

# Joint Working Group Webinar Series

## July 2018: Automotive Working Group



**Wednesday, 25 July 2018**

**11:00am - 12:00pm ET**

### ***A System of Systems Approach to Automotive Challenges***

The automotive industry is facing many significant challenges that go far beyond the design and manufacturing of automobile products. Connected, autonomous and electric vehicles, smart cities, urbanization and the car sharing economy all present challenges in a fast-changing environment which the automotive industry must adapt to. Cars no longer are just standalone systems, but have become constituent systems (CS) in larger System of Systems (SoS) context. This is reflected in the emergence of several acronyms such as vehicle-to-everything (V2X), vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), and vehicle-to-grid (V2G) expressions.

System of Systems are defined systems of interest whose elements (constituent systems) are managerially and operationally independent systems. This interoperating and/or integrated collection of constituent systems usually produce results unachievable by the individual systems alone, for example the use of car batteries as virtual power plants.

This paper will (1) discuss automotive challenges the industry is currently facing, (2) provide an introduction into System of Systems Engineering (SoSE), (3) provide examples and case studies of successful SoSE, and (4) make recommendations on how to address the automotive challenges applying SoSE.

### ***Oliver Hoehne, Technical Fellow, WSP USA***

Oliver Hoehne graduated from Beuth University of Applied Science, Berlin, Germany in Computer Science, and has 25+ years of extensive international and domestic experience in Software and Systems Engineering across industries in leading Systems Engineering, Integration & Testing (SEIT) roles, including several multi-billion dollar programs.

Oliver leads the U.S. Global Technical Excellence Sector and Practice Lead on Systems Engineering, Communications and Control Systems for WSP USA, and is currently deployed as the System Engineering & Integration Lead on the California High-Speed Rail Program.



Mr. Hoehne holds certifications as a Project Management Professional (PMP), Certified Systems Engineering Professional (CSEP), and Certified Scrum Master (CSM), and serves as board member on the Drexel University Systems Engineering and Engineering Management Advisory Board.

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