# Citizen OBservatory WEB (COBWEB): A **Generic Infrastructure Platform to Facilitate the Collection of Citizen** Science data for Environmental Monitoring

Dr Jamie Williams / Paul van Genuchten / Joana simoes

jamie.williams@envsys.co.uk / paul.vangenuchten@geocat.net / joana.simoes@geocat.net







### The COBWEB project

4 year project started 01/11/2012 Funded under the European Commission's Framework Programme 7 (Grant No: 308513).





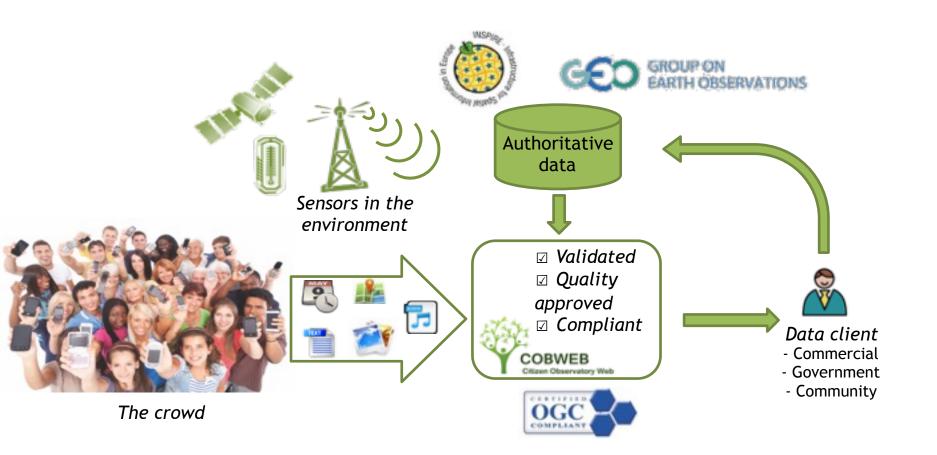


## The COBWEB project





#### Conceptually, what is COBWEB?





#### **Demonstrators**

## Three subject areas:

- 1. Validating Earth observation;
- 2. Biological monitoring;
- 3. Flooding.









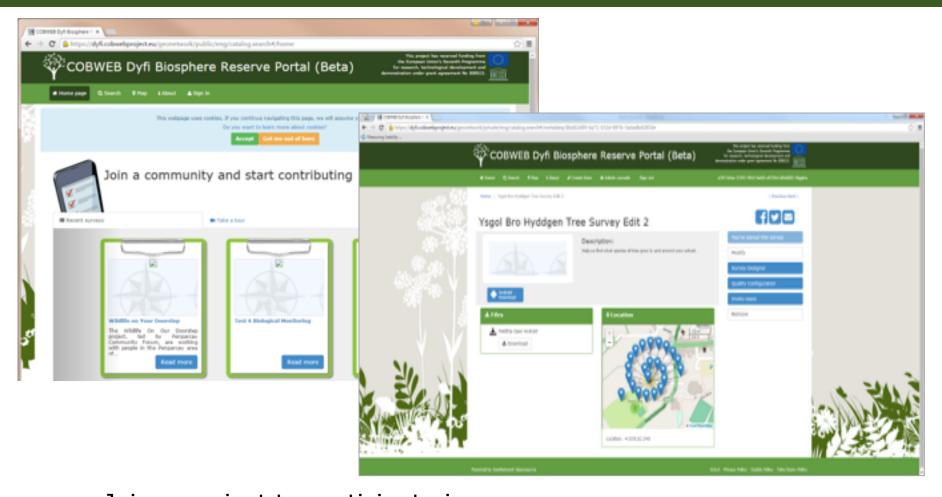


## Bottom up approach to design

### Co-design allows us build interactively



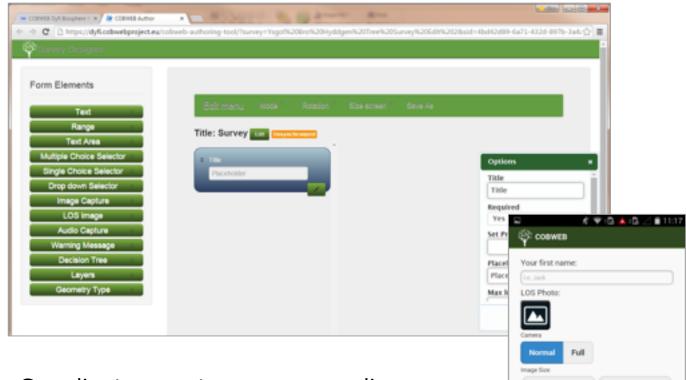
## GeoNetwork as CitizenScience Portal



Join a project to participate in surveys Find observations contributed by citizens Find datasets to use in experiments



