



GEO-CRADLE

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

GEO-CRADLE Pre-Kick Off & Kick Off Meetings
18th - 19th of February, 2016

*Funded under H2020 - Climate action,
environment, resource efficiency and raw
materials*

*ACTIVITY: Developing Comprehensive and
Sustained Global Environmental
Observation and Information Systems*

*CALL IDENTIFIER: H2020 SC5-18b-2015
Integrating North African, Middle East and
Balkan Earth Observation capacities in
GEOSS*

Project GA number: 690133

Total Budget: 2,910,800.00 €

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Project Coordinator



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Project Objectives

- 1 To create a multi-regional (Balkans, N. Africa and Middle East, namely RoI) coordination network
- 2 Support the effective integration of Earth Observation capacities in the RoI
- 3 Facilitate the engagement of the complete ecosystem of EO stakeholders in the RoI
- 4 Promote the uptake of EO services and data in response to regional needs
- 5 Enhance the participation in and contribution to the implementation of GEO, GEOSS, and Copernicus in the RoI



At the consortium level 48 women (39% of personnel) are involved



31% of the WorkPackages are led by women





The Partners





The Partners

NATIONAL OBSERVATORY OF ATHENS (NOA) Coordinator GREECE

Greece's Focal Point of GEO&GEOSS

Coll GS for accessing Copernicus Missions (Sentinels)

Regional Support Office of UNOOSA UNSPIDER

Member of ESA's CEOS platform for DRM

Space Disaster Monitoring Center for SE Europe, Balkans (BEYOND)

UNESCO Chair for Natural Disaster

Owner of Space and in-situ monitoring networks & member of worldwide env networks

Copernicus program certified EMS service provider

GEO-CRADLE Partners		Legend	
Name	LOGO	Organization Role	
Full partner-Entity			
Full partner-Int. Organization:			
EURISY		CEDARE	
EGS		EARSC	
Third Party partner			
Role			
IBEC		IBEC	
UZAY		UZAY	
UIAE		UIAE	





The Partners



CEDARE advocates sound governance for environmental protection through building human resources and institutional capacity in N. Africa and Middle East

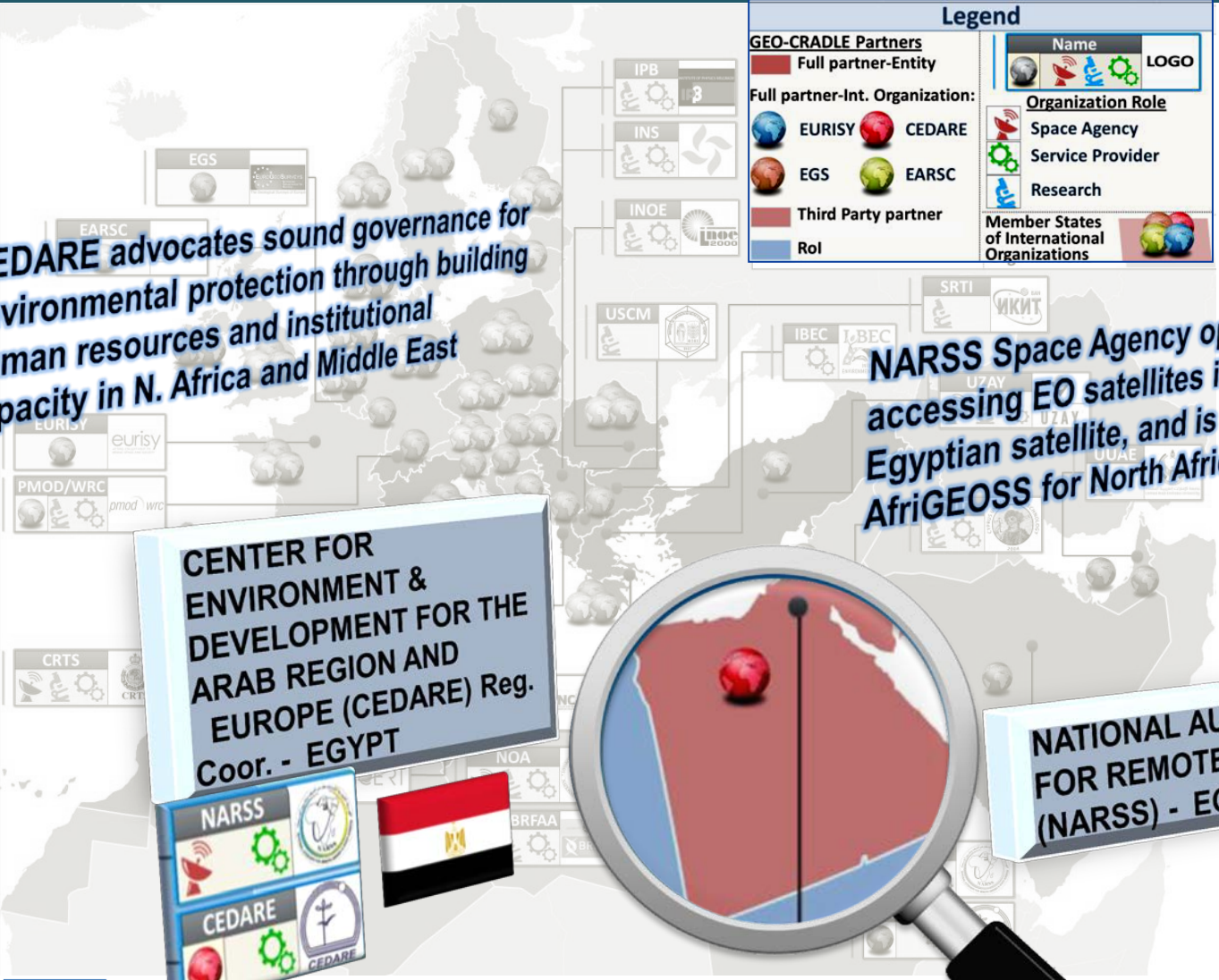
NARSS Space Agency operating GSs for accessing EO satellites including the Egyptian satellite, and is coordinating **AfriGEOSS** for North Africa

CENTER FOR ENVIRONMENT & DEVELOPMENT FOR THE ARAB REGION AND EUROPE (CEDARE) Reg. Coord. - EGYPT

NATIONAL AUTHORITY FOR REMOTE SENSING (NARSS) - EGYPT

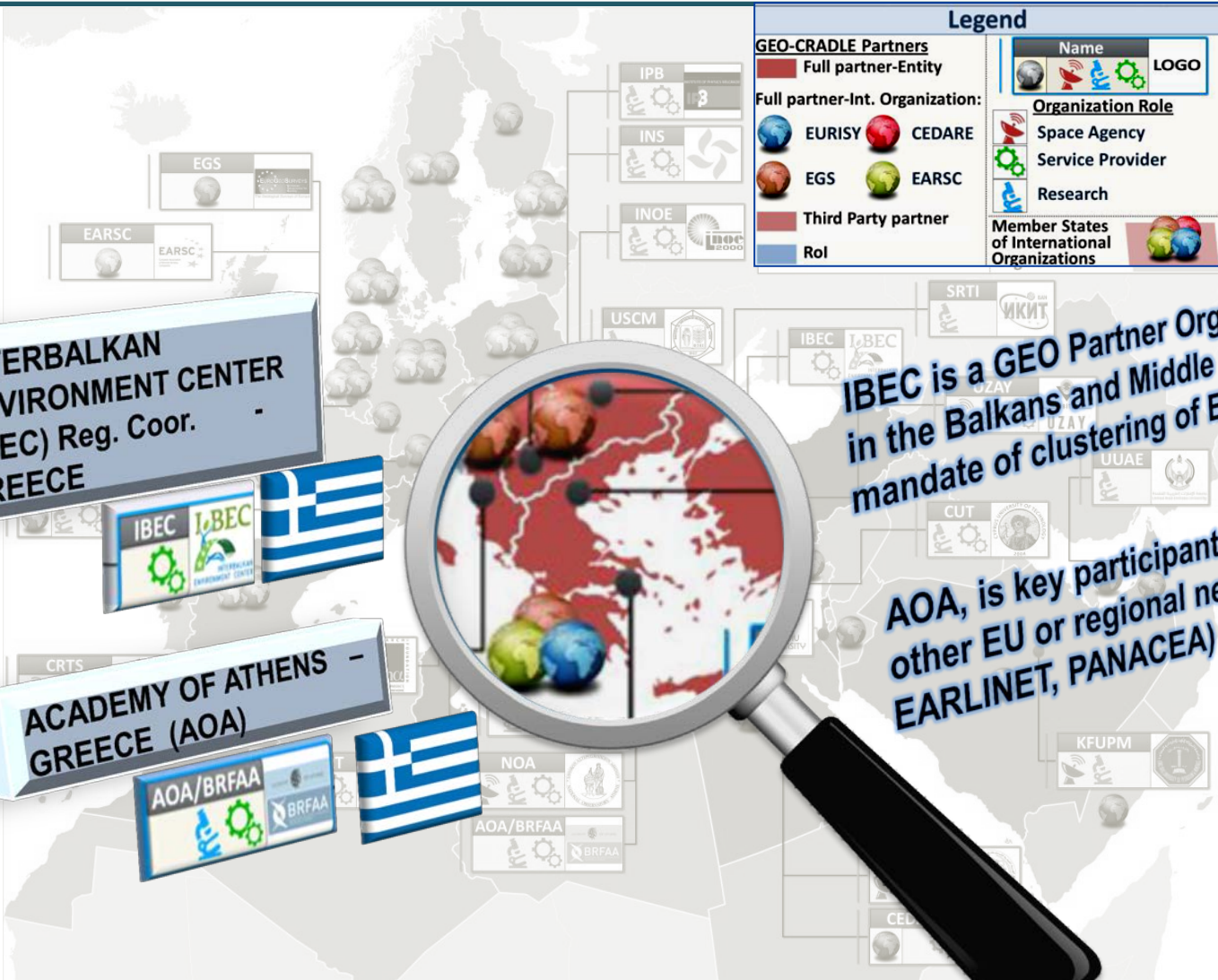


Legend									
GEO-CRADLE Partners									
Full partner-Entity	<table border="1"> <thead> <tr> <th>Name</th> <th>LOGO</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	Name	LOGO						
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EGS	EARSC								
Third Party partner									
RoI									
Organization Role									
	Space Agency								
	Service Provider								
	Research								
Member States of International Organizations									





