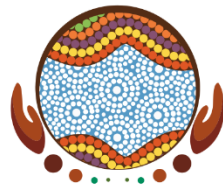


Tuesday, 5<sup>th</sup> of Nov 2019  
Canberra, Australia



GEO WEEK 2019  
SIDE EVENTS



e-shape

**EO in support of the agri-food sector and to  
contribute towards SDG 2: the agriculture  
showcase of the H2020 e-shape project**

Sven Gilliams [VITO], Nikos Tsakiridis and Nikos Tziolas [i-BEC]

# EuroGEO Showcases: Applications Powered by Europe

2 ZERO  
HUNGER







Pioneering H2020 project e-shape, strengthens benefits for Europe of GEOSS - establishing the Regional GEO: EuroGEO

# What is e-shape?

**EuroGEO**, as Europe's contribution to the Group on Earth Observation (GEO) [1], aims at **bringing together Earth Observation resources in Europe**.

e-shape **allows Europe to position itself as global force in Earth observation** through leveraging **Copernicus**, making use of existing European capacities and improving user uptake of the data from GEO assets.

[1] The Group on Earth Observation aims at establishing the Global Earth Observation System of Systems (GEOSS)

# ● e-shape

## Fast Facts for You

**54**  
**partners**

**7**  
**showcases**  
**27**  
**pilots**

**4**  
**years**  
**grant**



## Showcase 1 partners & location

### Europe

VITO [Belgium]  
WENR [Netherlands]  
UT [Netherlands]  
IIASA [Austria]  
NOA [Greece]  
i-BEC [Greece]  
NP [Greece]  
DWD [Germany]



### Africa

MEKELLE [Ethiopia]

### Middle East

TAU [Israel]

# ● e-shape

## Goals and Challenges



### Goals

Copernicus + in-situ  
to deliver enhanced info at  
local, national & global scale  
via cloud infrastructure

### Challenges

Develop & expand operational  
EO services with & for the end-  
users

- ▶ Promote their uptake
- ▶ Ensure sustainability



# ● e-shape Activities



**GOGLAM**  
Global Agricultural Monitoring

*Early warning  
system for global  
food production  
shortfalls*

**EU CAP**

*Improved efficacy  
of implementing  
CAP & its under-  
lying principles of  
environmental  
stewardship*

