



# European Tech Sovereignty Policy Paper

May 2026  
Greens/EFA Group in the European Parliament

## The digital world we live in

Digitalization is now the substrate of European life, yet we remain trapped in a state of critical vulnerability. With more public services provided fully online, any disruption is now a systemic threat to our social and economic stability, as well as our privacy.

Europe is caught in a geopolitical squeeze, facing a US administration weaponizing tech dependency and a China controlling critical materials. This creates an immediate risk of coercion that threatens our strategic autonomy.

The warning shots are clear: systemic outages, rampant disinformation by tech oligarchs, and the political weaponization of digital services. These are not hypothetical concerns but active attacks on our democratic control. The CrowdStrike and Amazon Web Services outages led to the crash of essential services such as transportation across the EU and the shutdown of half of the web. Disinformation and election interference is rampant on social media platforms. The US government has forced Microsoft, Google, Amazon and credit-card companies to stop providing services to judges of the International Criminal Court. According to the Draghi Report the EU relies on foreign countries for over 80% of digital products and infrastructure.

Achieving digital sovereignty is an urgent political mandate to safeguard the Union. We cannot allow opaque tech monopolies to threaten free and fair elections, fuel disinformation, and expose our economy to rising costs for critical services like cloud computing, data storage, and cybersecurity.

## Our Goal

The upcoming Tech Sovereignty Package, set for publication end of May 2026, is a litmus moment for our European strategic autonomy. As Greens/EFA, we expect the ambition and courage to build a sovereign European Digital Ecosystem spanning every essential layer of technology - from hardware and infrastructure to data, cloud technology, AI, quantum infrastructure, space infrastructure, chips, messaging and e-mail to social media. Success demands **a strategic parallelism** in Europe's approach on tech regulation: on the one hand, the uncompromising enforcement of our digital rulebook and, on the other hand, an ambitious European Digital Industrial Policy fuelled by massive public investment to make real strides.

## The path towards a strong Tech Sovereignty Strategy

The Commission needs to **play a leading role in supporting the development of a full European digital stack**. The response to US and Chinese dominance can't be a patchwork of different national strategies. We need to use the full potential of the scale of the European market. Like the new approach in defence policy - identifying common capability gaps, fostering research and development, driving joint investments, and strengthening infrastructure - our agenda should be driven by the same sense of urgency and political determination.

Step one: a **digital dependencies stress-test** to identify where the most critical vulnerabilities and dependencies exist, and where Europe's strengths lie. This exercise should underpin a broad **European Tech Sovereignty Dialogue** with sectoral sub-dialogues notably for cloud, AI, quantum, semiconductors, connectivity, etc.

The Commission should then **present a European Digital Industrial Strategy, building on the following principles:**

1. **Build European:** develop, scale and expand digital infrastructure, technology and services
2. **Buy European:** ensure demand for digital infrastructure, technology and services made in Europe through Made-In EU conditionality in public support schemes and public procurement
3. **Protect European:** enable European tech to stand global competition

### What do we understand as 'European sovereign tech'?

European **technological sovereignty** should be understood as Europe's ability to develop, provide, and maintain digital technologies required for people's welfare, the public interest and Europe's economic development, as well as the ability to act and decide independently, and ensure that the market provides real consumer choices and the possibility to freely choose any specific technologies and solutions.

European sovereign tech should be founded on **decentralised governance models**, where neither private companies nor governments maintain centralised control, and on fair and competitive economic models. So, opposite to the model of monopolisation we are witnessing today. Open standards, interoperability and privacy by design should be basic principles.

For companies to be considered sovereign, technical criteria and data-localisation are not enough. They need to have **headquarters in Europe**, and the de facto control needs to be in European hands. The impact of extra-territorial reach of foreign jurisdictions must be carefully considered.

## Build European

*To safeguard our prosperity, Europe must invest in its own alternatives, ones that embrace decentralised, free, and open-source solutions and that are rooted in European values and principles. The objective is to have a functioning internal market that offers a chance all players while safeguarding against strategic dependencies and stop the risk of weaponisation of those.*

## Digital Public Infrastructure

Digital infrastructure is the backbone of our economy and ever more of all aspects of our everyday life. Interactions between pupils and their teachers, access to medical files, making payments are all processes that run on digital infrastructures that are controlled by foreign private companies.

We need to **build Digital Public Infrastructures in those areas where the most critical dependencies exist**. Digital public infrastructure is to the digital economy what roads, power grids, and water systems are to the physical economy: foundational, shared systems -digital commons-that enable everyone to participate. These should be built on common and open standards, fostering interoperability and interconnectedness and support policies like open-source first and public funds - public code.

