



**WINNING THE RACE FOR AI  
WITHOUT PICKING THE WINNERS:  
HOW THE EU CAN USE INDUSTRIAL  
POLICY TO UNLOCK COMPETITION  
AND SPUR AI INNOVATION**

with contribution of Silke Maes

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# WINNING THE RACE FOR AI WITHOUT PICKING THE WINNERS

## How the EU can use industrial policy to unlock competition and spur innovation in AI markets

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*This paper is the second in a series on the EU's digital agenda and builds on [How to Play the Digital Power Game With Limited Means](#).*

As the European Union enters a new mandate, its leaders have set three top priorities for the next five years: raise productivity, enhance competitiveness, and bolster economic security. **Each of these goals hinges on Europe's ability to harness and develop digital technologies.** Yet, so far, the digital transition has been too slow,<sup>1</sup> leaving the EU trailing the US and China in the global tech race.

The advent of AI presents both a promise and a peril for Europe's economic future. Widespread AI adoption across public and private sectors may lift productivity substantially. That requires European solutions adapted to local needs and languages. The peril is, however, that Europe needs strong companies in the AI value chain or otherwise the EU will lose leverage in an increasingly transactional global environment and put its long-term economic security and competitiveness at risk. At present, this outcome is more likely: The EU's current AI strategy has failed to deliver, the European Court of Auditors (ECA) found in May 2024, citing poor coordination among member states and overreliance on national state aid and inefficient subsidies.<sup>2</sup>

As the emphasis shifts to policy implementation in the new mandate,<sup>3</sup> **attention also turns to industrial policies that accelerate the digital transition and allow European champions to emerge.** But the EU's limited resources and fragmented coordination among member states make it impossible for Europe to match US and Chinese state aid – nor, for that matter, can the EU and its capital markets compete with the vast private investments of large tech firms.<sup>4</sup> Classic “picking-the-winners” strategies are complex, often temporary, and likely to increase asymmetries between regions. The challenge is to aid the tech industry without preventing creative destruction.

**One solution is to design industrial policies that lower entry barriers for European startups and thereby spur innovation.** For example, the Commission’s initiative to provide startups access to public supercomputers – countering tech firms’ dominance in computing power crucial for AI innovation – follows this logic. Such a “competition-based” approach to industrial policy would align with initiatives like the Digital Markets Act and the Data Act.

The EU’s digital industrial policy could target four key inputs that currently harm competition in AI markets and “limit the scope of disruptive innovation”, as highlighted by European and American competition authorities in a joint paper<sup>5</sup>:

- 1) Chips and computing power
- 2) Data access
- 3) Skills
- 4) Finance

Competition is vital for productivity as it tends to lower prices, increase consumer choice, and spark innovation. Within the AI supply chain (see box 1), value is becoming more concentrated at every layer, with economies of scale and network effects giving established players an edge over startups. This moment is “a technological inflection point” where it is time to keep AI markets open and prevent them from becoming locked up, according to the European and American competition authorities. Extending the digital single market is only part of the solution; the real challenge lies in keeping markets competitive.

**BOX 1: AI Value Chain:**



Instead of closing the gap the EU risks losing momentum in the digital transition. Digital policy has been downgraded in the European Council’s Strategic Agenda and Ursula von der Leyen’s Political Guidelines for the 2024-2029, compared to five years ago.<sup>7</sup> With limited fiscal space, the tech agenda may be underfunded and overshadowed by climate and defense needs. **But given its importance to Europe’s productivity, growth, security, and climate goals, the digital transition deserves a higher priority in the Commission’s upcoming work program and future Competitiveness Deal.**

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## 1. Access to chips and computing power

Chips and computing power are the backbone of AI development, critical for everything from training models to deploying them at scale. Currently, only the largest tech firms have dominant access to these resources, creating a competitive imbalance.

**The EU can level the playing field by giving startups access to public resources, but this can-not wait.** In January, the Commission launched the AI Innovation Package, granting startups and researchers access to supercomputers under the EuroHPC<sup>8</sup>. The success of this initiative hinges on

swift implementation and ease of access, as emphasized by Ursula von der Leyen in her Political Guidelines. The recently proposed *AI Factories Initiative*, which aims to support model training, could be expanded into an AI Utility Initiative that also helps startups scale and deploy market-ready *AI solutions*.

Part of the challenge is Europe's high energy prices and transmission costs. They pose a further competitive disadvantage for AI innovation due to the energy-intensive nature of training and deploying models. While the longterm solution lies in reducing energy costs through the expansion of renewable energy and market reforms, "AI Factories" and "AI Utilities" could effectively subsidize energy costs for startups, boosting their competitiveness.

