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China's Growing Low-Altitude Economy Boosts Military Readiness

EXECUTIVE SUMMARY

China is driving investment and production of dual-use technologies that could enable greater use and control of low-altitude airspace by expanding the number of businesses and individuals able to operate systems that could significantly contribute to People's Liberation Army (PLA) objectives during conflict. Beijing is developing a 'low-altitude economy' (LAE) to capitalize on emerging manned and unmanned aircraft technologies to increase efficiency and decrease costs. State-, provincial-, and local-level investment is fueling private and public sector development of technology, infrastructure, and operating systems designed specifically for the airspace below 3 kilometers. These efforts are almost certainly connected to China's national-level strategy to integrate civilian and military activities and promote dual-use capability development in support of PLA modernization goals. Additionally, the growing number of businesses and sectors operating within the LAE, buttressed by National Defense mobilization laws, provide increased privately owned capabilities China could mobilize in support of PLA operations during conflict.

CHINA ADVANCING LOW-ALTITUDE ECONOMY

The Chinese Communist Party (CCP) identifies LAE development as a critical economic priority and believes a mature LAE will improve the speed of individual and commercial travel for distances less than 200 kilometers, especially in dense urban and remote areas.[1, 2] Officially launched in 2024, China's low-altitude economy is an emerging economic sector encompassing all economic activity occurring in airspace below 1 kilometer—or below 3 kilometers in some areas—comprising primarily small and medium manned and unmanned aircraft, as well as related manufacturing, infrastructure, and other support systems.[3, 4, 5]

- China's interest in encouraging LAE growth and development serves its goal to establish itself as a global leader in technology innovation. China recognizes the private sector is responsible for most of its emerging technology and is pursuing methods to increase coordination between government objectives and private sector innovation.[6, 7, 8]

- China's top economic management body recently created a division dedicated to planning and implementing LAE growth policies, thereby increasing government control over its operations.[9] As of 2024, China's Civil Aviation Administration of China (CAAC) had approved the creation of 21 unmanned civil aviation experimental bases to conduct product trials.[10, 11]