The Partners



INTERBALKAN ENVIRONMENT CENTER (IBEC) Reg. Coord. GREECE

ACADEMY OF ATHENS - GREECE (AOA)

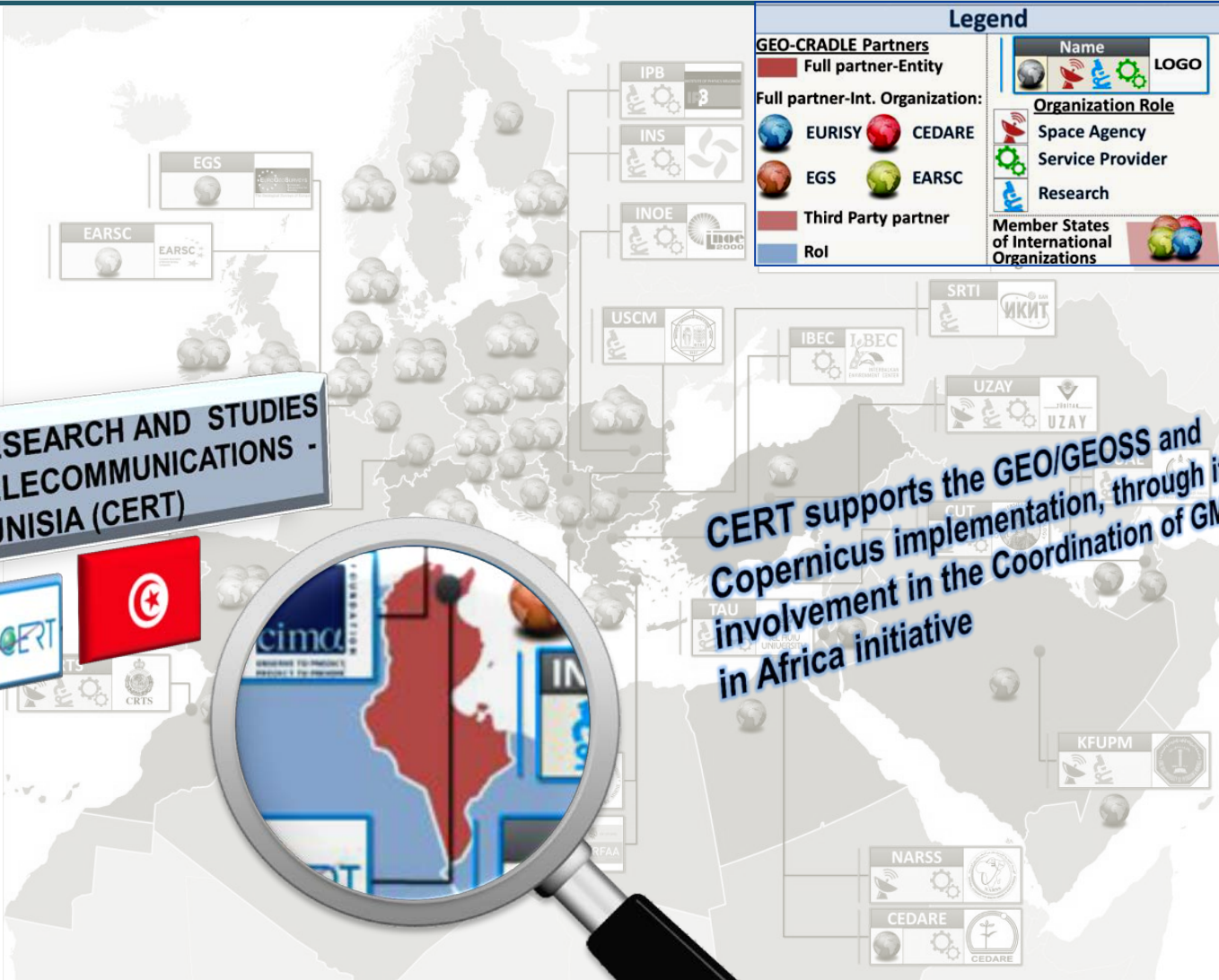
IBEC is a GEO Partner Organisation active in the Balkans and Middle East, with the mandate of clustering of EO organisations

AOA, is key participant in ESFRIs/I3 and other EU or regional networks (e.g. ACTRIS, EARLINET, PANACEA)





The Partners





The Partners



TAU a key partner in the EO-MINERS establishing protocols for utilization of GEO data
TAU has been appointed in 2014 to represent Israel in GEO/GEOSS activities



**TEL AVIV UNIVERSITY
ISRAEL (TAU)**

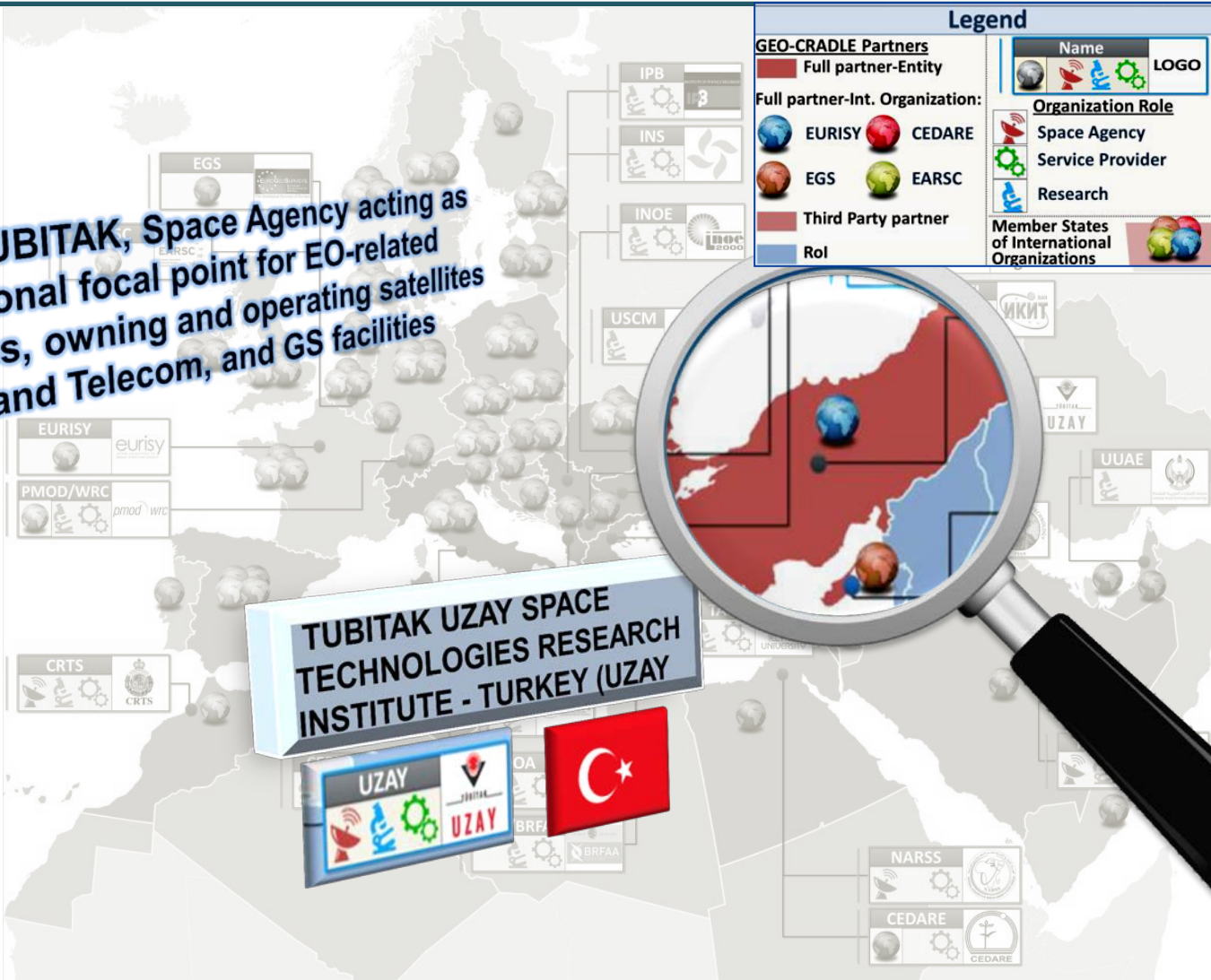




The Partners



UZAY-TUBITAK, Space Agency acting as the national focal point for EO-related activities, owning and operating satellites for EO and Telecom, and GS facilities

