



Coordinating and integrating state-of-the-art  
Earth Observation Activities in the regions of  
North Africa, Middle East and Balkans  
and Developing Links with GEO related initiatives  
toward GEOSS

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**GEO-CRADLE Workshop & Project Meeting Limassol**

## **Task 3.1 – Gap Analysis**

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**INOSENS**



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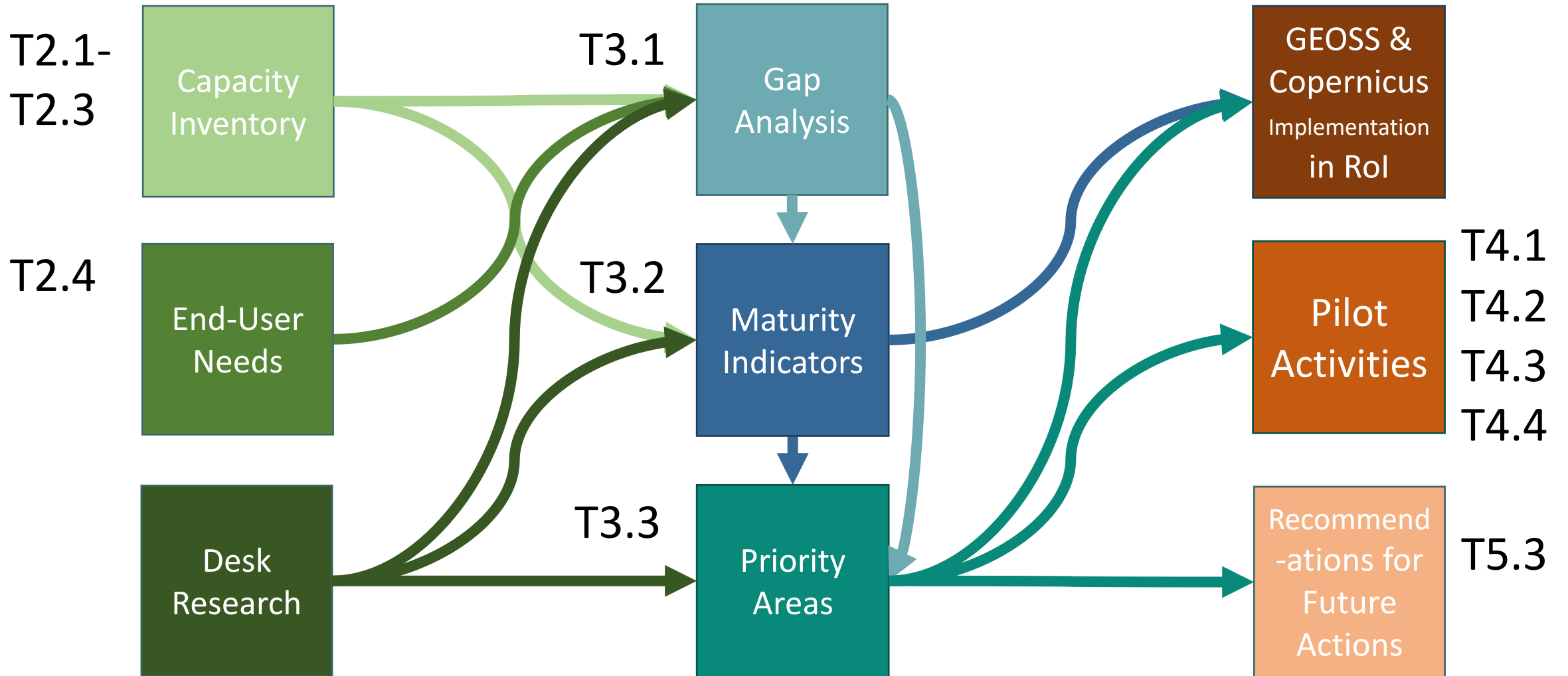
- 5 typologies identified

