Kavach

Defense AI Research. Cutting-edge AI for Indian defense, security, and autonomous systems.
Defense AI requires capabilities enterprise AI doesn't have.

5
AI DOMAINS

100%
AIR-GAP READY

Indigenous
MAKE IN INDIA

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THE CHALLENGE

Enterprise AI Fails in Defense

Modern defense operations require AI that works under adversarial conditions, in disconnected environments, with mission-critical reliability. **Commercial AI cannot deliver this.**

Adversarial Resilience

Commercial AI models are vulnerable to adversarial attacks. Defense AI must resist manipulation, spoofing, and exploitation by sophisticated adversaries.

Disconnected Operation

Cloud-dependent AI fails when networks are denied, jammed, or unavailable. Tactical operations demand fully autonomous edge capability.

Mission-Critical Reliability

Enterprise SLAs of 99.9% are unacceptable when lives depend on AI decisions. Defense systems require deterministic, predictable behavior under all conditions.

Make in India Imperative

Dependency on foreign AI creates strategic vulnerability. Indigenous capability is not optional—it is a national security requirement.

Defense AI isn't faster enterprise AI. It's a fundamentally different discipline.

The Kavach Solution

Kavach delivers indigenous AI capabilities purpose-built for defense requirements—adversarial resilience, air-gap operation, and mission-critical reliability.

Adversarial-hardened models

AI trained to resist manipulation, detect deception, and maintain accuracy under attack.

100% air-gap capable

Complete offline operation. No cloud dependency. Sovereign infrastructure only.

Deterministic behavior

Predictable, auditable AI decisions. No probabilistic failures in critical operations.

Indigenous development

100% Make in India. No foreign dependencies. Complete technology sovereignty.

PLATFORM

Capabilities

01

Tactical Intelligence

Real-time battlefield awareness. Sensor fusion. Pattern recognition. Threat assessment. Decision support for commanders.

02

Autonomous Systems

AI for unmanned platforms. Navigation in GPS-denied environments. Swarm coordination. Human-machine teaming.

03

Electronic Warfare

Signal intelligence AI. Spectrum management. Jamming optimization. Cyber-electronic convergence.

04

Command & Control

Decision acceleration. Information fusion. Multi-domain operations. Coalition interoperability with security.

05

Secure Runtime

Hardened execution environment. Tamper detection. Secure boot. Cryptographic isolation. Zero-trust architecture.

06

Training & Simulation

Synthetic data generation. Wargaming AI. Red team automation. Scenario planning. Force readiness assessment.

Architecture

DEFENSE APPLICATIONS

C4ISR Systems | Unmanned Platforms | Weapons Systems | EW Systems | Training Sims

KAVACH AI PLATFORM

Adversarial ML | Edge Runtime | Sensor Fusion | Secure Inference | Model Hardening | Audit & Explainability

SOVEREIGN INFRASTRUCTURE

Air-Gapped Data Centers | Tactical Edge Nodes | Embedded Systems | Secure Enclaves

DEFENSE-GRADE

Security & Compliance

Adversarial Hardening

- Model robustness testing
- Input validation & sanitization
- Adversarial training
- Deception detection

Air-Gap Operation

- Zero network dependency
- Offline model updates
- Local data processing
- Secure data diode support

Secure Runtime

- Hardware root of trust
- Secure boot chain
- Memory encryption
- Tamper detection

Audit & Compliance

- Complete decision trails
- Cryptographic logging
- Chain of custody
- Incident reconstruction

Indigenous Development

- 100% Indian IP
- No foreign dependencies
- Source code access
- Technology transfer ready

Standards Alignment

- MoD procurement ready
- DRDO collaboration
- NATO STANAG awareness
- ITAR-free design

Comparison

Capability	Enterprise AI	Kavach
Adversarial resilience	Not designed for	**Purpose-built**
Air-gap operation	Cloud-dependent	**100% offline capable**
Deterministic behavior	Probabilistic	**Predictable, auditable**
Source availability	Proprietary	**Full access for defense**
Foreign dependencies	Multiple	**None - 100% indigenous**
Defense certification	Not applicable	**MoD process aligned**

DEPLOYMENT

Deployment Options

Classified Networks

Air-gapped deployment in secure facilities. Full security clearance process.

Tactical Edge

Ruggedized edge computing for forward deployment. Harsh environment certified.

Platform Integration

Embedded in naval, aerial, and ground platforms. Real-time constraints met.

Mobile Tactical

Deployable in mobile command posts. Quick setup, rapid teardown.

Engagement Models

- Research collaboration with DRDO
- Pilot programs with services
- iDEX challenge participation
- Technology demonstration projects
- DPSUs partnership ready
- Make in India compliance

Why Rotavision for Defense

- Indigenous AI research capability
- Security-cleared team available
- IP transfer arrangements
- No foreign equity or control
- Co-development model supported
- Long-term support commitment

Ready to Engage?

Defense AI requires capabilities enterprise AI doesn't have.

Request Briefing

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