This effort should build on the on-going initiatives such as the development of a European e-identity and the digital euro and in the context of the Digital Commons EDIC (European Digital Infrastructure Commons) led by the Netherlands, Germany, France and Italy. We should not rely on only one operating system that is subject to interference from third jurisdictions, and we cannot risk the functionality of our schools and public administrations by exclusive reliance on one suite. We need to encourage **European office and communication software**. The steps taken by the German state Schleswig Holstein to get off Big Tech and the French government's decision to switch to Linux and develop its own videoconferencing and other tools are encouraging steps.

## European Investment

The lack of access to capital is often recognised as one of the main reasons why technological breakthroughs do not scale in Europe and European startups choose to develop their business elsewhere. The completion of the Capital Markets' Union is therefore a necessary step. Respecting the European specificities, a combination of both strategic public and private investments in both innovation and market uptake is key and should happen through the European Competitiveness Fund's digital leadership pillar worth 50 billion euro. We should not simply replicate the Silicon Valley model; European investment should encourage ownership models that incentivise long-term investments and long-term strategies.

A lot of our digital infrastructures, both public and industry, are based on open-source foundational software components but the maintenance of these components remains largely under-resourced, often run by technical communities on a volunteer basis. Moreover, the few forms of self-organisation seem to be led and controlled from third country jurisdictions<sup>1</sup>. **A European Sovereign Tech fund** should provide structured funding for the open-source ecosystem and invest in digital public infrastructures. This would give an important boost to ensuring the European sovereign tech is open source based and therefore in line with our democratic values. Best practices can be observed in the work already undertaken by the German Sovereign Tech Fund. The source of the fund should be the European Digital Services Tax (see 3. Protect European).

## Buy European

*To allow European tech companies to scale, Europe must ensure a stable and predictable demand for its technological offering to scale via the creation of lead markets for secure, resilient and decentralised digital infrastructure, technology and services, delivering jobs and*

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<sup>1</sup> List of major open-source organisations available at <https://opensource.com/resources/organizations>

*investment in Europe. Competition must be restored and fostered in order to move away from single vendor dominated digital stacks.*

## **Public Procurement**

Public Procurement amounts to 15% of GDP and represents an incredible strategic lever to stimulate innovation and strategic autonomy, for tech. The current rules' strong emphasis on the lowest-price criterion and a strong tendency to avoid risks and ensure compatibility with locked systems have led to further market concentration and dependencies.

Transitioning from a logic of lowest cost to one of strategic value ensures that European budgets directly foster the Union's own digital ecosystem, creating a virtuous cycle of investment and technological autonomy.

Europe should ensure that the four freedoms are used to drive economic prosperity, competitiveness, and sustainable development<sup>2</sup> using all the levers at its disposal,

A mandatory 'European Preference' should be introduced for digital products and services such as cloud, office software, connectivity or IT hardware to ensure strategic control and boost the development of European alternatives. Where no European alternatives exist, reliance on non-European providers should be treated as a temporary measure, subject to a formal justification process and be conditional to contractual and technical safeguards to prevent any unilateral interruption of service properly justified. A clear definition of European Sovereignty and a common agreement on the underlying principles need to underpin this approach to counter sovereignty washing. The key element here is European control and ownership and being shielded from accountability to the laws of other countries.

On top of European preference, the procurement rules should be changed so that contracts ensure an effective and efficient use of public funds while supporting qualitative public policy objectives such as security and sustainability and resilience. The use of open source, interoperability and reversibility should be used as criteria to evaluate a bid with the aim to avoid vendor lock-in, offer choice in a free market and allow seamless transitions between providers. Procurement of big IT projects, nationwide or cross border should be designed in a way that stimulate the demand for sovereign tech and interoperability of solutions, including by dividing into lots that give small European providers the possibility to compete. Similarly, environmental considerations should play a decisive role in the award of public contracts to prioritize the most-energy efficient offers, aligned on our climate objectives.

## **Common European Procurement**

The European Commission must transcend the past passive role and leverage its significant market power by adopting a common procurement strategy. By prioritizing homegrown solutions for its internal infrastructure and that of the EU bodies offices and agencies, the Commission could provide the critical "first-customer" validation necessary for EU scale-ups to compete globally.

However, leading by example is only the first step; the Commission should further play a pivotal role in matching demand and supply for sovereign technology by stimulating common

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<sup>2</sup> Articles 3(3) and the references to fundamental freedoms -Treaty on European Union (TFEU)

procurement, mirroring the successful frameworks recently established for the joint acquisition of defence products.

