

Infogeotracking System

Testing Expo Europe
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Scenario

- **The durability and reliability growth testing activities play a fundamental role during the validation of the automotive products;**
 - **Complex system analysis requires a correlation between defects, testing conditions and variables induced by the environment;**
 - **Several testing sites all over the world require a complex and expensive management of the testing fleets for the Car-Makers;**
 - **RG and Durability routes characterizations and testing data are collected and stored, being available for post-processing some days after the on-road testing activities.**
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Prototipo Technical Support: Infogeotracking System

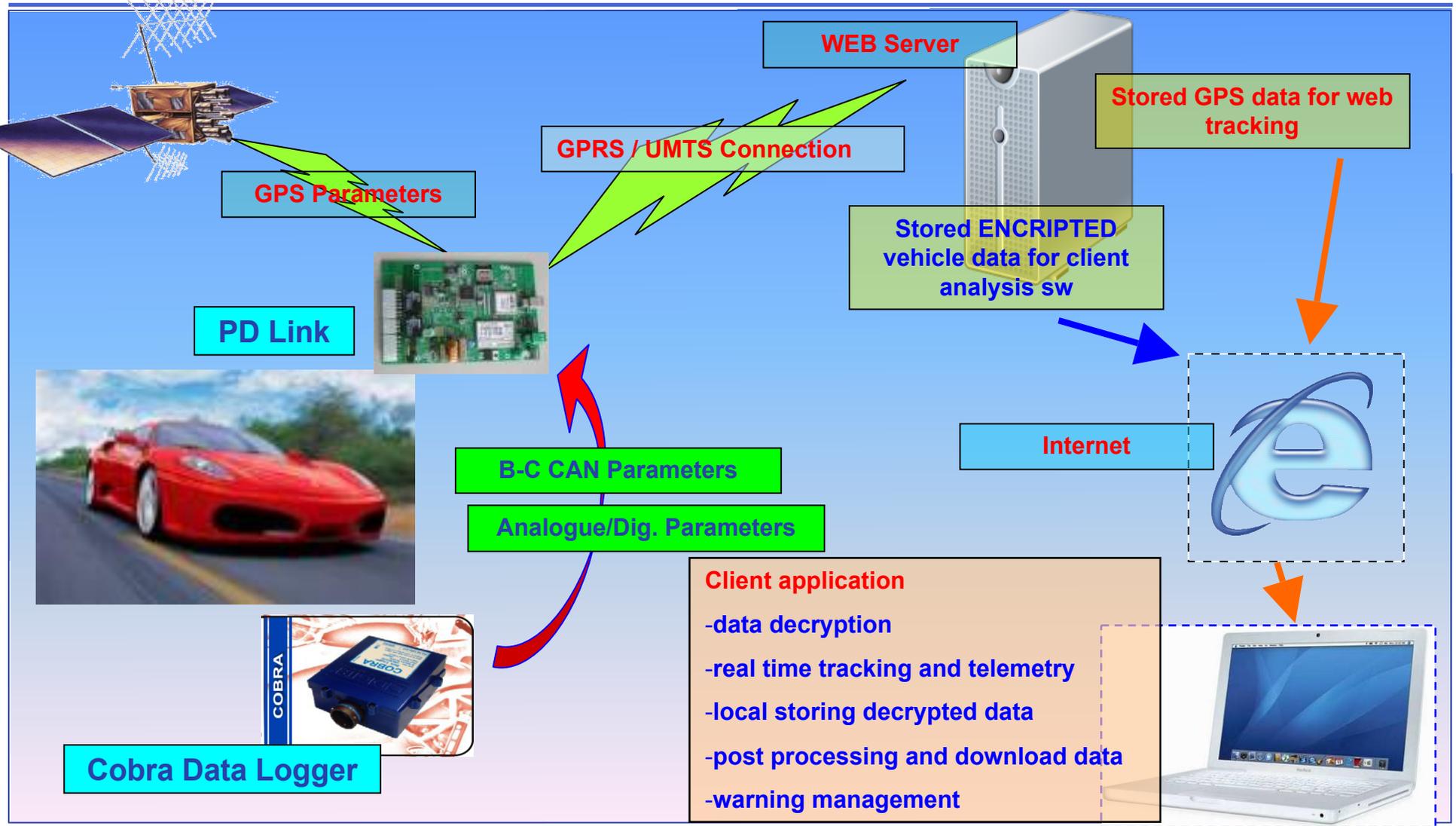
Prototipo technical teams have developed the Infogeotracking System, a remote and real-time data acquisition system for testing activities monitoring and management.

