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The Rapid Evolution of China's Air Power as Observed at Its Military Parade: How Will Manned–Unmanned Teaming Redefine Air Battle?

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Introduction

On September 3, 2025, China held a grand military parade at Tiananmen Square in Beijing. The parade reviewed by Central Military Commission (CMC) Chairman Xi Jinping was attended by several foreign leaders, including President Vladimir Putin of Russia and General Secretary Kim Jong Un of North Korea, attracting domestic and international attention.[1]

Photo 1: CMC Chairman Xi Jinping reviewing the parade. Visible in the background are a torpedo-like unmanned underwater vehicle (UUV) and a GJ-11 stealth drone, a potential carrier-based aerial vehicle. ("[Live Broadcast] Commemorative ceremony marking the 80th anniversary of the victory of the Chinese People's War of Resistance against Japanese Aggression and the World Anti-Fascist War [【全程直播】纪念中国人民抗日战争暨世界反法西斯战争胜利 80 周年大会]")

At a press conference held before the parade on August 20, Major General Wu Zeke, deputy director of the Leading Group Office of Military Parade and deputy director general of the Operations Bureau of the Joint Staff Department of the CMC, emphasized that the parade would showcase the People's Liberation Army's (PLA) latest weapons and equipment, explaining, "all the weapons and equipment to be displayed will be domestically produced active-duty main battle equipment."[2]

The military parade exhibited approximately 100 types of equipment, including tanks, fighter jets, other conventional equipment, as well as numerous drones, counter-unmanned systems, torpedo-like unmanned underwater vehicles (UUVs), and new intercontinental ballistic missiles (ICBMs). The capabilities sought by the PLA to win future wars were featured throughout the parade, such as (1) System of systems operational capability (体系作战能力), (2) new quality combat capabilities in new domains, and (3) robust strategic deterrent capability.[3]

Drawing particular attention among the equipment was not the FH-97A stealth drone, which I had predicted would appear, but rather a new redesigned stealth drone. Building on my study, "Future Air Battles Envisioned by China" (in *War with New and Old Characteristics*, National Institute for Defense Studies, April 2025),[4] this paper examines the evolution of China's air power with a focus on the new stealth drone and the two-seat J-20S stealth fighter that controls it remotely.

Key Point (1): The Stealth Drone's Evolution Suggests Deployment at Scale

What was most striking at the military parade was the truck-towed new stealth drone.

While retaining the external shape of the FH-97 series, the redesigned drone eliminated the side-mounted air intakes and instead has a single air intake in the upper part of the fuselage. The form closely resembles that of the YFQ-42 stealth drone being developed by the U.S. Air Force, reinforcing the reality of China's rapid advancements in manned–unmanned teaming operations.

China Aerospace Science and Technology Corporation (CASC), the manufacturer of the FH-97, has been continuously developing jet-powered stealth drones capable of various missions, including reconnaissance, electronic warfare, and precision strikes. The first FH-97 model made its public debut at the Zhuhai Airshow in 2021 and the FH-97A variant in 2024.[5] Additionally, China has presented a concept of the FH-97 carrying multiple small loitering munitions (FH-901) in its internal weapons bay.[6] Based on this trend and the Chinese authorities' emphasis on displaying only domestically produced, active-duty equipment, it is highly likely that this new stealth drone is not merely a prototype but is already entering mass production in preparation for actual service.

Photo 2: A new stealth drone unveiled during the vehicle parade ("[Live Broadcast] Commemorative ceremony marking the 80th anniversary of the victory of the Chinese People's War of Resistance against Japanese Aggression and the World Anti-Fascist War [【全程直播】纪念中国人民抗日战争暨世界反法西斯战争胜利 80 周年大会]")

As I described in "Future Air Battles Envisioned by China," the FH-97A has been positioned as a "Loyal Wingman" drone to be controlled remotely by manned aircraft. The drone's role, however, is not simply to act as a missile carrier for manned aircraft. It has potential use for reconnaissance, decoy operations, target designation, electronic warfare, and even the suppression of enemy air defense networks.[7] Also noteworthy is the fact that the drone is equipped with joint operation capabilities, enabling it to carry small loitering munitions in its internal weapons bay and field them against an enemy's ground targets.

China's approach has parallels with the network-integrated unmanned aircraft operations that the U.S. forces has pursued since around 2010.[8] This becomes clearer when a comparison is made with recent developments in the U.S. forces. Following the MQ-28 Ghost Bat[9] developed by the U.S. company Boeing for the Royal Australian Air Force and the XQ-58A Valkyrie[10] developed by the U.S. company Kratos, the YFQ-42 next-generation air-to-air drone was formally adopted in March 2025. However, its first flight was completed only recently on August 27.[11] In view of this timeline, it is not unreasonable to suppose that China's new stealth drone is nearing operational deployment at a faster pace than that of the United States.