Pooling the demand of several contracting authorities across the Union can grant European tech companies' access to the long-term, large-scale contracts essential for scaling and continuous innovation. To bridge the financial gap, the European Competitiveness Fund should facilitate this shift by providing loans and targeted financial support for the procurement of critical digital products and services.

For Member State-level acquisitions, the Commission should act as the central organizing body for common procurement of key digital public infrastructures, such as office software and sovereign cloud services. By allowing Member States to opt into these tenders, and by dividing contracts into manageable lots open to consortia, the EU can prevent vendor lock-in and encourage SME participation.

On that note, the Commission should set up an informal Tech Group, like the Eurogroup, to coordinate and ensure policy coherence on digital infrastructure, AI, cybersecurity, and sovereignty across Member States. This would enable Europe to align national and European investment priorities and engage as a single strategic actor in the global technology landscape

## Protect European

*European tech alternatives will only be able to flourish if we protect them from unfair competition and if we take decisive action to break the existing market concentration.*

## Enforcing the European digital rulebook

A robust, independent European digital stack is vital for strategic autonomy. It should prioritize sustainability and ethical design, aligning with EU values. This transforms the EU from a consumer to a trendsetter in innovation. Sovereignty requires addressing market distortions. Dominant players stifle competition Merger evaluations must shift beyond traditional price-centric models to cross-sectoral control and data power.

The Digital Markets Act (DMA) must be seriously enforced alongside the Digital Services Act (DSA), the AI Act and the General Product Safety Regulation (GPSR) to protect compliant businesses. The EU should start proceedings against X/Grok, SHEIN, or Temu potentially banning non-compliant platforms.

To replace the current fragmented oversight, a new single European enforcement agency for digital policy is essential to challenge global tech giants, making enforceable mandates that safeguard our digital sovereignty. This would also significantly increase impartiality, reduce vulnerability to external political or commercial pressure, and ensure that decisions are taken based on European law alone. We strive for easier and streamlined reporting mechanisms to alleviate bureaucratic burden, and for reducing regulatory fragmentation and gold-plating at Member States' level.

## Digital Tax

Big digital companies make billions in Europe through online shopping, digital ads, streaming and cloud services. But they only pay taxes where their headquarters are located, often in tax havens, benefiting from lack of harmonisation and shady financial optimisation practices. That means they benefit from European consumers and markets, extracting value without contributing fairly to our societies.

A Digital Services Tax, levied against the digital giants, would result in more than 37.5 billion euro per year that could return to the society through life quality improvements based on local and sovereign solutions.

The Greens/EFA propose an EU-wide tax of 5 percent on the revenues earned from digital services inside the EU, no matter where the companies are based and the level of national taxation. The tax would be based on progressive taxation principles, with a threshold that would result in its application only to the biggest players. Small startups and businesses would not be affected. The revenue of the tax would be added to the budget of the European Union. An important share of the income should be invested in European tech alternatives.

# Key Asks Per Priority Sector: Cloud, AI, Chips, Quantum & Space

## Cloud

The cloud market is dominated by the American hyperscalers. Amazon Web Services, Microsoft Azure and Google hold a combined 70% market share that keeps growing. If current trends continue, Europe risks near-total dependency on non-EU cloud providers in only a few years. That means full loss of control over all our data, including in high-risk sectors or use cases, and making ourselves vulnerable for coercion, without a fall-back European alternative.

Europe is rapidly shifting its computations and data storage to the cloud, positioning cloud computing as the foundation of its future technology stack. Already, 52% of European businesses use cloud services, and the European Commission is pushing to raise this to 75% by 2030. Europe is building its next generation of technologies - such as the Internet of Things and AI - on cloud infrastructure. At the same time, governments are embedding cloud computing into core state functions, from delivering e-government services to managing public health systems and critical infrastructure.

We are at a make-or-break moment, and we need to take decisive action now to support and grow secure and performant services that meet the highest standards for security and sovereignty.

Forced bundling of AI tools and software suites with cloud infrastructures should therefore be prohibited. The **hyperscalers** should be designated as **gatekeepers under the Digital Markets Act**. The ongoing investigations into Amazon Web Services and Microsoft Azure should be swiftly concluded and an investigation into Google needs to be also opened.

In its upcoming **Cloud and AI Development Act** the European Commission must ensure the build-out of data centre capacity. A **clear definition of sovereign cloud** must be included. This definition must prioritize European control, data localization (i.e. storage & processing in the EU), and measures to protect Europe's most sensitive data from unlawful data access, including on the basis of extraterritorial laws, while ensuring continuity of service. Safeguards against sovereignty washing must be included.