Main targets are:

- Real-time data acquisition and transmission on single or multiple vehicles;
- Synchronize the testing data with the geographic coordinates supplied by a integrated GPS system;
- Create and develop a customized database for each Client in order to provide a real time testing reporting.

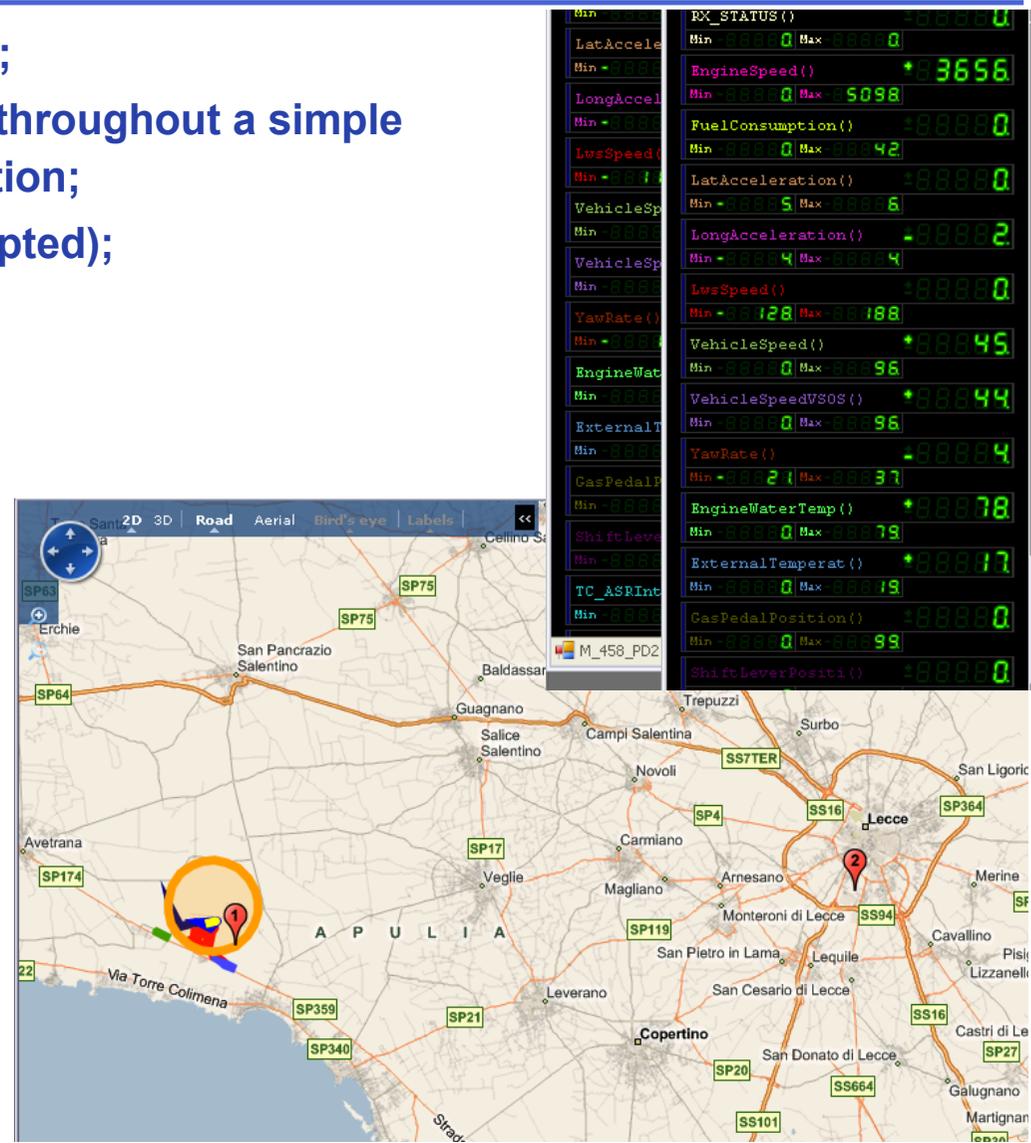


Infogeotracking system: data flow management



Testing improvements with IGT

- World-wide testing activities monitoring;
- Possibility to monitor the test activities throughout a simple portable computer with internet connection;
- Privacy on the data transmission (encrypted);
- Cost fleet management optimization;
- Real time defects detection;
- Performances decay monitoring;
- Maintenance plan control/management;
- Diagnosis database development;
- Vehicle mission profile certification.



