

# Continuous and Systematic Monitoring of Agricultural Land for Sustainable Development

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# Promoting solutions for sustainable agriculture

- Coproducing solutions for sustainable development with EO service developers, experts and relevant stakeholders
- Integrated “open satellite data – empirical knowledge” solutions for the whole agricultural ecosystem
- EO based solutions for policy and standards (CAP, CBs) compliance monitoring
- Agricultural extension services and provision of tailored guidance to farmers via active engagement
- Make the administration processes effective and cost efficient



# The challenge of continuous and systematic monitoring of agricultural practices



Snapshot of farmers' practices

Cultural differences

Lack of evidence

Large number of sustainability priorities

Organisational differences

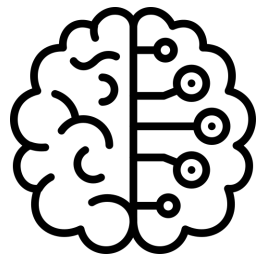
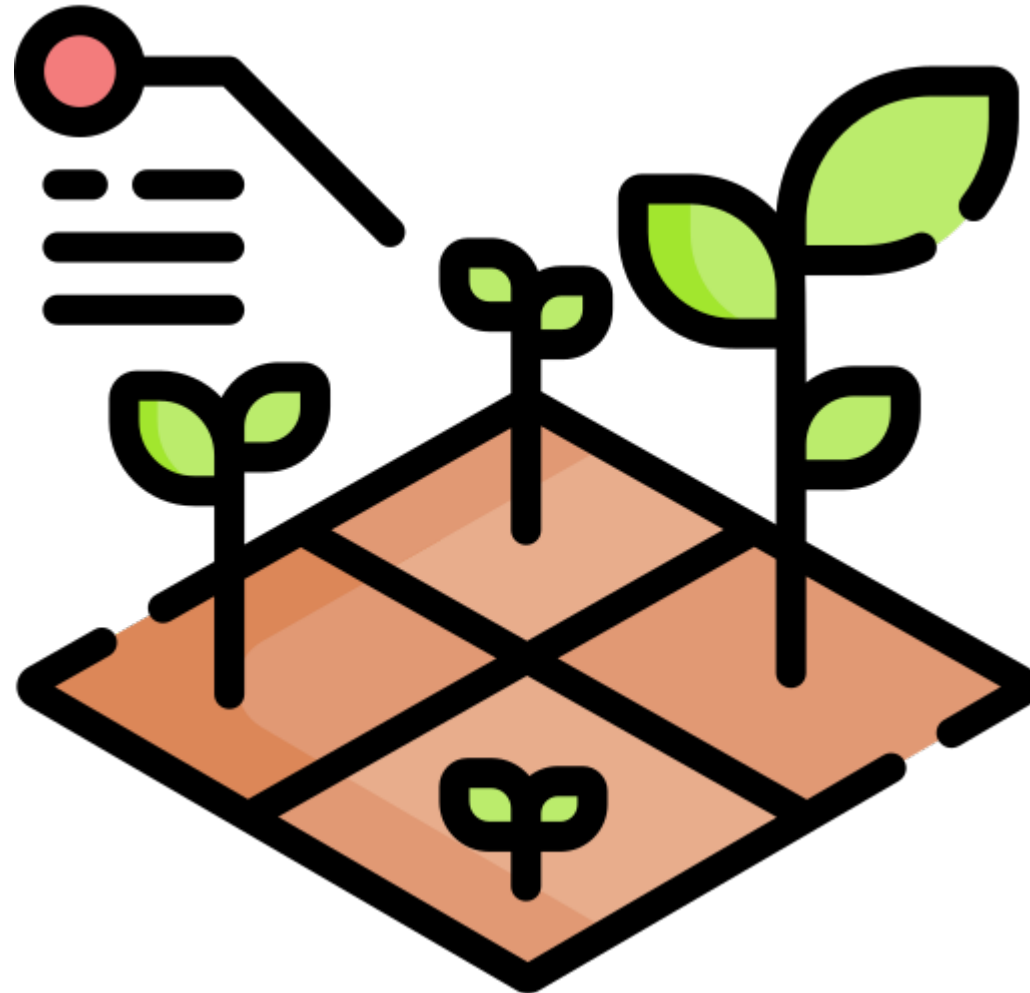


**Time-consuming**

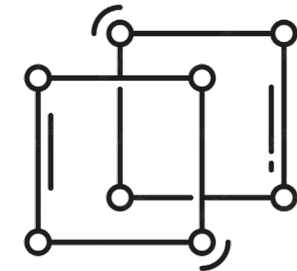
**Costly**



# Complete System Rethink



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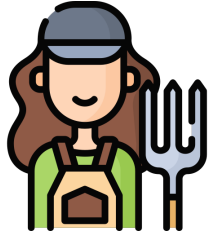


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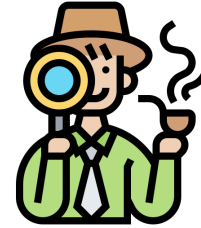


# The benefits

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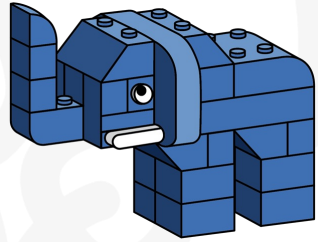
- Personalised DSSs
- Boost the farm productivity and profitability
- More effective use of resources (time, cost)
- Avoid penalties/ non-conformity
- Enhanced transparency around sustainable practices



- Continuous monitoring using EO data
- Reduction of operational and administrative costs
- Design contemporary regionalized and more accurate management plans
- Data availability, accessibility & re-use



# AgroApps Footprint in Africa...



**AfriCultuReS** – Enhancing Food Security in AFRIcan AgriCULTUral Systems with the Support of REmote Sensing - designed, implemented and demonstrated an integrated agricultural monitoring and early warning system that is supporting decision making in the field of food security. (<https://www.africultures.eu>)

**TEMBO** Africa project will design cost-effective sensor networks (financed by climate services). Specifically, the project will raise technology readiness levels and improve the practical applicability of these methods. By directly linking sensors and new value-creating services, the project will ensure long-term financial sustainability. For the African market, in particular, the project will develop flood early warning systems, reservoir management and crop germination insurance services. (<https://temboafrika.eu/>)

**ESA AFRI4Cast** develops a modeling platform making full exploitation of satellite remote sensing of PRISMA and ECOSTRESS sensors for climate change impact analyses on agriculture, and making it available to African stakeholders for shaping future agricultural policies

**ESA ANIN** - South Africa Drought Monitoring Service aims to increase the awareness of EO data potential to support the operation of added-value services in the field of drought monitoring decision making. The project aims to build a drought early warning system that is based on the continuous calculation of a set of satellite-based indices and indicators.

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