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The EU Semiconductor Geopolitical Risk Survey: Outlook for 2026–2031

POLICY PAPER • JULY 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 18-month project that addresses the EU's urgent need for chip diplomacy. CHIPDIPLO is implemented by Institut Montaigne (IM, Paris), the Central European Institute for Asian Studies (CEIAS, Bratislava), the Centre for Security, Diplomacy and Strategy (CSDS, Brussels), and the European Union Institute for Security Studies (EUISS, Paris and Brussels). The project is co-funded by the European Union.

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Since the chip shortage of 2020 to 2022, policymakers, industry representatives, and think-tank experts have conducted extensive research on the dangers of semiconductor supply disruptions—and formulated strategies for how to deal with them. Without access to chips, Europe cannot maintain its medical, defense, or other critical industries. Moreover, advances in semiconductor technologies can unlock innovations for both commercial and defense-related industries.

Both the supply of semiconductors to Europe and beyond and the competitiveness of the European semiconductor ecosystem face severe threats. These include military tensions in the Taiwan Strait, the proliferation of export controls, unfair competition, and the EU's high energy prices. The EU Semiconductor Geopolitical Risk Survey (EUSRS) sets out to sketch the overall semiconductor "risk landscape" of the next five years (until late 2031) by pooling insights from governments, the semiconductor ecosystem, and experts at think tanks. In this first iteration of the EUSRS, 55 respondents—predominantly representatives from the semiconductor ecosystem—anonymously scored 20 threats to the EU's two semiconductor interests: security of supply and competitiveness. They assigned two 0-to-10 scores (one gauging the level of threat to supply and the other to competitiveness) to each risk, with 0 to 1 defined as "not threatening at all" and 9 to 10 as "extremely threatening." CHIPDIPLO derives six key takeaways from the survey results:

1.

The respondents paint a bleak picture of Europe's future when it comes to semiconductors. They find that the supply of semiconductors to end-user industries in Europe and beyond is at high risk of

severe disruption over the next five years. In addition, a potent mix of geopolitical, geoeconomic, and legal threats and EU internal weaknesses will likely undermine the competitiveness of Europe's semiconductor ecosystem before the end of 2031 (see Figure 1 for the full survey results).

2.

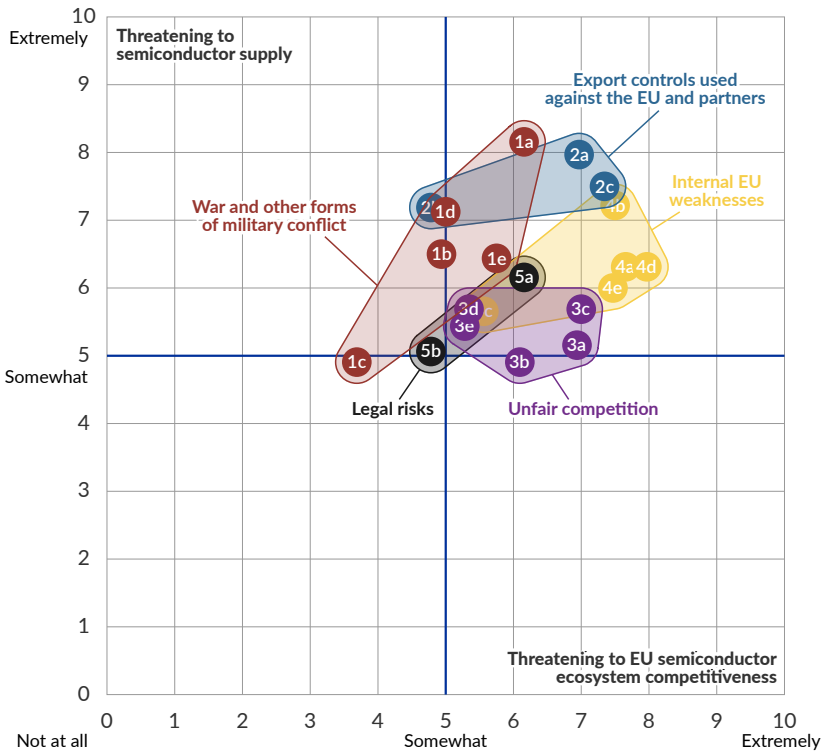
The most severe threat to the EU's semiconductor interests is now other countries curtailing the supply of key manufacturing inputs to the EU and its partners. **Export controls used against the EU and partner countries** on critical raw materials, chemicals, magnets, and other materials (7.96), manufacturing equipment and other semiconductor technologies (7.47), and (legacy) semiconductors (7.15) threaten the production of goods critical to European prosperity and security.

3.

Wars and other forms of military conflict pose the second-most severe set of threats to semiconductor supply. In fact, the respondents deem a Taiwan Strait conflict the most dangerous individual risk out of all surveyed threats over the next five years (8.20). Disruptions of maritime and aerial routes and disruption of vital infrastructure—including through cyberattacks—are likewise deemed "very threatening" (7.09) and "threatening" (6.38), respectively, to semiconductor supply.

