TRANSFORMING TRANSPORT

MOBILITY MEETS BIG DATA

NEWSLETTER

007 | April 2018

REAL-TIME BIG DATA ANALYTICS IS HELPING TO OPTIMISE ROAD TRANSPORT

VISIT US
www.transformingtransport.eu

REAL-TIME BIG DATA ANALYTICS IS HELPING TO OPTIMISE ROAD TRANSPORT

There are many issues related to road transport that can be improved using Big Data. To begin with, the sector is one of the few where emissions have been rising rapidly over the last 20 years. It is still the second biggest source of greenhouse gas emissions in the EU after power generation. In addition, more than 20 000 people in the EU die in car accidents every year, underlining a need to improve safety and security in road transport. Logistics service providers, fleet operators and truck drivers are also facing many challenges in their day to day business. Customers expect 100 % reliable and accurate transport execution from pick up to delivery processes while the network infrastructure often reaches its limit. Real-time Big Data analytics can greatly contribute to making road transport more sustainable, safe and efficient. In this vein, two pilots under the EU-funded Transforming Transport project – Sustainable Connected Cars and Sustainable Connected Trucks – are taking a deeper look at how this can be achieved.

Sustainable Connected Cars

The Sustainable Connected Cars pilot involves obtaining data from an On-Board Diagnostics port or Controller Area Network bus installed in each car within a dedicated fleet. The data are then analysed and processed in a big architecture Data.

Position, CO^2 emissions, engine status, engine revolutions, light sensors, temperature, ESP interventions, incidents suffered, strong decelerations, etc., are some of the data updated every few seconds which ultimately enables very exhaustive analysis.

The information is then provided to the fleet manager and the driver. The Fleet manager can manage all aspects of the fleet through a dashboard, while the driver will receive notifications of breakdowns of the vehicle and driving tips through an online app.

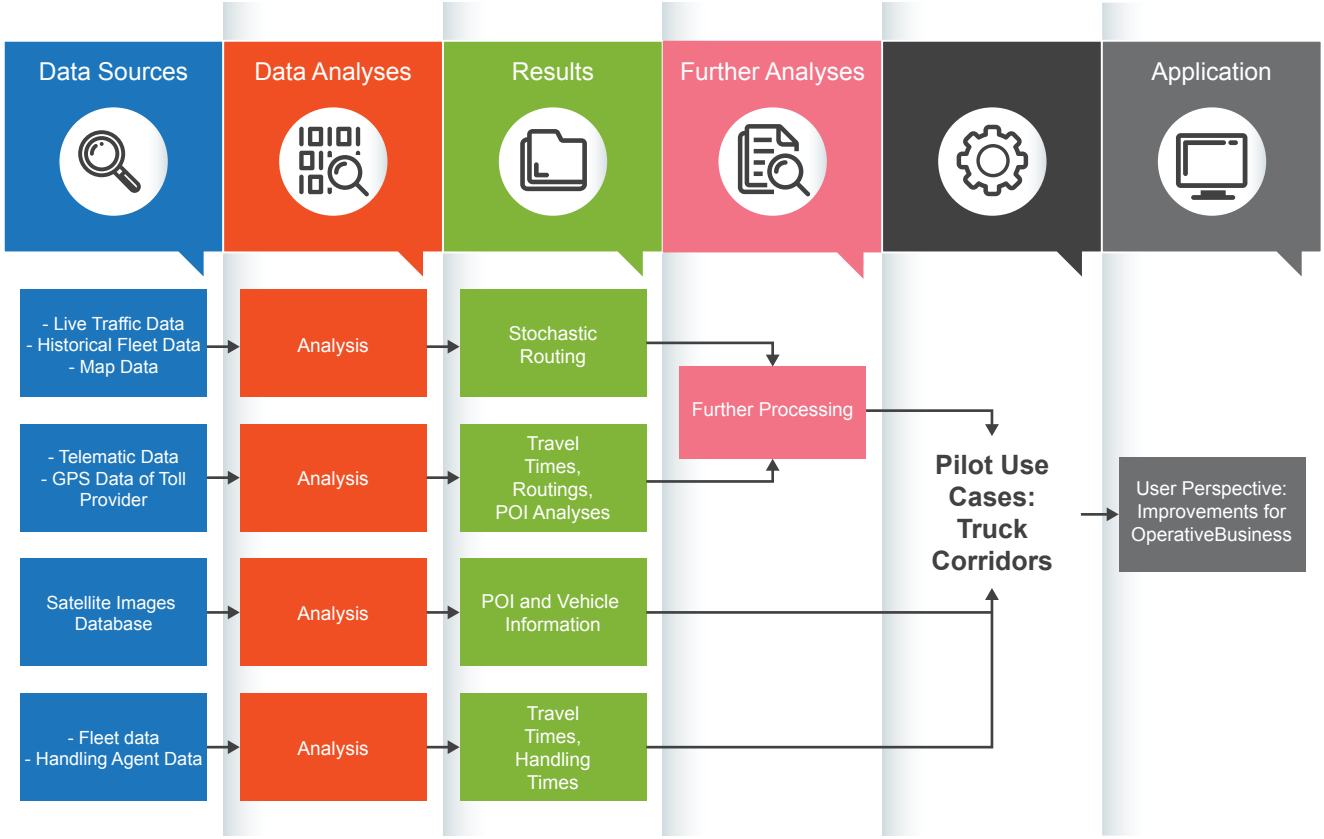
Data obtained on driver behaviour and failure prediction will be used to analyse emissions reduction models.

