

→ EARTH OBSERVATION FOR SUSTAINABLE DEVELOPMENT

Agriculture and Rural Development

Stakeholder Meeting EO4SD Agriculture Cluster
6 October 2017 | ESRIN, Frascati, Italy

EO4SD Agricultural Cluster Demonstration Overview

Remco Dost (eLEAF)



Earth Observation for Sustainable Development - objective



To **demonstrate** the effectiveness of Earth-observation-based products & services in the Agricultural and Rural Development domain;

Specifically for the **planning** and **implementation** of the development projects, programmes and activities of the IFIs, together with their respective Client States;

in order to meet **long-term, strategic geospatial information needs** in the individual developing countries, as well as international and regional development organizations;

thus bridging and matching IFI and CS requirements and EO service provision and development

Why?



Because we believe that Earth Observation is a powerful tool for **multi-scale environmental monitoring**:

- Coherent, consistent and objective data
- Promotes consistency and comparability
- Relatively low costs
- Access to data at locations otherwise unobtainable
- Time record



Farmers will
need to produce



70% more
food by 2050

Using less

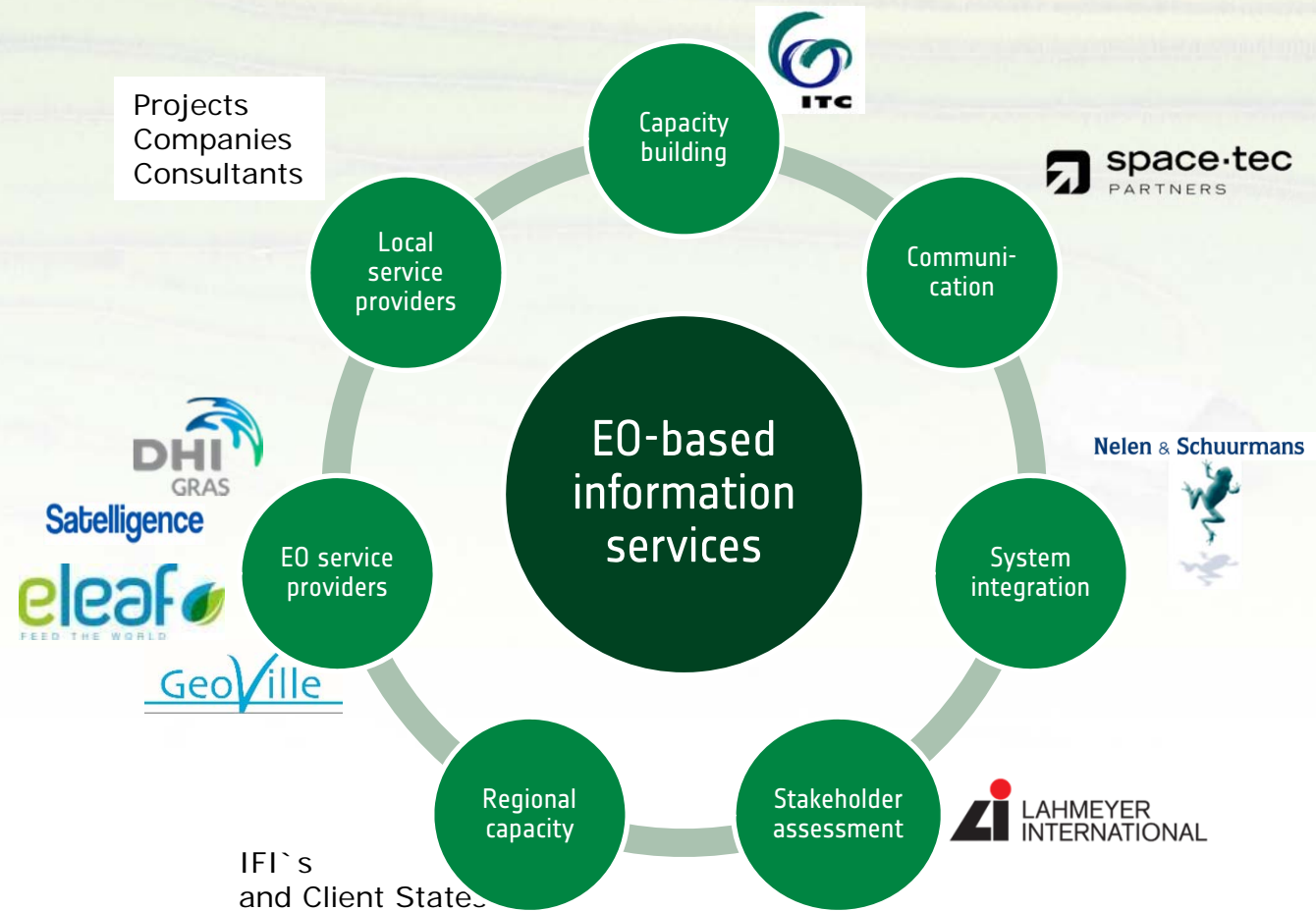


How?



