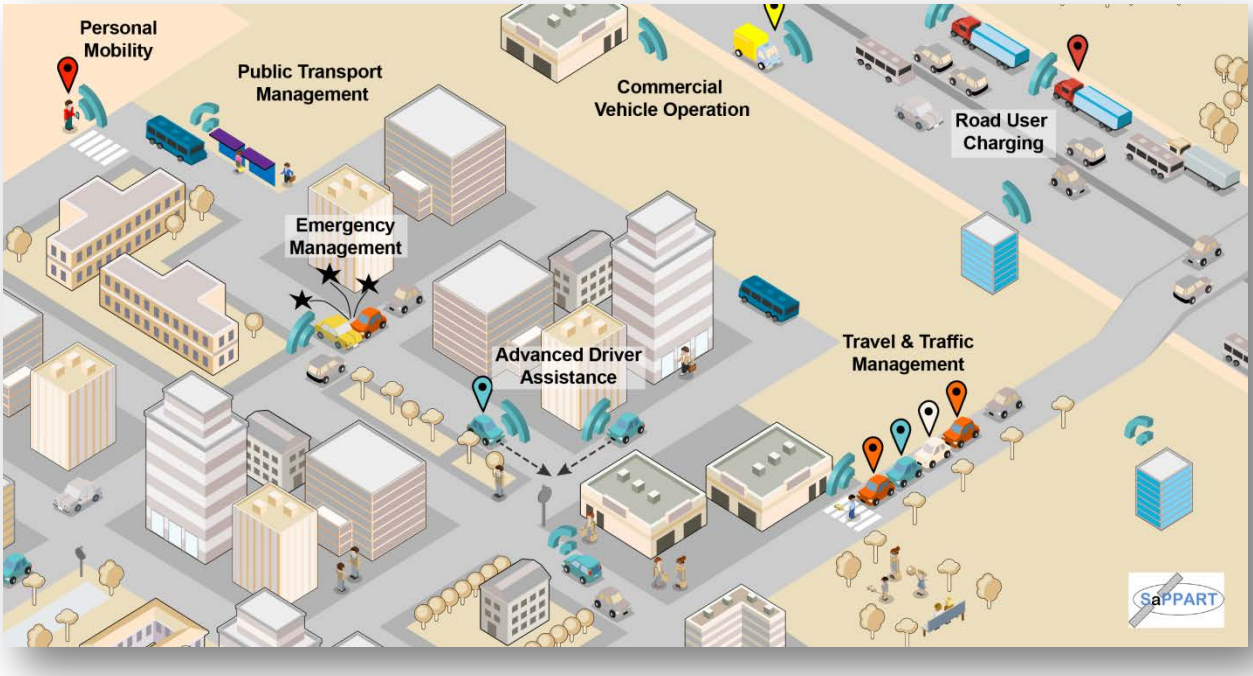
# Conference

# High Quality Positioning: a Key to Success for Autonomous Driving




**4th of October 2017**

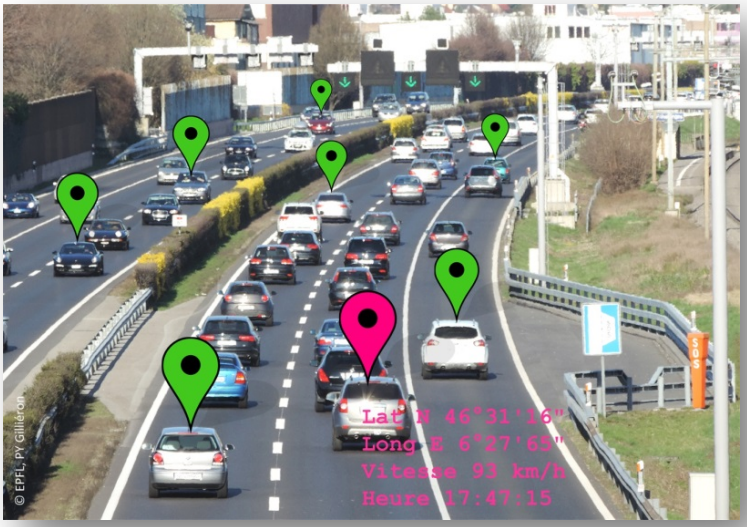
**BluePoint, Brussels**

# High Quality Positioning: a Key to Success for Autonomous Driving

- **Date**: **4th of October 2017 10 AM to 5 PM** (registration opens at 9:30)
- **Location**: BluePoint Brussels, 80 Bd. A. Reyers https://goo.gl/maps/dX7RERxy6TC2
- **Joint organisation**: COST SaPPART & ERTICO
- **Organisers**: François Peyret, Pierre-Yves Gilliéron: chairs of SaPPART; François Fischer: ERTICO

