INTERNET OF THINGS TECHNOLOGY IN SMART TRANSPORTATION

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COMPETENCE PROFILE

- Internet of things
- Data analytics
- Security & safety
- Cloud computing
- Automation
- System architecture
SMART TRANSPORTATION R&D FOCUS 1: SYSTEMS-OF-SYSTEMS (SoS)

Safe and efficient transportation requires cooperation between vehicles and with infrastructure. What are the mechanisms needed to let independent vehicles cooperate?

Challenges:
1. Architecture
2. Interoperability
3. Security
SMART TRANSPORTATION R&D FOCUS 2: AUTOMATED DRIVING

Automation is a key enabler for improving transportation efficiency and safety.

What are the information sources and processing needs in vehicles for automated driving in different applications (not just passenger cars)?

Challenges:
1. Sensors
2. Safety
3. Human interaction
SMART TRANSPORTATION R&D FOCUS 3: DATA ANALYTICS

Smart transportation requires improved situational awareness both on a macro and micro level

How can efficient analytics techniques be developed to the needs of automated driving and systems-of-systems?

Challenges:
1. Machine learning techniques for sensor data
2. Reconcile micro and macro analyses / data fusion
3. Storage and processing platforms
SMART TRANSPORTATION R&D FOCUS 4: SYSTEM SAFETY AND SECURITY ANALYSIS

Automated and co-operating transportation systems must be as trustworthy as traditional approaches.

How can efficient safety and security analyses be conducted for very large and evolving systems-of-systems?

Challenges:
1. Complexity
2. Evolution
3. Non-transparent techniques, such as machine learning
LOOKING FOR CH PARTNERS

In general, we are interested in partners involved in building smart transportation applications, including:

- OEMs (typically MNEs)
- Specific solution providers (typically SMEs)
- Infrastructure operators / authorities that act as system-of-system integrators
- Researchers