Correlation with Maturity



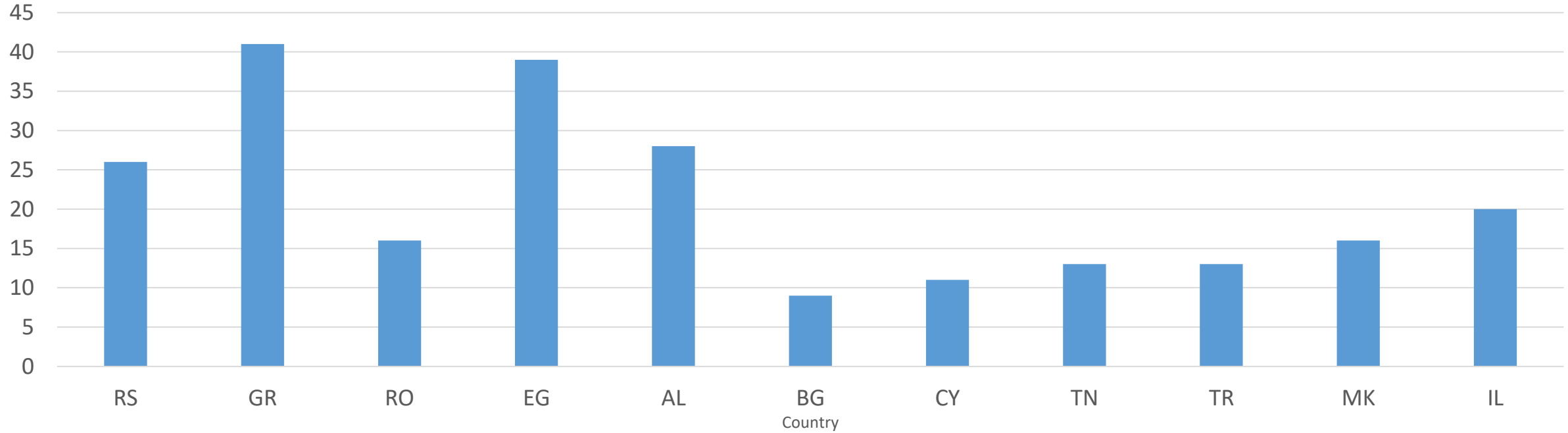


# Position in GEO-CRADLE





# Survey Inputs



Total Responses:

**260**

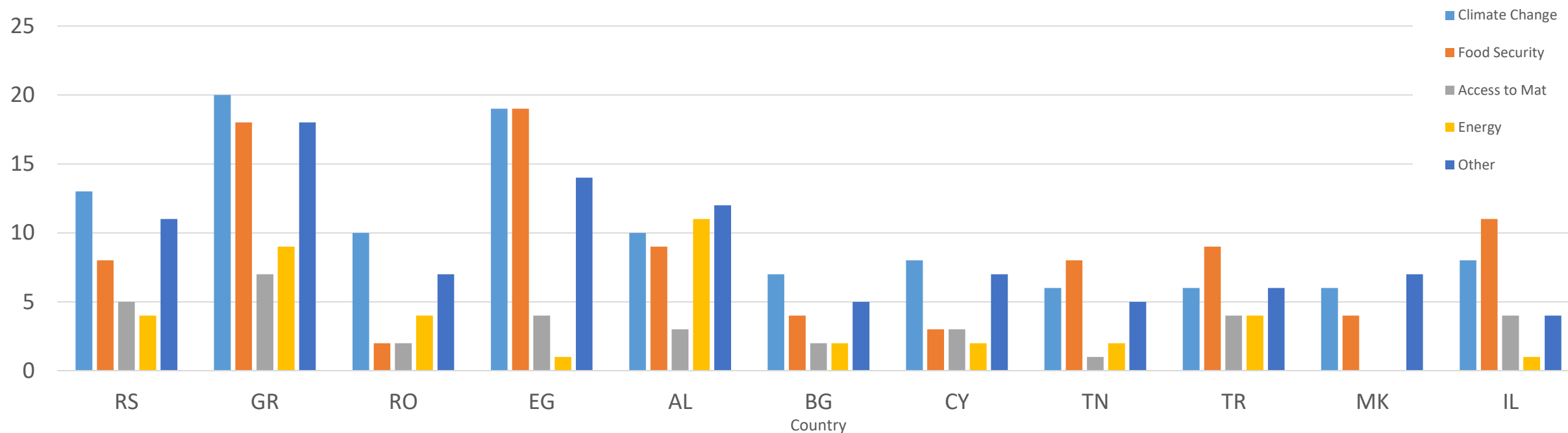
Balkans: 183

North Africa: 59

Middle East: 15



# Thematic Area



**Most responses in:**  
Food Security &  
Climate Change

**Less responses in:**  
Access to Raw Materials  
Energy



# Gap Analysis Framework

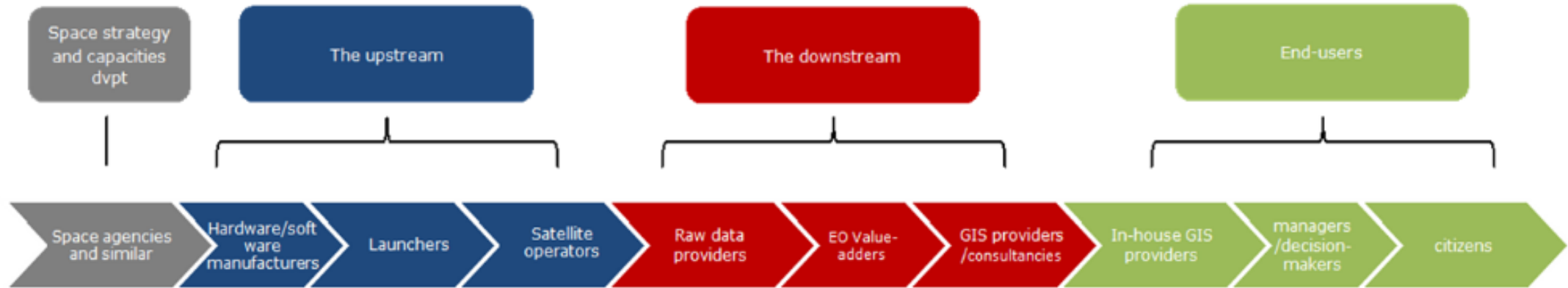
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- **Geographic-** Spatial discrepancy in the coverage of the observation system in regards to availability of data and its quality.
- **Observational-** Technologies and system for EO are not available or insufficient to provide the data and quality needed.
- **Structural-** The connectivity and ability of data to flow freely within organizations or networks.
- **Qualitative/quantitative-** EO products are available but not of sufficient timeliness, frequency or quality to be of use.
- **Capacity-** EO products are available but there is insufficient technical capacity in regards to infrastructure and personnel to make use of it.



# Indicators



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Indicators

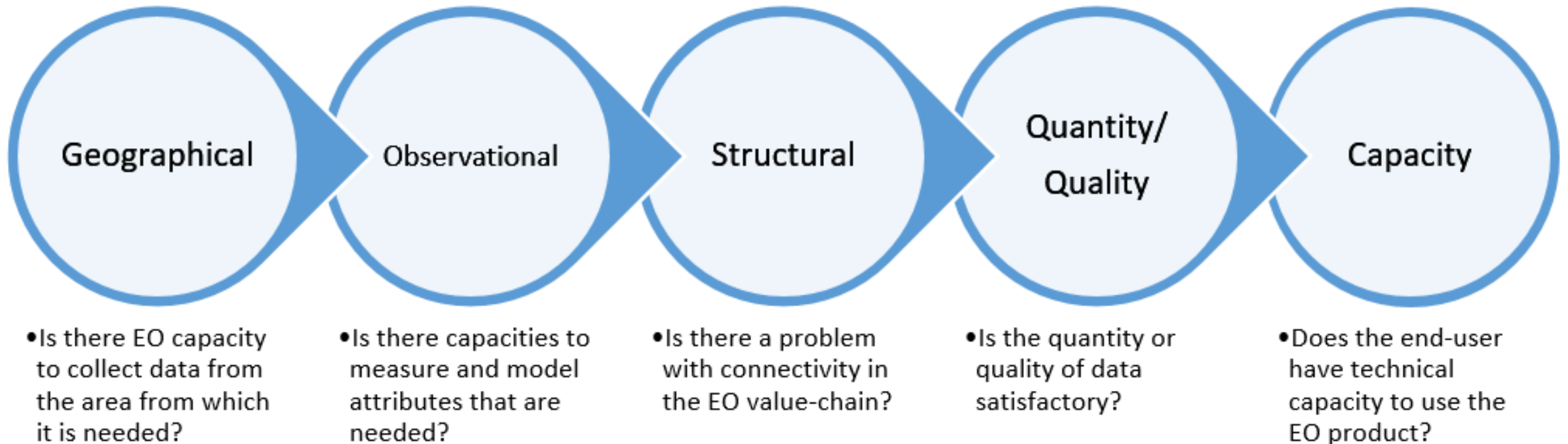
across the value  
chain

- Data availability (real time, upon request, archives)
- Data policy (free and open, commercial, restricted, etc.)
- Temporal resolution
- Number of geoportals used by end-users
- Coordination with decision makers
- Number of organizations with modelling and processing facilities
- Range of satellite coverage
- Etc.