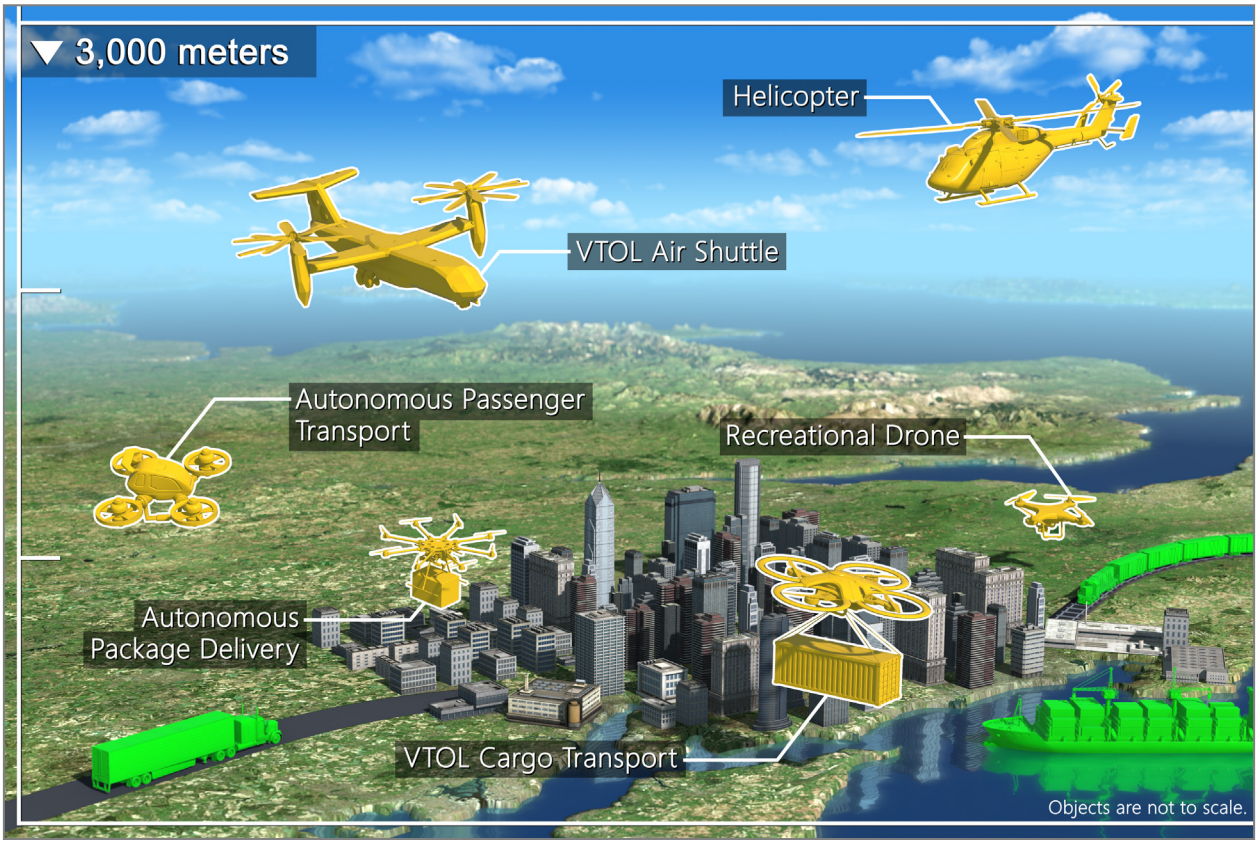

Figure 1: Specialized vehicles China is developing for the LAE (Source: TRADOC G-2)

China's policies to tap private sector innovation to fuel economic growth also purposefully benefit its military-civil fusion strategy, which seeks to increase dual-use capability development by integrating the private and military industrial bases.[12, 13, 14, 15] While more civilians are starting to occupy LAE policy and management roles, the PLA very likely exerts significant influence to ensure infrastructure development accounts for military interests.

- Unmanned systems, artificial intelligence (AI), and new energy technologies are not only among the private industries contributing heavily to early LAE efforts, but are also among the highest priority dual-use capabilities China hopes to leverage in support of the PLA.[16] As of September 2024, China boasted more than 50,000 low-altitude economy businesses, including more than 19,000 drone manufacturers.[17, 18] By 2030, China's LAE is expected to be worth $413.68 billion.[19, 20]

- The logistics, transportation, emergency medical delivery and evacuation, and surveillance sectors are expected to benefit most from shifting to low-altitude operations.[21] China's national defense mobilization (NDM) system—under which China may utilize public- and private-sector resources to support national defense during war, natural disaster, or other crises—also likely stands to benefit from the LAE's rapid growth.[22] NDM laws increase the military's ability to influence private and public sector infrastructure development to ensure appropriate resources are available to the PLA during conflict, including in LAE sectors.[23]

MILITARY-CIVIL FUSION AND THE LOW-ALTITUDE ECONOMY

Beijing is likely preparing to use low-altitude economy infrastructure to support military operations during a conflict. China is working to increase military-civil fusion and capitalize on dual-use capabilities to modernize its airspace management and transportation systems.[24, 25] While military-civil fusion within China's air traffic management system is opening the space to more civilian operations, China's low-altitude airspace remains publicly owned and under military jurisdiction.[26] The PLA is very likely able to use its authority to shape low-altitude airspace policy in ways that enable military modernization and operational value.

- The PLA is working with several provincial and municipal governments to develop civilian-military collaborative operation mechanisms for both the low-altitude airspace and national airspace as a whole.[27, 28] Creating a dedicated system for low-altitude air traffic control is part of a wider effort to modernize China's national air traffic management (ATM) ecosystem, which further integrates civilian and military air traffic management functions and support systems. China aims to improve data, information, and system sharing between military and civilian entities operating in China's air domain, as well as to fuel innovation related to increasing ATM digitization and autonomy.[29, 30]

- Developing solutions for UAS traffic management and urban air traffic management are not only priorities for the low-altitude economy; the PLA's low-altitude airspace dominance concept emphasizes the need for surveilling and monitoring low, slow, and small UAVs and improving UAS capabilities in dense urban environments.[31, 32] Many ATM modernization goals nest with the PLA's priority to achieve informatization and intelligentization of command-and-control systems, and several PLA organizations are working with civilian authorities and the private sector to develop technology solutions for automated flight approval and tracking.[33, 34, 35] During a conflict, the PLA could employ ATM applications developed for the LAE to manage low-altitude airspace across an area of operations and to enable air defense responses to low-altitude threats.[36] Additionally, national civilian ATM systems could provide a valuable dataflow for civilian air defense entities and the PLA to monitor and protect rear areas.

