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Semiconductors in EU–Taiwan Relations: Bridging Gaps, Building Trust

POLICY PAPER • APRIL 2026

INSTITUT Montaigne
CEIAS Central European Institute of Asian Studies
VUB BRUSSELS SCHOOL OF GOVERNANCE CENTRE FOR SECURITY, DIPLOMACY AND STRATEGY
euiss European Union Institute for Security Studies

This policy paper is a publication of the Chips Diplomacy Support Initiative (CHIPDIPLO), an eighteen-month project that addresses the EU's urgent need for chip diplomacy. CHIPDIPLO is executed by Institut Montaigne (IM, Paris), the Central European Institute for Asian Studies (CEIAS, Bratislava), the Centre for Diplomacy, Security and Strategy (CSDS, Brussels), and the EU Institute for Security Studies (EUISS, Paris and Brussels).

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As of spring 2026, Taiwan's strategic centrality to the global economy is being both reinforced and redefined. The island has emerged as the indispensable manufacturing hub for the infrastructure underpinning the artificial intelligence (AI) revolution, driving an extraordinary boom in Taiwan's economy—GDP growth exceeded 8 percent in 2025. After decades of being driven primarily by consumer electronics, Taiwan's semiconductor sector is now deeply embedded in the build-out of strategic projects in the United States, with major implications for AI adoption in the military domain.

However, the industrial and technological relationship between the EU and Taiwan remains largely peripheral to Taiwan's emergence as a strategically central player in AI infrastructure. Even so, as Taiwan moves to consolidate its central position in manufacturing for the AI revolution, EU–Taiwan relations in the semiconductor sector are evolving beyond the traditional model relying on European innovation and Taiwanese industrial scale toward a more strategic partnership shaped by economic security, supply chain resilience, and de-risking from China. Major investments such as TSMC's €10 billion ESMC project in Dresden, alongside initiatives by Foxconn and GlobalWafers, reflect Taiwan's growing engagement with Europe, while the EU is seeking to strengthen its own semiconductor ecosystem through the EU Chips Act. Nevertheless, significant hesitation remains on both sides, driven by European caution over perceived risks related to China on the one hand and Taiwanese skepticism about Europe's business environment on the other.

Although deeper cooperation is attractive for both sides—and is already occurring to some extent—it remains genuinely challenging. Drawing on forty interviews with Taiwanese and European

semiconductor stakeholders, as well as insights from CHIPDIPLO's EU–Taiwan industry dialogue held on the sidelines of SEMICON Europa 2025 in Munich, this paper examines current trade and investment dynamics in EU–Taiwan semiconductor relations and puts forward a series of policy recommendations for the EU. It argues that Europe should adopt measured expectations, improve coordination of its engagement with Taiwan at the EU level, and address both Taiwanese misperceptions and more structural concerns related to Europe's competitiveness and business environment in order to advance deeper cooperation on technology, industry, and economic security with Taiwan.

EU–Taiwan Semiconductor Trade and Investment Trends in a Shifting Global Context

Relations between the EU and Taiwan in the semiconductor sector are increasingly shaped by Taiwan's structural reorientation toward the United States and other global partners, even as Taiwan's ties with Europe have intensified since the early 2020s. EU–Taiwan interactions are on an upward trajectory, with bilateral trade reaching €71.9 billion in 2024, making the EU Taiwan's fourth-largest trading partner. Semiconductors play a central role in this relationship, accounting for roughly 23 percent of Taiwanese exports to the EU in 2024, while Europe remains an important supplier of high-end machinery and materials. However, unlike the United States, Europe

has not experienced an AI-driven surge in demand, leaving the EU–Taiwan trade balance relatively stable but structurally asymmetric. The EU is the largest source of FDI in Taiwan, but Taiwanese investment in Europe—though growing rapidly and increasingly through strategic projects such as those initiated by TSMC in Dresden, Foxconn in France, and GlobalWafers in Italy—remains limited relative to its potential.

Historically, EU–Taiwan semiconductor relations have been anchored in European firms embedded within TSMC's supply chain, particularly in critical equipment and materials. Companies such as ASML, Air Liquide, and Merck have become deeply integrated into Taiwan's semiconductor ecosystem, evolving from suppliers into on-site industrial partners. ASML provides indispensable extreme ultraviolet (EUV) lithography systems, Air Liquide supplies ultra-pure industrial gases through extensive local infrastructure, and Merck produces advanced chemicals that are increasingly manufactured directly in Taiwan. This reflects a broader shift in which European technological inputs are now embedded within Taiwan's rapidly expanding AI-driven manufacturing base while simultaneously being deployed in TSMC's global expansion projects in the United States and Japan.

TSMC's internationalization has transformed EU–Taiwan relations from a Taiwan-centric production model into a multi-regional industrial ecosystem. While Europe's first major engagement with TSMC dates back to the Crolles2 Alliance in the early 2000s, which has left some bitter memories in Europe, today's cooperation is far more structural, exemplified by the €10 billion ESMC fab in Dresden. This joint venture with Bosch, Infineon, and NXP marks a reversal of roles: TSMC now returns to Europe as the global industry leader rather than

serving as a junior technology partner. The project is also catalyzing a broader "Silicon Saxony" ecosystem, attracting Taiwanese suppliers and linking Germany with emerging semiconductor nodes in the Czech Republic and Poland to form a regional ICT triangle.

Beyond Germany, Taiwan is gradually expanding its industrial footprint across Europe. GlobalWafers is expanding wafer production in Italy, Foxconn is entering advanced packaging in France, and multiple Taiwanese firms are establishing a presence in Central and Eastern Europe. The Czech Republic, Poland, and Slovakia are emerging as important partners for Taiwan, with cooperation supported by government-backed research centers, talent programs, and supplier localization strategies. Lithuania represents a more politically driven but less commercially successful case, where semiconductor cooperation has been constrained by limited execution capacity, talent bottlenecks, and a political approach not supported by the private sector.

Despite this expansion of the EU–Taiwan semiconductor relationship, structural constraints remain significant. In Dresden, TSMC faces challenges related to talent shortages, infrastructure adaptation, and ecosystem localization, while European suppliers must meet the demanding certification requirements of TSMC's tightly controlled production model. More broadly, European fragmentation, regulatory complexity, and concerns about China's potential reactions to normal business interactions with Taiwan—concerns that are often exaggerated—continue to limit the scale and coherence of EU engagement. Europe is also frequently overlooked or misinterpreted in Taiwanese boardroom discussions.

Overall, EU–Taiwan semiconductor relations are entering a new phase of deeper but uneven integration. The relationship is no longer defined solely by trade flows or supplier linkages but increasingly by the gradual deepening of a partnership shaped by economic security and supply chain resilience, as well as by new opportunities arising from shifting market and innovation dynamics. However, this emerging partnership remains fragile, constrained by asymmetries in expectations, scale, strategic priorities, modes of cooperation, and institutional coordination.

Toward a Realistic Path of Deepened Cooperation

Despite growing semiconductor trade and investment ties, Europe is still viewed in Taiwan as a less attractive and more complex environment than the United States or Japan due to slower growth, cultural differences, regulatory fragmentation, high energy costs, and bureaucratic complexity. These perceptions are reinforced by Europe's relatively limited market pull in the AI chip boom. However, there is a clear shift in dynamics: political support for diversification is growing on both sides, and Europe's industrial strengths in the automotive, aerospace, and medical technology sectors, alongside emerging opportunities in silicon photonics, drones, and AI infrastructure, are creating new avenues for cooperation with Taiwan. In parallel, Europe's policy push to expand demand for advanced chips, many of which will continue to be produced in Taiwan, strengthens the case for deeper industrial partnership. To secure a credible path forward,

the paper therefore outlines the following set of targeted recommendations for the European Union:

1. Seize the opportunities created by TSMC's strategic transformation

TSMC's transformation from a consumer-electronics foundry into a central infrastructure player in the global AI semiconductor ecosystem makes its presence in Europe strategically significant and the success of the Dresden project a Europe-wide priority. Rather than focusing primarily on financial incentives, the EU should prioritize ensuring the long-term attractiveness of Dresden by addressing the core determinants of TSMC's investment decisions: land availability, energy costs and reliability, water management, talent pipelines, and administrative efficiency. The experience of Japan's Kumamoto project shows that large-scale semiconductor investment depends less on subsidies than on a coherent ecosystem of public support, streamlined governance, and enabling infrastructure. If Europe can deliver these conditions in Dresden, it will not only anchor TSMC's most advanced manufacturing footprint in Europe but also strengthen the continent's position within TSMC's global production network.

2. Recalibrate and scale up research cooperation

EU–Taiwan R&D cooperation is dynamic but remains constrained by fragmentation on the European side and limited access for Taiwanese actors to EU funding frameworks. Taiwan operates

through centralized and strategically coordinated mechanisms, while Europe relies on a patchwork of national initiatives. A more structured and scalable approach, building on instruments such as Horizon Europe and the Eureka Network, is needed to enable Europe to present a coherent interface and develop targeted, outcome-driven collaborations aligned with industrial needs.

3. Improve conditions to facilitate EU–Taiwan joint investment

Taiwanese private capital has historically shown limited engagement with Europe due to perceptions of low growth and regulatory complexity. However, recent investments and shifting geopolitical conditions are creating new incentives for diversification. Building on early successes, the EU should support the creation of joint semiconductor investment vehicles linking European and Taiwanese actors at both Member State and EU levels to channel capital into strategic sectors.

4. Strengthen downstream supply chain integration

Europe's anticipated expansion of its AI infrastructure, including data centers, should create opportunities for Taiwanese firms across the value chain. However, the absence of a coordinated European strategy risks limiting the continent to a role as an end market rather than a production base. Developing a coherent ecosystem for data

center construction and advanced manufacturing, alongside the potential introduction of a "trusted supplier" framework, would help anchor Taiwanese investment and deepen industrial integration.

5. Enhance talent and workforce cooperation

Both Europe and Taiwan face acute talent shortages, and existing cooperation mechanisms remain limited in scale and effectiveness. Europe must strengthen its attractiveness to Taiwanese talent while expanding joint training, academic partnerships, and mobility programs. Large-scale, industry-linked initiatives, inspired by international best practices, could help build a sustainable talent pipeline and reinforce long-term cooperation.

6. Send clearer market signals regarding demand projections

The absence of clear and credible demand projections for AI chips in Europe limits investment decisions by global semiconductor players. By articulating long-term demand outlooks, particularly in relation to AI infrastructure, the European Commission can provide the visibility needed to attract investment and support the development of a competitive ecosystem.

7. Cooperate on foundational chips through demand-side policies

China's rapid expansion in mature-node semiconductor capacity is reshaping global markets and creating dependency risks for Europe. While trade defense measures have limitations, the EU and Taiwan can cooperate by shaping demand around criteria such as trustworthiness and resilience. The development of procurement frameworks and a potential "trusted supplier" label would strengthen the EU's economic security.

8. Address fragmentation in engaging with Taiwan's semiconductor ecosystem

European engagement with Taiwan remains fragmented, often resulting in intra-European competition rather than coordinated outreach. Strengthening the EU–Taiwan Trade and Investment Dialogue, improving internal coordination, and developing a more structured interface with key Taiwanese institutions, for instance through posting a dedicated DG CONNECT representative at the European Economic and Trade Office in Taipei, would enhance the effectiveness of cooperation.

9. Overcome ambiguous signaling regarding China de-risking

Geopolitics remains a key constraint to deepened EU–Taiwan relations. Despite shared de-risking narratives, Taiwanese stakeholders view EU messaging on China as inconsistent, unclear, and weakened by internal divisions and corporate decisions. This ambiguity, combined with Europe's cautious stance in US–China competition, undermines confidence that closer cooperation with the EU will bring long-term and stable strategic returns. Addressing this does not require changing the One China policy but rather improving coherence, consistency, and predictability in Europe's de-risking approach.

Taken together, these measures highlight a realistic path for deeper EU–Taiwan semiconductor cooperation, one that takes into consideration perceptions, misperceptions, market and innovation dynamics, as well as the geopolitical environment.

Introduction

The strategic importance of Taiwan to the global semiconductor value chain cannot be overstated. As of 2026, it is now clear that Taiwan is no longer simply a global leader in chip manufacturing—it has emerged as a hub for artificial intelligence (AI) and high-performance computing (HPC). Surging US demand for AI-related chips and other Taiwanese tech products has helped power an economic boom, with Taiwan's GDP growth reaching 8.63 percent in 2025. That same year, Taiwan's semiconductor output reached US$202.4 billion[1]. The scale of this shift is such that a senior industry executive compared it in an interview to the rise of the railways in the 1880s or that of oil in the 1960s—a form of critical infrastructure enabling an industrial transformation.[2] The semiconductor industry, which was once driven primarily by consumer electronics, is now embedded in the build-out of strategic projects in the United States, with major implications for AI adoption in the military domain.

The industrial and technological relationship between the EU and Taiwan is largely peripheral to the story of Taiwan's emergence as a strategically central player in AI infrastructure. For decades, EU–Taiwan cooperation on semiconductors has been defined by Taiwan's ability to industrialize and scale European innovation, the EU's dependence on Taiwanese-manufactured semiconductors, and the integration of leading European equipment and materials companies into the supply chain of Taiwan Semiconductor Manufacturing

[1] Chen-Yuan Tung, ed., Taiwan and the Global Semiconductor Supply Chain, October 2025, Taipei Representative Office in Singapore, https://www.roc-taiwan.org/uploads/sites/86/2025/10/October-report-20251001.pdf.
[2] Author's interview with senior semiconductor executive, Taipei, March 2026.

