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HORIZON INSIGHTS



Keeping Moscow
Onside - Beijing's Main
Priority in Ukraine

Graphite, Who Cares?
European Industrial Policy
Between Market Signals
and Strategic Autonomy

European Democracy
Shield Open Public
Consultation Policy
Recommendations by
INNOVADE

Book Review: Jeffrey
Ding, Technology and
the Rise of Great
Powers: How Diffusion
Shapes Economic
Competition.

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Table of Contents

Foreword	04
Keeping Moscow Onside – Beijing’s Main Priority in Ukraine	05
By Sebestyén Hompot	
Graphite, Who Cares?	16
By Adrian Forsström Norén	
Policy Recommendations by INNOVADE for European Democracy Shield Open Public Consultation	24
By Fatih Yilmaz; Christian Fuchs	
Book Review: Technology and the Rise of Great Powers: How Diffusion Shapes Economic Competition	39
By Saban Yuksel	

Foreword

Dear Reader,

We are pleased to present this new issue of *Horizon Insights*, which examines how power, resilience, and strategic autonomy are being reshaped across today's contested international order.

This edition opens with an analysis of China's approach to the war in Ukraine, arguing that Beijing's overriding priority remains preserving its strategic partnership with Moscow, even as it seeks to project itself as a responsible actor in global peace diplomacy. The article highlights the gap between China's declared commitment to sovereignty and its reluctance to exert meaningful pressure on Russia.

The second contribution turns to Europe's industrial vulnerabilities through the case of graphite. It shows how critical raw materials have moved from technical supply-chain concerns to central questions of strategic autonomy, industrial policy, and risk-sharing.

This issue also includes INNOVADE's policy recommendations for the European Democracy Shield, focusing on disinformation, electoral integrity, societal resilience, citizen participation, and the need for a more autonomous European digital infrastructure.

Finally, our book review of Jeffrey Ding's *Technology and the Rise of Great Powers* invites readers to reconsider technological competition not as a race for breakthrough invention alone, but as a broader struggle over diffusion, institutional capacity, and economy-wide adaptation.

Taken together, these contributions remind us that security today is not confined to battlefields or borders. It also depends on supply chains, digital infrastructures, democratic resilience, and the capacity of societies to absorb and diffuse technological change.

We wish you a thought-provoking and insightful read.

Sincerely yours,

Beyond the Horizon ISSG

Keeping Moscow Onside – Beijing’s Main Priority in Ukraine

Sebestyén Hompot¹

Key Takeaways:

- *Beijing sees Moscow as its long-term strategic partner to reshape the international order, therefore has no serious intention to contradict Moscow’s interests in Ukraine. In spite of the contradictions with Beijing’s insistence on territorial sovereignty as a key principle of the international order, Beijing has provided vital economic and diplomatic support to Moscow to wage its war against Ukraine.*
- *Ending the war in Ukraine is not a priority for Beijing and will not act against Moscow’s interests to achieve this.*
- *The Ukraine war is mainly utilized by Beijing in multilateral forums to criticize the US-led “liberal international order” and present its own approaches to global governance, especially its “Global Security Initiative”, as a more viable alternative to preserve global peace.*
- *Despite scepticism in the West and among its allies in the Indo-Pacific region, China’s narratives about the war have found a more receptive audience among Global South elites, as seen in joint declarations between Beijing and various Global South governments regarding the war.*
- *China’s approach to the Ukraine war indicates that the willingness to improve relations with Europe is not prioritised at the expense of keeping Moscow onside. This remains true despite the major changes brought by US President Donald Trump’s unpredictable foreign policy.*

Keywords:

Donald Trump · peace negotiations · European Union · China · Ukraine war · Russia

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| 1 Introduction - Beijing's vision of a new global security order

Russia's full-scale invasion of Ukraine in February 2022 happened at a time when Beijing had already been working on promoting its newest vision of a future global order via a series of "Global Initiatives". The "Global Development Initiative", put forward by Xi Jinping in 2021, was the first instalment of this tripartite series. The "Global Security Initiative" (GSI) was put forward by Xi Jinping at the annual Bo'ao Forum in April 2022, ca. two months after Russia launched the full-scale invasion of Ukraine.

In 2023, this was also followed by the so-called "Global Civilisation Initiative" put forward by Xi Jinping.

While Xi Jinping did not mention the Ukraine war in his keynote speech at the Bo'ao Forum 2022, where the Global Security Initiative was announced, it was already referenced in some early key documents under the names "Ukraine crisis" (乌克兰危机) and "Ukraine issue" (乌克兰问题). Such documents include an article by Foreign Minister Wang Yi published in the People's Daily a few days after Xi's keynote speech at Bo'ao 2022.

A longer elaboration of the Global Security Initiative is found in a so-called "concept paper" (概念文件) published by the government-owned Xinhua News Agency in February 2023.

The Global Security Initiative set the main guidelines for China's approach to the Ukraine war in the subsequent years. The main principles, such as the dual emphasis on upholding the principles of territorial sovereignty as found in the U.N. Charter, while at the same time calling for the respect of "legitimate security concerns" (合理安全关切) of other states, were laid down in the speeches and documents related to the Initiative. In 2024, a major progress report on the implementation of the GSI was published by the China Institute of International Studies (CIIS) and other state-affiliated think tanks, praising the supposed successes of the GSI. Here, the two principles are also mentioned side-by-side.

Beijing's approach to Ukraine's territorial sovereignty thus represents a major contradiction in the Chinese government's self-framing as respecting and upholding the UN Charter on territorial sovereignty. Beijing regularly promotes itself as a defender of sovereignty in the UN.

The Chinese leadership is especially vocal about the principle of territorial sovereignty when it comes to defending its territorial claims over Taiwan.

An overview of China's UN voting patterns by the Germany-based Mercator Institute for China Studies (MERICS) indicates that to some extent, Beijing distanced itself from Moscow in UN votes in recent years.

Yet, Beijing's lack of willingness to put any significant diplomatic and economic pressure on Moscow regarding Ukraine, its refusal to publicly criticise Moscow for launching the full-scale war, indicate that realpolitik still tops principle-based considerations among China's leadership.

| 2 Position papers and statements on the war

Since Russia's full-scale invasion of Ukraine in February 2022, Beijing has issued several key documents introducing its position on the Ukraine war. One of the early documents was the so-called "Four Shoulds" (四个应该) published in March 2022. The document emphasized the broad principles



This document does not represent a "peace plan" as it avoids outlining any concrete steps leading to the end of hostilities."

of respecting territorial integrity, upholding the UN Charter, respecting the "legitimate security concerns" of other parties, and supporting all efforts leading to peace.

In February 2023, Beijing released a "12-point position paper" on resolving what is officially called the "Ukraine crisis" (乌克兰危机) in official Chinese sources. The document can be seen as a further elaboration on the principles emphasised by Beijing in the earlier "Four Shoulds". Some of the points include generally agreed-

upon principles such as the avoidance of using nuclear weapons in the conflict and the avoidance of targeting nuclear facilities as part of the conflict. Others are more specific to the advancement of Beijing's own geopolitical agenda, such as the points emphasizing the "abandoning of Cold War mentality [and of military "bloc formation"]" and "stopping unilateral sanctions". The document does not represent a "peace plan" as it avoids outlining any concrete steps leading to the end of hostilities.

The subsequent issuing of a "Four Principles" statement by Beijing following Xi Jinping's meeting with German Chancellor Olaf Scholz in April

2024 included the security of trade routes and supply chains as one of the four principles.

The so-called “Six-Point Consensus” jointly issued by the Brazilian and Chinese governments in May 2024 reiterated largely the same positions as the earlier documents. It was nevertheless seen as an important step for Beijing to get the official support of a major Global South nation and BRICS member state.

Meanwhile, in September 2024, Ukrainian President Volodymyr Zelenskiy rejected the six-point statement at a speech given at the UN, criticizing it for its pro-Kremlin biases.

| 3 Beijing’s “Peace Diplomacy”

Apart from the position papers and official statements, since 2023, Beijing has dispatched its “Special Representative for Eurasian Affairs,” Li Hui, four times to visit Russia, Ukraine, and a number of European and other states to advance negotiations on ending the Ukraine war. The first two missions of Li Hui involved negotiations in Kyiv, Moscow, Brussels, Berlin, Paris, and Warsaw. Li’s diplomatic missions were met with a high degree of scepticism among analysts in EU countries. His perceived close ties to Moscow, incl. his 10-year-long appointment as PRC ambassador in Moscow, were highlighted in this context. Other than that, the “window-dressing” nature of the engagements with little substantial efforts to bring an end to the conflict was also highlighted by various observers.