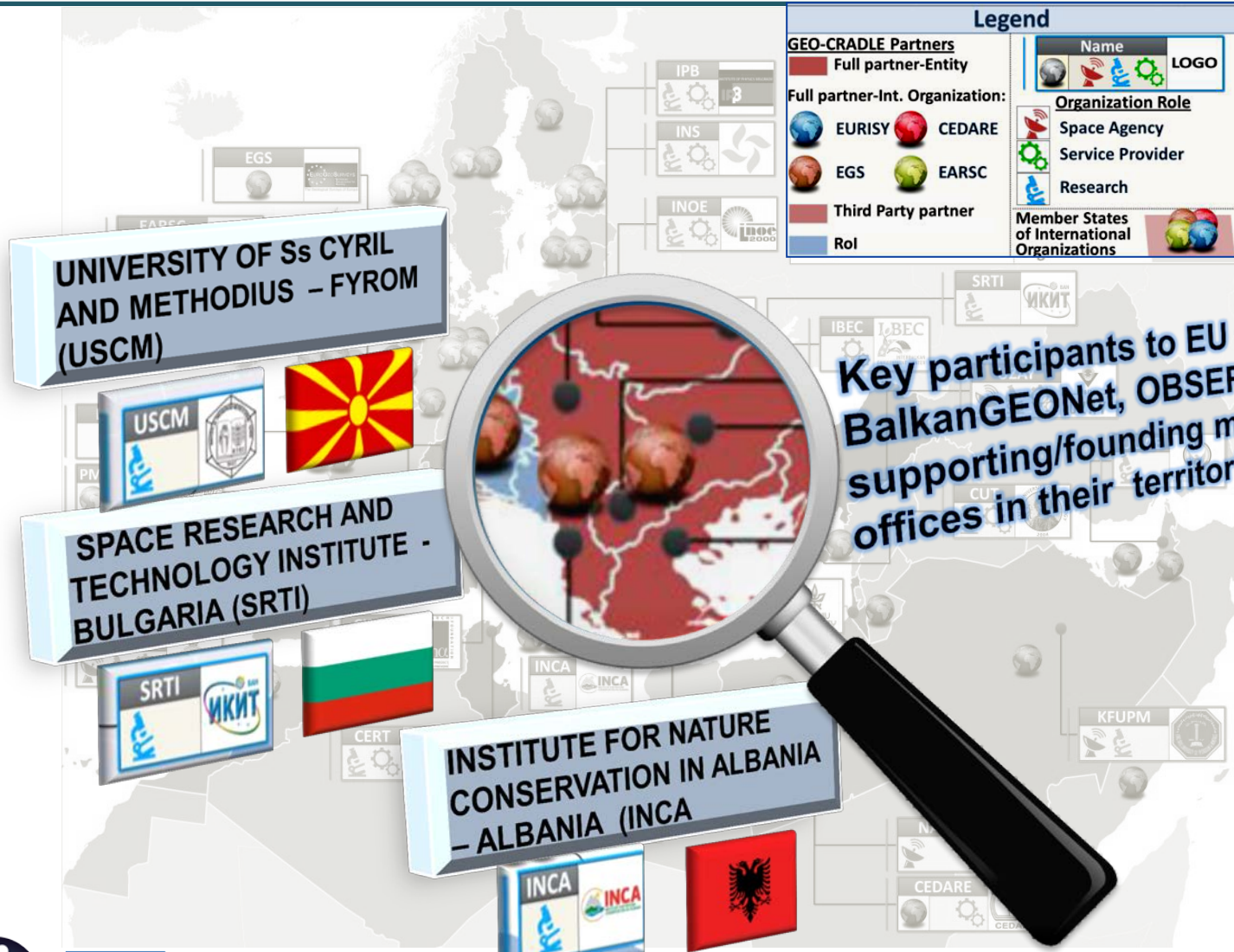


TUBITAK UZAY SPACE TECHNOLOGIES RESEARCH INSTITUTE - TURKEY (UZAY)





The Partners



Legend

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- Full partner-Entity
- Full partner-Int. Organization:
 - EURISY
 - EGS
 - CEDARE
 - EARSC
- Third Party partner
- Roi

Name	LOGO
Space Agency	
Service Provider	
Research	

Member States of International Organizations

Key participants to EU GEO projects in BalkanGEO Net, OBSERVE and IASON & supporting/founding members of the GEO offices in their territories



The Partners



Lead participation in, and/or coordination of important GEO projects as BalkanGEONet, OBSERVE and IASON & owners of in-situ EO networks, and high EO research & modelling skills





The Partners



**WORLD RADIATION CENTER
- SWITZERLAND
(PMOD/WRC)**



**CIMA RESEARCH
FOUNDATION – ITALY
(CIMA)**



GEO-CRADLE Partners		Legend	
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	Full partner-Int. Organization:		LOGO
	EURISY		Organization Role
	CEDARE		Space Agency
	EGS		Service Provider
	EARSC		Research
	Third Party partner		Member States of International Organizations
	RoI		

PMOD/WRC hosts and operates a number of worldwide monitoring initiatives, standards, and networks for the atmosphere (e.g. the World

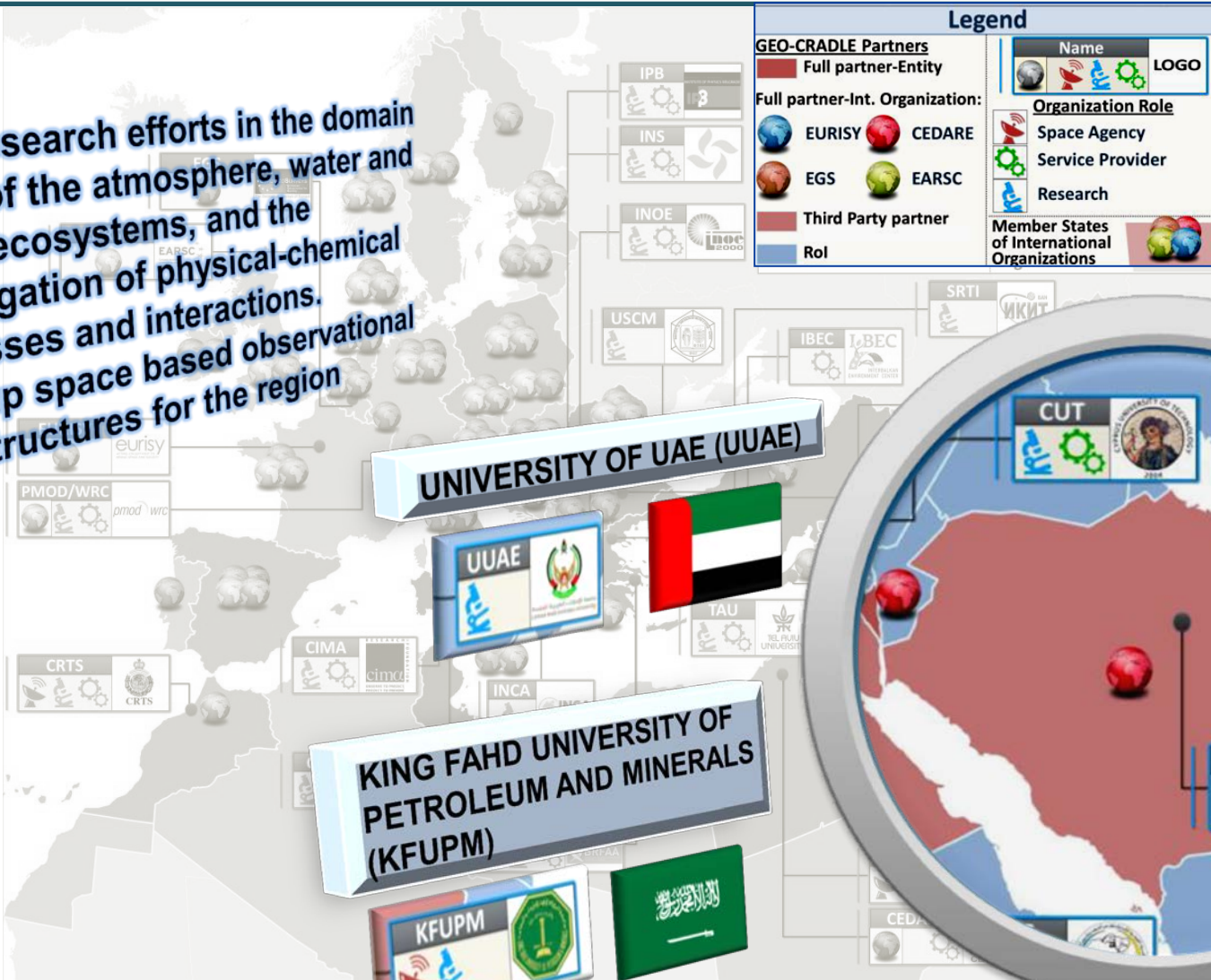
CIMA has undertaken the role of the development of the Global Flood Observatory (GFO), and has strong presence in the development of EO market and services in Balkans and Middle East



The Partners



Lead research efforts in the domain of EO of the atmosphere, water and urban ecosystems, and the investigation of physical-chemical processes and interactions. Built up space based observational infrastructures for the region





The Partners



- EUROGEOSURVEYS**
1. Polish Geological Institute
 2. Institute of Geology and Mineral Exploration – Greece
 3. Geological and Mining Survey of Spain

“Super-connectors” bridging the regional stakeholder communities (end-users, policy makers, service/data providers, scientists, SMEs)

EURISY

EUROPEAN ASSOCIATION OF REMOTE SENSING COMPANIES - (EARSC)





The Partners



**ROYAL CENTER FOR
REMOTE SENSING (CRTS)
MOROCCO**



**National institution for the promotion of
remote sensing applications in Morocco.
Coordination of the national program of
remote sensing
Use of operational systems to collect, and
analyze EO data**

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- Service Provider
- Research

