



**Josep Maria SALANOVA GRAU**

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### **Biography:**

Dr. Salanova was born in Barcelona in 1983 and is a Senior Researcher of the Hellenic Institute of Transport of the Center for Research and Technology Hellas.

He holds a graduated diploma from the Polytechnic School of the University of Catalonia (U.P.C.), Department of Civil Engineer (2007). In 2008-2009 he acquired the MSc on Design, Organization and Management of Transportation Systems of the Aristotle's University of Thessaloniki. In 2010-2013 he conducted his PhD research in the Polytechnic School of the University of Catalonia (U.P.C.) with dissertation title "modelling of taxicab fleets in urban environment". He also holds a diploma on Data Science Specialization at the Johns Hopkins University.

The year 2007 he worked for the CENIT (Center for Innovation in Transport) in Barcelona, and since 2008 he works at the Hellenic Institute of Transport, where he is leading the "Data collection and processing, algorithm design, and use of specialized transport software packages" laboratory. His scientific interests concern research and developments in transport and mostly in algorithm and model development, mobility, intermodal transport and logistics as well as Data Science and Big Data at the transport domain.

**Title of presentation:** Multimodal cooperative safety services: a location-based alert system at level crossings



### Summary:

In Thessaloniki, an intermodal cooperative service based on mobile communications has been developed and tested at 3 level crossings in the surroundings of the city (most of them without barriers) by a fleet of 1.000 taxi vehicles and 10 trains, all equipped with Galileo-enabled devices for monitoring them in real time. The service detects that a train is approaching one of the LCs and sends an alert to the taxis nearby about the risk situation at their in-vehicle smart device. The smart detection system is based in map matching the locations of all the vehicles to a set of pre-defined polygons, and, if there is a match (a train and a taxi in the same polygon group), an alert is generated. The alert informs the driver about the approaching train and the expected time of arrival (ETA) to the LC, which is calculated using the speed of the train and the distance to the LC.