Webinar Agenda

"Potentialities of 5G Terrestrial & Non-Terrestrial Networks for European Governmental Users and Services"

Wednesday, 11 February 2026 - Time: 15:30–19:15 CET

15:30 – 15:45 Welcome Session

- Giovanni Giambene (University of Siena, Italy)
- Miguel A. Vazquez (Centre Tecnològic de Telecomunicacions de Catalunya - CTTC, Spain)
- Theodoros Tsiftsis (University of Thessaly, Greece)

15:45 – 17:00 Session 1- Benefits of Satellite-Enabled 5G for GOVSATCOM Users

David Lund (PSC Europe Forum)

"The journey towards the Establishment of the European Critical Communication System (EUCCS)"

This presentation will introduce the European Critical Communication system (EUCCS) and the steps being taken to prepare for its technical and legislative establishment by 2030; providing critical mobile communication capability across Europe. Satellite Communication is a key capability enabler for EUCCS, where land mobile communications system components need to be interconnected and where land mobile coverage is not present. Availability of mobile communication is crucial for public safety operations. Satellite communication provides an important resilience dimension for the mission-critical mobile communication capability enabled by EUCCS.

Francesco Matera (Fondazione Ugo Bordoni)

"Role of the TN–NTN integration for 5G for GOVSATCOM Users"

In this talk, a general description of the main NTN architectures will be illustrated, including satellites, UAVs, and aerial platforms, and their integration with the TN networks, considering the main contributions in terms of resilience, coverage, and service continuity. The current normative will be examined mainly in terms of spectrum allocation, management, and orchestration. Some results from the ITA-NTN project will be reported about the main innovations in terms of transmission systems and orchestration supported by AI approaches.

Alessandro Guidotti (University of Bologna)

"Exploring the Future of Non-Terrestrial Networks: Challenges and Innovations for 6G NTN"

Following their inclusion in the 5G architecture defined by the 3GPP Release 17 and the announcement of several related commercial initiatives, Non-Terrestrial Networks (NTNs) have emerged from their traditional niche to become a fundamental topic of connectivity for the global academic and industry communities. While the initial inclusion of NTNs in the global 5G architecture was primarily aimed at minimizing the impact of the necessary air interface adaptation for the satellite environment, and 5G-Advanced, has focused on the integration of terrestrial and non-terrestrial networks, the

evolution toward 6G aims for their native inclusion for delivering enhanced performance for the identified key use cases. In this talk, after a short overview of the path that brought SatCom to NTN and the current status in the 5G/5G-Advanced ecosystem, we discuss the trends, innovations, and challenges that are driving the definition of a natively integrated NTN component in 6G systems.

17:00 – 17:15 Small break

17:15 – 18:30 Session 2 – Mission-Critical Services over Integrated 5G TN-NTN Systems

Olga Chukhno (Mediterranea University of Reggio Calabria)

"XR Mission Critical in Integrated TN/NTN"

The emergence of eXtended Reality (XR) technologies is revolutionizing Mission Critical (MC) operations by enhancing situational awareness and decision-making. However, the high computational demands of XR MC applications, coupled with the limited capabilities of battery-powered wearable XR devices worn, e.g., by first responders, necessitate offloading strategies to more processing-powerful network nodes. Traditional terrestrial networks, while supporting XR MC services, may not be reliable in all scenarios, especially during emergencies or in remote areas. To address this, the integration of Non-Terrestrial Networks (NTNs) with Terrestrial Networks (TNs) offers various options to place and run in-network computing tasks, e.g., Low Earth Orbit (LEO) satellites and Unmanned Aerial Vehicles (UAVs). The potential of these offloading options for XR MC services has not yet been fully explored. In this webinar, we close this gap and analyze the performance of application-driven offloading of computational tasks of XR MC services at different locations in the integrated TN/NTN environment. We assess the end-to-end latency cost under different traffic loads at the various system layers and analyze the energy consumption of XR device, identifying practical insights for system designers.

Marco Viali (Croce Rossa Italiana - CRI)

"User Perspective on Crisis Response"

This talk aims to illustrate the telecommunications technologies currently used by the Red Cross and the scenarios in which they are employed, including peacetime operations, wartime contexts, and emergency situations. Through real-world examples, it will show how these technologies support communication, coordination, and service delivery in diverse and often critical environments. The talk will then address how these technologies may be replaced or evolve over time, outlining potential future developments in the healthcare sector. In particular, it will consider applications related to medical support, telemedicine, and psychological assistance, and the role telecommunications play in enabling these services.

