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Monitoring the atmospheric composition using satellite-ground-based synergies

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The presentation will give an overview of the latest results from the first year of the European 6th Framework project GEOmon (Global Earth Observation and Monitoring www.geomon.eu). The overall goal of the GEOmon project is to sustain and analyze European ground-based observations of atmospheric composition (complementary with satellite measurements) in order to quantify and understand ongoing changes. The project is a first step towards building an integrated pan-European Atmospheric Observing System for long-lived greenhouse gases, reactive gases, aerosols, and stratospheric ozone. GEOmon is a precursor of the GMES Atmospheric Service Insitu component and a European contribution to GEOSS.The main European networks of ground- and aircraft-based measurements of atmospheric composition are being harmonized and the measurements are integrated with those from satellites. The access to data and data-products is coordinated at a common data centre for more efficient use. The accessibility, the design, and the content of the GEOmon data centre will be illustrated at the conference. GEOmon supports data gathering at existing networks if necessary, rescues and compiles existing ground-based data, and develops new methodologies to use these data for satellite validation and interpretation. In addition, GEOmon sustains innovative ground-based measurements complementary to satellites, made by upward looking ground based remote sensing instruments Max-

DOAS, FTIR, and LIDAR, and by systematic measurement programmes of upper-tropospheric composition using CARIBIC passenger aircrafts. Common techniques and modelling tools are used in order to add value to the GEOmon data observations, to facilitate their use in satellite validation and help design an optimal network.