Co-creation

Demonstrating technical capabilities of European industry **in partnership** with MDBs and Client States



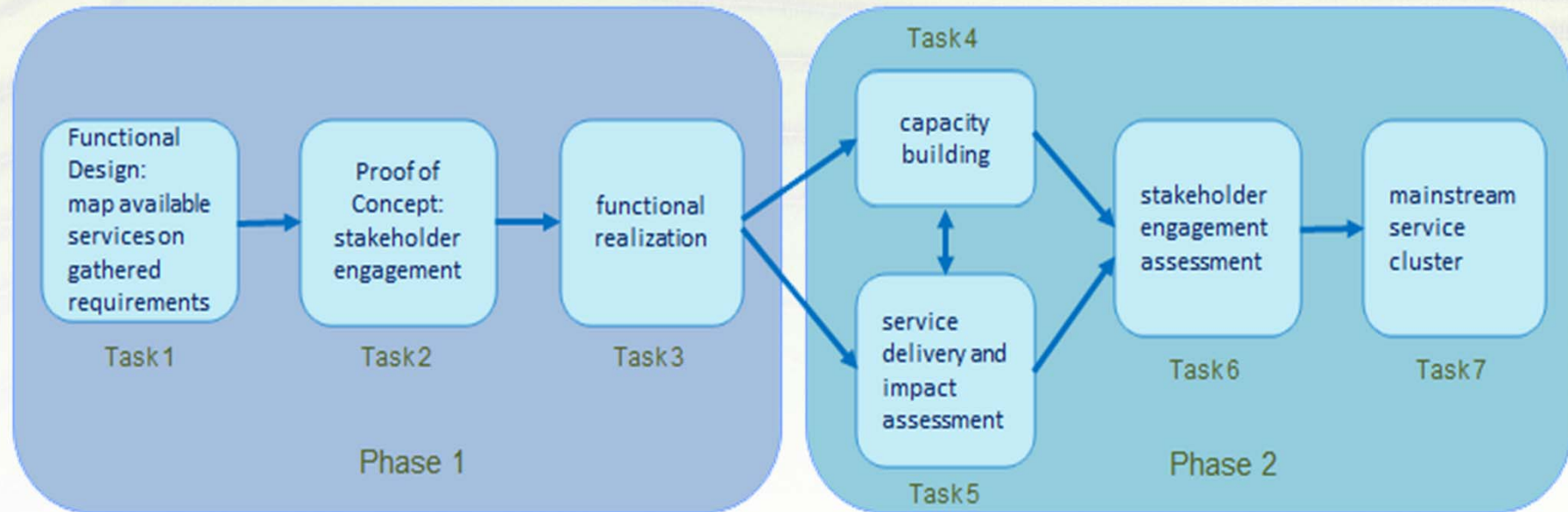
Main thematic components and EO-based information



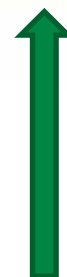
- >> **Large-scale crop area and type estimate** (ie. crop cover mapping and status assessment)
- >> **Irrigation and irrigation systems management** (ie. energy balance, water productivity and water stress)
- >> **Agriculture productivity assessment** (ie. yield estimation, ground water, precipitation monitoring)
- >> **Rural infrastructure investments planning and monitoring** (ie. climate proofing, transport networks mapping)
- >> **Land Degradation Assessment** (ie. Land cover/land cover change, land productivity, carbon stocks, climate variables)
- >> **Ecosystem services in agriculture sector** (ie. water quality assessment, nitrogen content, land surface properties)
- >> **Environmental Impact Assessment** (ie. landscape level classification and change mapping including fragmentation, and agriculture commodities production impact on deforestation)



Project phased approach



Requirements gathering and prototyping



Roll-out, capacity building, impact and roadmap

Focus demonstrations



Selection based on:

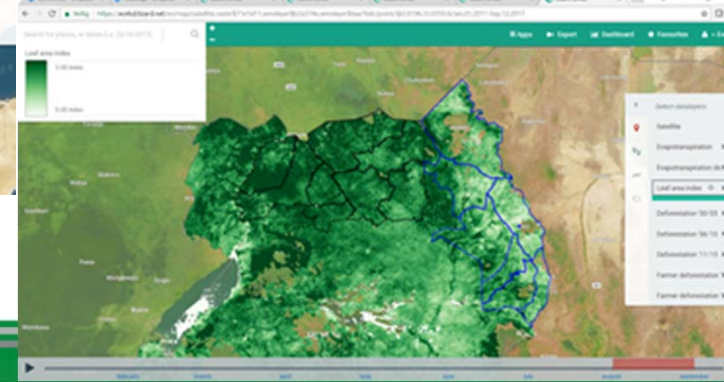
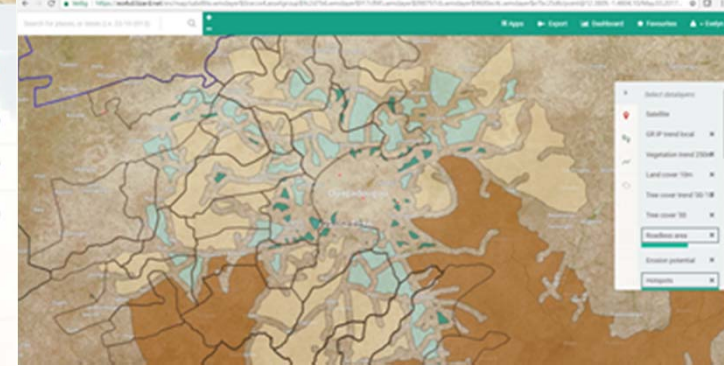
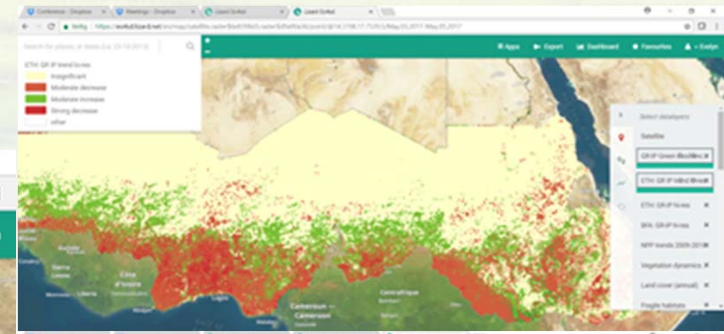
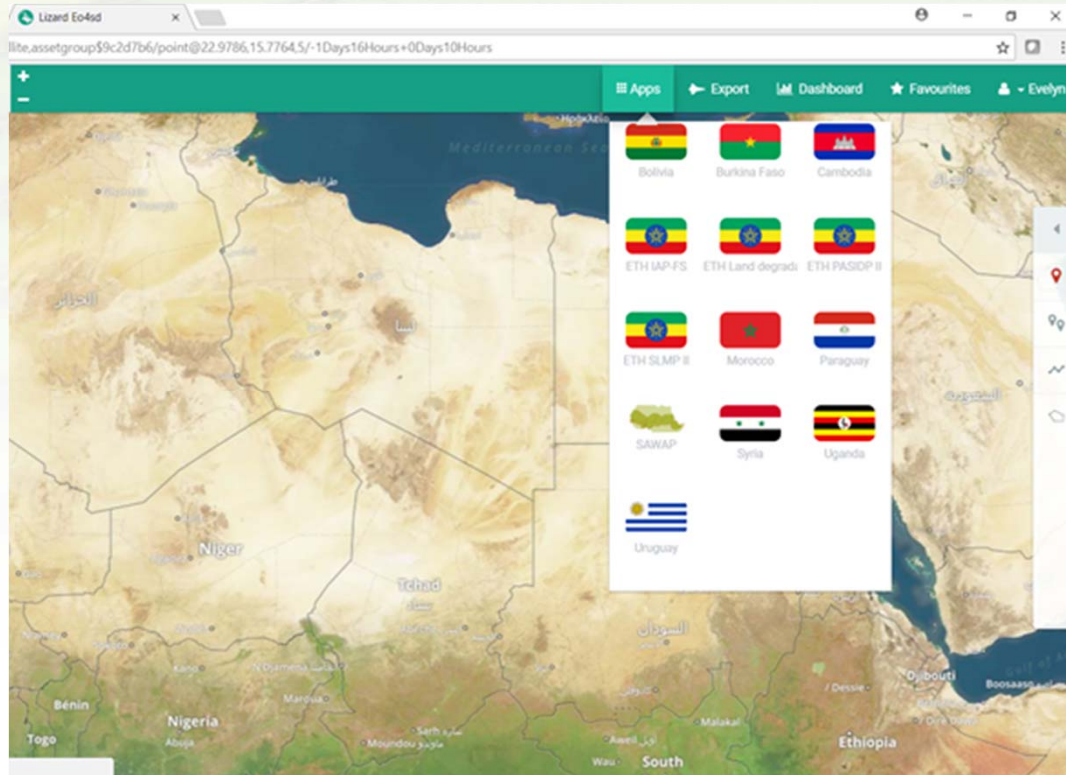
- IFI opportunity, requirements, interest and involvement
- Technical feasibility
- Impact

Countries	Demonstration
Cambodia, Uganda, Syria	Agricultural production and food security applications
Sahel and sub-Saharan Africa, focus on Ethiopia, Burkina Faso and Morocco	Large-scale land degradation and environmental monitoring
Uganda, Bolivia, Paraguay	Agricultural commodities impact on deforestation

Services available on Lizard Platform



- <https://eo4sd.lizard.net/>



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Agriculture and Rural Development

European Space Agency

Thank you



<https://eo4sd.esa.int/agriculture>
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