- Due to performance differences between low-altitude aircraft, especially unmanned systems, the low-altitude economy requires specific rules, systems, and physical infrastructure to enable large-scale flight operations.[37, 38] China's NDM system enables local government and military entities to coordinate with public and private infrastructure developers to ensure planning

and construction of potentially dual-use resources accounts for military requirements.[39, 40] Multiple national and provincial economic development plans published since 2021 highlight air traffic infrastructure as a critical area for increased military-civil coordination.[41] Government initiatives to fuel investment and construction of low-altitude economy infrastructure including network infrastructure and distributed takeoff and landing facilities will create a vast, modular, and redundant network of potentially dual-use capabilities the PLA is very likely interested in utilizing to support its operations during conflict.[42, 43, 44]

- Several government-sponsored experimental unmanned civil aviation bases are serving as sandboxes for the PLA, civilian government organizations, and private companies to test airspace management systems.[45, 46] Test sites provide resources for civilian authorities, drone manufacturers, communications firms, private users, and the PLA to develop capabilities and systems designed to synchronize and manage civilian and military flight operations.[47] Additionally, these sites allow the PLA, local government authorities, and private enterprises to gain experience cooperating in the low-altitude airspace, which serves as practice for mobilizing air traffic control and allocating associated resources to support the PLA during conflict.

LAE FUELING DUAL-USE R&D

PLA R&D is almost certainly benefitting from LAE-fueled growth in China's unmanned aviation and AI sectors, which are among the industries China deems most critical to developing dual-use technologies.[48] High-tech sectors like unmanned systems and AI are among the industries China hopes will supercharge domestic technology innovation to benefit its economic and military modernization goals. China has taken various measures to link its civilian and defense industrial bases, including by setting military requirements for civilian industry activities, funding pilot programs for new technology, and promoting trailblazing businesses in disruptive industries.[49, 50]

- Among the dual-use technologies China hopes its policies will encourage the private sector to pursue are UAS, which the PLA has directly stated are among its development priorities, including larger drone payloads, vertical take-off and landing technology, and capabilities designed to ensure stable control of unmanned aircraft operating in urban, remote, and over-water environments.[51, 52, 53, 54, 55] Military-civil fusion policies are increasing PLA efforts to seek out technologies and capabilities produced by private companies outside China's defense industry to support its modernization priorities.[56, 57] Civilian drone makers are advertising "civilian or military purposes" for their commercial off-the-shelf drones, and some have webpages displaying their products as PLA- branded.[58, 59, 60, 61] AI-enabled communication systems and collision avoidance sensors—which China's Low-Altitude Economy Development Department named critical development priorities—are also among those technologies the PLA hopes to acquire from the commercial sector.[62, 63, 64]

- National- and local-level policies facilitating LAE-related research and development are most likely connected to broader efforts to assimilate private sector innovation into the defense

industrial base. Regions with large shares of China's tech sector—including Guangzhou, Shanghai, and Tianjin—are leading China's efforts to create policies, encourage research and development, and build specialized support infrastructure for the LAE; these regions are also investing significantly in modernizing and refining local NDM preparations to incorporate innovative enterprises and capabilities.[65] Local authorities in several provinces are revamping military procurement catalogs to include emerging technologies and other private-sector products, including unmanned systems, logistics, and communications.[66]

- State investment in private-sector innovation related to the LAE is likely fueling private sector production of dual-use technologies and expanding the number of Chinese firms manufacturing capabilities relevant to the PLA. Though civil aviation testing zones are typically overseen by regional governments, they also serve as a statewide priority-setting tool to direct which technologies, capabilities, and tools participating businesses should focus on developing.[67] Several of these priority capabilities—advanced batteries, LiDAR, advanced sensors, and surveillance capabilities—have clear military applications.[68] Low-altitude pilot programs likely allow the PLA to capitalize on private-sector testing and development, as well as to enable local mobilization offices to identify and catalogue emerging technologies, capabilities, and the firms developing them.[69, 70, 71]

LAE DEVELOPMENT INCREASING MOBILIZATION OPTIONS

The growing number of companies and sectors participating in LAE will increase the civilian manpower and materiel resources available to the PLA during a national mobilization. Several of the industries standing to benefit most from an established LAE are among those the CCP designates as critical elements of comprehensive national power to support state or military operations during war or other national emergencies.[72] During a conflict, the CCP could choose to mobilize specific resoures, platforms, industries, or workforces from sectors including transportation, logistics, and highly technical fields—all of which operate in or are involved in developing the LAE—in support of military operations.[73]

- The PLA is pursuing a joint military-civilian supply model, incorporating private companies to increase the flexibility, efficiency, and readiness of its logistics operations, especially in dense urban or remote areas.[74, 75] Companies including Jingdong, SF Express, and China Post Express—all of which were connected to early logistics operations in the LAE—have entered into contracts with the PLA to provide UAV-enabled logistics support during military exercises and in wartime.[76, 77] PLA officials reported significantly improved delivery times during exercises testing this supply concept in scenarios including remote area distribution, fuel supply, and express delivery of critical items including replacement radars and medical supplies.[78]

