ESTART WORKING GROUP 7 –

- Mobile private / mission critical network connectivity

CHARTER DESCRIPTION

The Charter defines the mandate, scope, objectives, expected outputs, and organizational framework of RESTART Working Group Mobile Private/Mission Critical Network Connectivity. It provides the reference framework for the Group's activities and ensures that its work remains focused, coordinated with the broader RESTART Programme, and oriented towards clearly identified outputs.

The Charter will be periodically reviewed and updated to reflect major developments in technology, research, markets, regulation, and the priorities of the RESTART Programme.

1. Scope and Areas of Work

WG7 investigates the main aspects related to private / mission critical networks, covering the following areas of work:

[**TECH**] Technical focus, defining the best practices for the design, deployment, implementation, and maintenance of private/mission critical networks;

[**APP**] Monitoring the application areas of private/mission critical networks, including, but not limited to logistics, smart cities, autonomous warehouses/port installations, harsh environments, rural/remote zones, energy/oil/gas pipelines, emergency networks, railway / airport / law enforcement authority / homeland security communications.

[**MARKET**] Monitoring the relevant industrial and market landscape, at Italian, EU, and extra-EU level, including developments related to standardization, regulation, public policy, and industrial strategies.

[**RESEARCH**] Monitoring the relevant academic and industrial research landscape, including major technology trends, emerging research directions, expected technological evolution, and their potential impact.

[**WG-LIASION**] interactions and coordination with other RESTART Working Groups, activities, projects, or organizational structures, including, but not limited to: WG3 (Standardization); WG6 (Cybersecurity and certifications); WG9 (Satellite communication technologies); WG10 (Artificial Intelligence in Telecommunications), WG11 (European Sovereignty, Single Market, and Regulatory Aspects).[**COOPERATION**] Cooperation with stakeholders outside RESTART, including, but not limited to GSMA, ETSI, 3GPP, ITU-T, Confindustria, ANCI / Regional Authorities, Municipality Authorities, AGCOM / MIMIT, ACN, CEPT / ECC.

[**OUTPUT**] Disseminate the outcomes of the WG to the involved players: device manufacturers, operators, regulators, public funders, local authorities, LEAs / homeland security authorities (e.g, Polizia di Stato, Polizia Municipale, Carabinieri), emergency services bodies (Protezione Civile, Vigili del Fuoco).

2. Mandate, Purpose and Objectives

WG7 aims at establishing a collaborative forum within and beyond the RESTART ecosystem to monitor, analyze, and support the evolution of mobile private and mission-critical communication networks, with particular emphasis on their technological, operational, regulatory, and market dimensions. The WG acts as a bridge for academic research, industrial innovation, and the requirements of stakeholders operating in sectors where reliable, secure, and resilient connectivity is essential.

The mandate is implemented through four main Actions.

A1: Applications, Use Cases, and Real-World Deployments

This action investigates the application domains, requirements, and real-world deployments of private and mission-critical networks, with particular emphasis on practical experiences, deployment challenges, operational constraints, and lessons learned in different sectors.

Main activities include:

- Identification and formalization of application domains and use cases associated with mobile private / mission-critical networks, including, but not limited to, industrial automation, logistics, smart cities, transportation, energy, critical infrastructures, healthcare, emergency response, and public safety.
- Definition of connectivity requirements for mobile private / mission-critical networks, e.g., capacity, latency, reliability, availability, security, resilience, and service continuity;
- Definition of deployment models and functional considerations for mobile private / mission-critical networks, including infrastructure sharing, network management, and integration with existing networks;
- Review of existing real-world deployments, pilot initiatives, and case studies for mobile private / mission-critical networks, identifying deployment challenges, best practices, lessons learned, and opportunities for replicating or scaling successful deployments across different application domains.

A2: Technologies, Research, and Innovation

This action monitors and assesses current technologies, research trends, and standards and architectural solutions for private and mission-critical networks, identifying emerging technological opportunities, unresolved challenges, and priorities for future research.

Main activities include:

- Identification of suitable communication technologies for private and mission-critical applications, including, but no limited to, private LTE/5G, 5G-Advaced, 6G, Wi-Fi, TTEthernet, TETRA, DMR, FRMCS, VOR, SINCGARS, MUOS and hybrid terrestrial/non-terrestrial connectivity solutions
- Definition of relevant network deployment architectures for mobile private and mission-critical networks.

- Identification of AI/ML-based solutions that can be used to optimize mobile private and mission-critical network operations.
- Investigate energy-efficient, sustainable, scalable, secure, and cost-effective solutions for the management and operation of mobile private and mission-critical networks;
- Investigate the interoperability and integration of heterogeneous communication technologies, mobile private and public networks, and legacy systems, enabling seamless connectivity and service coordination across different industrial sectors, public authorities, administrations, and emergency services.

A3: Standardization, Regulation, Industry, and Market

This action monitors standardization, regulatory, industrial, and market landscape surrounding mobile private and mission-critical networks, with particular emphasis to developments and opportunities in Italy and Europe.