It is telling in this context that the last two trips of Li Hui did not involve Ukraine, Russia, and European nations but Global South nations instead. Beijing’s intention to push for peace in Ukraine is questionable in light of this, while its intention to capitalise on the war to build its image as a “responsible stakeholder” in the Global South seems to be an important factor. Global South leaders who subscribed to Beijing’s narratives likely had economic motivations as well, such as the concern about growing wheat prices as a result of the war.

Li Hui’s visits to Turkey, Egypt, Saudi Arabia, the UAE, Brazil, South Africa, and Indonesia involved further statements on the importance of finding a negotiated solution to the war and voiced concerns about its global spillover effects.

While doing little in terms of achieving peace in Ukraine, Beijing thus scored diplomatic gains among Global South elites via Li Hui’s shuttle diplomacy. This was also demonstrated by the subsequent setting up of a

“Friends for Peace” group in the UN involving 17 Global South countries, co-chaired by Chinese FM Wang Yi and his Brazilian counterpart Mauro Vieira.

| 4 Lack of economic and diplomatic pressure on Moscow

From the EU’s point of view, China’s approach to the Ukraine war should be evaluated not only based on what the Beijing government did but also based on what it did not do. Beijing never issued a clear condemnation of Moscow for the full-scale invasion of Ukraine, and increased its economic interaction with Russia in the subsequent years. In 2024, China-Russia trade hit a record high, based on Chinese customs data.

Meanwhile, in Chinese government sources, the bilateral relations between the two countries were regularly described as “maintaining normal ties” with Moscow, and as “not targeting / not affected by any third party”.

Since Russia’s full-scale invasion of Ukraine and the storm of Western sanctions on Russia, China has also proved crucial to Russia’s wartime economy by providing a large amount of civilian-military dual-use goods. Based on data from the General Administration of Customs of the People's Republic of China (GACC) analysed by MERICS, the main dual-used goods exported to Russia by China include “general computing and telecommunications hardware”, “advanced electronic and communication components”, and “semiconductor and electronics manufacturing and testing components”.

The definitions of “dual-use goods” here are based on the Common High Priority Items (CHPI) List, a collaborative effort developed by the United States, the European Union, the United Kingdom, and Japan.

By exporting large amounts of dual-use goods, Beijing aims to support Moscow’s war efforts in Ukraine while at the same time not crossing the red line of being a direct military supporter of Moscow. Becoming a direct

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Beijing never issued a clear condemnation of Moscow for the full-scale invasion of Ukraine, and increased its economic interaction with Russia in the subsequent years.

military supporter of Moscow would likely provoke a major sanctions war between Beijing and the West and its allies in East Asia. Unlike North Korea and Iran, countries that have been under Western sanctions for decades, Beijing apparently sees too much economic risk in this scenario. Meanwhile, in the autumn of 2024, an increasing number of intelligence sources indicated that Russia is producing some of its military drones in a Chinese factory.

The Chinese and Russian governments' bilateral exchanges reached an especially high level since the full-scale invasion of Ukraine. Putin and Xi met or spoke via phone ten times between February 2022 and February 2025, and their foreign ministers met or spoke via phone almost on a monthly basis in the same time period. This is more than with any other foreign counterpart, for both countries.

At the same time, exchanges between Beijing and the Ukrainian leadership were by far more limited. Xi has had one phone conversation with Zelenskiy since the outbreak of the full-scale war. The only in-person high-level meeting of a Ukrainian foreign minister with their Chinese counterpart was during former FM Dmytro Kuleba's meeting with Wang Yi in July 2024. During his trip to China, Kuleba was not received in Beijing but in Guangzhou instead, after visiting Hong Kong as part of his trip.

Kuleba and Wang had some further in-person meetings at the sidelines of multilateral events, such as the Munich Security Conference 2024.

Apart from the economic support, indirect military support, and the high frequency of top-level bilateral exchanges between Moscow by Beijing, the Chinese leadership has also actively supported Moscow in multilateral forums. Moscow thus managed to maintain a high visibility among non-Western nations via Chinese-initiated multilateral institutions such as the BRICS+ and the Shanghai Cooperation Organisation (SCO).

The most prominent recent multilateral forum was the 2024 BRICS Summit held in Kazan, Russia, also attended by Indian PM Narendra Modi and other top leaders from various member states. The summit highlighted the lack of Moscow's isolation from Global South countries and the major role played by Chinese-initiated institutions in this regard.

This was further demonstrated by Xi Jinping being Putin's guest of honour at the 80th Victory Day parade in Moscow. Brazilian President Lula da Silva and more than 20 other world leaders were also received by Putin during the Victory Day festivities, with Slovakia's PM Robert Fico being the only EU leader among Putin's guests.

| 5 Latest trends since Donald Trump's return to power

Since Donald Trump's return to power and his push for a quick end to the Ukraine war, the actions and statements of the Trump administration on the issue have dominated much of the international media attention. Beijing's actions are currently receiving little attention, and the Chinese leadership has been mostly in a reactive mode on the issue. Chinese

government officials, including FM Wang Yi have made some statements calling for Europe's participation in the Ukraine peace process.



**Achieving
peace in Ukraine is
not a priority for
Beijing.**

Meanwhile, Beijing's decision to appoint Lu Shaye, a controversial "wolf warrior" diplomat who earlier called into question the sovereignty of Central Asia's post-Soviet states, as

the new Special Representative for European Affairs sends an arguably less friendly message to Brussels.

Lu also made some comments aimed at highlighting transatlantic divisions, calling Washington's treatment of its allies "appalling" while at the same time reiterating the call for Europe's participation in Ukraine's peace negotiations.

Beijing's main priority, however, remains keeping Moscow as a close ally and avoiding a "reverse Kissinger" scenario, where the U.S. aligns with Russia to counter China.

While many analysts see this analogy as flawed, the comparison to the 1970s U.S.-China rapprochement against the Soviet Union is widely discussed now and seems to worry China's leadership as well. Xi Jinping's phone call to Vladimir Putin on the third anniversary of Russia's full-scale invasion of Ukraine indicates that Beijing wants to make sure Moscow will not leave its orbit. On the same day as the leaders of several Western countries (not including the US) were in Kyiv to mark the third anniversary of the war, China's top leader used the occasion to reaffirm the strong ties between Beijing and Moscow. While commending dialogue between Washington and Moscow, as well as the positive steps towards peace in Ukraine, the readout by China's Ministry of Foreign Affairs of the phone call also emphasized that China and Russia "cannot be moved apart".

| 6 Conclusion - What to Expect?

The Chinese government's approach to the Ukraine war is part of Beijing's long-term strategy to curb what is seen as the "global hegemony" of the United States and build an alternative global order more suitable to Beijing's worldviews and interests. The partnership with Moscow plays an important role in this, and the Ukraine war is seen mainly from this perspective in Beijing.

Achieving peace in Ukraine is not a priority for Beijing, and the war is mainly referenced on multilateral forums by Beijing to popularise its own approach to global security. This approach, which in recent years has been summarised in the "Global Security Initiative", promotes the idea that US hegemonism and NATO expansion are at the core of global conflicts, while Beijing offers a better alternative for global peace and prosperity. Despite scepticism in the West and among its allies in the Indo-Pacific region, Beijing's world-making efforts have had more success in the Global South, as also seen from joint statements issued on the Ukraine war by China and the governments of various Global South countries.

The recent trends since Donald Trump's return to power indicate that Beijing also has an interest in utilising transatlantic divisions for its own benefit. Meanwhile, the main priority of the Chinese leadership remains to preserve its close ties with Moscow. Maintaining dialogue with Beijing and emphasising the EU's position about the Ukraine war is important, but Europe should not be naive about Beijing putting any major effort into bringing a just end to the war. Beijing will likely continue to provide crucial economic and diplomatic support to Russia, while it will not take decisive steps towards ending the Ukraine war in any way that seriously contradicts Moscow's interests.

