AI Warfare and Multi-Domain Operations: Challenges and Opportunities for India

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AI Warfare Latest News

- As warfare undergoes a seismic transformation with the rise of artificial intelligence, countries like China are rapidly integrating AI into multi-domain military operations, posing strategic challenges for nations like India.
- This article explores how AI is reshaping modern battlefields—from autonomous weapons and data-driven decision-making to electromagnetic and cyber warfare—and underscores the critical role of energy infrastructure, especially nuclear power, in sustaining this AI-driven defence future.
- It highlights the urgency for India to bridge its technological and energy gaps to remain competitive in this evolving agentic age of warfare.

China’s Early Lead in Military AI Deployment

- Even before the launch of the DeepSeek AI model, China’s People’s Liberation Army had begun integrating AI into its core military functions under the concept of “intelligentised warfare.”

- China is using AI to improve artillery systems by reducing firing intervals and increasing accuracy, enhancing operational efficiency on the battlefield.
- The PLA is integrating generative AI into drones to autonomously detect and strike enemy radar systems with high precision.
- The technological advancements of DeepSeek are expected to further bolster China's efforts to expand AI capabilities across its armed forces.

China-Pakistan AI Collaboration: A Growing Concern for India

- Experts warn that China's active assistance to **Pakistan's Centre of Artificial Intelligence and Computing** (established in 2020) is a strategic threat, with a focus on cognitive electronic warfare and AI-enabled decision-making.
- They revealed that during Operation Sindoor, Pakistan possibly used AI-backed capabilities—enabled by Chinese satellite data and backend analysis—for real-time targeting and vector tracking.

C4ISR and Civil-Military Fusion: A Strategic Imperative

- There is a great emphasis on C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance).
- Also, the expertise in virtual domains like cyberspace, space, and the electromagnetic spectrum highlights the need for India to accelerate its civil-military integration and tech capabilities.
- While China leads in implementing multi-domain warfare strategies, India is still catching up.
- The collaboration between China and Pakistan underscores the urgency for India to develop indigenous capabilities in AI, cyber warfare, and multi-domain operations.

Energy: The Hidden Backbone of Future AI Warfare

- Modern militaries must analyse data across land, air, sea, space, and cyberspace. Handling such volumes is impossible without robust AI systems—powered by massive, consistent energy supplies.
- Technologies like machine learning, big data analysis, and NLP require vast, stable electricity reserves.
- Nuclear energy is emerging as the most viable source to power large AI data centres.

India's Nuclear Shortfall: A Strategic Risk

- India's current nuclear power capacity stands at only 7.5 GW—just one-third of South Korea's.
- This poses a serious limitation for future AI and robotics-led defence capabilities.
- Experts advocate placing Small Modular Reactors (SMRs) next to AI data centres to create a self-sustained defence tech ecosystem—enabling smart drones, robots, and next-gen weaponry.
- India's overdependence on renewables without proper storage and the earlier reduction in thermal capacity have destabilized the grid.
- SMRs and private sector thermal investments are now being reconsidered as long-term solutions.

India's Early Foray into Military AI

- India began its journey into AI-powered defence as early as 1986 with DRDO's Centre for Artificial Intelligence and Robotics (CAIR), focusing on autonomous technologies in combat, surveillance, logistics, and more.
- Despite India's head start, China's rapid AI advances—combined with its support to Pakistan's AI and computing initiatives—pose a growing strategic challenge.
- As per the Centre for Joint Warfare Studies, AI will power everything from autonomous weapons and predictive analytics to virtual combat simulations and cyber defence.

Global Precedents: Ukraine and Israel's AI Use

- Ukraine has deployed AI-enabled drones, while Israel's **"Lavender"** system reportedly identified over 37,000 Hamas targets, marking the Gaza conflict as the first "AI war.

Conclusion

- While AI is revolutionizing warfare, its success hinges on vast and stable energy resources—making energy strategy an inseparable part of defence preparedness.

Source: IE