**VICI**

*Drought insurance  
for smallholder  
Ethiopian farmers*

**AgroIndustry**

*Increased  
resource use-  
efficiency of  
agroindustry*

**4 IDEAS**



**4 PILOTS**

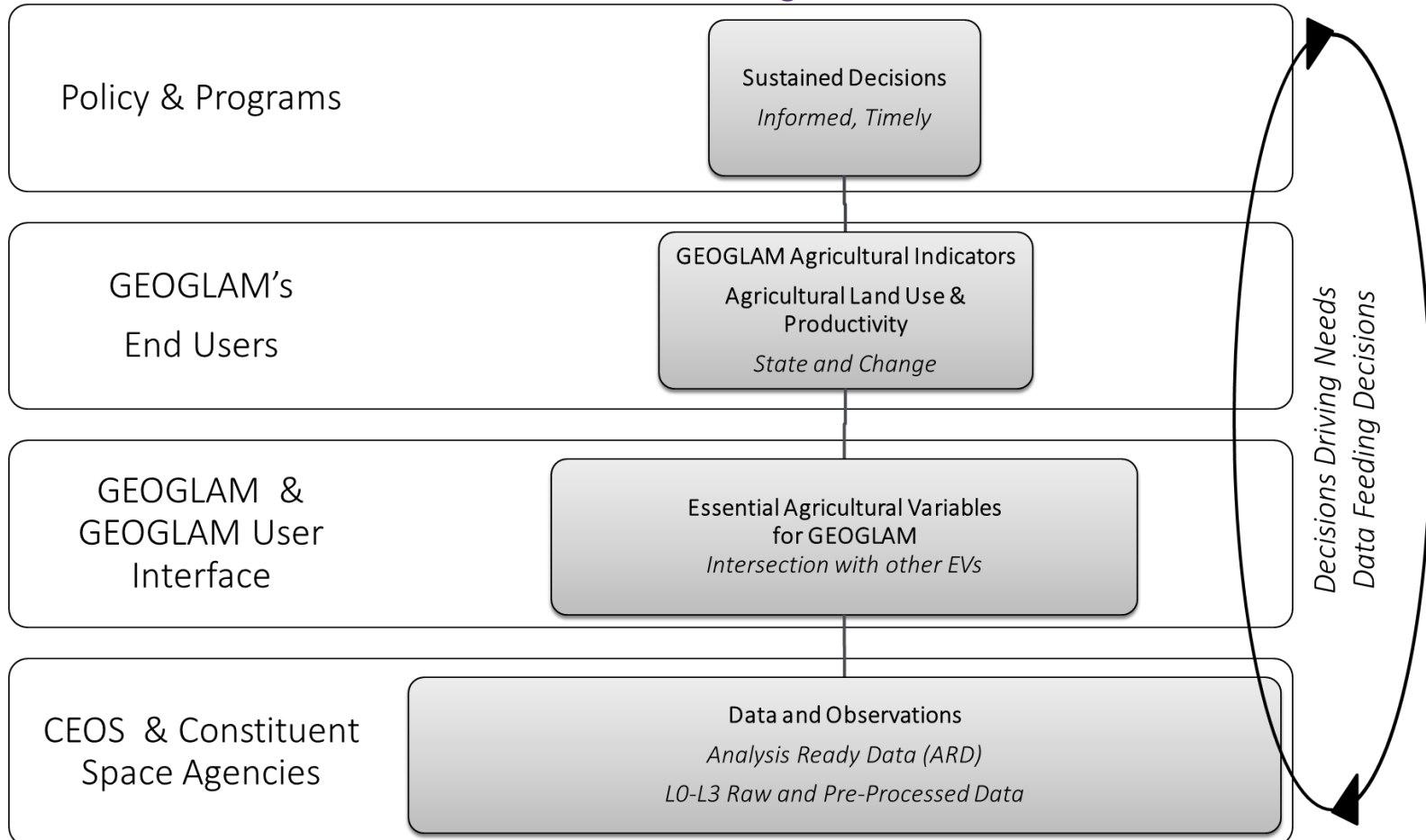
**e**  
e-shape

@eshape\_eu  
[www.e-shape.eu](http://www.e-shape.eu)

