Military Applications of 5G and Edge Computing Training Course

Professional Development Training Course Outline

Category	Defense and Security	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The integration of 5G and edge computing into military operations marks a transformative shift in modern defence capability, operational readiness, and real-time situational awareness. These advanced technologies support ultra-low latency communications, autonomous systems, cyber-resilient networks, multi-domain command and control (C2), and high-bandwidth data exchange, enabling forces to respond faster, operate smarter, and coordinate seamlessly across dispersed environments. As defence agencies worldwide modernize their communication infrastructures, 5G and edge technologies form the backbone of next-generation battlefield intelligence, military IoT ecosystems, and connected soldier platforms.

Military Applications of 5G and Edge Computing Training Course equips participants with the technical, strategic, and operational knowledge required to leverage 5G and edge computing for enhanced defence performance. Through applied case studies, hands-on analysis, and practical frameworks, participants explore how these technologies shape mission-critical capabilities such as ISR (Intelligence, Surveillance, Reconnaissance), logistics automation, cybersecurity, drone swarms, C2 modernization, and AI-powered battlefield analytics. The course provides defence professionals with a comprehensive understanding of emerging capabilities, risks, and implementation strategies needed to build resilient, secure, and future-ready military ecosystems.

Programme Curriculum

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Course Objectives

1. Understand the fundamentals of 5G architectures and edge computing environments in military operations.
2. Identify mission-critical defence applications enabled by high-speed, low-latency communication.
3. Evaluate the operational impact of 5G-enabled autonomous systems and military IoT networks.
4. Apply advanced cybersecurity and zero-trust frameworks to 5G battlefield networks.
5. Assess interoperability challenges across multi-domain operations using 5G platforms.
6. Analyse the strategic advantages of distributed computing at the tactical edge.
7. Integrate AI-driven analytics supported by 5G and edge processing into mission planning.
8. Enhance ISR capabilities through high-bandwidth data transmission and edge analytics.
9. Examine the role of 5G in drone swarm management and unmanned system coordination.
10. Strengthen real-time command and control through enhanced communication reliability.
11. Design deployment models for military 5G infrastructures in contested environments.
12. Apply risk mitigation strategies for vulnerabilities in 5G-enabled defence ecosystems.
13. Develop implementation roadmaps for scaling 5G and edge computing across armed forces.

Organizational Benefits

- Enhanced mission readiness through real-time data processing
- Increased operational efficiency across multi-domain missions
- Strengthened cyber resilience across military networks
- Improved coordination between manned and unmanned assets
- Faster, data-driven decision-making in high-pressure environments
- Optimized deployment of autonomous and robotic systems
- Increased protection of classified and sensitive battlefield data
- Better interoperability with allied forces and defence partners
- Reduced latency in communication across dispersed units
- Support for long-term modernization and digital transformation

Target Audiences

- Military communication and signals specialists
- Defence technology planners and modernization units
- Cybersecurity and network defence teams
- ISR and battlefield intelligence analysts

- Defence AI, robotics and unmanned systems units
- Joint operations and command and control staff
- Military research and innovation departments
- Defence contractors, engineers and system integrators

Course Duration: 10 days

Course Modules

Module 1: Fundamentals of 5G and Edge Computing in Defence

- Core concepts of 5G architecture and edge deployments
- Tactical advantages of low-latency battlefield communication
- Spectrum management and defence-grade network configurations
- Integration of edge nodes in dispersed operations
- Key performance features for mission-critical environments
- Case Study: Adoption of 5G in a national defence modernization program

Module 2: 5G Network Architecture for Military Operations

- Stand-alone vs non-stand-alone 5G for defence purposes
- Network slicing for mission-specific communication needs
- Secure communication pathways for classified information
- Deployment of microcells and tactical base stations
- Protected communication channels in contested areas
- Case Study: Battlefield communication enhancement through 5G slicing

Module 3: Tactical Edge Computing for Real-Time Missions

- Processing intelligence at the edge for rapid decision support
- Enhancing surveillance systems with distributed analytics
- Tactical data fusion from sensors and unmanned assets
- Reducing bandwidth requirements through edge filtering
- Deploying ruggedized edge devices for field use
- Case Study: Edge analytics in remote military reconnaissance