- During a conflict, China will almost certainly utilize public and private civilian organizations to support and enable PLA operations.[79] China's military-civilian fusion strategy and NDM laws lay the groundwork for shifting large portions of China's economy to wartime production during conflict.[80] Several low-altitude economy sectors provide dual-use resources and services that

would likely add significant mass, depth, and flexibility to PLA capabilities. Were China to mobilize its vast UAV industry—which accounts for as much as 90 percent of the global consumer drone market—it could rapidly produce and regenerate a variety of systems for the PLA to use across warfighting functions.[81, 82] Companies providing LAE capabilities for the transportation, logistics, emergency response, and surveillance sectors could be called on to shift operations to offset stressors caused by military mobilization, deployment, or sustainment operations.[83] During a conflict, the vast number of civilian platforms and infrastructure supporting the LAE could also complicate efforts to distinguish between military and civilian activities.

- As the number of companies producing and operating LAE technologies grows, so too does the number of private-sector employees with skills in high demand among reserve and militia forces. Since introducing policies to decrease low-altitude airspace restrictions for businesses and individuals in 2021, the CAAC has reported an exponential growth in the number of individuals with drone pilot licenses and LAE businesses.[84, 85, 86] China's new-type militia concept emphasizes recruiting employees from high-tech civilian sectors to conduct NDM activities and provide direct support to the PLA.[87] This includes individuals with professional experience working with and operating LAE-related technologies like unmanned systems, manned aircraft, and AI-enabled systems.[88, 89] Additionally, the LAE is expected to modernize and expand several militia roles, such as ISR collection, transport, emergency rescue, and supply delivery among its primary applications.[90]

References

1 Shen, J. (2024, November 29). 从中国航展看低空经济 [A look at low-altitude economy from the China Air Show]. 新华网 [Xinhuanet]. http://www.news.cn/fortune/20241129/0ebd4f1f89034892a39a0583c0b0420a/c.html

2 Garrow, L. A., German, B. J., & Leonard, C. E. (2021, September 28). Urban Air Mobility: A comprehensive review and comparative analysis with Autonomous and Electric Ground Transportation for informing future research. Transportation Research Part C: Emerging Technologies. https://www.sciencedirect.com/science/article/pii/S0968090X21003788?via%3Dihub

3 Liao, Y. (2025, March 25). China's Low-Altitude Economy a New Growth Engine: Experts. China Economic Net. http://en.ce.cn/Insight/202503/25/t20250325_39330224.shtml

4 China's top economic planner sets up department to boost low-altitude economy. The State Council of the People's Republic of China. (2024, December 28). https://english.www.gov.cn/news/202412/28/content_WS676fb6afc6d0868f4e8ee567.html

5 Anwar, K., Lemahieu, H., Walker, R., & Bajpaee, C. (2025, March 24). China's high ambition for the low-altitude economy. Lowy Institute. https://www.lowyinstitute.org/the-interpreter/china-s-high-ambition-low-altitude-economy

6 Laskai, L. (2018a, January 29). Civil-military fusion: The missing link between China's technological and military rise. Council on Foreign Relations. https://www.cfr.org/blog/civil-military-fusion-missing-link-between-chinas-technological-and-military-rise

7 Wuthnow, J., Patricia M. Kim, K. D., Patricia M. Kim, M. P., Sun, Y., Ryan Hass, J. B., & Madan, T. (2024, June 21). Unleashing "new quality productive forces": China's strategy for technology-led growth. Brookings. https://www.brookings.edu/articles/unleashing-new-quality-productive-forces-chinas-strategy-for-technology-led-growth/

8 Chen, Z., & Cai, J. (2024, December 25). Low-Altitude Economy Division to Ensure Interdepartmental Coordination. China Policy. https://policycn.com/public/commentaries/low-altitude-economy-division-to-ensure-interdepartmental-coordination-44513

9 Ibid.

10 Sun, M. (2024, March 31). China had over 1.26 MLN uavs by end of 2023. The People's Republic of China State Council. https://english.www.gov.cn/archive/statistics/202403/31/content_WS660899dfc6d0868f4e8e59ed.html

11 The Economist Newspaper. (2017, April 7). Shenzhen is a hothouse of innovation. The Economist. https://www.economist.com/special-report/2017/04/06/shenzhen-is-a-hothouse-of-innovation