The EU's funding will always fall far short of the largest tech firms' spending. As reported by EURACTIV, the maximum capacity of an EU AI Factory is around 5,000 NVIDIA chips, while Microsoft and xAI are planning instalments of up to 100,000 chips.<sup>9</sup> However, **helping European start- and scaleups to develop models will foster market diversity and create products adapted to local needs.**

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## 2. Access to data

Data is the lifeblood of AI development. Large volumes are needed to train and refine models. But access to data is highly uneven. While tech firms dominate in web-generated data, **the EU and its member states possess a unique asset in its vast resources of public sector data**, particularly in areas like public health. European companies also have untapped potential in leveraging industrial data.

These data sources can be better utilized to drive AI innovation. Health data, for example, could lead to breakthroughs in medical technology, enhancing Europe's competitiveness in the life science sector. More broadly, public sector data can improve AI's language capabilities beyond English, making models more adaptable to local markets and thereby expanding opportunities for startups in the EU.

The *Data Spaces* initiative is key to achieving this, but more is needed to get it off the ground. As noted by the ECA, "the recent EU measures to achieve a single market for data are still at the inception phase, and cannot immediately boost AI investment."<sup>10</sup> *The European Health Data Space* is progressing, but **more can be done to prioritize data utilization for AI innovation**. Ursula von der Leyen's proposed *European Data Union Strategy* has the potential to advance these efforts, aligning data policy with the broader goals of AI innovation.

Because significant parts of US and Chinese AI industries are concentrated, Europe could seek a strategic advantage by promoting the accessibility of training data. The expert work already invested in regulation and quality standards of data-managing systems would support this approach.

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### 3. Access to skills

Skills and talent are the driving force behind all other tech priorities. The EU needs more skilled professionals. The current shortage of skills hampers innovation and threatens the broader success of the EU's digital ambitions. Startups and smaller companies often have special difficulties attracting talent; in the EU, 74% of SMEs struggle to find skilled workers according to a recent Eurobarometer survey.<sup>11</sup>

Progress towards the Digital Decade targets needs to be much faster. The Commission noted in its recent report that “the digital skills targets set by the Digital Decade are still far from being achieved”.<sup>12</sup>

The main concern is future funding: What happens after the Recovery and Resilience Facility (RRF) expires? Since 2021 it has provided about 75% of the EU's total funding for the digital transition and an even higher proportion of investments in skills.<sup>13</sup> **With the RRF set to expire in 2026, the long-term outlook for funding digital skills development is uncertain.**

The EU cannot achieve its AI innovation goals without a robust funding mechanism dedicated to digital skills, talent development (including investments in basic research), and attracting international experts. Such a strategy requires addressing the gender gap in the lack of experts and basic skills. In addition, the adoption of AI-assisted systems may itself free up labour in tech companies.

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### 4. Access to finance

Large-scale financing is a significant hurdle for European tech startups. In 2023, private AI investment in the EU amounted to just \$7.22 billion, a stark contrast to the \$67.22 billion invested in the US, according to Stanford University's AI Index.<sup>14</sup> The disparity is partly due to the EU's fragmented capital markets, which often leads innovative companies to the US, the fixing of which has been a policy priority in the EU for decades. While progress has been slow, **the EU's industrial policy can also help address these financing gaps.**

One increasingly popular approach is “de-risking” of investments, a strategy designed to make high-risk investments more attractive to private investors. The EU has plenty of savings, but they are rarely channelled towards high-risk investments, usually the domain of venture capital funds. **De-risking can help bridge this gap by using public funds to absorb part of the investment risk, lowering the barrier for cautious private investors such as pension funds.** The European Investment Bank (EIB) and the European Investment Fund (EIF) are already key players in this space and will become increasingly central through the European Tech Champions Initiative.

Ursula von der Leyen has endorsed this approach in her Political Guidelines, but the push toward de-risking must not lead to a quiet socialization of the risks and privatization of the rewards. The approach to de-risk must be followed by a public debate on mechanisms to ensure that risks and rewards are evenly distributed. Only with such safeguards can de-risking gather broad support for fostering innovation in the EU.

Public entities could also focus on **funding European technological proof of concepts** that help venture capital to find them.

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## Concluding remarks

While AI brings vast opportunities for growth, especially by driving innovation and enhancing labour productivity, **policymakers must be cautious of current hype when designing long-term policy**. There is a risk that some systems may be adopted merely for their AI label, and that public funds are directed towards technologies that overpromise.

