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EDITORIAL

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# Technology as Statecraft: Remaking Sovereignty, Security, and Leadership in a Multipolar Age

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## Abstract

This thematic issue examines how artificial intelligence, metaverse imaginaries, and decentralized Web3 systems have become arenas for states to build infrastructures, set technical standards, and project geopolitical power. It reconceptualizes technology not merely as an object of regulation but as a medium of statecraft through which sovereignty, security, and leadership are contested and remade in a multipolar digital order. This issue analyzes three interconnected dimensions: (a) the impact of global AI competition on state-making processes, enhancing coercive, extractive, delivery, and informational capacities similar to earlier state formation phases; (b) the nature of technological leadership as a relational and dynamic process influenced by interactions between leading and following states; and (c) the role of security logics in transforming external rivalry and internal governance through securitization. Through comparative analysis of the US, China, the EU, and emerging economies, this issue explores how diverse political systems encode openness, sovereignty, and accountability into their technological regimes, demonstrating that technological governance is inseparable from state-making. The contributions map competing logics—sovereign, liberal, entrepreneurial—showing that digital governance emerges not as convergence toward a singular model but as recursive entanglements of imagination and infrastructure.

## Keywords

China; digital sovereignty; EU; generative AI; infrastructural power; metaverse policy; technological governance; United States; Web3

## 1. Introduction

Artificial intelligence, metaverse imaginaries, and decentralised Web3 systems have moved from the periphery of technological discourse to the centre of global governance agendas. They have become arenas of geopolitical rivalry, state-building, and contested social imaginaries. Most accounts of technological governance view the state as a stable entity that applies rules to neutral tools, contrasting with this thematic issue's perspective that sees technology as a medium through which the state governs and evolves. This thematic issue takes a different view: technology is not only governed by the state; it is also a medium through which the state governs, competes, and remakes itself. In other words, technology has become statecraft—i.e., more than industrial policy or regulatory intervention, it is the strategic deployment of technological capabilities to consolidate sovereignty, project power, and shape the terms of international order. In the sovereign AI race now underway, states are not simply fostering innovation; they are building infrastructures, technical standards, data protocols, epistemic norms, and governance templates that will define economic production, social surveillance, and geopolitical influence for decades to come. Infrastructure, in this context, refers to the layered systems through which digital power is constructed, projected, and contested.

This thematic issue examines how technology operates as statecraft across three interconnected dimensions: sovereignty, security, and leadership. How does global competition over digital technologies reshape state capacity and the meaning of sovereignty itself? How do security logics, especially securitization, reconfigure both external rivalry and internal governance? And how does technological leadership operate as a relational and contested process, mediated by follower states and nonstate actors? We answer these questions by moving from theory to empirics, and from the longue durée of governance genealogies to the comparative politics of the present. The result is a multiscalar map of how technology, geopolitics, and governance coevolve in a multipolar digital order.

## 2. Sovereign AI and the Return of State-Making

This thematic issue begins by situating the global competition over artificial intelligence within classical theories of state formation. As Zhenyu Wang (2025) demonstrates, generative AI is not just a driver of industrial policy but a crucible for remaking state capacity and sovereignty. Drawing on theories of coercive, extractive, delivery, and informational capacities, the article shows how intensifying global competition compels governments to upgrade these capacities in ways reminiscent of earlier phases of state-building.

The article examines case studies of the US, France, Brazil, and Singapore, revealing a clear pattern: where elites perceive stronger transboundary technological rivalry, states invest more heavily in AI infrastructures that serve both domestic governance and geopolitical signalling. Predictive policing reconfigures coercive power; AI-assisted taxation and welfare systems remake extractive and delivery capacities; and large language models extend informational power into new domains of meaning management. Yet this is not a neutral process. As states build AI infrastructures in response to rivalry, they also import security logics into domains once framed as innovation or welfare. The language of a "race" in AI development securitises the technology, influencing investment choices, oversight mechanisms, and even the moral vocabulary of technological progress. Sovereignty becomes both a goal and a justification, blurring the line between nurturing innovation and building digital fortresses.

