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OGC Innovation Program and Testbed-14 demo day

# **CLIENT TO WCS-EO 1.1 & REST FOR SWATH COVERAGE**

# MEEO's Testbed-14 Threads



- **Thread 1:** Modeling, Portrayal, and Quality of Service (**MoPoQ**)
- Information Registries & Semantic Enablement
- Application Schema Modeling and Conversion
- Portrayal
- MapML
- Quality of Service & Experience (QoSE)
- Machine Learning, Deep Learning & Artificial Intelligence
- LiDAR Point Cloud Data Handling
- **Thread 2:** Earth Observation & Clouds (**EOC**)
- Swath Data and the Climate Forecast Convention
- Exploitation Platform
- **Thread 3:** Next Generation Services (**NextGen**)
- Next Generation OGC Web Services, Federated Clouds, Security & Workflows
- Complex Feature Handling
- CityGML and Augmented Reality
- **Thread 4:** Compliance (**CITE**)
- Compliance and Interoperability Testing

# MEEO's Testbed-14 Deliverables



- Compliance (CITE)
  - 2 ERs, 4 Components

- Earth Observation & Clouds (EOC)
  - 4 ERs, 14 Components

**1 ER (contribution to D007)**  
**1 Component (D137)**

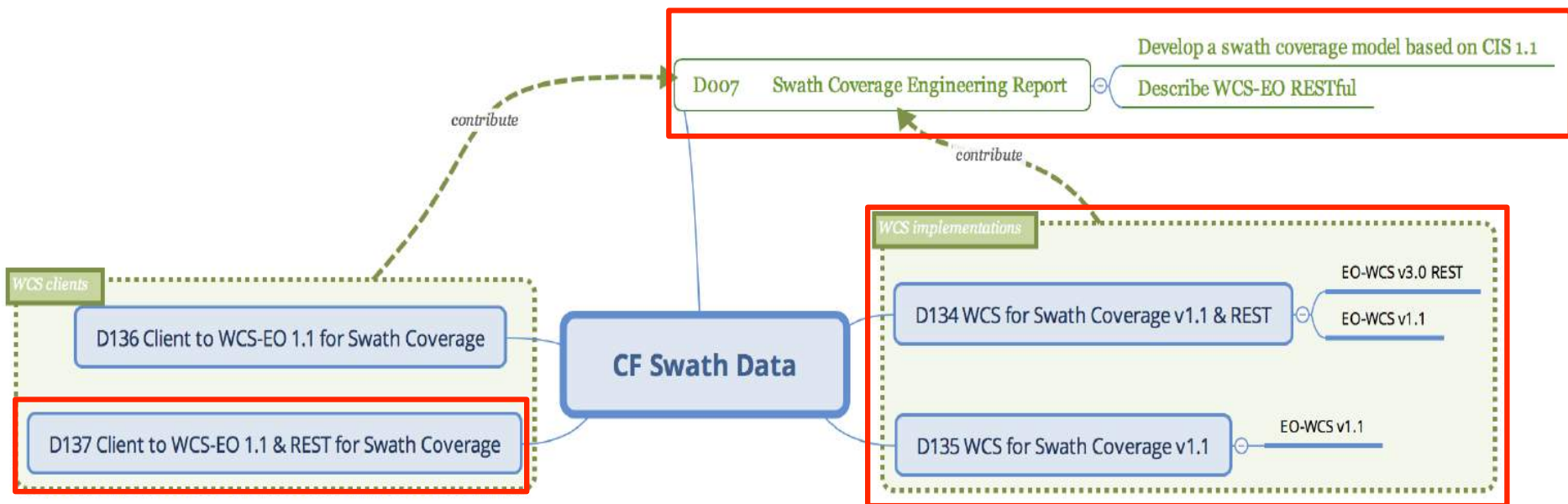


Figure 23. CF-compliant Swath Data deliverables

**WCS server for SWATH data  
(in-kind contribution)**

# MEEO's Component Implementation Deliverable

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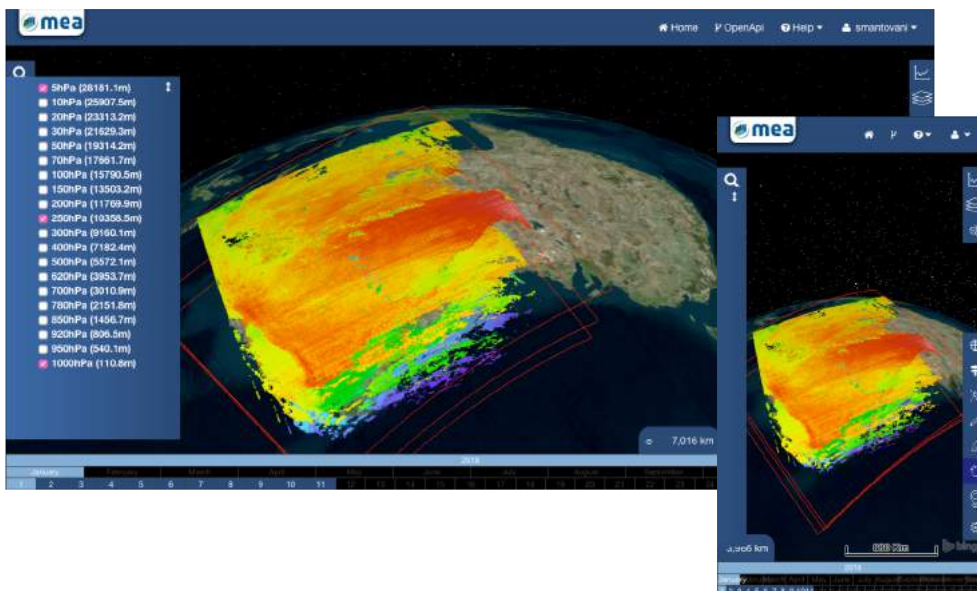
- *D137* - Client to WCS-EO 1.1 & REST for Swath Coverage:
  - Description:
    - Swath Coverage Client to access data provided by D134 and D135 components (CloudSat and VIIRS)
    - Swath Coverage Client to use RESTfull interface defined via OpenAPI definition
    - In-kind implementation of WCS server for MODIS and VIIRS SWATH data

# MEEO's Component Implementation Deliverable



- *Demo*
  - Access to CloudSat data (@EOX, @ASU)
  - Access to VIIRS data (@GMU, @MEEO)
  - Access to MODIS data (@MEEO)
- The testbed14 client is accessible at this [link](#)

## webGIS



## API

```
JSON | Det non elaborati | Header