Jorge Proença (OneSource)

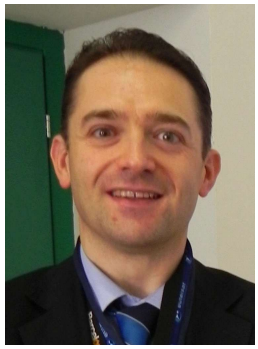
"Mobitrust - Bridging 5G TN-NTN for Mission-Critical Operations"

Integrated 5G terrestrial and non-terrestrial networks (TN–NTN) are becoming a cornerstone for delivering resilient, ubiquitous connectivity to mission-critical operations, particularly where conventional infrastructure is unavailable or compromised. Within this landscape, Mobitrust provides a unified platform for real-time situational awareness, data fusion, and operational coordination tailored to Public Protection and Disaster Relief (PPDR) and comparable high-risk missions, leveraging multimodal streams (video, sensor, biometric) over high-availability networks.

Mobitrust's architecture is designed to ingest, process, and visualise heterogeneous data feeds to support informed decision-making and remote command-and-control functions under stringent reliability, security, and latency constraints. This presentation will also present the Mobitrust platform role in the 5G-HUB use cases as an end-user application, contributing in the validation of the G-HUB developments within the project, illustrating the practical operation of mission-critical services over integrated 5G TN–NTN infrastructures.

18:30 – 19:15 Final Roundtable - Future Opportunities for European 5G-NTN GOVSATCOM Services

Speakers



Giovanni Giambene (born in Florence, 1966) holds an MSc in Electronic Engineering (Telecommunications) from the University of Florence (1993, 110/110 cum laude) and a PhD in Telecommunications and Computer Science (1997). From 1994 to 1997 he conducted research at the Department of Electronic Engineering, University of Florence, and served as Technical External Secretary of COST Action 227 on integrated space/terrestrial mobile networks. In 1997–1998 he worked at Marconi Group OTE (now Selex ES) in Florence, contributing to GSM equipment development. Since 1999 he has been with the University of Siena, where he is currently an Associate Professor at the Department of Information Engineering and Mathematical Sciences. He teaches Networking in the Master's degree in Electronics and Telecommunications and a first-level course on Next Generation Telecommunications Systems. He has participated in major European and international projects, including PALIO (FP5), RADICAL (FP7), WiNeMO (COST IC0906), and multiple SatNEx initiatives (EU/ESA) with responsibilities in access techniques, cross-layer air interface design, and network coding for satellite networks. He also contributed to ROMANTICA (ESA/IIT) and RESTART Netwin-Sprint and currently leads Horizon Europe projects 5G-GOVSATCOM and 5G-HUB (as coordinator). He is an IEEE Senior Member and an editor for IEEE Transactions on Vehicular Technology since 2015. His research focuses on terrestrial and satellite wireless networks, 5G IoT for environmental monitoring and smart agriculture, transport protocols, and security/privacy.

Miguel Ángel Vázquez is Head of the Space and Resilient Communications and Systems (SRCom) Research Unit at the Centre Tecnològic de Telecomunicacions de Catalunya (CTTC), Barcelona, Spain. Since 2010, he has been with CTTC, working on advanced satellite and non-terrestrial networks (NTN), resilient communications, and the intersection of signal processing, AI/ML, and optical communications. He serves as project manager of the 5G-GOVSATCOM project and technical manager of the 5G-HUB project, and has led several industrial contracts with satellite operators, resilient-related organisations and telecom manufacturers, with a focus on multiantenna systems and robust end-to-end architectures. He has been actively involved in European and ESA projects such as SATNEX, contributing to the development of multi-band NTN infrastructures and AI-enabled RAN/NTN. He has co-authored more than 50 papers in international journals and conferences and regularly serves as reviewer and TPC member for IEEE events and journals. He is active in the IEEE Communications Society, particularly within the Satellite and Space Communications community, and in European 6G/NTN initiatives.

Theodoros A. Tsiftsis (IEEE, Senior Member) received his PhD degree in electrical engineering from the University of Patras, Greece, in 2006. He is currently a professor in the Department of Informatics & Telecommunications, University of Thessaly, Greece, and also Visiting Professor of Wireless Communications at the University of Nottingham Ningbo China. His research interests span the broad fields of communication theory and wireless communications, with a particular focus on wireless communications theory, reconfigurable intelligent surfaces, optical wireless communications, and satellite communications. Dr. Tsiftsis has served on the Editorial Boards of several prestigious IEEE journals, including the IEEE TRANSACTIONS ON COMMUNICATIONS, IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, IEEE COMMUNICATIONS LETTERS, and IEEE TRANSACTIONS ON MOBILE COMPUTING. He is currently an Associate Editor of the IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS. Recognized for his contributions to the field, Dr. Tsiftsis was appointed an IEEE Vehicular Technology Society Distinguished Lecturer for two consecutive terms (2018–2022) and was named an IEEE Communications Society Distinguished Lecturer for the 2024–2025 term.