As of 2024, many Western analysts projected it will not be until at least 2029 that the FH-97 will be deployed at scale.[12] Nevertheless, if the actual equipment shown at the parade and the explanations provided by Chinese authorities are taken at face value,[13] we could presume that the PLA is rapidly readying such stealth drones in the Asia-Pacific.

Key Point (2): The Two-Seat J-20S's Evolution into an Airborne Command Center

In the aerial parade that followed the vehicle parade, the two-seat J-20S flew at the head of the formation and made its presence felt.

Photo 3: A J-20 formation led by a two-seat J-20S heading to the aerial parade ("[Live Broadcast] Commemorative ceremony marking the 80th anniversary of the victory of the Chinese People's War of Resistance against Japanese Aggression and the World Anti-Fascist War [【全程直播】纪念中国人民抗日战争暨世界反法西斯战争胜利 80 周年大会]")

The aircraft has a dark gray exterior, possibly due to a new stealth paint. Furthermore, several improvements were confirmed, including the replacement of the under-nose sensor with an electro-optical targeting system (EOTS) that is believed to provide 360-degree coverage. These changes represent not only an exterior redesign but also hardware advancements to support operations for networked and intelligent warfare.

Photo 4: A two-seat J-20S stealth fighter taxiing for takeoff to the aerial parade ("[Live Broadcast] Commemorative ceremony marking the 80th anniversary of the victory of the Chinese People's War of Resistance against Japanese Aggression and the World Anti-Fascist War [【全程直播】纪念中国人民抗日战争暨世界反法西斯战争胜利 80 周年大会]")

While the concept of the two-seat J-20S acting as an airborne tactical command center had been presented at the Zhuhai Airshow last year,[14] its vision was made clearer at the 2025 parade. In short, the

operational concept envisages artificial intelligence (AI) assisting the rear-seat pilot in conducting complex information processing and controlling multiple drones in real time in combat airspace. It signals that drone control executed from manned aircraft centers is becoming a reality.

It is also worth highlighting that manned–unmanned teaming operations are redefining the very concept of air battle. The attainment of air superiority has traditionally depended on the number of high-performance manned aircraft and missiles. As I noted in my previous study, however, as a result of manned aircraft such as the two-seat J-20S controlling drone swarms from a distance, Chinese strategists anticipate that future air battles will be networked and multilayered, and manned aircraft accompanied by multiple drones will become the norm in air battles.[15]

Indeed, it was emphasized during the press conference by Chinese officials that the two-seat J-20S connects to the BeiDou satellite system and to ground-based radars via high-bandwidth communications, and that the drone functions as a network node providing real-time pictures of the tactical situation.[16] This is because China looks to mature manned–unmanned teaming, deploying drones in front of manned aircraft into high-risk airspace and tactically controlling the drones from manned aircraft from far behind.

This is a remarkable development, even compared with the U.S. Air Force's Collaborative Combat Aircraft (CCA) concept.[17] Whereas the United States cautiously pursues qualitative refinement, China prioritizes swift quantitative expansion over quality, seeking to quickly establish air superiority in surrounding areas from an early stage. It may still take time for China to fully match U.S. technological standards. At the very least, however, if China succeeds in earlier operational deployment and achieves a quantitative advantage, it may be more likely to secure a favorable position in the initial phase of an air battle.

Conclusion

At the recent military parade, it was vividly demonstrated that China's air power is transitioning to "intelligentized warfare" at a pace exceeding expectations. The deepening of manned–unmanned teaming between the J-20S and the new stealth drone is not only a sign of technological innovation. It indicates that the very concept of air battle is being redefined.

As I argued in "Future Air Battles Envisioned by China," the coordination of drone swarms, the integration of electronic warfare with communications jamming, and the effectiveness of stand-off precision strikes—dynamics that became salient with the outbreak of the Russo-Ukrainian War—have been skillfully incorporated into China's independently developed "integrated joint operation" framework and, by extension, into its "intelligentized warfare" framework. The equipment unveiled at the parade were not merely for demonstration purposes. Rather, they suggest China's readiness posture with a view to actual deployment.

Going forward, attention should be paid to the degree of maturity of the command-and-control system centered on the J-20S, the pace of mass production not only of the FH-97A and the GJ-11 but also of the new stealth drone, and the new forms of air battle that will emerge from their collaborative operation. China's air power is rapidly shifting from competition based on simple aircraft numbers and performance—the traditional requirements of air superiority—to competition founded on multilayered AI and network-based joint operations. The pace of this evolution is clearly exceeding the West's initial projections.

In a previous paper ("Chinese drone TB-001 may have been involved in Ballistic Missile Impact," *Commentary*, no. 239, 2022), I cautioned against excessive optimism regarding the security environment surrounding Japan, citing the vast production of drones in China.[18] As drone technologies become more sophisticated, it is only a matter of time before autonomous drones merged with AI make strike decisions on the battlefield. China continues to maintain a hardline posture toward neighboring countries, and its moves toward active deployment of such autonomous drones should be viewed with seriousness.