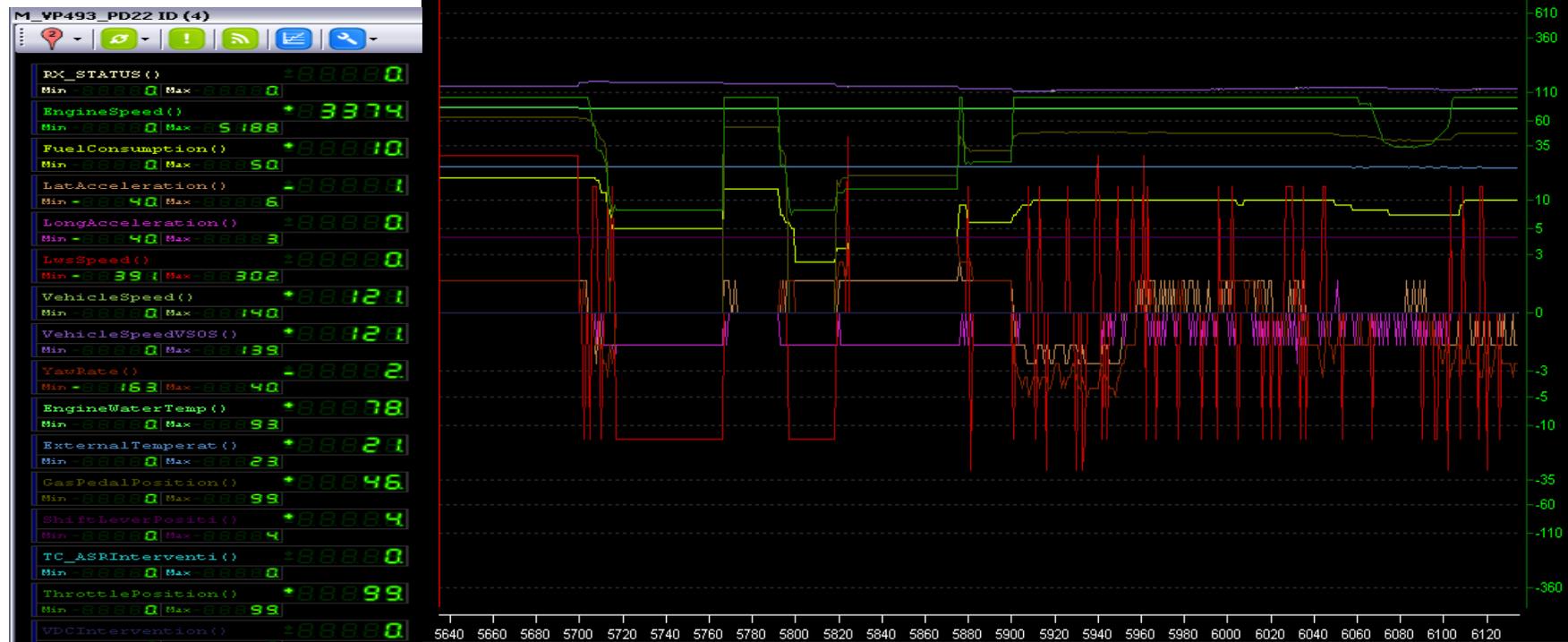
Main Characteristics

- System based on available and validated technology, integrated via software tools developed by Prototipo;
- Easy and fast on-board equipment through the EOBD plug-in (CAN bus configuration files - .dbc - necessary);
- Interface with other acquisition systems for other signals (analogical data) monitoring;
- Software integrates the data from:
 - A Digitek System (Analogical and Digital automotive acquisition system);
 - PD link system (a flexible GPS system).



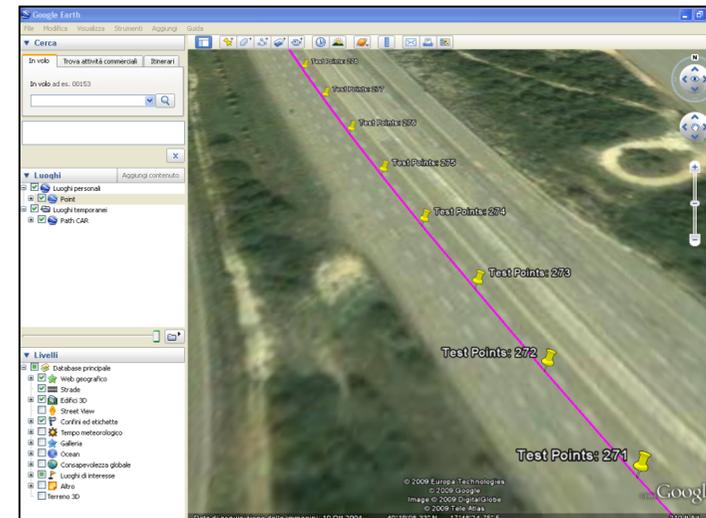
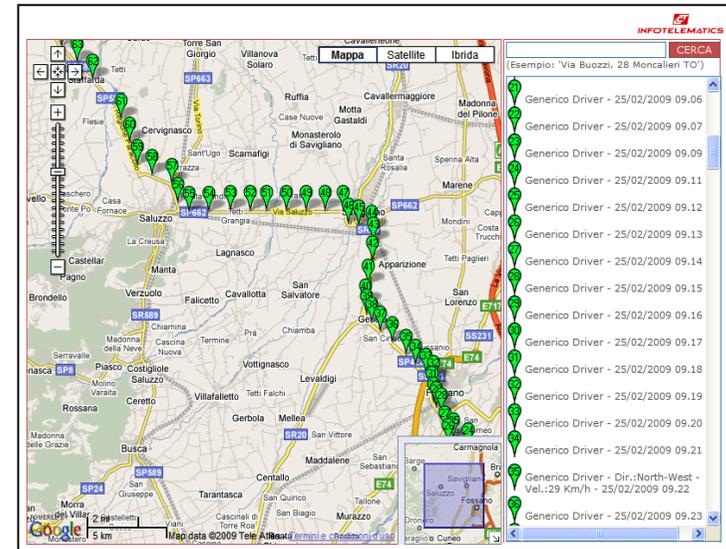
Data Technical Specifications

- Sampling rate: 0,1 Hz ÷ 1 KHz;
- Proposal for durability testing settings: 20 channels from the CAN bus sampled at 20Hz;
- Data processing and visualization:
 - Real time: up to 10 Hz;
 - Stored: up to 1KHz.