## Conference abstract

The deployment of autonomous vehicles is becoming a reality on the European road network and will significantly affect the future liability of different actors in the road and transport sectors. Liability is strongly linked with the trust that you can have in a system, like a vehicle with advanced driver assistance or automatic driving capabilities. In these applications the vehicle positioning is one of the most critical components because most of the decisions are based on the location of the vehicle itself and of other vehicles and objects in its vicinity.




This conference is the final event of the European COST Action "Satellite Positioning Performance Assessment for Road Transport" (SaPPART). At this occasion, the main outcomes of the Action will be presented within the context of very demanding applications, like autonomous driving.

## Objectives

The conference will discuss the main challenges of high quality positioning and will highlight the necessity to assess the positioning performances with respect to standards and well defined test procedures. The main objective is to raise awareness on the importance of positioning performance assessment for safety and liability critical applications. For the SaPPART Action, it will be the opportunity to:

- Present the main challenges of positioning for the road ITS applications
- Introduce some basic procedures for the positioning performance assessment
- Illustrate the concept in the framework of safety-critical road ITS applications
- Discuss with the main stakeholders the key issues of positioning and navigation for autonomous driving

## Participant profile

- Automotive industry, map providers, ITS suppliers, Telecom industry
- Road authorities and operators
- European institutions
- Standardisation bodies
- European projects dealing with positioning and mapping
- Test laboratories

## About COST TU 1302 - SaPPART

COST is a European framework supporting trans-national cooperation among researchers, engineers and scholars across Europe. In this context a network of European experts has defined a COST Action (TU 1302) within the transport and urban domain called “Satellite Positioning Performance Assessment for Road Transport (SaPPART)”. This Action gathers scientists, industrial and governmental partners from the GNSS community and the ITS domain, with the capacity to act for a common goal on the definition of positioning integrity in the road sector. They have addressed together the open issues and have supported the success of the standardisation for underpinning certification initiatives. This framework is expected to pave the way for certified positioning terminals, which is expected to result in a significantly accelerated use of GNSS-based ITS and mobility applications.

COST: http://www.cost.eu/about_cost

COST TU 1302: http://www.cost.eu/COST_Actions/tud/TU1302

SaPPART: http://www.sappart.net/

## About ERTICO

ERTICO - ITS Europe is a partnership of around 100 companies and institutions involved in the production of Intelligent Transport Systems (ITS). Together, ERTICO Partners conduct a range of activities to develop and deploy ITS to save lives, protect the environment and sustain mobility in the most cost-effective way.

http://ertico.com/

ERTICO – ITS Europe
Avenue Louise 326
1050 Brussels, Belgium.
T: +32 (0)2 400 0700
E: pr@mail.ertico.com

## Registration

The participation to the conference is free of charge. For the registration, please use the following link: https://www.eventbrite.com/e/high-quality-positioning-a-key-to-success-for-autonomous-driving-tickets-35383303413

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The number of participant is limited: first come first served.

