



GAINS

General Aviation Improved
Navigation and Surveillance



Demonstrating how solutions developed by SESAR can be adapted for use by General Aviation (GA) – fixed wing and rotorcraft – enhancing the ability of GA to integrate operations without prohibitive cost or certification in complex airspace.

Concepts of operation ...

Surveillance Concept: a non-certified electronic conspicuity (EC) solution for display in towers, radio rooms and the cockpit

Enabled by Global Navigation Satellite System (GNSS) and EGNOS

Navigation Concept: instrument flight procedures incorporating advanced PBN features (e.g. RF Legs) to meet GA needs

... demonstrated through live flying at 8 participating airfields

Surveillance: a total of 42 pilots in 27 fixed wing and rotary wing aircraft completed 43 flight hours in the visual circuit testing electronic conspicuity with cockpit displays within a 100% equipped environment.



Navigation: a total of 29 pilots in 22 aircraft flew 357 approach operations on 8 advanced PBN instrument approach procedures incorporating a mix of steep approaches and varying diameter RF legs with LPV and ILS final approaches.

Positive results

GAINS' results have demonstrated clear benefits to GA operations from adapting SESAR solutions to enable improved integration in today's challenging airspace. These have shown that EC improves traffic situational awareness for both pilots and ground ATS staff, and that RNP to xLS can be flown by a wide range of GA aircraft and pilots with acceptable track-keeping performance. GAINS has shared its results with ANSPs, regulators and EASA.



This project has received funding from the SESAR Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement No 781228. The opinions expressed herein reflect the author's view only. Under no circumstances shall the SESAR Joint Undertaking be responsible for any use that may be made of the information contained herein.

Consortium:



Philip Church/HELIOS | Project Coordinator | philip.church@askhelios.com

2 – 6 December 2019
Athens, Greece



founding members