David Lund coordinates the EUCCS Preparation programme, preparing the technical ground with 15+ EU governments/agencies and industry towards establishment of the European Critical Communication System (EUCCS) for which the EC are currently preparing legislation for establishment of EUCCS. He was also coordinator of the BroadMap and BroadWay projects that lead to the European Commission policy priority to establish EUCCS by 2030. David is board member of Public Safety Communication Europe (PSCE) Forum for since 2013 and recently concluded his term as President of PSCE. David is also a Board Member of the 6G Infrastructure Association (6G-IA), and of Smart Networks and Services (SNS-JU) helping to set the direction of innovation in 6G with the EC's Horizon Europe programme.

Fracesco Matera was born in Rome, Italy, on May 1, 1961. He received the Laurea degree in Electronics Engineering from the University "La Sapienza" in Rome, Italy, in 1985. In 1986, he was granted a fellowship at Fondazione Ugo Bordoni on optical fibers. Since 1988, he has been a Researcher at Fondazione Ugo Bordoni where he worked on optical fiber systems, optical networks, and fiber nonlinearities. He participated in different European Projects, and he was the scientific coordinator of the European IST ATLAS project for soliton WDM systems. He was a contract professor at the Faculty of Electronic Engineering of Bari and Cassino, where he taught optical communications. Currently, he works on 5G&6G networks. He is Author of about 150 publications and 150 Conference papers and of a book: "Nonlinear Optical Communication Networks" Wiley 1996.

Alessando Guidotti received the master's degree (magna cum laude) in Telecommunications Engineering and the Ph.D. degree in Electronics, Computer Science, and Telecommunications from the University of Bologna, Italy, in 2008 and 2012, respectively. From 2009 to 2011, he represented the Italian Administration within CEPT SE43. From 2014 to 2021, he was a Research Associate with the Department of Electrical, Electronic, and Information Engineering "Guglielmo Marconi," University of Bologna. From 2021 to 2025, he was a Senior Researcher with the National Inter-University Consortium for Telecommunications (CNIT). Since October 2025, he has been an Associate Professor at the University of Bologna. He currently is the Chairman of the Networld Europe NTN Working Group and the CNIT representative in the ESA NTN Forum. He is active in national and international research projects on wireless and satellite communication systems in several ESA and EC funded projects. He has been serving as TPC and Publication Co-Chair at the ASMS/SPSC Conference since 2018. He is a member of the IEEE AESS "Glue Technologies for Space Systems" Technical Panel. His research areas include wireless communication systems and Non-Terrestrial Networks, mainly focusing on system architecture, standardization and regulation, digital beamforming and interference management, 5G/6G, and AI applications.

Olga Chukhno received her MSCA Innovative Training Network fellowship and obtained her double Ph.D. from Tampere University (Finland) and Mediterranea University of Reggio Calabria (Italy), where she is currently an Assistant Professor. Her main research interests include wireless communications, programmable heterogeneous networks with optimal traffic management and service composition, advanced algorithms for managing distributed services, and resource optimization with a particular focus on XR applications.

Marco Viali is currently the Head of the ICT Organizational Unit of the Italian Red Cross. He specializes in software architecture, digital transformation, and the management of complex projects in the telecommunications and nonprofit sectors. His career began in the telecommunications field, where he took part in the launch of the first Italian full MVNO, an experience that strengthened his skills in system design, technological integration, and the management of critical infrastructures. In 2015, he joined Optima Italia S.p.A. as an IT Solutions Architect, and in 2018 he moved to the Italian Red Cross, where he has held roles of increasing responsibility: first as Technical Manager for Software Architectures, and then as Head of the ICT Unit since 2023. He holds a degree in Electronic Engineering from the University of Perugia.

Jorge Proença holds an M.Sc. and a Ph.D. in Informatics Engineering from the University of Coimbra. He is currently an R&D Project Manager at OneSource, Portugal, and an Invited Assistant Professor at the Department of Informatics Engineering of the University of Coimbra. Since 2014, he has participated in multiple national and European research projects. His research interests include telecommunication networks, network virtualization, cybersecurity, and the protection of critical infrastructures.