

EGNOS AND GALILEO APPLICATIONS FOR DRONES AND UAVS

At #MWC2018, the European Global Navigation Satellite Systems (GNSS) Agency is showcasing a range of GNSS applications for drones and UAVs, resulting from current Horizon2020 projects funded by the European Union.

The integration of GNSS with different technologies and data, is enhancing positioning and enabling the development of a wide range of applications and services from search and rescue to photovoltaic maintenance, and more. To learn more about the integration of EGNOS and Galileo in drones and UAVs, we have scheduled a series of short presentations and Q&A sessions, here below you can find the timetable. To arrange a one to one meeting feel free to contact the project coordinators (see details on the back).

TIME	26TH FEBRUARY	27TH FEBRUARY	28TH FEBRUARY	1ST MARCH
9:00 – 11:00	Real	Gauss	Mapkite	Mapkite
	EASY-PV	Argonaut	Gauss	Argonaut
11:00 - 13:00	Gauss	Mapkite	EASY-PV	Gauss
	GeoVision	GeoVision	Argonaut	Geovision
13:00 - 15:00	Mapkite	Gauss	Real	
	Argonaut	Geovision	Geovision	
15:00 - 17:00	EASY-PV	Real	EASY-PV	
	Geovision	EASY-PV	Mapkite	
17:00 - 19:00	Real	EASY-PV	Real	
	Gauss	Mapkite	Argonaut	

European GNSS Agency
 Janovského 438/2
 170 00 Prague 7 – Holesovice
 Czech Republic
 Tel: +420 234 766 000
www.gsa.europa.eu



European
**Global Navigation
 Satellite Systems
 Agency**



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REAL: RPAS EGNOS-ASSISTED-LANDINGS

The project aims to develop an EGNOS-based navigation and surveillance sensor in two different RPAS. Such solution will be tested within a concept of operations supporting safety assessment for the approval of EGNOS-based RPAS operations.

More specifically, REAL validates the navigation and surveillance functions through flight tests and adapts the existing flight procedure design criteria considering RPAS dynamic performance. Two different scenarios are foreseen: one regarding urgent medical transport and the other concerning linear powerline inspection.



Josep Montolio

PildoLabs

josep.montolio@pildo.com

+34 93 182 88 40

EASY-PV: EGNSS HIGH ACCURACY SYSTEM IMPROVING PHOTOVOLTAIC PLANTS MAINTENANCE



As photovoltaic plants age, it is not uncommon that their productivity lowers due to inefficiency caused by unknown defective modules on the plant. To keep the plant's productivity at its best, regular maintenance is performed.

EASY-PV solution is conceived to provide a time and cost-effective service to photovoltaic plants' owners and maintainers. Data collection is performed by a RPAS equipped with a GNSS high accuracy receiver

flying over a photovoltaic field. Once acquired, data – both visible and thermal images – are automatically geo-referenced and processed, so that the a report indicating the defective modules to be replaced is produced with a minimal human intervention.

Marco Nisi

Sistematica S.p.A.

marco.nisi@grupposistematica.it

+39 3397497723

GAUSS

GAUSS Improves safety & security in current RPAS operations and future UTM operational system by developing not only technological solution, but also the concept of operations. The key element within GAUSS is the integration and exploitation of Galileo-EGNOS features for precise and secure positioning. These features 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.



Adrián Jiménez
González

Everis Aerospace
and Defense

adrian.jimenez.gonzalez@everis.com

+34 687 42 41 82

GEOVISION: GNSS DRIVEN EARTH OBERVATION AND VERIFIABLE IMAGE AND SENSOR INTEGRATION FOR MISSION-CRITICAL OPERATIONAL NETWORKS

GEO-VISION solution increases the situational awareness of emergency services and allow first responders to check the integrity of the GNSS signals received by UAV, increasing the efficiency of the emergency response and helping to save more lives. The RAIDO software system is capable of image capturing and video streaming from UAV which is sent to the pilot and routed to a control room at a different location in real-time.



Harald Skinnemoen

AnsuR

harald@ansur.no

+47 92846651

MAPKITE: EGNOS-GPS/GALILEO-BASED HIGH-RESOLUTION TERRESTRIAL-AERIAL SENSING SYSTEM



In the field of photogrammetry, remote sensing and mapping, Unmanned Aerial Systems became a versatile tool to obtain geodata at a reasonable production cost while still standing on high quality levels. Terrestrial mobile mapping (TMM) are reference systems for ground-level mapping. While providing high-quality observation data from the driven path, TMM systems are suitable for a wide range of applications.

Pere Molina

GeoNumerics

pere.molina@geonumerics.com

+34 699404725

ARGONAUT

ARGONAUT is Rokubun's first accurate geo-location solution based on the combination of an advanced navigation receiver and a powerful navigation data processing cloud service. If high geolocation precision at a truly affordable price is what your business needs, then the ARGONAUT receiver + PaaS is a perfect solution to fit your budget and provide you with decimeter geolocation accuracy.

Argonaut's GNSS firmware when combined with its post-processing Positioning-as-a service (PaaS) offer the best cost-accuracy ratio on the market and remarkable ease of use. Senior experts at Rokubun have done extensive research to develop an innovative product with high added value for UAV operating firms, Autonomous Vehicles, Smart Logistics and Precision Agriculture.



Miquel Garcia-Fernàndez

Rokubun

miquel.garcia@rokubun.cat

+34 616 42 78 59