Bibliography

- Brazilian Presidency. (2024, May 23). *Brazil and China present joint proposal for peace negotiations with the participation of Russia and Ukraine*. <https://www.gov.br/planalto/en/latest-news/2024/05/brazil-and-china-present-joint-proposal-for-peace-negotiations-with-the-participation-of-russia-and-ukraine>
- Brostoff, D. (2025, March 21). *The "Reverse Kissinger" strategy is based on bad history*. *The Diplomat*. <https://thediplomat.com/2025/03/the-reverse-kissinger-strategy-is-based-on-bad-history/>
- Cable News Network. (2025, May 9). *Putin, Xi and friendly world leaders celebrate Russia's Victory Day at Moscow parade*. <https://edition.cnn.com/2025/05/09/europe/russia-victory-day-parade-intl-hnk>
- China Digital Times. (2025, February 10). *"Wolf Warrior" Lu Shaye appointed as China's special representative for Europe*. <https://chinadigitaltimes.net/2025/02/wolf-warrior-lu-shaye-appointed-as-chinas-special-representative-for-europe/>
- China Institute of International Studies. (2024, April 29). *化解乌克兰危机要遵循“四个应该”* [Resolving the Ukraine conflict requires following the "Four Shoulds"]. https://www.ciis.org.cn/yjcg/sspl/202204/t20220429_8534.html
- China Institute of International Studies. (2024, July). *Report on the implementation progress of the Global Security Initiative* (2024). https://www.ciis.org.cn/english/NEWS_183/202407/t20240718_9313.html
- Devadoss, S., & Ridley, W. (2024). *Impacts of the Russian invasion of Ukraine on the global wheat market*. *World Development*, 173. <https://www.sciencedirect.com/science/article/abs/pii/S0305750X23002140>
- Deutsche Welle. (2025, February 22). *Why China wants EU to be involved in Ukraine peace talks*. <https://www.dw.com/en/china-ukraine-peace-talks-eu-trump/a-71700633>
- European Commission. (2024, February). *List of common high priority items* (Version of February 2024). https://finance.ec.europa.eu/system/files/2023-09/list-common-high-priority-items_en.pdf
- Euronews. (2025, February 24). *Foreign leaders arrive in Ukraine in show of support on war's third anniversary*. <https://www.euronews.com/my-europe/2025/02/24/foreign-leaders-arrive-in-ukraine-in-show-of-support-on-wars-third-anniversary>
- France 24. (2024, July 24). *Ukraine's top diplomat visits China, says Russia not ready for 'good faith' talks*. <https://www.france24.com/en/europe/20240724-ukraine-s-top-diplomat-visits-china-says-russia-is-not-ready-for-good-faith-talks>
- Garlick, J. (2024, April 15). *A few more BRICS in the wall: How to respond to China and Russia's emerging bloc of nations*. EuroHub4Sino. <https://eh4s.eu/publication/a-few-more-brics-in-the-wall-how-to-respond-to-china-and-russias-emerging-bloc-of-nations>
- Garlick, J. (2025, February 21). *Beyond Central Asia: The ever-expanding influence of the Shanghai Cooperation Organization*. EuroHub4Sino.

- <https://eh4s.eu/publication/beyond-central-asia-the-ever-expanding-influence-of-the-shanghai-cooperation-organization>
- Kyiv Independent. (2024, February 18). *Kuleba meets with Chinese FM in Munich*. <https://kyivindependent.com/kuleba-meets-with-chinese-fm-in-munich/>
- Mercator Institute for China Studies. (n.d.). *China-Russia dashboard: A special relationship in facts and figures*. <https://merics.org/en/china-russia-dashboard-facts-and-figures-special-relationship>
- Mercator Institute for China Studies. (2024, March 21). *Li Hui's Europe Tour 2.0: Beijing's mediation as seen from Kyiv + market distortions*. <https://merics.org/de/merics-briefs/li-huis-europe-tour-20-beijings-mediation-seen-kyiv-market-distortions>
- Ministry of Foreign Affairs of the People's Republic of China. (2022, April 24). *Acting on the Global Security Initiative to safeguard world peace and tranquility*. https://www.fmprc.gov.cn/eng/wjb/zzjg_663340/zcyjs_663346/xqxxw_663348/202205/t20220505_10681820.html
- Ministry of Foreign Affairs of the People's Republic of China. (2023, February 24). *China's position on the political settlement of the Ukraine crisis*. https://www.mfa.gov.cn/eng/zy/gb/202405/t20240531_11367485.html
- Ministry of Foreign Affairs of the People's Republic of China. (2024, August 27). *Special representative of the Chinese government on Eurasian Affairs Li Hui holds a briefing on the fourth round of shuttle diplomacy on the Ukraine crisis*. https://www.mfa.gov.cn/eng/xw/wjbxw/202408/t20240827_11480097.html
- Ministry of Foreign Affairs of the People's Republic of China. (2024, September 19). *Position paper of the People's Republic of China for the Summit of the Future and the 79th session of the United Nations General Assembly*. https://www.fmprc.gov.cn/eng/wjb/zzjg_663340/gjs_665170/gjsxw_665172/202409/t20240919_11492994.html
- Ministry of Foreign Affairs of the People's Republic of China. (2024, September 28). *"Friends for Peace" group on the Ukraine crisis set up in the United Nations*. https://www.mfa.gov.cn/eng/wjbzhd/202409/t20240929_11500459.html
- National Committee of the Chinese People's Political Consultative Conference. (2022, April 21). *Xi proposes Global Security Initiative*. http://en.cppcc.gov.cn/2022-04/21/c_745515.htm
- Reuters. (2024, September 25). *Exclusive: Russia has secret war drones project in China, intel sources say*. <https://www.reuters.com/world/russia-has-secret-war-drones-project-china-intel-sources-say-2024-09-25/>
- Reuters. (2024, September 25). *Zelenskiy takes aim at China, Brazil push for peace in Ukraine*. <https://www.reuters.com/world/europe/zelenskiy-takes-aim-china-brazil-push-peace-ukraine-2024-09-25/>
- Reuters. (2024, October 24). *What happened at the BRICS Summit?* <https://www.reuters.com/world/main-takeaways-brics-summit-2024-10-24/>
- Reuters. (2025, January 13). *China-Russia 2024 trade value hits record high – Chinese customs*. <https://www.reuters.com/markets/china-russia-2024-trade-value-hits-record-high-chinese-customs-2025-01-13/>
- Reuters. (2025, February 24). *China's Xi affirms 'no limits' partnership with Putin in call on Ukraine war anniversary*. <https://www.reuters.com/world/xi-putin-hold-phone-call-ukraine-war-anniversary-state-media-says-2025-02-24/>

- Reuters. (2023, April 26). *China says it will keep backing Central Asian nations' sovereignty after outcry over envoy's remarks.*
<https://www.reuters.com/world/asia-pacific/china-says-it-will-keep-backing-central-asian-nations-sovereignty-after-outcry-2023-04-26/>
- South China Morning Post. (2025, March 6). *China's envoy to the EU Lu Shaye "appalled" by Trump's treatment of Europe.*
<https://www.scmp.com/news/china/diplomacy/article/3301233/chinas-envoy-eu-lu-shaye-appalled-trumps-treatment-europe>
- State Council of the People's Republic of China. (2020, July 28). *Basic facts about Taiwan.*
https://english.www.gov.cn/archive/202007/28/content_WS5f1f8c45c6d029c1c2636d06.html
- State Council of the People's Republic of China. (2024, April 16). *Xi puts forth four principles to resolve Ukraine crisis.*
https://english.www.gov.cn/news/202404/16/content_WS661e4336c6d0868f4e8e61fa.html
- Xinhua. (2023, February 21). *Full text: The Global Security Initiative concept paper.*
<https://english.news.cn/20230221/75375646823e4060832c760e00a1ec19/c.html>
- Xinhua. (2025, February 14). *China-Russia cooperation not targeted or affected by any third party: FM spokesperson.*
<https://english.news.cn/20250214/82c944009a06488491ad63a51322b3d0/c.html>
- Xinhua. (2025, February 15). *China, Russia maintain normal trade ties: FM.*
<https://english.news.cn/20250215/df575ef1f01b4b5aa3b381f147d53566/c.html>
- Yang, J. (2025, February 21). *The myth of a "Reverse Kissinger": Why aligning with Russia to counter China is a strategic illusion. The Diplomat.*
<https://thediplomat.com/2025/02/the-myth-of-a-reverse-kissinger-why-aligning-with-russia-to-counter-china-is-a-strategic-illusion/>

Graphite, Who Cares?

European Industrial Policy Between Market Signals and Strategic Autonomy

Adrian Forsström Norén²

Keywords:

European Industrial Policy · Market Signals · Strategic Autonomy

| Introduction

The debate over European industrial policy has shifted markedly in recent years. What was long framed through fiscal discipline, competition neutrality, and market integration is now articulated in terms of strategic capacity, resilience, and coordinated investment (European Commission, 2024). The publication of the Draghi report on European competitiveness and the adoption of the Critical Raw Materials Act (CRMA) reflect a political moment in which industrial strategy has moved from the periphery to centre stage (European Union, 2024; European Commission, 2024). In Peter Hall's terms, this shift resembles a move toward third-order change: not merely adjustment of instruments, but a redefinition of governing priorities (Hall, 1993).