Company (TSMC), the world's leading contract foundry, often through substantial investments in Taiwan.

Although these dynamics persist, they are also evolving. Access to European innovation remains important for Taiwan's manufacturing sector beyond lithography, but Taiwanese innovation is also deeply connected to integrated circuit (IC) design in the US—as well as increasingly homegrown. TSMC's R&D budget for 2024, for example, reached US$6.455 billion, or 7.1 percent of revenue, and the company prefers to bring its innovation efforts in-house.[3] European industries and consumer markets continue to rely on Taiwan's semiconductor exports, even as TSMC depends on indispensable European technologies such as ASML's extreme ultraviolet (EUV) lithography. Companies such as Air Liquide, ASML, and Merck remain deeply embedded in TSMC's supply chain and benefit from the explosive growth of the world's most advanced semiconductor manufacturer.

However, geopolitics and government policies have begun to alter this overall picture. First, the EU has recognized both the strategic importance of semiconductors and their vulnerability to supply-chain disruptions. In response, it has redesigned policies to bolster the European semiconductor ecosystem, notably through the 2023 EU Chips Act, which is now under revision to make support more effective and better targeted. Second, the Taiwanese government now encourages diversification in semiconductor trade and investment as well as cooperation in R&D. While the US remains the top priority, followed by Japan, Taiwanese actors are increasingly exploring opportunities in Europe, India, and Southeast Asia. Third, Taiwan's

[3] Liang-rong Chen, "Exclusive | Highlights from TSMC's 278-Page Sustainability Report," CommonWealth, September 29, 2025, https://english.cw.com.tw/article/article.action?id=4367.

manufacturing capacity is pushing up against domestic limits in terms of talent, electricity, land, and water, particularly amid the surge in AI data center construction, making overseas expansion increasingly necessary. Innovation in IC design, equipment, and materials requires trusted international partnerships. At the same time, growing pressure from the weaponization of supply chains strengthens the case for strategies aimed at de-risking from China for both Taiwanese and European companies.

This convergence of trends has led to a flagship initiative: the €10 billion European Semiconductor Manufacturing Company (ESMC) joint venture in Dresden, in which TSMC holds a 70 percent stake alongside Bosch, Infineon, and NXP (10 percent each). Supported by €5 billion in German state aid approved under the European Chips Act, the project has moved from breaking ground in August 2024 to the main construction phase in March 2026, with equipment installation scheduled for later in 2026 and production expected to start in 2027. In Taiwan, the project is seen as a test of Europe's ability to create a favorable environment for large, complex industrial projects with extensive supplier networks and broader ecosystem effects.

Other initiatives have followed. Foxconn (Hon Hai) plans to invest more than €250 million with Thales and Radiall to build an outsourced semiconductor assembly and test (OSAT) facility in Bordeaux, while GlobalWafers invested €450 million in "FAB300" in Novara, Italy, to build one of Europe's most advanced fully integrated 300 mm silicon wafer plants. Taiwan's growing engagement with Europe is also benefiting the Czech Republic, Poland, and the Baltic States, either through integration into ESMC's Dresden ecosystem or via Taiwanese government-backed projects motivated by political considerations.

The prevailing narrative in Taiwan is still generally skeptical, if not openly critical, of the business environment in Europe. Many Taiwanese executives thus pay little attention to Europe, focusing their efforts elsewhere, although new voices are emerging from the private sector that highlight Europe's strengths and opportunities. At the 2026 Taiwan Capital Market Forum, Wei Chi-lin, chairman of Waterland Financial Holdings, emphasized complementarities between the EU and Taiwan that could strengthen the semiconductor supply chain and mitigate geopolitical and market risks. Wei noted that Europe has strong expertise in semiconductor materials, quantum theory, and the design of automotive and industrial power chips but faces challenges in scaling production. Taiwan, in contrast, dominates in wafer fabrication, mass manufacturing, and process management—in other words, Taiwan's strengths are in scaling industrial production. As a result, Wei argues that the two sides should see each other as partners in de-risking from China.[4]

Even as the possible mutual benefits of deeper EU–Taiwan cooperation on semiconductors are increasingly articulated by actors on both sides, there is still significant hesitation. On the European side, caution prevails regarding full engagement with Taiwan. Eleven of the EU's twenty-seven Member States still lack representation in Taiwan, and among those that do maintain a permanent presence, levels of engagement vary considerably. Across European governments and within the Commission, views diverge: Some see economic engagement and technological or industrial cooperation with Taiwan as

[4] Li Jing-hui, "2026 Táiwān zīběn shìchǎng lùntán》Guópiào Jīnkòng dǒngshìzhǎng Wèi Qǐlín: Zhǎngwò Ōuméng jīnpiàn zìzhǔ, qiánghuà Tái-Ōu kējì hùbǔ" 「2026台灣資本市場論壇》國票金控董事長魏啟林：掌握歐盟晶片自主 強化台歐科技互補」[2026 Taiwan Capital Market Forum—Waterland Financial Holdings Chairman Wei Chi-lin on seizing the EU's chips autonomy window to strengthen Taiwan–Europe technological complementarity], Zìyóu Shíbào (Liberty Times), March 24, 2026, https://ec.ltn.com.tw/article/paper/1748191.

carrying significant risks for relations with the People's Republic of China, while others view these risks as manageable. The TSMC project in Germany and the growth of EU–Taiwan exchanges in recent years have demonstrated that such cooperation is feasible. On the Taiwanese side, reservations are equally present. The scale and dynamism of US demand, which continues to absorb much of Taiwanese industry's attention, do not explain everything—concerns also stem from weaknesses in the EU's business environment and from the broader ambiguity in Europe's positioning on Taiwan and cross-Strait issues.

Engagement is, therefore, challenging. While Taiwanese actors have difficulty grasping the fragmentation of European tech diplomacy—even if intra-European competition can sometimes be exploited by Taiwan—the Europeans, for their part, struggle to come to terms with the fact that the Taiwanese private sector often prefers to keep its distance from the government. To establish a partnership built on trust, it is essential to address these challenges.

This paper draws on forty interviews with Taiwanese and European stakeholders in the semiconductor ecosystem and insights from CHIPDIPLO's EU–Taiwan semiconductor industry dialogue, which was held on the sidelines of SEMICON Europa in Munich in November 2025.[5] The first section provides an overview of the current dynamics in EU–Taiwan semiconductor trade and investment relations. The second section outlines realistic improvements across nine EU policy areas, written as policy recommendations for the EU side. Overall, the paper argues that European expectations should remain measured

[5] European Commission, "Europe-Taiwan Semiconductor Industry Dialogue," November 19, 2025, https://digital-strategy.ec.europa.eu/en/news/europe-taiwan-semiconductor-industry-dialogue.

and that engagement with Taiwan's semiconductor ecosystem should be better coordinated at the EU level to create scale while being more tightly focused on tangible outcomes. It calls on European actors to take a clear-eyed view of Taiwanese reservations toward Europe, some of which are rooted in misperceptions stemming from limited knowledge or interest—and can thus be addressed through sustained diplomatic engagement—and others arising from comparisons with the business environments in Taiwan, the United States, and Japan, which concern internal issues of European competitiveness.

EU–Taiwan Semiconductor Trade and Investment Trends in a Shifting Global Context

In 2025, TSMC's revenue climbed to US$122 billion, with AI chips accounting for more than half of the growth. In 2026, Taiwan is producing nearly 90 percent of the world's most advanced chips below 7 nm. TSMC alone commands 72 percent of the pure-play foundry market and leads globally in 2-nm mass chip production, cementing its pivotal role in both technological advancement and supply-chain resilience. These figures underscore a profound shift.

In early 2026, additional orders from Nvidia for 3-nm chips were sufficient to justify TSMC's decision to expand its fabrication capacity in Kumamoto, Japan. With ten fabs already under construction in Taiwan, Japan's ability to deliver rapid and efficient buildouts positioned it as a key destination to attract TSMC's capital expenditure, budgeted at a staggering US$52–56 billion for 2026 alone.[6] This surge in demand is already reshaping industrial geography.

Taiwan has decisively reoriented its external trade and investment flows in response to shifts in the semiconductor industry driven by intensifying strategic competition between the US and China. From Taipei's perspective, further semiconductor growth is increasingly defined by a deepening economic and technological alignment with

[6] Chang Chien-chung, Chung Jung-feng, and Frances Huang, "TSMC Forecasts 2026 Sales to Grow Almost 30%, Capex to Expand," Focus Taiwan, January 15, 2026, https://focustaiwan.tw/business/202601150020.

the United States. Although defense applications of semiconductors represent only a minor share of overall revenue, this nonetheless represents unprecedented strategic integration of Taiwan's information and communications technology (ICT) industry with the transformation of the US defense sector in the age of AI. This alignment is partly the result of US policy under the Trump administration, which leverages its military protection of Taiwan to pressure the island—and particularly TSMC—to offshore advanced logic chip production to the United States. The 2026 US–Taiwan trade and investment agreement commits "Taiwanese semiconductor and technology enterprises" to "make new, direct investments totaling at least US$250 billion to build and expand advanced semiconductor, energy, and artificial intelligence production and innovation capacity in the United States" and to "establish world-class industrial parks in the United States."[7] By the end of the decade, TSMC's Arizona fabs are expected to begin 2-nm chip production, representing roughly 30 percent of the company's overall 2-nm production.[8]

This reorientation is strategic—and involves governments—but it is also, to a large extent, driven by markets, as it is hugely profitable. However, geopolitics is not the only factor at play. Geopolitics drives policy choices by governments, which, in turn, shape the business environment for investment decisions and trade. However, at the level of corporate decision-making, it is important to remember that "Taiwan's leading position stems from its business model of dancing

[7] US Department of Commerce, "Fact Sheet: Restoring American Semiconductor Manufacturing Leadership Through an Agreement on Trade & Investment with Taiwan," January 15, 2026, https://www.commerce.gov/news/fact-sheets/2026/01/fact-sheet-restoring-american-semiconductor-manufacturing-leadership.

[8] Jowly Morales, "China Could Be the World's Top Semiconductor Foundry Hub by 2030—Despite US Curbs, Nation to Hold 30% of Global Installed Capacity, Surpassing Taiwan," Tom's Hardware, June 30, 2025, https://www.tomshardware.com/tech-industry/semiconductors/china-could-be-the-worlds-top-semiconductor-foundry-hub-by-2030-despite-us-curbs-nation-to-hold-30-percent-of-global-installed-capacity-surpassing-taiwan.

with the clients: serving clients attentively, solving their problems, and providing competitive pricing and high-quality manufacturing services."[9] This logic is unchanged—it represents an overall mindset for adapting to geopolitical change and navigating an increasingly uncertain geopolitical landscape.[10] By 2025, the US was absorbing 30.9 percent of Taiwan's total exports, overtaking China and Hong Kong—whose combined share fell to 26.6 percent—for the first time since 2003.[11] This reversal was fueled by a 78 percent year-on-year surge in exports to the US, totaling US$198.3 billion, powered almost entirely by AI servers and high-end chips.

Taiwan's outward investment patterns have shifted even more sharply. Amid heightened cross-strait tensions, the amount of Taiwanese foreign direct investment (FDI) into mainland China collapsed by 65.4 percent from 2024 to 2025, totaling just US$1.49 billion, an all-time low in terms of the share of total outbound investment.[12] In 2010, China accounted for 84 percent of Taiwan's outbound capital; by 2025, that proportion had shrunk to roughly 8 percent.[13]

[9] Jeremy Chang, "Three Questions to Jeremy Chang: Taiwan's Contract Manufacturing Model, Dancing with Clients," Institut Montaigne, July 29, 2025, https://www.institutmontaigne.org/en/expressions/three-questions-jeremy-chang-taiwans-contract-manufacturing-model-dancing-clients.

[10] Cheng Ting-fang, "Three Questions to Cheng Ting-fang: Semiconductors as the Hardware of AI–The Case of Taiwan," Institut Montaigne, July 8, 2025, https://www.institutmontaigne.org/en/expressions/three-questions-cheng-ting-fang-semiconductors-hardware-ai-case-taiwan.

[11] Ministry of Finance, Republic of China, (Taiwan), Annual External Trade Report in 2025, https://service.mof.gov.tw/public/Data/statistic/bulletin/115/114%E5%B9%B4%E6%88%91%E5%9C%8B%E5%87%BA%E9%80%B2%E5%8F%A3%E8%B2%BF%E6%98%93%E6%A6%82%E6%B3%81_%E8%8B%B1%E6%96%87%E7%89%88.pdf.

[12] Department of Investment Review, Ministry of Economic Affairs, Republic of China (Taiwan), Taiwan FDI Statistics Summary Analysis, December 2025, https://www.moea.gov.tw/MNS/english/news/News.aspx?kind=6&menu_id=176&news_id=121606.

[13] Mainland Affairs Council, "Táishāng duì Zhōngguó dàlù tóuzī jīn'é tǒngjì" 「臺商對中國大陸投資金額統計」[Statistics of Taiwan business investment in mainland China], https://www.mac.gov.tw/News.aspx?n=00CC8E467A1194B0&sms=1D5ED5BF9623B0A2 (accessed April 18, 2026); Tong Cheng-yuan, "2025 nián Táiwān duì Zhōngguó tóuzī bǐzhòng zài chuàng xīn dī" 「2025年台灣對中國投資比重再創新低」[In 2025, Taiwan's share of investment in China fell to a new historic low], New Talk, February 10, 2026, https://newtalk.tw/news/view/2026-02-10/1019456.