This reconceptualization is crucial because it highlights that technology is not merely a tool wielded by preexisting state power, but a medium through which state power itself is continually remade. Sovereignty, in the digital age, is less about territorial control than about the capacity to script technological futures by constructing rule regimes, infrastructural templates, and epistemic norms that guide innovation, surveillance, and collaboration across transnational ecosystems.

## 3. Technological Leadership as Relational Governance

If AI drives state-making, who leads this process? While the sovereign AI race highlights the state-making dimension of technology, Fang and Zhang (2025) challenge the assumption that leadership equals technological superiority. Instead, leadership is a relational and dynamic process of norm-setting, standards-writing, and infrastructural agenda-building, shaped by the interactions between leaders and followers.

In their article, Fang and Zhang (2025) emphasize that leadership is a process shaped by interactions and not merely a position of superiority. States do not exercise technological power in a vacuum; their strategies are continually mediated by how "follower" states align, resist, or adapt to competing models. Technological leadership is not a static position of superiority, but a relational, dynamic, and infrastructural process through which states assert normative and material influence. This perspective departs from traditional economic views that equate leadership with metrics like innovation output or patent counts. Instead, as Fang and Zhang (2025) argue, we must understand leadership as a contested terrain shaped by interaction between leading and following states, standard-setting and norm adaptation, and infrastructures and the actors who govern them. This makes technological governance a fluid and contested field rather than a static hierarchy of leaders and laggards. Norms, infrastructures, and standards become key arenas in which influence is negotiated and legitimacy claimed.

The US–China rivalry in AI illustrates the relational and dynamic nature of technological leadership. The US combines technological prowess with value-oriented governance frameworks, while China emphasises infrastructural development and standard-setting. But neither operates in a vacuum. The trajectories of AI governance are critically mediated by how "follower" states align, resist, or adapt to these models. In Europe, for example, the EU's AI Act attempts to project a rights-based template, while Singapore experiments with hybrid governance, and Brazil and India navigate between infrastructural attraction and regulatory caution.

Additionally, the role of security considerations further complicates this picture. Follower states do not only weigh efficiency or ethics, they assess risks of dependency, surveillance, and cyber vulnerability. As a result, technological governance emerges not as a static hierarchy but as a fluid and contested field, where even the "rules of the game" are constantly renegotiated under the shadow of security concerns.

## 4. Inside the Leading States: Paradoxical Infrastructuring

Leadership and state-making also need to be examined within the leading states themselves. Hu (2025) traces how China's governance of emerging technologies evolved from blockchain hype to AI strategy. The article presents this trajectory not as a simple progression from enthusiasm to repression, but as a case

of paradoxical infrastructuring. In this process, decentralised technologies are alternately valorised, domesticated, and redeployed within contradictory regimes of power.

The analysis employs Foucault's governmentality and Szonyi's "art of being governed" to highlight the role of intermediary actors, such as crypto developers, influencer-entrepreneurs, and policy-facing venture capitalists, who tactically navigate regulatory opacity. These actors perform decentralisation while materially benefiting from its state-sanctioned translation. The lingering influence of blockchain discourse remains a symbolic resource, reemerging in the AI era as a foundation for speculative sovereignty and infrastructural nationalism.

This genealogy exposes a deeper dynamic: even within "leadership" states, the relationship between governing and governed is unstable and negotiated. Security concerns do not simply descend from the centre; they are co-produced by intermediaries who translate technological imaginaries into governance practice. This is precisely why China's AI trajectory cannot be read only as top-down control; it is also a story of bottom-up adaptation, entrepreneurial statism, and securitised speculation.

## 5. The Security Turn in Decentralised Infrastructures

The security dynamics traced above reach their most acute form in decentralised infrastructures. The Web 3.0 cases analyzed by Ziyuan Wang (2025) and Wang and Qiu (2025) demonstrate the culmination of this process, showing how cross-border data controls meant as defensive measures are perceived as offensive, triggering spirals of suspicion and retaliation—a textbook digital security dilemma—and illustrating how blockchain-based platforms, metaverse projects, and other Web3 technologies enhance the organisational resilience of non-state armed groups. These groups weaponise blockchain and encrypted platforms to finance, recruit, and coordinate beyond state reach. These developments clarify why many governments are securitising decentralised infrastructures and how this securitisation further entrenches the identified dynamics:

- In relational leadership, it raises the stakes for follower states, who must navigate standards, ecosystems, espionage fears, and sanctions.
- In governance, it accelerates paradoxical infrastructuring, where decentralisation is simultaneously a threat to be tamed and a resource to be mobilised.

