SECURING EUROPE'S DIGITAL FUTURE: BUILDING TECHNOLOGICAL SOVEREIGNTY FROM WITHIN

Policy Brief
Center for the Governance of Change
May 2025

EXECUTIVE SUMMARY

The European Union's ambition to lead the global digital transformation is undercut by its continued dependence on foreign technologies, leaving Europe more often as a taker rather than a driver of technological change. The EU's digital stack— from raw materials and chips to cloud infrastructure and applications—is largely outsourced, leaving the bloc exposed to over-dependence, economic coercion, cyber vulnerabilities, and normative conflicts with both the United States and China. To secure its digital economic security and global competitiveness, the EU must shift its strategy: rather than merely regulating digital spaces, it must invest in becoming indispensable in key technological layers. **This policy brief proposes a two-pillar strategy, grounded in the Clingendael Institute's paper for the Center for the Governance of Change: *Beyond LEGO the Need for EU-based Building Blocks of Technology*[1]:**

PILLAR #1

BUILDING RESILIENT PARTNERSHIPS FOR SECURE AND DIVERSIFIED SUPPLY CHAINS

- Diversification of partners
- Global Gateway
- CRMs
- Digital diplomacy

PILLAR #2

STRATEGIC AUTONOMY THROUGH EU TECH CAPABILITIES

- Own infrastructure
- Targeted investment
- European cloud
- Chips

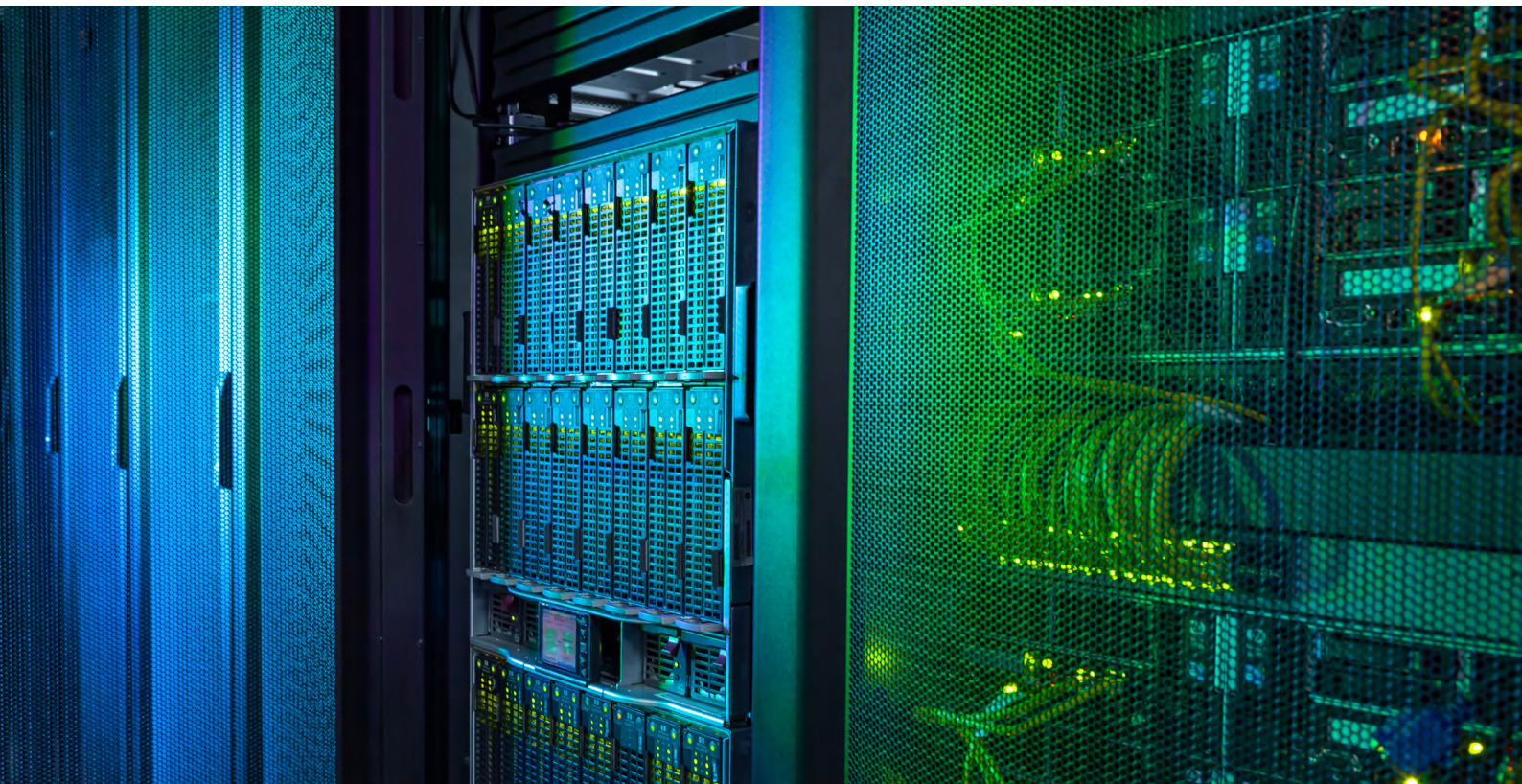
BACKGROUND: OVERDEPENDENCE AND HYBRID RISKS

The EU suffers from a persistent digital trade deficit, largely driven by its overreliance on non-European technologies.