Figure 1: Semiconductor supply at high risk of severe disruption over the next five years

Say 55 European semiconductor industry representatives, policymakers, think-tank experts, and others



Source: The EU Semiconductor Geopolitical Risk Survey: Outlook for 2026-2031

1. War and other forms of military conflict

1a. Taiwan Strait conflict
1b. Korean Peninsula conflict
1c. NATO—Russia conflict
1d. Maritime or aerial route disruptions
1e. Vital infrastructure disruptions

2. Export controls used against the EU and partners

2a. On materials (e.g., raw materials, magnets, chemicals) for semiconductor manufacturing
2b. On (legacy) semiconductors
2c. On semiconductor technologies and manufacturing equipment

3. Unfair competition

3a. Subsidies and other forms of financial support
3b. Local content requirements including in procurement
3c. Forced tech transfer including through joint ventures
3d. Protectionist trade measures (e.g., tariffs) shielding non-EU semiconductor sectors
3e. Protectionist trade measures (e.g., tariffs) shielding non-EU end-user industries

4. Internal EU weaknesses

4a. Decline of EU semiconductor end-user industries
4b. High EU energy and commodity pricing
4c. EU ESG-regulations and NIMBY-movements
4d. Lack of access to large-scale private capital in EU
4e. Lack of skilled workforce in EU and partner countries

5. Legal risks

5a. Third country tech transfer controls restricting EU exports
5b. Prosecution of EU company representatives

4.

Internal EU weaknesses pose the most severe threat to the competitiveness of Europe's semiconductor ecosystem. In fact, the respondents deem each of the following four risks "very threatening": a lack of EU private capital (7.96), the decline of EU semiconductor end-user industries (7.76), a skilled workforce shortage (7.55), and high energy and commodity prices (7.35).

5.

Unfair competition from countries outside the EU is expected to plague the European semiconductor ecosystem's competitiveness over the next five years. Respondents especially fear forced technology transfers (7.04), subsidies and other forms of financial support for non-European industries (6.96), and local content requirements and protectionist procurement (6.11).

6.

Two **legal risks** threaten the EU's pursuit of semiconductor supply security and ecosystem competitiveness. Respondents deem third-country (e.g., American or Chinese) technology transfer controls that curtail EU exports (e.g., to China or the US) "threatening" to both of Europe's semiconductor interests (6.02 and 6.16). Prosecution of company executives engaged in due diligence activities—particularly by the Chinese government—is seen as "somewhat threatening" to semiconductor supply (5.04) and to the competitiveness of the EU semiconductor ecosystem (4.82).

Providing recommendations on how the EU, Member State governments, industries, and RTOs could mitigate all surveyed risks is beyond the scope of this exercise. More comprehensive risk landscape assessments are, however, the starting point for addressing these highly impactful risks. Semiconductor ecosystem representatives and policymakers, equipped with a clearer view of the overall threats through this survey, should therefore engage in a monthly risk-monitoring exercise, as well as medium-term risk projections, and better triangulate their risk assessment methods.

Breaking down silos within Europe's semiconductor ecosystem and between industry and policymakers is also essential to make risk-mitigation exercises a greater success. Representatives of industry, RTOs, governments, the EU, and think tanks should regularly take less conventional approaches to overcome groupthink, test assumptions, and develop more strategic empathy with each other's positions. More specifically, they should join in regular Delphi workshops (including successive rounds of discussion preceded and followed by surveys) to arrive at a shared view of the overall risk landscape. Similarly, they should conduct crisis stress tests (including economic and military wargaming) to map the full effects if particularly high-impact risks materialize. Finally, they can make use of other workshop formats to bridge their risk assessments.

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Introduction

Since the chip shortage of 2020 to 2022, policymakers, industry representatives, and think-tank experts have conducted extensive research on the dangers of semiconductor supply disruptions—and formulated strategies for how to deal with them. Governments are concerned about their ability to procure chips for critical infrastructure at times of geopolitical upheaval. Companies are now trying to build their resilience against such shocks, having long focused on achieving cost efficiency through offshoring and optimizing global "just-in-time" supply chains. In addition to security of supply, Europe aims to strengthen the innovation and competitiveness of its semiconductor industry and research and technology organizations (RTOs) at a time of intensifying state-sponsored competition from other regions.

Concerns about semiconductors are justified. Chips are the central nervous system of the global economy. Without access to chips, Europe cannot maintain its medical, defense, or other critical industries. Moreover, advances in semiconductor technologies can unlock innovations for both commercial and defense-related industries. The role of AI chips in advancing command and control systems is just one important example. However, Europe's supply of semiconductors and the competitiveness of its semiconductor ecosystem face risks including conflict in the Strait of Hormuz, military tensions in the Taiwan Strait and other looming conflict hotspots, the proliferation of export controls, unfair competition, the EU's high energy prices and other internal weaknesses, and the increased use of coercive legal tools.

These dangers have spurred widespread efforts to map Europe's vulnerabilities. However, the scope of government and industry risk

exercises is often quite narrow. These assessments tend to single out specific threats for mitigation—such as the risk of a crisis in the Taiwan Strait or the introduction of export controls on critical raw materials. As a result, many exercises do not show how different risks compare in terms of their severity or how they are related to each other. Furthermore, government and industry supply-chain security exercises often have different goals. Whereas government risk assessments usually seek to map the impact of semiconductor supply interruptions on energy grids, the medical sector, and other critical state functions ("security of supply"), semiconductor companies often limit their stress tests to threats to their own R&D, supply chains, production, and sales markets ("competitiveness").

The EU Semiconductor Geopolitical Risk Survey (EUSRS) sets out instead to sketch the overall semiconductor "risk landscape" of the next five years (until late 2031) by pooling insights from governments, the semiconductor ecosystem, and experts at think tanks. By making seemingly incomparable risks comparable, the EUSRS seeks to assist European governments and the European semiconductor ecosystem with strategic planning and the selection of specific risks for prioritized mitigation. Doing this well requires a comprehensive mapping of the semiconductor-related risks that Europe faces, including the identification of the most pressing as well as the underappreciated threats. The EUSRS includes both long-lasting pressures, such as Europe's high energy prices, and looming crisis events, such as a military conflict in the Taiwan Strait. Furthermore, to support both governments and industry, the EUSRS captures the dangers to both of Europe's semiconductor interests: security of supply and competitiveness (see Box 1 for definitions of these two concepts, as presented to the respondents before they filled out the survey).

