C-ITS (Cooperative ITS) Deployment Training Course

Professional Development Training Course Outline

Category	Traffic Management & Road Safety	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Cooperative Intelligent Transport Systems (C-ITS) are transforming the future of mobility by enabling real-time data exchange, vehicle-to-everything (V2X) communication, and smart infrastructure integration to improve road safety, traffic efficiency, and sustainable urban mobility. As global transport networks shift toward connected, automated, and digital ecosystems, the capability to design, deploy, and manage interoperable C-ITS solutions have become a critical skill for transport authorities, mobility operators, solution providers, and infrastructure planners.

C-ITS (Cooperative ITS) Deployment Training Course equips professionals with the technical knowledge, operational frameworks, and deployment strategies required to successfully lead next-generation traffic management initiatives, digital infrastructure rollouts, and smart mobility transformation projects. The course blends standards-based content, hands-on case studies, and emerging market insights to help participants confidently navigate the complexities of C-ITS architecture, data governance, interoperability, cybersecurity, and large-scale implementation

Programme Curriculum

C-ITS (Cooperative ITS) Deployment Training Course

Introduction

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Course Objectives

By the end of this training, participants will be able to:

1. Understand core principles of C-ITS, V2X, and connected mobility ecosystems.
2. Explain C-ITS architecture, functional components, and deployment models.
3. Apply ETSI, ISO, CEN, IEEE, and 3GPP standards to real deployment contexts.
4. Design scalable C-ITS infrastructure aligned with digital transformation frameworks.
5. Evaluate roadside unit (RSU) and onboard unit (OBU) technologies and integration needs.
6. Assess 5G, edge computing, and cloud-enabled ITS solutions for modern deployment.
7. Implement C-ITS cybersecurity, data protection, and trust models.
8. Conduct C-ITS interoperability, compliance, and performance testing.
9. Develop deployment roadmaps for cities, corridors, and multimodal networks.
10. Design traffic management strategies using real-time cooperative data.
11. Analyse C-ITS business models, investment frameworks, and ROI.
12. Evaluate policy, regulation, and governance frameworks supporting C-ITS rollout.
13. Build actionable C-ITS pilot programs, testbeds, and large-scale implementation strategies.

Target Audience

- Transport authorities and government mobility planners
- ITS engineers and smart infrastructure designers
- Traffic management centre operators
- Telecommunications and network engineers
- Automotive OEM and supplier technical teams
- Urban mobility strategists and smart city developers
- Research institutions and ITS innovation labs
- Consulting firms and digital transformation advisors

Course Module

Module 1: Fundamentals of C-ITS & V2X Communication

- Key concepts of C-ITS and cooperative mobility
- V2X communication types
- Spectrum, communication technologies
- Message sets (CAM, DENM) and information flow
- C-ITS benefits and global deployment trends

  Case Study: European C-ITS corridor deployment

Module 2: C-ITS Architecture, Standards & Protocols

- Overview of ETSI ITS architecture
- ISO, CEN, IEEE, 3GPP standardization landscape
- Protocol stacks and message frameworks
- Interoperability layers and compliance requirements
- System engineering principles for C-ITS
  Case Study: Singapore's interoperable V2X standards adoption

Module 3: Digital Infrastructure & C-ITS Components

- Roadside units (RSUs)
- Onboard units (OBUs) and vehicle integration models
- Backend systems, C-ITS stations, and cloud platforms
- Digital twins and AI-powered mobility analytics
- Infrastructure planning, mapping, and positioning
  Case Study: Australia C-ITS pilot using high-precision mapping systems

Module 4: Connectivity, 5G & Edge Computing for C-ITS

- Cellular V2X (C-V2X) technology evolution
- 5G slicing and ultra-reliable low-latency communication (URLLC)
- Edge computing for real-time C-ITS applications
- Network planning and integration with ITS backend
- QoS and latency management
  Case Study: South Korea's 5G-powered autonomous driving corridor

Module 5: C-ITS Cybersecurity & Data Governance

- Public Key Infrastructure (PKI) and trust models
- Data confidentiality, integrity, and authentication
- Incident detection and response frameworks
- Privacy-preserving mobility data practices
- Risk assessment and mitigation planning
  Case Study: U.S. SCMS (Security Credential Management System)

Module 6: Deployment Planning & Project Lifecycle

- Needs assessment and system requirements
- Pilot design, testbed development, and validation
- Procurement strategies and vendor selection
- Deployment roadmaps and risk management
- Performance metrics and impact evaluation
  Case Study: Scandinavian C-ITS large-scale deployment program

Module 7: Traffic Management Using C-ITS Data

- Cooperative perception and situational awareness
- Digital traffic signals and smart intersections
- Real-time traffic optimization and analytics
- Incident, congestion, and safety management

- Integrated multimodal mobility solutions
  Case Study: Barcelona smart intersection optimization pilot

Module 8: Business Models, Policy & Future Trends

- Investment strategies and cost-benefit modelling
- Public-private partnerships for C-ITS deployment
- Regulatory frameworks and policy development
- Transition to CCAM (Connected, Cooperative, Automated Mobility)
- Future mobility trends: AVs, MaaS, AI-driven ITS
  Case Study: Japan's national C-ITS rollout enabling automated driving services

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

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
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

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