

Battle in the Skies: The Drone Arms Race Over Taiwan

Introduction

The web of relation involving the United States (US), China, and Taiwan is under constant change and consideration in global geopolitics, with [Taiwan](#) at once a flashpoint and also a battle ground for technology. The undeniable support of America behind Taiwan and the uncompromising will of China to bring the island under its own territory or, even worse, to see itself defeated in such ambitions have placed the region in the potential theater of [modern warfare](#). In this context would lie the rapid advancement of drone technologies to change the externally defined traditional military strategies. While [swarming drone](#) innovation has boasted China's great strides, the [US](#) and its allies are coming with highly sophisticated drone and anti-drone capabilities. The following accounts fill into the venues of a drone-enabled duel over Taiwan, explaining the technological race that could certainly change warfare for the 21st Century.

Taiwan: The Flashpoint in US-China Rivalry

On 30 Sep 2024, the People's Republic of China marked its [75th anniversary](#) with a gathering of about 3,000 people at the Great Hall of the People in Beijing. Speaking to the gathering, Chinese President Xi Jinping boldly declared that Taiwan would soon be incorporated into China, saying 'No One' could stop the march of time. His comments, apparently targeting the US, reflect Beijing's anger at America's military and financial support for Taiwan. Although it follows the [One China Policy](#) on paper, the US has turned Taiwan into a heavily militarised ally in East Asia, equipping it with billions of dollars in defense aid to counter China's influence. The US' strategic maneuvers—the deployment of warships near China—have not escaped Beijing. Xi's speech was indicative of China's preparations for the return of Taiwan as no empty rhetoric but part of China's new military strategy. The US intelligence agencies claim that Xi has ordered the [Chinese army](#) to prepare for a probable invasion of Taiwan by 2027. The US has upped its military preparedness, with [Admiral Lisa Franchetti](#) announcing that there is a strategic plan in place to ensure the capabilities of American forces are stronger than those of China by

2027. If this timeline escalates into conflict, the resulting confrontation could have catastrophic global implications, with the balance of power seemingly favouring the US due to its [superior](#) fleet of aircraft carriers and nuclear submarines. However, China is not relying only on the old military hardware. Instead, it is leveraging its [technological edge](#) in drone warfare, which is something that far surpasses what the US possesses.

Swarm Drones: A Game-Changer in Modern Warfare

China is the [world's largest](#) producer and exporter of drones, manufacturing over 50 types, including advanced military models like the [Wing Loong series](#). These drones armed with missiles and other munitions have already been used by countries like Saudi Arabia, Myanmar, and Ethiopia in conflicts. On the other hand, China leads the market share of commercial drones, with the leading company [DJI capturing](#) an astonishing 76 per cent of the global market share. In preparation for a potential conflict against the US and Taiwan, China is pushing forward with [swarm drone](#) technology, which involves the launch of large numbers of small Artificial Intelligence (AI)-driven drones in coordinated attacks. These drones are inexpensive and hard to detect and, therefore, can overwhelm enemy defenses at a minimal cost. Recent Chinese military [drills](#) demonstrated the effectiveness of this technique as autonomous drones continued their mission even after losing contact with their operators. Such innovations mark a paradigm shift in modern warfare, compelling the US to change its strategies overnight.

The Pentagon has developed the '[Hellscape Strategy](#)' in an effort to neutralise China's advancements in swarm drones. In this strategy, thousands of US drones will be used in autonomous operations, carrying out coordinated attacks, to catch Chinese forces as they try to cross the Taiwan Strait. The US also has the billion-dollar [Replicator project](#) to build thousands of advanced drones by 2025. At the moment, these drones are semi-autonomous, but it can advance the capability significantly in the US' preparedness for a future conflict. The growing attention to [drone warfare](#) marks a pivotal change in the military dynamics of the US-China-Taiwan triangle. While both the US and China are making big investments in autonomous technologies, the balance of power in East Asia will be shaped more and more by the side that can innovate and adapt faster in an age

of AI-driven combat. Recently, in a [military exercise](#), an operator with just 20 minutes of training was able to control 45 drones for two and a half hours. It is almost as if playing a video game in a real-life battlefield. The new leapfrog in military technology takes war to the most threatening height ever witnessed. The [US has responded](#) to this improvement in swarm drone technology with China by working on not one but two primary things: improving its own swarm drones and anti-drone systems. This has driven American defence companies to innovate cost-effective anti-drone technologies, especially in countering cheap and small drones using expensive traditional weapons. These include [systems](#) that utilise microwave and radio signals to jam drone communications or disable their electronic systems. Such systems can be deployed as portable guns or mounted on vehicles as jammers. A good example is the [Drone Defender](#), a handheld electronic gun that uses waves to render drones inoperable, causing them to crash.