Box 1: Europe's Semiconductor Interests

The European Chips Act identifies strengthening "resilience," "security of supply," "innovation," and "competitiveness" as key objectives. From this, CHIPDIPLO derives two EU semiconductor interests:

1. **Resilience & Security of Supply:** The first EU semiconductor interest is to guarantee a stable and reliable supply of semiconductors to producers of components and end products (both inside and outside the EU) whose products the EU relies on to ensure uninterrupted critical state functions and broader industrial production.

Semiconductor availability is—often indirectly—essential for the uninterrupted functioning of sectors defined as critical in the *EU Foreign Direct Investment (FDI) Screening Regulation* (e.g., energy, transport, water, health, communications) and production in other critical industries (e.g., cybersecurity, aerospace, defense). European critical state functions also depend on non-EU products produced with semiconductors manufactured outside the EU. For example, the production of the F-35 fighter jet, a majority US-produced fighter jet that European countries use to defend themselves, relies on semiconductors manufactured by the Taiwan Semiconductor Manufacturing Company (TSMC).

The broader European economy also relies heavily on uninterrupted semiconductor access. Semiconductor supply disruptions to important commercial sectors (e.g., automotive and other high-revenue industries) threaten company revenues, employment, and the wider economic prosperity of the EU.

2. **Competitiveness & Innovation:** The second EU semiconductor interest is having a competitive and innovative EU semiconductor ecosystem, including semiconductor (equipment) manufacturers, RTOs, and other research institutes. After all, being home to a profitable semiconductor industry boosts employment, tax revenues, and the continent's broader industrial-technological-innovation base. In turn, this innovation base can be leveraged to strengthen Europe's military-technological capabilities.

The semiconductor industry is one of the most R&D-intensive sectors in the world. To sustain themselves and/or expand, Europe's semiconductor industry players and RTOs must generate sufficient revenue to constantly innovate. In turn, industry needs this innovation to remain competitive/financially solvent in the longer term.

In this first iteration of the EUSRS, 55 respondents—predominantly representatives from the semiconductor ecosystem—anonymously scored 20 threats to the EU's two semiconductor interests (see Table 1 for an overview of the respondents and Annex 2 for the full list of risks).[1] The respondents were asked to assign a threat score (implying an assessment of *impact * probability*) on a 0-to-10 scale, with 0 defined as "not threatening at all" and 10 as "extremely threatening." CHIPDIPLO formulated the list of 20 risks during an internal consortium workshop in April 2025, based on an initial long list of more than 80 risks. To avoid "blind spots," CHIPDIPLO verified the usefulness of the "risk landscape" approach and the comprehensiveness of the risk selection through a semiconductor industry and RTO Delphi workshop (with eight participants) in June 2025. For the same reasons, CHIPDIPLO presented findings to European Commission officials in September 2025.[2] The survey respondents were selected based on a combination of their expertise in semiconductors and geopolitics and their professions across the semiconductor value chain, semiconductor policymaking, and think tanks. The survey ran between April 16, 2026 (3:00 p.m. CEST) and May 8, 2026 (11:59 p.m. CEST).

[1] The survey response rate is 23.2 percent. The authors invited 237 persons from the CHIPDIPLO semiconductor network to fill out the survey.

[2] Both groups responded positively to the EUSRS approach. They highlighted that CHIPDIPLO's efforts to sketch the full "risk landscape" changed their own thinking about risks and added value to their strategic planning cycles.

Table 1:
Survey respondents

Respondent Category (Self-Indicated)	Responses	Categories Grouped (by CHIPDIPLO)	Responses
EU institution	2	**Semicon ecosystem**	**38**
Semiconductor industry	21	Industry (semicon, end user, and industry associations)	27
Semiconductor end-user industry	2	Research and technology organization (RTO)	6
Research and technology organization (RTO)	6	University	3
Government (EU Member State)	9	Chip competence center	1
Economic development agency	1	Economic development agency	1
European think tank	5		
University	1	**EU policymakers**	**11**
Industry association	4	Government (EU Member State)	9
Technical university	1	EU institution	2
Chip competence center	1		
Charles University	1	**Think tank**	**5**
EU-funded initiative	1	**“EU initiative”**	**1**
Total	**55**	**Total**	**55**

Survey Outcomes

Key takeaway 1: The respondents paint a bleak picture of Europe's future when it comes to semiconductors. They find that the supply of semiconductors to end-user industries in Europe and beyond is at high risk of severe disruption throughout the next five years. In addition, a potent mix of geopolitical, geoeconomic, and legal threats and EU internal weaknesses will likely undermine the competitiveness of Europe's semiconductor ecosystem before the end of 2031 (see Figure 1 for the full survey results). The respondents deem 10 out of 20 risks to be "very threatening" to either semiconductor supply or Europe's semiconductor competitiveness—or both (greater than 7.00). Out of the surveyed risks, 19 out of 20 are at least "somewhat threatening" (greater than 4.50) to both semiconductor supply and Europe's competitiveness in semiconductors (see Figure 1).

