ASSOCIATION OF THE INTERNET INDUSTRY

WHITEPAPER

Seizing the AI Opportunity: Placing Innovation at the Center of Digital Regulation

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I. Summary

Europe's global competitiveness is increasingly shaped by its ability to succeed in the digital transformation. Over the past decades, however, the European Union has lost economic momentum compared with other major economies such as the United States and China. Thirty years ago, EU labour productivity was close to parity with the United States, at approximately 95%. That small gap has grown into a chasm, with EU productivity now falling below 80% of the US level.[1] The Draghi Report highlights a widening productivity gap and a declining role for Europe in the global digital economy. Europe's share of global technology market capitalisation has declined dramatically from around 30% in 2000 to just 7% today.[2] At the same time, digital technologies and AI are becoming decisive drivers of productivity, economic growth, and geopolitical influence.[3]

Despite these challenges, Europe also possesses significant structural opportunities: A strong industrial base, world-leading engineering capabilities, and globally competitive manufacturing sectors. All of these provide a solid foundation for leveraging AI and data-driven technologies in the transition toward Industry 4.0. Artificial Intelligence in particular acts as a powerful industrial multiplier, enabling companies but also governments to improve productivity, create new products and services, and generate entirely new forms of new economic potential. However, realising this potential requires framework conditions that support innovation, investment, and rapid technology adoption.

The European Commission has recognised the importance of digital competitiveness and has placed it at the centre of its policy agenda. Initiatives such as the Digital Omnibus aim to simplify existing legislation and reduce administrative burdens. Nevertheless, a significant gap remains between stated political ambition and practical implementation. The cumulative effect of numerous digital regulations has created legal uncertainty, increased compliance costs, and slowed down innovation. At the same time, new legislative initiatives, like the Digital Fairness Act, risk further increasing regulatory complexity without clearly strengthening competitiveness.

To close this gap, European digital policy must place innovation as a mandate for all new regulation at its core. Reducing regulatory fragmentation, strengthening the Digital Single Market, and ensuring regulation balances innovation and economic imperatives as well as fundamental rights are

essential steps to become competitive again. Europe must maintain a rich ecosystem that allows cooperation with international technology partners and attracts global investment. Only by embedding competitiveness and innovation as guiding principles of digital policy can Europe fully leverage its industrial strengths, accelerate the adoption of artificial intelligence, and secure long-term prosperity, technological sovereignty, and global relevance.

II. Detailed Assessment

The current state of European digital competitiveness

Investments in Technology are dwindling in the EU: EU-funded research found that between 2020 and 2025, the United States dedicated 34% of its €1.33 trillion in venture capital funding to AI; the EU allocated just 18% of €252 billion — a tenfold difference in absolute AI investment. Even within Europe, most late-stage capital comes from the US and UK.[4]

The EU is not producing notable AI models: in 2024, the US accounted for 40, China for 15, and the EU just 3; in 2025, the EU contributed only 1.[5,6] Research published by the National Bureau of Economic Research found that the volume of US venture capital investments in Europe dropped more than 20% following the implementation of the GDPR.[7,8]

The EU lags behind on Patent Filing: In 2024, China filed nearly half of all patents worldwide, with approximately 1.8 million applications.[9] The United States followed with 501,831 applications.[10] Germany, Europe's leading patent filer, managed only 133,485 — just 7.4% of China's total and 26.6% of the US figure.[11,12] In AI-related patents, the disparity is even starker: Europe filed close to 10% of AI patents in 2010, but the latest figures show that it's plummeted to less than 3% of all AI patents.[13,14] This figure is inflated by the inclusion of the UK, which leads Europe's AI patent filings - so the EU's share is actually significantly lower. Among the top 10 global PCT filers, eight are located in Asia with no European company appearing in the top five.[15]

None of the major Tech Companies are European: Over the past fifty years, no European technology company founded during this period has reached a valuation of €100 billion.[16] While Europe has produced a significant number of startups, many struggle to scale within the region. Between 2008 and 2021, around 30 percent[17] of European unicorns, companies valued at more than one billion dollars, relocated their headquarters abroad. At the same time, the rise of large digital platforms and global technology ecosystems has largely been driven by companies based outside the European Union. This trend highlights the limited presence of globally leading technology firms headquartered in Europe and underscores the EU's difficulty in translating digital innovation into sustained economic growth and global market leadership.

