ROADCAST

RoadCast - Telematic system for weather forecast and information systems

RoadCast - Verkehrstelematisches Wetterwarn- und Informationssystem

Funding: National (Austria)
Duration: Jun 2004 - Jun 2005
Status: Complete with results

Background & policy context:

The results of this feasibility study is an in depth analysis of the requirements and meteorological criteria for a useful road weather warning and information service for drivers. New approaches for cost saving mobile sensors (Floating Car Data) will be developed, as well as it is to proof the feasibility of model generated, highly precise, in-time and location based warnings and weather information.

The project is focused on driver related weather conditions, i.e. more precise forecasting of precipitation quantities for aquaplaning, fog, ice, snow and storm on the roads. Moreover, it shall be clear, how the different system components have to be integrated in order to provide easy-to-use and valuable Safety information for the driver. Last but not least different scenarios for an implementation, the respective costs for this innovative value-add telematic service will be delivered.

Objectives:

The objective of the proposed feasibility study is the assessment of a nationwide road weather warning and information service for drivers. It is aimed at presenting a valuable contribution to increase traffic safety by reducing weather-induced road accidents.

Methodology:

A major goal is the integration of this newly enhanced information into the existing telematic infrastructures of Austria., e.g. the RDS/TMC system of ORF.

Highly accurate, qualitatively enhanced and high frequency weather data and warnings shall be calculated automatically and be delivered to the driver, provided in the following form:

- Highly accurate route weather conditions, i.e. current situation and forecast for a specific route
- Local an regional short term forecasts for the next 2-3 hours (Nowcasting)
- Short term, local weather warnings

Parent Programmes:
The results of this feasibility study is an in depth analysis of the technical requirements and meteorological criteria for a useful road weather warning and information service for drivers. This included the application of roadside and mobile sensors (Floating Car Data) as an innovative data source were assessed.

Part 2 included the proof of concept of a new forecast model (NOWCASTING), highly precise, in-time including location based warnings and usable weather information. During the course of the project it was proven that huge data volumes can be integrated and that the forecast accuracy could be increased by 15-20% for the first 24 hours on specific major routes.

Part 3 covered the evaluation of a central server architecture and automatic forecast data center, which should be capable of calculation thousands of local requests in real time.

Part 4 related to the application side

The project was focused on driver related weather conditions, i.e. more precise forecasting of precipitation quantities for aquaplaning, fog, ice, snow and storm on the roads. Most important to the authors was the ease to retrieve and ease to understand design of specific weather information/warnings for drivers

Moreover, it became clear, how the different system components have to be integrated in order to provide easy-to-use and valuable safety information for the driver. Last but not least different scenarios for an implementation with the respective costs for this innovative value-added telematic service were delivered.

Policy implications

A road weather information and warning systems is technically feasible. Based on the positive perspectives the project partners continued the work and developed a pilot system during 2004 and 2005 including a number of mobile application prototypes. Other partners, like Hutchison 3G Austria, Ford Telematics Research Aachen joined the project which was finished in August 2005.

The pilot system serves as a useful basis for the application of the Roadcast System on a EU wide scale. It is the intention to apply for EU reasearch funding in order to bring the pilot to reality.

Related Projects:

Roadcast 2 - pilot project, realised 2004-2005
STRIA Roadmaps: Cooperative, connected and automated transport
Transport mode: Road transport
Transport sectors: Passenger transport, Freight transport
Transport policies: Digitalisation
Geo-spatial type: Other