12 Nelson, A. J., & Epstein, G. L. (2023, January 3). The PLA's strategic support force and AI Innovation. Brookings. https://www.brookings.edu/articles/the-plas-strategic-support-force-and-ai-innovation-china-military-tech/

13 Kuo, K., & Kania, E. (2023, July 12). The myths and realities of China's military-civil fusion program. The China Project. https://thechinaproject.com/2023/07/06/the-myths-and-realities-of-chinas-military-civil-fusion-program/

14 Wuthnow, J., Patricia M. Kim, K. D., Patricia M. Kim, M. P., Sun, Y., Ryan Hass, J. B., & Madan, T. (2024, June 21). Unleashing "new quality productive forces": China's strategy for technology-led growth. Brookings. https://www.brookings.edu/articles/unleashing-new-quality-productive-forces-chinas-strategy-for-technology-led-growth/

15 Chen, Z., & Cai, J. (2024, December 25). Low-Altitude Economy Division to Ensure Interdepartmental Coordination. China Policy. https://policycn.com/public/commentaries/low-altitude-economy-division-to-ensure-interdepartmental-coordination-44513

16 Andersen, T. (2024, June 12). Flying with the dragons: China's global dominance in civilian drones and risks for Europe. Rahvusvaheline Kaitseuuringute Keskus | International Centre for Defence and Security. https://icds.ee/en/flying-with-the-dragons-chinas-global-dominance-in-civilian-drones-and-risks-for-europe/

17 Global Times. (2024, November 27). Chinese firms speed up infrastructure construction of low-altitude economy. https://www.globaltimes.cn/page/202411/1323913.shtml

18 Global Times. (2025, January 7). Low-altitude economy to shatter the sky, injecting strong momentum into 2025 growth. https://www.globaltimes.cn/page/202501/1326440.shtml

19 Global Times. (2024, November 27). Chinese firms speed up infrastructure construction of low-altitude economy. https://www.globaltimes.cn/page/202411/1323913.shtml

20 China's top economic planner sets up department to boost low-altitude economy. The State Council of the People's Republic of China. (2024, December 28). https://english.www.gov.cn/news/202412/28/content_WS676fb6afc6d0868f4e8ee567.html

21 Anwar, K., Lemahieu, H., Walker, R., & Bajpaee, C. (2025, March 24). China's high ambition for the low-altitude economy. Lowy Institute. https://www.lowyinstitute.org/the-interpreter/china-s-high-ambition-low-altitude-economy

22 Alkemark, A. (2024, April). Governmental plan for low-altitude air-transport Sector. FocusAsia. https://www.business-sweden.com/sv/insikter/focusasia-2024/100-affarsmojligheter-asien/2024/action-plan-for-high-quality-development-of-low-altitude-economy-in-suzhou/

23 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

24 Levesque, G. (2019, October 8). Military-civil fusion: Beijing's "Guns and butter" strategy to become a technological superpower. Jamestown. https://jamestown.org/program/military-civil-fusion-beijings-guns-and-butter-strategy-to-become-a-technological-superpower/

25 Bitzinger, R., Evron, Y., & Yang, Z. (2021, January). China's Military-Civil Fusion Strategy: Development, Procurement, and Secrecy. Asia Policy Vol. 16 Issue 1. https://www.nbr.org/wp-content/uploads/pdfs/publications/ap16-1_china_mcf_rt_jan2021.pdf

26 Guan, X., Shi, H., Xu, D., Zhang, B., Wei, J., & Chen, J. (2024, April) The exploration and practice of low-altitude airspace flight service and traffic management in China. Green Energy and Intelligent Transportation, Volume 3, Issue 2. https://www.sciencedirect.com/science/article/pii/S277315372400001X

27 Liao, X., Xu, C., & Ye, H. (2024, November 20). Benefits and challenges of constructing low-altitude air route network infrastructure for developing low-altitude economy. Bulletin of Chinese Academy of Sciences Vol. 39, Issue 11. https://bulletinofcas.researchcommons.org/journal/vol39/iss11/15/

28 Shen, J. (2024, November 29). 从中国航展看低空经济 [A look at low-altitude economy from the China Air Show]. 新华网 [Xinhuanet]. http://www.news.cn/fortune/20241129/0ebd4f1f89034892a39a0583c0b0 420a/c.html

29 People's Republic of China. (2023, August 16). China's Strategy for Modernizing Air Traffic Management. International Civil Aviation Organization, Assembly, 39th Session. https://safe.menlosecurity.com/doc/docview/viewer/docN1460F75D757E6b5d50328d6fb2d3334ce5c7d1a4d0451c420021caf7e7f9434d8efe29c7ca98

