**Challenges for Joint Air Operations Posed by China**

The October 2022 National Security Strategy identifies China as America’s most consequential geopolitical challenge due to its comprehensive national power, military modernization, and aspirations for regional and global dominance. For joint air operations, China presents several challenges, particularly in the Indo-Pacific region. The People’s Liberation Army Air Force (PLAAF) and Rocket Force have developed sophisticated anti-access/area denial (A2/AD) systems, including advanced surface-to-air missile systems (e.g., the HQ-9 and S-400) and long-range precision strike capabilities like the DF-21D “carrier-killer” missile(Fabian-Lucas Romero Meraner, [China’s Anti-Access/Area-Denial Strategy](https://tdhj.org/blog/post/china-a2ad-strategy/), 2023). These systems threaten U.S. air and maritime freedom of maneuver, complicating power projection and forward operations.

Additionally, China’s military-civil fusion strategy and advancements in artificial intelligence, cyber warfare, and space capabilities enhance its ability to disrupt U.S. command and control networks (Alexander E. Farrow, [Modernization and the Military-Civil Fusion Strategy](https://www.airuniversity.af.edu/JIPA/Display/Article/3533572/modernization-and-the-military-civil-fusion-strategy/), 2023). The integration of cyberattacks, electronic warfare, and kinetic strikes could undermine U.S. air superiority, while China’s development of stealth aircraft such as the J-20 and J-35 increases its ability to challenge air dominance (Rick Joe, [Assessing the J-35A: The Chinese Air Force’s New Stealth Fighter](https://thediplomat.com/2024/11/assessing-the-j-35a-the-chinese-air-forces-new-stealth-fighter), 2024). Furthermore, China’s gray-zone activities, including the militarization of artificial islands in the South China Sea, provide strategic outposts for surveillance, logistics, and potential strikes (Hamus et al., [Understanding and Countering China's Maritime Gray Zone Operations](https://www.rand.org/pubs/research_reports/RRA2954-1.html), 2024).

**Air Force Core Mission: Air Superiority**

To counter these challenges, the U.S. Air Force’s core mission of air superiority is critical. This mission ensures the ability to conduct joint operations without prohibitive interference from adversary air forces. Achieving air superiority in a contested environment like the Indo-Pacific requires leveraging advanced capabilities such as fifth-generation stealth fighters (e.g., the F-22 Raptor and F-35 Lightning II), next-generation air dominance platforms, and integrated air and missile defense systems (Hamus et al., [Understanding and Countering China's Maritime Gray Zone Operations](https://www.rand.org/pubs/research_reports/RRA2954-1.html), 2024).

Stealth technology enables penetration of A2/AD environments to neutralize high-value targets like radar sites and missile launchers. The integration of networked systems, such as the Advanced Battle Management System (ABMS), enhances real-time situational awareness and decision-making, enabling faster and more effective targeting ([Understanding Advanced Battle Management System](https://www.aflcmc.af.mil/NEWS/Article-Display/Article/3792745/understanding-advanced-battle-management-system-abms-podcast/), 2024). Additionally, the Air Force’s ability to conduct suppression of enemy air defenses (SEAD) through electronic warfare and precision strikes can degrade China’s A2/AD capabilities, paving the way for follow-on operations (Northrup Grumman, [The Need for SEAD / DEAD](https://www.northropgrumman.com/what-we-do/advanced-weapons/the-need-for-sead-dead), 2024).

To sustain air superiority, the Air Force must also prioritize resilience in space and cyber domains. Protecting satellite-based communications and navigation systems ensures uninterrupted operations, while proactive cyber defense mitigates the risk of system disruption. Ultimately, air superiority provides the foundation for joint force success in countering the challenges posed by China’s military modernization and strategic ambitions.