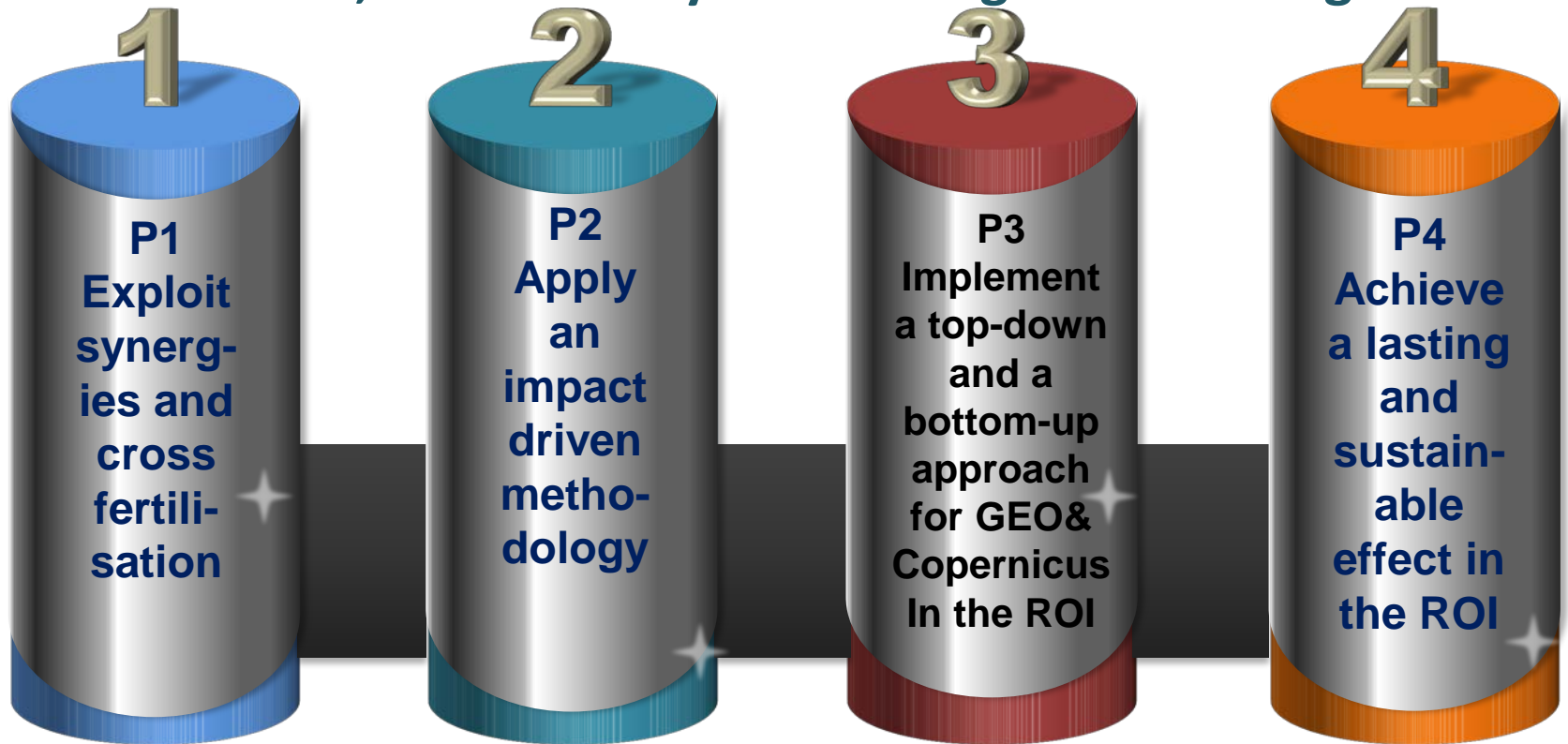
Member States of International Organizations





Pillars of GEO-CRADLE concept

At the core of GEO-CRADLE lies the creation of a regional network that enables the better exploitation of EO data, and the development of EO services, to effectively address regional challenges



4 main pillars underpin the GEO-CRADLE concept



Pillars of GEO-CRADLE concept

P1. Exploit synergies and cross fertilisation

A fresh perspective of a coordinated & integrated exploitation of infrastructures, human capacities, and interdisciplinary science in the service context of GEO, GEOSS and Copernicus

Cross-border collaboration

2

1
P1
Exploit synergies and cross fertilisation

1

Lessons learned and best practices from past projects and initiatives

AfriGEOSS, BRAGMA, EOPOWER, OBSERVE, EnerGEO, BEYOND, BalkanGEO Net, ConnectinGEO

3

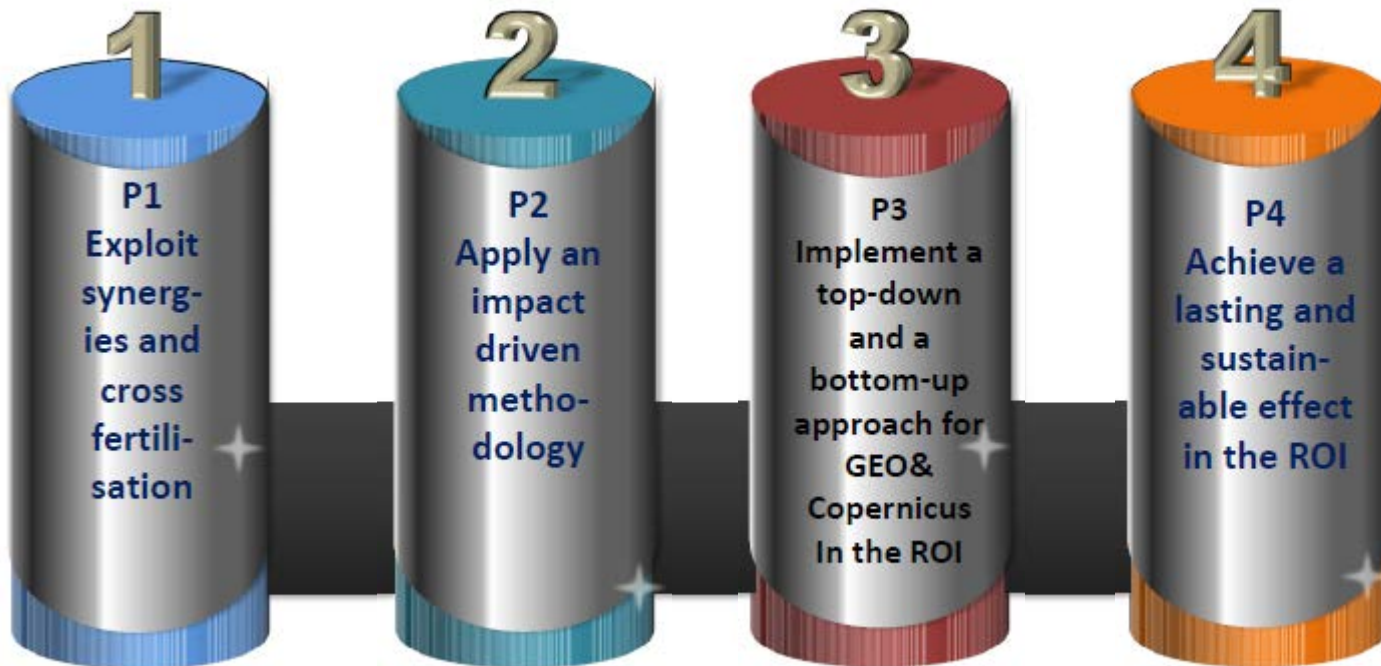
Alignment with EC and GEO priorities/vision





Pillars of GEO-CRADLE concept

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4 main pillars underpin the GEO-CRADLE concept



Overall Approach

A six-fold approach

30 months project

Roadmap for GEOSS& Copernicus
Regional Data Hub
GEO-CRADLE Network

Renewable energy
Access to raw materials
Food security and water
Adaptation to CC

Regional priorities
Maturity Indicators
Gap Analysis

Regional Contribution to GEOSS and Copernicus (WP5)

User need analysis

Skills & computing

In-situ networks

Pilots towards regional challenges (WP4)

Gap Analysis, Indicators and Priorities (WP3)