The Cloud and AI Development Act should also include **mandatory European preference** for public procurement of cloud services. For large contracts not to go automatically to the US hyperscalers, further embedding their dominant position, the procurement of cloud services should be open to consortia of providers. Procurement decisions should prioritize data security, ensuring full control over sensitive data and reducing exposure to foreign jurisdictional risks.

Sustainability and environmental impact must also play a central role, aligning cloud infrastructure with the EU's green transition objectives. The massive energy consumption of data centres indeed makes Europe's energy sovereignty a strategic priority. The Cloud and AI Development Act must therefore contain dedicated requirements for sustainable, energy efficient and energy-sovereign infrastructure and incentive research and innovation towards greener data centres.

## AI

To secure the Union's technological sovereignty in an era of heightened global competition, the following policies should be considered to enable the development and use of Artificial Intelligence in the EU:

The Commission must urgently react to new geopolitical realities where digital supply chains are increasingly weaponized as tools of strategic pressure. We call for a robust expansion of High Performance Computing (HPC) and AI development within the Union to mitigate these vulnerabilities, in the future Cloud and AI development Act. This initiative should utilize all available market tools and regulatory remedies to facilitate the development and uptake of AI that is fully compliant with EU regulations, ensuring that **innovation remains values-driven, citizen-centric, and aligned with the Union's democratic and strategic needs.**

Recognizing that the AI value chain extends far beyond simple model development, the Union must leverage both public and private computing infrastructures to **anchor sovereign AI solutions.** By utilizing our domestic infrastructure, we can drive industrial innovation while maintaining strict data sovereignty and ethical governance. A critical component of this strategy is the democratized access to these resources; therefore, we propose that startups and small-to-medium enterprises (SMEs) be designated as priority beneficiaries for access to public computing infrastructure to prevent the concentration of AI power.

The European Commission should adopt measures that specifically support the design and development of **"AI Made in Europe,"** enabling our core industrial sectors to harness their own data for sector-specific applications. Europe possesses a unique capacity for a non-linear vision of AI that focuses on specific enablers and purposeful deployment in strategic sectors rather than just general-purpose computation. This is an opportunity to develop Europe's own vision of AI and identify gaps in AI development - instead of duplicating supposed success stories of big models overseas. To ensure a truly democratic practice of AI, we must incentivize the development of models that can run on widely available hardware at moderate costs. This approach will allow a broader range of actors to shape the creation and use of AI systems and models, providing immediate value to the European economy and ensuring technology remains a public good.

## CHIPS

**Semiconductor chips are a foundational layer of the modern digital stack**, enabling everything from basic data processing to advanced artificial intelligence making them essential to both everyday life and the global economy. Because virtually all digital services depend on hardware built around increasingly sophisticated chips, their design, manufacturing, and supply chains are a key determinant of digital sovereignty and long-term economic resilience.

Whilst using 20% of the world's microchips, the European Union only manufactures 9% itself. Asian Countries are leading advanced chip manufacturing and Nvidia has become the most valuable company in the world by dominating the market for advanced AI Chips (GPUs). **Europe plays a modest role in the semiconductor industry** but has some crucial assets in the semiconductor equipment industry, in particular ASML which has a monopolistic position globally in the sector and whose machines are indispensable for the production of the most advanced AI Chips.

The pandemic shock to manufacturing and logistics exposed long-standing structural vulnerabilities. The EU responded with the Chips Act, built around the three pillars of capacity building, security of supply, and crisis monitoring, constituted an essential first step toward the stated objective of reaching 20% of global semiconductor production by 2030. While the Chips Act laid an important foundation, it remains inherently limited in scope relative to the scale, capital intensity, and speed of global semiconductor competition. It has not fully addressed the risk of disruption in semiconductors used in everyday products, as we have seen recently with the controversy around Nexperia, nor has it resolved the absence of substantial EU-based capacity for advanced chips.

**A Chips Act 2.0 must focus on security and leverage.** This necessitates a more mature approach to “de-risking,” extending beyond fabrication capacity to the full ecosystem of specialised chemicals, lithography components, design tools, and intellectual property in which Europe retains comparative strengths. Accordingly, the concept of security of supply must explicitly consider export controls imposed by third countries, which will certainly remain as a key feature for the sector or even increase, restrictions on access to essential technologies, and the risk of deliberate or incidental supply disruptions. Recent limitations on advanced AI chip exports, constraints on access to critical raw materials such as rare earths, and the reliance of even Europe-based semiconductor firms such as Nexperia on globally fragmented manufacturing stages collectively illustrate how quickly vulnerabilities can cascade across borders and value-chain stages.

