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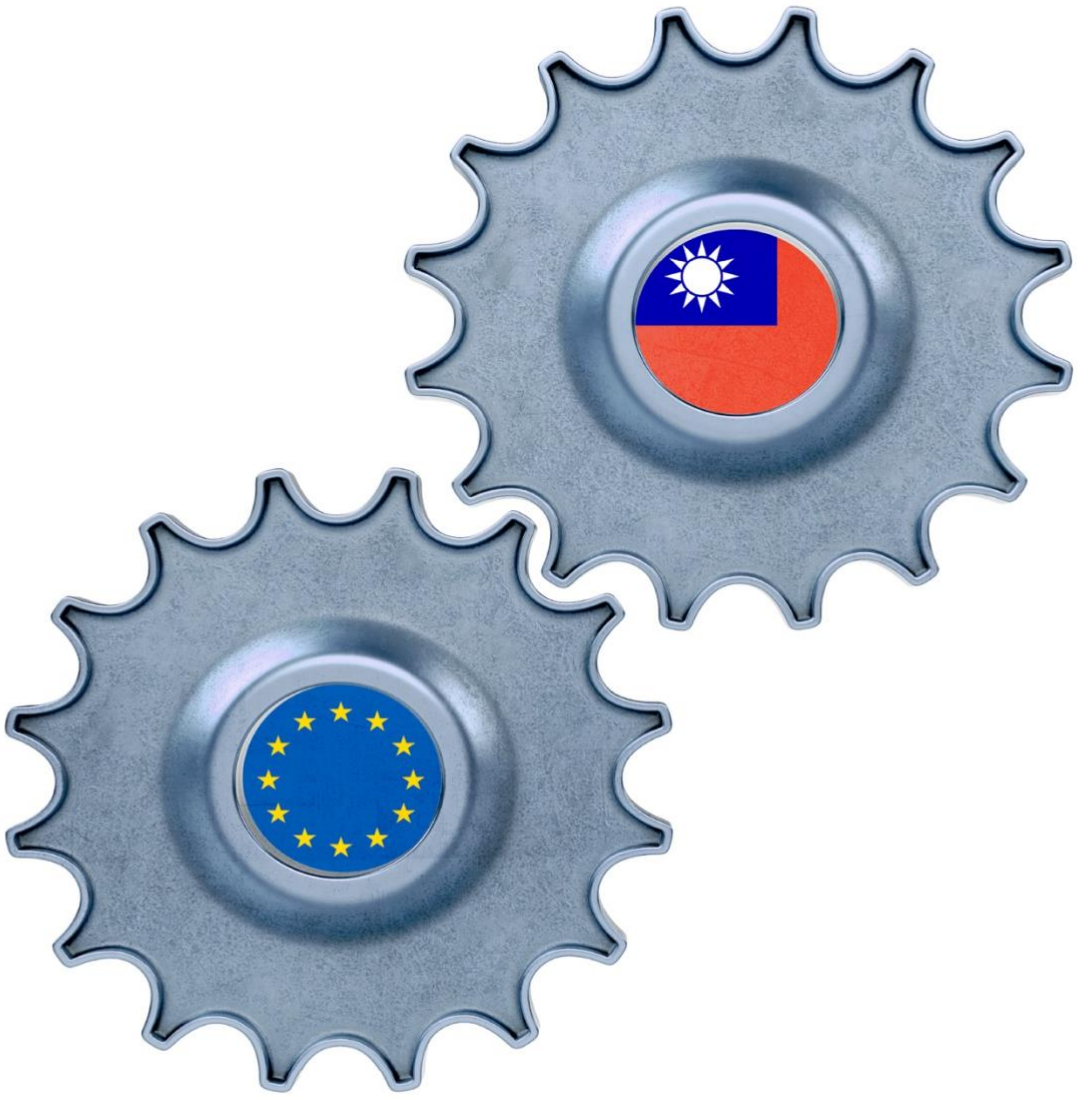

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Strategic Autonomy Requires a Strategic Partner: Why Europe Must Expand Industrial Cooperation with Taiwan

By *Zsuzsa Anna Ferenczy, Cathy Fang* and *Peter Tozzi*

The legal proceedings presently unfolding before the Amsterdam Court of Appeal between Dutch semiconductor firm Nexperia and its Chinese parent, Wingtech Technology, mark a watershed moment for European industrial policy. On February 11, the court ordered an independent investigation into Nexperia's governance — a probe whose findings will take several months to emerge, but whose implications are already plain. The dispute has laid bare the structural vulnerabilities running through Europe's automotive supply chains, and with them, the strategic consequences of China's dominance over legacy (or mature-node) semiconductors, typically defined as chips manufactured at process nodes of 28 nanometres and above, considered as foundational chips, the backbone of modern economies. For Europe, the case of Nexperia shows that the era of industrial innocence is over.