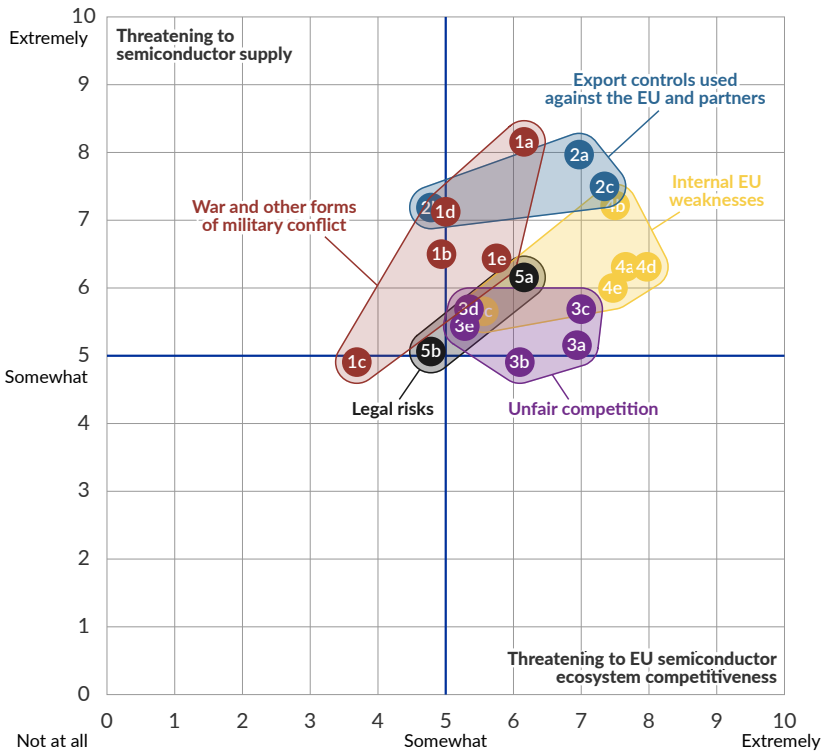
Key takeaway 2: The most severe threat to the EU's semiconductor interests is now other countries curtailing the supply of key manufacturing inputs to the EU and its partners. Export controls on materials (7.96) as well as manufacturing equipment and other semiconductor technologies (7.47), threaten European and non-European production of goods that are critical to European prosperity and security. European policymakers even see export controls on critical raw materials, chemicals, magnets, and other materials as the single biggest threat ("extremely threatening") to semiconductor supply (9.00). Beijing's introduction of export controls on a constantly expanding list of critical materials and related components (and the actual reduction of these supplies) between 2023 and 2026 has likely informed this score. Unlike policymakers, semiconductor industry representatives

regard export controls on materials as "merely" "very threatening" (7.33; please see Annex 1 for an overview of all between-group differences). The respondents perceive controls blocking materials (7.02) and semiconductor technology (7.31) exports to the EU as also being "very threatening" to the competitiveness of Europe's semiconductor ecosystem.

The respondents consider the risk of third countries blocking the supply of semiconductor technologies (including manufacturing equipment, intellectual property, and design software) as "very threatening" to both semiconductor supply to Europe and beyond (7.47) and the competitiveness (7.31) of Europe's semiconductor ecosystem. For many of these tools and chip designs, the EU is heavily dependent on the United States. The respondents deem foreign governments blocking the export of legacy semiconductors to be "very threatening" to the supply of key goods to Europe (7.15) but merely "somewhat threatening" to the competitiveness of Europe's semiconductor ecosystem (4.75). One possible explanation for the lower score on competitiveness is that Europe's semiconductor industry and RTOs rely on far lower volumes of legacy semiconductors than end-user industries such as the automotive industry.

Figure 1: Semiconductor supply at high risk of severe disruption over the next five years

Say 55 European semiconductor industry representatives, policymakers, think-tank experts, and others



Source: The EU Semiconductor Geopolitical Risk Survey: Outlook for 2026-2031

1. War and other forms of military conflict

1a. Taiwan Strait conflict
1b. Korean Peninsula conflict
1c. NATO—Russia conflict
1d. Maritime or aerial route disruptions
1e. Vital infrastructure disruptions

2. Export controls used against the EU and partners

2a. On materials (e.g., raw materials, magnets, chemicals) for semiconductor manufacturing
2b. On (legacy) semiconductors
2c. On semiconductor technologies and manufacturing equipment

3. Unfair competition

3a. Subsidies and other forms of financial support
3b. Local content requirements including in procurement
3c. Forced tech transfer including through joint ventures
3d. Protectionist trade measures (e.g., tariffs) shielding non-EU semiconductor sectors
3e. Protectionist trade measures (e.g., tariffs) shielding non-EU end-user industries

4. Internal EU weaknesses

4a. Decline of EU semiconductor end-user industries
4b. High EU energy and commodity pricing
4c. EU ESG-regulations and NIMBY-movements
4d. Lack of access to large-scale private capital in the EU
4e. Lack of skilled workforce in the EU and partner countries

5. Legal risks

5a. Third country tech transfer controls restricting EU exports
5b. Prosecution of EU company representatives

Key takeaway 3: Wars and other forms of military conflict pose the second-most severe set of threats to semiconductor supply. However, risk levels vary between conflict scenarios. In fact, the respondents deem a Taiwan Strait conflict the most dangerous individual risk out of all surveyed threats over the next five years (8.20). Disruptions of maritime and aerial routes and disruption of vital infrastructure—including through cyberattacks—are likewise deemed "very threatening" (7.09) and "threatening" (6.38), respectively, to semiconductor supply. Semiconductor ecosystem representatives attribute more importance to maritime and aerial route disruptions ("very threatening," 7.32) than European policymakers, who perceive this as "merely" "threatening" (6.18).