Rather than treating securitisation as inevitable, this thematic issue raises the question: is there an alternative pathway for governing decentralised technologies that mitigates risks while maintaining openness? Can technology enable statecraft without collapsing into securitised rivalry?

## 6. Comparative Techno-Governance: Metaverse, AI, and Beyond

Before turning to the empirical cases, it is worth reframing why the metaverse still matters. Once heralded as the next frontier of human interaction, the metaverse has largely receded as a failed commercial and ideological project, but this very failure is revealing. What has collapsed is not the imaginary itself, but its totalising promise. As an imaginary, the metaverse encapsulated the fantasy of seamless immersion and borderless connectivity; as an ecosystem, it has been disassembled into commercially viable modules, spatial

computing, digital twins, interoperable avatars, and simulation engines that quietly feed into adjacent domains such as AI model training, robotics, and industrial automation.

Rather than disappearing, the metaverse persists as a modular infrastructure of governance imagination: a repackaged set of technical and rhetorical components through which states and corporations continue to articulate aspirations of control, presence, and sovereignty in the digital space. In this afterlife, the metaverse operates less as a unified platform than as an ideological relay between centralised AI architectures and decentralised Web3 infrastructures. Its immersive design logics prefigure AI's ambitions to render the world computable, while its rhetoric of decentralised ownership anticipates blockchain's moral economy of participation and trust. Both draw on the same speculative imaginary of empowerment through technological mediation—and both reproduce dependency through new layers of infrastructural enclosure.

Seen genealogically, then, the metaverse should not be dismissed as passé but understood as a transitional dispositif that crystallises the contradictions of contemporary techno-governance: the oscillation between openness and control, innovation and securitisation, participation and capture. Its decomposition into AI and Web3-enabled components is more a sign of absorption than obsolescence and an example of how failed imaginaries are metabolised into new configurations of power and capital.

With this theoretical and genealogical scaffolding in place, this editorial presents this issue's comparative empirical studies, which map how diverse political systems encode openness, sovereignty, and accountability into their technological regimes.

Ingersleben-Seip (2025) contrasts China's industrial metaverse, which strengthens party control and economic growth, with the EU's vision of an open and interoperable metaverse grounded in digital rights. The US, although lacking a unified vision, dominates the infrastructure through Big Tech, producing a consumer-focused metaverse at odds with European aspirations. These competing visions shape both technical architectures and normative imaginaries.

Zhang and Wang (2025) extend the analysis to 34 metaverse policy documents from 13 countries, identifying four archetypes: Techno-economic vanguards (e.g., U.S., China), industrial innovators (e.g., Japan, South Korea), transformative opportunists (e.g., UAE, Brazil), and regulatory vigilants (e.g., EU). This typology shows how strategic positioning, technological capacity, and industrial structure shape policy priorities, whether by fostering key technologies, encouraging applications, or regulating behaviour.

Mark and Morison (2025) add a crucial dimension to the discussion: the divergent ways algorithmic decision-making is problematised across jurisdictions. Drawing on Carol Bacchi's framework, the article shows how the US emphasises innovation gaps, the EU stresses trust deficits, and China foregrounds stability risks. These framings shape distinct regulatory trajectories. Yet the article also notes an emerging convergence post-2024: a softening of regulatory stances to favour innovation, revealing the gravitational pull of competitive pressure and securitised narratives.

Finally, Sun and Chen (2025) examine centralised and decentralised approaches to AI governance using fuzzy-set qualitative comparative analysis. The findings complicate any simple binary: high-income states with strong R&D tend to decentralise; those with weak capacity but high perceived ethical risk to centralise;

and hybrid approaches emerge as a possible equilibrium, reallocating governance power between central and local governments as well as public and private sectors.

So what do these comparative studies tell us? First, techno-governance is deeply shaped by national imaginaries, not only of innovation and competition, but of vulnerability, risk, and legitimacy. Second, even divergent paths often converge under geopolitical pressure, raising questions about the long-term viability of rights—or trust-based models. Third, infrastructural asymmetries, who builds, who maintains, who controls, continue to structure not only access to digital power, but the very language through which governance is imagined.

