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THE 15TH FIVE-YEAR PLAN

Technology as leverage: The rationale behind China's export controls

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China's export controls are not a short-term reaction to US measures but the culmination of a long-standing strategy that links technological capability to national power and regime security. Beijing's technology policy is ultimately driven by a zero-sum view of strategic rivalry. International openness is encouraged only insofar as it strengthens China's relative power.

China's dominance in critical upstream materials provides real leverage, although overly aggressive use of export controls would impose significant costs and erode its strategic advantage over time. In the longer term, a greater risk for Europe lies in potential restrictions on next-generation technologies if China secures leadership there.

European policy should further integrate technology, security and trade to engage with Beijing from a position of strength. Greater investment in frontier innovation and diversification through partnerships is urgently needed to reduce critical dependencies on China.

The Chinese leadership is going all-in in its bid for technological dominance. The 2026 Five-Year Plan calls for "extraordinary measures" to achieve decisive breakthroughs in critical technologies. By investing heavily in next-generation sectors such as robotics and embodied AI, China is seeking to shape international markets and standards from the outset. At the same time, the calls in the plan to strengthen the export control system to better "manage trade risks and frictions" signal that European policymakers and firms should prepare for volatility in China-centred supply chains.

China's rise in critical supply chain segments reflects a much longer strategic trajectory. To understand the drivers of current policy, this Commentary shows that its roots predate not only Xi Jinping's (习近平) rule, but the Chinese Communist Party (CCP) itself. The Commentary draws on official party-state documents and speeches to argue that current export controls are the culmination of a long-standing strategy that treats technology as the foundation of national power.

Securitisation of technology then and now

Viewed historically, Xi-era export controls consolidate a deeply rooted strategy that links technological capability to regime security. Since the late Qing period, self-strengthening reformers have framed selective engagement with foreign powers as a means of building the capabilities necessary for regime survival. This thinking had its origins in the profound crises triggered by the Opium Wars and military defeat by Japan in 1895, which devastatingly revealed China's technological inferiority and the limits of its inward-looking approach.

The CCP later embedded this logic in its Marxist-Leninist ideology, demonstrating striking durability and adaptability over time in its effort to strengthen China's power by technological means. Soviet technological assistance accelerated the People's Republic's early development but the Sino-Soviet split exposed China's structural vulnerability and reinforced the drive for self-reliance. Subsequently, Maoist campaigns aggressively pursued self-sufficiency but failed – at times catastrophically – to achieve technological leaps.

China's post-1978 reforms defined science and technology as the foundation of modernisation. Selective openness to entrepreneurship and global markets was framed as an instrument for catching up. The target technologies identified in the 1978–1985 science and technology plan have remained strikingly consistent over time, as shown in the subsequent 863 programme and the Made in China 2025 plan. Rather than loosening political control, the reforms enabled the CCP to consolidate its authority while steering innovation towards strategically prioritised sectors and increasingly blurring civil–military boundaries.

From absorption to ownership of technology

The Chinese leadership has consistently treated openness as conditional and reversible, adjusting to shifting circumstances. While former leader Deng Xiaoping (邓小平) famously accepted that opening the window would admit "flies" – a metaphor for undesirable external influences – Xi can afford to be less tolerant of unwanted spillovers from the West. After decades of technological absorption and industrial upgrading, Chinese leaders now consider the "material base" strong enough to move beyond Deng's "hide and bide" posture.

Policy had begun to shift already by the late 1990s. The priority moved from acquiring foreign technology to mastering core domestic capabilities. The 2006 Five-Year Plan marked the elevation of indigenous innovation to a central organising principle of national policy, signalling that "introducing and absorbing" foreign technology should give way to creating and owning advanced technology. Beijing's assessments of US military and intelligence superiority – from the Gulf War to the Snowden revelations – reinforced the urgency of technological self-reliance. Meanwhile, the 2012 World Trade Organisation dispute – triggered by China's export restrictions on rare earths and brought by the US, the EU and Japan – reflected China's increased readiness to weaponise its supply chain dominance.

In 2018, Xi argued that "key core technologies" could not be obtained by "asking for them, buying them or begging for them", signalling a sharpened, more urgent shift from following others to leading in strategic fields. If it succeeds in dominating the innovation side (downstream inputs), Beijing hopes to propel new engines of growth and make the outside world more dependent on China. This push to urgently develop new technologies (later codified in the 2021 Five-Year Plan) was intensified after the US bans on Chinese companies Huawei and ZTE in 2018–19, which laid bare China's technological vulnerability.