For policymakers in Brussels and national capitals, the question is no longer whether Dutch authorities were justified in their intervention in late 2025. It is whether the European Union possesses the institutional capacity – and willingness to use its collective weight – to prevent supply chain dependencies from being weaponised by China.

For all the rhetoric about "strategic autonomy," which has long been at the heart of the EU's efforts to boost its geopolitical standing on the global stage, its realisation remains elusive.

This paper uses the Nexperia case to examine Europe's structural vulnerabilities in legacy semiconductor supply chains. It argues that the crisis is not an isolated incident but a consequence of decades of cost-driven procurement that systematically discounted geopolitical risk. Drawing on the Nexperia case, it assesses the adequacy of Europe's existing policy instruments — from foreign investment screening to the EU Chips Act — and sets out a concrete policy agenda for how the EU can move from reactive crisis management to durable supply chain resilience, with Taiwan as a central pillar of that strategy.

Industrial Rice: Why "Legacy" Chips Matter

Semiconductors sit at the centre of modern electronics and have only recently become the centre of geopolitical rivalry. Countries across the world are pursuing and leveraging industrial policy to boost their competitiveness and prevent competitors from controlling value chains. Taiwan, a high-tech powerhouse in the heart of the Indo-Pacific, has cemented global leadership in the industry, producing over 90 per cent of the world's most advanced chips, mostly through Taiwan Semiconductor Manufacturing Co Ltd. In 2025, TSMC commanded approximately 70% of the global foundry market.

Due to its dependence on foreign-made chips, Europe is highly vulnerable to disruptions, as experienced during the COVID-19 pandemic, when unexpected surges in chip demand

limited auto production. The crisis catalysed a coordinated EU response: investment in research and development, workforce development, and domestic production, backed by closer collaboration with trusted international partners.

The EU's semiconductor strategy, as embodied in the EU Chips Act, has long prioritised advanced, sub-5-nanometre chips — the frontier devices powering artificial intelligence and high-performance computing (HPC). Yet political attention and public funding have largely bypassed the mature-node and discrete components that form the backbone of Europe's industrial economy, particularly automotive manufacturing. As such, Diodes, Schottky and Zener semiconductor devices, electrostatic discharge (ESD) protection components, switching devices, and Metal-Oxide-Semiconductor Field-Effect Transistors (MOSFETs) are low-margin and high-volume — but they are embedded in every vehicle, every power system, and every piece of industrial machinery on the continent. They are the industrial equivalent of rice: ubiquitous, unglamorous, and irreplaceable.

These components are typically produced on mature process nodes well above 90 nanometers. Yet they represent systemic risk. A battery-electric vehicle incorporates up to 3,000 semiconductor devices, two to three times more than an internal combustion vehicle.

Automotive qualification regimes are unforgiving. Replacing a qualified supplier is not a procurement decision; it is a revalidation process that commonly takes 12 to 24 months. In practice, the absence of a ten-cent diode, which is a semiconductor device, can halt the production of a €60,000 vehicle as effectively as the absence of a high-end processor.

Nexperia is a global titan of "legacy" chips, producing over 110 billion components annually. This accounts for roughly 9.7% of the global market share for discrete semiconductors. To appreciate the scale of that figure, it helps to understand where discrete components sit within the broader semiconductor landscape. Semiconductors fall into three broad families: integrated circuits (ICs), optoelectronics, and discrete components. While ICs – the chips most commonly covered in the media – pack countless functions onto a single piece of silicon, discrete semiconductors each perform just one specific electrical function.

From Regulatory Risk to Supply Shock

The Nexperia crisis came to a head in late 2025, as escalating transatlantic regulatory pressure collided with internal governance tensions at the company. On September 29, the U.S. Bureau of Industry and Security (BIS) announced an expansion of its "Affiliates Rule," a provision that extends U.S. export restrictions to foreign subsidiaries of companies already placed on the Entity List, Washington's blacklist of firms deemed a national security risk. Had the expansion been enforced, it would have instantly subjected Nexperia, as a subsidiary of Chinese-owned Wingtech, to sweeping controls on its access to U.S. technology and equipment.