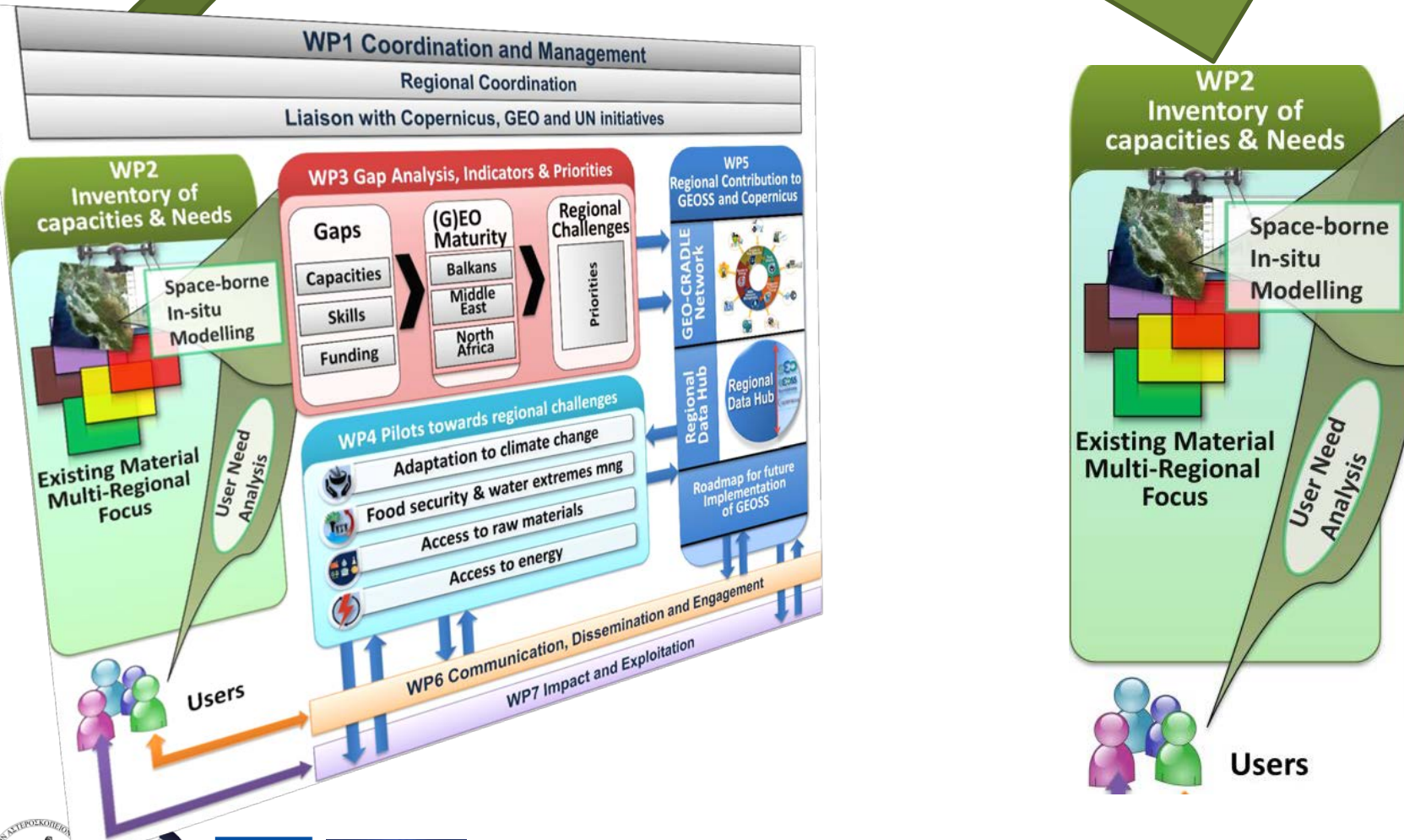
Dissemination & engagement (WP6)

Inventory of capacities and user needs (WP2)

Impact Analysis(WP7)



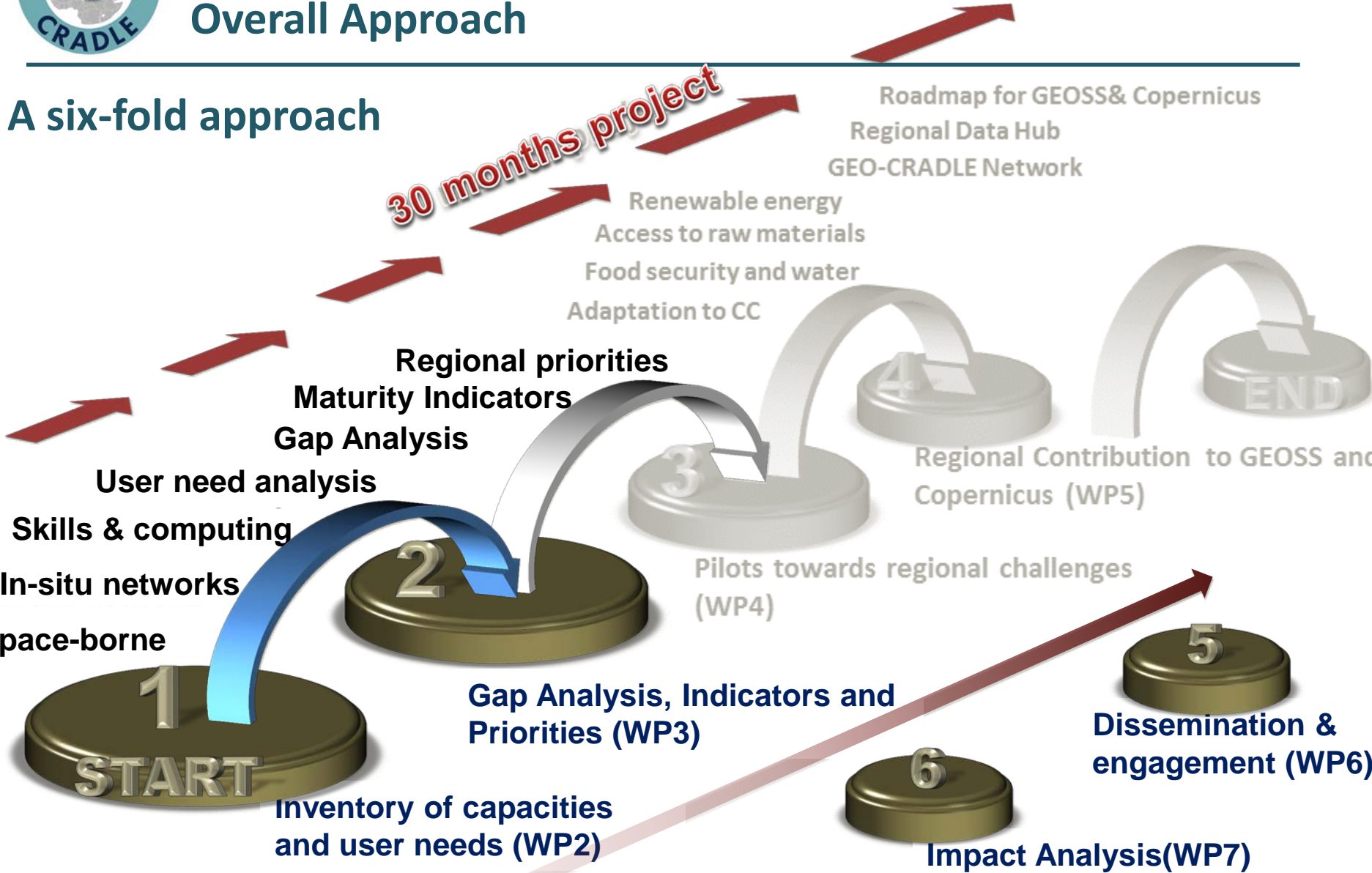
Overall Structure of the Work Plan





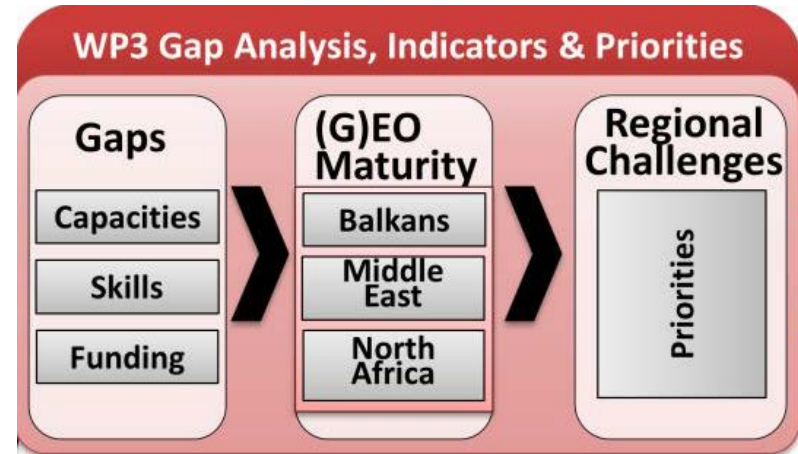
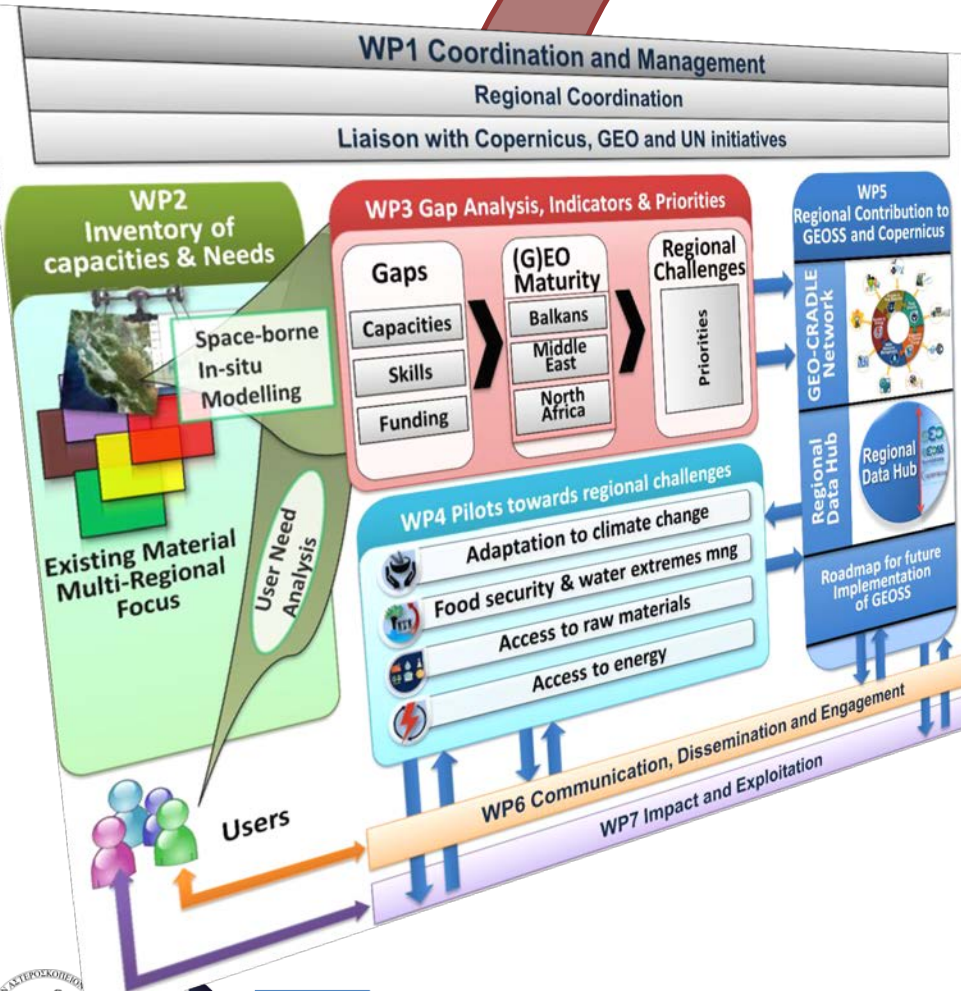
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Overall Structure of the Work Plan





