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Advanced services for the IAGOS users

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IAGOS (In-service Aircraft for a Global Observing System) is a European Research Infrastructure that aims to provide long-term, regular and spatially resolved in situ observations of the atmospheric composition. IAGOS observation systems are deployed on a fleet of commercial aircraft and perform uninterrupted measurements, from take-off to landing, of aerosols, cloud particles, greenhouse gases, ozone, water vapor and nitrogen oxides, from the surface to the lower stratosphere. The IAGOS database is an essential part of the global atmospheric monitoring network.

The IAGOS Data Portal (via www.iagos.org) is part of the French Data and Services Center for Atmosphere AERIS (www.aeris-data.fr). In addition to the observations, the portal already provides (i) added-value products such as back trajectories and origin of air masses and (ii) web services such as the download in standardized formats (NetCDF or NASA Ames) and plotting tools (maps, time series and vertical profiles). A particular attention has been paid to standardized metadata which improve the data discovery but also provide information to the users such as the data provenance and QA/QC. DOI have been implemented in order to improve IAGOS data citation.

Thanks to future collaborations in the frame of the H2020 project ENVRI FAIR, advanced interoperability will be setup with other airborne programs such as SAFIRE and EUFAR, with other Research Infrastructures from the Atmospheric domain and more generally from the Environmental domain in the frame of the ENVRI community. In this context, an emphasis will be made on the link with satellite-based data in order to provide services for the satellite community.

Through these new services it will be possible (i) to combine products from different sources with satellite data and models, (ii) to have access to sophisticated statistical analysis tools (e.g. frequency distributions, interpolation, averaged/gridded data, complex extractions and aggregations) and (iii) to use advanced web-processing services (e.g. visualisation capabilities, modelling services).