More than 80% of the digital infrastructure and services consumed in Europe are imported, with a significant share coming from the United States[2]. In the cloud computing sector, U.S. providers dominate nearly 70% of the global Infrastructure-as-a-Service market, while European cloud companies account for barely 10%[3]. This imbalance reflects a broader pattern of dependency not only in services, but also in key inputs such as critical raw materials (CRMs), advanced semiconductors, and AI software and infrastructure.

Beyond the material layer, the EU also faces a challenge to its informational sovereignty. The dominance of foreign social media platforms and the increasing use of AI bots are eroding access to reliable information. Disinformation campaigns, AI-generated fake content, and the weakening of independent media undermine citizens' ability to meaningfully engage in democratic life. Platforms such as TikTok, owned by the China's ByteDance, have raised deep concerns in Europe about content manipulation, data access, and potential political influence. At the same time, UK- and US-based platforms and agencies continue to dominate the broader social media landscape, creating a dual dependency that weakens Europe's ability to control its own digital public sphere.

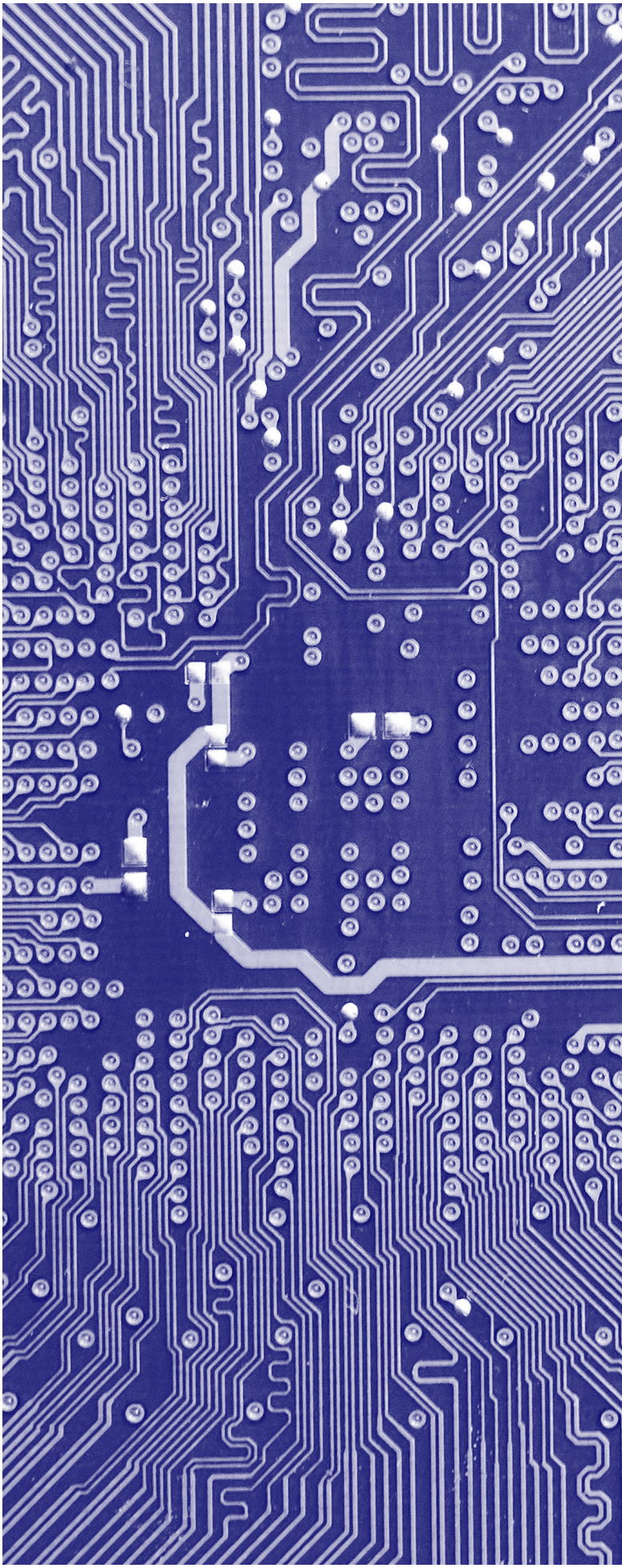
These dependencies expose the EU to multiple risks, from potential disruptions in chip and cloud access during geopolitical crises, to hybrid threats that exploit the EU's lack of control over key digital infrastructure. The consequences of inaction are severe. Meanwhile, the global tech landscape is being shaped by powers whose values often diverge from Europe's—whether it's the U.S. deregulatory approach to data and content moderation, or China's state-driven model of digital authoritarianism[4].