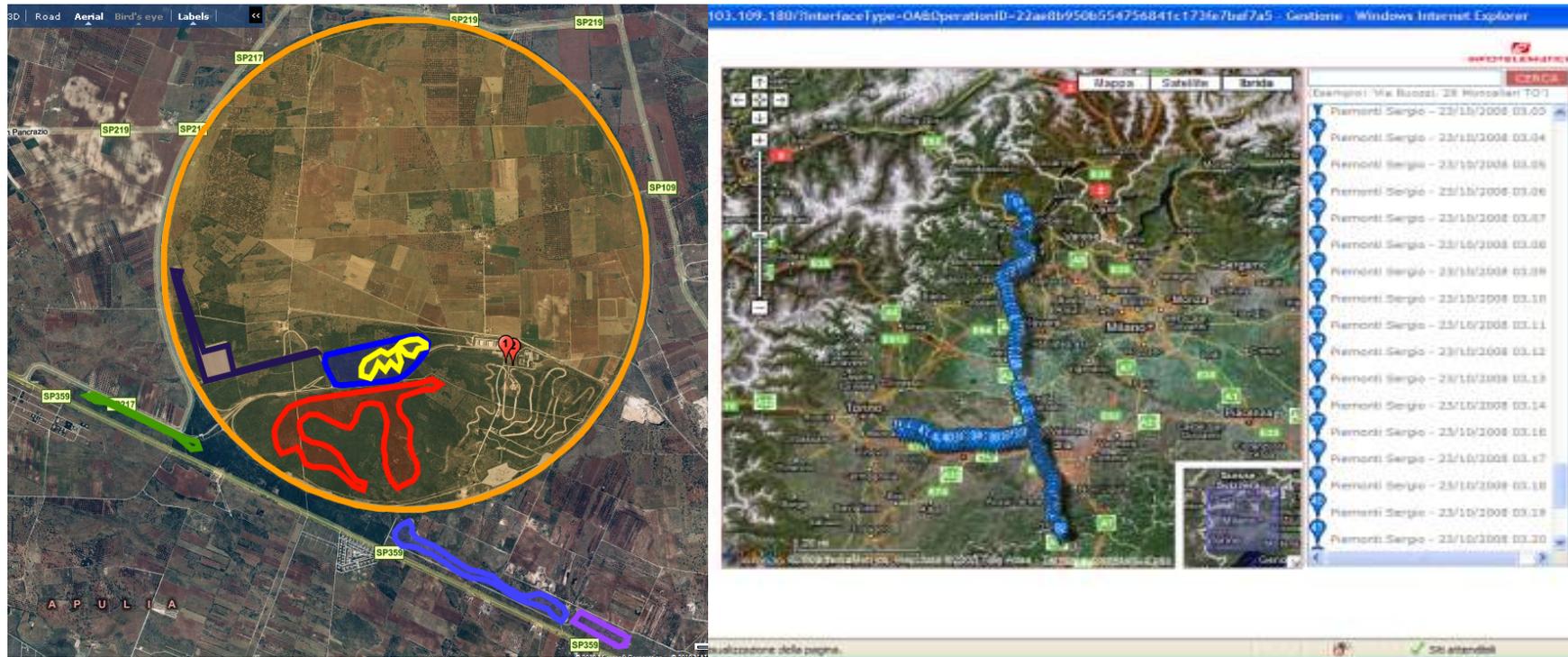


Applications

- The software integrates the data from the CAN network of the vehicles, the external signals not included in the CAN Bus, with the other parameters and correlate them with the actual geographical position. The server, installed in Prototipo's facilities, stores the real-time data such as:
 - Vehicle position (latitude, longitude, altitude) and speed;
 - Engine parameters (rpm, water temperature, fuel consumption, etc);
 - Other electronic control units anomalies (body computer, info-mobility system, etc).
- The data monitoring allows the exact correlations with the testing conditions and creates an automatic pre-diagnosis reporting which improves the capabilities in RG validation activities.
- The vehicles traceability guarantees the quality of the mission profile standards.
- The database analysis related to durability and RG activities will create the basis for the future development of statistical models.



Geo-references



Geo-references of the vehicle parameters

- Coherence with the mission profile by a certified service given to our Client;
- Transparency towards Client;
- Real time acquisition of the vehicle's position for environmental and climatic parameters;
- Possibility to see vehicle all over the world.