Other than a Taiwan conflict, the respondents appear more concerned with hybrid warfare and trade route blockages than war-related disruptions onshore in Korea or eastern Europe. Military conflict on the Korean Peninsula is deemed "threatening" to semiconductor supply (6.49), likely underlining Korea's centrality in memory chip production. The prospect of a NATO–Russia conflict is deemed only "somewhat threatening" to semiconductor supply (4.89). This may reflect that only limited semiconductor production takes place close to NATO's eastern border. An alternative explanation is that the respondents do not consider a NATO–Russia military conflict particularly likely. Yet while European policymakers see the risk of a NATO–Russia conflict as "barely threatening" to semiconductor supply (3.18), the semiconductor ecosystem still finds it "more threatening than not" (5.21).

Key takeaway 4: Internal EU weaknesses pose the most severe threat to the competitiveness of Europe's semiconductor ecosystem. In fact, the respondents deem each of the following four risks

"very threatening": a lack of EU private capital (7.96), the decline of EU semiconductor end-user industries (7.76), a skilled workforce shortage (7.55), and high energy and commodity prices (7.35). Environmental, Social, and Governance (ESG) regulations and not-in-my-backyard (NIMBY) movements are expected to be another drag on competitiveness, albeit a more manageable one ("somewhat threatening," 5.62).

European policymakers see internal weaknesses as even more dangerous to the semiconductor ecosystem's competitiveness than do industry and RTO representatives. Policymakers see the decline of European end-user industries as "extremely threatening" (9.09), while the semiconductor industry sees it as only "very threatening" (7.52). European policymakers see high energy prices as "very threatening" to competitiveness (8.18), while the EU semiconductor industry merely deems this "threatening" (6.81). European policymakers (8.45) and the semiconductor ecosystem (7.37) both find a skilled workforce shortage "very threatening" to EU competitiveness, but policymakers find it even more so.

Key takeaway 5: Unfair competition from countries outside the EU is expected to plague the European semiconductor ecosystem's competitiveness over the next five years. Respondents especially fear forced technology transfers (7.04), subsidies and other forms of financial support for non-European industries (6.96), and local content requirements and protectionist procurement (6.11). Additionally, protectionist policies, including tariffs shielding non-EU semiconductor and end-user industries, are considered "somewhat threatening" as well (5.49 and 5.27).

These forms of unfair competition even pose a threat to the security of semiconductor supply, say the respondents. Each of these risks, as well as tariffs and other trade protection for non-EU semiconductor and end-user industries, are deemed "somewhat threatening" (between 4.95 and 6.0) to Europe's security of semiconductor supply.

Key takeaway 6: Two legal risks threaten the EU's pursuit of semiconductor supply security and ecosystem competitiveness. Respondents deem third-country (e.g., American or Chinese) technology transfer controls that curtail EU exports (e.g., to China or the US) "threatening" to both of Europe's semiconductor interests (6.02 and 6.16). Examples are US-led coalitions blocking exports of a growing range of ASML semiconductor manufacturing equipment to China. Prosecution of company executives engaged in due diligence activities—particularly by the Chinese government—is seen as "somewhat threatening" to both the supply (5.04) of semiconductors and the competitiveness of the EU semiconductor ecosystem (4.82) over the next five years. Crucially, Europe's semiconductor ecosystem is far more fearful of this. They see prosecution of executives as "more threatening than not" to European competitiveness (5.21), whereas European policymakers and think tanks find this "barely threatening" (3.91).

Limitations

The survey has two limitations. First, the respondents may have assigned their "threat" scores by overemphasizing either probability or impact. All questions were structured as follows:

1. "How threatening is risk 'XYZ' to the resilience/security of supply of semiconductors to end-user industries between April 2026 and late 2031?"

2. "How threatening is risk 'XYZ' to the competitiveness/innovation of the EU semiconductor ecosystem between April 2026 and late 2031?"

To judge the extent to which something is "threatening," CHIPDIPLO expects respondents to make a combined assessment of the probability that a risk becomes a reality in the next five years and of its impact on the EU's semiconductor interests (after all, threat = *impact * probability*). The advantage of this approach is that it allows for an assessment of the dangers of both crisis events (e.g., Risk 1a. Taiwan Strait conflict) and long-running threats in the same survey (e.g., Risk 4b. High energy and commodity prices in the EU). To allow for a refined judgment of each crisis event, the survey provided multiple examples per contingency. For example, under the rubric of "Risk 1a. Taiwan Strait conflict," the survey inquired about the risk of a quarantine, blockade, invasion, and other contingencies (see Annex 2 for the full threat descriptions). To ensure the survey remained manageable for the participants in terms of length, it did not inquire about probability and impact for each risk—let alone all examples—separately (as this would

more than double the total number of questions). Also, for reasons of brevity, the instructions did not state explicitly that CHIPDIPLO expects respondents to take both impact and probability into account when assessing the severity of a threat.

Second, the survey lacked at least one key risk to the EU's semiconductor interests: intellectual property theft and other forms of commercial espionage. The respondents listed additional risks that may merit surveying in the future, too: dependency on non-EU (mainly US) digital service providers (cloud computing, artificial intelligence), the unpredictability of the current US administration, differences in national export control policies within the EU, a lack of European state support and relatively stringent European state aid rules, and bureaucracy. CHIPDIPLO will add intellectual property theft and economic espionage to any future EUSRS iterations. However, to ensure that time-pressed respondents in key roles will still be willing to fill out the survey in its entirety, CHIPDIPLO will continue to cap the total number of risks at approximately 20.