30 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

31 CNA. (2023, July 17). PLA Update: Issue 12. https://www.cna.org/our-media/newsletters/pla-update/issue-12

32 Guan, X., Shi, H., Xu, D., Zhang, B., Wei, J., & Chen, J. (2024, April) The exploration and practice of low-altitude airspace flight service and traffic management in China. Green Energy and Intelligent Transportation, Volume 3, Issue 2. https://www.sciencedirect.com/science/article/pii/S277315372400001X

33 Shen, J. (2024, November 29). 从中国航展看低空经济 [A look at low-altitude economy from the China Air Show]. 新华网 [Xinhuanet]. http://www.news.cn/fortune/20241129/0ebd4f1f89034892a39a0583c0b0 420a/c.html

34 Chen, Z., Zhu, Y., Pu, F., & Tian, W. (2024, March). A study on basic research priorities and development suggestions for the digital transformation of air traffic management. Aerospace Traffic and Safety Volume 1, Issue 1. https://www.sciencedirect.com/science/article/pii/S295033882400007X

35 Fang, Z., & Wang, K. (2024, July 8). China's low-altitude economy receives "rare" show of support from military. Caixin Global. https://www.caixinglobal.com/2024-07-08/chinas-low-altitude-economy-receives-rare-show-of-support-from-military-102214077.html

36 CNA. (2023, July 17). PLA Update: Issue 12. https://www.cna.org/our-media/newsletters/pla-update/issue-12

37 Guan, X., Shi, H., Xu, D., Zhang, B., Wei, J., & Chen, J. (2024, April) The exploration and practice of low-altitude airspace flight service and traffic management in China. Green Energy and Intelligent Transportation, Volume 3, Issue 2. https://www.sciencedirect.com/science/article/pii/S277315372400001X

38 Chen, Z., Zhu, Y., Pu, F., & Tian, W. (2024, March). A study on basic research priorities and development suggestions for the digital transformation of air traffic management. Aerospace Traffic and Safety Volume 1, Issue 1. https://www.sciencedirect.com/science/article/pii/S295033882400007X

39 Liao, X., Xu, C., & Ye, H. (2024, November 20). Benefits and challenges of constructing low-altitude air route network infrastructure for developing low-altitude economy. Bulletin of Chinese Academy of Sciences Vol. 39, Issue 11. https://bulletinofcas.researchcommons.org/journal/vol39/iss11/15/

40 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

41 广东省人民政府 [Guangdong People's Government], (2021, September). 广东省综合交通运输体系"十四五"发展规划 ["Guangdong Province '14th Five-Year Plan' Development Plan for a Comprehensive Transportation System"], https://web.archive.org/web/20240516212805/http://www.gd.gov.cn/attachment/0/545/545436/3740172.pdf.

42 Shen, J. (2024, November 29). 从中国航展看低空经济 [A look at low-altitude economy from the China Air Show]. 新华网 [Xinhuanet]. http://www.news.cn/fortune/20241129/0ebd4f1f89034892a39a0583c0b0 420a/c.html

43 Fang, Z., & Wang, K. (2024, July 8). China's low-altitude economy receives "rare" show of support from military. Caixin Global. https://www.caixinglobal.com/2024-07-08/chinas-low-altitude-economy-receives-rare-show-of-support-from-military-102214077.html

44 Shanghai Municipal People's Government. (2024, August 23). Summary of Shanghai's plan to develop low-altitude economy. International Services Shanghai. https://english.shanghai.gov.cn/en-PolicyInsights/20240823/f4177ae14c4449a68fb31f54d719f5eb.html

45 Sun, M. (2024, March 31). China had over 1.26 MLN uavs by end of 2023. The People's Republic of China State Council.

https://english.www.gov.cn/archive/statistics/202403/31/content_WS660899dfc6d0868f4e8e59ed.html

46 The Economist Newspaper. (2017, April 7). Shenzhen is a hothouse of innovation. The Economist. https://www.economist.com/special-report/2017/04/06/shenzhen-is-a-hothouse-of-innovation

47 Chen, Z., Zhu, Y., Pu, F., & Tian, W. (2024, March). A study on basic research priorities and development suggestions for the digital transformation of air traffic management. Aerospace Traffic and Safety Volume 1, Issue 1. https://www.sciencedirect.com/science/article/pii/S295033882400007X

