A new TAXI application guided by SATellite

**Funding:** European (7th RTD Framework Programme)
**Duration:** Jan 2012 - Mar 2014
**Status:** Complete
**Total project cost:** €769,685
**EU contribution:** €480,076

**Call for proposal:** FP7-GALILEO-2011-GSA-1-b
**CORDIS RCN:** 208249

**Background & policy context:**

Automatic and driverless vehicles do operate already, making use of anti-collision devices which enable their perfectly safe movement. But currently, most of these systems are guided by railways, fiberglass or magnetic wires.

More recently, a few demonstrations have been undertaken in order to demonstrate the capabilities of satellite based navigation systems to clear the roads from such heavy infrastructures. Particularly, ROBOSOFT and M3SYSTEMS designed several transportation platforms which guidance was based on Differential GPS hybridized with inertial systems. Although such vehicles are operational today, their GNSS based navigation equipment are seen as being very expensive for allowing a larger vehicle deployment. Moreover, the vehicles have to go very slowly when going along buildings as soon as ‘light’ canyoning effects are observed. As a result, pilot users explained they were not confident enough in the reliability of the service they got.

**Objectives:**

The TAXISAT project aims at developing a driverless GNSS based taxi application capable to operate cost effectively, safely and with a high reliability within private circumscribed sites whatever their topographic configurations are.

Indeed, the TAXISAT consortium is convinced that considerable gains could be achieved with the new EGNOS and GALILEO capabilities in order to reach the 1-meter accuracy positioning asked for the sake of transportation safety, while making use of future mass market GNSS systems.

The current GPS receiver developed by M3SYSTEMS will be improved through the development of specific EGNOS/EDAS processing filters and the hybridation with SLAM video in masked areas. The use of the “the expected path of the vehicle” will also be used to improve the navigation filter performance.

The TAXISAT service will be integrated and tested in real conditions for a few weeks on one or two sites of demonstration. Experimentations with the IOV GALILEO signals will be also conducted.

**Parent Programmes:**

FP7-TRANSPORT - Transport (Including Aeronautics) - Horizontal activities for implementation of the transport programme (TPT)

**Institute type:** Public institution
**Institute name:** The European Commission
**Funding type:** Public (EU)

**Lead Organisation:**

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Technopole Izarbel  
64210 BIDART  
France  

**Organisation Website:**  
http://www.robosoft.fr  
**EU Contribution:** €191,450

**Partner Organisations:**

**Capital High Tech Sarl**  
**Address:**  
Lieu Dit Barnabe  
47180 Castelnau-Sur-Gupie  
France  
**EU Contribution:** €49,161

**M3 Systems Belgium Sprl**  
**Address:**  
Rue Devant Les Hêtres 2  
6890 Transinne  
Belgium  
**EU Contribution:** €170,536

**Asociación Centro De Tecnologías De Interacción Vi**  
**Address:**  
Parque Tecnológico de Miramón, Paseo Mikeletegi 57  
20009 DONOSTIA - SAN SEBASTIÁN  
Spain  
**Organisation Website:**  
http://www.vicomtech.es  
**EU Contribution:** €68,929

**Technologies:**

- Connected and automated vehicles  
- GNSS-based taxi application  
**Development phase:** Research/Invention

**STRIA Roadmaps:**

Cooperative, connected and automated transport, Network and traffic management systems

**Transport mode:** Road transport

**Transport sectors:** Passenger transport

**Transport policies:** Digitalisation, Environmental/Emissions aspects

**Geo-spatial type:** Infrastructure Node