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Open Science Collaboration across Eath Observation Platforms

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Collaborative Open Science is essential to addressing complex challenges whose solutions prioritize integrity and require cross-domain integrations. Today, building workflows, processes, and data flows across domains and sectors remains technically difficult and practically resource intensive, creating barriers to whole-systems change. While organizations increasingly aim to demonstrate accountability, they often lack the tools to take action effectively. By making it simple to connect data and platforms together in transparent, reusable and reproducible workflows, the OGC Open Science Persistent Demonstrator (OSPD) aims to enable responsible innovation through collaborative open science. The OSPD focuses specifically on using geospatial and earth observation (EO) data to enable and demonstrate solutions that create capacity for novel research and accelerate the practical implementation of this research.

Collaborative Open Science and FAIR (Findable, Accessible, Interoperable, Reusable) data are widely recognized as critical tools for taking advantage of the opportunities created through addressing complex social and environmental challenges. To date, many millions have been invested in hundreds of initiatives to enable access to analytical tools, provide data management, data integration and exchange, translate research results, and support reproduction and testing of workflows for new applications. These investments have resulted in a plethora of new data, protocols, tools and workflows, but these resources frequently remain siloed, difficult to use, and poorly understood, and as a result they are falling short of their full potential for wider impact and their long term value is limited.

This presentation will illustrate how the OGC OSPD Initiative, through its design, development and testing activities, provides answers to leading questions such as:

- How can we design Open Science workflows that enable integration across platforms designed for diverse applications used in different domains to increase their value?
- How can we lower barriers for end users (decision makers, managers in industry, scientists, community groups) who need to create Open Science workflows, processes, and data flows across domains and sectors remains technically difficult and practically resource intensive, creating?
- How can Open Science workflows and platforms enable collaboration between stakeholders in

different domains and sectors?

- How can we empower organizations to demonstrate accountability in their analytical workflows, data, and representations of information through Open Science?
- What Open Science tools do organizations need to take action effectively?
- How can Open Science and FAIR data standards practically support accountability?
- How can we make it simple to connect data and platforms together in transparent, reusable and reproducible (FAIR) workflows?
- What are the specific challenges of using geospatial, earth observation (EO), and complementary data in this context?