The impact of EU Digital Environment on EU Businesses

The EU's dwindling digital environment has a direct impact on European Businesses' ability to drive up their productivity and innovate: Businesses operating in the EU continue to be faced with persistent barriers to cross-border trade - 61% of barriers identified in 2002 still existed in 2020.[18] The Draghi Report cited IMF estimates that internal EU trade barriers are equivalent to a 45% tariff on manufactured goods and a 110% levy on services.[19] European Parliament research from 2022 estimated that dismantling remaining barriers to the single market could yield between €507 billion and €829 billion in additional GDP annually.[20]

As a result, European Businesses are launching their products elsewhere: Despite being based in Europe, some EU firms are choosing to launch their services first elsewhere. For example, Swedish company Spotify launched its AI DJ offering in North America in February 2023. It proved popular, with eligible customers using it for almost one-third of their listening. However, subsequent deployment in the EU has been slow – Ireland was added in May 2023 and Sweden in August 2023. It still appears to be unavailable in several larger member states. Spotify has in the past noted that the EU's "fragmented regulatory structure, riddled with inconsistent implementation, is hampering innovation and holding back developers".[21,22] Booking.com (based in the Netherlands) deployed its AI Trip Planner in the US approximately 18 months before it was made available in the EU.[23]

European Businesses are relocating: European Tech 2025 report found that 18% of companies with seasoned European founders chose to establish in the United States in 2025, almost double the number in 2016. Critically, the report found that founders who view Europe's regulatory environment as restrictive are significantly more likely to relocate — a direct causal link between regulatory burden and talent flight. This is exemplified by Peter Steinberger, the Austrian creator of the watershed agentic AI product, OpenClaw. Steinberger recently left Europe for OpenAI in the United States, citing strict regulations and a cultural environment where enthusiasm for building is replaced by lectures on compliance[24]

Industrial strength as Europe's opportunity in the AI era

There is still an opportunity for Europe to seize the AI opportunity, focusing on industrial strength is one of them. Europe possesses a strong and diversified industrial base, characterised by globally competitive companies and numerous world market leaders across key sectors. This industrial strength represents a significant strategic asset in the era of digital transformation. In the context of artificial intelligence and data-driven development toward Industry 4.0, Europe's manufacturing capabilities and operational expertise create substantial opportunities for sustainable growth and technological leadership.

Artificial intelligence functions as an industrial multiplier. Rather than simply replacing human labour, AI enables companies to decouple revenue growth from headcount constraints. By augmenting human capabilities and optimising complex production processes, AI unlocks value that would not be accessible through human labour alone. McKinsey analysis suggests that AI, particularly generative AI (gen AI) and sovereign AI, could significantly boost the European economy by 2030, potentially adding up to €480 billion in annual value. Empirical evidence shows that industries with high exposure to AI technologies achieve up to three times higher growth in revenue per employee compared to industries with low AI exposure. This dynamic is not about doing the same tasks with fewer people. It reflects the creation of entirely new efficiencies, products, and data-driven services.[25]

Europe's industrial base is therefore not a liability in the AI era. On the contrary, it is a structural advantage. AI generates particularly high returns on investment in operationally complex and data-rich environments such as advanced manufacturing, engineering, mobility, energy systems, and industrial automation as AI can lower manufacturing maintenance costs by up to 40% and achieve on average energy savings of 12%.[26,27] Almost two thirds of managers from the manufacturing industry already report a return on investment (ROI) of more than 10 per cent, while one third even expect an ROI of more than 30 per cent in the short term.[28] These gains are especially relevant for Europe, as they occur in precisely those sectors where European companies traditionally possess strong capabilities and global competitiveness.

The real competitive risk does not primarily stem from AI replacing workers. It arises from AI-amplified competitors replacing companies that fail to adopt and integrate these technologies. While firms in the United States and Asia are accelerating AI deployment, many European small and medium-sized enterprises remain hesitant. The European manufacturing sector risks falling behind not because of a lack of technological potential, but because of framework conditions that complicate investment and innovation.

Regulatory complexity, legal uncertainty, and limited access to growth capital can act as structural barriers. If regulatory burdens and investment constraints slow down AI adoption, Europe may fail to leverage its industrial strengths.

