

# Taiwan's 'Silicon Shield': Techno-authoritarian territories in the global semiconductor supply chain

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## **Abstract**

This commentary analyses a mode of 'techno-authoritarianism' emerging in the space between Taiwan's geopolitical position as a leading AI infrastructure giant, rising US authoritarianism and potential Chinese aggression in the future. We argue that Taiwan's 'Silicon Shield' produces techno-authoritarian territories of deep surveillance in its science parks which are seen as national assets for countering Chinese aggression and for saving Taiwan's sovereignty. Techno-authoritarianism also emanates outside its sovereign territory with extension of techno-statecraft from both China and the

US seeking to sabotage or instrumentalise Taiwan's semiconductor industry. Ultimately Taiwan's 'Silicon Shield' is not a defense mechanism, it is also the site of diffuse and networked forms of geopolitical surveillance of Taiwanese territory from inside and outside.

Keywords: Taiwan, techno-authoritarianism, semiconductor industry, US-China Techno-Cold War, surveillance.

## Introduction

On February 13, 2025, following the signing of a presidential memorandum of fair and reciprocal trade, U.S. President Donald Trump stated:

*'Taiwan took our chip business away...we want that business back... if they don't bring it back, we're not going to be very happy.'* (Teng, 2025)

The above statement from the US President and the increased trade tariffs that followed, left many Taiwanese people with a deepening sense of precarity and impending doom about on-going Chinese political and military aggression. As a sovereign entity without UN recognition (and only 12 diplomatic allies) Taiwan has existed since 1950s within the space of continuous geopolitical tensions between US and China. But its success as a key player in the global semiconductor supply chain has operationalised Taiwan as a strategic leverage point in the US-China Techno-Cold War (Gill, 2021; Wang, 2023). In this war, Taiwan is, being or serving as a strategic instrument for others'

technological ‘security’ (Shih et al., 2025; Yin, 2023), manifesting in incessant acts of aggression from China and threats of withdrawal of military support from US unless Taiwan relocates its semiconductor industry to US soil.

It is easy to conclude that this is a geopolitical conundrum which Taiwan has been wrestling with for decades. However, we suggest that this is also a mode of ‘techno-authoritarianism’ (Peron et al., 2025) that deserves further scrutiny and attention. While techno-authoritarianism is evident in scholarship on the rise of surveillance states (Roberts and Oosterom, 2024; Datta, 2020), digital censorship (Aslan and Yilmaz, 2024), and emergence of big data and AI as surveillance tools (Andrejevic and Gates, 2014), we suggest that in the case of Taiwan, this manifests in what Arendt has noted as the emergence of impersonal and ‘suprahuman forces’ (Arendt, 1951, p. 461) — forms of authoritarianism that cannot be traced back to a single sovereign actor. Taiwanese techno-authoritarianism is hiding in plain sight behind US-China geopolitical power wrangling, as an external force of repression and coercion that is internalised within Taiwanese sovereignty.

In this commentary, we develop the definition of techno-authoritarianism given by Peron as ‘*the ensemble of discrete techno-political practices aimed at political constraints, but also at social control and risk governance, deployed by both State and non-state actors who have privileged access to socio-technical systems and resources*’ (Peron et al., 2025, p. 12). We argue that Taiwan’s techno-authoritarian condition arises from a shift in its earlier relationship with a democratic US, where US-Taiwan interests were somewhat aligned, to an emerging misalignment of interests with an

autocratizing US that is focussed primarily on their own territorial interests. This produces heightened anxiety not only about Chinese surveillance and potential aggression on Taiwanese territory, but also about US ambitions to reassert dominance over semiconductor production. Internally, it translates into a coercive responsibility to save Taiwan's sovereignty and autonomy, framed as an 'absolute necessity' (Arendt, 1951, p. 141).

### Taiwan's 'Silicon Shield' as techno-authoritarianism

The Taiwanese President recently announced that Taiwan will become 'the world's silicon island' and 'a central pillar in the global economy and the field of AI' (Office of the President, 2025). The national salvation agenda is embedded in the discourse of Taiwan's 'Silicon Shield' (Addison, 2001), a form of defence against continuous threats to sovereignty. In 2023, Taiwan's semiconductor industry generated US\$142.2 billion in production value, captured over 47% of global Integrated Circuit (IC) market share, and contributed near 30% of national exports and 15-20% of national GDP (TSIA, 2024; Shih et al., 2025). Taiwan's role as a worlding AI factory—anchored in semiconductor manufacturing—has emerged as a form of securitisation against potential territorial aggression from China and the looming prospect of geopolitical abandonment by the US.