Conclusion

Europe will face a wide range of severe threats to its semiconductor supply and its semiconductor ecosystem's competitiveness throughout the next five years. The respondents are particularly fearful of a Taiwan Strait conflict, other geopolitical risks, export controls, unfair competition, and other geoeconomic and legal threats, all of which are compounded by long-lasting internal EU weaknesses.

It is essential here to paint the full risk picture. After all, assessing both internal and geopolitical risks in a single exercise can help companies and governments avoid policy pitfalls. For example, the survey results show that a European strategy of countering unfair competition, export controls, and the risk of war-related supply-chain disruptions through EU state support, trade protections, and policies focused on "reshoring" can likely only prove fruitful if Europe improves its overall manufacturing climate. After all, high energy prices, the growing shortage of skilled workers, and the decline of end-user industries continue to plague the competitiveness of Europe's semiconductor industry.

Providing recommendations on how the EU, Member State governments, industries, and RTOs could mitigate all surveyed risks is important but beyond the scope of this survey exercise.[3] More comprehensive risk landscape assessments are, however, the starting point for addressing these highly impactful risks. Stakeholders, equipped with a clearer view of the overall threats through this survey, should therefore engage in a monthly risk-monitoring exercise as well as medium-term risk projections and better triangulate their risk assessment methods.

First, to make better five-year risk projections, governments, the semiconductor ecosystem, and other relevant parties should comprehensively identify and then rank "risk indicators" for each risk and track each of them on a monthly basis. For example, the modernization of the People's Liberation Army, a weakening of US-led deterrence in East Asia (e.g., through low ammunition stocks as a result of the US–Iran war), and the growing overconcentration of shipbuilding and other strategic industries in China give Beijing more strategic space to pursue "reunification" with Taiwan by force. Pinpointing *if*, *when*, and *how* a Taiwan contingency will occur will remain impossible. However, understanding whether the circumstances are in place for Beijing to launch a successful military campaign will provide clues about its possible future behavior. To remain up to date, the monthly risk

[3] In other publications, the authors have proposed policies to deal with the individual risks surveyed, including how to overcome dependence on *Beijing for critical raw materials. See Joris Teer, Beijing's Critical Raw Material Weapon: And How to Dismantle It*, Chaillot Paper 189 (Luxembourg: Publications Office of the European Union, May 2026), https://www.iss.europa.eu/publications/chaillot-papers/beijings-critical-raw-material-weapon-and-how-dismantle-it. In addition, please find an action plan to strengthen deterrence around Taiwan (Risk 1a) here: Joris Teer, *Preventing War in East Asia: A European Action Plan to Strengthen Deterrence*, Special Report (Paris: European Union Institute for Security Studies, July 9, 2024), https://www.iss.europa.eu/publications/analysis/preventing-war-east-asia. See also Joris Teer, Davis Ellison, and Abe de Ruijter, *The Cost of Conflict: Economic Implications of a Taiwan Military Crisis for the Netherlands and the EU* (The Hague: The Hague Centre for Strategic Studies, March 28, 2024), https://hcss.nl/report/cost-of-conflict-economic-implications-of-taiwan-military-crisis-netherlands-eu/.

tracker should include a semiautomated compilation and analysis of news, statements by political leaders, and key policy documents for each specific risk (e.g., 1a. Taiwan Strait conflict) and for each risk indicator (e.g., the modernization of the People's Liberation Army). Periodically reviewing the risks and risk indicators—adding new ones where necessary—is also important. Geopolitical analysts can highlight the most alarming changes in risk levels and slower-moving structural threats in bullet-pointed memos to key policymakers and semiconductor ecosystem leaders.

Second, breaking down silos within Europe's semiconductor ecosystem and between industry and policymakers is essential to make risk-mitigation exercises a greater success. Representatives of industry, RTOs, governments, the EU, and think tanks should engage more regularly in less conventional approaches to overcome groupthink, test assumptions, and develop more strategic empathy with each other's positions. They should engage in regular Delphi workshops (including successive rounds of discussion preceded and followed by surveys) to arrive at a shared view of the overall risk landscape, conduct crisis stress tests (including economic and military wargaming) to map the full effects if particularly high-impact risks materialize, and make use of other workshop formats to bridge their risk assessments.

All constituencies have complementary expertise to contribute. Industry experts have the most granular view of supply chains and routes, yet they are often hesitant to share (commercially) sensitive data with others in more formal settings (e.g., in writing or via email). Think-tank experts can leverage their involvement in Track 1.5 and Track 2 networks to better inform all others of the long-term objectives of third countries and the capabilities they are developing to

pursue them. Likewise, defense experts in think tanks can outline the most well-thought-out war scenarios and distinguish between signal and noise in the development of third countries' military capabilities. Policymakers and think-tank experts can outline the gap between existing policies and those policies that would actually mitigate a risk. These exercises would enable policymakers to test these proposals —in a confidential setting—with industry and other sectors.

