

ETSI STF 565 Vulnerable Road Users (VRU) – Post Event Workshop

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Sophia Antipolis

Nokia - We create the technology to connect the world

Nokia Corporation engages in the network and technology businesses. It provides mobile networking solutions, including hardware, software, and services for telecommunications operators, enterprises, and related markets/verticals, and fixed networking solutions, such as copper based solutions, fiber-to-the-home solutions, gigabit passive optical networks, and network implementation. Nokia also provides IP/optical networking solutions, including IP routing and optical transport systems, software solutions, such as customer experience management, network operations and management, communications and collaborations, policy and charging, as well as Cloud, IoT, security, and analytics platforms.

Nokia is very active in research and standardization.

Headquarter is in Espoo, Finland. However, Nokia has locations all over the world. Nokia was founded in 1865.

Annual Revenue: \$28.9B

Employees: 103,000

Website: nokia.com, <https://www.bell-labs.com/>



Reason for attending this meeting

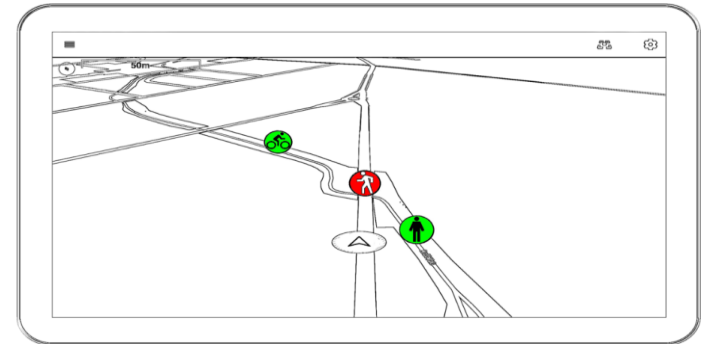
Interest in standardization of VRU in Cooperative ITS

- Nokia proposed already last year, together with Ericsson, *to add a new Use Case "Network assisted vulnerable pedestrian protection"*
 - [**ITSWG1\(18\)044003**](#), Text Proposal Use Case Network assisted vulnerable pedestrian protection, Ericsson LM, Nokia Germany
 - [**ITSWG1\(18\)044011**](#), Slides explaining contribution 3 (Use case), Nokia Germany (*This slide set accompanies contribution ITSWG1(18)044003 "Text Proposal Use Case Network assisted vulnerable pedestrian protection".*)
- This is based on 5GCAR: Fifth Generation Communication Automotive Research and Innovation; public deliverable: D2.1 2017-08-31 "Deliverable D2.1 5GCAR Scenarios, Use Cases, Requirements and KPIs", https://5gcar.eu/wp-content/uploads/2017/05/5GCAR_D2.1_v1.0.pdf
- The contribution was deferred to the start of STF 565

Use Case

Network assisted vulnerable pedestrian protection

- GNSS is not ubiquitously available (street canyons within high rise buildings, tunnel, parking garage) and accuracy may vary
- Reliability of in-vehicle sensors depends on line-of-sight relation to VRU and/or weather conditions
- Vision: Mobile radio system supports **protection of Vulnerable Road Users (VRU)** as additional “sensor”
- Research ambition: Car driver (and pedestrian) shall be **reliably warned** in case of a likely collision



Possible warning message

Solution

