

UNIVERSITÀ

DEGLI STUDI

DI PADOVA

GISCAD-OV - Galileo Improved Services for Cadastral Augmentation Development On-field Validation

Cadastral surveying specialises in the establishment and re-establishment of real property boundaries, change in the status of lands, due to buildings or demolotion and relevant Cadastral Maps update. It is an important component of the legal creation of properties and update of National Land Registry. The EU-funded GISCAD-OV project is designed to involve the whole value chain of the cadastral domain. Its main scope is to design, develop and validate an innovative and cost-effective high accuracy service (HAS) for cadastral surveying applications, based on GPS+Galileo E6 HAS and precise point positioning-ambiguity resolution quick convergence techniques. GISCAD-OV targets the exploitation of new business opportunities in cadastral land surveying, through the service differentiation introduced by Galileo HAS corrections broadcasting.

GISCAD-OV involves the whole value chain of the Cadastral domain. It's main scope is to design, develop and validate an innovative and cost-effective High Accuracy Service (HAS) for Cadastral Surveying applications, based on GPS+Galileo E6 HAS and Precise Point Positioning-Ambiguity Resolution (PPP-AR) quick convergence techniques. The project aims also to set up a GISCAD-OV Service Operator Centre, able to fully integrate the existing Augmentation and National infrastructures for improving Cadastral operations efficiency and effectiveness, reducing Cadastral procedures' time for the benefit of the citizen. Furthermore, an efficient Cadastral System update process will improve the data reuse interoperability with other applications (Infrastructure Monitoring, post-disaster management). A Europe-wide Pilot Project campaign will be carried out for validating the implemented solution, applying single Countries Cadastral Regulations. GISCAD-OV is based on the following drivers:

- Upgrade of commercial GNSS receivers for decoding and applying Galileo E6B corrections and integrating them into the PPP solution

- PPP-RTK Multiple Constellation and Multiple Carrier Ambiguity Resolution and instantaneous fixing

- Cost effective solutions, through the use of low-cost augmentation services and receivers, paving the way for "Smartphone Surveying"

- Development of a Business Model and relevant revenue Mechanisms for a real implementation of a Cadastral HAS Business Plan, involving all relevant Value Chain Stakeholders a direct Commercialization

GISCAD-OV targets the exploitation of new business opportunities in the Cadastral land surveying, through the service differentiation introduced by Galileo HAS corrections broadcasting.

The current status of the above technologies falls in the area of TRL 6-7 while GISCAD-OV targets a TRL 8: System complete and qualified, including Galileo HAS implementation.

UNIPD Team Leader: Alessandro Caporali

Department: Department of Geosciences

Coordinator: Geoweb Spa (Italy)

Other Participants:

Exagone (France)

Centro Nacional de Información Geográfica (Spain)

Sogei - Società Generale d'Informatica Spa (Italy)

Università degli Studi di Padova (Italy)

Geo++® Gesellschaft für satellitengestützte geodätische und navigatorische Technologien mbH (Germany)

NovAtel Inc (Canada)

York University (Canada)

Geoflex (France)

Technische Universiteit Delft (Netherlands)

Telespazio Spa (Italy)

Vyzkumny Ustav Geodeticky Topograficky A Kartograficky Vvi - Research Institute Of Geodesy Topography And Cartography Vugtk (Czechia)

Comité de Liaison des Géomètres Européens (Belgium)

Università degli Studi Roma Tre (Italy)

Total EU Contribution: Euro 2.606.317,51

Call ID: H2020-SPACE-EGNSS-2019

Project Duration in months: 36

Start Date: 01/12/2019

End Date: 30/11/2022

Find out more: https://cordis.europa.eu/project/id/870231