48 Liao, Y. (2025, March 25). China's Low-Altitude Economy a New Growth Engine: Experts. China Economic Net. http://en.ce.cn/Insight/202503/25/t20250325_39330224.shtml

49 Laskai, L. (2018a, January 29). Civil-military fusion: The missing link between China's technological and military rise. Council on Foreign Relations. https://www.cfr.org/blog/civil-military-fusion-missing-link-between-chinas-technological-and-military-rise

50 Jones, S. G. (2025, January 30). The Tech Revolution and Irregular Warfare: Leveraging Commercial Innovation for Great Power Competition. CSIS. https://www.csis.org/analysis/tech-revolution-and-irregular-warfare-leveraging-commercial-innovation-great-power

51 Liu, Y. (2024, December 26). Aerial economy: What to expect? China Daily. https://www.chinadaily.com.cn/a/202412/30/WS6771f651a310f1265a1d58a0.html

52 Woo, R. (2024, August 12). China trials cargo drones, air taxis as low-altitude economy gains speed | Reuters. Reuters. https://www.reuters.com/world/china/china-test-flies-biggest-cargo-drone-low-altitude-economy-takes-off-2024-08-12/

53 Newdick, T. (2024, November 12). China's new W5000 Cargo Drone is the biggest yet. The War Zone. https://www.twz.com/air/chinas-new-w5000-cargo-drone-is-the-biggest-yet

54 Loh, M. (2024, October 14). China has built a giant osprey-like drone that engineers say can carry 10 passengers and fly at 340 mph. Business Insider. https://www.businessinsider.com/china-build-lanying-lanthanum-shadow-osprey-drone-united-aircraft-prototype-2024-10

55 Nature Publishing Group. (2022, November 22). Leading 200 science cities. Nature news. https://www.nature.com/nature-index/supplements/nature-index-2023-science-cities/tables/overall

56 Choi, S. H. (2024, November 22). PLA Air Force to hold public competition in bid to source "low-cost" drones. South China Morning Post. https://www.scmp.com/news/china/military/article/3287693/wanted-low-cost-drones-search-and-strike-ability-asset-see-pla-air-force-details

57 Nelson, A. J., & Epstein, G. L. (2023, January 3). The PLA's strategic support force and AI Innovation. Brookings. https://www.brookings.edu/articles/the-plas-strategic-support-force-and-ai-innovation-china-military-tech/

58 Laskai, L. (2018b, April 9). Civil-military fusion and the PLA's pursuit of dominance in emerging technologies. Jamestown. https://jamestown.org/program/civil-military-fusion-and-the-plas-pursuit-of-dominance-in-emerging-technologies/

59 Australian Broadcasting Company News. (2021, September 29). China shows off advanced stealth drones, spacecraft at Air Show. Australian Broadcasting Company News. https://www.abc.net.au/news/2021-09-29/china-stealth-drone-military-space-race-taiwan-tensions/100500578

60 Hull, A. W., Markov, D. R., & Griffin, E. (2020, June 14). "Private" Chinese Aerospace Defense Companies. Air University. https://www.airuniversity.af.edu/CASI/Articles/Tag/20557/aerospace/

61 Palve, S. (2024, October 16). China "unleashes" World's first 6-metric-ton tiltrotor drone; can carry men & material at unprecedented speeds & altitudes. EURASIAN TIMES. https://www.eurasiantimes.com/china-unleashes-worlds-first-6-metric/

62 CGTN. (2025, February 8). China prioritizes AI, low-altitude transport standards for 2025. China Global Television Network. https://news.cgtn.com/news/2025-02-08/China-prioritizes-AI-low-altitude-transport-standards-for-2025-1APkrPf85fW/p.html

63 Fedasiuk, R., Melot, J., & MurphyC, B. (2021, October). Harnessed Lightning: How the Chinese Military is Adopting Artificial Intelligence. enter for Security and Emerging Technology. https://safe.menlosecurity.com/doc/docview/viewer/

docNC60316BEB94C173fc8c7b5923d066467c8b1694af392bac04e03e1f5417c3d5e1d989b85b232

64 Fedasiuk, R., Melot, J., & MurphyC, B. (2021, October). Harnessed Lightning: How the Chinese Military is Adopting Artificial Intelligence. enter for Security and Emerging Technology. https://safe.menlosecurity.com/doc/docview/viewer/docNC60316BEB94C173fc8c7b5923d066467c8b1694af392bac04e03e1f5417c3d5e1d989b85b232

65 Global Times. (2025, March 10). China's low-altitude economy set to take off in 2025, fueled by policy support. https://www.globaltimes.cn/page/202503/1329853.shtml