In this 'Silicon Shield', we see an overreliance on TSMC (Taiwan Semiconductor Manufacturing Company), the largest producer of semiconductors as a private actor 'saving' Taiwan's sovereign status. Since 2020, the Taiwanese government has institutionalised AI infrastructure through fast-tracked legislative or policy reforms and continued public and private

investment. Amendments to the *Statute for Industrial Innovation* (Taiwan's CHIPS Act) have introduced generous tax incentives to attract investment in cutting-edge semiconductor and AI technologies (Shih et al., 2025; Ying, 2023). The establishment of the 'Office of Science and Technology Policy' (NSTC, 2023) — a powerful supra-ministerial body has bypassed conventional bureaucratic scrutiny and transparency to enable the production of more semiconductor factories across Taiwan.

For Taiwan, the 'Silicon Shield' also takes the form of rising vigilance towards Chinese territorial and digital surveillance, and simultaneously, a mute compliance with rising US foreign policy, resulting in export bans and blocking semiconductor supply to states that US designates as 'rivals' (Moon and Yeon, 2024; Yin, 2023), or the rise of the so-called 'Americanized TSMC' (Lin, 2025) announcing an over \$100 billion investment in the US territory to manufacture semiconductor fabs.

### **Techno-authoritarian territories**

Techno-authoritarianism has extensive material manifestations within Taiwan's territory. Since 2020s, the Taiwanese state's aggressive promotion of a southern Taiwan high-tech corridor has been anchored by TSMC-led science parks that host semiconductor fabs. The industry's disproportionate international influence and its high contribution to domestic GDP come with significant costs— environmental, ecological, and human resource depletion (Smith et al., 2014). Farmland, natural resources, and food security have been steadily sidelined, redirected instead to meet the land, water and energy needs of science parks (The Journalist, 2022). Techno-authoritarianism here is exercised

by a powerful global corporation as a proxy state over these ‘zones of exception,’ (Agamben, 2005) where law, transparency and democracy are compromised for national interest. Beyond producing semiconductor chips, TSMC and science parks market the ‘Taiwanese work ethic’—a combination of disciplined labour, 24/7 work culture, and the absence of unions—presented as their core competitive edge. Taiwanese workers in chip manufacturing are promoted by corporate leaders and state officials alike as intangible national assets. As The Journalist (2022) and Smith (2014) note, within the nationalist discourse of ‘Silicon Shield’—marked by state-corporate alignment and unions-free science parks—public debate on its costs remains muted, even in democratic Taiwan.

However, techno-authoritarianism is also an external force aimed at claiming Taiwan’s territorial sovereignty and undermining its critical role in AI infrastructure. This is felt most acutely from China which carries out continuous ‘grey zone warfare’ (Davidson and Lin, 2024) that combines cyber espionage, covert surveillance, supply chain infiltration and sabotage directed towards Taiwan’s semiconductor industry. Although Taiwan bans the use of Chinese technology by its public companies, it was recently found that Chinese surveillance cameras manufactured by Hikvision and Dahua technology infiltrate Taiwanese science parks (Bauer, 2023). In Hsinchu, one of Taiwan’s largest science park, a report found that 69 of its cameras were manufactured by Chinese Hikvision (Huang 2022). Although Taiwan has one of the world’s highest densities of surveillance facilities, this covert infiltration of Chinese technology collecting sensitive data on Taiwanese territory has produced a techno-authoritarian territory influenced or even directed from outside a

democratic state.

## Conclusions

Taiwan's 'Silicon Shield' functions as national defence amid changing US-China relations, rising US autocratization, and potential Chinese aggression. It shows how techno-authoritarianism is directed from outside, even in countries that do not have an authoritarian government. While Taiwan's global advantage as the leading producer of AI infrastructure makes it a significant player in the global supply chain, this does not provide Taiwan with meaningful autonomy or bargaining power for maintaining its sovereignty. This peculiar form of structural indispensability without sovereign leverage compels Taiwan to continually bolster its semiconductor industry—despite concerns over environmental degradation, food insecurity, and toxic industrial risks. Here, techno-authoritarianism is much more sophisticated and complex beyond digital surveillance by authoritarian states. In Taiwan, this is a product of 'authoritarian immanence' (Peron et al. 2025) where the principles of coercion and dominance are not only naturalized, but also exerted both from within and without. Techno-authoritarianism is internalised through the growing endorsement and surveillance of Taiwan's national assets—particularly science parks and their workers—yet it is also externalised through covert Chinese surveillance and mounting US techno-strategic pressure, both aimed at sabotaging or instrumentalising Taiwan's lead in the global AI supply chain. The immanent technologies of science parks, AI infrastructures, and semiconductor chips do not themselves exert

direct authoritarian power but are embedded in the covert surveillance of Chinese authorities, in the US demands for their territorial relocation, and in the discourses, politics and anxieties of the Taiwanese public. However, to what extent can local Taiwanese direct their democratic futures when techno-authoritarianism is also internalised within the territories of science parks, ? How long can the Taiwanese people remain compliant within the global AI infrastructure regime? These unresolved questions are suspended in ambiguity, much like Taiwan's contested sovereign status.

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