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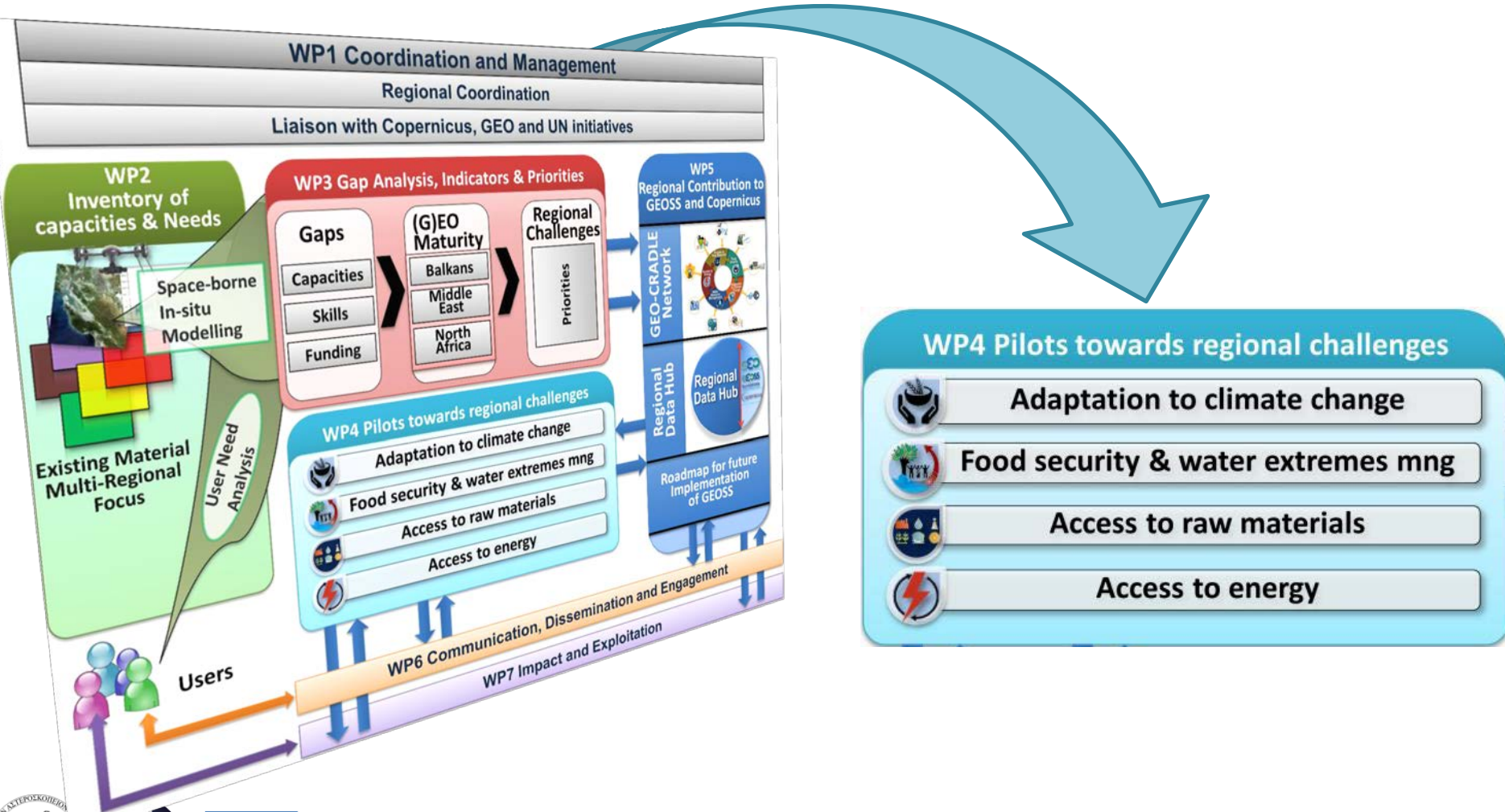
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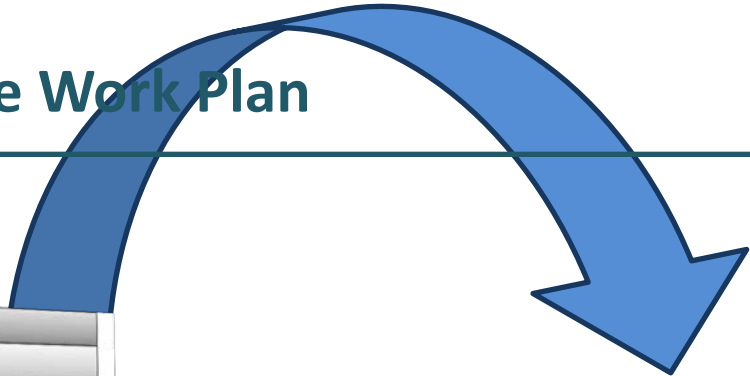
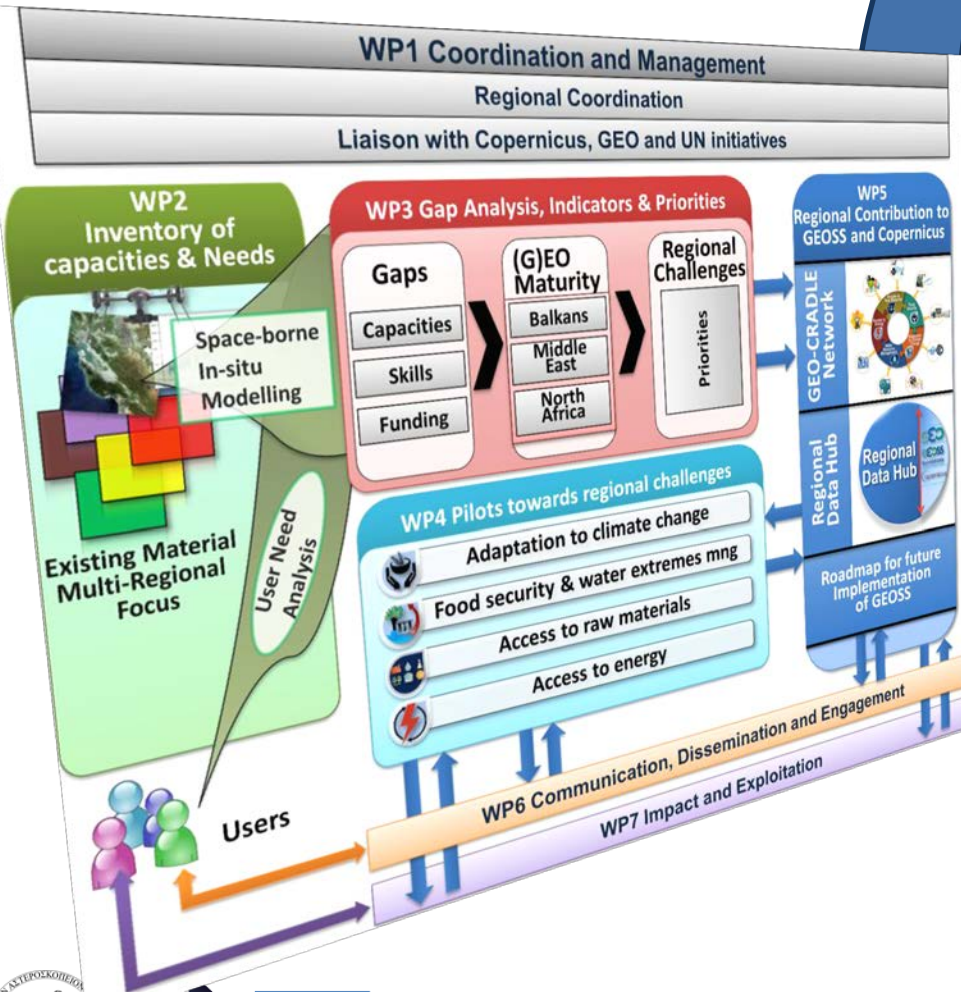
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Impact Analysis (WP7)

