Earth observation and space integrated applications for sustainable development

Michela Corvino, Marc Paganini, Christopher Aubrecht
ESA Science, Applications & Climate Dept

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Maximising the impact of European EO assets on society and fostering European competitiveness in the exploitation of all EO missions: delivering scientific excellence, pioneering novel applications, growing downstream sector, leveraging on digital innovation, exploring disruptive technologies, preparing for upcoming Sentinels.

Future EO1 Block 4 – EO Science for Society

Core Elements:
- Science
- Applications
- Industrial Competitiveness

Cross-cutting Elements:
- Sentinels User Preparation
- Foresight

Open Call on all Elements
EO supports European countries & interests

Contributions to:
- Climate Action and the European Green Deal
- Earth Science
- Weather forecasting
- Agriculture & Fisheries
- Resource Management
- Air Pollution Monitoring
- Alpine & Maritime
- Security
- …

+ industrial innovation, jobs and growth!
International collaboration to scale up EO innovation for the full achievements of the 2030 Agenda on Sustainable Development
## 1. SDG PATHFINDERS

Development of innovative and robust EO methods, addressing new areas of EO uptake in SDG methodologies.

## 2. SDG SCALING-UP

Ramp up of EO methodological approaches to promote EO best practices across countries for synoptic monitoring and reporting on SDGs.

## 3. SDG ENGINES

Customisation of EO exploitation platforms to support cost-effective SDG implementation by countries (priority to European infrastructures such as TEP and DIAS).

## 4. SDG ENGAGEMENT

Stakeholder Engagement (scientific workshops, SDG MOOCs) to raise awareness and facilitate country appropriation.
**ESA – Global Development Assistance – Agile EO information Development – Fragility Topic**

**USE CASES IN SCOPE OF THE PROJECT**

**UC1 - Security/Assessment Briefings**
- **End User:** B. Murguet / F. Ovanda/Mbele – World Bank
- **WB Project:** P150999-Cameroon Transport Sector Development Project
- **Main Objective:** EO/OSINT integrated analysis promptly warning on security risks (military movements, attacks, conflict zones) over streets under construction/maintenance in Northern Cameroon, preventing impacts on civilians.

**UC2 - EO to Support Impact Evaluation**
- **End User:** B. Murguet / T. Bougna – World Bank
- **WB Project:** P144652 - Impact Evaluation – Rural Access and Mobility P035603 - NG Rural Access & Mobility Project-Phase 2
- **Main Objective:** Indicators of impacts produced by roads rehabilitation in Nigeria through EO-based analysis, detecting anomalies affecting rehabilitation infrastructures.

**UC3 - Smallscale infrastructures Monitoring**
- **End User:** M. Malik, B.N. Khan – World Bank
- **WB Project:** P151075 - Pakistan Community Support Project - PCSP
- **Main Objective:** Monitoring ongoing activities of construction/rehabilitation of small scale infrastructures in Pakistan through EO data, prioritizing activities and needs.

**UC4 - Land and Conflict**
- **End User:** Paul Pretifore - World Bank
- **WB Project:** P129590 - Assessing the Nexus of Land Administration and Resilience to Disaster and Climate Risk
- **Main Objective:** Integrating EO/OSINT data to identify land grabbing indicators due to the ongoing conflict in Ukraine, as it is producing expropriation, transactions, forced land abandonment phenomena.

**UC5 - Effects of Displaced Population on local Economy**
- **End User:** Jeffrey Tanner - World Bank
- **WB Project:** P172830 - The Cox’s Bazar Analytical Program
- **Main Objective:** Integrating EO/OSINT/AI data model to monitor the impact on local economy/welfare growth from refugee camps in Ukhiya Teknaf districts (Bangladesh), to better addressing budget.

**UC6 - IGAD through the Emergency Response Program**
- **End User:** Kenneth Mwangi - World Bank
- **WB Project:** P174546 - Emergency Locust Response Project
- **Main Objective:** Employing EO data to monitor desert locust flow through eastern African regions, enhancing IGAD’s inter-regional platform, as locusts affect agriculture, producing food insecurity.

**UC7 - Population Movement**
- **End User:** Valeska Fabbroni, E.De Benedetti – ADB
- **ADB Project:** TA 9986 Regional: Enhancing Differentiated Approaches in Context-Sensitive Situations
- **Main Objective:** Monitoring migration flows from Afghanistan/South-Asian countries monthly basis, to consistently allocate Tajikistan financial resources, as migration flow over these areas is relevant and confirm evidence from IOM.

**UC8 - Enhanced Country Performance Assessment**
- **End User:** Valeska Fabbroni, E.De Benedetti – ADB
- **ADB Project:** TA 9986 Regional: Enhancing Differentiated Approaches in Context-Sensitive Situations
- **Main Objective:** Estimating an enhanced CPA indicator of ECO/OSINT/EO/SCS CO-LISTED: Tajikistan, Afghanistan, Kyrgyz Republic, Kazakhstan, Tajikistan, Nepal, Papua New Guinea, Cambodia, Pakistan, through EO/OSINT-based country level indicators in AI model, to allocate adequate financial resources.
New Activities – Embed EO and non EO information within Stakeholders Environment

**Crimes Against Humanity**
- Multisource analysis related to structural damage/destruction to property, concealment of crimes, mass graves, proxies for presence of hostilities, forced labour camps, road block, check points, detours;
- Exploitation of EO materials as scientific evidence

**Environmental Crimes and Illicit Trafficking**
- Investigation related to crimes affecting the environment and illegal exploitation of resources,
- Investigation of international illegal trafficking and financial flows and possible provide analysis of emerging patterns related to social, political or economic vulnerability

**Terrorism and Organized Crimes**
- Spatial visualization of abnormal activities related to terrorism and organized crime. Identification of patterns and changes in terrorism events and locations.
- Fusion of multi source data, including GIS data, Earth Observation imagery, structured and unstructured data, information from media and open sources.

**Cross Cutting Elements**
- Dedicated training activities – emerging technologies for threats assessment
- Link analysis embedding stakeholders’ datasets
- Exploring algorithm related to secure transmission of satellite imagery
**Scope:** support small farmers and FAO (OCB) to characterize and optimize maize production in Zambia using ground, EO and weather forecast data.
MAKE SPACE FOR EUROPE

michela.corvino@esa.int

www.eo4society.it

www.esa.int