Module 4: Cybersecurity in Military 5G Deployments

- Threat landscape for 5G-enabled military ecosystems
- Zero-trust security for battlefield networks
- Protecting edge nodes from cyber infiltration
- Encryption mechanisms for secure multi-domain operations
- Monitoring and defence against 5G-specific attacks
- Case Study: Cyber breach attempt against 5G-enabled command unit

Module 5: Multi-Domain Operations Enabled by 5G

- Integrating land, air, sea, space and cyber assets
- Enhancing C2 for synchronized force deployment
- Distributed mission planning with real-time data
- Dynamic targeting supported by high-speed data flows
- Improving joint operations interoperability

- Case Study: Multi-domain mission coordination using 5G nodes

Module 6: Autonomous Systems and Robotics in 5G Military Networks

- Drone swarm coordination through ultra-low latency networks
- Autonomous ground vehicles and robotic systems
- Navigation and positioning supported by 5G infrastructure
- AI-driven tactical autonomy at the edge
- Manned-unmanned teaming enhancements
- Case Study: 5G-enabled autonomous convoy operations

Module 7: ISR Enhancement Through High-Bandwidth 5G Systems

- Real-time transmission of high-resolution imagery
- Expanded sensor networks for persistent surveillance
- Enhancing SIGINT and GEOINT with 5G infrastructure
- Integrating drone ISR with edge analytics
- Securing ISR data flows in contested areas
- Case Study: ISR modernization program using 5G-enabled sensors

Module 8: Military IoT and Connected Soldier Systems

- Wearables and health monitoring for soldiers
- Smart equipment and connected weapons systems
- Integrating IoT battlefield sensors into C2 systems
- Battlefield logistics monitoring via IoT networks
- Device authentication and security protocols
- Case Study: Connected soldier program in a modern army

Module 9: AI and Machine Learning at the Tactical Edge

- AI-enabled decision aids supported by 5G bandwidth
- Predictive analytics for mission readiness
- Automating threat detection through edge AI
- Enhancing mission simulation with real-time data
- Data quality and governance for AI learning
- Case Study: AI-powered threat analysis in real-time combat

Module 10: Logistics, Supply Chain and Maintenance Automation

- Real-time supply chain visibility via IoT networks
- Predictive maintenance supported by 5G data streams
- Automated warehousing and defence logistics
- Tracking high-value military assets
- Integrating drones in logistics delivery
- Case Study: Automated supply chain management on the battlefield

Module 11: Spectrum Warfare and Electromagnetic Operations

- Managing electromagnetic spectrum in 5G environments
- Securing networks from jamming and interference
- Electronic warfare capabilities enhanced by 5G

- Detecting and disrupting hostile signals
- Protecting tactical networks from EW attacks
- Case Study: 5G integration in electromagnetic defence operations

Module 12: Command and Control Modernization with 5G

- Digital C2 transformation for rapid mission execution
- Real-time blue-force tracking
- Distributed C2 nodes empowered by edge computing
- Enhancing coalition operations through shared networks
- Reducing communication delays under high stress
- Case Study: C2 modernization using 5G-enabled tactical grids

Module 13: Critical Infrastructure Protection and 5G Security

- Securing military bases and installations
- Surveillance and perimeter protection using 5G sensors
- Hardening 5G infrastructure against sabotage
- Redundancy and resilience planning
- Monitoring critical assets with edge analytics
- Case Study: 5G facility security enhancement initiative

Module 14: Deployment Models for Military 5G Systems

- Base deployment, mobile deployment and hybrid models
- Ruggedizing infrastructure for battlefield conditions
- Deploying 5G in remote, hostile or dynamic environments
- Integration with existing defence networks
- Long-term sustainability and lifecycle requirements
- Case Study: National armed forces rollout of 5G tactical networks

Module 15: Strategic Roadmaps for 5G and Edge Computing in Defence

- Building long-term modernization strategies
- Aligning 5G adoption with defence transformation goals
- Partnership models with defence contractors
- Capability development and force training requirements
- Scaling edge computing across all military branches
- Case Study: Defence-wide transformation through 5G adoption

Training Methodology

- Instructor-led presentations and guided technical sessions
- Group activities and scenario-based defence simulations
- Case study reviews and peer discussion
- Practical exercises on 5G network and edge deployment planning
- Templates and toolkits for military technology integration
- Action planning for institutional adoption and modernization

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
21 Sep 2026	02 Oct 2026	Online	$2,000
21 Sep 2026	02 Oct 2026	Physical	$3,000
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0
21 Sep 2026	02 Oct 2026	Physical	$0

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