A prospective Chips Act 2.0 should therefore focus more directly on the persistent concentration of upstream and enabling capacities in a limited number of third countries. We can't relocate every segment of the semiconductor value chain to EU territory, but **Europe should gain strategic technological capabilities that make it indispensable in the global supply chain.** This should include the use of European preference under public procurement, coordinated buffer stocks for essential components, and stronger intra-EU cooperation across research, manufacturing, and packaging ecosystems.

Chips Act 2.0 should therefore deepen instruments for risk mapping, early warning, and coordinated response, while promoting diversification of supply and targeted investment in segments deemed both critical and realistically achievable within Europe. This should include support for the development of advanced AI Chips in Europe, including frontier technologies such as photonic computing.

## QUANTUM

To ensure the Union does not repeat the strategic dependencies of the silicon age, a **sovereign European quantum stack** must be developed as a top-tier priority. This means moving beyond the "qubit race" to secure every layer: from the cryogenic and vacuum hardware and specialized control electronics to the software compilers and post-quantum cryptographic algorithms.

Europe's current sector of excellence lies in its world-leading research however, scientific brilliance alone is not sovereignty. **We must transition from being a "lab for the world" to a "factory for the world,"** ensuring that breakthroughs made in Delft, Munich, or Paris result in IP and manufacturing capacity that stays within the Single Market.

The "valley of death" between a successful laboratory prototype and a commercially viable quantum computer is currently too wide for private venture capital to cross alone. To address this, the European Competitiveness Fund (ECF) and the next Multiannual Financial Framework (MFF) must pivot from fragmented research grants toward massive, late-stage industrialization support. By treating quantum tech as a "dual-use" strategic asset - much like defence or aerospace - the EU can provide the long-term capital certainty required to scale European quantum champions before they are swallowed by foreign acquisition.

The Quantum continuum: we need a clear governance structure dedicated to quantum related technologies. The technology is clearly distinct from High Performance Computing (HPC), and the applications range from computation, simulation to secure communications, therefore better synergies will be achieved in a dedicated quantum structure than in the current fragmented governance landscape that is under the responsibility of several commissioners and different structures.

**A Sovereign Quantum IP Fund:** Establish a dedicated vehicle within the ECF to provide "exit-alternative" funding for European quantum startups, preventing them from selling their IP to non-EU entities.

**European Quantum Chips Act Extension:** Expand the current European Chips Act to include dedicated pilot lines for Quantum Processing Units (QPUs), ensuring that European designers have guaranteed access to local cleanroom facilities for fabrication.

**Quantum-Safe Governance:** Launch an EU-wide "Post-Quantum Transition" directive, requiring all critical public infrastructure from power grids to banking to begin migrating to European-developed post-quantum encryption standards.

## SPACE

To support the European space sector and reclaim strategic autonomy, the European Union must transition toward a more robust and integrated policy framework during the 2024-2029 mandate. This includes the following concrete measures:

The European Parliament is called to decide on **a future-oriented budget** that ensures the continued development and funding of flagship systems like Copernicus and Galileo but also support pillars like Cassini. To boost innovation and resilience, space funding within the Multiannual Financial Framework (MFF) should be used to de-risk activities and incentivize private capital, with a long-term goal of developing sovereign space-based services and human-capable space-flight capabilities, as well as increasing EU's sovereign launching capabilities.

The creation of **a true single market** where space and spectrum rules are applied consistently across the Union is key to achieve the scale needed. Central to this is the establishment of a harmonized framework for authorization and licensing. This framework would then use internal market mechanisms to provide economic incentives for actors to comply with a unified EU legal framework, ultimately benefiting the entire ecosystem.

To protect the European industry, the EU must address the risk of "externalizing" environmental costs to regions with weaker regulations. Policy measures should include mandatory verification of compliance with EU-level requirements across the entire production chain for any operator providing services within the Union. This ensures that foreign systems and components meet the **same sustainability and ethical standards** required of European companies.

Moreover, recognizing that launches have significant impacts on the atmosphere and ozone balance, a stricter regulatory regime must be put in place. This involves:

Environmental Impact Assessments (EIA): Mandatory assessments for all manufacturing, launches, and re-entries.

Fiscal measures: The introduction of a "polluter pays" fiscal measure based on the risk, debris potential, and environmental impact of launches to fund space traffic monitoring and clean-up.

Enforceable standards: Moving away from broad exemptions by setting enforceable limits on pollutant emissions and mandating the use of sustainable propulsion and "demisable" spacecraft design.