Bridging the gap between Politics and practice

The European Commission has clearly recognised the structural challenges facing Europe's competitiveness and has placed the issue at the centre of its political agenda. Digital technologies and artificial intelligence are identified as key drivers of productivity, growth, and innovation. In this context, the Commission has announced its intention to reduce regulatory density, eliminate instances of double regulation, simplify existing rules, and clarify legal ambiguities. The overarching objective is to significantly lower administrative burdens and legal uncertainty, thereby creating a more innovation-friendly regulatory framework for digital technologies.

However, from the perspective of eco – Association of the Internet Industry, there remains a significant gap between political ambition and practical implementation. While the Digital Omnibus acknowledges existing regulatory frictions, its level of ambition is not sufficient to resolve the structural obstacles embedded in the current framework. The shortcomings in the current process include:

Minor changes to the AI Act: This is particularly evident in the case of the AI Omnibus, which seeks to facilitate the implementation of the AI Act. Although certain procedural improvements are proposed, many of the measures do not go far enough or fail to address core challenges. For example, Annex I of the AI Act remains unchanged, perpetuating legal uncertainty in areas where overlaps with sectoral product legislation like the Machinery Directive or the Medical Devices Directive persist. In addition, implementation timelines for relevant technical standards may prove too short for companies to adapt effectively, especially given the complexity of AI systems and compliance requirements.

Continued Push for new redundant legislation like the DFA: At the same time, the Commission continues to prepare new legislative initiatives in the digital field. Proposals such as the Digital Networks and the potential Digital Fairness Act risk further increasing regulatory density, administrative costs, and legal uncertainty. In several cases, it remains unclear what concrete policy objectives these new instruments are intended to achieve and how they interact with existing legislation. Additional regulatory initiatives that indirectly affect the digital economy will also have significant implications for Europe's industrial transformation toward Industry 4.0. Regulatory frameworks that shape the development of smart and connected products, such as the new EU Battery Regulation, will influence innovation cycles, product design, and investment decisions across industrial value chains. If such measures are not carefully aligned with technological realities and broader competitiveness objectives, they may unintentionally constrain product innovation. In sectors such as wearables, consumer electronics, and connected devices, technical design requirements can have significant implications for product performance, size, durability, and user experience. Prescriptive design rules risk limiting engineering flexibility and forcing companies to redesign products in ways that reduce functionality or delay market introduction. At the same time, regulatory requirements that are not mirrored in other major markets may create competitive disadvantages for European manufacturers, who may face longer development cycles and higher adaptation costs compared to competitors in the United States and China. In such cases, companies outside the EU may be able to launch new technologies and iterate on products more quickly, while European firms remain occupied with adapting product architectures to comply with regulatory specifications.

Increased Compliance Costs for businesses: The impact of these actions are reflected in the trajectory of compliance costs for companies operating in Europe. Significant increases in recent years driven by major regulatory frameworks such as the Digital Markets Act, the Digital Services Act, and the General Data Protection Regulation are unlikely to be substantially reversed.

According to data from the *European Investment Bank*, compliance costs for small and medium-sized enterprises can in some cases amount to as much as 2.5% of their annual revenue.[29] On the contrary, the additional obligations stemming from the Data Act, the AI Act, and further planned initiatives are expected to maintain upward pressure on compliance costs, even if the rate of increase slows somewhat.

Taken together, these developments suggest that a genuine shift toward an agenda that prioritises innovation has not yet materialised at EU level. This trend risks undermining the very objective of promoting the widespread adoption of digital technologies and artificial intelligence. If regulatory complexity and uncertainty remain high, companies may delay investments, scale back innovation projects, or shift activities to jurisdictions with more predictable and proportionate frameworks. This trend is already visible in Germany, where small and medium-sized enterprises are beginning to reduce their investments in artificial intelligence, partly as a result of regulatory hurdles. As a consequence, their spending on AI is now around 30% below the market average.[30] Bridging the gap between strategy and practice therefore requires not only targeted simplification, but a coherent and measurable commitment to competitiveness as a guiding principle of European digital policy.

