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The first phase of the citizen science Interoperability Experiment organized by the Interoperability Community of Practice in the EU H2020 WeObserve project under the Open Geospatial Consortium (OGC) innovation program and supported by the four H2020 Citizen Observatories projects (SCENT, GROW, LandSense & GroundTruth 2.0) as well as the EU H2020 NEXTGEOSS project has finalized with the release of an Engineering Report in the OGC website. The activity, initiated by the European Space Agency (ESA), EC Joint Research Center (JRC), the Wilson Center, International Institute for Applied Systems Analysis (IIASA) and CREAF wanted to covered aspects of data sharing architectures for citizen science data, data quality, data definitions and user authentication.

The final aim is to propose solutions for Citizen Science data to be integrated in the Global Earth Observation System of Systems (GEOSS). The solution is necessarily a combination of technical and networking components, being the first ones the focus of this work. The applications of international geospatial standards in current citizen science and citizen observatory projects to improve interoperability and foster innovation is one of the main tasks in during the experiment to achieve the final aim.

The main result was to demonstrate that OGC Sensor Observing Service (SOS) standard can be used for citizen science data (as already proposed in the OGC SWE4CS discussion paper) by implementing it in servers that were combined by visualization clients showing Citizen Science observations from different projects together. The adoption of SOS opened new opportunities for creating interoperable components such as a quality assessment tool. In parallel, an authentication server was used to federate three project observers in a single community. Lessons learned will be used to define an architecture for the H2020 COS4Cloud project. The second phase of the Interoperability Experiment has already started and developments and tests will be

conducted by participants in the next 9 months. Some open issues identified and document in the Engineering Report will be addressed in the second phase of the experiment, including the use of a Definitions Server and the adoption of the OGC SensorThings API as an alternative to SOS. The second phase will finalize in September 2020 with a presentation in the Munich OGC Technical Committee meeting. The call for participation and additional contributions will remain for the whole duration of the activity