



## **Early Warning Systems of natural disasters in the frame of EUNADICS-AV**

Hugues Brenot (1), Nicolas Theys (1), Lieven Clarisse (2), Anna Kopp (2), Kaspar Graf (3), Lucia Mona (4), Mauro Coltelli (5), Tuomas Peltonen (6), Marcus Hirtl (7), Timo Virtanen (8), Guðrún Nína Petersen (9), and the WP5 - EUNADICS-AV Team

(1) Royal Belgian Institute for Space Aeronomy (BIRA-IASB), Belgium, (2) Université Libre de Bruxelles (ULB), Belgium, (3) Deutsches Zentrum für Luft-und Raumfahrt (DLR), Germany, (4) Consiglio Nazionale delle Ricerche (CNR), Italy, (5) Istituto Nazionale di Geofisica e Vulcanologia (INGV), Italy, (6) Radiation and Nuclear Safety Authority (STUK), Finland, (7) Zentralanstalt für Meteorologie und Geodynamik (ZAMG), Austria, (8) Finnish Meteorological Institute (FMI), Finland, (9) Icelandic Meteorological Office (IMO), Iceland

Aviation is one of the most critical infrastructures of the 21st century. In Europe, safe flight operations, air traffic management and air traffic control are shared responsibilities of EUROCONTROL, national authorities, airlines and pilots. All stakeholders have one common goal, namely to warrant and maintain the safety of flight crews and passengers. Currently, however, there is a significant gap in the availability of real-time hazard measurement and monitoring information for airborne hazards. The main objective of the new Horizon 2020 project EUNADICS-AV (European Natural Airborne Disaster Information and Coordination System for Aviation; <http://www.eunadics.eu>) is to close this gap in data and information availability, enabling all stakeholders in the aviation system to obtain fast, coherent, and consistent information.

Here we report on WP5 of EUNADICS-AV, the objective of which is to develop a prototype multi-hazard monitoring and early warning system. This task includes the development of a service for improved near real-time analyses (delay of a few hours maximum) of observations from satellite and ground-based platforms in order to detect ash and SO<sub>2</sub> plumes (at the global scale), as well as desert sand dusts, fire plumes, and radioactive plumes.