To avoid such pitfalls, it is important to evaluate whether AI investments through industrial policy genuinely strengthen Europe's AI capabilities. One consideration is whether application delivers clear public benefits; another is whether the development process enhances the skills and expertise of Europe's workforce, fostering long-term AI capabilities. Two AI projects might yield similarly beneficial products, yet one may offer significantly more opportunities for cutting-edge skill development and frontier innovation.

AI is a catchword for a wide diversity of technologies. **The policy debate would benefit from moving beyond vague and unspecific references to AI** (of which this paper is also guilty) and focus on differentiating between various use cases. Policymakers must account for the diversity of AI approaches and prioritize strategies that develop Europe's AI ecosystem as a whole.

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<sup>1</sup>2024 State of the Digital Decade Report, [ec.europa.eu/commission/presscorner/detail/en/ip\\_24\\_3602](https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3602)

<sup>2</sup>European Court of Auditors, Artificial intelligence: EU must pick up the pace, [eca.europa.eu/en/news/news-sr-2024-08](https://eca.europa.eu/en/news/news-sr-2024-08)

<sup>3</sup>The Future of EU Digital Policy - Council Conclusions (21 May 2024), [data.consilium.europa.eu/doc/document/ST-9957-2024-INIT/en/pdf](https://data.consilium.europa.eu/doc/document/ST-9957-2024-INIT/en/pdf)

<sup>4</sup>See 'How to Play The Digital Power Game With Limited Means', [think.europa.dk/files/media/document/How%20to%20Play%20the%20Digital%20Power%20Game%20with%20Limited%20Means\\_0.pdf](https://think.europa.dk/files/media/document/How%20to%20Play%20the%20Digital%20Power%20Game%20with%20Limited%20Means_0.pdf)

<sup>5</sup>See 'Joint Statement on Competition in Generative AI Foundation Models and AI Products' - [competition-policy.ec.europa.eu/about/news/joint-statement-competition-generative-ai-foundation-models-and-ai-products-2024-07-23\\_en](https://competition-policy.ec.europa.eu/about/news/joint-statement-competition-generative-ai-foundation-models-and-ai-products-2024-07-23_en). See also 'Generative artificial intelligence: the Autorité issues its opinion on the competitive functioning of the sector' - [autoritedelaconurrence.fr/en/press-release/generative-artificial-intelligence-autorite-issues-its-opinion-competitive](https://autoritedelaconurrence.fr/en/press-release/generative-artificial-intelligence-autorite-issues-its-opinion-competitive)

<sup>6</sup>Based on [cdn.digitaleurope.org/uploads/2024/06/DIGITALEUROPE-EU-CRITICAL-TECH-GAP-REPORT\\_WEB\\_UPDATED.pdf](https://cdn.digitaleurope.org/uploads/2024/06/DIGITALEUROPE-EU-CRITICAL-TECH-GAP-REPORT_WEB_UPDATED.pdf) and [francedigitale.org/en/posts/report-generative-ai](https://francedigitale.org/en/posts/report-generative-ai)

<sup>7</sup>[consilium.europa.eu/en/european-council/strategic-agenda-2024-2029/](https://consilium.europa.eu/en/european-council/strategic-agenda-2024-2029/) and [commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648\\_en?filename=Political%20Guidelines%202024-2029\\_EN.pdf](https://commission.europa.eu/document/download/e6cd4328-673c-4e7a-8683-f63ffb2cf648_en?filename=Political%20Guidelines%202024-2029_EN.pdf)

<sup>8</sup>[ec.europa.eu/commission/presscorner/detail/en/ip\\_24\\_383](https://ec.europa.eu/commission/presscorner/detail/en/ip_24_383)

<sup>9</sup>[euractiv.com/section/artificial-intelligence/news/european-commission-is-moving-ahead-with-ai-factories/](https://euractiv.com/section/artificial-intelligence/news/european-commission-is-moving-ahead-with-ai-factories/)

<sup>10</sup>European Court of Auditors, Artificial intelligence: EU must pick up the pace, [eca.europa.eu/en/news/news-sr-2024-08](https://eca.europa.eu/en/news/news-sr-2024-08)

<sup>11</sup>[europa.eu/eurobarometer/surveys/detail/2994](https://europa.eu/eurobarometer/surveys/detail/2994)

<sup>12</sup>[ec.europa.eu/commission/presscorner/detail/en/ip\\_24\\_3602](https://ec.europa.eu/commission/presscorner/detail/en/ip_24_3602)

<sup>13</sup>JRC, Mapping EU level funding instruments to Digital Decade targets, [publications.jrc.ec.europa.eu/repository/handle/JRC134647](https://publications.jrc.ec.europa.eu/repository/handle/JRC134647)

<sup>14</sup>[aiindex.stanford.edu/report/](https://aiindex.stanford.edu/report/)

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