New SNS Projects Webinar 1/4

TrialsNet Overview

Silvia Provvedi (Ericsson Telecomunicazioni S.p.a) 2023-02-15



TrialsNet project has received funding from the European Union's Horizon-JU-SNS-2022 Research and Innovation Programme under Grant Agreement No. 101095871



TrialsNet in a nutshell

- **Programme:** Horizon Europe Framework Programme
- Topic Id: HORIZON-JU-SNS-2022-STREAM-D-01-01
- Proposal No: 101095871
- Duration: 36 months
- **Budget**: €14.647.245 (Open Call €5.580.900)
- Consortium members: 22 partners from 5 EU member states and 1 extra-UE state (UK)
- Project Coordinator: Silvia Provvedi (Ericsson):
- Technical Manager: Alessandro Trogolo (TIM)

Role	Partners
Network Vendors	TEI, ERC
Network Operators	TIM, TID, ORO
6G Technology Providers	NXW, WINGS, IMEC, YBVR, IIT, PROS, CROSSM, CERTH
Verticals	COTO, AIA, CNR, DAEM
Academia	UC3M, CNIT, TUIASI, SSSA
Others	RW, PIIU, CERTH

Trials supported by Smart Networks beyond 5G







Vision and goals

- Smart Cities have already attracted attention as one of the possible solutions to improve "livability" and people's quality of life
- Beyond 5G and 6G are candidate technologies to positively impact aspects of immense social value as sustainability, resilience, inclusion, trust, security, etc.
- TrialsNet vision is to enable the realization of compelling societal values through the implementation of 5G and beyond applications, which will be propaedeutic for the transition towards the next generation of mobile networks
- TrialsNet will connect the digital with the physical and natural worlds through its large-scale trials with verticals in the three domains of:
 - Infrastructure, Transportation, Security & Safety
 - eHealth & Emergency
 - Culture, Tourism & Entertainment





Main objectives

- Deployment of **full large-scale trials** to implement a heterogenous and comprehensive set of **innovative 6G applications** based on various technologies and **covering 3 domains**
- Design and implementation of 13 use cases developed over wide coverage areas with the involvement of extended sets of real users in 4 clusters
- Design and integration of **platforms and network solutions** with **advanced functionalities** (e.g., E2E orchestration, MEC, AI/ML methods, etc.) on **different network architectures** (3GPP and O-RAN)
- Definition and validation of specific KPIs and KVIs
- Learn from these activities to understand:
 - where the **current network capabilities** are **not sufficient** to provide the performance requirements needed by the implemented use cases, and in this way
 - devise the new requirements for the forthcoming generation of mobile networks







Methodology





TrialsNet Use Cases







Infrastructure, Transportation, Security & Safety

eHealth & Emergency

Culture, Tourism & Entertainment

UC1: Smart Crowd Monitoring
UC2: Proactive Public Infrastructure Assets Management
UC3: Autonomous APRON
UC4: Smart Traffic Management
UC5: Control Room in Metaverse

 UC6: MCI and Emergency Rescue in Populated Area
 UC7: Remote Proctoring
 UC8: Smart Ambulance
 UC9: Adaptive Control of Hannes Prosthetic Device UC10: Immersive Fan Engagement UC11: Service Robots for Enhanced Passengers' Experience UC12: City Parks in Metaverse UC13: Extended XR Museums Experience





- The main objective of the Open Call will be to bring an added value to the project activities by:
 - Involving new key actors to implement additional, diversified and heterogeneous vertical use cases that cover crucial industrial and societal sectors
 - Supporting the deployment of **new trials over the project platforms and network solutions** as well as to **extend its infrastructures domain** in Europe
- The Open Call will maximize the impact and will accelerate the adoption of TrialsNet solutions demonstrating their flexibility, user acceptance and technology transfer
- The launch of the Open Call is planned in November 2023
- New partners are expected to be onboarded into TrialsNet's activities beginning of June 2024



Conclusions

- TrialsNet will deploy large-scale trials from an end-to-end perspective, incorporating the technologies that are currently considered as key enablers for 6G networks
- TrialsNet will implement 13 innovative use cases in 4 clusters covering the three vertical domains of
 - Infrastructure, Transportation, Security & Safety
 - eHealth & Emergency,
 - Culture, Tourism & Entertainment
- TrialsNet will develop appropriate technical and socio-economical assessment frameworks in order to validate proper KPIs/KVIs to contribute to standardization/SNS JU streams and to the societal early-adoption of 6G solutions
- TrialsNet expected impacts will be further strength through the Open Call that will bring onboard new key actors and vertical use cases













www.trialsnet.eu



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Infrastructure, Transportation, Security & Safety

- UC1: Smart Crowd Monitoring
- UC2: Proactive Public Infrastructure Assets Management
- UC3: Autonomous APRON
- UC4: Smart Traffic Management
- UC5: Control Room in Metaverse







Security cameras & Drones (insi the terminal)

On-site view of with AR

exist

breaking ground

Bidirectional communications with

Walkthroughs of designs prior to

Identify any issues before they even

Improve Safety and Training

Wireless monitoring of indoor construction sites Remote inspection to keep safety officials safely on the ground

Traffic levels from 3D mar



Remotely-controlled or unmanned building machiner and vehicles Autonomous construction & 3D printing of complex structures Risk reduction in the construction environmen







eHealth & Emergency

- UC6: MCI and Emergency Rescue in Populated Area
- UC7: Remote Proctoring
- UC8: Smart Ambulance
- UC9: Adaptive Control of Hannes Prosthetic Device





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Culture, Tourism & Entertainment

- UC10: Immersive Fan Engagement
- UC11: Service Robots for Enhanced Passengers' Experience
- UC12: City Parks in Metaverse
- UC13: Extended XR Museums Experience