Yet this reorientation has been driven by a structural tension. The very market efficiencies that underpinned Europe's integration into global value chains have also produced concentrated dependencies in upstream sectors such as graphite, rare earths, and battery materials. Low-cost supply delivered price advantages while gradually eroding domestic European production capacity. As supplier states such as China now deploy export controls and industrial leverage, what once appeared efficient has become strategically constraining (European Commission, 2025b). What is less settled is whether the institutional logic through

² Project Assistant, Beyond the Horizon

which the Union governs industrial investment has shifted to match this strategic rhetoric. Upstream capacity creation is not simply a question of innovation or permitting speed. It entails long-duration capital



The critical issue is therefore one of commitment: who authorises investment when price parity is uncertain, and who carries the losses if market conditions deteriorate.

commitments under conditions where domestic production may remain structurally more expensive than incumbent global supply. The critical issue is therefore one of commitment: who authorises investment when price parity is uncertain, and who carries the losses if market conditions deteriorate?

Graphite provides a particularly revealing diagnostic case. Graphite is an indispensable input good for lithium-ion battery anodes, making it critical to electric vehicles, grid-scale energy storage, and the broader electrification strategies that underpin both the European

Green Deal and emerging competitiveness agendas (European Commission, 2025a). Beyond batteries, graphite also plays a structural role in steel production, including electric arc furnaces central to green steel pathways, linking it directly to the decarbonisation of heavy industry (East Carbon, 2024). Unlike some other critical raw materials, graphite has no readily scalable substitute in the medium term for these applications. Supply security is therefore not a downstream optimisation problem but a precondition for industrial transformation.

At present, the EU remains overwhelmingly dependent on external suppliers for both natural and battery-grade synthetic graphite. Domestic extraction and processing capacity is minimal, while refining and purification are heavily concentrated outside Europe. As outlined in the European Critical Raw Materials Act, the EU aims to domestically extract 10% of its annual graphite consumption, process 40%, and recycle 25% by 2030. However, significant gaps persist between these ambitions and their implementation, exacerbated by its 98% dependency on imported graphite, primarily from China (European Union, 2024). This dependence has become increasingly visible as global demand for batteries accelerates and supplier states adopt more assertive industrial and trade policies,

most notably by recent export controls on certain forms of graphite and critical minerals at large by China (Hoskins & Bicker, 2025; European Commission, 2025b). As a result, graphite has moved from being a technical input to a strategic vulnerability, repeatedly identified in EU policy documents as a bottleneck for climate and industrial objectives (European Union, 2024).

| 1 Graphite and the European Response

The EU has sought to address critical raw material dependencies through the designation of “strategic projects” under the CRMA, including several initiatives related to graphite extraction, processing, and recycling (European Union, 2024; European Commission, 2025c). These projects benefit from procedural prioritisation, accelerated permitting, and political recognition as strategically significant, while financing structures typically combine private capital, national support, and EU-level facilitation (European Union, 2024). These measures demonstrate the Union’s capacity to identify strategic bottlenecks and to reduce regulatory and administrative barriers to investment. Yet their underlying logic remains primarily facilitative. Strategic designation and procedural facilitation may lower entry barriers, but they do not alter the underlying economics of upstream investment. Revenues depend on future battery demand, global price movements, and geopolitical developments that cannot be reliably calculated in advance. Under such conditions, expected returns are inherently uncertain. If prices fall or demand weakens, someone must absorb the losses. The core issue is therefore institutional rather than technical: who decides to proceed with investment, and who ultimately carries the financial consequences if projected revenues do not materialise?

As Mariana Mazzucato (2013) has argued, the defining contribution of the state to economic capacity building has been its ability to absorb uncertainty over extended time horizons and to accept the possibility of failure where private actors cannot. This dynamic is particularly visible in goods such as graphite. Unlike final consumer markets, commodity sectors are shaped by long development timelines, large sunk costs, and exposure to price cycles that can shift rapidly in response to global demand fluctuations, trade policy changes, or geopolitical tensions. Even where demand appears structurally robust, as in batteries and green steel, investment decisions remain vulnerable to policy reversals, shifts in trade relations, and competitive pressure from incumbent producers operating under different regulatory and cost conditions (Eichengreen, 1996).

Recent developments in the European graphite value chain illustrate how these structural pressures materialise in practice. In Germany, SGL Carbon discontinued its graphite anode materials activities in 2024, citing insufficient prospects for commercial success under prevailing European cost conditions and weakening downstream demand (SGL, 2024; FDI, 2024). Even in a sector framed as strategically indispensable for electrification, investment proved highly sensitive to market expectations and price dynamics. In Sweden, Talga's integrated graphite extraction and anode production project represents a more expansionary trajectory. The project has been designated a Strategic Project under the CRMA and has secured both offtake agreements and public funding support, including an Innovation Fund grant of €70m and a proposed European Investment Bank (EIB) loan of €150m (Talga, 2026; European Union 2024). This demonstrates that EU and national instruments can mobilise some capital when projects reach commercial validation.

The contrast between SGL and Talga suggests that the EU's industrial framework has evolved rapidly. Talga's advancement indicates that institutional tools can now be mobilised to sustain projects that might previously have stalled. Yet beneath this apparent acceleration, a continuity persists. In both cases, market expectations remained decisive. Capital retreated where price pressure eroded margins and advanced where commercial validation was secured. Public intervention reduced financing barriers, but it did not fundamentally displace global commodity competition as the determinant of industrial survival. This creates a tension at the heart of the EU's strategic agenda. European policy documents repeatedly frame graphite and battery materials as essential to industrial sovereignty and decarbonisation (European Commission, 2025a). Yet the competitive benchmark remains global commodity pricing, shaped in part by jurisdictions that have previously tolerated sustained state-led investment and margin compression to secure scale advantages.

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"Strategic
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| 2 Governance Logic and Risk Ownership

The Talga and SGL cases illustrate not only the persistence of market discipline, but also the structure of political ownership within the Union. Industrial capacity creation requires someone to assume responsibility when investments underperform. Production facilities must be located in specific territories, where environmental trade-offs, fiscal exposure, and employment effects are concentrated. When projects advance, benefits are localised. When they fail, losses are likewise territorially visible. Within the EU, this exposure remains primarily national. EU-level instruments can designate projects, co-finance investments, and accelerate procedures, but they do not operate as a standing guarantor of last resort for industrial capacity. Member states host facilities, mediate local opposition, and absorb the fiscal and political consequences of underperformance.

This institutional distribution reflects a broader governance logic. Contested distributive choices within EU decision-making are frequently framed as technical coordination rather than overt political allocation, allowing trade-offs to be managed through rule-based and market-compatible mechanisms (Crespy & Schmidt, 2014). In industrial policy, this logic tends to favour horizontal instruments, competitive allocation, and formally neutral procedures, while disincentivising investments that require explicit territorial targeting and politically attributable exposure (Aiginger & Rodrik, 2020; Landesmann, 2025). At the same time, recent years have demonstrated a willingness among both member states and EU institutions to mobilise significant coordination and financial support in response to strategic vulnerabilities. Sweden's backing of Talga illustrates that national governments are prepared to assume industrial risk where strategic value is perceived (Talga, 2026). What remains structurally distinctive is that fiscal exposure continues to be territorially anchored. Collective objectives are articulated at the supranational level, but fiscal sovereignty and political accountability remain largely national. In domains where distributive consequences can be diffused through regulation or competitive allocation, this arrangement has functioned effectively. Industrial capacity creation, by contrast, renders exposure concrete and geographically visible.

| Conclusion

European policymakers now face a structural choice. If strategic autonomy in upstream sectors such as graphite is to be taken seriously, it cannot remain conditional on prevailing global price benchmarks alone. The very cost advantages that made external supply attractive over the past decade have contributed to Europe's current dependency. Concentrated production capacity, supported by sustained state-backed scale and margin compression elsewhere, has translated into pricing power and geopolitical leverage. New European capacity cannot achieve immediate price parity without scale, and scale requires upfront investment under uncertain conditions. Transitional cost asymmetries are therefore not an anomaly but an expected feature of diversification. This does not require abandoning competition or insulating every project from market discipline. It does require recognising that collective strategic objectives may entail collective exposure to risk.

One implication is the need for more explicit risk-sharing mechanisms tied to strategically designated upstream projects. Rather than relying solely on procedural facilitation and co-financing, the Union could explore instruments that buffer early-stage capacity against sustained price compression during scale-building phases, such as coordinated public offtake commitments, temporary price stabilisation frameworks, or structured loss-sharing arrangements linked to CRMA projects. Such tools would not eliminate market discipline, but they would acknowledge that strategic diversification cannot rely exclusively on immediate price competitiveness.