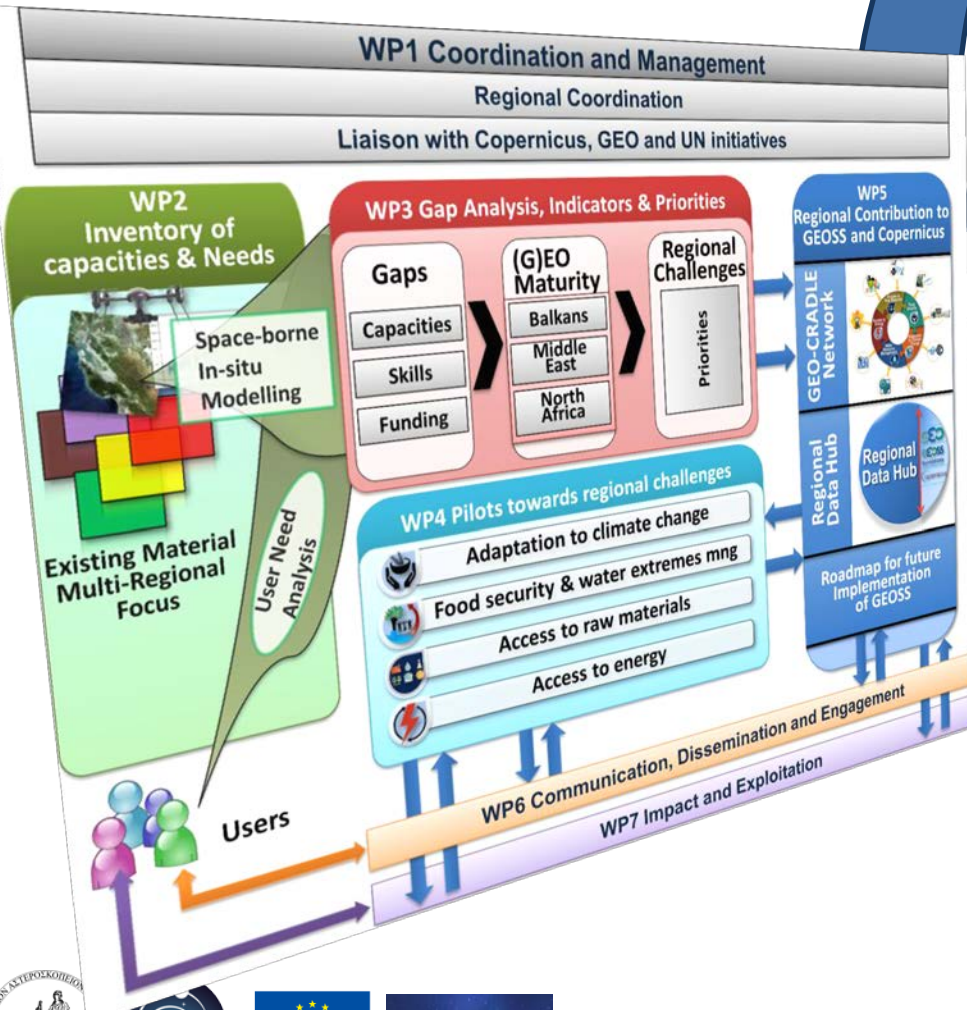


Overall Structure of the Work Plan





Roadmap for future Implementation of GEOSS





Roadmap for future Implementation of GEOSS

WP1 Coordination and Management
Regional Coordination
Liaison with Copernicus, GEO and UN initiatives

WP2 Inventory of capacities & Needs

WP3 Gap Analysis, Indicators & Priorities
Gaps (G)EO Maturity Regional Challenges

Guide the implementation of GEOSS and the uptake of Copernicus in the Rol

Weigh the readiness and maturity of each country in the Rol

Lay out the actions for the long-term response to major regional challenges in the Rol

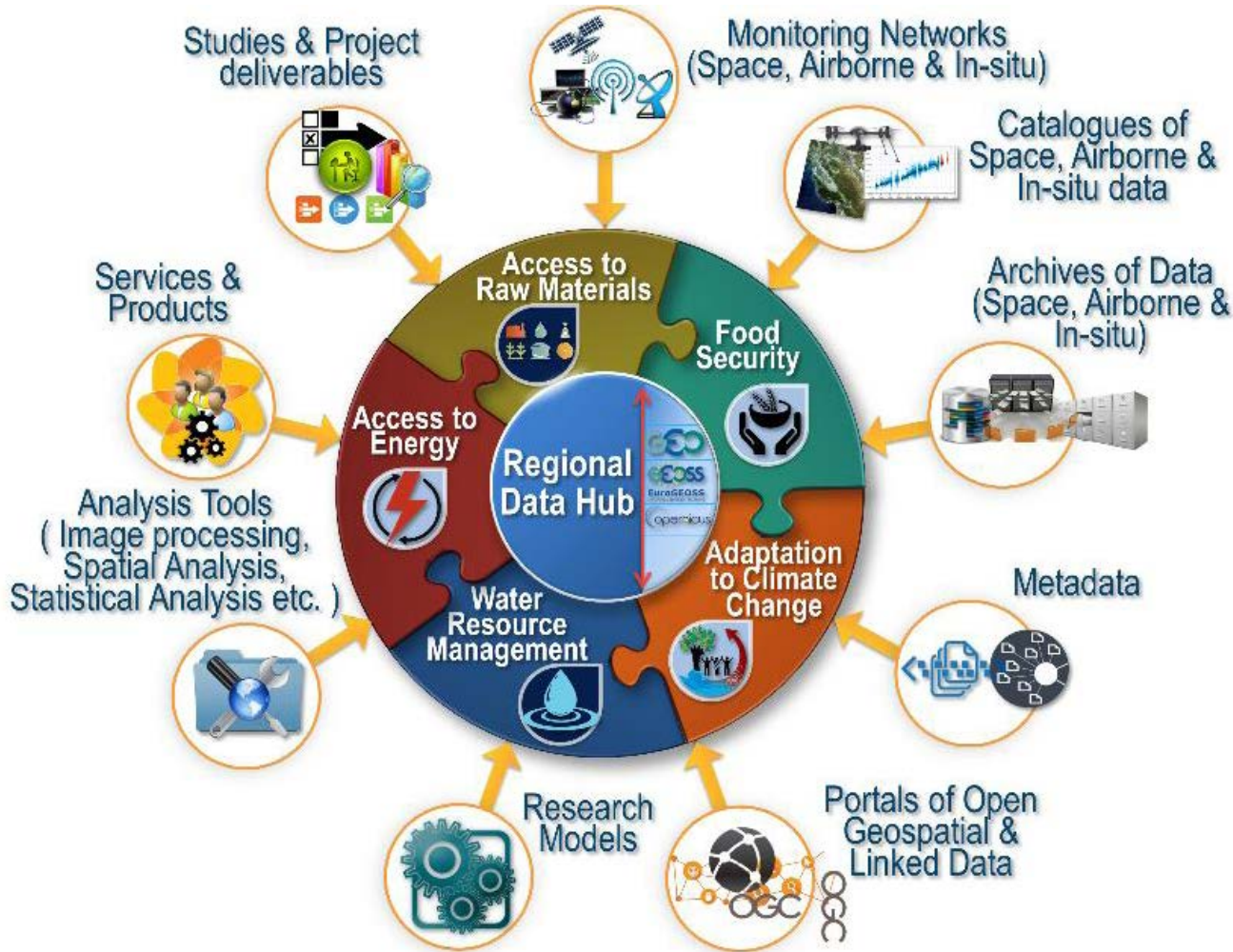
Pave the ground for a potential regional large initiative

Roadmap for future Implementation of GEOSS





Regional Data Hub



WP5
Regional Contribution to GEOSS and Copernicus

GEO-CRADLE Network

Regional Data Hub

Roadmap for future Implementation of GEOSS





Regional Data Hub



**Abides by the
GEOSS Data
Sharing
Principles**

**Data
Access**

**Complies with
the navigation
logic of the
GEOSS portal**

**Data
Access**



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Space-borne

Impact Analysis(WP7)

Inventory of capacities
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Overall Structure of the Work Plan

Communication, dissemination and engagement (WP6)





Overall Structure of the Work Plan

Impact and
Exploitation
(WP7)

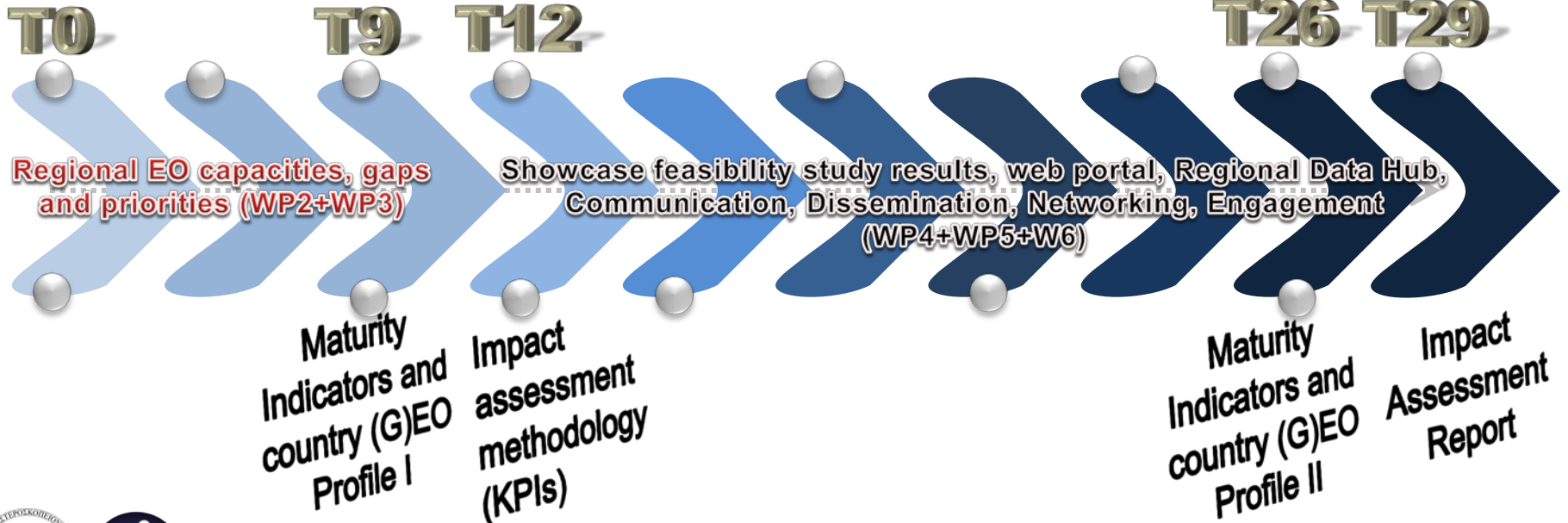


1

Asses the maturation of each country & RoI towards GEOSS and Copernicus

2

Measuring the overall project's impact using predefined Key Performance Indicators