# The GEO-GLAM pilot



Support GEOGLAM to more operational status at national level  
e.g EAV's



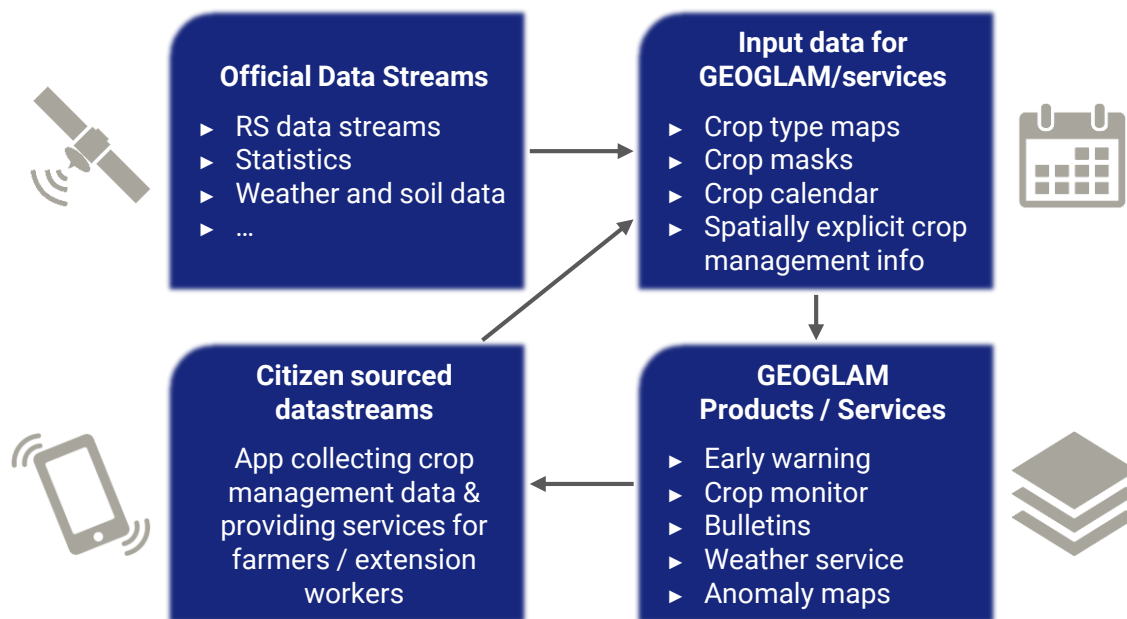
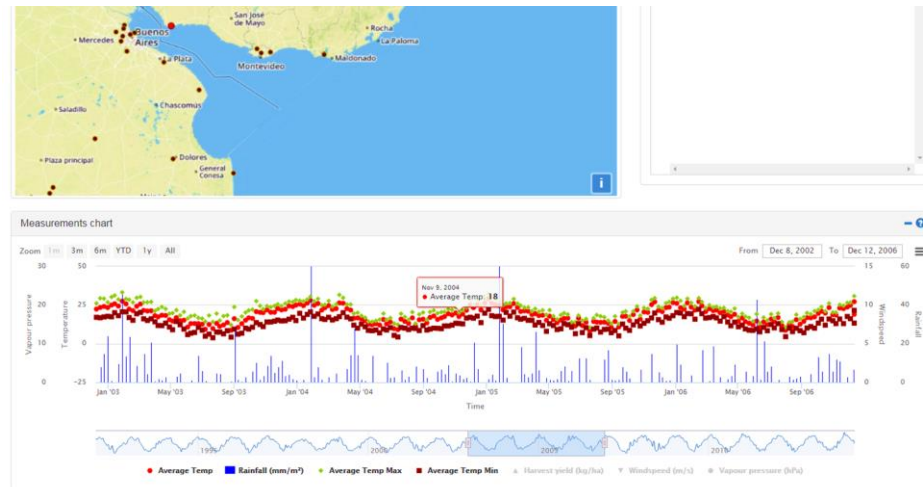


# e-shape

## The GEO-GLAM pilot



- ▶ **Pilot Leader:** VITO
- ▶ **Current user(s):** GEOGLAM
- ▶ **Expected user community:**  
Ministries of Agriculture, international institutions (WFP, FAO, IFAD,...) research institutes and universities
- ▶ **Supporting infrastructure:**  
Proba-V MEP, FS-TPE, DIAS



# ● e-shape

## The EU-CAP pilot



Support farmers to transition from CAP compliance to Farm performance



Actionable advice  
at parcel level!

### Objectives

Support farmers to CAP conformance

Crop identification through the use and fusion of EO, in-situ and crowd sourced data

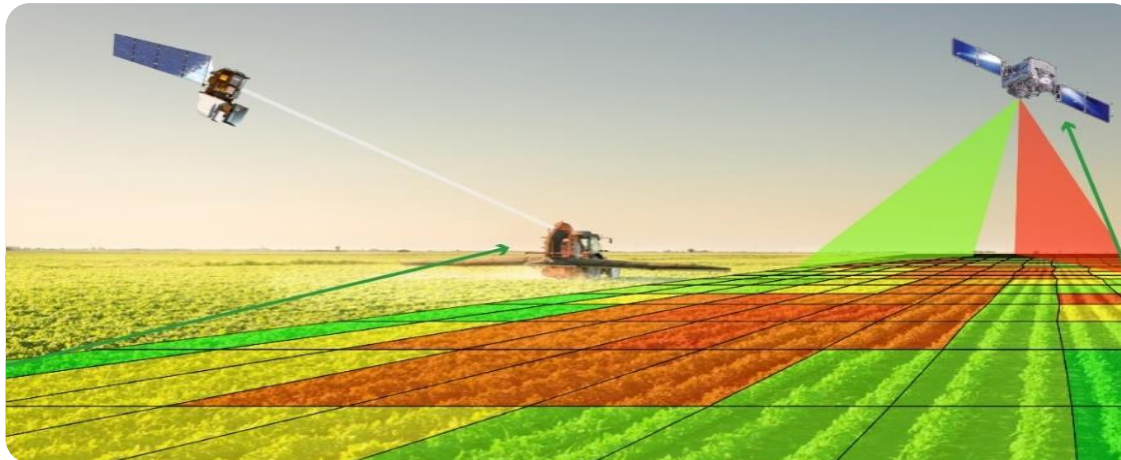
Crop type maps and monitor of CAP's Greening obligations