As long as downside risk remains predominantly national and commercial validation remains the decisive benchmark, capacity expansion will occur only where market alignment and national willingness converge. The tension identified in the graphite case is therefore whether Europe is willing to align its governance structures with the distributive and fiscal implications of capacity creation, or whether it prefers to accept continued exposure to concentrated external supply and the leverage that accompanies it.

Bibliography

- Aiginger, K., & Rodrik, D. (2020). Rebirth of industrial policy and an agenda for the twenty-first century. *Journal of Industry, Competition and Trade*, 20(2), 189–207. <https://doi.org/10.1007/s10842-019-00322-3>
- Crespy, A., & Schmidt, V. A. (2014). The clash of Titans: France, Germany and the discursive double game of EMU reform. *Journal of European Public Policy*, 21(8), 1085–1101. <https://doi.org/10.1080/13501763.2014.914629>
- East Carbon. (2024, October 22). *Graphite electrodes in electric arc furnace*. <https://www.eastcarb.com/graphite-electrodes-in-electric-arc-furnace/>
- Eichengreen, B. (1996). *Globalizing capital: A history of the international monetary system*. Princeton University Press.
- European Commission. (2024). *The future of European competitiveness* (Report by M. Draghi). https://commission.europa.eu/topics/competitiveness/draghi-report_en
- European Commission. (2025a). *Critical raw materials*. European Commission. https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en
- European Commission. (2025b). *Commission fights circumvention of tariffs on imports of graphite electrode systems*. Directorate-General for Trade. https://policy.trade.ec.europa.eu/news/commission-fights-circumvention-tariffs-imports-graphite-electrode-systems-2025-06-20_en
- European Commission. (2025c). *Selected strategic projects under the Critical Raw Materials Act*. https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials/strategic-projects-under-crma/selected-projects_en
- European Union. (2024). Regulation (EU) 2024/1252 of the European Parliament and of the Council of 11 April 2024 establishing a framework for ensuring a secure and sustainable supply of critical raw materials (OJ L 2024/1252). Official Journal of the European Union. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401252
- FDI. (2024). *Battery materials retreat in Europe highlights fragility of ecosystem*. <https://www.fdiintelligence.com/content/1fa48c90-cd6b-5a32-ad9d-18219d95a3ad>
- Hall, P. A. (1993). Policy paradigms, social learning, and the state: The case of economic policymaking in Britain. *Comparative Politics*, 25(3), 275–296. <https://doi.org/10.2307/422246>
- Hoskins, P., & Bicker, L. (2025, March 25). *China tightens export controls on graphite and other critical minerals*. BBC News. <https://www.bbc.com/news/articles/ckgzl0nwvd7o>
- Landesmann, M. A. (2025). *EU industrial policy in the evolving geo-political and geo-economic environment*. Vienna Institute for International Economic Studies (wiiw). <https://wiiw.ac.at/eu-industrial-policy-in-the-evolving-geo-political-and-geo-economic-environment-dlp-7342.pdf>
- Mazzucato, M. (2013). *The entrepreneurial state: Debunking public vs. private sector myths*. Anthem Press.

- SGL Carbon. (2024). *Statement on the first nine months 2024*.
<https://www.sglcarbon.com/news/user-upload/SGL-Carbon-9M-2024-07-11-2024-EN-s.pdf>
- Talga. (2026). *Q2 Update*. <https://company-announcements.afr.com/asx/tlg/fa36f8cd-05fc-11f1-895b-3ec68c5b4fc7.pdf>

Policy Recommendations by INNOVADE for European Democracy Shield Open Public Consultation³

Fatih Yilmaz⁴, Christian Fuchs⁵

Abstract:

This policy brief is prepared as a response to the public consultation opened by the European Commission for further development and fine-tuning of the European Democracy Shield initiative. This brief is prepared by INNOVADE project consortium which is funded by the EU under its Horizon Europe programme.

INNOVADE project aims to advance our digital democracy by improving knowledge on the current state of the art, future trends, and emerging next practices; providing tools, frameworks, structures for inclusive digital governance; building a digital democracy application; and developing a conceptual framework, platform and the educational materials needed for democratising access to digital tools for citizens.

Although INNOVADE project is still in its initial research phase, we take this opportunity to share our recommendations based on our preliminary results. Our recommendations are based on the four critical domains of European Democracy Shield's strategic framework, followed by our reflections on the EU's transitioning towards its Digital Autonomy.

Keywords:

European Democracy Shield · Digital Democracy

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| 1 Manipulation and Interference and Disinformation

In the contemporary digital landscape, disinformation and foreign information manipulation represent increasingly potent threats to democratic integrity across the European Union. With the widespread proliferation of social media platforms and advanced algorithmic systems, hostile actors—whether state-sponsored or domestic—can now easily orchestrate sophisticated campaigns designed to mislead the public, undermine trust in democratic institutions, and distort public discourse. These campaigns frequently exploit the vulnerabilities inherent in digital

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**Autonomy is
the best strategy to
make the EU’s internet
resilient and defend
digital democracy in
the EU**

platforms, such as algorithmic amplification and the rapid, unchecked dissemination of false narratives, often leveraging artificial intelligence tools and deepfake technologies to blur the lines between reality and fabrication.

The consequences of unchecked disinformation extend far beyond immediate political disruptions; they erode societal trust, deepen polarization, and weaken the resilience of democratic societies against internal and external threats.

Thus, effectively countering these sophisticated operations requires proactive and coordinated actions at both technological and regulatory levels. Strategic interventions must balance freedom of expression with robust protections against manipulation and deception.

The future of foreign information manipulation and interference (FIMI) and disinformation will largely be driven by future developments in technology. Noticeably, the role of large language models (LLMs) and other forms of artificial intelligence (AI) has continued to grow over the past few years. Some of the tactics that have been enabled by advancements in AI are fake online personas, automated botnets and copy-paste campaigns, and localized targeting through demographic specific narratives. The speed in the transition from organic social media traction for disinformation to disinformation as a service to AI-augmented disinformation is worrying for the future.

LLM grooming has become a serious concern as the output of content disseminated by disinformation campaigns has significantly increased due to lower barriers with the assistance of AI. When there are several campaigns active and connected within a network, the content they disseminate can inform or 'groom' AI chatbots into becoming biased and disinformed. Their responses will then be rooted in this disinformation, creating a harmful cycle of intentional/unintentional information laundering. Deepfakes are likely to be used in a more sophisticated way maliciously by foreign actors to manipulate information leading up to elections, increase geopolitical tensions, destabilize actors in situations of armed conflict.

Recommendations:

- Develop and implement advanced AI-based detection and intervention tools capable of rapidly identifying, flagging, and mitigating disinformation across multiple digital platforms.
- Mandate and enforce comprehensive transparency standards for online political advertising, algorithm-driven content dissemination, and personalized information delivery, ensuring clear visibility into the origins, sponsors, and objectives of digitally delivered political messages.
- Establish and support robust pan-European networks for fact-checking and verification, enhancing cross-border information sharing, cooperation, and coordination among governmental institutions, independent researchers, civil society organizations, and media outlets.
- Introduce and rigorously enforce clear sanctions and accountability frameworks targeting entities proven to orchestrate or facilitate disinformation and foreign information manipulation campaigns, thereby creating a powerful deterrent against malicious activities aimed at destabilizing democratic societies.
- Support the development of European big social media platforms.

Together, these measures form a comprehensive, multi-layered defense capable of preserving democratic discourse and safeguarding citizens against the harms of information warfare.

| 2 Fairness and Integrity of Elections and the Strengthening of Democratic Frameworks

The advent of digital technologies has transformed democratic processes, bringing significant advancements in transparency and civic engagement. However, these benefits are accompanied by new and complex challenges that threaten the fairness, integrity, and transparency of electoral systems within the European Union.

Cybersecurity vulnerabilities increasingly expose election infrastructure to targeted cyber-attacks, risking the manipulation of electoral outcomes. At the same time, widespread misinformation, amplified by digital media and algorithm-driven content curation, distorts voter perceptions and polarizes societies. Furthermore, the rapid adoption of artificial intelligence tools in political campaigning presents unprecedented ethical dilemmas, including the potential for targeted voter manipulation, micro-targeted disinformation, and opaque political financing.

As electoral integrity stands as the cornerstone of democratic legitimacy, addressing these threats is paramount.

The European Democracy Shield advocates for a strategic and integrated approach that blends innovative

technological solutions with clear regulatory frameworks. Strengthening cybersecurity, increasing transparency, and setting ethical standards for digital political engagement are essential measures to uphold voter confidence and ensure robust democratic processes.