In comparison, the US emerged in 2024 as Taiwan's top FDI destination, attracting roughly one-third of the total.[14]

EU–Taiwan Relations: The Big Picture

The structural reorientation of Taiwan's economic architecture toward the United States and other global partners also affects EU–Taiwan relations in semiconductors. Starting from the big picture, EU–Taiwan relations have intensified since the beginning of the 2020s, with data showing a fivefold increase in interactions of all kinds between Taiwan and EU Member States.[15] The EU ranks as Taiwan's fourth-largest trading partner.[16] EU–Taiwan bilateral trade reached €71.9 billion in 2024. Semiconductors weigh heavily on these figures, as ICs and electronic components made up approximately 23 percent of all Taiwanese exports to the EU in 2024, according to the Taiwanese Ministry of Finance.[17] Naturally, TSMC's monopoly on advanced node manufacturing makes it the only choice for many European IC design houses. However, as the EU is not experiencing the surge in AI data

[14] Chiang Min-hua, "Taiwan's Investment Relocation in Response to the New Dynamism of Geopolitical Uncertainties," University of Nottingham, Taiwan Research Hub, February 5, 2025, https://taiwaninsight.org/2025/02/05/taiwans-investment-relocation-in-response-to-the-new-dynamism-of-geopolitical-uncertainties/.

[15] Matej Šimalčík, Kristina Kironska, and Alfred Gerstl, "Partners in Need, Partners Indeed? Tracking Europe-Taiwan Relations Amidst Global Disruption," CEIAS Papers, December 16, 2025, https://ceias.eu/partners-in-need-partners-indeed-europe-taiwan-relations/.

[16] Taipei Representative Office to the EU and Belgium, "Economic Relations between Taiwan and the EU," May 23, 2025, https://www.roc-taiwan.org/be_en/post/143.html.

[17] Department of Statistics, Ministry of Finance, Republic of China (Taiwan), Annual External Trade Report in 2024, 2025, https://service.mof.gov.tw/public/Data/statistic/bulletin/114/2024%E8%8B%B1%E6%96%87%E5%88%86%E6%9E%90.pdf.

server construction that has turbocharged Taiwan's exports to the United States, the EU's trade deficit with Taiwan has remained relatively stable in recent years, at around €15 billion.[18] At the same time, Taiwanese semiconductor manufacturing companies rely on imports of European equipment and materials. This reality is partly reflected in machinery and appliances being the top EU export item to Taiwan—at 39.6 percent of total exports to Taiwan in 2024.

The EU is Taiwan's largest source of FDI, with a stock of US$58.1 billion in 2023. Taiwanese investment in the EU has historically been limited, but from 2016 to 2023, its stock surged to US$10.85 billion—a 10-fold increase from 2008 to 2015. Seen from the perspective of the past five years, Taiwan's investments in the EU tripled, reaching €14 billion in June 2025.[19] The EU's diplomatic refocus on attracting Taiwanese investment, including through the annual high-level EU investment forum in Taipei, has contributed to this positive outcome. However, an asymmetry remains. European officials generally consider that there is untapped potential to attract more Taiwanese investment in Europe.

[18] European Commission, Directorate-General for Trade, "Taiwan," EU Trade Relationships by Country and Region, https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/taiwan_en (accessed April 18, 2026).

[19] DG Trade and Economic Security, "EU and Taiwan Hold Fourth Trade and Investment Dialogue," December 12, 2025. https://policy.trade.ec.europa.eu/news/eu-and-taiwan-hold-fourth-trade-and-investment-dialogue-2025-12-12_en.

The Attractiveness of TSMC's Supply Chain

Until a few years ago, semiconductor trade and investment dynamics between the EU and Taiwan were driven mainly by European firms integrating into TSMC's supply chain. TSMC's unrivaled growth in the age of AI hardware construction still works as a magnet to attract European investment. In the foreseeable future, TSMC's transformation from a Taiwan-based exporter into a multinational operating across multiple industrial ecosystems will continue to create opportunities for competitive European players such as Air Liquide, ASML, and Merck, which supply the essential tools, gases, and materials required for fabs. By 2026, the role of these companies in Taiwan has evolved from one of simple suppliers to that of deeply integrated on-site partners.

ASML is indispensable to TSMC, supplying the extreme ultraviolet (EUV) lithography machines required for sub-7 nm chip production. Taiwan is ASML's largest overseas production hub, with important facilities for support, refurbishment, and specific modules of EUV machines. Its massive new facility in Linkou, Taiwan, its largest investment on the island (~€900 million), serves as a global hub for EUV collector mirror maintenance, subsystem assembly, engineer training, and manufacturing of specific modules and systems, making Linkou an important base in ASML's global strategy.[20]

[20] Joris Teer, Davis Ellison, and Abe de Ruijter, "De Prijs van Conflict: Economische Gevolgen van een Militaire Crisis Rondom Taiwan voor Nederland en de EU" [The price of conflict: Economic consequences of a military crisis around Taiwan for the Netherlands and the EU], HCSS, February 2024, https://hcss.nl/report/cost-of-conflict-economic-implications-of-taiwan-military-crisis-netherlands-eu/.

Since establishing its Taiwan subsidiary in 2003, ASML has developed a dense operational network comprising five sites: its Hsinchu headquarters; customer support offices in Linkou, Taichung, and Tainan; and dual manufacturing and R&D facilities with training capabilities in Linkou and Tainan employing nearly 2,500 staff.[21] In 2026, high numerical aperture extreme ultraviolet (High-NA EUV) lithography systems are being integrated into R&D for TSMC's 1.4 nm A14 node. This footprint is now being scaled further through new investments, including NT$2.62 billion (US$81.6 million) in its unit specializing in laser light source technologies (announced in May 2025). This has led to parallel capital deployment by ASML's key European supplier Zeiss to support TSMC's local production for advanced 2-nm processes.[22]

Air Liquide supplies ultra-high-purity gases essential for semiconductor fabrication, ensuring contamination control across production processes. Active in Taiwan since 1987, and among the largest initial French industrial investors on the island, its subsidiary Air Liquide Far Eastern (ALFE) currently has plants in Taoyuan, Hsinchu, Taichung, Tainan, and Kaohsiung. Air Liquide has invested over US$1.1 billion in Taiwan since 2019, culminating in the inauguration of its advanced materials plant in Taichung in March 2026. This facility produces critical atomic layer deposition (ALD) precursors for sub-2 nm nodes and is connected via "gas islands" directly into TSMC cleanrooms. As part of this effort, the company inaugurated a CO_2 recovery unit at its Guanyin site in Taoyuan and the Smangus plant in Hsinchu Science

[21] "ASML Is Deepening Its R&D and Supply Chains in Taiwan to Grasp the Business Opportunities Derived from Taiwan's Advanced Semiconductor Manufacturing Capabilities," InvestTaiwan, accessed April 18, 2026, https://investtaiwan.nat.gov.tw/showSuccess103eng?lang=eng&search=&key=103.

[22] Elaine Huang, "Taiwan Enters Angstrom Era with ASML's High-NA EUV," CommonWealth, January 9, 2025, https://english.cw.com.tw/article/article.action?id=3913.

Park in 2024.[23] These facilities will supply ultra-high-purity nitrogen, oxygen, and argon directly to nearby fabs, reinforcing a model of on-site and near-site production. In parallel, the company broke ground on a new air separation unit in Hwaya Technology Park (Taoyuan) in April 2025.[24] Beyond production, the company is also strengthening local innovation and ecosystem integration, notably through gas laboratories in Taichung and initiatives to support hydrogen mobility infrastructure linking science parks and transport hubs.

Merck supplies critical chemicals for advanced logic processes and the machinery used by ASML for advanced packaging. As part of its broader "Level Up" strategy, with Taiwan as a key focus, the German company is developing a major production site in Kaohsiung, scheduled for completion in 2026. Representing Merck's largest single global investment, the project represents a €500 million investment and produces photoresists, CMP slurries, and specialty gases essential for TSMC's lithography and etching processes.[25] It marks a shift from export-based supply to localized, fab-proximate production. Since 2019, Merck has increased local sourcing and relocated foreign production to Taiwan. Together with its second Luzhu facility, the Kaohsiung site enables a "local-to-local" approach, allowing real-time testing and adjustment of materials and equipment without relying on operations in Germany.

[23] Air Liquide, "ALFE Inaugurates Its Largest Plant in Taiwan, Enhancing the Resilience of Its Semiconductor Materials Supply Chain," March 12, 2024, https://tw.airliquide.com/alfe-inaugurates-its-largest-plant-taiwan-enhancing-resilience-its-semiconductor-materials-supply.

[24] Air Liquide, "Air Liquide Far Eastern Breaks Ground on New Hwaya Project, Boosting Electronic-Grade Nitrogen Capacity to Support Advanced Semiconductor Manufacturing," April 30, 2025, https://tw.airliquide.com/air-liquide-far-eastern-breaks-ground-new-hwaya-project-boosting-electronic-grade-nitrogen-capacity.

[25] Elaine Huang, "Merck and ASML Deepen Taiwan Presence as EUV Materials and Core Technologies Go Local," CommonWealth, January 21, 2026, https://english.cw.com.tw/article/article.action?id=4572.

In TSMC's global expansion, ASML, Air Liquide, and Merck have become indispensable partners in Arizona and Japan. At the US$65 billion Arizona mega-cluster, ASML maintains a permanent on-site team for Fab 1 (4 nm) and is coordinating High-NA EUV deliveries for Fab 2 (3 nm) and Fab 3 (2 nm). As mentioned above, Air Liquide operates a large on-site nitrogen and oxygen plant linked directly to TSMC's cleanrooms, ensuring ultra-pure gases with zero latency, while Merck's Chandler facility produces and delivers thin-film precursors and etching gases on a just-in-time basis, reducing both logistic risk and carbon footprint. In Kumamoto, Japan, ASML supports the ramp-up of commercial 3 nm capacity with a dedicated service and training hub, Air Liquide has expanded its ultra-pure gas and neon production, and Merck's Shizuoka Advanced Materials Center develops and fine-tunes photoresists using digital twin technology tailored to JASM's processes. Together, the three companies are embedding Europe's advanced materials and equipment expertise directly into TSMC's overseas manufacturing ecosystem.

TSMC in Europe: The Cluster Effect

When thinking of TSMC's expanding presence in Europe, it should be recalled that TSMC's first venture into Europe was not to set up a factory but to form a partnership reflecting the early global chip industry. Founded in 1987, TSMC initially relied on Philips for technology licenses, and Philips acquired a 27.5 percent stake in the company, establishing structural links between Taiwan and Europe.

This relationship crystallized in the early 2000s in Crolles, near Grenoble, with the Crolles2 Alliance. TSMC joined STMicroelectronics, Philips (later NXP), and Motorola (later Freescale) to co-develop 90- and 65-nm processes and to industrialize complementary metal-oxide-semiconductor (CMOS) process technology.[26] Engineers from TSMC worked alongside European and American teams to ensure process alignment, with the R&D fab in Crolles playing a pilot line role, supplying initial volumes and meeting specialized needs, with TSMC's Taiwanese fabs focusing on high-volume production. For the European firms, this alliance offered technological leadership without needing to bear the enormous costs of cutting-edge fabs.

Technically, the collaboration succeeded, producing world-class R&D between 2002 and 2007. However, corporate restructuring and shifting priorities (the spin-off of NXP by Philips, Motorola becoming Freescale) led to the alliance's dissolution in 2007. The Grenoble cluster pivoted toward specialized technologies such as sensors and power electronics as Europe retreated from advanced logic fabs.

Crolles2 marked the first instance of TSMC embedding engineers and intellectual property within a European R&D ecosystem, creating a model of technological interdependence that prefigures today's renewed EU–Taiwan semiconductor cooperation. The collaboration also left a complex legacy: Some European actors felt that their innovations were largely industrialized in Taiwan, concentrating the commercial benefits there.[27]

[26] TSMC, "Philips, STMicroelectronics and TSMC Take Lead in Advanced 90-nanometer CMOS Process Technologies," March 5, 2002, https://pr.tsmc.com/english/news/2411.
[27] Author's interview with senior semiconductor executive, Taipei, March 2026.

Two decades later, that early experiment finds an echo in the construction of the European Semiconductor Manufacturing Company (ESMC) plant in Dresden—a joint venture led by TSMC (which holds a 70 percent stake), with partners including Robert Bosch GmbH, Infineon Technologies, and NXP Semiconductors (each holding a 10 percent stake). The difference is telling: Whereas TSMC was once a junior partner helping European companies sustain their manufacturing capabilities, it now returns to Europe as the global leader of the foundry industry.

This new chip fabrication plant is supported by more than €5 billion in German state aid under the European Chips Act. The new large-scale facility will produce high-performance chips on 300 mm wafers at 28/22 nm and 16/12 nm nodes using fin field-effect transistor (FinFET) technology. Expected to reach full capacity by 2029, the plant will produce up to 480,000 wafers annually. It is expected to begin producing mid-range semiconductors for the automotive, industrial, and communications sectors by late 2027.

Operating under TSMC's open foundry model, the plant will be accessible to a broad range of customers beyond its shareholders, reinforcing its role within Europe's wider industrial ecosystem. More fundamentally, the project marks a strategic deepening of EU–Taiwan semiconductor cooperation—by transferring manufacturing capabilities and operational know-how to Europe, TSMC is anchoring a long-term industrial presence.

As TSMC planned its investment in Dresden, much of the preliminary work focused on planning for a network of suppliers to sustain its future fab operations in the region. In Taiwan, TSMC has traditionally operated as a tightly integrated "TSMC family," with suppliers often

entering the supply chain through second- or third-tier subcontracting relationships. When selecting partners and optimizing the network, TSMC's top management carefully balances supply-chain resilience with cost competitiveness. Many of these suppliers are SMEs with limited international experience. While US projects have been large enough to justify scaling up these suppliers and internationalizing their operations, TSMC's approach in Germany relies on its joint venture with Bosch, NXP, and Infineon to tap into established regional supplier networks.