In 2020, Xi took one step further, calling for stronger deterrence against externally imposed cut-offs of critical technologies while also deepening other countries' dependence on China-centred supply chains, including by investing in disruptive niche technologies ("assassin's mace") designed to offset technologically superior adversaries. One year later, Xi stated that achieving a high level of self-reliance through scientific and technological innovation was "vital to the survival and development of our nation".

China's export controls in action

The emerging export control system is a key tool for leveraging advanced economies' dependencies on China, as part of an increasingly self-confident and technologically self-reliant state. The 2021 white paper on export controls places control over advanced technologies at the centre of China's "development security" and national power. China's dominant position in key upstream segments of supply chains enables it to restrict access to critical inputs. Since 2023, China has operationalised export controls through licensing requirements on upstream inputs such as gallium, germanium and graphite, as well as rare earths and magnets.

These controls rely on discretionary licensing that allows Beijing to adjust export volumes and destinations according to national interests. The framework effectively amounts to structural supply-chain governance and has clear coercive potential. It has thus far predominantly been used in the context of the US–China rivalry, but European firms have been indirectly affected. Withholding deliveries of key upstream materials has triggered market volatility and raised sourcing risks across manufacturing sectors central to the EU's industrial and green transition.

The next phase of the export control regime

China's 2025 national security white paper mentions export controls five times, indicating their important role in Beijing's approach to economic security. In the short to medium term, new controls are likely to continue to focus on upstream inputs that are crucial for renewable energy, energy storage and high-end electronics, as China holds most leverage there. In a crisis over Taiwan, for example, more aggressive measures could be introduced against perceived adversaries, leading to significant disruption of western supply chains as an immediate result.

However, enforcing more expansive export controls would impose substantial costs on China too, restricting growth, given the continued reliance on external demand. Moreover, the more assertively export controls are deployed, the stronger the incentives for western diversification, which would gradually erode China's structural leverage over time. As China remains dependent on exports and globally dispersed supply chains, openness will persist where it strengthens domestic technological upgrading and strategic room for manoeuvre as defined by the CCP.

Technology as an instrument of national power

Throughout the late-Qing, revolutionary, Maoist, reform and contemporary periods, the underlying premise has remained consistent: technology is an instrument for achieving national rejuvenation, understood as the restoration of China's wealth, power and global standing. China's distinctiveness lies not in its recognition of technology as a component of national power – an approach shared by many states – but in treating technology as a foundational means of regime security.

With control over key technologies framed as central to national power in an adversarial international environment, external dependencies are understood in zero-sum terms of systemic rivalry rather than as mutually beneficial interdependence. From Beijing's perspective, uncontrolled technology flows risk weakening China's relative power, making export controls a necessary instrument of national security.

The 2024 Fourth Plenum's call for China to seize the "commanding heights" of science and technology illustrates the logic of rivalry and treating competition as systemic rather than commercial, and of treating political control over strategic sectors as a prerequisite for national power. Internal political discourse correspondingly calls for tighter alignment between domestic economic policy and international economic and trade "struggle".

Policy recommendations for Europe

The bigger risks lie ahead. If China secures leadership in frontier domains such as AI, synthetic biology, quantum and other future industries associated with "new quality productive forces", export controls could increasingly target technological chokepoints further downstream in the innovation system. Rather than causing immediate disruption, this would pose more systemic challenges by shaping innovation pathways and international standards.

First, European governments must rethink their approach to China in the light of Beijing's increasingly adversarial use of export controls. As Chinese leaders treat interdependence as leverage, Europe must go further in integrating trade, technology and security as interlinked tools. As the assumptions underpinning European policy – multilateral rules, transatlantic alignment and secure supply chains – weaken, legalistic approaches alone will not enable the EU to engage with China from a position of strength. Market access, regulatory power and investment openness should be used more deliberately as leverage, even at the risk of short-term retaliation and economic costs.

Second, policymakers must decide, sector by sector, what level of dependence on China is acceptable. The EU's economic security strategy already provides a framework for coordinated risk assessments across ten key sectors. This should guide ongoing mapping of dependencies under EU-level coordination, with detailed input from the member states. Since European firms will have to bear the costs of de-risking from Chinese supply chains, securing their buy-in will require structured dialogue, credible cost-sharing and predictable policies.

Third, the EU and European states should invest across the entire value chain – from research and raw materials to manufacturing and end-use applications, across upstream, mid-stream and downstream capacity. The objective of closing Europe's gap in scaling innovation (and its resulting structural lag behind China and the US) is reflected in many ongoing EU initiatives, such as the Competitiveness Compass and the European Chips Act. To secure public acceptance, European governments must be prepared to explain the considerable economic costs of the necessary investments. Resilience should also be strengthened through deeper integration with alternative suppliers of critical inputs across supply chains, including Japan, South Korea and, where appropriate, the US.

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NKK Brief No. 2 2026

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