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The speed in the transition from organic social media traction for disinformation to disinformation as a service to AI-augmented disinformation is worrying for the future.

Recommendations:

- Integrate blockchain-based technologies into electoral systems to provide immutable, transparent records of votes in compliance with the GDPR (no personal or confidential data should be stored on blockchain), thereby significantly reducing the risks of electoral fraud and enhancing public trust in election outcomes.
- Establish comprehensive regulatory frameworks and ethical guidelines governing the deployment of artificial intelligence in election campaigns, clearly defining permissible uses and addressing issues of transparency, accountability, and fairness in AI-driven political activities.
- Enhance cybersecurity measures and infrastructure resilience specifically tailored for electoral contexts, ensuring protection against cyber threats such as hacking attempts, data breaches, and interference with voter registration systems and election result dissemination.
- Standardize and enforce EU-wide transparency and accountability standards for digital campaign finance, demanding clear disclosure of funding sources, expenditures, and sponsorship of digital political content to curb hidden influences and uphold electoral fairness.
- Implement specific media information literacy campaigns before elections with an aim to immunize citizens against mis/disinformation.
- Collectively, these initiatives form a comprehensive response to ensure electoral systems remain robust, fair, and transparent, safeguarding the integrity of democratic governance in the digital era.

| 3 Strengthening Societal Resilience and Preparedness

The integration of digital technologies into democratic processes not only enhances civic engagement but also exposes societies to complex new threats, such as targeted cyberattacks, pervasive misinformation, and intensified societal polarization. Digital platforms, while connecting individuals across borders, can also amplify divisive content, creating echo chambers and fuelling polarization that undermines social cohesion and weakens democratic institutions. Moreover, cyber threats targeting critical infrastructure and public services pose substantial risks to

democratic stability, potentially disrupting government functions, electoral processes, and essential communication channels.

To effectively respond to these interconnected threats, building societal resilience and preparedness is crucial.

This involves equipping citizens with the necessary skills to navigate the digital environment critically and responsibly. Education and awareness programs, designed with an inclusive and comprehensive approach, can significantly enhance citizens' abilities to identify, resist, and mitigate misinformation and cyber threats. In addition, fostering robust collaboration among government bodies, academia, civil society, and the private sector can create dynamic, adaptive strategies to respond swiftly and effectively to emerging digital threats.

Recommendations:

- Implement extensive EU-wide (but local specific) digital and media literacy initiatives covering diverse demographics, equipping citizens of all ages with the skills necessary to critically evaluate digital information and understand potential digital threats.
- Integrate comprehensive critical thinking and media literacy education into national curricula across member states, ensuring that future generations are resilient and well-prepared for an evolving digital landscape. Begin as early as possible to educate young people; and collaborate with civil society organizations to integrate them into the educational activities where different competencies and educational material are needed then the school capacity.
- Strengthen cross-sectoral partnerships among governments, educational institutions, civil society, and the technology sector to proactively tackle misinformation and digital polarization, leveraging expertise, resources, and best practices from all relevant stakeholders.
- Establish effective rapid-response frameworks capable of quickly identifying, addressing, and mitigating cyber incidents and coordinated misinformation campaigns that threaten democratic processes, maintaining public trust and democratic continuity in crisis situations.

By fostering informed, digitally literate societies and enhancing collaborative preparedness, these measures will build resilient democracies capable of navigating and thriving amidst the challenges posed by digital transformation.

| 4 Citizens' Participation and Engagement

In an era characterized by rapid digital transformation, empowering citizens to meaningful civic engagement is essential to maintaining vibrant and resilient democracies. Digital technologies offer unprecedented opportunities for citizens to influence policymaking, express their voices, and engage with democratic processes more directly and transparently. However, these promising developments are hindered by persistent inequalities, digital divides, and insufficient protection of individual privacy. Unequal access to digital infrastructure, disparities in digital literacy, and concerns about the misuse of personal data

collectively create significant barriers to inclusive and meaningful participation, risking the marginalization of disadvantaged and vulnerable groups.

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LLM grooming has become a serious concern as the output of content disseminated by disinformation campaigns has significantly increased due to lower barriers with the assistance of AI.”

To harness the full potential of digital participation, it is imperative that European democracies actively address these barriers. This requires substantial investments in infrastructure and schooling to bridge the digital divide and ensure equitable access to essential democratic tools. Concurrently, developing secure and privacy-respecting digital platforms can bolster citizens' trust, encouraging broader and more meaningful participation.

Establishing a reliable, transparent, and user-friendly digital identity system will further streamline citizen interactions with governance platforms, fostering a more accessible and responsive democratic ecosystem.

Recommendations:

- Significantly increase investment in digital infrastructure, especially in underserved and rural areas, to guarantee equal access to democratic participation tools and prevent exclusion from digital democratic processes.

- Develop and promote secure, privacy-focused digital engagement platforms (digital democracy applications), ensuring robust data protection and transparent data handling practices that reassure citizens and facilitate confident participation.
- Implement standardized, EU-wide digital identity solutions, simplifying secure citizen-government interactions and enhancing accessibility and ease of participation across various platforms and public services.
- Create continuous, responsive feedback mechanisms and citizen consultation processes, allowing for ongoing, structured input into policymaking and governance, thus strengthening the responsiveness and accountability of democratic institutions. Develop and spread inclusive digital democracy applications as a way of realising this with a diverse group of citizens.
- Fund projects targeting especially vulnerable groups who are not willing to participate through innovative mechanisms taking a multistakeholder approach (collaboration with cultural organisations, youth organisations, senior organisations, etc.)
- Deploy User-Centred Design (UCD) principles to create accessible civic gov tools that keep from exacerbating societal inequalities. Moreover, take into account User Experiences (UX) to optimize citizens' experience and motivate them to higher and more profound levels of engagement. For creating an equal level playing field in terms of access, in itself, does not yet guarantee actual participation.

By addressing infrastructure disparities, prioritizing digital security and privacy, and enabling continuous citizen engagement, these proposals lay the foundation for more inclusive, participatory, and resilient democracies across the European Union.

| 5 From Digital Imitation and Digital Regulation towards Digital Autonomy

The European Democracy Shield (EDS) is an initiative that wants to strengthen the resilience of European democracy against undemocratic attacks. Contexts include the increase of international political polarization, conflicts, and wars, including hybrid warfare with attacks on critical infrastructures. The basic idea of resilience is that a system continues to exist and work after attacks, disruptions, and crises. The Internet is a critical infrastructure that enables human information,

communication, and co-operation. One aspect that arises in the context of the EDS is how to make the European Union's Internet infrastructure resilient. In this context, the question needs to be posed of what policies for regulating the digital world the European Union requires.

We suggest that the European Union needs to transition towards a third phase of digital policies, namely after digital imitation and digital regulation towards digital autonomy. The European Democracy Shield requires an autonomous EU Internet infrastructure that is independent from the USA and China whose digital giants dominate the Internet today.

The European Union's digital policy making has in respect to the Internet thus far followed two phases: imitation (1990s, 2000s) and regulation (since 2010). The first phase of digital imitation involved information society policy strategies such as eEurope: An Information Society for All and i2010: A European Information Society for Growth and Employment. Crucial in this phase was the European Union's goal formulated in the Lisbon strategy "to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion" (Lisbon European Council 2000) by 2010. In 2010, this goal was not reached, the European Union did not catch up with and overtake the US Internet economy where the digital giants such as Amazon, Google, Facebook, Microsoft, Apple, eBay, Yahoo, Adobe, PayPal, etc. are located. The European Union did not succeed in its self-set goal of imitating Silicon Valley and establishing the likes of Google and Facebook in the EU. Today, the world's ten largest Internet companies ranked by revenue are all located in the USA and China: Amazon, Alphabet, JD, Meta, Alibaba, Tencent, ByteDance, Netflix, Meituan, and Paypal (Wikipedia 2025).

Since 2010, the European Union has entered a new, second stage in digital policy making: the stage of digital regulation. In this phase of digital policy making, the EU has primarily focused on developing EU-wide policies that regulate Internet platforms in the EU. Such initiatives have resulted in a number of key EU Internet policies: Regulation on Open Internet Access (2015), General Data Protection Regulation (GDPR) (2016), Regulation on Digital Service Portability (2017), Regulation on Geo-blocking (2018), Digital Markets Act (DMA) (2022), Artificial Intelligence Act (2024), Digital Services Act (DSA) (2024).

The Internet is an international and global information and communication network. Therefore, its regulation needs to be international, too. However, there is not one institution able to globally regulate the Internet. In the times we live in, there is the rise of new

authoritarian and nationalist forms of politics that question international agreements and regulation, which makes regulating the Internet ever more difficult.