Nevertheless, TSMC is actively shaping its German ecosystem. Beyond the ESMC fabrication plant, the region stands to benefit from the gradual arrival of Taiwanese suppliers, creating the conditions for a dynamic "supplier village" within Silicon Saxony and its surroundings. TSS Holdings Ltd., a consortium of Taiwanese semiconductor suppliers supporting TSMC's overseas expansion, will play a central coordinating role, facilitating the colocation of key suppliers around the fab and replicating TSMC's cluster-based production model abroad.[28]

Several Taiwanese suppliers have already started to establish a long-term presence in Germany. In Dresden, multiple firms have created German subsidiaries (GmbHs), signaling industrial anchoring within the Saxony ecosystem. Key upstream infrastructure providers are also joining the emerging cluster: Marketech International Corp (MIC), a leading supplier of integrated factory systems such as specialty gas and chemical delivery, has chosen Saxony for its first European site, establishing local operational capacity. Similarly, Taiwan Puritic Corp. (TPC), which specializes in high-purity gas systems essential to advanced semiconductor manufacturing, has set up a German subsidiary near Dresden and is embedding itself through local partnerships.

[28] Author's interview with senior Taiwanese analysts, Taipei, March 2026.

In sum, ESMC represents an important symbol of the EU–Taiwan partnership and is already catalyzing significant activity in the region and beyond: ASML, Merck, CEA-Leti, Fraunhofer, and imec are working together to ensure the success of the ESMC project. During its 2025 Technology Symposium in Amsterdam, TSMC announced that it would open a new design center in Munich at the end of 2025 to expand its European presence and support greater self-sufficiency in semiconductors. The Munich center, which is currently still on a small scale, aims to design high-density, high-performance, and energy-efficient chips, with particular emphasis on automotive, industrial, AI, and IoT applications. TU Dresden's exchange program with Taiwan is a spillover benefit of this investment.

TSMC's presence in Dresden extends to the neighboring Czech Republic and Poland in a cluster sometimes referred to as a "regional ICT triangle." The Czech Republic is strategically positioning itself as a complementary node to Dresden's emerging semiconductor cluster, leveraging cost advantages and geographic proximity to attract upstream Taiwanese suppliers. In doing so, it directly addresses structural gaps in Germany's ecosystem. TSMC, for example, plans to establish a logistics warehouse in the Czech Republic, illustrating an increasingly cross-border operational model. Similarly, Taiwanese fab construction specialist Marketech International Corporation has publicly indicated the comparative advantage of the Czech Republic over Germany on cost grounds.

This dynamic is reinforced by the broader expansion of the established Taiwanese electronics manufacturers already present in the country. Brno hosts Wistron, Inventec, and Acer, and the presence of other major players such as Foxconn in Kutná Hora and

Pardubice—alongside Foxconn's presence in Slovakia and Hungary—further consolidates the region's status as a semiconductor cluster. Efforts at the institutional level also play a key role in enabling Taiwan's presence, starting with the Taiwan Trade and Investment Service Center, the Czech branch of Taiwan's government-affiliated Taiwan External Trade Development Council (TAITRA). There are also three joint Czech–Taiwan semiconductor-related organizations: the Advanced Chip Design and Research Center (ACDRC), the Supply Chain Resilience Center (SCRC), and a joint research center co-established between the Taiwan Semiconductor Research Institute and the Czech Technical University in Prague (CTU). The Czech National Semiconductor Cluster also actively supports Taiwanese investment and cooperation.[29]

In the case of Poland, international cooperation with Taiwan is explicitly listed as one of the pillars that will help the country derive more than 1 percent of its GDP from the tech sector.[30] The Polish government has proposed a US$1.5 billion budget to support strategic investments in the sector, with a view to attracting Taiwanese firms to set up assembly, testing, and packaging (ATP) facilities. Recent investments by Advantech and Phison, as well as expressions of interest from TSMC suppliers such as Compal Electronics and MediaTek, point to Poland's growing appeal to downstream technology firms,

[29] Czech Semiconductor Centre, "Czech Semiconductors on the Rise: International Cooperation Between Scientists and Manufacturers Will Boost the Chip Economy in Czech Regions," April 15, 2025, https://czechsemiconductorcentre.cz/second-test-post/.

[30] Ministry of Digitization, Republic of Poland (Ministerstwo Cyfryzacji), "Projekt uchwały Rady Ministrów w sprawie przyjęcia polityki publicznej pod nazwą 'Polska w grze o przyszłość - polityka dla sektora półprzewodników 2025+'" [Draft Council of Ministers resolution on adopting the public policy "Poland in the game for the future – policy for the semiconductor sector 2025+"], January 13, 2026, Chancellery of the Prime Minister, https://www.gov.pl/web/premier/projekt-uchwaly-rady-ministrow-w-sprawie-przyjecia-polityki-publicznej-pod-nazwa-polska-w-grze-o-przyszlosc---polityka-dla-sektora-polprzewodnikow-2025.

leveraging geographic proximity to TSMC's Dresden fabrication plant.[31] Poland positions itself strategically within the regional semiconductor ecosystem—for example, by participating in Silicon Saxony Day in Dresden.[32] In a report published following its visit to Katowice and Wrocław, the Taiwan Electrical and Electronic Manufacturers' Association (TEEMA), the largest association representing Taiwan's electronics industry, listed Poland as an integral component of Europe's "Chip Triangle," highlighting its strategic role within the ICT ecosystem and emergence as a potential hub for Taiwan's semiconductor and ICT industries.[33] Seven Memoranda of Understanding signed between Taiwanese and Polish authorities in July 2025 signal a shared intention to cooperate in the future but have yet to translate into concrete investments or facilities.[34]

[31] Compal, "Compal Announces Completion of New Automotive Electronics Facility in Poland, Signaling Strategic Growth in Europe," June 30, 2025, https://www.compal.com/en-us/media/277/ren-bao-xuan-bu-bo-lan-qi-che-dian-zi-xin-chang-di.

[32] Polish Investment and Trade Agency, Semiconductor Industry in Poland 2025, https://www.paih.gov.pl/en/wp-content/uploads/sites/2/2025/09/Semiconductors-industry-in-Poland-2025.pdf.

[33] Idem.

[34] Polish Office in Taipei, "Delegation of Polish Parliamentarians and Leading Entrepreneurs," January 7, 2025, https://poland.tw/web/taiwan/delegation-of-polish-parliamentarians-and-leading-entrepreneurs.

TSMC's Key Challenges in Dresden

Despite the progress in construction, Europe should not take TSMC's presence for granted. Seen from Taiwan, ESMC functions as a trial balloon for TSMC; its success could elevate Europe's role in the company's global strategy, while underperformance would prompt a reorientation of future investment toward more attractive regions. Thus far, discussions in Taipei have tended to emphasize the delays in ESMC's projects—particularly compared to TSMC's expansion in the United States. The Taiwanese media note TSMC's so-called America first strategy in fab construction.[35] In early 2026, TSMC's equipment installation and mass production in Europe were pushed back by roughly a year as a result of the "stronger shift of the company's overseas operations toward the US."[36]

The project also faces a range of practical challenges. Discussions with senior industry leaders highlight the difficulties Taiwanese staff encounter in adapting to the Dresden environment. Differences in the healthcare system, in particular, are a source of friction for individuals accustomed to securing same-day medical appointments. The limited food offer is also frequently cited as a constraint, prompting a former German MEP to advocate for the creation of a Taiwanese-style night

[35] "Bàndǎotǐ fēngyún／Táijī zhuǎnxiàng 'Měiguó yōuxiān' zhànlüè, Rì-Dé jiàn chǎng fànghuan" 「半導體風雲／台積轉向「美國優先」戰略 日德建廠放緩」[Semiconductors in flux: TSMC shifts to a "US-first" strategy while Japan and Germany fabs slow], Liánhébào (United Daily News), June 9, 2025, https://vip.udn.com/vip/story/122867/8793180.

[36] "Táijī Měi chǎng jiāsù 3, 2nm, Rì-Dé chǎng kǒng dà chídào" 「台積美廠加速3、2nm 日德廠恐大遲到」[TSMC accelerates 3nm and 2nm at its U.S. fabs as Japan and Germany fabs risk major delays], MoneyDJ, January 7, 2026, https://www.moneydj.com/kmdj/news/newsviewer.aspx?a=d88c3c97-af6d-4058-bdd9-c3d191e8cfc0.

market in the city.[37] Finally, the availability of international education, which falls short of the standards found in Phoenix or Kumamoto, remains a critical concern for Taiwanese families.

However, TSMC's main challenge is talent recruitment. TSMC has to compete with other semiconductor players for the same pool of engineers in Saxony. The number of employees in Silicon Saxony will need to rise from 81,000 to more than 100,000 from 2023 to 2030 to meet this demand.[38]

To support this transition, the German Institute Taipei has sponsored talent development programs—notably the Semiconductor Talent Incubation Program Taiwan (STIPT)[39]—and Germany's fast-track skilled worker visa framework facilitates priority processing for TSMC personnel and associated suppliers, including their families.[40] The initiative also includes the development of a purpose-built residential district in Dresden, complete with housing, schools, and commercial amenities, to facilitate the relocation and integration of TSMC staff and their families.[41]

[37] Author's interview with Reinhard Bütikofer, June 2025.

[38] Konrad Wolfenstein, "Silicon Saxony – Europe's Chip Manufacturing Hub and Most Important Construction Site: How Economic and Geopolitics Are Currently Being Written in Dresden," March 30, 2026, https://xpert.digital/en/silicon-saxony/.

[39] TU Dresden, "Semiconductor Talent Incubation Program Taiwan (STIPT)," accessed April 2026, https://tu-dresden.de/studium/im-studium/auslandsaufenthalt/programme-und-foerdermoeglichkeiten/semiconductor-talent-incubation-program; Silicon Saxony, "TU Dresden: Saxon 'Semiconductor Talent Incubation Program Taiwan' (STIPT) to Be Expanded," December 11, 2025, https://silicon-saxony.de/en/tu-dresden-saxon-semiconductor-talent-incubation-program-taiwan-stipt-to-be-expanded-opportunity-for-students-from-all-over-germany/.

[40] Federal Government of Germany / Make it in Germany, "Why Use the Fast-Track Procedure for Skilled Workers?" https://www.make-it-in-germany.com/en/skilled-labour-immigration-using-the-fast-track-procedure-for-skilled-workers-how-does-it-work.

[41] Author's interview with senior European diplomat, February 2026.

ESMC's investment is also expanding talent creation in the region, generating both direct and spillover benefits for local human capital and technological infrastructure. To meet the rising workforce demand, Saxony is funding the Sächsisches Ausbildungszentrum Mikroelektronik (SAM) in Radeberg, which will offer up to 1,000 microtechnology apprenticeships from 2028.[42] At the same time, lateral-entry ("Quereinsteiger") programs are retraining workers affected by structural change, including former automotive and lignite employees. These initiatives are expected to receive growing support from TSMC to sustain a skilled, deployment-ready workforce for the foundry.[43]

Most Taiwanese observers insist on the importance of the cost-effectiveness of supply chain management as the key to success. To ensure continued high yields, TSMC's certification process for suppliers is highly demanding. If TSMC's suppliers do not set up facilities in Germany—a possibility given that TSMC cannot guarantee any particular supplier procurement volumes—it will take a long time for TSMC to build a localized supply chain in Germany and central Europe.[44]

[42] "Radeberg bekommt Ausbildungscampus für Mikrotechnologen," Wirtschaft in Sachsen, August 27, 2024, https://www.wirtschaft-in-sachsen.de/de/radeberg-bekommt-ausbildungscampus-fuer-mikrotechnologen/.
[43] Author's interview with senior European diplomat, February 2026.
[44] Author's interview with senior semiconductor industry consultant, Taipei, March 2026.

Beyond TSMC: The Slow Expansion of Taiwan's Industrial Footprint in Europe

Besides TSMC's investment in Dresden, five developments deserve attention: GlobalWafers in Italy, its failure to acquire Siltronic in Germany, Foxconn's expansion in France, growing Taiwanese activity in the Czech Republic and Slovakia, and Taiwan's unique semiconductor diplomacy in Lithuania.

In Italy, GlobalWafers launched FAB300, Europe's new fully integrated wafer plant in Novara—an expansion of its historic Italian site, which has been in operation since 1976. The new 300-mm fabrication module is supported by €103 million in Italian IPCEI funding. The facility opened in October 2025 and is currently ramping up to full production capacity and already supplying wafers to major European players, notably STMicroelectronics.[45]

This successful expansion stands in contrast to the failed acquisition of Siltronic by GlobalWafers in early 2022, illustrating how Europe's evolving economic security policy can prevent industrial consolidation as well as highlighting a trust deficit linked to geopolitics. Technically, the German government did not block the €4.4 billion deal outright—the Federal Ministry for Economic Affairs and Climate

[45] GlobalWafers, "GlobalWafers Launches Europe's New Fully Integrated Wafer Plant in Italy," October 22, 2025, https://news.pcim.mesago.com/globalwafers-launches-europes-new-fully-integrated-wafer-plant-in-italy-a-3013ae0a831013c0def3000d7ed4a1dc/.

