

Transforming Warfare

Posted at: 21/07/2025

Transforming Warfare: Indian Army's AI Roadmap for 2026-27

Context

Recent developments in global military strategies highlight a growing shift towards the integration of **Artificial Intelligence (AI)** and related technologies into defence systems. In particular, lessons from **Operation Sindoor**—a **cross-border strike conducted in May 2025** by India—revealed critical gaps in real-time intelligence, decision-making speed, and precision capabilities. These insights prompted the Indian Army to formulate a detailed plan for the adoption of **AI, Machine Learning (ML), and Big Data Analytics** by **2026-27** to modernise its combat and support systems.

Introduction

The **Indian Army has initiated a comprehensive roadmap** to integrate **AI, ML, and Big Data Analytics** into its operational framework by **2026-27**. This initiative aims to transform India's defence preparedness by enhancing **battlefield awareness, strategic planning, and logistics management**. The roadmap not only targets efficiency and precision but also seeks to minimise human risk and modernise legacy systems through AI-driven solutions.

Key Objectives and Focus Areas

- 1. Real-Time Surveillance and Decision Support**

AI tools will enable **instant processing of sensor data**, helping commanders make **faster and more informed decisions** during combat.

- 2. Drone Swarming and Autonomous Combat Systems**

Deployment of **AI-powered drones** for swarming operations and real-time monitoring of enemy movements.

- 3. Combat Simulations for Troop Training**

AI-based platforms will create **realistic war simulations** to enhance **training effectiveness** and decision-making under pressure.

4. Information Warfare and Cyber Defence

AI will assist in **detecting misinformation**, tracking adversary propaganda, and protecting critical cyber infrastructure.

5. Data-Driven Logistics and Maintenance

Use of AI in **predictive maintenance**, **supply chain optimisation**, and **GPS-denied navigation** to improve operational readiness.

6. Open-Source Intelligence (OSINT)

Monitoring of **public sentiment**, **social media trends**, and **adversary activities** through AI-driven tools for better strategic insights.

Immediate Priorities

1. Battlefield Awareness Tools

- **Large Language Models (LLMs)** for text summarisation
- **Voice-to-text systems** and **AI chatbots** for communication efficiency
- **Facial recognition** and **anomaly detection algorithms**
- **Data fusion platforms** to combine drone, satellite, aircraft, and sensor feeds

2. Integration with Existing Systems

- Embedding AI features in **General Staff Qualitative Requirements (GSQRs)** for all new defence equipment
- **Retrofitting select legacy platforms** with AI capabilities

3. Institutional and Collaborative Efforts

- Establishment of a dedicated **AI Lab under DGIS**
- Strengthening collaboration with **industry and academia** to drive innovation

4. Formation of AI Task Force

- Under the **Directorate General of Information Systems (DGIS)**
 - Focus areas: **technology deployment, training, system integration, R&D, procurement**
-

Key Benefits of AI in Military Operations

1. **Faster Decision-Making**

AI enables **instant analysis** of battlefield data, giving commanders a **decision advantage**.

2. **Increased Operational Efficiency**

Autonomous systems take over **repetitive and dangerous tasks**, improving effectiveness with **minimal human involvement**.

3. **Enhanced Soldier Safety**

AI-enabled systems perform **high-risk missions** such as **mine-clearing, reconnaissance, and casualty evacuation**.

4. **Cost-Effectiveness and Scalability**

AI platforms like **drones and software tools** are generally **cheaper and more scalable** than conventional military equipment.

5. **Precision and Reduced Collateral Damage**

AI targeting systems can improve **strike accuracy** and help avoid **civilian casualties**, if properly trained and validated.

6. **Strategic Simulation and Deterrence**

AI can simulate complex **wargaming scenarios**, aiding **long-term strategic planning** and acting as a **deterrent**.

Major Concerns and Risks

1. **Loss of Human Control**

Autonomous systems may act without human intervention, risking **unintended escalations**, especially in **nuclear scenarios**.

2. **Cybersecurity Threats**

AI systems may be **hacked or spoofed**, resulting in **system failures or hostile use** against operators.

3. Civilian Harm from AI Errors

Errors due to AI's **black-box behaviour** can lead to **wrongful targeting** in complex or urban battlefields.

4. Bias and Ethical Misuse

If trained on flawed data, AI may **discriminate**, misidentify threats, or be misused for **domestic repression**.

5. Arms Race and Strategic Instability

Rapid global militarisation of AI could lead to **accidental conflict**, **lack of transparency**, and **strategic miscalculation**.

Conclusion

The Indian Army's AI roadmap reflects a significant transformation in its approach to modern warfare. While the integration of **AI, ML, and Big Data** promises to **revolutionise combat capabilities, streamline logistics, and enhance strategic foresight**, it also brings with it substantial **technological, ethical, and security challenges**. The success of this initiative will depend on a balanced strategy that ensures **effective deployment, institutional collaboration, and robust safeguards** to mitigate the associated risks.