TOWARDS SOLUTIONS: STRENGTHENING PARTNERSHIPS AND INTERNAL CAPABILITIES

The EU has made important strides in digital regulation—pioneering frameworks such as the General Data Protection Regulation (GDPR), the Digital Services Act (DSA), and the Digital Markets Act (DMA)—and has established itself as a global standard-setter[5].

However, to move beyond regulatory protection and address its structural dependencies, the key is to foster innovation in the technology layers where Europe can be competitive. Niche industrial strengths such as the Dutch company ASML in chipmaking equipment and initiatives like the European Chips Act offer critical foundations for future autonomy[6]. **Maintaining and augmenting European indispensability in key technological nodes, and strategically focusing investment in areas of competitive advantage, will be essential to mitigate vulnerabilities and shape a resilient, sovereign digital future.**



PILLAR #1:
BUILDING RESILIENT PARTNERSHIPS FOR SECURE AND DIVERSIFIED SUPPLY CHAINS

PILLAR #2:
STRATEGIC AUTONOMY THROUGH EU TECH CAPABILITIES

PILLAR #1
BUILDING RESILIENT PARTNERSHIPS FOR SECURE AND DIVERSIFIED SUPPLY CHAINS

#1 Engage the US on data localization and shared standards

U.S. legislation such as the CLOUD Act and FISA raise concerns about privacy and extraterritorial access to data. While the risk of misuse under these American laws may be low in normal conditions, data can easily be weaponized, posing serious risks in times of geopolitical tension. In light of this, the EU should:

- **Encourage the repatriation** of sensitive data to European providers.

#2 Leverage partnerships with India, Japan, and Association of Southeast Asian Nations (ASEAN)

The EU should expand partnerships with India, Japan, and ASEAN to advance a democratic and de-risked digital order by:

- **Promoting trilateral cooperation and expanding bilateral platforms** such as the *EU-India Trade and Technology Council* and the *EU-Japan Strategic Partnership* to foster regulatory alignment and technological cooperation.
- **Collaborating with ASEAN** to establish baseline standards for interoperability and connectivity, addressing the region's limited capacity to deploy fiber optics and 5G simultaneously.
- **Supporting joint digital infrastructure and skills initiatives** through the Global Gateway, building on the 2023 *Joint Ministerial Statement on Connectivity* and newly announced projects tailored to local needs.

#3 Diversify CRM sources and co-develop extraction capacity in Africa and Latin America

To reduce strategic dependencies on China in critical raw materials (CRMs), the EU should:

- **Implement its MoUs with Chile, Zambia, and the Democratic Republic of Congo,** focusing on lithium, cobalt, and rare earths that are vital for Europe's digital and green transitions.
- **Use the Global Gateway** to mobilize blended finance and ensure that CRM projects contribute to local industrial processing, not just resource extraction.
- **Offer a credible alternative** to China's Belt and Road Initiative by embedding transparency, environmental safeguards, and shared economic benefits into its global resource partnerships.

#4 Strengthen supply chain resilience through targeted, business-driven partnerships

To ensure successful external digital and CRM strategies, the EU should:

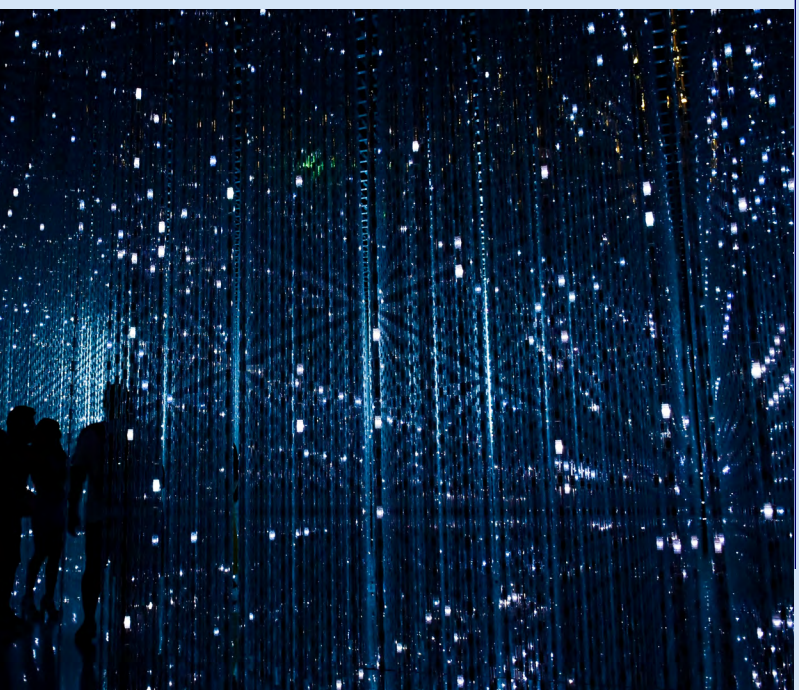
- **Engage businesses** from the outset of project design to ensure initiatives are aligned with market needs, commercially viable, and strategically relevant.
- **Leverage the Global Gateway's digital pillar** as an operational entry point, offering tailored technical assistance and investment to support local capacity-building.
- **Involve EU Member States** in identifying the strengths of partner countries' tech sectors, and co-develop small-scale, sector-specific projects that are adapted to local contexts—avoiding generic megaprojects.

PILLAR #2
STRENGTHENING EU TECH CAPABILITIES FOR STRATEGIC AUTONOMY

#1 Support European cloud and AI champions through strategic resource access

To strengthen Europe's soft digital infrastructure, the EU should:

- **Prioritize support for European cloud and AI providers** such as STACKIT, OVHcloud, and IONOS, enabling them to scale and compete globally in a market currently dominated by US platforms.
- **Ensure** that these providers have access to energy, water, and land for building data centers and "AI factories," essential for developing large-scale, sovereign infrastructure.
- **Internalize** the externalized environmental and economic costs of foreign-owned infrastructure, ensuring European resources do not disproportionately support non-European profits.
- **Use the upcoming AI and Cloud Development Act** to define clear rules for ownership, transparency, and concession models, promoting digital sovereignty and long-term infrastructure resilience.



#2 Leverage public procurement to scale European cloud providers

To strengthen the market position of European cloud services, the EU should:

- **Revise** EU public procurement frameworks to explicitly favour European providers in sensitive sectors such as healthcare, education, and public administration, ensuring data protection and sovereignty.
- **Direct institutional demand toward viable European solutions** to help overcome market fragmentation and scale disadvantages faced by domestic providers.
- **Use procurement** not merely as a budgetary tool, **but as a strategic policy instrument** to accelerate the growth of a competitive and autonomous European cloud ecosystem.

#3 Augmenting European indispensability through strategic investment

European indispensability in global value chains is one of the most effective strategies for securing digital sovereignty. The case of ASML, which holds a unique position in advanced chipmaking equipment, illustrates the importance of controlling critical technological nodes that are difficult or impossible to replace. To replicate this model in other areas, the EU should:

- **Direct public investment** toward chokepoint technologies where it already has a competitive edge or high growth potential.
- **Coordinate funding instruments** under the Multiannual Financial Framework (MFF) and focused on creating non-substitutable capacities. This includes prioritizing areas of high geopolitical leverage, supporting research and scale-up, and reducing dependency on external partners in foundational layers of the digital stack.

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ENDNOTES

1 Ferreira Gomes, Alexandre, Maaike Okano-Heijmans, and Jelle van den Wijngaard. 2025. Beyond LEGO: The Need for EU-Based Building Blocks of Technology. Madrid: Clingendael Institute / IE University.
2 Bertelsmann Stiftung, EuroStack—A European Alternative for Digital Sovereignty (p. 8), February 2025.
3 *Ibid*., p. 66.
4 Otero-Iglesias, Miguel, y Rodríguez Gordo, Gonzalo. 2025. Europe's Digital Dilemma: Referee or Player? Madrid: IE University.
5 Schneider, Ingrid. 2025. Reclaiming Digital Sovereignty: The EU's Role in the Geopolitics of Digital Governance. Madrid: IE University / University of Hamburg.
6 Gomes, Alexandre, and Maaike Okano-Heijmans. 2023. Dutch Niches for Global Gateway Policy Brief in the Digital Domain: An Initial Enquiry. The Hague: Clingendael Institute.

This policy brief was produced within the framework of the Center for the Governance of Change's research program *The Digital Revolution and the New Social Contract*, and in particular its third work package, which studies the geopolitics of the digital era, and how the technological race is changing the power relations between states and between states and companies.

It is based on the second policy paper of the package:
Ferreira Gomes, A., Okano-Heijmans, M., and van den Wijngaard, J., *Beyond Lego: The Need for EU-Based Building Blocks of Technology, IE CGC, April 2025*.

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