



Invited session : Telematics Digital Twins Applications

Session code: **38vnh**

Organisers:

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Abstract:

Telematics Applications and concepts such as Internet of Things and Digital Twins are now seen as major opportunities for actors in many sectors to improve their products, processes, and services. The coupling between the real world and the virtual world – provided by new data collection technologies and innovative data management strategies – allow to gather the needed data for Digital Twin construction, update and maintenance.

Digital Twin of a system can be described as a set of models on which data are gathered, simulations are performed, and calculations are made, enabling the development of efficient tools such as virtual or augmented reality, data mining, online simulation or machine learning for monitoring and controlling the targeted system.

While the notion of the Digital Twin in itself is still not clearly defined, the idea has sparked interest across multiple domains (networking, logistics, manufacturing, construction, etc.) leading to several projects involving academia and industry all around the world. As a result, this session aims at bringing together multiple actors working on this concept in order to focus on the relation between Telematics and Digital Twinning. The expected works may concern one and/or the other of these categories:

- *Digital Twin of Telematics*: modeling and virtualizing telecommunication technologies (IoT, WSN...) for the simulation, the optimization and the control of the telecommunication architecture;
- *Telematics for Digital Twin*: using telecommunication technologies to setup and update the Digital Twin of a system. Innovative sensing technologies (battery-free sensors, long-range sensing) and computing (cloud, edge, fog computing) technologies are of prime interest.

Applications or research project feedbacks are particularly welcome. Works related to Digital Twin architectures, digitisation methodologies and data asset management in the era of the IoT will be highly appreciated.

Keywords: Digital Twin, Digitalization Strategies, Data Asset Management

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If the theme of the paper is not suited to the invited session, the paper will be evaluated and considered for a regular session.

Please send an email with your intention to submit a paper to the organisers.