# Program of the Final SaPPART Conference

## High Quality Positioning: a Key to Success for Autonomous Driving

### Joint organisation: SaPPART COST Action & ERTICO

| # | Duration | Start at | Topic | Presenter |
|---|---|---|---|---|
| 0 | | 09:30 | Welcome & registration | Registration desk |
| 1 | 10' | 10:00 | Introduction of the conference | François Peyret – Ifsttar |
| **Session 1: SaPPART: a COST Action dedicated to GNSS technology in ITS**<br>Chair: François Peyret, SaPPART | | | | |
| 2 | 15' | 10:10 | The expectations of the automotive community with regards to GNSS for AD | Javier Ibanez-Guzman - Renault |
| 3 | 15' | 10:25 | The SaPPART COST Action main outcomes and deliverables | P.-Y. Gilliéron - SaPPART |
| 4 | 15' | 10:40 | GSA viewpoint on GNSS for Autonomous Driving | Alberto Fernandez - GSA |
| | 30' | 10:55 | Coffee break | |
| 5 | 15' | 11:25 | Status of standardization and regulation with regards to GNSS in ITS | Jesper Engdahl - SaPPART |
| 6 | 15' | 11:40 | How to model the positioning error ? | David Bétaille - SaPPART |
| 7 | 15' | 11:55 | Which positioning terminal for which application ? The Sensitivity Analysis | Mihai Niculescu - SaPPART |
| 8 | 15' | 12:10 | How to test a GNSS-based positioning terminal ? | Laura Ruotsalainen - SaPPART |
| 9 | 30' | 12:25 | Q/A session | |
| | 60' | 12:55 | Lunch break | |
| **Session 2: On-going R&D projects on Autonomous Vehicles positioning**<br>Chair: François Fischer, ERTICO | | | | |
| 10 | 25' | 14:00 | InLANE project | Gorka Vélez - VicomTech |
| 11 | 25' | 14:25 | ESCAPE project | Enrique Domínguez - GMV |
| 12 | 25' | 14:50 | InDrive project | Riccardo Scopigno - ISMB |
| 13 | 25' | 15:15 | The Grand Cooperative Driving Challenge | Philippe Bonnifait - UTC |
| | 60' | 15 :40 | **Panel discussion** | Washington Ochieng - IC |
| 14 | 30' | 16:40 | Networking coffee | |
| | | 17:10 | Closing | |

# Scientific Committee

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|---|---|---|---|
| **François Peyret** | Ifsttar | France | (Chair) |
| **Pierre-Yves Gilliéron** | EPFL | Switzerland | |
| **François Fischer** | ERTICO | Belgium | |
| **Alberto Fernandez** | GSA | Czech Republic | |
| **Mihai Niculescu** | ITS Romania | Romania | |
| **Laura Ruotsalainen** | NLS | Finland | |
| **David Bétaille** | Ifsttar | France | |
| **Shaojun Feng** | Imperial College London | UK | |
| **Jesper Engdahl** | Rapp Trans | Switzerland | |
| **Ola Martin Lykkja** | Q-Free | Norway | |

Ifsttar: Institut français des sciences et technologies des transports, de l'aménagement et des réseaux

GSA: European GNSS Agency

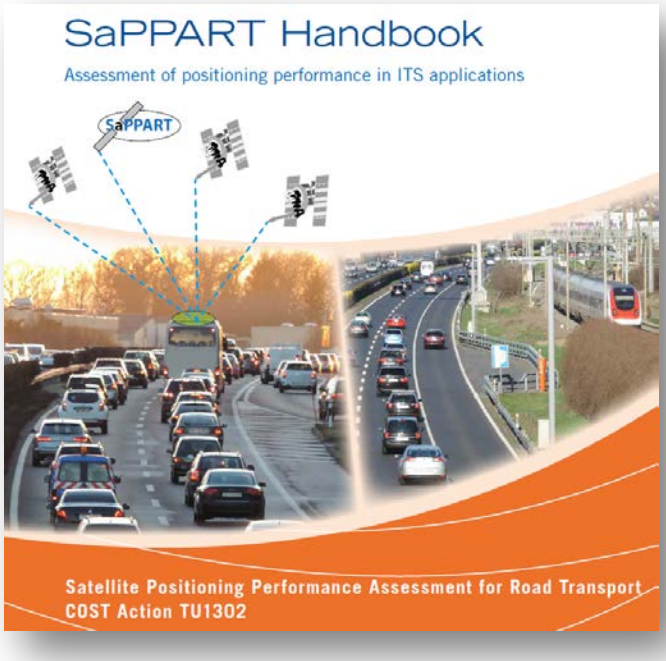
EPFL: Ecole polytechnique fédérale de Lausanne

NLS: National Land Survey of Finland

# Deliverables


The white paper, entitled "Better use of Global Navigation Satellite Systems for safer and greener transport", explains the role of positioning systems in transportation and the necessity to correctly assess their performance. This document introduces the fundamentals of positioning systems with a particular focus on Global Navigation Satellite System (GNSS). It describes the positioning terminal architecture and the parameters used for the characterization of performance such as availability, accuracy and integrity. The goal of this white paper is to inform the key actors of the terrestrial transport sector on the issues and the impacts of positioning quality in applications, more specifically in intelligent transport systems.

