New test method to check Taxameter

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New test method to check Taximeter (GPSi)

Agenda:
- Current situation of taxi testing
- Roller-based taximeters limitations
- GPS-based systems
- TXT-GPSi highlights
1 - Current situation of taxi testing

- Taximeters’ tests are usually performed using roller benches to simulate a real journey.
- The fare on the taximeter is compared with the one calculated considering the displacement measured on the rollers.
2 - Roller-based taximeters limitations

The roller bench system is practical and easy to calibrate, however it presents some issues:

- Vehicles presenting problems on the roller bench
  - Due to electronic devices (ESP, ASR, ...)
  - Due to size or weight
  - Due to sensors on non driven axles

- High equipment investment which may be difficult to recover on areas with low density of taximeters

- The system is a simulation of a real journey and may present differences with a real life circulation.
3 - GPS-based system

Development of GPSi Taximeter in cooperation with:

- Applus
- capatest
- BOSCH
- BEISSBARTH
- ICperform
3 - GPS-based system

- GPS-based systems have been tested in the last years as possible alternatives to roller-based devices.
  - Cost, accuracy and calibration capacity were the main challenges
- Recent advances on commercial grade GPS’s have increased its accuracy.
- Adequate signal treatment has allowed Distance measurement calibration of affordable GPSs!!!!
3 - GPS-based system

- Accurate time measurement is consubstantial to GPS devices.
  
  Accuracy of most devices is around 100 ns.

- Distance measurement calibration has shown accuracies under 0,5%.

- Taximeter verification in both, time and distance, is, thus, possible.
4 - TXT-GPSi highlights

» Officially calibrated device
» Accurate verification of taximeters on real circulation tests
» 3D measurement allows testing regardless of the road slope
» USB and Bluetooth connection
» Compatible with Windows and Android portable devices (PC or Pads)
4 - TXT-GPSi highlights

- Easily adaptable to any test protocol through a versatile software:
  - Time/Distance or Fare comparison
  - Simplified test execution
  - Continuous signal quality evaluation

- Accurate enough to work as:
  - test device or
  - calibration tool
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