

VIP Rail

Track-to-Train Communication Study Group, 5G and beyond

Spectrum – Standards – Network Topologies
for

*Future safe and secure, dependable and reliable
operation of very high speed international train services*

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VIP Rail - Objectives

WIRELESS WORLD
RESEARCH FORUM®

Security, reliability, and dependability are playing a focal role in future radio communication systems 5G+ and IoT for efficient train operations and related safety

- **Identify and investigate the new advanced key applications that determine the stringent requirements to 5G and beyond for future high speed trains**
- **Study the applicability for trains of adapting ultra high bitrate 5G+ mobile networks to train operations**
- **Compare and study if and how the Time,- and Mission Critical vital train applications compare with requirements from other professional and land-mobile sectoral applications, such as, *inter alia*, Public Safety and Emergency services with the aim of the possible sharing of mobile network resources**
- **Study the vital coexistence aspects between the passengers Internet access platform(s) and the train operations wireless systems**
- **Develop WWRF expertise as a bridge between the railway industries and industry organizations such as 5GAA and the wireless standards organizations (such as 3GPP) to provide input to foster standardization**
- **Leverage academic research to develop technologies and solutions for railways that complement developments in standards bodies.**



Objectives cont'd

- Provide relevant input to government and railway industry to maximize the advantages of new technologies while addressing concerns with respect to security and privacy.
- Create a better understanding in the railway industry of the potential and capabilities of future wireless technologies.
- Enable the telecom and railway industry to jointly discuss the vision, usage scenarios, requirements and enabling technologies to achieve the targets of future vertical industry communications in 5G and beyond.
- Work with the global railway industry to highlight and develop opportunities enabled by 5G and beyond

Milestones and deliverables

- Inauguration of VIP Rail at WWRF #41 in Herning, Denmark
- Outputs include white papers and technical proposals which will be submitted to the major standardization bodies of 5G relevance, including ITU and 3GPP (ITU-R WRC 19, AI 1.11, November 2019)
- Development of draft white papers
- Liaise with regional SDO's as applicable
- Approval of finalized white papers

