ISSUE BRIEF

INSTITUTE OF STRATEGIC STUDIES ISLAMABAD
Web: www.issi.org.pk
Phone: +92-51-9204423, 24
Fax: +92-51-9204658

ARTIFICIAL INTELLIGENCE AND THE FUTURE OF AIR WARFARE

By
Taseer Fatima
Intern
Arms Control & Disarmament Centre, ISSI
Email Address: acdc@issi.org.pk

Supervised by
Malik Qasim Mustafa

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Artificial Intelligence (AI) is rapidly transforming our lives and the way we work. It is the simulation of human intelligence that machines process to perform learning, reasoning, problem-solving, and understanding language. AI-enabled systems and platforms learn and make optimal decisions based on the data provided. It helps in almost all fields, ranging from social and economic development to safeguarding national security. In the military domain, AI has become the most important technology to transform the future of air power. Traditionally, air warfare depends upon the skillful pilots and the range and power of aircraft to have an edge while fighting air wars; however, with the revolution in technology, this has made things easier. Now the AI makes faster and better decisions in real time with accuracy and even carries out a mission without human control.

The military theorists and strategic studies experts increasingly argue that this integration of AI in Air warfare is not only a technological shift but a Revolution in Military Affairs (RMA). The U.S. Defense Secretary, Mark T. Esper, has argued that "Whichever nation harnesses AI first will have a decisive advantage on the battlefield for many, many years. We have to get there first."[1] It clearly explains how the AI has the potential to redefine the nature of modern warfare by offering precision, speed, and much more beyond human capacity.

1 Bennie J. Davis III, "The AI Advantage," *Airman Magazine*, June 15, 2020, https://www.airmanmagazine.af.mil/Features/Display/Article/2603956/the-ai-advantage.

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According to *Defence News* report, on July 22, 2025, the U.S. Air Force conducted an exercise called "Experiment-3," where AI was used to recommend targets in high-pressure air combat scenarios. This 4-day unprecedented exercise was aimed at speeding up military decision-making and "reducing cognitive load" on humans -- pilots. The AI "offered real-time recommendations to dynamic targeting teams."[2] During the exercise, the AI was used to build a system that connects all the military operations, like spotting the enemy, making the right decision to take in real time, and then attacking the target (surveillance, intelligence, and targeting capabilities). The goal was to make a faster process on both operational and tactical levels. This experiment will help the U.S. Air Force in its future engagements in actual combat.[3]

More recently, Russia's United Aircraft Corporation has introduced AI as the "second pilot" in the Su-57 stealth fighter, which will assist and help the pilot by giving tips in certain situations, and also assist in providing waypoints during navigation and flight systems management.[4] This system has been working effectively as an AI-enabled electronic co-pilot. Additionally, this system did not take lethal decisions and lets the pilot decide which weapons to fire. The corporation also reported that this system is customizable, and soon it will be exported as well. On May 22, 2025, another significant advancement made by Russia was its work on a new project named "digital sky of Russia." This project was developed by GLONASS, Russia's GPS-like satellite system, and the National Technological Initiative (NTI). Previously, the Russian Air Force, its drones, satellites, aircraft, and communications systems all worked under separate domains without clear coordination between them. However, after Russia's new project, "digital sky of Russia," all of them will now work under the same sky using a single network linking them together. The main goal of introducing this project is to bring AI and human control to manage drones and aircraft in order to make operations faster, reliable, and more united.

China has developed a new drone technology, the "Jiu Tian," a high altitude, long endurance UAV, 25 meters wide, and can weigh up to 15 tons when fully loaded.[5] The drone is also called the mother ship of the sky because it not only flies and collects information like normal drones, but also releases other drones in the sky during a mission. It can deploy up to 100 AI-enabled loitering munitions. It can fly as high as 15,000 meters, and it can stay in the sky for almost 12 hours straight. Designed and

2 Zita Ballinger Fletcher, "Air Force Experiments with using AI to Seek Combat Targets," *Defence News*, July 22, 2025, https://www.defensenews.com/air/2025/07/22/air-force-experiments-with-using-ai-to-seek-combat-targets.

3 Ibid.

4 "Next-Gen Warfare: Russia Equips Su-57 With 'Second Pilot' AI," *SPUTNIK International*, May 24, 2025, https://sputnikglobe.com/20250524/next-gen-warfare-russia-equips-su-57-with-second-pilot-ai-1122121063.html.

5 Tamir Eshel, "China's "Jiu Tian" HALE UAV Seeks to Redefine Swarm Deployment," Defense Update, May 26, 2025, https://defense-update.com/20250526_chinas-jiu-tian-drone-swarm-carrier.html?utm.