The EU faces the danger that in the future, the digital giants will, backed by the governments of the US and China, simply ignore EU legislation and exclude EU users from accessing these platforms. The consequence would be that Internet use in the EU would severely decline as it depends on US and Chinese platforms. In addition to the questioning of EU Internet policies, the EU's Internet also faces a high level of misinformation and foreign interferences in politics and election campaigns in the form of fake news, hacking, hybrid warfare, deep fakes, post-truth, online hatred, and algorithmic politics.

Between November 2023 and November 2024, European External Action Service (2025) observed and analyzed 505 foreign information manipulation and interference (FIMI), incidents that consisted of 68,000



The European Democracy Shield requires an autonomous EU Internet infrastructure that is independent from the USA and China whose digital giants dominate the Internet today”

pieces of information targeting 90 countries and 332 organizations by using a total of 25 media platforms. The operations were global but the absolute majority, namely 50.9% (257 in total) of the incidents were focused on Ukraine. The targets were especially organizations (international organisations such as the EU, news media, networks of journalists such as Bellingcat, and fact checking organizations such as Correctiv). Most operations use multiple media platforms. X and Facebook were the most frequently used platforms. Given the EU's critical Internet infrastructure is dependent on the US and Chinese global digital giants and faces attacks, it is not resilient. Therefore, we see the need

for the EU to enter a new stage of Internet policy making, the phase of Internet and digital autonomy. Internet and digital autonomy means the advancement of policies that create and strengthen an autonomous EU Internet infrastructure, including major Internet platforms, that operates from within the EU, adheres to democratic European principles and EU

regulation. Autonomy is the best strategy to make the EU's Internet resilient and defend digital democracy in the EU.

Public service media (PSM) are one of Europe's media strengths in the public sphere. PSM originated in Europe in 1922 when the BBC was founded. In contrast to the USA and China, PSM play a key role in the European media landscape. Measured in terms of revenue, ARD (Germany) is the largest media company headquartered in Europe, BBC (UK) the third largest, France Télévisions (France) the seventh largest, RAI (Italy) the eleventh largest, ZDF (Germany) the twelfth largest and SRG-SSR (Switzerland) the eighteenth largest (data source: Council of Europe 2024). PSM are key democratic players in the European media landscape: As democratic communication is part of public service media's remit, they are committed to democracy and the democratic public sphere. Today, there are dozens of public service media operators in Europe and the world (see https://en.wikipedia.org/wiki/European_Broadcasting_Union). PSM are already important actors on the Internet. They operate Internet-based media players. These players have thus far been operated at a national scale independent from each other.

Recommendations:

- Foster policies that support and advance the EU's digital autonomy from the US and Chinese digital giants.
- Create an EU Internet and EU Internet platforms that are operated autonomously from the US and Chinese digital giants is the best way to advance Internet resilience in the EU and a European Democracy Shield.
- Create an autonomous, resilient, and democratic EU Internet infrastructure and EU Internet platforms, the EU should not copy the US market-led Silicon Valley model and the Chinese state-controlled Internet model but rather build on its own media strengths.
- Support and advance the networking of European public service media and their digital technologies/platforms in order to bring about what some have termed a public service Internet (see Fuchs and Unterberger 2021, PSMI Manifesto Collective 2021).
- Increase the funding of the R&D invested in the fields of digital democracy, digital public sphere, and public service Internet in order to advance Internet resilience, Internet autonomy, and the digital public sphere.
- Bring together and support initiatives of advancing a public Internet that fosters digital democracy and the digital public sphere and actively integrate them into policy making, research, and

development as important stakeholders (for example, initiatives such as Manifesto for Public Service Media and a Public Service Internet (<https://bit.ly/psmmanifesto>), Council for European Public Space (<https://europeanpublicspace.eu>), Public Spaces Incubator (<https://newpublic.org/psi>), and EuroStack (<https://euro-stack.eu/>).

Strengthening the resilience of European digital democracy in the light of authoritarianism, hybrid warfare, polarisation, misinformation, post-truth, and fake news culture requires, first and foremost, the vision of a democratic Internet and the practical realisation of this vision. The Public Service Media and Public Service Internet Manifesto, an initiative co-initiated by one of INNOVADE's research team leaders, formulates foundations of such a vision in the following way:

"We envision the creation of a Public Service Internet: an Internet of the public, by the public, and for the public; an Internet that advances instead of threatens democracy and the public sphere, and an Internet that provides a new and dynamic shared space for connection, exchange and collaboration. The Public Service Internet is based on Internet platforms operated by a variety of Public Service Media, taking the public service remit into the digital age in co-operation with civil society, individual media users, citizens, and the creative, cultural and educational sector. The Public Service Internet advances democracy. It enhances the public sphere. It supports active citizenship by providing comprehensive information and analysis, diversity of social representation and creative expression, and extended opportunities for participation. Public Service Internet platforms can support new and young creatives who will build the 9European Democracy Shield - Open Public Consultation Policy Recommendations by the Horizon Europe project INNOVADE cultural industries of tomorrow and foster social cohesion. Now is the time for a Public Service Internet and revitalised Public Service Media. [...] A democracy-enhancing Internet requires Public Service Media becoming Public Service Internet platforms that help to advance opportunities and equality in society. We call for the creation of the legal, economic and organisational foundations of such platforms. [...] Public Service Internet platforms realise fairness, democracy, participation, civic dialogue and engagement on the Internet. [...] The Public Service Internet requires new formats, new content, and vivid cooperation with the creative sectors of our societies. [...] The

Public Service Internet provides opportunities for public debate, participation, and the advancement of social cohesion. [...] The Public Service Internet is a driver of change in the creation of new content and services while creating a sustainable ecosystem for media innovations. [...] Public Service Media and the Public Service Internet contribute to a democratic, sustainable, fair, just, and resilient society" (PSMI Manifesto Collective 2021)."

| Conclusion

The future of democracy in Europe hinges on our collective ability to adapt and respond to the dynamic challenges and opportunities presented by the digital age. The European Democracy Shield is not merely a defensive measure—it is a forward-looking strategic framework aimed at transforming the way democracy functions in the 21st century. At its heart lies the commitment to uphold the European Union's core values—democracy, the rule of law, and fundamental rights—by reimagining democratic engagement for a digitally interconnected society.

This framework recognizes that digital technologies, while offering tools for greater transparency, participation, and efficiency, also introduce vulnerabilities that can undermine public trust, electoral integrity, and social cohesion. As such, a comprehensive and coordinated response is essential. The proposals outlined across the four strategic pillars—countering disinformation, ensuring electoral integrity, strengthening societal resilience, and fostering citizen participation—offer a practical roadmap for building a more inclusive, secure, and responsive democratic infrastructure.

Crucially, the European Democracy Shield must go beyond defence and regulation towards establishing digital autonomy. Europe's digital landscape remains heavily dependent on platforms and infrastructure

controlled by actors outside the EU, particularly in the United States and China. This dependency creates significant vulnerabilities, including exposure to hybrid threats, the circumvention of EU digital sovereignty, and diminished capacity to enforce regulatory standards. A strategic shift is therefore required—from the earlier phases of digital imitation and regulation to a new paradigm of digital autonomy.

To reinforce this transition, the EU must invest in the development of an autonomous, resilient, and democratic Internet infrastructure—one that is built on the foundational principles of European public service, democratic

participation, and technological self-determination. Public service media (PSM), with their longstanding commitment to the democratic public sphere, should be scaled and networked into a Public Service Internet that serves citizens equitably and responsibly. This vision entails new funding priorities, legal frameworks, and collaborative platforms that empower civil society, cultural and educational sectors, and public broadcasters to co-create digital spaces rooted in transparency, equity, and civic responsibility.

Success will require sustained investment, cross-sector collaboration, a firm commitment to democratic innovation, as well as a policy focus on strengthening the EU's digital autonomy. Governments, civil society,

academia, and the private sector must work together to ensure that technological advancements empower citizens rather than alienate them, protect rights rather than infringe upon them, and build trust rather than erode it.

By embracing both democratic resilience and digital autonomy, the European Democracy Shield can serve as a global model for protecting and advancing democratic governance in the digital era—solidifying the EU's leadership role in fostering inclusive, sovereign, and resilient democratic societies.