Annex 1. Survey Outcomes (Responses per Subgroup)

Risk*	Threat to	All respondents (N=55)	Semicon ecosystem (n=38)		EU policymakers (n=11)	Think tank (n=5)	Industry (n=27)	"EU initiative" (n=1)
1a. Taiwan Strait conflict	Supply	8.20	8.03		8.36	8.80	8.11	10.00
	Competitiveness	6.05	5.89		6.09	6.80	5.63	8.00
1b. Korean Peninsula conflict	Supply	6.49	6.58		6.00	6.60	6.56	8.00
	Competitiveness	4.84	4.71		5.00	5.00	4.37	7.00
1c. NATO–Russia conflict	Supply	**4.89**	**5.21**		**3.18**	**6.20**	**5.00**	**5.00**
	Competitiveness	3.75	3.50		3.00	6.40	3.04	8.00
1d. Maritime or aerial route disruptions	Supply	7.09	7.32		6.18	7.00	7.07	9.00
	Competitiveness	4.93	5.03		4.18	5.20	4.59	8.00
1e. Vital infrastructure disruptions	Supply	6.38	6.32		6.82	5.60	6.15	8.00
	Competitiveness	5.76	5.92		5.09	5.60	5.56	8.00
2a. Export controls on materials (e.g., raw materials, magnets, chemicals) for semiconductor manufacturing used against the EU	Supply	**7.96**	**7.71**		**9.00**	**8.00**	**7.33**	**6.00**
	Competitiveness	7.02	6.84		7.55	7.80	6.48	4.00
2b. Export controls on (legacy) semiconductors used against the EU	Supply	7.15	7.08		7.18	7.00	6.81	10.00
	Competitiveness	4.75	4.61		4.82	5.60	4.11	5.00
2c. Export controls on semiconductor technologies and manufacturing equipment used against the EU	Supply	7.47	7.61		7.00	7.20	7.59	9.00
	Competitiveness	7.31	7.42		6.91	7.00	7.56	9.00
3a. Subsidies and other forms of financial support	Supply	5.11	5.08		4.82	5.40	4.52	8.00
	Competitiveness	6.96	6.92		7.00	6.80	6.78	9.00
3b. Local content requirements including in procurement	Supply	**4.98**	**5.29**		**3.73**	**4.40**	**4.81**	**10.00**
	Competitiveness	6.11	6.13		5.73	6.20	6.07	9.00

Risk*	Threat to	All respondents (N=55)	Semicon ecosystem (n=38)		EU policymakers (n=11)	Think tank (n=5)	Industry (n=27)	"EU initiative" (n=1)
3c. Forced tech transfer including through joint ventures	Supply	**5.62**	**5.37**		**6.64**	**4.60**	**5.26**	**9.00**
	Competitiveness	7.04	6.84		7.55	7.00	6.59	9.00
3d. Protectionist trade measures (e.g., tariffs) shielding non-EU semiconductor sectors	Supply	5.58	5.82		5.09	4.20	5.56	9.00
	Competitiveness	5.49	5.39		5.64	5.40	5.11	8.00
3e. Protectionist trade measures (e.g., tariffs) shielding non-EU end-user industries	Supply	**5.45**	**5.84**		**4.45**	**4.00**	**5.85**	**9.00**
	Competitiveness	5.27	5.47		4.55	4.60	5.33	9.00
4a. Decline of EU semiconductor end-user industries	Supply	**6.35**	**5.63**		**8.55**	**6.73**	**5.19**	**10.00**
	Competitiveness	**7.76**	**7.37**		**9.09**	**7.40**	**7.52**	**10.00**
4b. High EU energy and commodity prices	Supply	7.24	7.42		7.00	5.80	7.41	10.00
	Competitiveness	7.35	7.00		8.18	7.60	6.81	10.00
4c. EU ESG-regulations and NIMBY-movements	Supply	5.55	5.37		6.18	4.80	4.81	9.00
	Competitiveness	5.62	5.63		5.91	5.20	5.52	4.00
4d. Lack of access to large-scale private capital in EU	Supply	**6.35**	**6.24**		**7.18**	**4.80**	**5.89**	**9.00**
	Competitiveness	7.96	7.97		8.36	6.80	7.89	9.00
4e. Lack of skilled workforce in EU and partner countries	Supply	**6.04**	**5.63**		**7.18**	**6.20**	**5.22**	**8.00**
	Competitiveness	**7.55**	**7.37**		**8.45**	**6.80**	**7.04**	**8.00**
5a. Third-country tech transfer controls restricting EU exports	Supply	6.02	6.11		5.82	5.40	6.37	8.00
	Competitiveness	6.16	6.32		5.82	5.60	6.15	7.00
5b. Prosecution of EU company representatives	Supply	5.04	5.24		4.55	4.20	5.00	7.00
	Competitiveness	**4.82**	**5.21**		**3.91**	**3.80**	**5.22**	**5.00**

*Please find the full names and descriptions of the risks (as presented in the survey) in Annex 2.

Text in **bold means substantial between-group difference (greater than 1), not covering "think tank" or "EU initiative" because of their sample size

***All respondents in the category "industry" were also included in "semicon ecosystem." Apart from this, no groups overlap. See Table 1 for the exact make-up of the respondent groups.

Annex 2. The 20 Surveyed Risks (Full Description)

Full descriptions as they appeared in the actual survey.

1a. Taiwan Strait conflict—In other words, the risk of a US–China war, invasion, naval confrontation, blockade, quarantine, bombardments and other Chinese actions against Taiwan.

1b. Korean Peninsula conflict—In other words, the risk of a US–South Korea–North Korea war, invasion, naval confrontation, bombardments, and other types of military skirmishes.

1c. NATO–Russia conflict—In other words, the risk of direct military conflict between the Russian Federation and NATO, hybrid warfare, naval confrontation, border skirmishes and incursions.

1d. Maritime or aerial route disruptions—In other words, the risk of essential commercial corridors blocked due to military conflict or threats from state and non-state actors. Examples of important corridors are the Strait of Hormuz; Strait of Aden; Red Sea; Strait of Malacca; South and East China Seas; Aerial routes in East Asia, North / Eastern / Central Europe, in the Middle East.

