



ECARO – EGNOS Civil Aviation Roadmap

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Funded by



Project consortium



Satellite approach procedure validated in Grottaglie airport

A milestone achieved for ECARO project funded by GSA under the programme *EGNOS Adoption in Aviation*.

Last 11/01/2021 ENAV completed the GNSS flight validation of an EGNOS-based approach procedure for the Grottaglie airport. The procedure, similar to an ILS Cat.I in terms of performance, will be published on AIP in the next months and so available for all airspace users. The procedure is a relevant experimental asset for the Grottaglie airport where a number of flight trials are already planned in the years 2021/22 and nested in national and EU research and innovation projects led, or participated, by DTA.

In the near future two more objectives of the ECARO project will be realized completing the part related to the development of capacity in the satellite navigation of RPAS: the installation of a GNSS interference monitoring system and, in June 2021, the RPAS flight trials demonstrating the benefits of E-GNSS supporting navigation.

The Grottaglie airport was dedicated in 2014 by Italian Minister of Transport and Infrastructure to support aerospace industry development and growth, since then ENAC authorized experimental flights with UAS and ENAV (Italian ANSP) assigned segregable air spaces. In the following years, DTA has launched several R&D projects and built a network of partners and a Drone Living Lab (with Comune di Bari and ENAC) aimed at developing knowledge and capacity in RPAS flight, services and regulations.

The project ECARO, partially funded by GSA, the European GNSS Agency, was launched by ENAV with the objective to increase EGNOS-based routes in Italy in selected airports, Grottaglie airport one of them, with GNSS approach procedures.

ENAV, that recognized, and is exploiting, the value of the Grottaglie experimental airport to develop its capacity in the UAS market sector, leading the ECARO project, is contributing to increase the experimentation capacity of the same airport. The objective, which is the final objective of the DTA programme Grottaglie Airport Test bed, will be achieved by creating conditions for experimenting safe and secure real RPAS flights in a segregated air space, providing flight experimentation services. The GNSS-based procedures will enable experimentation of GNSS navigation capacity of RPAS and its related benefits in terms of performances and safety.

Two more outcomes, in line with the Grottaglie Airport Test Bed objective, are to be achieved with ECARO project. The first one will be realized mainly by Planetek Italia, that is going to deploy a prototype system to monitor GNSS signals looking for interferences created by any potential sources in the neighborhood of the experimentation area. Such a service will support RPAS operator in assessing and monitoring security of flight operations and in validating flight experimental conditions. The second objective, to be achieved next June 2021, is related with the real RPAS flights. DTA, UMS Skeldar and ENAV are already preparing the flight authorization documentation to be submitted at ENAC. The flight profile was already designed and a detailed risk assessment is quite completed in line with the Italian regulation issued early this year in implementing the EU regulation. The flight trials will be operated by UMS Skeldar with the VTOL RPAS V150, equipped with a right GNSS receiver.

The RPAS operation context is a really dynamic one and the ECARO project will contribute to increase national and EU innovation in the GNSS navigation capacity of RPAS so pushing the development of that market sector by improving safety and security of flight operations.



Photos by project staff