Seemingly in lockstep, the Dutch Ministry of Economic Affairs invoked the Goods Availability Act a day later. This rarely used legislation grants the Dutch government emergency authority to intervene in the operations of strategically critical companies, including freezing management decision-making powers. The invocation effectively blocked an internal plan at Nexperia to transfer European R&D assets and production equipment to China — a move that, had it proceeded, would have stripped the Netherlands of key semiconductor manufacturing capabilities with little prospect of recovery

Beijing hit back with an export ban on chips produced at Nexperia's Dongguan assembly facilities, which account for nearly 80% of the firm's back-end capacity. The economic effects were immediate: supply disruptions, price spikes, and production risk for manufacturers operating with minimal inventory buffers.

The "Legacy Node" Chokepoint

The Nexperia crisis challenges the persistent assumption that "legacy" chip components are low-risk. As European champions such as Infineon and STMicroelectronics have shifted toward higher-margin Silicon Carbide (SiC) and Gallium Nitride (GaN) technologies over the years, a vacuum emerged in the mature, high-volume discrete segment. That space was gradually filled by a single supplier under Chinese ownership.

Over time, European Original Equipment Manufacturers (OEMs) and Tier-1 suppliers, including BMW, Volkswagen, Continental, and Bosch, prioritised cost optimisation and efficiency while discounting ownership, jurisdiction, and geopolitical risk. Even if that meant surrendering operational autonomy to the Chinese Communist Party.

Taiwan as the Democratic, Scalable Replacement Supplier

The crisis now compels a recalibration of the EU–Taiwan semiconductor relationship. Over recent decades, the EU and Taiwan have built a comprehensive economic, trade, and political relationship that has gained significant momentum in recent years. Driven by the recognition of its own semiconductor vulnerabilities, the EU has elevated Taiwan on its strategic agenda, positioning it as a key partner in addressing its supply chain dependencies. European engagement with Taiwan has long been framed almost exclusively around TSMC and advanced chips. However, Taiwan's critical value to Europe lies in its role as a trustworthy, democratic supplier of mature-node chips, components indispensable to European backbone industries, particularly the automotive sector.

Taiwan’s role is neither new nor theoretical. During the COVID-19 chip shortage, several Taiwanese Integrated Device Manufacturers (IDMs) — firms that handle chip design, fabrication, and testing under one roof — provided continuity support to European automotive OEMs and their direct suppliers when China-based production faltered. These manufacturers sit largely at the Tier-2 level of the automotive supply chain, meaning they supply components to Tier-1 suppliers rather than directly to vehicle manufacturers. Yet,

their disruption carries immediate consequences for the entire production line. Critically, these firms were already qualified under stringent European automotive standards, meaning they could step in without triggering lengthy re-qualification processes. However, when Chinese production revamped at lower prices, this Taiwanese capacity was sidelined. The industry reverted to its profit-maximising proclivities, discounting geopolitical risk. The current disruption has exposed the fragility of that logic.

European automotive OEMs are now engaging Taiwanese firms directly — bypassing Tier-1 suppliers — to reassert upstream control over supply-chain security, according to an interview with a Taiwanese IDM company. Taiwanese suppliers can substitute packaging and volume functions previously concentrated in China and, where required, provide full IDM solutions with predictability and operational control.

But this capacity is not an emergency switch. Automotive semiconductor production depends on long-term planning, stable qualification, and demand visibility. Taiwanese firms allocate capacity through institutionalised partnerships, including multi-year contracts, coordinated inventory planning, and shared risk.

Loose partnerships do not translate into priority supply. If Taiwan is to be a true pillar of Europe's resilience, that relationship cannot be improvised in a crisis—it must be contracted, governed, and embedded.

The Final Wakeup Call

Even if partial component flows are restored, Europe should not treat the Nexperia crisis as an isolated disruption. It illustrates how supply chain dependencies can be leveraged and weaponised whenever geopolitical incentives change. Once chokepoints exist, they are reused—regardless of how mature the technology involved may be.

Europe's response must therefore be structural.