Geo-data view



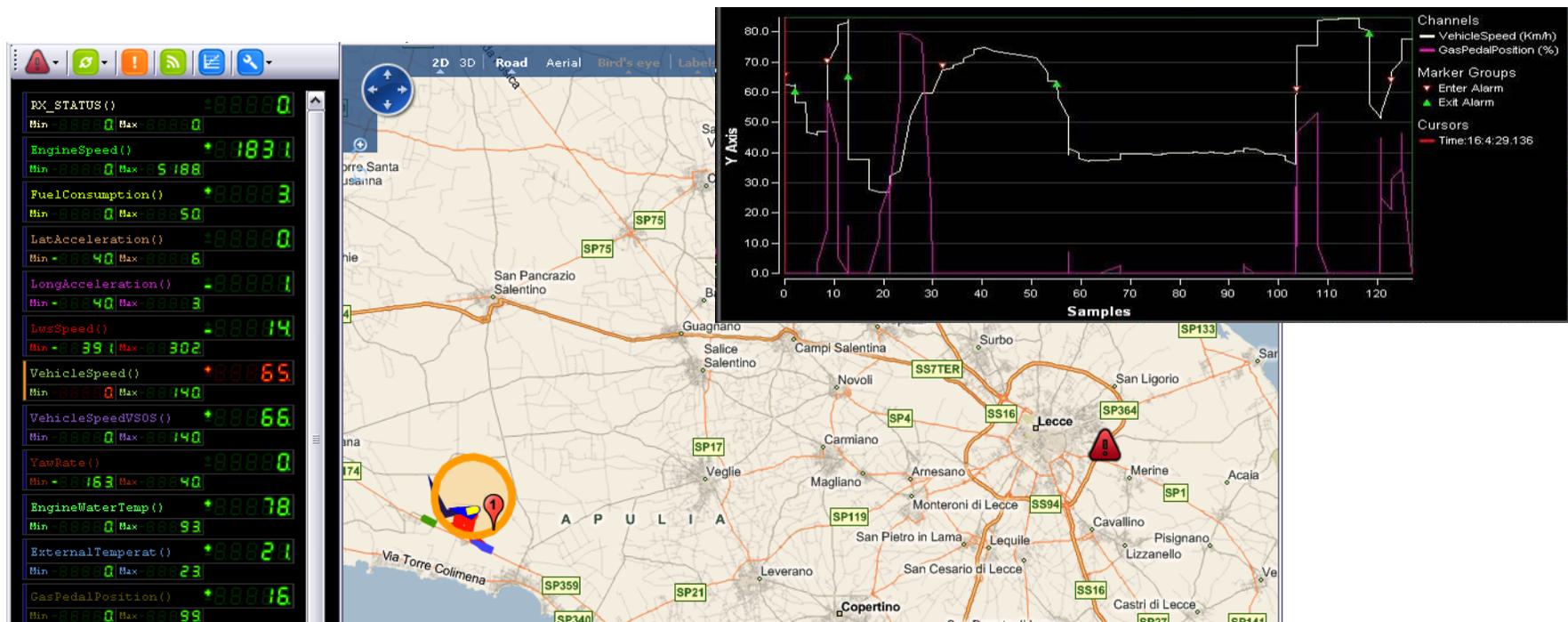
Vehicle parameters: geo-data view

- Real time vehicle's parameters (external and B-C can parameters) - data decryption
- Local storing decrypted data
- Characterization and data report generation related to the true vehicle status
- Data post processing
- Data base management related to RG activities and future development of the RG statistical models (predicted Reliability)

Warnings Setting

Vehicle parameters - warning

- Real time defects acquisition (with multi-parameters warning and related parameters);
- Safety parameters monitoring (e.g. tyres pressure, long acceleration ...) with pre-alert warnings;
- Immediate download warning transfer (graph and electronic data sheet);
- Possibility to relate warning parameter with other signals in order to make fast pre-diagnosis;
- Immediate vehicle's localization in case of accident / warning.



Thanks for your kind attention!

For more information, please, visit our stand n. 1832
