductor Industry Association** (TSIA)
2. **SEMI Taiwan**

INDUSTRY (NON-EXHAUSTIVE)

3. **ASE Technology Holding** (Assembly & test, world's top provider)
4. **GlobalWafers** (Materials, silicon wafer supplier)
5. **MediaTek** (Fabless IC Design, largest Taiwanese design house)



6. **Nanya Technology** (Memory, DRAM producer)
7. **PSMC – Powerchip Semiconductor Manufacturing Corporation** (Memory, foundry services)
8. **Realtek Semiconductor Corporation** (Fabless IC design, networking and multimedia chips)
9. **TSMC** (Foundry, world leader in contract chip manufacturing)
10. **UMC** (Foundry, major contract manufacturer)
11. **VIS – Vanguard International Semiconductor Corporation** (Specialty IC foundry)

Chip Strategy

Chip-based Industrial Innovation Program (2023)

- Budget: NT$300 billion (~€9.3 billion) [1]

Goals:

- Boost generative AI and advanced IC innovation
- Enhance semiconductor ecosystem (from IC design to equipment and materials)
- Cultivate talent, attract foreign investment

Coordinator: NSTC

TaiwanWebsite: NSTC Taiwan „Chip-based Industrial Innovation Program" CbIP [2]

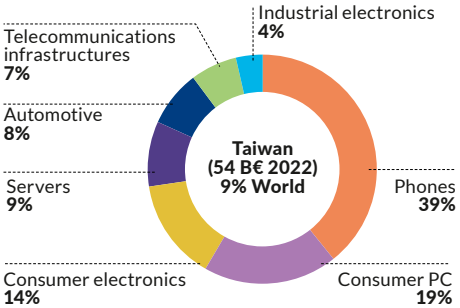
Relations with the EU

- **High-level dialogues:** EU-Taiwan Trade and Investment Dialogue (since 2022, semiconductor cooperation and supply chain security); Potential EU-Taiwan bilateral investment agreement discussions ongoing [4].
- **Joint EU-Taiwan Semiconductor R&D:** Taiwanese participation in Horizon 2020 (2014–2020) and Horizon Europe (2021–2027 projects on AI, quantum, advanced logic, photonics, energy harvesting) [5].
- **Industrial Cooperation and Investments:** TSMC joint venture in Germany (Dresden fab, €10 billion investment, €5 billion EU/German subsidies under EU Chips Act); Collaboration in EU Chips Act pilot lines (advanced logic, packaging, wide bandgap semiconductors) [6], [7].
- **Advanced Chip Technologies:** Chiplet architectures, 3D integration technologies, hybrid wafer-to-wafer bonding collaborations
- **Talent and R&D platform:** PIXfab Silicon [8]. Photonics Alliance (established ongoing platform): EU-Taiwan cooperation in semiconductor training, talent exchange, industry-academic collaboration.

Funding Instruments

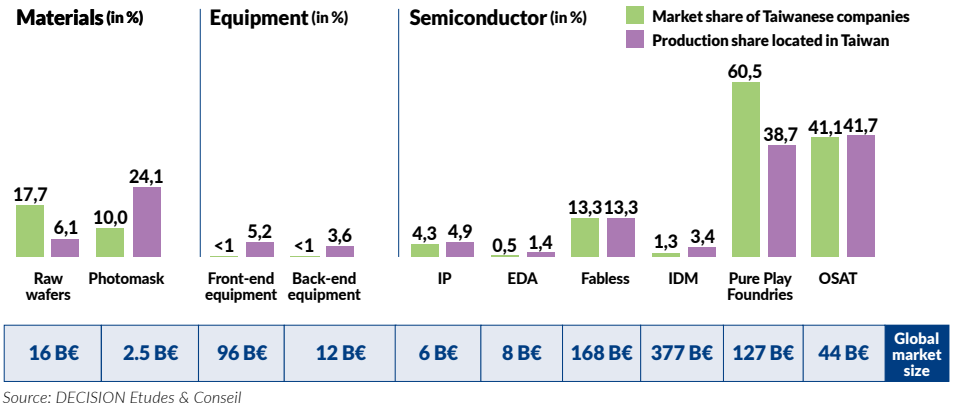
- Statute for Industrial Innovation ("Taiwan Chip Act", amended 2023): 25% R&D tax deduction, 5% CapEx deduction (advanced processes); no fixed budget, incentives provided via tax deductions; Ministry of Finance (Art. 10-2, Statute for Industrial Innovation) [3].
- Chip-based Industrial Innovation Program: NT$300 billion (~€9.3 billion) (2024-2033) for industry-academia collaboration, AI chip R&D, infrastructure development [1].
- NSTC Annual Tech: Budget NT$159.5 billion (~€4.9 billion) (2024), proposed NT$180 billion (~€5.6 billion) (2025); Funds allocated to semiconductor ecosystem enhancement ("Chips Team Taiwan" initiative) [2].
- Talent Cultivation Act (2021): Legal basis for university-industry R&D and semiconductor workforce expansion [2].
- NSTC Talent Program: NT$35 billion (~€1.1 billion) to fund scholarships and hands-on training (~2,100 chip experts/year) [2].
- Science Park and Foreign Investment Incentives: Tax benefits, subsidies, and infrastructure for domestic and foreign semiconductor investors.

Demand by Application



The distribution is the average for South-East Asia.
Source: DECISION Etudes & Conseil

Market and Production Share



Source: DECISION Etudes & Conseil

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ICOS International Cooperation On Semiconductors

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