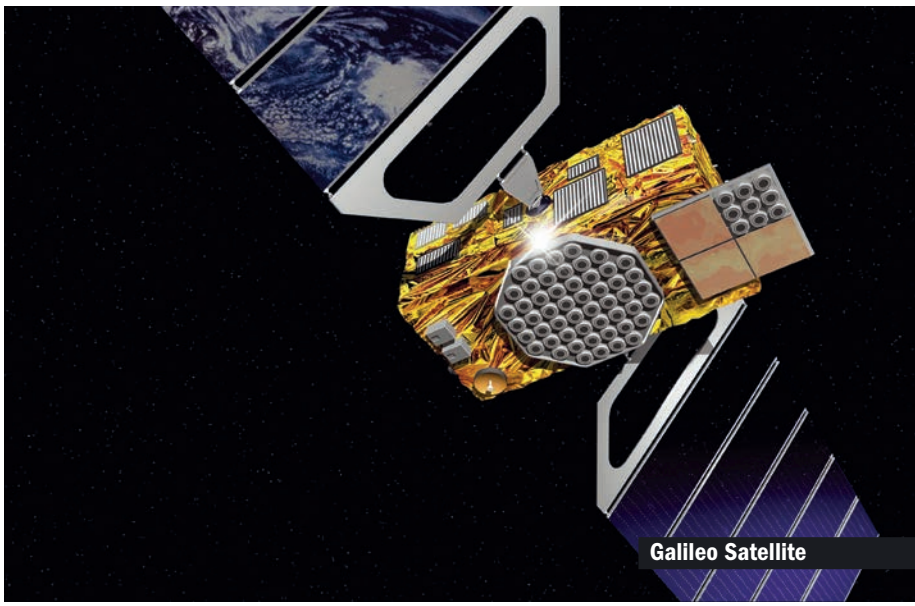
New synergies between earth and sky

Telespazio develops satellite navigation services for the safety of dangerous goods transport

The logistics and freight transport market has a huge potential for services based on satellite navigation (GNSS - Global Navigation Satellite Systems). GNSS solutions for monitoring, tracking and tracing the transport of goods are widely available on the market, and largely adopted in operations, with resulting benefits in terms of increased efficiency and safety. Various European Commission's initiatives have proven the advantages generated by the use of the European GNSS, EGNOS (European Geostationary Navigation Overlay Service) and Galileo, particularly when combined with other GNSS (i.e. the Russian GLONASS - GLObal NAvigation Satellite System - and the Chinese BeiDou), thanks to a more precise and reliable position information with respect to the use of the American GPS (Global Positioning System) alone. For the transport of dangerous goods, the use of GNSS is not only a matter of intelligent and efficient logistics, it also implies social interests for the involved authorities. Today, the majority of the companies transporting hazardous materials by road and rail have GNSS-based tracking and tracing solutions/services. Furthermore, over the last few decades, there has been a growing awareness of the authorities in order to validate and support the relevant adoption on a large scale, for regulatory, law enforcement and risk assessment purposes. In CORE (Consistently Optimised Resilient Secure Global Supply-Chains, www.coreproject.eu), a European 7th Framework Programme cofounded research project, Telespazio (a joint venture between Leonardo and Thales) leads a demonstration on the use of multi-GNSS/EGNOS for the transport of chemicals and gas. Carried out with Hoyer (a key logistic operator in the transport of dangerous goods) and with the Italy's and France's Ministry of Transport, the demonstration develops and proves the functions of a tracking device installed on tank containers transporting Argon from Duisburg (Germany) to Terni (Italy) along an intermodal road-rail chain. The tracking device measures the position through a multi-GNSS receiver with EGNOS activated in compliance with the CEN Workshop Agreement CWA 16390, and the status of the transported products through sensors. The data are sent to the platform of the Italy's Ministry of Transport, here elaborated/integrated with information from the Regions for alarm raising in case of anomalous conditions and for prevention/risk management activities, and in parallel forwarded to the platform of the France's Ministry of Transport for cross-border freight flows monitoring and control. The CORE's results verify the advantages of multi-GNSS/EGNOS in terms of reliability and enhancement of transport's safety. They also contribute to the UNECE (United Nations Economic Commission for Europe) working group that is updating the regulations for the international transport of the dangerous goods, and they support the revision of CWA 16390 undertaken by UNI (Ente Italiano di Normazione). The possible extension to applications and services based on Big Data is presently under evaluation. Therefore, CORE is coherent with the implementation of C-ITS (Cooperative-Intelligent Transport Systems) and Smart Roads in Europe.



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