66 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

67 Hong Kong Transport and Logistics Bureau. (2023). Low-Altitude Economy Regulatory Sandbox. The Government of the Hong Kong Special Administrative Region of the People's Republic of China. https://www.tlb.gov.hk/eng/highlights/transport/low-altitude.html

68 Singleton, C. (2025, March 25). China's Tech Triple Play threatens U.S. National Security. Real Clear Defense. https://www.realcleardefense.com/articles/2025/03/25/chinas_tech_triple_play_threatens_us_national_security_1099692.html

69 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

70 Nature Publishing Group. (2022, November 22). Leading 200 science cities. Nature news. https://www.nature.com/nature-index/supplements/nature-index-2023-science-cities/tables/overall

71 微信 [Weixin]. (2022, June 10). 广东省交通战备办公室人装结合建强一线力量 ["Guangdong Provincial Transportation Readiness Office Combines Personnel and Equipment to Strengthen Frontline Forces"]. Weixin Official Accounts Platform. https://web.archive.org/web/20220614131644/https://mp.weixin.qq.com/s/yiNtEkqA5_dATRa8GMXjkg

72 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

73 Ibid.

74 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

75 Luce, L., & Richter, E. (2019). Handling Logistics in a Reformed PLA: The Long March Toward Joint Logistics. In Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms (pp. 258–269). essay, National Defense University Press, https://ndupress.ndu.edu/Portals/68/Documents/Books/Chairman-Xi/Chairman-Xi.pdf

76 Liu, X. (2024, August 24). Drones widely deployed in Chinese militia units during exercises. Global Times. https://www.globaltimes.cn/page/202408/1317889.shtml

77 Kania, E., & McCaslin, I. B. (2020, December). People's Warfare Against COVID-19: Testing China's Military Medical and Defense Mobilization Capabilities. Institute for the Study of War. https://www.understandingwar.org/report/peoples-warfare-against-covid-19-testing-china%E2%80%99s-military-medical-and-defense-mobilization

78 看航空 [Watch Aviation]. (2018, January 31). 中国空军首次用无人机实施补给演练 顺丰快递运送 ["The Chinese Air Force Conducted its First Supply Drill Using Drones, SF Express Delivered"]. Sohu. https://web.archive.org/web/20240517140424/https://www.sohu.com/a/219993200_115926

79 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

80 INISKITGROUP. (2022, March 10). Inside China's National Defense Mobilization Reform: Capacity Surveys, Mobilization Resources, and "new-type" militias. Recorded Future: Securing Our World with Intelligence. https://www.recordedfuture.com/research/inside-chinas-national-defense-mobilization-reform

81 Vincent, B. (2023, January 23). Pentagon's list of Chinese military-linked companies operating in the U.S. grows. DefenseScoop. https://defensescoop.com/2022/10/06/pentagons-list-of-chinese-military-linked-companies-operating-in-the-u-s-grows/

82 Jeans, D. (2025, April 16). Silicon Valley's military drone companies have a serious Chinese parts problem. Forbes. https://www.forbes.com/sites/davidjeans/2025/04/16/silicon-valley-drones-china-problem/

83 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

84 Gao, F. (2024, December 29). What did the Chinese Politburo learn in 2024? What Did the Chinese Politburo Learn in 2024? https://www.fredgao.com/p/what-did-chinese-politburo-learned

85 CGTN. (2023, December 28). China witnesses rapid growth in low-altitude economy. China Global Television Network. https://news.cgtn.com/news/2023-12-28/China-witnesses-rapid-growth-in-low-altitude-economy--1pU3bMRuukg/p.html

86 China's top economic planner sets up department to boost low-altitude economy. The State Council of the People's Republic of China. (2024, December 28). https://english.www.gov.cn/news/202412/28/content_WS676fb6afc6d0868f4e8ee567.html

87 Thorne, D. (2024, June 13). China's National Defense Mobilization System. U.S.-China Economic and Security Review Commission. https://www.uscc.gov/sites/default/files/2024-06/Devin_Thorne_Testimony.pdf

88 Ibid.

89 Liu, X. (2024, August 24). Drones widely deployed in Chinese militia units during exercises. Global Times. https://www.globaltimes.cn/page/202408/1317889.shtml

90 INISKITGROUP. (2022, March 10). Inside China's National Defense Mobilization Reform: Capacity Surveys, Mobilization Resources, and "new-type" militias. Recorded Future: Securing Our World with Intelligence. https://www.recordedfuture.com/research/inside-chinas-national-defense-mobilization-reform