EasyWay ★ ★ ★

EasyWay is a project for harmonised Europe-wide Intelligent Transport Services deployment on the Trans-European Road Network

HIGHLIGHTS

DATEX II EXPERIENCE IN PORTUGAL: "OPENROADS" APPLICATION

OpenRoads provides an innovative and integrated ITS approach to Regulatory or Administrative National Bodies, based on the concepts of technology fusion, interoperability and continuity of services.

Learning from the Easyway experience, InIR (Instituto de Infra-Estruturas Rodoviárias – Portugal) relates to the European Policy also on a national level, trying to deliver harmonized services and performance indicators within the universe of its seventeen private concessions of road operators.

The OpenRoads allows InIR to know, based on Datex II extensions, what is happening on the road network, with a granularity of 100 mts, on each motorway, each lane, each day, every hour, based on information collected by each concessionary and reported to InIR on a "Datex II wrapping".

Background

InIR's main task is to supervise and oversee the management and operation of the road network, monitoring compliance with laws and regulations and concession agreements, to ensure the completion of the National Road Plan and ensure the efficiency, equity, quality and safety of infrastructure as well as users' rights.

Having in regard the different singularities of each contract and concession, InIR began to build up a national matrix containing a huge variety of quality parameters and indicators, regarding both maintenance and operation of the infrastructure.

In 2009, with the help of two private partners, InIR developed a prototype the used DATEX II extensions, to establish a data streamline that fed what is now called the Road Sector Data warehouse, providing data related to the performance of the concessionaires concerning maintenance and operation.

Project description

The prototype led, in 2011, to the creation of OpenRoads, which is a National Database for supervising road management, operation and maintenance, covering a wide scope of infrastructure performance indicators (pavements, structures, tunnels, road markings, road signs, rails, telematics, road lightning, communications systems, among others) as well as operation performance indicators (traffic management supervision, CCTV supervision, tolling systems, surveillance and help response supervision, safety procedures for road users and gas stations, TMP for road constrains, information towards the road user, among others).

The development of OpenRoads application is the tool which:

- Control and monitor the information received using DATEXII
- Analyse and explore the information by extracting Indicators and Reports
- Analyse the impact of availability on the financial contract
- Explore the information

Objectives

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To achieve InIR´s mission it has to:

1. Gather and analyse huge amounts of information (Traffic data, Incidents, Quality of infrastructure)

2. Supervise and manage concessions (Availability of roads, Operating indicators, Quality of infrastructure)

3. Act promptly! (With DATEX II which allows collecting information, with assurance and reliability)

4. Inform (InIR) the operators (The availability of the road and any necessary improvement to the road network)
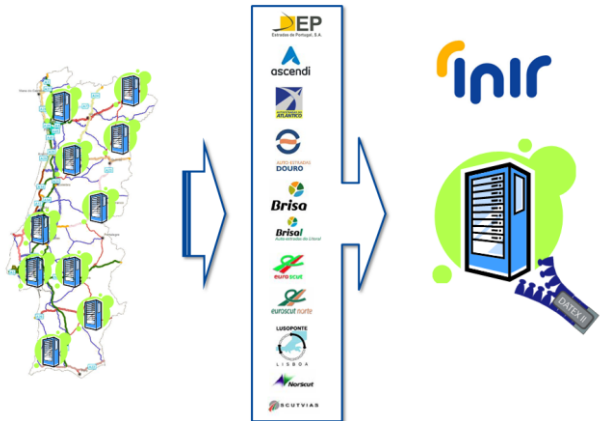
Implementation and results

The development of the OpenRoads methodology consisted so far on three steps:

1. The definition of the national vehicle for data exchange DATEX II, ensuring bilateral transparency between and the concessionaires, automated and non manipulative methods for the collection and subsequent processing of information.
2. Definition of an open and scalable functional architecture, both for storage and processing, and allowing its extension to other contracts or partners and new indicators.
3. The development and implementation of the architecture and its components were properly tested and calibrated on a test site with the involvement of the partners.

It has been also created DATEX II Infrastructure extensions:
-   Road Infrastructure Table Publication – Catalogue of road infrastructures
-   Road Infrastructure Quality of Service Publication – Measures of QoS for the infrastructure catalogue

Conclusions

As next steps, OpenRoads will evolve its business case to Data Mining, converging with other external partners and Databases such as local authorities, enforcement and emergency bodies, weather services and national broadcasters. This will allow InIR to fully take advantage of this powerful new tool, and improve its Business Intelligence and analysis skills.

Based on the achieved results, some features of OpenRoads will now be available to partners, sharing some of its added value. On a second stage, it will be opened to a broader audience, providing - or helping to provide - new services on the road.

Transferability

OpenRoads is itself a platform for a global response to the technical Portuguese requirements regarding the current financial model and Regulatory framework, based on the need to harmonize information flows from different sources, types and timings, for processing and taking action.

Being an effective tool to the processes of supervision and management of the road network, its features can be used to guide and support future decisions of Road Authorities.

Moreover, it may be used for the deployment of core services within EasyWay and the ITS Directive.

All these features and new functionalities are available on the DATEX II Website and may be used for similar purposes, by the other European countries.

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