Building a competitive and innovation-driven digital framework

With the Digital Omnibus initiative, the European Commission has acknowledged that the high regulatory density of recent years has created unintended barriers to innovation. However, limited clarifications and selective deadline extensions will not be sufficient to address structural disadvantages faced by European companies. The cumulative impact of major legislative acts, including the Digital Services Act, the Digital Markets Act, the Data Act, the AI Act, and the NIS2 Directive, has not yet been comprehensively assessed. Their interaction has led to legal uncertainty, overlapping compliance obligations, and growing investment hesitation across the digital economy. The European Commission should take key actions to remediate the problem through a meaningful digital fitness check:

A Digital Fitness Check must therefore go beyond administrative simplification. Its objective should be the measurable strengthening of Europe's competitiveness. Before introducing additional initiatives, such as the proposed Digital Fairness Act, policymakers should rigorously examine the necessity and proportionality of new rules. Impact assessments must systematically evaluate how new legislation interacts with existing EU frameworks and international regulatory standards. Strengthening the current "one in, one out" principle toward a more ambitious "one in, two out" rule would demonstrate a genuine commitment to reducing cumulative regulatory burdens.

The Digital Omnibus itself must be addressed with greater ambition. Transition periods need to be realistic, harmonised, and technology-neutral to reflect business implementation cycles. Persistent double regulation remains a significant obstacle. In particular, the coexistence of data protection impact assessments under the General Data Protection Regulation and fundamental rights impact

assessments under the AI Act creates substantial administrative effort without delivering clearly measurable additional protection. A truly effective Omnibus should eliminate duplicative requirements, establish clear legal bases for data-driven AI training, and ensure a coherent and innovation-friendly supervisory architecture across the EU.

At the same time, Europe must strengthen its resilience in response to increasing geopolitical tensions. However, digital sovereignty should not be equated with isolation or protectionism. A forward-looking sovereignty strategy must place innovation, competitiveness, and freedom of choice at its core. Openness to foreign investment, particularly from trusted partner countries, remains a key factor for growth, technological exchange, and global integration. Europe's industrial sector stands to benefit substantially from cooperation with leading global AI companies. Access to advanced AI technologies, expertise, and international innovation ecosystems can unlock significant productivity gains and accelerate the development of new digital and intelligent products. For this reason, Europe's industrial transformation must remain embedded in a global innovation environment that enables open collaboration, technological exchange, and international partnerships. For example, the United Kingdom has successfully positioned itself as a major hub for global technology investment. It hosts roughly three times as many unicorn companies as France, attracts around one third of all European tech investment, and has secured a $42 billion private sector technology investment commitment from partners in the United States.[31]

Finally, Europe's regulatory culture itself requires adjustment. While risk mitigation and the protection of fundamental rights remain legitimate and necessary objectives, supervisory authorities should not act solely as risk managers. A legally enshrined innovation mandate for regulators at both EU and national levels would clarify that their responsibilities extend beyond enforcement to the active promotion of technological development and innovation. Instruments such as regulatory sandboxes, binding interpretative guidance, and a more dialogue-oriented supervisory practice can provide companies with greater legal certainty while maintaining a high level of fundamental rights protection.

At the same time, Europe's regulatory approach should not focus primarily on addressing hypothetical risks. Instead, regulatory frameworks should place greater emphasis on enabling the development, deployment, and responsible use of new technologies. A forward-looking regulatory environment that balances risk management with technological opportunity will be essential to ensure that Europe remains an attractive location for innovation and investment.

Only by embedding innovation as an explicit objective of digital regulation, reducing structural complexity, and strengthening the coherence of the Single Market can Europe unlock its full technological and economic potential and secure its position in the global digital economy. To ensure that this objective translates into measurable progress, European policymakers should also define clear benchmarks and accountability mechanisms. This could include concrete targets such

as significantly reducing regulatory compliance costs for businesses by 50%, accelerating the adoption of artificial intelligence across European companies, and regularly evaluating the cumulative impact of digital regulation on competitiveness and innovation.

About eco: With approximately 1,000 member companies, eco (international.eco.de) is the leading Association of the Internet Industry in Europe. Since 1995, eco has been highly instrumental in shaping the Internet, fostering new technologies, forming framework conditions, and representing the interests of its members in politics and international forums. eco has offices based in Cologne, Berlin and Brussels. In its work, eco primarily advocates for a high-performance, reliable and trustworthy ecosystem of digital infrastructures and services.

Notes

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