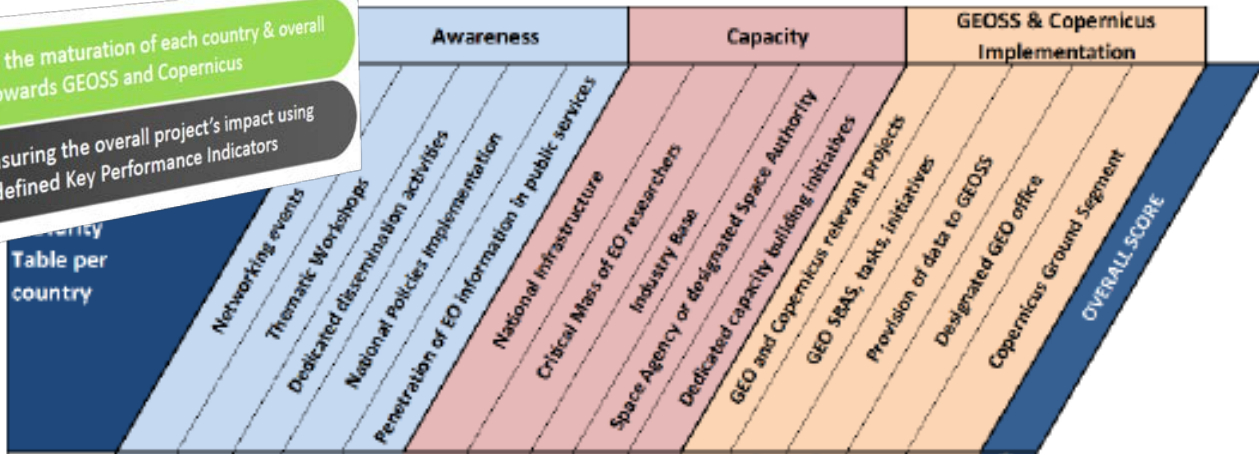


Overall Structure of the Work Plan

Impact and Exploitation (WP7)

1 Asses the maturation of each country & overall Rol towards GEOSS and Copernicus

2 Measuring the overall project's impact using predefined Key Performance Indicators



Maturity Indicators and table per country - (G)EO Profile

Example					
	Maturity criteria	Level 0 "Beginner"	Level 1 "First traction"	Level 2 "Active Engagement"	Level 3 "Full swing"
Albania	Awareness	- No coordinated EO	- Circumstantial dissemination	- Regular Workshops and other dissemination activities - Regular networking initiatives (national, regional level)	- Penetration of EO services and products in public services (e.g. civil protection) - Permanent Fora for EO-related dissemination
Bulgaria					
Cyprus					
Egypt					
Greece	Capacity	- No national infrastructure - No investment policy - No involvement in capacity building projects	- Existence of limited infrastructure - Initial investments on capacity building - Light involvement in capacity building projects	- Critical mass of researchers in the field of EO - Growing industry base - Medium involvement in capacity building projects	- Operation of a space agency - Centers of excellence - Commitment, national planning /prioritisation and financial support - Solid industry base

---	GEOSS and Copernicus Implementation	- No participation thus far in GEO projects - No data linked to GEOSS portal	- One-off participation in GEO relevant projects - Limited provision of data to GEOSS portal	- Participation in GEO SBAS, tasks etc. - Implementation of GEO relevant projects - GEO partner organizations	- Lead in GEO SBAS, tasks, etc. - Lead of GEO relevant projects - Direct provision of data and products/services to GEOSS - Designated GEO office - National representation and participation in HLWG, Plenary meetings, other committees





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Impact and Exploitation (WP7)

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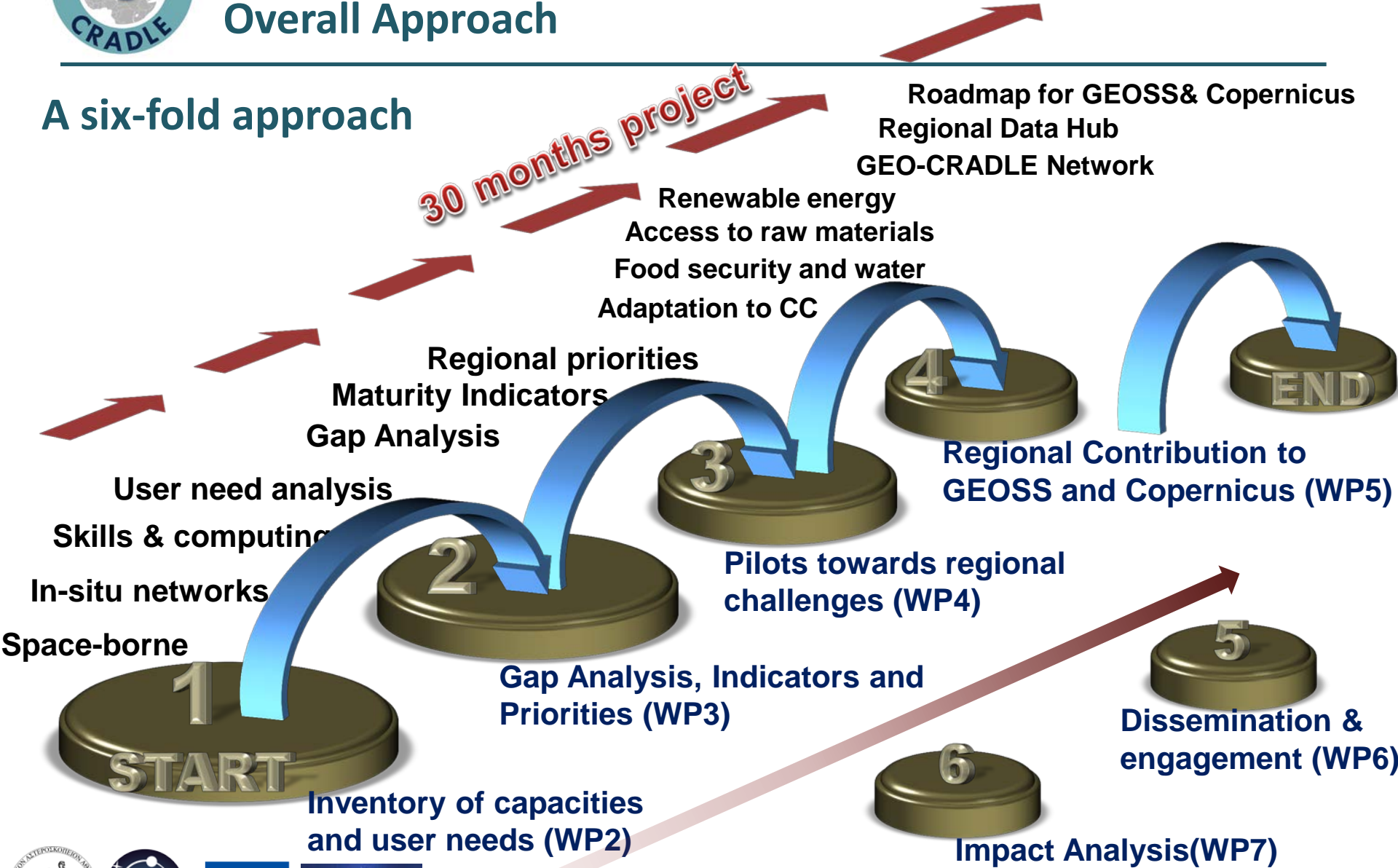
Pre-defined Key Performance Indicators (KPIs) and overall Impact Assessment of GEO-CRADLE

	Timing ^{1,2}	Target range	
		t1	t2
Regional EO capacities, gaps and priorities (WP2+WP3)			
Stakeholders participating in dedicated surveys		50-75	100-150
In-situ networks to be supported and integrated		20-25	25-30
Unified and complementary operation of regional observational systems (space-based, air-borne and ground segment)		10-15	20-30
Gap analyses of key domains (e.g. climate change, food security, raw materials, energy, disaster resilience, etc.)		4-6	7-15
Countries covered in priority action plan		14-15	20-25
Contributions to specific challenges, GEOSS and Copernicus (WP4+WP5)			
Experimental campaigns from which data will be integrated		5-7	8-12
Regional Participating Organizations (POs) added to GEOSS		5-7	10-15
Country (G)EO Maturity Profiles		14-18	20-25
Establishment and operation of Regional/National GEO Offices		2-3	3-5
Task leads/contributions to specific GEO tasks by GEO-CRADLE players		5-7	10-15
Engagement and Exploitation (WP6+WP7)			
Regional/National workshops, technical meetings		7-10	15-20
Systematic users of Regional Data Hub		25-50	50-100
Key decision makers engaged in GEO-CRADLE network		10-15	20-30
Spin-off and R&D projects built on GEO-CRADLE and its pilots		1-3	3-5
Private companies engagement to GEO-CRADLE		3-5	5-10
Regional EO actors profile available through GEO-CRADLE portal		50-60	100-150
Countries represented in GEO-CRADLE Network		14-15	20-25



Overall Approach

A six-fold approach





תודה
Dankie Gracias
Спасибо شكراً
Merci Takk
Köszönjük Terima kasih
Grazie Dziękujemy Děkojame
Ďakujeme Vielen Dank Paldies
Kiitos Täname teid 谢谢
Thank You Tak
感謝您 Obrigado Teşekkür Ederiz
Σας ευχαριστούμε 감사합니다
Благодарю
Bedankt Děkuji vám
ありがとうございます
Tack