Yield prediction at specific crop types

# ● e-shape

## The EU-CAP pilot

- ▶ **Pilot Leader:** National Observatory of Athens
- ▶ **Current user(s):** GAIA EPICHEIREIN
- ▶ **Expected user community:** Farmers, Agro-cooperatives and Agro-consultants at EU level supporting CAP implementation. Starting point is the cooperative of GAIA with the potential to expand to other EU Agro-Cooperatives (e.g. Copa Cogeca)
- ▶ **Supporting infrastructure:** NOA's & NP's servers, GRNET cloud infrastructure, ONDA-DIAS





# The Vegetation-Index Crop-Insurance pilot in Ethiopia



**Agriculture** accounts in Ethiopia for **40% of the nation's GDP** and required 72% of its labour force

The majority of the rural, agricultural households (85%) engage in subsistence, rain-fed agriculture & are unable to produce a surplus (2018 population:  $\pm 107,500,000$ , 2.5% growth rate;  $\pm 79\%$  is rural)

- ▶ **Pilot Leader:** ITC, University of Twente
- ▶ **Partners: EU:** IIASA Ethiopia: Mekelle University (MU)
- ▶ **Current user(s):**
  - Key-Users: Kifiya Financial Technology PLC., Public Financial Enterprise Agency (PFEA), Agricultural Transformation Agency (ATA)
  - Key-Clients: Ethiopian Insurance Corporation (EIC), Oromia Insurance S.C., Africa Insurance S.C., Nyala Insurance S.C.
  - End-Users: Individual Farmers as organized through Farmer-Unions and Cooperatives
- ▶ **Expected user community**

The Key-Clients are **micro-insurance companies**, but indirectly also public credit institutes.

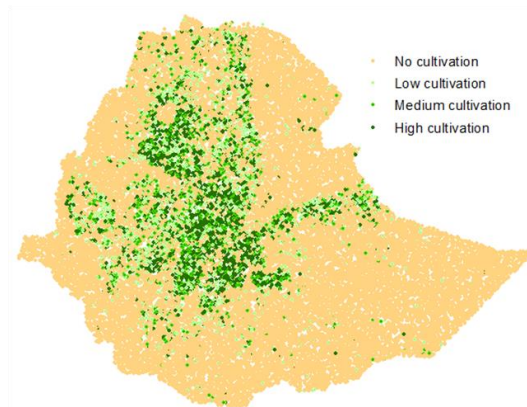
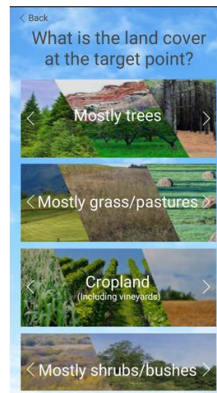
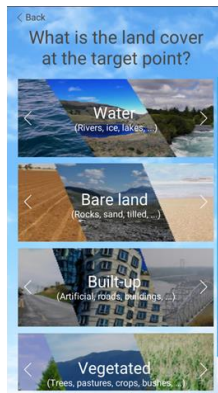
The ultimate end-users are **small holder farmers** who benefit through the availability of insured credit, and app-delivered drought/weather forecasts

# The Vegetation-Index Crop-Insurance pilot in Ethiopia



Development of Smartphone Apps for improved field data to validate land use, perils, yield losses