Overall, the Sustainable Connected Cars pilot will cover the following objectives:

- Predictive maintenance, identification of traffic accidents, efficient driving enhancement and reduction of CO^2 emissions.
- Optimised management of vehicle fleets through continuous monitoring, analysis of vehicle data sets and decision support systems
- Improved management of automobile fleets and provision of data to external services or stakeholders such as smart highways, urban transport and insurance companies.

Within the Transforming Transport Project, real-time analysis of large volumes of data can greatly contribute to making road transport safer and more sustainable.

Customers expect 100 % reliable and accurate transport execution from pick up to delivery processes while the network infrastructure often reaches its limit.



Sustainable Connected Trucks

Following in the heels of the cars pilot, the trucks pilot aims to enhance planning and optimisation for fleet managers. This requires gathering, processing and analysing huge amounts of truck-related data throughout Europe.

A key challenge in this respect is to develop an integrated approach to analysing different types of data from different sources. In this respect, the pilot is analysing live traffic data, historical fleet data, map data, telematic data, handling agent data and satellite images in order to gain insightful results.

The data sources are first processed and analysed using different approaches, depending on the data type and possible information that can be gleaned. The individual results are then combined and applied on the ground, looking at truck corridors in Europe. Big Data analytics will then be applied at different levels along these corridors, covering the following aspects:

- Transport corridor related traffic flows based on travel time analyses. Reference routings from the service provider will be compared to optimal routings based on calculations.
- Gathering vehicle information such as vehicle type and speed detection based on satellite images and traffic pattern analyses.
- Arrival time estimations for logistics service providers at predefined locations.
- Points of interest and particular traffic situations at specific interchanges or bottlenecks such as toll stations and other logistic hot spots.
- Loading/unloading times at predefined destinations from the perspective of a logistics service provider

The results emerging from these analyses will be applied to different uses and geographic areas throughout Europe. Indicators such as changes in operating cost, time savings and average trip lengths will be used to assess the results. This will lead to improved operations for logistics service providers, thanks to the exploitation of Big Data analytics.

TRANSFORMING TRANSPORT

NEWSLETTER

007 | April 2018

All Pictures ©Shutterstock, 2018

Contact Us:
communication@transformingtransport.eu

Visit our website:
www.transformingtransport.eu

Find us on:

@TransformingTransportProject

@TransformTransp

Transforming Transport

TransformingTransport - Big Data Value in Mobility and Logistics Group

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731932

This project is part of BIG DATA VALUE PUBLIC-PRIVATE PARTNERSHIP