Taken together, these comparative studies reveal that the trajectories of AI, metaverse, and Web3 governance are not parallel but mutually constitutive. Each expresses a different resolution to the same underlying tension between innovation, sovereignty, and legitimacy. The metaverse's fragmentation into infrastructural components, AI's consolidation into centralised data regimes, and Web3's diffusion through decentralised experiments together map the shifting frontier of digital governmentality. What emerges is not a coherent global model but a field of adaptive convergences: rights-based frameworks bending toward competitiveness, centralised systems adopting selective decentralisation, and experimental networks absorbing regulatory rationalities once meant to contain them.

In this sense, techno-governance appears less as a race between models than as a process of mutual appropriation and discursive recycling, where imaginaries of openness and control continually reconfigure one another. These patterns underscore that power in the digital age no longer resides solely in innovation capacity or regulatory strength, but in the ability to translate failure into infrastructure, to convert fading imaginaries like the metaverse into new logics of AI-enabled governance and blockchain-mediated legitimacy.

## 7. Conclusion: Navigating the Paradoxes of Technological Governance

Across all the contributions, a common theme emerges: technological governance is no longer simply about regulating applications at the "end" of innovation. It is about shaping infrastructures, imaginaries, and alliances at every stage of the technological life cycle. Three intertwined processes stand out:

1. Cultivating innovation: funding, talent pipelines, and supportive ecosystems.
2. Infrastructuring sovereignty: embedding strategic and ideological goals into technical standards and architectures.
3. Governing use and risk: constructing legal and ethical regimes to manage downstream applications.

Security logics permeate each of these processes, making them mutually reinforcing but also mutually destabilising. Securitisation can provide a rationale for investment and coordination, and the repurposing of failed imaginaries into strategic assets; but it also entrenches rivalries, narrows policy imagination, and undermines global interoperability. The contributions in this issue reveal three core insights:

First, technological governance is inseparable from state-making, particularly under the sovereign imperatives unleashed by AI-driven data infrastructures and the geopolitical afterlives of projects such as the metaverse.

Second, leadership is always relational, contingent on follower responses, reputational legitimacy, and evolving forms of dependence and resistance. Third, securitisation intensifies all of the above, not merely as a policy trend but as a deep structuring force that reshapes incentives, institutions, and imaginaries.

In this light, the convergence of AI, metaverse, and Web3 is less a story of technological evolution than of security-driven adaptation, where the remains of one paradigm continually feed the next, and where the language of protection becomes the idiom through which digital futures are imagined and governed.

This thematic issue invites readers to confront these paradoxes head-on. By moving from theory to empirics, from state-making to relational leadership, from internal genealogies to comparative policy typologies, we show that technological governance in a multipolar digital order is neither linear nor uniform. It is a recursive process shaped by competition and cooperation, centralisation and decentralisation, innovation and securitisation. Understanding this process is essential for scholars and policymakers who hope to steer emerging technologies toward outcomes that are not only competitive or secure but also just, open, and sustainable.

This special issue offers no singular model for digital governance. Instead, it offers a cartography of competing logics—sovereign, liberal, entrepreneurial, and insurgent—across multiple sites and scales. Taken together, the cases show that the governance of AI, metaverse, and Web3 does not unfold along parallel trajectories but through recursive entanglements of imagination and infrastructure. The metaverse's disassembly into modular protocols, AI's consolidation into centralised data regimes, and Web3's diffusion through decentralised experiments reveal not discrete paradigms but successive reconfigurations of the same desire: to render the digital world governable through code. Intracing these converges, this issue invites a rethinking of what it means to govern, to secure, and to lead in a world where technology is statecraft, infrastructures are never neutral, and the future is built protocol by protocol. Digital governance thus appears not as a race toward a stable model, but as an evolving struggle over how imaginaries of openness and control are encoded, repurposed, and securitised across the architectures that now constitute global order.

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## Conflict of Interests

The authors declare no conflict of interests.

## LLMs Disclosure

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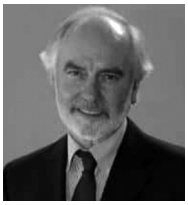

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