EUROPEAN PATHWAYS TO INTRODUCE EGNOS AND GALILEO FOR DANGEROUS GOODS TRANSPORT

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SETTING THE SCENE
Transport of dangerous goods in EU-28 in 2013 (Eurostat):
- More than 154 billion tonne-kilometres on European roads, railways and inland waterways
- Over 77 billion tonne-kilometres by road
- Share of dangerous goods by road (by type, % in tonne-kilometres)

THE ISSUES
The movement of dangerous goods:
- Implies aspects related to security and safety
- Is a concern common to involved industries and authorities
- Requires measures to mitigate the associated risks

LOCALIZATION & TRACKING SOLUTIONS BASED ON SATELLITE NAVIGATION TECHNOLOGIES
- Monitoring
- Localization
- Tracking & tracing
For dangerous goods transport, traceability and monitoring are a matter of intelligent and efficient:
- Logistics
- Prevention of accidents
- Statistics
- Management of rescue and emergency
- Law enforcement
- Control of regulations
- Check of transport quality contract and liability

ADDED VALUE OF THE EUROPEAN SATELLITE NAVIGATION
EGNOS (European Geostationary Navigation Overlay Service) and GALILEO:
- Higher position accuracy
- Reliability of the position information (confidence/guarantee level)
- Robust positioning

REGULATORY AND STANDARDIZATION FRAMEWORK FOR THE USE OF TELEMATICS
- Accord européen relatif au transport international des marchandises dangereuses par route (ADR)
- Règlement concernant le transport international ferroviaire des marchandises dangereuses (RID)
- UNECE OTIF WG (United Nations Economic Commission for Europe Organisation Intergouvernementale pour les Transports Internationaux Ferroviaires Working Group) on Telematics in relation to the use of telematics for the transport of dangerous goods
- CEN Workshop Agreement “CWA 16390 Interface control document for provision of EGNOS CS/EDAS based services for tracking and tracing of the transport of goods”

CORE END-TO-END DEMONSTRATOR
Use of EGNOS and GALILEO for tracking and tracing the transport of dangerous goods:
- Via road/rail
- Intermodal tank container transporting gas (Argon)
- In EU Member States cross border operations
- Real business cases:
  - From Duisburg (Germany) to Terni (Italy)
  - From Linz (Austria) or Lyon (France) to Terni (Italy)
  - Involving institutions/regulators and transport operator

CORE DEMONSTRATOR - ARCHITECTURE AND FUNCTIONS
Compliant to UNECE OTIF WG and CWA 16390
Efficient collection of timely, reliable and precise information among different operators and modalities for:
- Continuous localization, control and monitoring of goods traffic
- Statistical reporting and incident prevention
- Risk prediction/reduction
- Response to emergency