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developed by the Aviation Industry Corporation of China (AVIC) and built by X'ian Chida aircraft parts manufacturing under Guangzhou Haige Communications. Earlier, the Sheyang Aircraft Design Institute,[6] which is China's biggest state-owned Aviation Industry Corporation has introduced a new AI system, DeepSeek, to help design its next-generation fighter jets. Usually, the jet designing takes a lot of time and effort altogether, but with AI helping in calculation, testing models, and simulations, this gives more time to the engineers for speed and weapons, the more vital tasks.

In South Asia, AI is reshaping the regional dynamics and transforming the nature of Air warfare. This technological innovation has also led to a confrontation between India and Pakistan. In India at Aero India 2025, the Indian army displayed the ten AI weapon systems (TAIWS)[7] it can track, spot, and attack by using a smart robotic guard. It can fire automatically or semi-automatically; however, it has human control. It has a tripod-mounted gun, which is 7.62 mm, and can also use other weapons if needed. During the daytime, it has a 40x zoom camera, and at night, it can detect the target up to 700 meters away. Where the soldiers cannot be present due to conditions, this technology can be a great help during warfare by using AI brains. India-based Flying Wedge Defense and Aerospace (FWDA), which is in Bengaluru, has secured US$30 million from exporting a tactical unmanned vehicle, Kaala Bhairav drone.[8] This is India's very first export of a homegrown Medium Altitude Long Endurance (MALE) drone. Kaala Bhairav drone can endure up to 30 hours in the air and has a range of 3,000 kilometers. It has a short take-off, satellite communications, and is used for swarm warfare.

Pakistan, as a developing country, is also striving for its advancements in air warfare; its efforts remain in the developing stage as compared to regional or global dynamics. The Pakistan Air Force is making this work through institutes like the Centre of Artificial Intelligence and Computing (CENTAIC). Just like, according to last year's report, Pakistan has unveiled its most sophisticated unmanned aerial vehicle by Global Industrial and Developing Solutions (GIDS), Shahpar III.[9] It is a MALE combat drone that uses AI to spot, identify, and track the targets in real time. This drone can carry different types of sensors like night vision cameras, radars to see at night, and also to trace enemy communications. Six weapons on its point wing enable it to carry missiles and smart bombs.

6 Giulia Bernacchi, "China Turns to DeepSeek AI for Fighter Jet Design," *The Defense Post*, May 7, 2025, https://thedefensepost.com/2025/05/07/china-deepseek-fighter-jet-design/?utm

7 Vishal Sengupta, "Aero India 2025: Indian Army displays AI-based weapon system," Janes, February 15, 2025, https://www.janes.com/osint-insights/defence-news/weapons/aero-india-2025-indian-army-displays-ai-based-weapon-system?utm.

8 Rojoef Manuel, "India's First Indigenous MALE Drone Secures $30M Order From South Asian Country," *The Defense Post*, August 26, 2025, https://thedefensepost.com/2025/08/26/india-male-drone-order/?utm.

9 "Shahpar-III: Pakistan Claims Has 30 hours Endurance, Can Carry 1600 Kg (MTOW)," *Resonant News*, February 17, 2025, https://resonantnews.com/2025/02/17/shahpar-iii-pakistan-claims-has-30-hours-endurance-can-carry-1600-kg-mtow/?utm.

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Shahpar III is the biggest leap forward in drones. The recent conflict between India and Pakistan in 2025 shows how fragile states have become after their advancements in technology; they can now use AI-enabled weapons deployed in wars. India and Pakistan both used intense AI weapons to counter the attacks by their AI-enabled defense systems and unmanned aerial vehicles (UAVs). The clashes, which include drone swarms, artillery fire, and missile exchanges, caused significant military and civilian casualties on both sides. This conflict highlighted the new phase of AI where it is increasingly shaping the battlefield alongside conventional military power.

This shows that AI is faster than humans and even more efficient, which seems to be very human-friendly but on the other hand very risky as it can lead to maximum destruction in minimum time. AI can bring countries into an arms race, just as in the case of India and Pakistan, which will turn into a security dilemma. Too much dependence on AI will decrease the number of jobs, just like in UAV's there are no pilots needed; handing over everything to AI is itself dangerous by all means. Militaries should balance AI with human oversight and put strict safeguards to avoid huge disasters. Countries should focus more on human-in-the-loop control so that humans can assist AI, and wiser decisions can be made because machines cannot replace how a human mind can think. Furthermore, AI should have ethical laws that separate civilian and military uses, just like Russia is doing; other countries should follow that too. Lastly, the AI weapons, especially in air warfare, should include emergency stop options controlled by humans to make a decision immediately if needed.

In conclusion, AI has been totally transforming the way warfare is fought. Every passing day brings a new technology, a new advancement in other domains, as well as air warfare, most importantly. The U.S., Russia, and China, the three major powers, are enhancing their air warfare for a better future because, from a realistic point of view, every country has its right to protect itself against others, even if it means taking early measures. A clear example of this can be shown above in the recent India-Pakistan conflict, where technology intensified the escalation. To make AI safe, countries should work on it rather than making it dangerous and uncontrollable.

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