Action allowed the regulatory review to lapse beyond the long-stop deadline, forcing the parties to abandon the transaction.[46] The official explanation pointed to timing constraints linked to the late conditional clearance issued by China's State Administration for Market Regulation (SAMR), whose approval was required because both companies operate in its market.[47] Yet this procedural explanation masked deeper structural determinants. First, the episode reflected Germany's growing emphasis on technological sovereignty in a context shaped by pandemic-era chip shortages and intensifying geopolitical competition. Semiconductor wafers, as the foundational input of the entire chip value chain, were in fact seen as a form of critical infrastructure, making foreign control politically sensitive. Second, there were clearly questions regarding the impact of tensions across the Taiwan Strait. At a deeper level, there was a strategic concern that if a Taiwanese company owned a critical German asset, that asset could become vulnerable to future Chinese pressure or conflict in the Taiwan Strait. Through the "non-decision," the German government quietly halted the deal to avoid an explicit political veto that could have sent a hostile signal to Taipei.

The partnership announced at the Choose France Summit in 2025 between Foxconn, Thales, and Radiall for an advanced packaging project represents a markedly different dynamic in terms of strategic trust. The project is notable for its strategic value and potential to further grow Foxconn's footprint in Europe. It aims to establish one of Europe's first large-scale outsourced semiconductor assembly and

[46] Sebastian Faust, Stefan Kirwitzke, and Philipp Reckers, "German FDI Regulator Spoils GlobalWafers' €4.35 billion Siltronic Deal," Hogan Lovells, February 8, 2022, https://www.hoganlovells.com/en/publications/german-fdi-regulator-spoils-globalwafers-435-billion-siltronic-deal.

[47] "China Conditionally Approves Siltronic Sale to GlobalWafers," Reuters, January 21, 2022, https://www.reuters.com/world/china/china-conditionally-approves-siltronic-sale-globalwafers-2022-01-21/.

test (OSAT) facilities. Establishing such a facility would address the fact that even when chips are fabricated in Europe, they are often shipped to Asia for final packaging—which represents a structural vulnerability in Europe's chip supply chain. With an investment expected to exceed €250 million, the facility plans to deploy advanced fan-out wafer-level packaging technology capable of producing more than 100 million system-in-package units annually by 2031. This vastly exceeds the current needs of Thales.[48] Located within the broader French aerospace and defense ecosystem, the initiative targets strategic applications, including defense systems, satellite constellations, next-generation automotive electronics, and future 6G telecommunications infrastructure. The partnership reflects a complementary industrial logic: Thales contributes security and defense specifications for trusted chips, Radiall provides expertise in high-performance interconnects, and Foxconn brings the industrial-scale manufacturing capabilities required to produce complex electronic systems at high volume and low defect rates. In doing so, the project illustrates how Taiwanese industrial players are beginning to integrate more deeply into Europe's emerging semiconductor strategy, particularly in advanced packaging, where the continent is seeking to close critical capability gaps.

[48] Author's interview with senior industry executive, Taipei, March 2026.

Table 1 • Recent Taiwanese Investments in the European Semiconductor Sector

Date	Investment Destination Country	Taiwanese Investment Institution Issuer	Type of Semiconductor Technology	Supply Chain Position	Amount Invested (in EUR)
mid-2026	Czech Republic	Topco Scientific	Semiconductor materials, equipment, and logistics	Material supply & logistics	Not publicly disclosed (MoU signed in 2024)
2025	Germany	TSMC	European Union Design Center (EUDC) in Munich	Chip design and R&D	Not publicly disclosed
2025	Denmark	GlobalWafers (via subsidiary Topsil GlobalWafers A/S)	Ultra-pure Float Zone (FZ) silicon	Materials used for wafer production	~€93 million
2025	Italy	GlobalWafers (via subsidiary MEMC Electronic Materials)	300 mm silicon wafers	Materials (Wafer Production)	€450 million
2025	France	Foxconn (Joint Venture with Thales and Radiall)	Wafer-level packaging	Advanced packaging	> €250 million
2024	Czech Republic	TSRI and Czech Technical University (CTU)	International chip design training center (Prague) & Joint Research Center	R&D and ecosystem training	Part of Taiwan's $9.3B global innovation strategy (to be invested between 2024 and 2033)

Date	Investment Destination Country	Taiwanese Investment Institution Issuer	Type of Semiconductor Technology	Supply Chain Position	Amount Invested (in EUR)
2024	Germany	TSMC (ESMC Joint Venture with Bosch, Infineon, NXP)	28/22 nm planar CMOS & 16/12 nm FinFET	Front-end manufacturing, foundry	> €10 billion
2024	Czech Republic	NARLabs / TSRI	Advanced Chip Design Research Center (ACDRC)	R&D and ecosystem training	Part of Taiwan's $9.3B global innovation strategy
2023	Poland	Universal Scientific Industrial (USI / subsidiary of ASE Technology Holding)	Electronic manufacturing services and system-in-package	Back-end, assembly	Not publicly disclosed
2023	Lithuania	ITRI (Technology transfer to Lithuanian firm Teltonika)	Semiconductor chip technology transfer	R&D and manufacturing ecosystem	€14 million

In the Czech Republic, the Advanced Chip Design Research Center (ACDRC) in Brno, financed by the Taiwanese government and jointly operated with leading Czech universities to foster research, talent development, and commercialization in semiconductors, is attracting new projects. Jmem Tek, a company founded in 2022 that is developing chips for drones and conducting research on post-quantum cryptography, is setting up a branch in Prague, while Inventec, a company active in servers manufacturing, is expanding its presence in

Blučina.[49] In Slovakia, the Taiwan Semiconductor Research and Experiment Center was established in Bratislava by the Industrial Technology Research Institute (ITRI) in cooperation with Slovak Technology University and the Slovak Academy of Science (Institute of Microelectronics).[50] In addition, the Taiwanese company BizLink, a supplier of wiring harnesses and interconnect solutions for global brands, acquired Slovak electrical equipment maker Easys in 2024 to strengthen its semiconductor equipment business and expand its presence in eastern Europe.[51]

Another development that deserves attention is exchanges in the semiconductor sector between Lithuania and Taiwan. These reflect a politically driven effort to translate strategic convergence into industrial and high-tech cooperation by focusing first on workforce development to help build capacity. In response to Beijing's coercive measures following the opening of the Taiwanese Representative Office in Vilnius in late 2021, Taiwan initiated a $200 million investment initiative led by Taiwania Capital, targeting semiconductors, lasers, and biotechnology across Lithuania and the broader Central and Eastern European region. This was complemented by more focused projects, including a joint laser laboratory in Taiwan and a €14 million partnership between Teltonika IoT Group and Industrial Technology Research Institute, designed to facilitate technology transfer in semiconductor manufacturing alongside engineering training and

[49] Jan Sedlak, "V Česku rozjíždí vývoj čipová firma z Tchaj-wanu. Jde o její první pobočku mimo domovskou zemi a Silicon Valley" [A Taiwanese chip company is launching development in the Czech Republic, its first branch outside its home country and Silicon Valley], e15, March 25, 2026, https://www.e15.cz/byznys/technologie-a-media/v-cesku-rozjizdi-vyvoj-cipova-firma-z-tchaj-wanu-jde-o-jeji-prvni-pobocku-mimo-domovskou-zemi-a-silicon-valley-1431625.

[50] Sandy Wu, "Taiwan Inaugurates First Semiconductor Research Center in Slovakia," Taiwan Trade, December 29, 2025, https://www.taiwantrade.com/tradenews/detail.html?newsid=3340450.

[51] Chen Cheng-hui, "BizLink Announces Signing of Easys Deal," Taipei Times, September 12, 2024, https://www.taipeitimes.com/News/biz/archives/2024/09/12/2003823643.

technical support. However, implementation has lagged behind political ambition: The flagship Teltonika project was ultimately suspended due to infrastructure bottlenecks and delays in land rezoning.[52]

Lithuanian officials acknowledge that Taiwanese investment fell short of initial expectations. In early 2026, Lithuanian Prime Minister Inga Ruginiene explicitly considered a recalibration of relations with China and Taiwan, whereby Lithuania would revert to the name "Taipei Representative Office" instead of "Taiwan Representative Office" for the ROC's representative office in Vilnius, arguing that industrial and high-tech cooperation is also possible under that framework.[53] While President Gitanas Nauseda recently said Vilnius would not revisit its decision to allow the Taiwan representative office to operate under its current name, for semiconductors, the whole episode illustrates the difficulties of a process of cooperation driven by politics and not corporate interests.[54]

[52] Michael Nakhiengchanh, "Lithuania Suspends Taiwan Semiconductor Fab Plans in Vilnius," Taiwan News, November 18, 2024, https://www.taiwannews.com.tw/news/5973685.
[53] Michele Maresca, "Lithuania's Taiwan Policy Unclear," Taipei Times, March 3, 2026, https://www.taipeitimes.com/News/editorials/archives/2026/03/03/2003853150.
[54] Jonathan Chin, "No Renaming of Taiwan Office: Vilnius," Taipei Times, March 26, 2026, https://www.taipeitimes.com/News/taiwan/archives/2026/03/26/2003854498.

The broader investment initiative targeting the Czech Republic, Lithuania, and Slovakia has so far fallen short of expectations, with only a handful of projects funded and limited engagement in the semiconductor sector. Of the US$200 million earmarked for the program, roughly US$50 million has been deployed across these three countries. In the Czech Republic, investments went to Vrgineers (defense), Supernova (software), and Daytrip (private transportation). Lithuania received support for Litilit (lasers), SoliTek (solar panels), Oxipit (AI/medical devices), and TransferGo (fintech). In Slovakia, funding reached Photoneo (robotics) and Sensoneo (green tech). Overall, despite the fund's original focus on semiconductors, the portfolio to date has been concentrated almost entirely in unrelated high-tech and software sectors.[55]

[55] Author's exchanges with the Central Europe Institute of Asian Studies, March 2026.

What a Realistic Path of Deepened Cooperation Could Look Like

Despite recent growth in semiconductor trade and cross-investment between the EU and Taiwan, Europe continues to be viewed rather negatively in Taiwan as both a market and an investment destination. Criticism typically centers on slow growth and perceived cultural gaps: Taiwan's "24/7" semiconductor ethos is often contrasted with Europe's strong labor protections and light workweeks. Bureaucratic complexity and high energy costs further reinforce the perception of Europe as a difficult place in which to invest. Taiwanese observers also frequently point to the uneven integration of the Single Market, noting that differences in legislation, taxation, and regulation continue to hinder the effective development of cross-border clusters and a truly European-scale approach.

Against this backdrop, Europe faces a formidable challenge in carving out a meaningful role as surging demand for AI chips continues to concentrate momentum in the American market. To a large extent, the human dimension plays against Europe: Many Taiwanese founders were educated and trained in the United States, maintain dense personal and professional networks there, and count American firms among their primary customers.

Although comparable concerns regarding the work culture have been evident in TSMC's projects in Arizona from the outset, the challenges of doing business in Europe are real and warrant direct acknowledgment. Broad reforms that enhance the ease of doing business, ranging from the Capital Markets Union to administrative simplification, would be likely to have a significant positive impact on the EU's relations with Taiwan and other advanced industrial economies. This paper does not attempt to address the structural factors limiting Europe's competitiveness relative to East Asia and the US. It is important, however, to acknowledge the European industry perspective that "a holistic approach to tackle regulatory fragmentation across Member States, reduce energy costs and increase infrastructure quality, solve the skills and talent shortage, and reduce bureaucracy overall" aligns with the mainstream opinion within Taiwan's semiconductor ecosystem regarding the semiconductor business environment in Europe.[56] The scope of this paper is more limited, and the following recommendations focus on concrete, feasible measures to strengthen collaboration on semiconductors between the EU and Taiwan.

Although it is essential for Europeans engaging with their Taiwanese counterparts in business and government to keep this perspective in mind, there are genuine grounds for optimism. Current European policies and market trends are opening new avenues for deeper semiconductor partnerships with Taiwan. Europe's industrial strengths in the aerospace, automotive, industrial automation, medical technology, and telecommunications sectors complement Taiwan's leadership in advanced chip manufacturing. The emergence of silicon

[56] Industry Advisory Group, Chips Act 2.0, Industry Policy Blueprint for Semiconductor Sovereignty, Competitiveness and Resilience: European Chips Act 2.0 Final Report, March 2026, https://digital-strategy.ec.europa.eu/en/news/implementation-dialogue-chips-act.

photonics further strengthens the rationale for joint product development between innovative Taiwanese and European firms. Finally, drones have emerged as a domain of both intensifying trade between Taiwan and Central and Eastern Europe and deepening industrial cooperation.

Europe is simultaneously expanding its domestic capabilities through advanced pilot lines and digital infrastructure development. The European Commission is investing tens of billions of euros in AI factories and AI gigafactories to train models on European data and establish a trusted AI ecosystem. Upcoming legislation such as the Cloud and AI Development Act aims to triple Europe's data center capacity over the next five to seven years. Additional initiatives, including the next Important Project of Common European Interest on advanced semiconductor technologies and the anticipated follow-up to the European Chips Act (i.e., Chips Act 2.0), are designed to stimulate AI semiconductor adoption and strengthen the regional ecosystem. American companies such as Google are also investing in data centers on the European continent.

Taken together, these developments point to a structural increase in European demand for advanced chips, many of which will continue to be designed or manufactured in Taiwan. This creates clear opportunities for Taiwanese semiconductor companies to invest, partner, and embed themselves more deeply in both Europe's existing industrial landscape and its emerging AI and digital infrastructure ecosystem. Although this ecosystem may lag behind that of the US, it is actively being built out. The recommendations that follow draw on interviews conducted in both Taiwan and Europe and are grounded in a careful identification of the challenges specific to the EU–Taiwan relationship.