Bibliography

- American Sunlight Project. (n.d.). *LLM grooming: A new strategy to weaponize AI for FIMI purposes*.
- Council of Europe. (2024). *Top players in the European AV industry (2023 data tables)*. <https://rm.coe.int/top-players-in-the-european-av-industry-2023-figures/1680b54718>
- European Commission. (n.d.). *European Democracy Shield*.
- European External Action Service. (2025). *3rd EEAS report on foreign information manipulation and interference threats: Exposing the architecture of FIMI operations*. EEAS.
- EU-HYBNET. (n.d.). *State of deception: Inside Russia and China's information playbook*.
- Fuchs, C., & Unterberger, K. (Eds.). (2021). *The public service media and public service internet manifesto*. University of Westminster Press. <http://doi.org/10.16997/book60>
- INNOVADE Project. (n.d.). *Knowledge base on digital democracy (ongoing)*. <https://innovade-democracy.eu/>
- IMMUNE 2 INFODEMIC Project. (n.d.). <https://immune2infodemic.eu/>
- Lisbon European Council. (2000). *Lisbon European Council 23 and 24 March 2000: Presidency conclusions*. https://www.europarl.europa.eu/summits/lis1_en.htm
- PSMI Manifesto Collective. (2021). *The public service media and public service internet manifesto*. In C. Fuchs & K. Unterberger (Eds.), *The public service media and public service internet manifesto* (pp. 7–17). University of Westminster Press. <https://doi.org/10.16997/book60.b>. Latest version: <https://bit.ly/psmmanifesto>
- Wikipedia. (2025). *List of largest internet companies*. https://en.wikipedia.org/wiki/List_of_largest_Internet_companies#cite_note-145

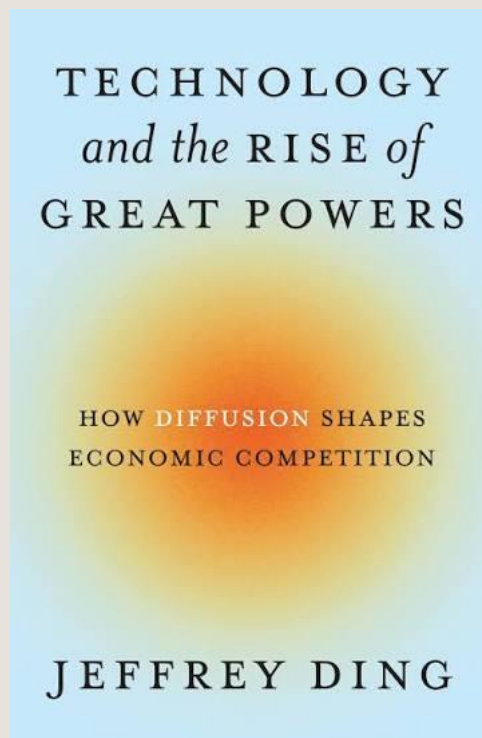
Book Review:

Technology and the Rise of Great Powers: How Diffusion Shapes Economic Competition.

Princeton University Press, 2024. 321 pp. ISBN: 9780691260334.

By Saban Yuksel⁶

In *Technology and the Rise of Great Powers*, Jeffrey Ding takes aim at one of the laziest habits in both international relations scholarship and contemporary policy debate: the assumption that technological supremacy belongs to whichever state first produces the most dazzling breakthroughs. Against this innovation-fetishism, Ding advances a sharper and more historically grounded claim. Great powers do not rise simply because they invent first. They rise because they diffuse foundational technologies more broadly and more effectively across their economies. The book is therefore not just a study of technology and power; it is an argument about how analysts have repeatedly misunderstood the relationship between invention, productivity, and geopolitical change.



Ding's core argument is both straightforward and revisionist. The dominant account of technology-driven power transition, which he labels the leading-sector approach, holds that states gain advantage by monopolizing innovation in new and fast-growing industries. Ding rejects this view as too narrow and too enamoured with spectacular moments of discovery. In its place, he develops what he calls "GPT diffusion theory," centred on general-purpose technologies—technologies such as mechanization, electrification, and computing whose significance lies not

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in a single invention but in their gradual adoption across a wide range of sectors. The decisive variable, on this account, is not who innovates first, but which country builds the institutional capacity to spread these technologies widely enough to raise economy-wide productivity.

That argument matters because Ding is not merely splitting conceptual hairs. He is challenging a deeply entrenched storyline about the rise and



Great powers do not rise simply because they invent first. They rise because they diffuse foundational technologies more broadly and more effectively across their economies.

fall of great powers. The book insists that technological revolutions do not typically operate through short bursts of monopoly profit captured by a state that corners a new industry. Their effects are slower, broader, and more infrastructural. Productivity gains emerge through long diffusion processes requiring complementary innovations, organizational change, and, above all, a large pool of engineers and technically trained workers capable of embedding new technologies in ordinary productive life. Ding calls this institutional capacity “GPT skill infrastructure,” and it is the book’s central explanatory lever.

Methodologically, the book is ambitious in exactly the right way. Ding combines historical case studies of the First, Second, and Third Industrial Revolutions with a quantitative analysis of software engineering education and computerization across nineteen countries from 1995 to 2020. The historical chapters revisit Britain’s rise, America’s ascent, and Japan’s failed challenge to the United States, while the statistical analysis tests whether broader engineering skill bases correlate with higher rates of technological diffusion. This is not empty methodological pluralism. The qualitative and quantitative components are organized around the same theoretical wager, and they reinforce each other effectively.

One of the book’s strongest features is the discipline with which it distinguishes technological innovation from technological adoption. That sounds obvious, but in practice much of the literature and nearly all policy rhetoric collapse the two. Ding does not. His account of electrification, interchangeable manufacturing, and computerization makes the point

relentlessly: a state may excel at frontier research and still fail to convert that excellence into broad-based productivity gains. Conversely, a state may lag in headline innovation but outperform rivals in adapting foundational technologies across diverse sectors. That is the book's central corrective, and it lands with force.

The book is also especially effective when it turns to the contrast between Germany and the United States in the Second Industrial Revolution, and between Japan and the United States in the Third. These cases expose the weakness of the leading-sector model better than abstract theorizing ever could. Germany excelled in scientific education and industrial research, yet the United States proved more successful in spreading the productive applications of key technologies through a broader base of mechanical engineering talent. Likewise, Japan dominated important high-tech sectors in the late twentieth century, but that dominance did not yield overall economic leadership, because the United States was better able to diffuse computerization across the broader economy and cultivate the software engineering base needed to support it. These are devastating cases for the conventional wisdom.

Ding's intervention is especially timely because the book is not just about the past. Its implications for contemporary US-China competition are explicit. He argues that policymakers in both countries have drawn the wrong lesson from previous industrial revolutions by obsessing over who will "win" the race for breakthrough innovation in artificial intelligence. On Ding's account, that framing is analytically crude. If AI is indeed the next general-purpose technology, then the real contest will be decided less by symbolic victories at the frontier than by the slower and less glamorous process of embedding AI into a wide array of productive sectors. Once again, diffusion, not spectacle, will matter most.

That said, the book is not beyond criticism. Ding is right to attack the leading-sector framework, but at times the contrast is drawn a bit too cleanly. Innovation and diffusion are analytically distinct, yet in practice they often overlap, reinforce one another, and co-evolve. Ding recognizes this in places, but his argument sometimes benefits from making the opposing view look more rigid than it necessarily is. The sharper the binary between innovation and diffusion, the easier the theory becomes to sell. The problem is that historical development is usually messier than that. A stronger version of the book would have confronted that messiness more directly.

There is also a certain structural narrowness to the explanatory focus on skill infrastructure. Ding admits that other institutional factors—standards-setting bodies, finance, industrial organization, and

“ **Technology and the Rise of Great Powers does not merely revise an established argument in international relations; it exposes how shallow much of the existing conversation about technology and competition has become**”

technology-transfer mechanisms—matter for diffusion as well. But because the book privileges engineering skill formation so heavily, these other variables sometimes look underdeveloped rather than integrated. That is not a fatal flaw, but it does mean the theory occasionally risks monocausality. Skill infrastructure is clearly important; whether it is as central as Ding claims in every major case is less conclusively established than the book suggests.

Even so, these limitations do not diminish the book's significance. *Technology and the Rise of Great Powers* is a serious and original contribution to debates on technological change, economic statecraft, and power transition. It succeeds because it shifts attention

away from the fetish of invention and toward the harder question of systemic adaptation. Ding shows, convincingly, that technological revolutions reward states not merely for producing frontier breakthroughs but for building the social and institutional machinery that turns those breakthroughs into widely shared productive capacity. That is a far more demanding claim than the usual celebration of innovation, and it is far more useful.

In sum, Jeffrey Ding has written a book that is both analytically rigorous and strategically relevant. *Technology and the Rise of Great Powers* does not merely revise an established argument in international relations; it exposes how shallow much of the existing conversation about technology and competition has become. Anyone interested in industrial revolutions, economic power, or the future of US-China rivalry should read it closely.



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