

Mission Critical 5G for Vehicle IoT

Industry Track: Panel

September 20, 2016

IEEE VTC 2016

Montreal, MA

Naseem Khan

Verizon



Background: Mission Critical 5G for Vehicle IoT

- **5G to play an important role in meeting mission critical communication needs of Vehicle IoT. Examples:**
 - Low to Extremely Low Latency
 - Ultra-High Reliable Communication
 - Resilience/High Availability
- **Use cases**
 - Under varying environmental conditions (roads/highways, traffic signals, weather, other external factors) and high speed
 - Improve safety of drivers, passengers, and near-by pedestrians and cyclists
 - Control congestion
 - Broader Application Areas: Automated, Assisted, & Tele-Operated Driving, Info-mediation, and Infotainment

Session Objective: Mission Critical 5G for Vehicle IoT

- **Examine perspectives:**
 - Mission critical vehicular 5G – Use cases & requirements
 - Possible architectures and deployment models
 - Enabling Technologies
 - Spectrum
 - Co-existence with other types of communication networks & IT Infrastructure (Legacy, DSRC, Cloud, etc.)
 - Findings from research, standards, and industry activities
 - Business models
 - Role of mobile operators, car manufacturers, OTT providers, etc.
 - Promises and challenges

Other Factors to Consider: Mission Critical 5G for Vehicle IoT

- **Eco-System:**
 - Car Manufacturers
 - Component Suppliers
 - Mobile Operators
 - OTT/Content Providers
 - Cities/ Municipalities/ Townships
 - Rental Car Providers
 - Fleet Management Companies
 - Road infrastructure operators
- **Cost Efficiency**
- **Phases of Deployment/Timing**
- **Roaming**
- **Legal Framework**
 - Liability
 - Certification/Compliance
- Synergy with other use cases: Smart Cities, Logistics, Utilities, etc.

Panelists: Mission Critical 5G for Vehicle IoT (IEEE VTC'16)

- **Chair: Dr. Naseem Khan, Verizon**
- **Co-Chair: Dr. Yin Liu, Ericsson**

- **Distinguished Panelists:**
 - **Dr. Chih-Lin I, Chief Scientist, China Mobile**
 - **Dr. Stefan Parkvall, Principal Researcher, Ericsson**
 - **Vincent Park, Senior Director, Qualcomm**
 - **Dr. Preben Mogensen, Professor - Aalborg University & Principal Engineer, Nokia**
 - **Dr. Carlos Cordero, Director, Cisco**
 - **Muthaiah Venkatachalam, Director, Intel**