1. Seizing the Opportunities Created by TSMC's Strategic Transformation

European decision-makers would benefit from a clearer understanding of the scale and implications of TSMC's ongoing strategic transformation. The company underwent a major shift in 2014 when it replaced Samsung to mass-produce the iPhone's A8 chip for the iPhone 6, later gaining exclusivity for Apple's flagship mobile chips. This strategic partnership with Apple transformed TSMC's scale—but only within the consumer-goods sector, leaving it vulnerable to business cycles. TSMC has since entered a new phase, positioning itself as a central player in an AI-driven semiconductor landscape. As one senior European business executive noted, "The scale of markets is no longer the same, and TSMC can double in size as it is no longer constrained by business cycles."[57]

This transformation has two direct consequences for Europe:

First, it means that integrating TSMC's supply chain in Taiwan, the United States, Japan, and Europe has the potential to create high growth for ASML, Merck, Air Liquide, and other European suppliers.

Second, it implies that policymakers should focus on improving the environment in which TSMC operates its European business. If Dresden is intended to serve as a trial balloon in TSMC's broader

[57] Author's interview with senior European executive, Taipei, March 2026.

strategy and its transformation into a truly global multinational—as argued above—then Europe should prioritize addressing the company's operational needs to anchor a long-term strategic partnership. TSMC requires an environment that can provide the resources necessary to execute this transformation. Although subsidies are attractive and limit the downside of high energy and labor costs, they are arguably not decisive—capital expenditures are not a limiting factor for a company that has announced US$52–56 billion in CAPEX for 2026, a 30 percent increase compared with the previous year.[58] Many Taiwanese actors express a preference for tax breaks over direct subsidies.[59]

The key resources that TSMC seeks outside Taiwan are land, energy, water, and talent. While general policy measures such as reducing energy costs and facilitating access to land and recycled water are essential, Japan's experience in attracting TSMC to Kumamoto, Kyushu, offers more specific lessons for European policymakers.

A central factor in Japan's success in creating the necessary conditions for TSMC to set up there has been the development of family-oriented infrastructure, which has enabled a Taiwanese community to settle in the Kumamoto area. This includes the establishment of a bilingual school for the children of engineers and staff, as well as investments in transport infrastructure such as a new train station. Beyond physical infrastructure, local support has been critical: Taiwanese stakeholders consistently highlight the strong backing of local authorities and the proactive role of regional banks in helping them navigate Japan's regulatory environment. The perception of a

[58] "[News] TSMC Speeds Up Expansion in Taiwan: Up to 10 Fabs Reportedly under Construction or Starting in 2026," TrendForce, February 23, 2026, https://www.trendforce.com/news/2026/02/23/news-tsmc-speeds-up-expansion-in-taiwan-up-to-10-fabs-reportedly-under-construction-or-starting-in-2026/.
[59] Author's interviews, Taiwan, March 2026.

public sector sincerely dedicated to the success of the project resonates with TSMC's own demanding work culture, fostering mutual respect and a shared sense of purpose.

Underlying these efforts is a broader enabling condition: bureaucratic alignment, administrative effectiveness, and a pragmatic, problem-solving approach. In addition, the efficiency of fab construction, led by Kajima, has been another decisive factor in the success of the project that is constantly emphasized by Taiwanese interlocutors.

This challenge extends beyond Germany or Saxony alone. TSMC's presence in Dresden represents Europe's best opportunity to secure advanced logic chip manufacturing below 7 nm on its own soil. Future expansion will depend on successfully addressing initial challenges and demonstrating strong market demand. Here again, Japan provides a useful benchmark. In February 2026, TSMC CEO C. C. Wei announced alongside Japanese Prime Minister Sanae Takaichi that the company would produce 3-nm chips at its second, still-under-construction plant in Kumamoto. This decision increased TSMC's total planned investment from $12.2 billion to $17 billion and was largely driven by rising demand from Nvidia for 3-nm chips as well as TSMC's assessment that the local Kumamoto environment was equipped to deliver quickly at the highest standards.[60]

Ultimately, attracting further TSMC investment in Europe will hinge on both market demand and credible improvements at the local level in Dresden and across the broader European industrial environment.

[60] Reuters. "TSMC CEO Flags 3-Nanometre Chip Production in Japan, Investment Reported at $17 Billion." Reuters, February 4, 2026. https://www.reuters.com/world/asia-pacific/tsmc-plans-3-nanometre-chip-production-japan-with-17-billion-investment-yomiuri-2026-02-04/.

2. Recalibrating and Scaling Up Research Cooperation

Taiwan's semiconductor industry has a strong track record of tapping into European innovation ecosystems. Today, the EU–Taiwan R&D relationship is dynamic and expanding, although industry leaders frequently describe it as reliant on processes that are "too slow and excessively complex."[61] Discussions with stakeholders involved in these cooperation schemes point to two key asymmetries that the European side should address as a matter of priority.

First, Taiwan operates as a cohesive, centrally coordinated actor, whereas Europe remains fragmented across Member States. Taiwan's Department of Industrial Technology (DoIT), within the Ministry of Economic Affairs, has recently articulated a clear outward strategy of "deepening in Western Europe, connecting Eastern Europe, and advancing in Northern Europe," leveraging forward-looking technology alliances and bilateral and multilateral R&D mechanisms to help industries access European innovation and strengthen global competitiveness.[62]

In contrast, Europe lacks an integrated strategy for engaging Taiwan as a source of innovation, with cooperation driven by a patchwork of national initiatives and bilateral partnerships. These include, for

[61] Author's notes from EU-Taiwan industry dialogue organized by CHIPDIPLO, Munich, November 2025.

[62] Ministry of Economic Affairs, Republic of China (Taiwan), "Tái-Ōu yánfā hézuò chuàng lǐchéngbēi! Jīngjìbù zhùgōng chǎnyè shēngēng Ōuzhōu, dàidòng yú 42 yì yuán chǎnzhí" 「臺歐研發合作創里程碑！經濟部助攻產業深耕歐洲 帶動逾42億元產值」[Taiwan–Europe R&D cooperation reaches a milestone! The Ministry of Economic Affairs supports industry expansion in Europe, generating over NT$4.2 billion in output value], January 7, 2026, https://www.moea.gov.tw/MNS/populace/news/News.aspx?kind=1&menu_id=40&news_id=121559.

example, the Techbridge program between the Netherlands Enterprise Agency (RVO) and Taiwan's Industrial Development Administration (IDA), which focuses on silicon photonics, as well as agreements involving Taiwan's DoIT and IDA and France's public investment bank Bpifrance.

Increasing the scale at which European players can act through strategic coordination would help unlock their potential. Thus far, European engagement with Taiwan has remained fragmented, with cooperation developing through programs such as Taiwan's A+ Program, bilateral MOUs, or co-funded projects with European universities and firms.

Unlike Japan and South Korea, Taiwan is not a formal partner of Horizon Europe, the EU's €93.5-billion research and innovation program for 2021–27, which is currently being renegotiated. Taiwanese organizations can sometimes participate as third-country entities, but they are generally ineligible for direct EU funding, and their participation depends on project consortia accepting non-EU partners and covering their costs. These constraints have fed the perception in Taiwan that European policies toward the island in this area are "unfriendly."[63]

Nevertheless, EU–Taiwan collaboration in research and innovation increasingly takes place within the framework of Horizon Europe in strategically important areas that fall under Horizon Europe's "Digital, Industry and Space" cluster. As of 2026, Taiwan participates in Horizon Europe as a non-associated third country, allowing Taiwanese universities, research institutes, and companies to join European research consortia—but generally requiring them to finance their own participation. In practice, this limitation is mitigated by targeted support from

[63] Multiple interviews conducted by authors, 2025–26.

Taiwan's Ministry of Economic Affairs and the National Science and Technology Council, which provide dedicated funding to Taiwanese partners who successfully pass the EU's evaluation process.

Taiwan's active collaboration with Eureka, the world's largest intergovernmental network for market-driven industrial R&D, provides a practical blueprint for expanding structured cooperation. Unlike South Korea and Singapore, Taiwan is not a full member of Eureka, but Taiwanese participation is primarily coordinated through ITRI and the Ministry of Economic Affairs (MOEA), which provide subsidies to local companies joining multi-country Eureka calls. Since 2024, Taiwan has expanded its involvement from early bilateral ties with countries such as the Netherlands, France, and Denmark to large-scale calls involving five to ten European and non-European countries simultaneously, committing millions of euros in public–private investment. For example, in 2025, the R&D funding agencies in Taiwan (DoIT), Finland (Business Finland), Belgium (VLAIO), Lithuania (RCL), the Netherlands (RVO), and Poland (NCBR) launched an Eureka Globalstars call targeted at microelectronics, photonics, and quantum technologies.[64]

Second, bureaucratic and cultural differences shape how Taiwanese and European actors approach R&D cooperation. The Taiwanese side tends to prioritize the early identification of future markets for industrialization, seeks to avoid overlap by "deconflicting" areas of activity, and develops projects on the basis of a clearly defined commercial strategy.[65] European participants in dialogues with Taiwan often note the sharp focus of their counterparts on sourcing solutions to specific

[64] "Eureka Globalstars Taiwan Call 2025," Business Finland, https://www.businessfinland.fi/en/services/funding/calls/2025/eureka-globalstars-taiwan-call-2025/, (accessed April 18, 2026).
[65] Author's interview with senior Taiwanese executive, Taipei, March 2026.

technological challenges or capitalizing on clearly identified market opportunities.

This pragmatic, problem-solving approach is not always mirrored on the European side. European actors more often treat such exchanges as open-ended dialogues, from which concrete opportunities are expected to emerge organically rather than being defined upfront. The result is a difference in tempo and orientation, with Taiwan emphasizing targeted, outcome-driven collaboration and Europe favoring a more exploratory, process-driven approach.

In sum, the EU should recalibrate its R&D cooperation with Taiwan to achieve greater scale and establish frameworks capable of delivering targeted solutions to the development bottlenecks faced by European companies. This will require a new mechanism that addresses the constraints of Taiwan's limited participation in Horizon Europe and Eureka while providing greater structure, coherence, and critical mass. Building on the Eureka model, particularly its ability to coordinate multiple European R&D funding agencies, offers a promising avenue for scaling up and streamlining cooperation. A more effective framework would begin with prior coordination among the European Commission, national R&D funding agencies, participating companies, and research and technology organizations (RTOs), enabling Europe to present a coherent and structured interface to its Taiwanese counterparts. Such an approach need not operate on a large scale to be effective; The key is to build intra-European alliances around clearly defined industrial needs for which Taiwan's innovation ecosystem is well positioned to provide targeted solutions.

3. Improving Conditions to Facilitate EU–Taiwan Joint Investment

Taiwan is not like Singapore or New York. It does not have an active sovereign wealth fund like Temasek scouting technology investments across Europe, and its financial industry overall lacks an outward-looking, globally oriented ecosystem. Even though their senior staff are often extremely knowledgeable about tech, Taiwanese funds are generally hesitant to invest in start-ups, while semiconductor companies large enough to pursue a global investment strategy tend to view Europe as a region of limited economic growth, encumbered by heavy regulation. "The board never discusses Europe; there is nothing to buy," notes one blunt industry insider.[66] Compounding this dynamic, European founders are often unaware of financing and scaling opportunities in East Asia, where they completely lack networks, and tend to look at the United States for venture capital and private equity.

Nevertheless, this bleak picture warrants qualification. Times are beginning to change: Strong economic growth in Taiwan, combined with uncertainties surrounding the future of US–China relations, is creating incentives to diversify assets, even into regions of relatively low growth. Some Taiwanese funds are now turning to Europe in search of innovation. Notably, major players such as Fubon Capital and Taishin are paying increased attention to opportunities across the continent. In addition, efforts to attract Taiwanese capital into

[66] Author's interview with senior Taiwanese executive, Taipei, March 2026.

the European semiconductor ecosystem can build on an existing track record, as Taiwanese funds have already begun investing in Europe.

- In July 2025, SiPearl, a French company that designs high-performance, low-power microprocessors aimed at providing European technological options in supercomputing and AI infrastructure, closed a €130 million Series A round. The final tranche of €32 million was notably co-led by Cathay Venture, the venture capital arm of Taiwan's Cathay Financial Holdings.[67] This was Cathay Venture's first-ever investment in France. SiPearl's flagship processor, Rhea1, the "brain" of Europe's first exascale supercomputer, JUPITER, is being manufactured on TSMC's 6 nm process. In Taipei, a private equity senior executive noted that Cathay is the first Taiwanese financial institution to have articulated an investment strategy for Europe.

- Industrial Technology Investment Corporation (ITIC), the venture capital subsidiary of Taiwan's Industrial Technology Research Institute (ITRI), has invested in several French companies in recent years: SCINTIL Photonics, Wise Integration, and H-Probe are all examples of growing interest by ITIC in the innovation ecosystem surrounding CEA-Leti in the Grenoble Cluster and Paris Saclay.

