

WORKSHOP C

SESSION ONE

Presentation 3

New test method to check Taxameter

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New test method to check Taximeter (GPSi)

Agenda:

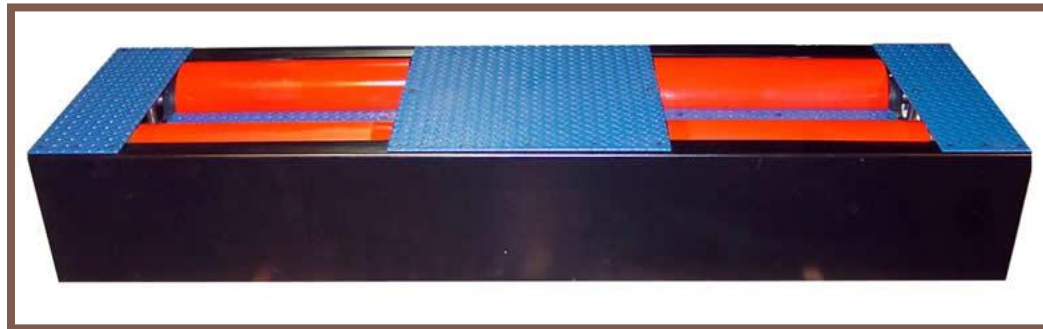
- Current situation of taxi testing
- Roller-based taximeters limitations
- GPS-based systems
- TXT-GPSi highlights

GPSi



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



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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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