# Identified data needs of end-users

Start with end-user needs,  
and successively go through  
categories of EO capacity





# 5 Types Identified

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## 1. Non-EU Balkan states

Albania, FYROM, Serbia

## 2. EU Balkan states

Bulgaria, Romania, Cyprus, Greece

## 3. Low influence of EU in EO dev.

Tunisia, Egypt, Turkey

## 4. Advanced EO Ecosystem

Israel

## 5. Rapid up-starters

UAE and Saudi Arabia





# Results – Albania, FYROM & Serbia

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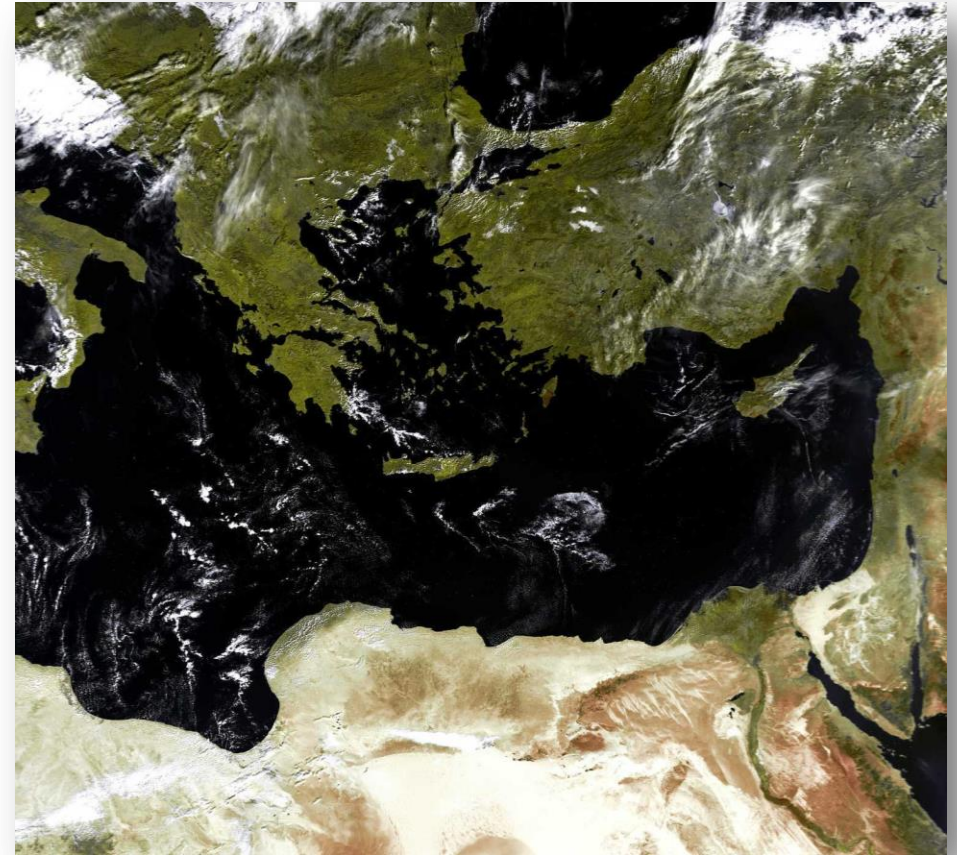
- Basic space-borne capacities
- Dominated by public sector
- In-situ networks need further development
- Modelling & processing can benefit from higher quality/quantity of data
- Large structural gaps
- INSPIRE being implemented
- Structural and Capacity gaps aggravated by financial crisis and budget tightening
- EU funds support capacity building and equipment



# Results – Bulgaria, Romania, Cyprus, Greece

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- All have space-capacities & formal ties to ESA
- INSPIRE implemented but structural gaps are still large in Romania and Bulgaria
- End-users have more specific data needs than previous typology
- Capacity gaps: financial crisis and budget tightening
- Private sector in RO and GR diversified away from only servicing the public sector





# Results – Egypt, Tunisia and Turkey

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- All have space strategies, Egypt & Turkey have launched own EO satellites
- Public sector dominant
- Turkey EO sector has very advanced capacities
- Major structural gaps in Egypt and Tunisia
- Capacity gaps in Egypt and Tunisia (insufficient personnel and expertise), aggravated by budget cuts
- Observational gap identified in Tunisia: in-situ networks operate mostly at the local level and are not integrated



