

Special Session on “Connected Mobility over Softwarized Networks”

Special Session co-Chairs:

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Brief description

This Special Session will explore the convergence of next-generation telecommunications with Intelligent Transportation Systems (ITS), Software-Defined Vehicles (SDV), and drone-enabled mobility, highlighting how 5G/6G softwarized networks enriched with AI logic can enable scalable, cooperative, and trustworthy connected mobility services. Building on recent advances such as software-defined (vehicular) networking frameworks that integrate SDN, NFV, and MANO, AI-enabled decision-support systems for predictive QoS management, and collaborative 6G-V2X communication and control for autonomous driving, the session will examine architectures, protocols, and applications that combine V2X/VANET communications, UAV-assisted networking, edge-fog-cloud computing, and vertical application-enabling platforms. It will also address emerging challenges in radio resource management, spectrum sharing, adaptive streaming and QoE optimization, security and trust, energy-efficient network orchestration using agentic and explainable AI, and socio-technical aspects such as public acceptance and safety of V2X technologies.

Relevance to ICT 2026

By linking advances in telecom infrastructures with impactful mobility applications and experimental validation methodologies, the session aims to provide a comprehensive view of how integrated vehicular, aerial, and software-defined networking solutions will shape future ITS and cooperative mobility ecosystems in the 6G era.

Topics of Interest

- V2X communications, Vehicular Ad-Hoc Networks (VANETs), and cooperative mobility
- Software-Defined Vehicles (SDV) and software-defined networking (SDN) in automotive systems
- Network Function Virtualization (NFV) and MANO for vehicular and drone services
- UAV/drone-assisted communications for ITS and smart mobility
- AI/ML and Federated Learning for vehicular networking and traffic optimization
- Radio Resource Management and spectrum sharing for V2X and UAV network
- Edge/fog computing and vertical application enabling architectures for mobility services
- Security, privacy, and trust in vehicular and drone communications
- Reproducible emulation/simulation environments for realistic experimentation and validation of V2X, SDV, and UAV-assisted networking solutions.

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