Main activities include:

- Standardization activities and technological evolution of relevant bodies and industry organizations, including, but not limited to, 3GPP, ETSI, ITU-T, GSMA, 5G-ACIA, and TCCA;
- Regulatory frameworks and spectrum policies, including spectrum availability, licensing / authorization models, as well as requirements for network security/resilience;
- Relevant industrial ecosystems and players, including network operators, infrastructure providers, equipment manufacturers, system integrators, and vertical-industry stakeholders;
- Relevant National and European public stakeholders, including municipalities, public administrations, healthcare authorities, emergency services, first responders, civil protection agencies, and law enforcement bodies;
- Market developments, emerging business models, investment trends, and opportunities for commercial deployment;
- Technological, economic, organizational, and regulatory barriers to adoption of private and mission-critical networks, particularly for industrial enterprises, public authorities, and critical infrastructure operators;

A4: Strategic Coordination, Cooperation, and Dissemination

This action promotes cooperation among research organizations, industry, and public institutions within and beyond the RESTART ecosystem, translating the findings of the WP into shared knowledge, strategic recommendations, and opportunities for coordinated action.

Main activities include:

- Dialogue and knowledge exchange among academic, industrial, and institutional stakeholders, including expert interviews and contributions from relevant industry representatives;
- Coordination with other RESTART Working Groups, projects, and organizational structures on topics of common interest;
- Cooperation with external organizations, industry associations, standardization bodies, public authorities, and national and European research and innovation initiatives;
- Identification of opportunities for joint research, experimentation, technology transfer, industrial cooperation, and participation in relevant funding programmes;
- Organization of thematic discussions, round tables, and/or invited talks to facilitate stakeholder engagement;
- Preparation and public dissemination of annual reports, position papers, and strategic recommendations;
- Identification of emerging priorities and opportunities for coordinated actions supporting the evolution and adoption of private and mission-critical networks.

3. Expected Outputs, Deliverables and Milestones

The Working Group identifies a set of concrete and verifiable outputs through which progress can be assessed.

Core outputs include:

- the annual Working Group Report, summarizing major developments, activities, findings, and recommendations;
- the contribution to the annual RESTART event, presenting the main results and strategic messages emerging from the Group;
- the establishment or promotion of relevant collaborations and joint initiatives;
- identification of emerging topics requiring further investigation or coordinated action.

The following milestones are defined:

[M-REPORT-INTERMEDIATE] Six months prior to the annual event, targeting the intermediate version of the report.

[M-REPORT-FINAL] Two months prior to the annual event, targeting the final version of the report.

[M-CONTRIBUTION-EVENT] One month prior to the annual event, collecting contributions from the report and individual ones from the participants of the WG.

For the first year of the WG, we ensure [M-REPORT-FINAL] and [M-EVENT], since the WG started in October 2026. The following deadlines are defined:

[M-REPORT-FINAL] 31st January 2027

[M-CONTRIBUTION-EVENT] 6th Febraury 2027

The following deliverables are identified:

[D-REPORT-INTERMEDIATE] Intermediate version of the report, to ensure [M-REPORT-INTERMEDIATE];

[D-REPORT-FINAL] Final version of the report, to ensure [M-REPORT-FINAL].

4. Membership, Governance and Participation

The WG is coordinated by the following set of Chairs:

- Prof. Luca Chiaraviglio, University of Rome Tor Vergata
- Giacomo Croce, Telebit
- Marco Giordani, University of Padova

The WG welcomes representatives from academia, public sector, and industry.

Participation is open to RESTART partners. Individual participation must be communicated to the Chairs.

Participation from bodies outside RESTART, including experts, institutions, companies, research organizations, standardization bodies, or other stakeholders willing to collaborate in the WG activities must be approved by the Chairs.

5. Coordination and Working Method

The activities of WG7 shall be coordinated by the Chairs, who will oversee the implementation of the Charter, monitor progress against the agreed objectives and milestones, and ensure the timely preparation of the expected deliverables.

The WG adopts a collaborative and flexible working method, based on the following actions:

- The Chairs will schedule monthly plenary meetings to review ongoing activities and coordinate upcoming actions;
- The Chairs will nominate a set of Editors, who coordinate the writing of specific sections of the reports, including collecting contributions from WG members, and ensuring consistency across the document. Self-nominations for Editor role are welcome and subject to approval by the Chairs. The mandate of each Editor lasts from one year, with the possibility to extend the duration up to an additional year.
- The Chairs will nominate the Steering Committee, which will act as liaison with other RESTART Working Groups and relevant external stakeholders;
- Continuous communication among WG members is ensured trough a dedicated mailing list and shared collaboration tools, facilitating the exchange of information, contributions, and relevant materials;
- Engagement with external stakeholders, including industry representatives, network operators, public institutions, standardization bodies, and other relevant organizations, will be promoted through dissemination activities such as expert interviews, invited talks, thematic discussions, end other initiatives.

The Working Group should remain focused on the mandate established by this Charter. Significant extensions or changes to its scope, objectives, or expected outputs should be reflected in an updated version of the Charter.