-----|-----|-----
Sintesi | Copia | Contiene tutto | Espandi tutto | Filtri JSON

* info:
  * CONTACT:
    uri: "https://www.meo.it/"
    name: "MEEO"
    email: "info@meo.it"
  * description: "This is the OpenAPI draft definition developed in the OGC Testbed14 framework that conforms to the OGC Web Coverage Service (WCS) specification (conformance classes: \"Core\", \"GeoJSON\", \"WTRML\" and \"OpenAPI 3.0\")."
  * version: "1.0.0"
  * title: "Web Coverage Service (WCS) REST API Specification - MEEO deployment"
  * paths:
    * /conformance:
      * get:
        operationId: "getRequirementsClasses"
        * responses:
          * 200:
            * context:
              * application/json:
                * schema:
                  * description: "The URIs of all requirements classes supported by the server"
                  * description: "Internal server error"
                  * description: "Information about standards that this API conforms to"
                  * description: "List all requirements classes specified in a standard (e.g., WCS 2 OpenAPI 3.0) that the server conforms to"
                * tags:
                  * Capabilities
            * /coverages/{coverageId}/{profileId}/rangeGet:
              * get:
                operationId: "getCoverages"
                * responses:
                  * 200:
                    * context:
                      * application/json:
                        * schema:
                          * description: "List all requirements classes specified in a standard (e.g., WCS 2 OpenAPI 3.0) that the server conforms to"
```

# Conclusions



- *Swath data are heterogeneous*
- *OGC makes sense*
  - *WCS-EO specifications*
    - *The specification should support both machine-to-machine (e.g. automatized discovery, )and human interfaces (e.g. webGIS data discovery, access, visualization)*
    - *OpenAPI is suitable option to provide a standardized interface*
  - *WCS-EO implementation*
    - *Server side*
    - *Client side*