On the political front, the Taiwanese government is now actively encouraging investors to expand into Europe, subtly shifting the landscape. Taiwania Capital, functioning as an instrument of Taiwanese foreign policy, has deployed the Central and Eastern Europe Investment Fund (CEE Fund), a US$200 million sovereign-backed venture

[67] SiPearl. "Press Release SiPearl: Final Closing of €130m Series a with Cathay Venture from Taiwan, EIC Fund and France 2030," 2025. https://sipearl.com/wp-content/uploads/2025/07/English_version.pdf.

capital and private equity vehicle, into the Czech Republic, Slovakia, and Lithuania. It should be noted, however, that this outcome is the result of the failure of the Taiwanese government and private actors to reach consensus on a cooperative modus operandi, leaving the government little choice but to rely on Taiwania Capital, a solution that had not been its first preference. Another initiative was the establishment in 2022 by Taiwan's National Development Council of a US$1 billion Central and Eastern Europe Credit Fund, but CEIAS observers note that credit conditions were offered at rates less competitive than prevailing market rates for European banks; therefore, only smaller loans were provided.[68]

Building on these developments, the European Union should promote the creation of joint semiconductor funds linking Taiwanese and European organizations akin to the partnership between Applied Ventures, the venture capital arm of Applied Materials, and ITIC. Such initiatives will likely originate at the level of individual EU Member States. For example, the French Public Investment Bank has reportedly explored opportunities in this space. At the same time, comparable arrangements should be considered for EU-wide institutions, including the European Investment Bank and the European Investment Fund, to leverage scale and enhance cross-border collaboration.

[68] CEIAS, EU-Taiwan Tracker, https://eutwtracker.ceias.eu/tracker/340 (accessed April 18, 2026).

4. A "Trusted Partner"? Downstream Supply-Chain Integration and EU–Taiwan Relations

Projections show that European demand for data centers is expected to grow to approximately 35 gigawatts (GW) by 2030, up from 10 GW today. Europe may lag behind the United States in AI data center deployment, and companies such as Alphabet, Oracle, Amazon, Microsoft, and SoftBank may be prioritizing capital expenditure in the US, but Europe is nonetheless entering a period of fast AI infrastructure construction, boosted by public investment.

The construction of data centers by private actors in Europe provides opportunities for Taiwanese companies. To take Google as an example, data centers are planned for construction in Belgium, Germany, and the Netherlands for AI infrastructure.[69] Taiwanese companies play an indispensable role in these projects. Although Google's European data centers are physically built by local contractors, the servers, power systems, and AI accelerators are almost entirely supplied by Taiwanese companies. Taiwanese original design manufacturers such as Quanta, Wiwynn, and Foxconn design, assemble, and service Google's custom AI servers locally in Europe. Delta Electronics

[69] "Google's 2026 AI Investment: Alphabet to Spend up to $185B on Data Centers and Cloud Infrastructure," ATGBics, February 26, 2026, https://atgbics.com/blogs/news/google-s-2026-ai-investment-alphabet-to-spend-up-to-185b-on-data-centres-and-cloud-infrastructure.

and Lite-On provide the high-efficiency power conversion and cooling solutions required for AI workloads. Google's AI chips, the TPUs, are all manufactured in Taiwan by TSMC.

What the EU lacks is a coordinated strategy for attracting and anchoring such investment at the European level. Industry signals reflect this gap. Foxconn, which is estimated to account for roughly 40 percent of the data center value chain, has repeatedly indicated to European counterparts that building a competitive ecosystem will require the organization of a coherent, region-wide value chain for data center construction.[70] Without such coordination, investment is likely to flow elsewhere. In practice, Foxconn continues to concentrate much of its data center assembly activity in locations such as Mexico and Vietnam, underscoring the risk that Europe will remain an export market rather than a production base for Taiwan's leading player. From the perspective of a company such as Foxconn, which already has an existing and growing manufacturing footprint on European soil, without visibility on aggregated demand for data centers at the European level, and with obstacles to the construction of a cost-effective European supply chain, additional investment in manufacturing capacity is unlikely.

Although there is a clear strategic rationale for European defense companies to source components from Taiwan and co-develop products, this is not happening at the moment—or, if so, only on the very margins. Several factors contribute to this gap. One is the political sensitivity in Europe around dual-use cooperation with Taiwan, as discussed below in the section on the lack of a clear and robust European strategy for de-risking from China. Another is the slow pace of scaling up European arms production.

[70] Author's interview with European diplomats, Taipei, March 2026.

Supply-chain cooperation on drones, in particular, would have strong justification. Taiwan's drone cooperation with Poland and the Czech Republic is booming, effectively amounting to a Taiwanese contribution to the defense of Ukraine.[71] Even when Europe manufactures the chips, it currently lacks the advanced packaging and printed circuit board (PCB) ecosystem needed for large-scale production. Producing drones at scale requires factories capable of producing thousands of motherboards per day—a capacity Europe cannot currently match, as roughly 90 percent of the world's high-end PCBs are produced in Asia, primarily in China and Taiwan. Within Europe, AT&S Austria Technologie & Systemtechnik AG is largely the only player in this space, one that could gain strategic importance if PCBs become a chokepoint.

Market dynamics could generate sufficient growth opportunities for deeper EU–Taiwan supply-chain integration without government intervention—for example, through the large-scale data center construction or production of drones in Europe that leverage the size of the EU market. Regardless of whether such market forces materialize, the key political question for EU–Taiwan relations is whether to pursue the creation of a European "trusted supplier" label. Such a designation would be coherent with the introduction of the ICT supply-chain security toolbox earlier this year.[72] It would guide procurement trends, favor European suppliers within an industrial policy framework, and reduce exposure to the weaponization of interdependence by the Great Powers. A trusted supplier status would form the

[71] Jake Chung, "Drone Deal with Prague Hailed," Taipei Times, April 2, 2026, https://www.taipeitimes.com/News/front/archives/2026/04/02/2003854875; Chloe Liao, "Taiwan Targets Poland's Drone Supply Chain as Eastern European Demand Surges," Digitimes Asia, April 10, 2026, https://www.digitimes.com/news/a20260408PD202.html.

[72] European Commission, "EU Launches New Toolbox to Strengthen ICT Supply Chain Security," February 13, 2026, https://digital-strategy.ec.europa.eu/en/news/eu-launches-new-toolbox-strengthen-ict-supply-chain-security.

cornerstone of a broader policy linking local content requirements to international partners. In the context of EU–Taiwan relations, it could serve both as an incentive for Taiwanese investment in Europe, providing facilitated access to the European market, and as a source of leverage for Europe to create favorable technological partnerships.

5. Enhancing Talent and Human Resources Cooperation

In both Taiwan and Europe, the semiconductor industry faces acute talent shortages. SEMI Europe estimates that 30 percent of the workforce in the European semiconductor ecosystem will retire by 2030, while the number of relevant graduates is growing by less than 1 percent per year, resulting in a projected annual shortfall of around 10,800 skilled workers.[73] In Taiwan, the gap is even more pronounced: The industry was short of 34,000 workers as of May 2025, according to 104 Job Bank and ITRI.[74] The situation is likely to worsen: Taiwan recently overtook South Korea as the country with the world's lowest fertility rate.[75]

[73] SEMI, "European Chips Skills Academy Publishes 2025 Skills Strategy Report," November 19, 2025, https://www.semi.org/en/semi-press-releases/european-chips-skills-academy-publishes-2025-skills-strategy-report.

[74] "Semiconductor Industry Faces 34,000-Worker Shortage amid Rapid Expansion," Taipei Times, July 29, 2025, https://www.taipeitimes.com/News/biz/archives/2025/07/29/2003841070.

[75] Kao Chia-ho and Lee Wen-hsin, "Fertility Rate Falls to Lowest Globally," Taipei Times, January 10, 2026, https://www.taipeitimes.com/News/front/archives/2026/01/10/2003850357.

At first glance, the EU and Taiwan are not solutions to each other's talent shortages, and they may even compete to attract international talent. Taiwanese companies will increasingly need to rely on internationalization and increased immigration. Taiwan's Ministry of Education (MOE), in cooperation with industry, has already launched the International Industrial Talents Education Special Program, which offers full scholarships and a monthly living allowance to STEM students who are required to work in Taiwan for a minimum of two years after graduation.[76] The program specifically targets talent from Southeast Asia and India. While the majority of the 700,000 Southeast Asians who live and work in Taiwan are in manufacturing and caregiving, a rapidly growing segment is moving into specialized professional roles in high-tech zones, although no statistics on their numbers are available. The India–Taiwan talent pipeline already exists and grows, but it is limited in scale. Out of the 300 Indian students who graduate from Taiwanese universities each year, about 50–60 stay on in industrial jobs.[77]

Taiwan's international talent policies are generally not focused on Europe, and when they are, they encounter significant challenges. For example, the Taiwan–Europe short-term semiconductor training program, jointly organized by the Ministry of Foreign Affairs (MOFA) and National Taiwan University (NTU), has struggled with recruitment, as students in target countries are often reluctant to spend time in Taiwan.[78] Germany's Semiconductor Talent Incubation

[76] Ministry of Education, Republic of China (Taiwan), International Industrial Talents Education Special Program (INTENSE Program), launched 2024, https://english.moe.gov.tw/cp-48-39791-964aa-1.html (accessed April 18, 2026).

[77] "Jiàoshòu, wǒ xiǎng lái Táiwān dúshū' — yī fēng jíshí lùqǔ xìn, Yìndù piānjì qīngnián biàn Táijī zhànjiàng" 「「教授, 我想來台灣讀書」一封即時錄取信, 印度偏鄉青年變台積戰將」["Professor, I want to study in Taiwan" — An instant admission letter turns a youth from rural India into a TSMC warrior], Tiānxià, January 26, 2026, https://www.cw.com.tw/article/5139558.

[78] International College, National Taiwan University, "2025 Taiwan-Europe Short-Term Semiconductor Training Program," October 13, 2025, https://intl.ntu.edu.tw/news/detail/News/News-□-2025-Taiwan-Europe-Short-Term-Semiconductor-Training-Program.

Program (STIPT), which allows bachelor's students to spend six months in Taiwan, combining academic coursework at a partner university with a tailored internship at TSMC, was expanded in 2025 from Saxony to all German STEM universities, increasing enrollment from 30 to 100 students per semester. Although recipients are not contractually obliged to join ESMC, the program is designed to form a skilled workforce for the company. However, German participants trained by TSMC reportedly tend to prefer pursuing careers with German companies rather than with TSMC.[79] Taiwanese interlocutors complain that Western workers, unlike their Taiwanese counterparts, will never show up at 2:00 a.m. to repair an air-conditioning system. However, the dismissive attitude of the Taiwanese side works both ways, as it ultimately drives skilled foreign workers with other options to look elsewhere.

The EU has an interest in improving the environment for access to talent by Taiwanese companies, and, as argued above, the top priority is to ensure that TSMC succeeds in Dresden. Talent incubation through STEM university programs, including through reskilling and retraining, is essential. How should Europe strengthen its attractiveness to Taiwanese talent, including at the academic level? The EU's universities struggle to match the international pull of US institutions as Taiwanese semiconductor executives (and their children) continue to gravitate toward the United States. One interesting best practice to look at is Arizona State University.[80] ASU has positioned itself as a leading US hub for semiconductor talent, with an offer spanning research, prototyping, and workforce development. A US$270 million facility in collaboration with Applied Materials enables industry

[79] Author's interviews with European actors involved in the program, Taipei, 2025.
[80] Author's interview with senior semiconductor industry executive, Taipei, March 2026.

immersion for students to learn operating machines, offering cleanroom certification. The ASU semiconductor talent pipeline also expands internationally, with training facilities in Southeast Asia. Five words matter for Europe, where initiatives are notoriously fragmented: "concentration," "scale," "international," "talent," and "strategy." For designing an ambitious European program at the right scale, Taiwanese universities such as National Tsing Hua University (NTHU) in Hsinchu or National Yang Ming Chiao Tung University (NYCU) could be interesting partners.

Exposing Taiwanese talent to European culture and professional environments serves Europe's strategic interests. By integrating more Taiwanese engineers into European companies, the two regions can reinforce their mutual indispensability in global technology and innovation. To support this, Europe should create new instruments for talent mobility, prioritizing scholarships and internships, while collaborating with European RTOs to design programs that align with research security standards. Visas are one area in which a quick win is possible. The EU–India Comprehensive Framework of Cooperation on Mobility and the 2022 Comprehensive Migration and Mobility Partnership (MMPA) between India and Germany provide a valuable template for facilitating talent exchange with Taiwan, with two week-processing times for priority visa categories, 100 percent digital applications, no language test for families, and pre-vetting of academic degrees to eliminate individual case-by-case verification have greatly facilitated talent exchanges with India. Such initiatives would complement academic partnerships and enhance talent incubation within universities.

6. Sending Clearer Market Signals Regarding Demand Projections

The European Commission needs to articulate a clear demand projection signal as part of its foreign policy outreach to partners such as Taiwan. Large-scale AI chip manufacturing investments will not materialize in Europe unless market demand becomes concrete and visible, particularly through the deployment of AI data centers at scale. At present, a significant gap exists between Europe's emerging demand and its supply-side capabilities. While Europe is investing in capacity around FD-SOI technologies, it currently lacks credible prospects for sub-5-nm foundries.

By communicating official projections for AI chip demand through 2035, the European Commission can provide clearer market signals to investors and partners. Such guidance would enable industrial players—especially those committed to staying in Europe with a future status as "trusted partners"—to take concrete actions now to develop the necessary capacity, infrastructure, and ecosystems to meet the continent's anticipated needs in the 2030s. This approach would not only strengthen Europe's strategic autonomy but also make the continent a more compelling destination for targeted foreign investment, including from Taiwanese technology and semiconductor firms. This is a space in which the European Commission can develop a clear and powerful economic foreign policy narrative.

7. Cooperating on Foundational Chips Through Demand-Side Policies

China's massive investment in foundational chips (typically mature nodes ≥ 28 nm) can be understood not only as a structural shift in the global semiconductor landscape but also as a challenge to which EU–Taiwan cooperation could offer mutually beneficial solutions.

