

iSTRADA – Intelligent System for Traffic and Road-Infrastructure Related Data

The aim of the study iSTRADA is to develop a specific methodology with advantages for relevant stakeholders when different road-traffic and road-infrastructure databases are combined. The different databases are automatically pooled, completed and updated in order to evolve an innovative and online-usable Intelligent Transport Systems (ITS)-service for transport management and logistics applications. The study should deliver the basis for a follow-up research project.

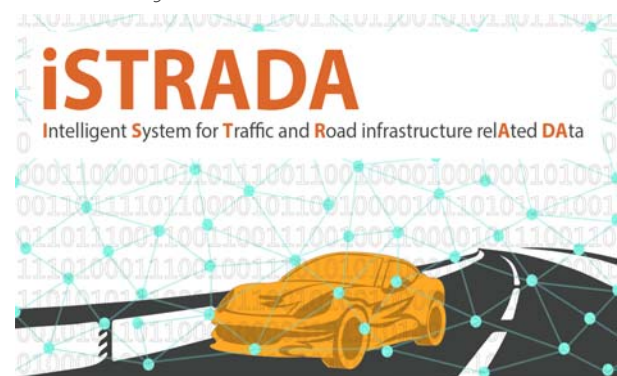
iSTRADA is a study to design an intelligent data-based system, which supports the safe and efficient operation of a transport infrastructure. Available data (infrastructure, vehicle fleets, environmental and accident data) as well as existing technologies and methods are studied in order to develop specific research and implementation concepts in the areas of maintenance, environmental impact, minimize risk and increase efficiency to the supporting infrastructure managers in their decision-making, an evaluation of the feasibility and potential for further reaction.

In recent years several regional and national projects have covered the topic 'Intelligent Transport Systems' (e.g. ITS Austria West, ITS Vienna Region, GIP.at transport graph, basemap.at, development floating car data-fleets and street sensors), which have laid the foundation for gathering, communicating, processing and storing road-traffic and road infrastructure related data. Furthermore, companies increasingly use telematics services for tracking and tracing their fleets for vehicle dispatching. Various stakeholders collect information in different and not-standardized data formats and IT-systems. As a result, comprehensive data mergers, analyses and benefits could not be achieved. However, these insights would have been necessary to develop new, concrete and useful applications for the complex field of ITS.

Based on a requirement analysis with partners and other stakeholders, the topics as well as available data bases and technologies are used to determine the best data format, processing, storage, intelligent combination, completion and analyses.

The design of a data and technology framework serves to illustrate possible methods and technologies of Big Data domain for use in the field of transport infrastructure. In a further step, specific algorithms and coefficients must be taken into consideration, which enable the different data (-bases), according to their mutual relationships, to actualize and adapt the specific values reciprocally.

Furthermore, as a result iSTRADA provides reference architecture of a data and technology framework for linking and analyzing road infrastructure and road traffic data based on current "Big Data" methodologies and technologies, the collected requirements and potentials in transport infrastructure. In addition, concepts (research and implementation) should be developed for the implementation of intelligent systems in selected fields so as to identify future scenarios in the operation of transport infrastructure to support decision-making processes of infrastructure managers.



Contact: Andreas Pell MA

+43 5 0804 33455, E-mail.: andreas.pell@fh-steyr.at