

# Virtual Worlds: Balancing European Regulation and Industrial Policy for the Metaverse

Antonio Calcara | 4 September 2023

## Key Issues

- The European Union's (EU) "Virtual Worlds" strategy aims to simultaneously regulate the metaverse and create a European industrial ecosystem capable of challenging the dominance of non-European companies.
- The balance between regulation and industrial policy will be crucial to the EU's efforts in this area. However, their misuse could undermine the balance of the EU Single Market and perpetuate the dominance of non-European "Big Tech" in digital markets.
- Policymakers need to accept two painful realities: i) competing in the digital age requires a concentration of resources in the most competitive areas and sectors; and ii) Europe cannot go it alone. Acceptance of these two realities should serve as a basis for creative solutions and allow the EU to position itself more competitively for the next technological wave.

The European Commission's Executive Vice-President, Margrethe Vestager, unveiled this summer a new [EU strategy](#) to make the Union more competitive in the metaverse. The metaverse refers to enhanced [human-machine](#) interactions through increasingly powerful [virtual or augmented reality](#) systems. Europeans clearly see an economic incentive in the metaverse, which according to recent projections will already be worth [€800 billion by 2030](#), but the metaverse is also an important geopolitical issue. Being competitive in the metaverse, and related digital and Artificial Intelligence (AI) technologies, may be important for Europe not to fall behind, [as many have argued](#), in the technological and geopolitical battle between the United States (US) and China. Of the world's top 50 technology companies by market capitalisation, [only](#)

[two are European](#). According to a [recent report](#), Europe's digital investment gap is at least €174 billion and Europe is lagging behind in enabling technologies for the metaverse such as advanced semiconductors and cloud computing. This is an issue of paramount importance for the EU's role in international affairs, as Josep Borrell, the Union's High Representative and Commission Vice-President, made clear when he said that ['who will master technology, will master the power'](#) (*sic*).

The Commission's "Virtual Worlds" strategy for the metaverse moves on two main fronts. First, it aims to regulate and set global standards for an open metaverse, ensuring that it is not dominated by a few large technology platforms. Indeed, Europe is currently concerned about the dominant position of non-European industries

including Meta and Apple in the metaverse. Second, Europe wants to support a European metaverse industrial ecosystem to scale-up excellence and support European players. Regulation and industrial policy are two interrelated ways in which the EU can simultaneously set the rules for the digital market, close its digital technology gap and strengthen its technological and hence geopolitical position. As this Policy Brief argues, however, there is a need to balance regulation and industrial policy and avoid several pitfalls.

## European Regulation

The EU has often been associated with or likened to a [regulatory state](#) because of its ability to influence member states through its regulation. Indeed, Europe has generally exercised its power through the promulgation of rules and standards, incentivising other countries and markets to adapt and converge towards European regulations. This so-called “[Brussels effect](#)” has allowed the EU to shape global policy in areas such as data privacy, consumer health and safety, environmental protection, antitrust and online hate speech. Despite its military backwardness, Europe has been able to wield great [market power](#) and use regulation to externalise its laws and norms beyond its borders.

Recently, one area where European regulatory efforts have been focused has been data protection, most notably through the adoption of the EU General Data Protection Regulation ([GDPR](#)). European regulatory initiatives have also been very active in the digital sphere, with the adoption of the Digital Services Act ([DSA](#)) and the Digital Markets Act ([DMA](#)). These regulatory efforts impose restrictive measures on ‘[very large online platforms](#)’ and aim to protect the rights and privacy of European consumers, guarantee security – notably through content moderation – and hinder the dominant position of “[Big Tech](#)”, which are mostly American and Chinese. The latest initiative is the [EU AI Act](#), which proposes a new regulatory paradigm for AI based on different levels of risk – unacceptable, high, limited or minimal – to fundamental rights, consumer rights and safety. The Commission’s “Virtual Worlds” strategy is a coherent continuation of these regulatory efforts to set standards in a rapidly evolving digital space. These regulations reflect European values and rules, and the need to ‘[prevent the development](#)

[of new private monopolies in the digital space](#)’. The Europeans believe that the main way to influence current technological competition is to regulate it and try to convince other countries and markets to adopt EU rules.

European regulation faces a difficult challenge in the digital age. On the one hand, there is a clear need to protect European citizens and consumers from the risks posed by new technologies and the dominant position of some companies in digital markets. On the other hand, European policymakers should ensure that regulation does not hamper European public and private innovation efforts. Indeed, EU regulation is not necessarily conducive to more innovation. Many have complained, for instance, that the GDPR has stifled, rather than fostered, innovation in Europe. While this criticism is overstated, and [academic research](#) shows that the GDPR has had mixed effects on innovation, it is nevertheless true that the GDPR has led to a 17% increase in [relative concentration in the web technology vendor market](#), and that websites are now 15% less likely to share personal data with small web providers in favour of larger ones. Large, and therefore non-European, tech firms are more able to absorb any initial fines and then invest significant financial capital and administrative [resources](#) to comply with GDPR rules compared to medium-sized – usually European – companies. For instance, Google has just launched an AI system called “[Bard](#)” in Europe by investing heavily in GDPR compliance.