## Fieldtrip Open Survey platform

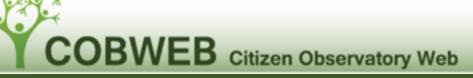


Coordinator creates a survey online

Participate by downloading the survey to the phone

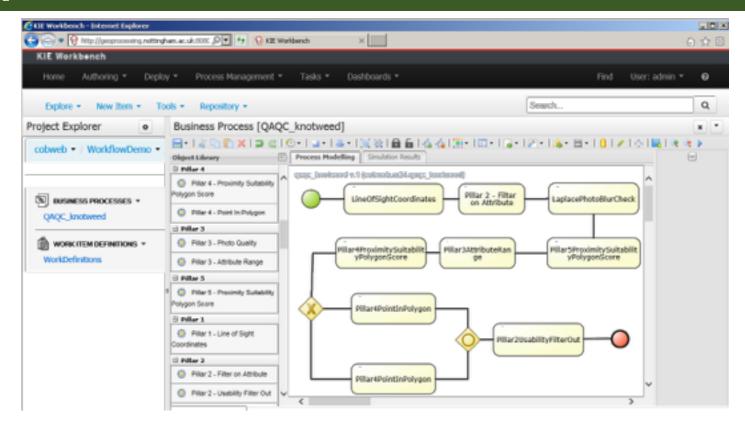








## Quality Assurance and Conflation Framework



Based on BPMN and WPS
Use GEOSS and INSPIRE data as
authoritative sources



## Download or combine the results on a map







#### **Privacy aspects of Citizen Science**

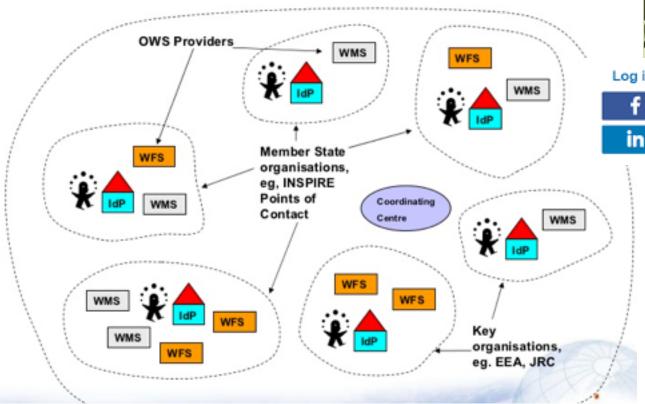


- Spatial Citizen (meta)data is in the heart of the privacy discussion
- Follow privacy by design best practices



#### **Authentication**

#### Access federation based on SAML





Log in with Social









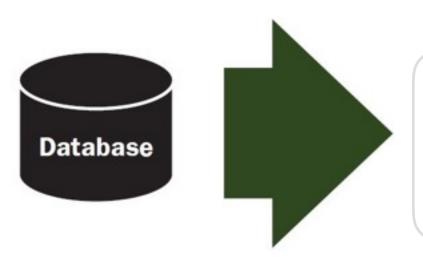
Social bridge for citizen





#### Step 9:

The open data-standards (swe4citizenscience) delivers best practices for citizen science data.



Using standards
Profile for OGC SWE standards
INSPIRE ready; iso19139 & WMS/WFS
Semantically enabled (json-ld)
Search engine friendly (schema.org)



#### **Step 10:**

#### Discover the observations in the GEOSS portal.





#### **COBWEB & INSPIRE**



- Expose citizen science contributions using INSPIRE practices
- INSPIRE data as authoritative source for quality assurance of citizen observations
- Citizen science to evaluate data quality of INSPIRE data



#### **Software resources**



- <a href="https://cobwebproject.eu/news/publications/software-outputs">https://cobwebproject.eu/news/publications/software-outputs</a>
- https://github.com/opengeospatial/swe4citizenscience
- http://geonetwork-opensource.org
- http://fieldtripgb.edina.ac.uk
- https://github.com/edina
- https://github.com/cobweb-eu
- https://github.com/GeoinformationSystems/SpatialDataFusion
- <a href="http://sixth.ucd.ie">http://sixth.ucd.ie</a>





## Thank you



Penparcau 'Bee Involved'