1e. Vital infrastructure disruptions—In other words, the risk of state or non-state actors conducting hybrid operations (for example cyberattacks, sabotage, cutting of subsea cables), including against critical land, sea, digital, or space-based infrastructure. (For example,

subsea communications and high-voltage cable cutting in the Baltic Sea 2024–2025, energy grid hack against Poland in 2025, EU Commission cloud breach in 2026).

2a. Export controls on materials used against the EU and partners—In other words, the risk of export bans or restrictions (for example informal export reductions/ longer and more opaque licensing) on materials, magnets, and chemicals used for semiconductor manufacturing and other parts of the value chain, like semiconductor manufacturing equipment production (e.g., China's export controls on rare earths, gallium, germanium, and other materials).

2b. Export controls on (legacy) semiconductors used against the EU and partners—In other words, the risk of export bans or restrictions (for example informal export reductions/longer and more opaque licensing) on supply of (legacy) semiconductors. For example, China's (temporary) Nexperia-chip export ban in H2 of 2025.

2c. Export controls on semiconductor technologies and equipment used against the EU and partners—In other words, the risk of export bans or restrictions (for example informal export reductions/longer and more opaque licensing) on technologies (for example design software / chip designs) or equipment for semiconductor manufacturing. (For example, President Trump's H1-2025 threat to cut-off supply of Nvidia-chips to countries that impose digital regulations on US companies).

3a. Subsidies, tax incentives, concessional loans, and other forms of financial support by non-EU governments aiming to support local industries and localize supply chains—In other words, the risk of

competitors extensively supporting their local companies, in the form of direct funding or other advantages in kind (free land, electricity, among others). For example, the China Integrated Circuit Industry Investment Fund ("the big fund") and the US Chips and Sciences Act.

3b. Local content requirements including in public procurement by non-EU governments—In other words, the risk of restrictions aiming to incentivize or force companies to purchase from selected local suppliers to the detriment of EU companies.

3c. Non-EU governments forcing technology transfer including through joint venture requirements for foreign producers—In other words, non-EU government policies that aim to force transfer of technical know-how, skills, processes, and technologies to local partners (and competitors).

3d. Non-EU countries imposing protectionist trade measures to shield their domestic semiconductor industry—In other words, the use of tariffs, anti-dumping and anti-subsidy measures, and other non-tariff barriers. (For example, the Trump administration imposing a 15 percent tariff on European semiconductors in 2025).

3e. Non-EU countries imposing protectionist trade measures that shield their end-user industries from competition—In other words, the risk of non-EU country use of tariffs, anti-dumping, or other measures that disadvantage end-industries in the EU, such as automotive, industrial robotics, or aeronautics industries. (For example, the Trump Administration's imposition of a 15 percent tariff on European cars and other end products).

4a. Decline of semiconductor end-user industries in Europe—In other words, downstream industries (automotive, aeronautics, medical devices) suffering economically and therefore cutting component/semiconductor orders.

4b. High energy and commodity prices in the EU—In other words, the relatively high cost of energy, materials, and other commodities.

4c. The EU's Environmental, Social, and Governance (ESG) regulations and guidelines and Not-In-My-Backyard (NIMBY)-movements—In other words, the pressures of compliance work on sourcing, labor contracts, and environmental regulations, and NIMBY-movements, and slow permitting.

4d. Lack of access to large-scale private capital in the EU—In other words, the risk of lack of capital-markets fragmentation, risk aversion, and limited venture capital funding.

4e. Lack of skilled workforce in the EU and partner countries—In other words, a combination of demographic factors, ranging from retirement of senior experts, insufficient training of engineers and mechanics, opposition to granting working visas to skilled foreign workers, and a generally older population.

5a. Non-EU country-led mini-lateral and unilateral/extraterritorial technology transfer controls that restrict European exports—In other words, the risk of a non-EU country (e.g., China/US) blocking exports of EU semiconductor technologies to key markets (e.g., to China/the US). For example, export restrictions on Deep Ultraviolet (DUV)-systems to China and the US Government listing Chinese companies on its "entity list."

5b. Prosecution of company representatives (e.g., in China) engaged in due diligence activities—In other words, the risk of politically or economically motivated prosecutions, justified for example under anti-espionage or national security laws.

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SUPPORT INITIATIVE

Since the chip shortage of 2020 to 2022, policymakers, industry representatives, and think-tank experts have conducted extensive research on the dangers of semiconductor supply disruptions—and formulated strategies for how to deal with them. Without access to chips, Europe cannot maintain its medical, defense, or other critical industries. Moreover, advances in semiconductor technologies can unlock innovations for both commercial and defense-related industries.

The EU Semiconductor Geopolitical Risk Survey sets out to sketch the overall semiconductor "risk landscape" of the next five years (until late 2031) by pooling insights from governments, the semiconductor ecosystem, and experts at think tanks. The 55 survey respondents—predominantly industry and RTO-representatives—paint a bleak picture of Europe's future when it comes to semiconductors. The most severe threats are countries curtailing the supply of key manufacturing inputs to the EU and its partners through export controls, and a military conflict over Taiwan.

To better anticipate these challenges, semiconductor ecosystem representatives and policymakers, equipped with a clearer view of the overall threats through this survey, should engage in a monthly risk-monitoring exercise, as well as medium-term risk projections. Breaking down silos within Europe's semiconductor ecosystem and between industry and policymakers through war-gaming and other crisis stress tests is also essential to make risk-mitigation a greater success.

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