EU regulation could therefore perpetuate the dominant position of a few tech giants rather than hinder such concentrations. These are, by the way, all non-European companies, making Europe less competitive than the US and China in digital technologies. Europe’s [Gaia X](#) cloud project is paradigmatic of these difficulties. Lagging behind in cloud computing compared to giants such as Amazon, Microsoft and Google, EU policymakers decided to launch an initiative to regulate data infrastructure and set standards for cloud computing with “European values”. However, this does not necessarily encourage innovation and investment for European cloud players, nor does it prevent large non-European groups from being the key players in the [technical working groups](#), partly because they are the only ones with the know-how and infrastructure to do so. Indeed, the ability to store and manage data associated with cloud computing

is an essential infrastructure technology required to be competitive in the metaverse. Overall, one expert commented that [‘referees don’t win games’](#) and that Europe cannot expect to win in an era of technological and geopolitical competition through technology regulation alone, because it needs to have a solid industrial and innovation policy to go with it.

### European Industrial Policy

Industrial policy could solve some of the problems of regulation. It could complement regulation in the difficult but dual objective of regulating the digital

these technologies, Europe has some excellence in 5G (e.g. Nokia and Ericsson) and in software (e.g. SAP and Dassault Systems), but it is still lagging behind in cloud and digital infrastructure. Industrial policy could, therefore, nicely complement regulation to support European innovation in digital technologies.

However, regional industrial policy breaks a long-standing taboo in the design of the EU Single Market, which was [built](#) with the explicit aim of preventing state aid and [major industrial policy](#) plans that could have benefited companies based in larger countries. An industrial policy in favour of EU-based companies

“

**While Europe used to be able to impose its rules and standards through market power, it now has to adapt to the fact that technology is at the heart of geopolitics.**

”

market, while at the same time closing Europe’s [technology gap](#) with the US and China. One of the reasons why Europe is lagging behind without its own digital champions is, in fact, the lack of a sound industrial policy. Europe has a [problem of scale](#) and small national markets and domestic industrial policies cannot generate the firepower inherent in American or Chinese industrial policies. However, the updated [European industrial policy](#) aims to directly support the development of critical technologies. This is particularly evident in Europe’s focus on Important Projects of Common European Interest (IPCEI) in key sectors such as semiconductors and electric batteries, and [industrial alliances](#) to promote European competitiveness in cloud computing and its access to critical raw materials. The Green Deal and the [EU Chips Act](#) are two important examples of this top-down industrial policy.

All of these investments in digital technologies and resources are linked, in one way or another, to European competitiveness in the metaverse. Indeed, the metaverse depends on an ability to support an underlying digital infrastructure that is made up of different technology blocks (e.g. software, platforms, middleware, 5G, cloud computing, etc.). In terms of

could favour larger and more integrated Franco-German companies. The concept of a [level playing field](#) has ensured that large and small European countries are bound by the same set of rules and conditions, thereby ensuring fair competition between them. It is therefore not surprising that European industrial policy is creating divisions between large member states. France and Germany support industrial policy, but medium and small EU member states are wary of protectionist attitudes and want to maintain a more [open Single Market](#).

Top-down industrial policy also does not necessarily resolve one of the problems of regulation: namely the short-term dominance of non-European digital giants. There is therefore a risk that it will be too late to plan for innovation in technologies where it will be increasingly difficult to catch up with incumbents, not least because of [network effects](#) and first-mover advantages.

### Two painful realities for Europe

Both regulation and industrial policy are necessary to be able to protect European citizens from the potential risks of digital technologies, but also to

make the European continent more innovative and more competitive with the US and China. However, if misused, they could harm European innovation – in the case of regulation –, undermine the level playing field of the EU Single Market – in the case of industrial policy – and/or continue to perpetuate the dominance of non-European “Big Tech” in digital markets – a problem that is common to both regulation and industrial policy. This Policy Brief proposes that European policymakers should accept two painful realities that characterise the current European position in digital technologies and build on them to strike the right balance between regulation and industrial policy.

The first painful reality is that competing in digital technologies may require a further concentration of competences in the most competitive areas in Europe to compete with American and Chinese “Big Tech”. However, this could inevitably alter the level playing field within the EU, creating divisions between large and small countries and exacerbating technological disparities between its regions and industries. Efforts should therefore be made to mitigate the negative externalities of industrial policy.