The handbook is the second deliverable of SaPPART COST Action, dedicated to performance issues, when positioning performance is essential to the fulfilment of the requirements of the whole ITS system. It starts by illustrating the non-straightforward nature of the role of positioning information in some emblematic applications and introduces a simulation method sensitivity analysis, as a tool to make the right choice of positioning terminal for a given application. Then, the handbook discusses the error sources at the terminal level and introduces a model of the horizontal position error in an urban environment. In the final part, this error model and the sensitivity analysis are applied to two examples of ITS systems, namely Road User Charging and eCall, in order to illustrate how sensitive these systems are to the positioning performance.




Publisher : Ifsttar, collection Techniques et Méthodes:
http://www.ifsttar.fr/ressources-en-ligne/librairie/

Free download on SaPPART web site :
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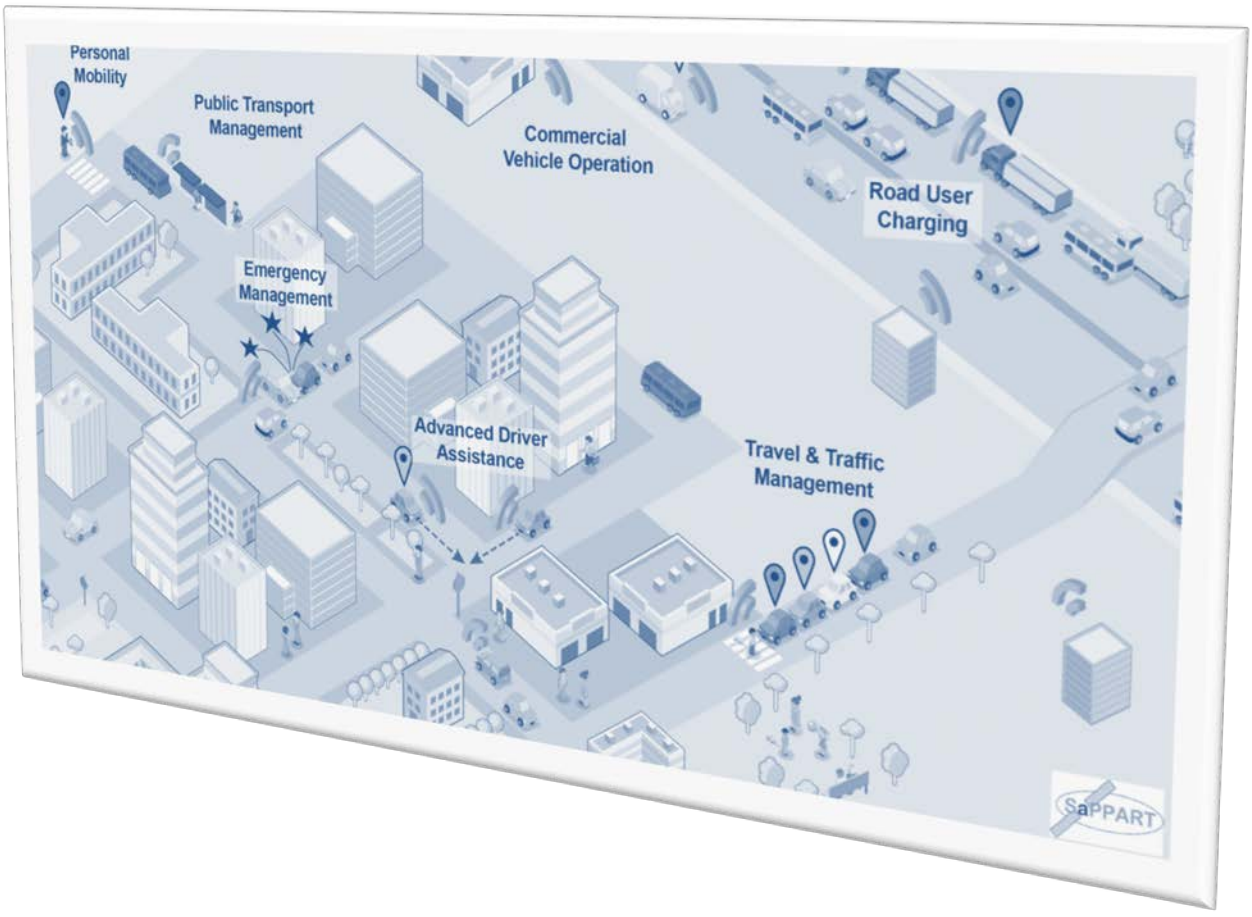
http://www.sappart.net/wp-content/uploads/2017/06/SaPPART_Handbook_final_06-2017.pdf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