# Results – Israel

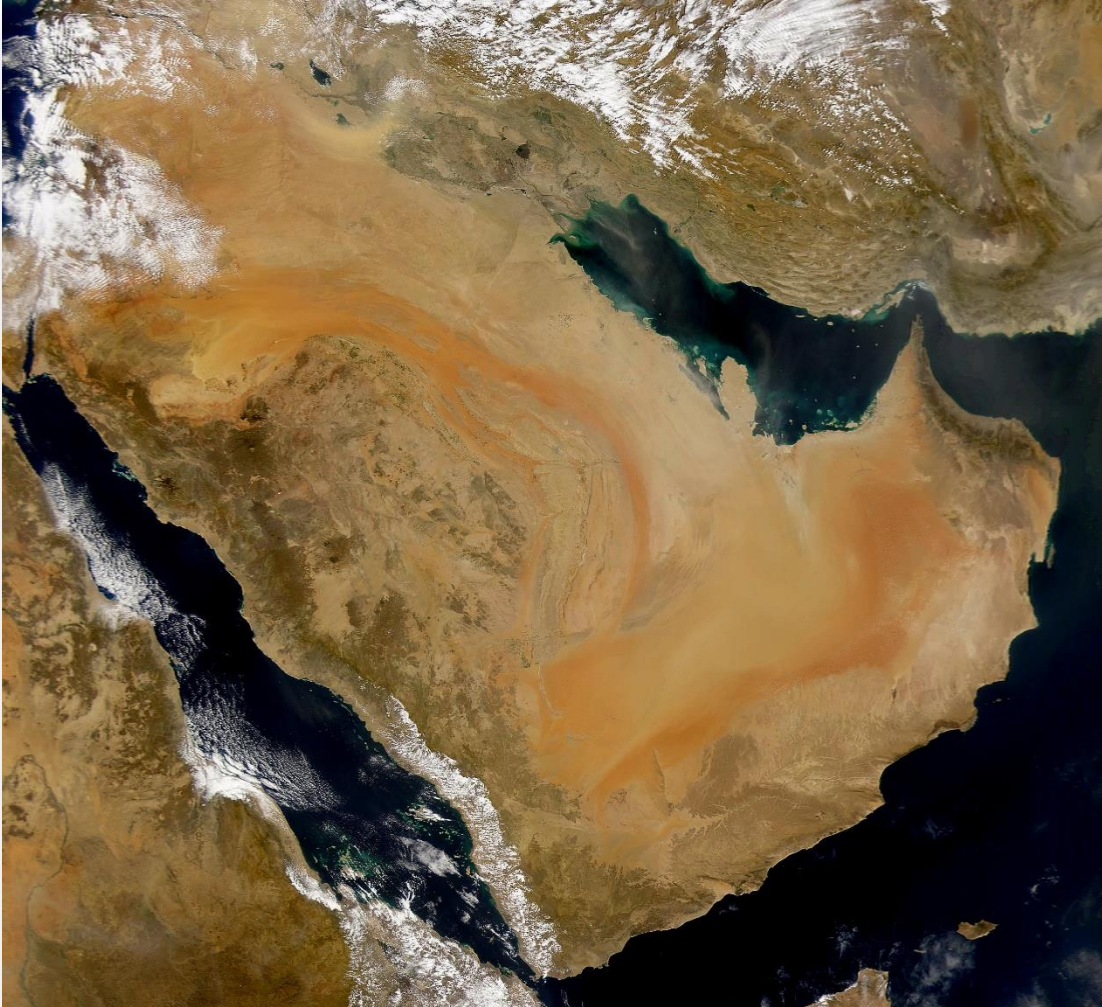
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- **Highly developed EO capacities**
- **Operate EO satellites**
- **Advanced use/application in public and private sector**
- **Specialize in micro/nano-satellites for global market**





# Results – UAE & Saudi Arabia



- **High funding available, recently downscaling and freezing projects following drop in oil prices and fiscal consolidation**
- **Space agencies**
- **Dominated by public sector, research and public companies**
- **Low data sharing due to bureaucratic barriers, depends on personal relationships**
- **Saudi Arabia**
  - burdensome bureaucratic and import procedures complicate sourcing of equipment
  - No access to EU funding
- **UAE**
  - Plan to launch sat to study Mars atmosphere by 2020
  - Depend on foreign experts, problem of retention
  - At local level, streamline use of EO for decision making but not at the federal level



# Correlation between Gaps and Maturity

- EO maturity leads to systemic changes in capacities and needs
- General → Specific needs
- EU membership: positive effect on EO capacities
  - Finance
  - Connectivity
  - Coordinated effort
  - Legal frameworks
- Vulnerability of public sector to economic/political instability



# Thank you

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