

PROJECT

GAUSS

Galileo-EGNOS as an Asset for UTM Safety and Security

Funding: European (Horizon 2020)

Duration: Mar 2018 - Feb 2021

Status: Complete

Total project cost: €3,695,758

EU contribution: €2,972,489



[CORDIS RCN : 214081](#)

Objectives:

The aim of the GAUSS project is fast and thorough achievement of acceptable levels in terms of performance, safety and security for both, current RPAS and future UTM operations. UTM helps control, manage and integrate all RPAS in the VLL airspace to ensure the security and efficiency of UAS operations. The key element within GAUSS is the integration and exploitation of Galileo-EGNOS exceptional features for precise and secure positioning. These features will enable not only safe, timely and efficient operations but also coordination among a higher number of RPAS with appropriate levels of security, as it provides anti-jamming and anti-spoofing capabilities. Multi-frequency and multi-constellation solutions will be exploited with this purpose.

GAUSS will increase resilience in UTM operations and, at the same time, ensure UTM coordination capabilities to increase the number of platforms that can share the same airspace. Precise coordination among UAS in the air, together with individual high precision and secure positioning are key for the safety of the operations and therefore for the success of UTM. The UTM infrastructure will also benefit from the GAUSS Galileo-EGNOS based ADS-B solution and encrypted air-ground communications.

GAUSS includes the definition, negotiation and execution of safe trajectories both in normal operation and in case security or safety is compromised. The GAUSS systems will be validated with two field trials (in-land and sea) with the operation of 4 UTM coordinated RPAS with different types (fixed and rotary wing) and EASA operational categories. The outcome of the project will consist of Galileo-EGNOS based technological solutions to enhance safety and security levels in current RPAS operations and future UTM based operations. Increased levels of efficiency, reliability, safety and security in RPAS operations are key enabling features to foster the European RPAS regulation and market development and their full acceptance by the European society.

Parent Programmes:

[H2020-EU.2.1. - Horizon 2020: INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies](#)

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Funding type: Public (EU)

Other programmes: GALILEO-1-2017 EGNSS Transport applications

Lead Organisation:

Everis Aeroespacial Y Defensa SI

Address:

AVENIDA DE MANOTERAS 52
28050 MADRID
Spain

EU Contribution: €768,571

Partner Organisations:

Partner Organisations:

Satways - Proionta Kai Ypiresies Tilematikis Diktyakon Kai Tilepikiniakon Efarmogon Etairia Periorismenis Efthisis Epe

Address:

CHRISTOU LADA STREET 3
15233 HALANDRI
Greece

Organisation Website:

<http://www.satways.net>

EU Contribution: €235,769

Rina Consulting Spa

Address:

VIA SAN NAZARO 19
16145 GENOVA
Italy

Organisation Website:

<http://www.dappolonia.it>

EU Contribution: €367,894

Agencia Estatal Consejo Superior Deinvestigaciones Cientificas

Address:

CALLE SERRANO 117
28006 MADRID
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Organisation Website:

<http://www.csic.es>

EU Contribution: €511,937

Aratos Systems BV

Address:

WILHELMINA VAN PRUISENWEG 104
2595AN 'S-GRAVENHAGE
Netherlands

EU Contribution: €315,394

Cranfield Aerospace Limited

Address:

Cranfield University Campus Hangar 2
Cranfield
MK43 0AL
United Kingdom

Organisation Website:

<http://www.cranfield.ac.uk>

EU Contribution: €413,613

Universidad De Sevilla

Address:

Calle S. Fernando 4
41004 Sevilla
Spain

EU Contribution: €359,313

Technologies:

Information systems
Air traffic management systems

Development phase: Validation

STRIA Roadmaps: Network and traffic management systems

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Safety/Security, Digitalisation

Geo-spatial type: Other