In situ data collection





# e-shape

## The Agro industry pilot



Utilize existing capacities to address the needs of the agro-industry

- ▶ **Pilot Leader:** VITO
- ▶ **Current user(s):** Verduyn
- ▶ **Expected user community:** Farmers, Agri-consultants, cooperatives, other industry
- ▶ **Supporting infrastructure:** WIG, Proba-V MEP, FS-TEP, DIAS

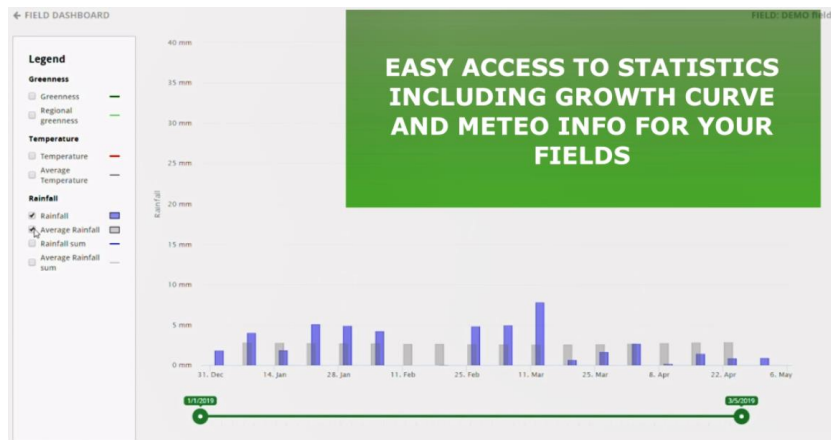
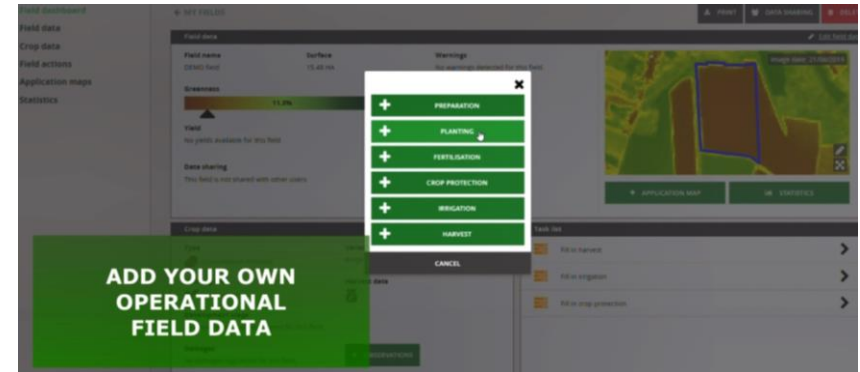
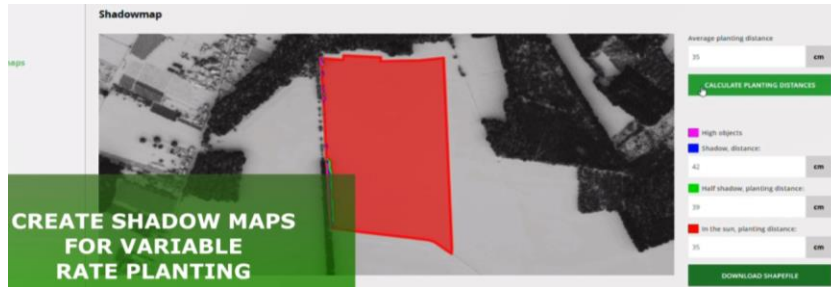
One tool to:

- ▶ Monitor field based on vegetation indices, meteo (temp, rainfall)
- ▶ Support farmers in variable rate planting to work and grow more efficiently
- ▶ Store information from and for farmers and industry



# e-shape

## The Agro industry pilot



Facebook: Horizon2020-e-shape | Twitter:@eshape\_eu | LinkedIn:e-shape project



# We e-shape EuroGEO

Read the full story at [e-shape.eu](http://e-shape.eu)