[1] "[Live Broadcast] Commemorative ceremony marking the 80th anniversary of the victory of the Chinese People's War of Resistance against Japanese Aggression and the World Anti-Fascist War [【全程直播】纪念中国人民抗日战争暨世界反法西斯战争胜利 80 周年大会]," CCTV, September 3, 2025, https://www.youtube.com/watch?v=Dwcq9uyJGYA.
[2] Li Longyi [李龙伊], "Weapons and equipment at the parade to feature a high level of informatization and intelligentization: Preparations for the parade are largely completed (official announcement) [受阅的武器装备信息化、智能化程度较高：阅兵各项准备已基本完成（权威发布）]," *People's Daily* [人民日报], August 21, 2025.
[3] Ibid.
[4] Aita Moriki, "Future Air Battles Envisioned by China," in *War with New and Old Characteristics*, ed. Kikuchi Shigeo and Sugiura Yasuyuki, National Institute for Defense Studies, 2025, pp. 55-88.
[5] "Feihong-97 medium-range high-speed reconnaissance and strike UAV adopts a stealth design [飞鸿-97 中程高速察打一体无人机采用了隐身化设计]," CCTV.com [央视网], October 9, 2021.
[6] "[Military Up Close] Feihong-97A undergoes major upgrades, transforms into a multi-purpose UAV [军武零距离]飞鸿-97A 大改变身多用途无人机," CCTV.com [央视网], November 18, 2024.
[7] Aita, "Future Air Battles Envisioned by China," pp. 81-84.
[8] Livio Rossetti, "Manned-Unmanned Teaming: A Great Opportunity or Mission Overload?," Joint Air Power Competence Centre (2018-2022), Journal Edition 29, January 2020, https://www.japcc.org/articles/manned-unmanned-teaming/.
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[10] 88 Air Base Wing Public Affairs, "XQ-58A Valkyrie demonstrator completes inaugural flight," Wright-Patterson Air Force Base, March 6, 2019, https://www.wpafb.af.mil/News/Article-Display/Article/1777743/xq-58a-valkyrie-demonstrator-completes-inaugural-flight/; Greg Hadley, "USAF Logs First Flight of General Atomics' Autonomous XQ-67 Drone," Air & Space Forces Magazine, March 1, 2024, https://www.airandspaceforces.com/xq-67-first-flight-afrl-cca/.
[11] Secretary of the Air Force Public Affairs, "Collaborative Combat Aircraft, YFQ-42A takes to the air for flight testing," August 27, 2025, https://www.af.mil/News/Article-Display/Article/4287627/collaborative-combat-aircraft-yfq-42a-takes-to-the-air-for-flight-testing/.
[12] "China unveils J-20 fighter jet's 'Loyal Wingman' drone to counter US Valkyrie: Ostensibly similar to America's XQ-58A Valkyrie, China's new "Loyal Wingman" has some interesting features," Interesting Engineering, December 17, 2024, https://interestingengineering.com/innovation/china-unveils-j-20-fighter-jets-loyal-wingman?group=test_b.
[13] Enoch Wong, "Is China poised to lead the world with combat-ready 'loyal wingman' FH-97 stealth drone?," *South China Morning Post*, August 20, 2025, https://www.scmp.com/news/china/military/article/3322417/china-poised-lead-world-combat-ready-loyal-wingman-fh-97-stealth-drone.
[14] At the Zhuhai Airshow in November 2024, the FH-97 on display carried the PL-15, China's version of the U.S. forces' AIM-120 AMRAAM missile, with a beyond-visual-range (BVR) of approximately 62 miles (100 km). The drone can also reportedly carry the PL-10 air-to-air missile with a short range of around 12.4 miles ("China unveils J-20 fighter jet's 'Loyal Wingman' drone to

counter US Valkyrie: Ostensibly similar to America's XQ-58A Valkyrie, China's new "Loyal Wingman" has some interesting features," Interesting Engineering, December 17, 2024, https://interestingengineering.com/innovation/china-unveils-j-20-fighter-jets-loyal-wingman?group=test_b).

[15] Aita, "Future Air Battles Envisioned by China," pp. 81-88.

[16] "Will the J-20S make an appearance at the September 3 military parade? The latest stealth fighter may be unveiled [歼 20S 会亮相九三阅兵吗 最新隐形战机或现身]," China.com [中华网], August 25, 2025, https://military.china.com/news/13004177/20250828/48766742.html.

[17] "Air Force designates two Mission Design Series for collaborative combat aircraft," Secretary of the Air Force Public Affairs, March 3, 2025, https://www.af.mil/News/Article-Display/Article/4092641/air-force-designates-two-mission-design-series-for-collaborative-combat-aircraft/.

[18] Aita Moriki, "Chinese drone TB-001 may have been involved in Ballistic Missile Impact," *NIDS Commentary*, no. 239, October 4, 2022.

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