SaPPART – SATELLITE POSITIONING PERFORMANCE ASSESSMENT FOR ROAD TRANSPORT

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Motivation

- Global Navigation Satellite Systems (GNSS) have a significant potential in the development of Intelligent Transport Systems (ITS) and mobility services
- The road sector is estimated to represent more than 50% of the GNSS market and 75% when we consider the mobility services on smartphones
- Current lack of a certification process underpinned by agreed standards is impeding the realisation of the expected benefits
- Complexity of defining and assessing GNSS performance which is highly influenced by the environment and operational scenario
- Standardisation activities have been initiated in Europe on this topic, many scientific issues are still open and require a common agreement

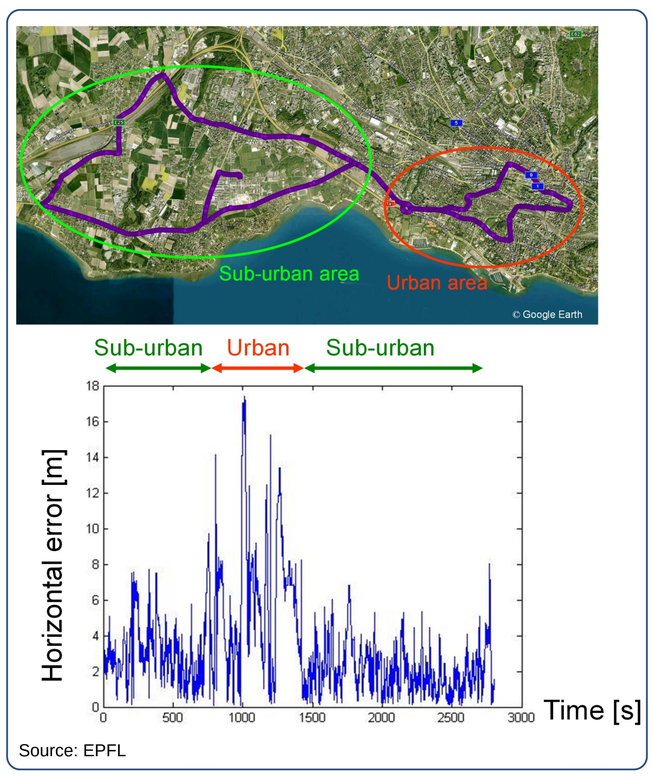
Specific targets

- Capitalizing the main results of several projects that addressed the use of GNSS in the road sector
- Developing a framework for the definition of service levels for the GNSS-based positioning terminals and the associated examination framework for certification purposes
- Linking the academic community and the main stakeholders to standardisation bodies with the creation of a competence centre on GNSS positioning
- Organizing a high-level modular education and training programme, with the aim of raising the ITS actors' awareness and understanding of GNSS-related issues
- Supporting European-related legislation activities (ITS Action Plan, Digital Tachograph, e-Call...)

Problem statement

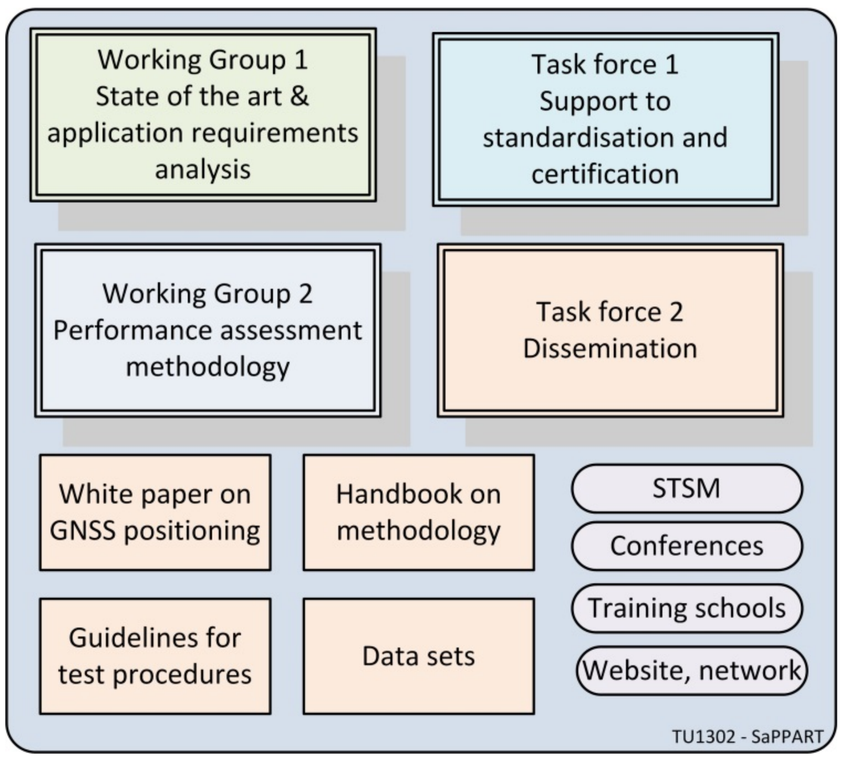
Some of the issues to address:

- Impact of the environment on GNSS signal reception
- Test of GPS standard positioning service in urban area
- Comparison with a ground truth trajectory (+/- 0.1 m)
- Estimation of horizontal error
- High spatial and temporal variations of the positioning error
- Critical situations for safety and liability related applications
- Lack of integrity in the positioning information



GNSS positioning in urban area

SaPPART organisation



SaPPART: Working groups and Task forces

Objectives of SaPPART

SaPPART - TU 1302 is a COST Action from the TUD Domain (Transport and Urban Development).
Main objectives of the Action:

- To develop a framework for the definition of service levels for the GNSS-based positioning terminals, used in ITS and Personal Mobility applications, and the associated examination framework for certification purposes
- To promote high-level educational and training programmes in the fields of GNSS, GNSS-based ITS and Personal Mobility applications
- To promote the use of GNSS in general, and EGNOS and Galileo in particular, in ITS and Personal Mobility domains, for their common long-term development and deployment in Europe

Join the Action

- COST Actions are open to European countries and partner countries
- If the topic is relevant for you and your organisation, you are welcome to take part to SaPPART
- Workshops and training schools will be organised from 2014 until 2017. You are invited to participate to these events
- Please contact: francois.peyret@ifsttar.fr (chair) or pierre-yves.gillieron@epfl.ch (vice-chair)

Main references

1. TU1302, SaPPART, Memorandum of Understanding, http://w3.cost.eu/fileadmin/domain_files/TUD/Action_TU1302/mou/TU1302-e.pdf
2. SaPPART COST TU 1302 LinkedIn group