Innovative Fleet Management of Faculty Road Vehicles

2016

University
Politecnico Di Torino

Country
Italy

Location
In the nearby town

Size
30.000- 40.000

Mobility Organizational Structure
Mobility manager

Summary

This best practice is related to the adoption of Information and Communication Technology (ICT) and Intelligent Transportation System (ITS) solutions for monitoring parking and shared fleet motor vehicles and collecting mobility-related data: the recent installation (July 2016) of black boxes in one departments' motor vehicles is being used as a test to manage the fleet; vehicle bookings and emissions monitoring, via integrated remote control systems with on-line modules. This can also quantify the energy consumption according to the actual use of the vehicles.

Aims

The Politecnico di Torino has recently developed and is still enhancing a platform for the electronic monitoring of academic staff related to the booking of fleet vehicles, their tracking, for both safety (e-call) and energy related reasons: to quantify actual energy consumptions as professors and researchers assign this cost to personal research funds. Applicable to both internal combustion engines and electric or hybrid powered vehicles.

Stakeholders

- The Mobility Manager.
- The Green Team of the Politecnico di Torino.
- IC Office.
- Department DIATI.

Background

Not available.

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Description

Specifically, Politecnico di Torino proceeded to select and adapt an integrated system suitable for the remote monitoring of the position of vehicles, and of their related operational parameters.

In addition, inspired by the operation of modern car sharing services, and with the full support of the administration and the IT Department of the Politecnico di Torino following approval by the 'Green Team', a project has been developed that allows department staff to book vehicles directly via the staff e-portal. This way, the entire process for managing the physical keys of the cars can be automated; leaving the vehicle open with the keys ready in the ignition when parked within the Politecnico di Torino grounds. By incorporating a unique generated code associated to each trip and for each authorization request, it will be possible to unlock the control unit of the vehicle and proceed to its use.

Moreover, the system will allow a very detailed control over power consumption and supply costs, allowing the generation of automated reports that streamline the bureaucratic process linked to the costing and expense assignation. In the future, the system will also be able to distinguish hybrid traction vehicles.

Another activity is under development in parallel within the transport sector of the Department. The main aim is to analyse collected data for the purposes of safety and risk analysis, but also in relation to energy consumption. This initiative will show what can gained from the installation of devices such as 'black boxes', and simultaneously lay the groundwork for increased safety in the use of vehicles. This is possible thanks to continuous contact with an assistance operations centre, along with the possibility of being able to reconstruct the dynamics of any accidents. Thus making it possible to conduct a careful monitoring and management of assigned vehicles based on the real needs of users. Also, this opportunity will be used to evaluate innovative aspects related to scenarios that will affect the use of the vehicles in the near future, such as the use of hybrid cars and 'assisted catalogued vehicles'.

Indicators

- Number of equipped vehicles.
- Number of journeys managed with the new ITS solution.
- Driving profiles.
- Automatically recognized anomalous situations.
- Electronic mission execution.

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Results

- E-call available on equipped vehicles.
- Remote control of equipped vehicles.
- Quantification of energy consumption.
- Electronic mission execution.

Cost

From 10.000 to 25.000 €.

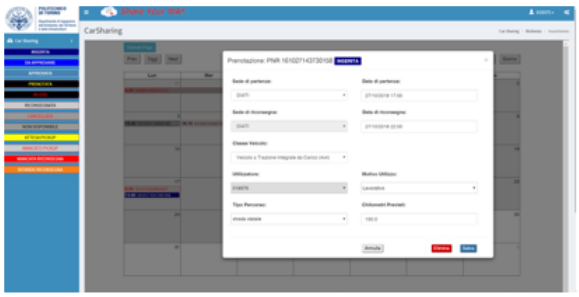
Financing

- Budget of the Green Team of the Politecnico di Torino.
- Budget of principally involved Department (DIATI).
- Budget of the IC Office, Politecnico di Torino.

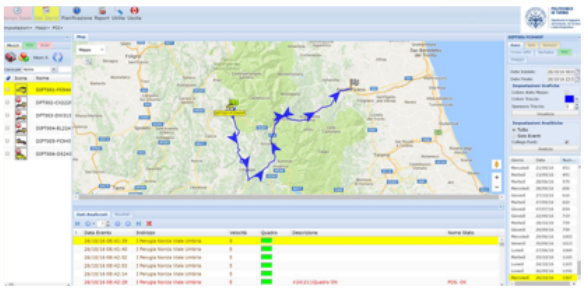
Findings

Bid data is available for research purposes as well as for journey analysis.

Pictures



Booking of vehicles: this is accessible through authentication, using personal credentials for the Politecnico di Torino, and completing an on-line the request linked to a calendar. Shortly after the system assigns the most suitable vehicle via e-mail confirmation.



Through this web page the system shows detailed analysis of all past journeys, visualizing them on a map and indicating the main points in a specific table.

Links

http://www.politocomunica.polito.it/content/download/3748/23350/file/REPORT_LOW.pdf
https://goo.gl/dzJos5

Contact person

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