Instead of supporting European champions or, worse still, national champions, industrial policy should provide incentives to tie together industrial and technological excellence from different European countries and to develop European [innovation ecosystems](#) and value chains. This is neither new nor impossible, as the sectors in which Europe has traditionally been successful (e.g. [automotive](#)) are based on the integration of specialisations and excellence from different countries. It is clear that this can still create winners and losers, favouring those European countries and sectors that are better positioned in the digital sectors. Resource transfer programmes and the systematic integration of value chains should serve to compensate the “losers” of industrial policy and keep them anchored in the EU Single Market.

The second painful reality is that Europe cannot go it alone and should accept and mitigate short-term [vulnerabilities](#) in digital technologies. This has huge implications for regulation, where Europe cannot hope to regulate and influence the digital market as

it has done in the past. Regulation should continue to try to set the rules in the digital realm and leverage the EU’s market power, but also create exceptions and special arrangements that keep the EU Single Market as open as possible. The recent special arrangements with the US on [data transfers](#) and the working groups within the EU-US [Technology and Trade Council](#) are a step in the right direction. The EU can do more to bring other like-minded countries into these special arrangements on cross-border data flows and technology standards. For example, more efforts should be made to give greater prominence to fora such as the EU-India [Trade and Technology Council](#) and to encourage regular reviews of these arrangements to ensure their effectiveness. While Europe used to be able to impose its rules and standards through market power, it now has to adapt to the fact that technology is at the heart of geopolitics and that more diplomatic efforts are needed to promote EU rules and standards.

Europe’s disadvantaged position must also make policymakers think about how to implement industrial policy plans. Rather than trying to catch up in all sectors, the real challenge is to identify the technologies of the future and try to position Europe as a leader in them. To give a concrete example, to be competitive in the metaverse Europe needs to make a huge effort on the software side, especially in the [software-related segments](#) of cloud computing and AI. While it may be difficult to create a fully European metaverse industrial ecosystem, it is possible to try instead to diversify Europe’s suppliers in the critical infrastructures that underpin it (e.g. software, 5G and cloud computing).

Accepting these two painful realities will require courageous choices, which are likely to fall to the new European Commission that will emerge after the 2024 European elections. The political leadership of the European Commission will have the difficult task of intervening in the design of the EU Single Market and of reshaping Europe’s relations with allies, partners and competitors. Technological competition requires pragmatic choices based on an acceptance of and creative responses to the two painful realities outlined above, while also seeking to mitigate risks in the short-term and seize opportunities for Europe in the long-term.



## ABOUT THE AUTHOR

### Antonio Calcara

Dr Antonio Calcara is an FWO Post-Doctoral Researcher at the University of Antwerp and Senior Associate at the Defence and Statecraft Programme, CSDS, Brussels School of Governance. His research has appeared in *International Security*, *Security Studies*, *Review of International Political Economy*, *Governance*, *Journal of European Integration* and *European Security*. He is the author of "European Defence Decision-Making: Dilemmas of Collaborative Arms Procurement" (Routledge).

 [@AntonioCalcara](https://twitter.com/AntonioCalcara)

The **Centre for Security, Diplomacy and Strategy (CSDS)** seeks to contribute to a better understanding of the key contemporary security and diplomatic challenges of the 21st century – and their impact on Europe – while reaching out to the policy community that will ultimately need to handle such challenges. Our expertise in security studies will seek to establish comprehensive theoretical and policy coverage of strategic competition and its impact on Europe, whilst paying particular attention to the Transatlantic relationship and the wider Indo-Pacific region. Diplomacy as a field of study will be treated broadly and comparatively to encompass traditional statecraft and foreign policy analysis, as well as public, economic and cultural diplomacy.

The **CSDS Policy Brief** offers a peer-reviewed, interdisciplinary platform for critical analysis, information and interaction. In providing concise and to the point information, it serves as a reference point for policy makers in discussing geo-political, geo-economic and security issues of relevance for Europe. [Subscribe here](#). In each CSDS Policy Brief, authors express their own views and the content does not reflect the views of CSDS. For more information, contact the editor Dr. Daniel Fiott: [daniel.fiott@vub.be](mailto:daniel.fiott@vub.be). (Print ISSN: 2983-4651 / Online ISSN: 2983-466X)

Follow us at:

Twitter [@CSDS\\_Brussels](https://twitter.com/CSDS_Brussels)

LinkedIn [CSDS Brussels](#)

Youtube [CSDS](#)

<https://csds.vub.be>



BRUSSELS  
SCHOOL OF  
GOVERNANCE

Visitor's address:

Pleinlaan 5, 1050 Brussels, Belgium

Mailing address:

Pleinlaan 2, 1050 Brussels, Belgium

The Brussels School of Governance is an alliance between the Institute for European Studies (Vrije Universiteit Brussel) and Vesalius College.

[info\\_bsog@vub.be](mailto:info_bsog@vub.be)

[www.brussels-school.be](http://www.brussels-school.be)