1. First, the EU must shift from screening individual transactions at the point of acquisition to continuous, active governance of strategically critical firms. Three concrete steps are needed. The Commission should establish a dedicated monitoring body that maintains a living watch list of critical technology firms, subjecting listed entities to continuous review of their ownership structures, R&D investments, key personnel retention, and intra-group technology transfers, rather than the point-in-time snapshots that current screening provides. To remain politically credible and legally defensible, listing criteria must be narrowly and transparently defined by the Commission, in consultation with Member States and relevant sectoral regulators, targeting only firms whose disruption would carry systemic consequences for European security of supply. The Commission should further be empowered to impose binding post-acquisition behavioural conditions on already-cleared firms — IP ring-fencing, domestic reinvestment thresholds, and restrictions on technology transfers to non-allied parent entities — applied proportionately and subject to judicial review. Finally, member states must be required to notify and coordinate on acquisitions that meet defined technological

sensitivity thresholds, regardless of deal size, closing the loophole through which mid-sized but strategically critical firms currently pass undetected.
The political case for each measure must rest not on protectionism, but on the narrow and defensible argument that where national security and systemic supply risk intersect, passive market governance is no longer sufficient.

2. Second, European firms must come to treat second-source qualification not as an optional business decision, but as a fundamental resilience practice – a shift in procurement mindset that regulation alone cannot impose but policy can actively encourage and support. The immediate priority should be components sourced from suppliers domiciled located in or controlled by entities located in countries of systemic concern. For these, dual qualification is not merely prudent portfolio management; it is a form of self-protection in a world where supply chains have become instruments of geopolitical coercion. Firms that have not stress-tested their single-source dependencies are not managing risk; they are deferring it.

   The EU's role here is not to compel but to educate, convene, and co-finance. Industry-facing guidance should reframe sourcing strategy around the concepts of strategic stock and supply discipline, moving away from lean, just-in-time assumptions optimised for a stable geopolitical order that no longer exists. Sector-specific working groups, convened through the Commission and anchored in real supply chain data, can help firms benchmark their exposure and identify qualification priorities. Co-financing mechanisms through the European Investment Bank can reduce the qualification cost barrier for firms willing to act but constrained by short-term economics.

   The underlying message to European industry must be unambiguous: in an era of weaponised supply chains, single-source dependence on geopolitically exposed suppliers is not a cost-saving strategy. It is an unpriced liability.

3. Third, the EU Chips Act 2.0 must elevate legacy-node technologies to the same strategic priority as advanced nodes. Mature processes powering automotive and industrial sectors are not obsolete; they are systemically critical, and Europe's industrial policy must reflect that reality. The TSMC-Bosch-Infineon-NXP joint venture, or European Semiconductor Manufacturing Company (ESMC) GmbH, reflects this recognition, but a single fab is wholly insufficient. Legacy-node resilience demands a dedicated strategy with its own funding envelope and binding 2030 capacity targets, not a footnote to an advanced-node agenda. At the same time, subsidy decisions for legacy fabrication capacity must be anchored in commercial viability, not the political appeal of domestic production.

   Legacy chips are low-margin, highly customised products — specialty processes defined by lengthy customer certification cycles and application-specific flexibility, characteristics fundamentally at odds with the mass-production economics that justify large-scale fab investment. Europe compounds this with structural disadvantages: high energy costs, a shallow talent base in mature-node process engineering, and, most critically, the absence of the dense materials and

equipment supplier ecosystem that makes legacy fabrication economically self-sustaining in Taiwan. Directing subsidies toward European legacy fabs without resolving these fundamentals does not build resilience; it builds stranded assets.

The more credible path is a formal, reciprocal Semiconductor Resilience Partnership with Taiwan, extending beyond TSMC to engage legacy, specialised foundries that operate the speciality process technologies European industry depends on. The strategic logic is clear: where domestic production is neither cost-effective nor ecosystem-viable within the relevant policy horizon, securing privileged and resilient access through a structurally aligned partner is the superior industrial policy choice.

Courts will eventually rule on Nexperia's ownership, but legal outcomes alone will not resolve Europe's vulnerabilities. If legacy semiconductors are treated as commodities rather than strategic assets, European supply chains will remain exposed to coercion.

The future of Europe's automotive industry—and its clout as an industrial power—depends on the choices made now.

**Authors' note: Analysis in this piece is further supported by industry interviews, notably with a senior executive at a major Taiwanese IDM, whose identity remains anonymous by request.*

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