It is estimated that China controlled around 40 percent of global mature-node capacity by 2025.[81] What is unfolding—both domestically within China and in external trade—is a now-familiar pattern of non-market policies aimed at dominating global markets through scale and aggressive price competition. In Taiwan, the think tank DSET has described this dynamic as a form of "state-sponsored economic warfare" designed to erode international competition.[82] While both Taiwan and the EU are affected by this expansion, the nature of the pressure differs, given their respective positions in the value chain.

Historically, Taiwanese firms accounted for roughly 40 percent of the legacy chip market, a share China is on track to surpass by 2027. Taiwanese foundries are already facing intense competitive pressure, with Chinese rivals undercutting prices by 20–30 percent, supported

[81] Eliot Chen, "Legacy Chips Are a Lasting Problem," The Wire China, October 12, 2025, https://www.thewirechina.com/2025/10/12/legacy-chips-are-a-lasting-problem/.
[82] Jeremy Chang et al., "The Great Siege: The PRC's Comprehensive Strategy to Dominate Foundational Chips," DSET, April 1, 2025, https://dset.tw/en/research/the-great-siege/.

by extensive state subsidies.[83] A parallel dynamic is emerging in Europe: Integrated device manufacturers (IDMs) such as Infineon and STMicroelectronics are increasingly exposed to a wave of lower-cost imports in standard industrial components, threatening the profitability of their core product lines.

Unlike Taiwan, the EU is a major consumer of legacy chips, particularly for its automotive and industrial sectors. For Europe, China's expansion represents a double-edged sword: It provides access to low-cost supply but at the risk of creating a structural dependency, as demonstrated by China's weaponization of Nexperia chips in 2025/2026. Despite the ambitions of the EU Chips Act, demand for mature-node semiconductors in Europe is growing faster than domestic production capacity. By 2030, the EU is projected to face a supply gap exceeding eight million wafers per year.

In this context, efforts to "de-risk" by restricting Chinese imports could carry significant costs, especially as European IDMs are deepening their "China for China" strategy and manufacturing foundational chips in China. Without sufficient alternative capacity, European automotive and appliance manufacturers would risk facing severe supply shortages if China decided to cut supplies once dependencies are established.[84] The electric vehicle sector offers a cautionary tale of how trade defense measures such as anti-subsidy investigations and the imposition of additional EU tariffs could have unintended consequences for European firms producing in China and exporting

[83] Michael Nakhiengchanh, "Taiwan's Legacy Chip Industry under Pressure from Chinese Rivals," Taiwan News, February 10, 2025, https://www.taiwannews.com.tw/news/6033747.
[84] Tim Rühlig, "China's Growing Legacy Chip Production – A Challenge for Europe?," https://www.iss.europa.eu/publications/commentary/chinas-growing-legacy-chip-production-challenge-europe.

to the EU. Unless carefully designed, potentially including targeted exemptions, such measures risk undermining the competitiveness of the very industries they are intended to protect.

How should the EU and Taiwan articulate a coordinated response to China's overcapacity? When it comes to trade defense measures, the United States and Japan are likely to remain the EU's most effective partners. In contrast, the scope for EU–Taiwan cooperation lies more in shaping demand through non-price criteria. European customers, following the lead of some American firms, may increasingly be willing to pay a premium for chips "not made in China" in order to mitigate future sanctions or security risks.[85] The coming tightening of European cybersecurity and resilience standards will create a promising policy environment for strengthening cooperation.[86]

However, these emerging corporate de-risking strategies would benefit from a stronger policy framework. Coordinating demand for foundational chips around criteria such as trustworthiness and resilience represents a promising avenue that is gaining some traction within the G7 and receiving sustained attention in EU–Japan relations. This approach could serve as a model for EU–Taiwan cooperation at the bilateral level while achieving greater impact if pursued in a broader plurilateral format such as Pax Silica, the plurilateral cooperation framework initiated by the Trump administration to secure the entire AI supply chain—from critical minerals and semiconductors to data infrastructure—among a coalition of trusted partner nations.

[85] Office of the President, Republic of China (Taiwan), "President Lai Meets Semiconductor Industry Association Delegation," March 2, 2026. https://english.president.gov.tw/News/7091.

[86] The revision of the cybersecurity regulation includes, in an annex, a list of "critical links" that will be required to separate from high-risk suppliers once these are identified, while the Commission is expected to propose a Cloud and AI Development Act, which should also incorporate elements favoring EU partners and strengthen requirements for security and resilience.

In parallel, the creation of a European "trusted supplier" label could help guide procurement decisions and further reduce exposure to Chinese overcapacity.

8. Addressing the Fragmentation Problem in Engaging with Taiwan's Semiconductor Ecosystem

Since 2023, Taiwan's Ministry of Economic Affairs (MOEA) has organized the Taiwan Semiconductor Roundtables, held during SEMI Taiwan. These events bring together European representatives based in Taipei, including participants from the UK. According to a European attendee, the format has effectively created a platform for intra-European competition, as countries tend to showcase their national strengths to Taiwanese interlocutors without prior coordination.[87] Although the Taiwanese side has so far declined invitations to rotate the roundtables to Europe, a rotation system now appears to be under consideration.

A common misconception among Europeans is that Taiwan's private sector is tightly aligned with the government. In fact, many companies seek to maintain their distance from government and only interact when they need help solving specific problems. This misperception partly reflects the European experience with Japan, where public–

[87] Author's interview with senior European diplomat, Taipei, March 2026.

private coordination is highly structured, as well as a lingering view of Taiwan as a classic developmental state, an image that no longer reflects the reality in 2026, if it ever did. Projects by TSMC in the United States have had the result of nourishing this misperception, as they are the most visible and intense side of Taiwan's semiconductor industrial expansion overseas. But they are in a category of their own, involving direct engagement from the Office of the President and the National Security Council, including through the negotiation of the 2026 US–Taiwan Agreement on Reciprocal Trade.[88] TSMC's expansion in the US is the exception that should not be generalized to draw conclusions regarding government-to-government engagement with Taiwan.

Therefore, it is important to manage expectations regarding what governmental engagement can achieve. In addition, Taiwan has several actors that present themselves to European interlocutors as interfaces to the semiconductor industry. Who should the EU speak to when seeking to deepen cooperation with Taiwan's semiconductor ecosystem?

The most effective government interface is clearly the Ministry of Economic Affairs (MOEA), particularly its Department of Industrial Technology (DoIT). DoIT leverages the resources of research institutes, industry, and academia to develop advanced technologies with industrial potential, foster emerging industries, and drive industrial innovation and transformation. More broadly, the MOEA plays a crucial role for industry by administering subsidies and grants that support

[88] US Department of Commerce, "Fact Sheet: Restoring American Semiconductor Manufacturing Leadership.", January 15, 2026, https://www.commerce.gov/news/fact-sheets/2026/01/fact-sheet-restoring-american-semiconductor-manufacturing-leadership.

SMEs. In 2026, these programs are especially focused on helping firms comply with ESG and Carbon Border Adjustment Mechanism (CBAM) standards, ensuring their continued eligibility as suppliers to European clients. The Industrial Development Administration (IDA) under the MOEA is also a key interlocutor—for example, European companies seeking suppliers of power management ICs would typically engage with the IDA.

The National Science and Technology Council (NSTC) plays a complementary role in Taiwan's technological foreign policy. The NSTC negotiates the "Science and Technology Cooperation" (STC) agreements that Taiwan has signed with countries such as France and the Czech Republic, providing a strategic framework for facilitating collaboration across national technology ecosystems but focusing on Technological Readiness Levels (TRLs) from 0 to 3 exclusively, whereas the DoIT covers TRLs 4 to 6, and TRLs 7 to 9 are primarily private-sector driven. Similarly, the Industrial Technology Research Institute (ITRI), from which TSMC and UMC originated, is increasingly active in international R&D cooperation. Its presence in the EU is so far limited to a representative office in Germany and joint research projects in the Czech Republic and Slovakia, but it is reportedly considering setting up new offices in Brussels and Paris. The Ministry of Foreign Affairs (MOFA) focuses on leveraging Taiwan's strategic strengths to support the Taiwan indispensability narrative and secure international backing from governments, firms, and civil society for Taiwan's survival as a sovereign entity and an open society in the face of China's absorption threats.

Constraints on the EU's traditional instruments for trade or investment partnerships do not preclude alternative avenues for closer

cooperation. In fact, previously considered trade or investment agreements now appear unachievable, as too many Member States would be deterred by the potential negative impact such deals could have on their relations with the PRC. An Enhanced Trade Partnership similar to the one the UK concluded with Taiwan in 2025 seems unrealistic for the EU, given the uneven understanding of Taiwan and cross-strait dynamics among Member States, China's influence networks in certain capitals, and a tendency to overstate the risks of engaging with Taiwan.[89]

However, this has not prevented the EU–Taiwan Trade and Investment Dialogue, which was upgraded in 2022 to Ministerial Level and is currently the primary mechanism for deepening cooperation. Led by Taiwan's Economy Minister and the European Commission's Directorate-General for Trade, the dialogue has facilitated initiatives in digital trade, offshore wind, and improved EU market access for agricultural products. The Fourth Dialogue, held in Brussels in December 2025, showed an increased focus on economic security issues and led to the announcement of an information-sharing mechanism to monitor semiconductor supply chains.

The Trade and Investment Dialogue should be strengthened and deepened to serve as the EU's central platform for strategic coordination in semiconductor technology exchanges with Taiwan. This can be advanced in two complementary directions:

[89] Department for Business and Trade, UK, Enhanced Trade Partnership arrangement between Taiwan and the United Kingdom, June 30, 2025, https://www.gov.uk/government/publications/uk-and-taiwan-enhanced-trade-partnership-arrangement-pillars/enhanced-trade-partnership-arrangement-between-taiwan-and-the-united-kingdom.

- *Posting a dedicated DG CONNECT representative at the European Economic and Trade Office in Taipei with a mandate centered on chip diplomacy*. This role would include facilitating information sharing among Member States regarding national initiatives, developing the EU's understanding of Taiwan's semiconductor ecosystem, preparing the Commission's and Member States' collective engagements with Taiwanese counterparts, and maintaining sustained attention on long-term networking and relationship-building in this critical sector.

- *Considering transforming the Trade and Investment Dialogue with Taiwan into a Trade and Technology Council (TTC) modeled on the EU–India Trade and Technology Council (TTC)*. Launched in 2023, the EU–India TTC is designed not just to help with policy coordination but also to actively boost bilateral trade and investment through dedicated working groups on strategic technologies, green energy, and resilient value chains. Similarly, the EU–Taiwan Dialogue already provides a flexible platform for addressing practical challenges such as talent shortages, supply-chain resilience, and investment in emerging technologies—but at a very macro-level and without industry involvement. Elevating it to a TTC, with shareholding from DG Connect and Grow, would create a more structured space for identifying concrete industrial opportunities, supporting EU–Taiwan matchmaking in sectors such as semiconductors, and strengthening Europe's technological alliances and economic security agenda.

9. Overcoming Ambiguous Signaling Regarding De-Risking from China

Although the central economic driver that could lead to a deeper partnership with Taiwan in semiconductor innovation and manufacturing is still the EU's overall competitiveness, geopolitics and foreign policy positioning are factors that should not be neglected. To date, however, despite a shared narrative on de-risking from China and the objective characterization of the EU and Taiwan as "like-minded" democratic and open societies, overall, geopolitical factors act more as a constraint than an enabler of closer EU–Taiwan relations. European officials need to be aware that their messaging regarding de-risking from China is perceived as inconsistent and unclear. Taiwanese interlocutors constantly argue that the lack of clarity of the EU's China strategy, with de-risking signals from the Commission being contradicted by some Member States and by corporate investment in China, is a major impediment to developing stable cooperation. More broadly, Europe's ambiguities, reluctance to take clear sides in US–China competition, cautious management of relations with Beijing despite China's role in supporting Russia's war in Ukraine, and active cultivation of state-driven industrial overcapacity that undermines European firms, collectively fuel a Taiwanese perception that business transactions with the EU will not be rewarded strategically.

Addressing this challenge does not require challenging the One China policy or a wholesale decoupling from China—which remain unfeasible for most European economies. Rather, it calls for greater consistency in political messaging across the EU and European governments and clarity of messaging regarding the strategic importance of de-risking. For Taiwan, what matters is less the intensity of European de-risking than its intelligibility and durability. Providing a more coherent and predictable policy framework would not only reduce distrust but also enable more ambitious forms of industrial cooperation, including joint investments, R&D partnerships, and supply-chain integration. In that sense, overcoming ambiguous signaling is a prerequisite for scaling up EU–Taiwan semiconductor cooperation.

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CHIPS DIPLOMACY

SUPPORT INITIATIVE

Semiconductors are increasingly at the core of EU–Taiwan relations. As Taiwan consolidates its position as the indispensable manufacturing hub of the global AI infrastructure revolution, its semiconductor ecosystem is rapidly internationalizing in ways that also benefit Europe. Taiwanese engagement in Europe is growing through major investments such as TSMC's Dresden fab and the expanding presence of firms like Foxconn and GlobalWafers. At the same time, European companies, including ASML, Air Liquide, and Merck, are deeply embedded in Taiwan's production networks, reflecting an increasingly interdependent relationship shaped by supply chain resilience and economic security.

Yet this cooperation remains uneven, constrained by regulatory hurdles, talent shortages, differing strategic priorities on both sides, different economic models and misperceptions. Based on extensive interviews with European and Taiwanese stakeholders, this paper argues that a new phase of cooperation is both possible and necessary. It sets out a pragmatic agenda for Europe: improving the business environment in key industrial hubs, scaling up research cooperation, strengthening investment frameworks, enhancing talent mobility, and providing clearer signals on demand and the long-term consistency of its de-risking strategy.

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