Another significant development is the [Epirus Leonidas](#), a microwave-based defence system capable of neutralizing dozens of drones within a five-kms radius. This technology is considered one of the most effective tools to counter swarm drones. America's North Atlantic Treaty Organization (NATO) allies are also working aggressively on similar systems. For example, during a Sep 2024 [NATO](#) exercise, more than 20 nations and 50 companies demonstrated various methods to jam and hack drones. This again shows the increasing significance of drone and anti-drone technology in modern warfare, especially in scenarios involving major powers like the US and China. China, also, has taken some strides against the advancements of the US. The Chinese military is developing its own drone guns, such as [SKYNET](#), which can knock down drones within a 1.5-kms radius.

According to reports, China is also testing [electromagnetic pulse](#) weapons to boost its anti-drone capabilities. Such a technological race marks the centrality of drones in the future of warfare, with millions of them possibly deployed and destroyed as part of the warfare strategy. The US has [pinpointed](#) Taiwan as a crucial factor in its strategy to surpass China in drone warfare. Based on the strategic position and capabilities of the island, the Pentagon has armed Taiwan with state-of-the-art drone technologies and helped cultivate the island's drone industry. This serves dual purposes: strengthening

Taiwan's defense and reducing America's reliance on Chinese-made drones. In Sep 2024, talks between the US and [Taiwanese companies](#) established a strong foundation for Taiwan as a hub for drone production.

Taiwan's Strategic Vulnerabilities and Global Implications

The US is creating [legislation](#) to bar Chinese-made drones from its market due to national security reasons alleging Chinese spying. However, such an approach is highly [vulnerable](#). A major drone production hub would mean that Taiwanese intelligence, and hence the Chinese one, could potentially gain sensitive technologies. More importantly, a [Chinese blockade](#) of Taiwan would severely interrupt the flow of drones and components into the US, placing its strategy in jeopardy. Despite these odds, the US is focused on countering the growing trend of China's influence and solidifying its dominance in drone technology. A political flashpoint over Taiwan between China and Taiwan and between China and the United States is critical.

In a 2023 Center for Strategic and International Studies simulation, an imagined invasion of Taiwan by China in 2026 suggested massive casualties on both sides of this [conflict](#), which will probably lead to heavy losses of the American and allied forces. Exercises undertaken also suggested the potential of [utter annihilation](#), like sinking China's entire navy and much of the US'. [China's arsenal](#) of missiles, including Intercontinental Ballistic Missiles (ICBMs), is another threat. China has shown that it is willing to escalate the conflict beyond the Taiwan Strait if provoked, [targeting](#) the US territories in the Pacific and the American mainland. In Sep 2024, China's test launch of an ICBM into the [Pacific](#) sent a clear signal to the US, warning that any interference near Taiwan could bring the war to American soil. As the race for dominance in drone and anti-drone technology intensifies, Taiwan is at the heart of this strategic competition. The stakes are higher than ever as Taiwan's future determines the broader dynamics of the US-China relations.

Conclusion

Together, the US and China are competitors for the rights of superiority in drone and anti-drone technology; in fullness, [Taiwan](#) remains important to how they strategise. Competing in the increasingly [complex war](#) of technological innovation that also significantly includes the deployment of advanced unmanned systems has further enhanced tensions, with both sides having made unparalleled advancements in military technology. How large the stakes in this rivalry between them, however, are impossible for anyone to grasp at this time. It could take a severe toll on world security. Loss of superiority in technology could mean the defeat of one side in a [future armed conflict](#). But the human and geopolitical costs would possibly reach a high price. The fight over [Taiwan](#) isn't a land grab; it's about control—and even more—about influence and power and about a vision of future warfare in and far beyond the Indo-Pacific.

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