

The role of the Greek Sentinel Collaborative Ground Segment for the Copernicus & GEO data commercial uptake in the region of Balkans, Middle East & North Africa

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IAASARS

*EU Research and Innovation in Support of the
EO Market: Plenary Session 4*





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



<http://www.geocradle.eu/>

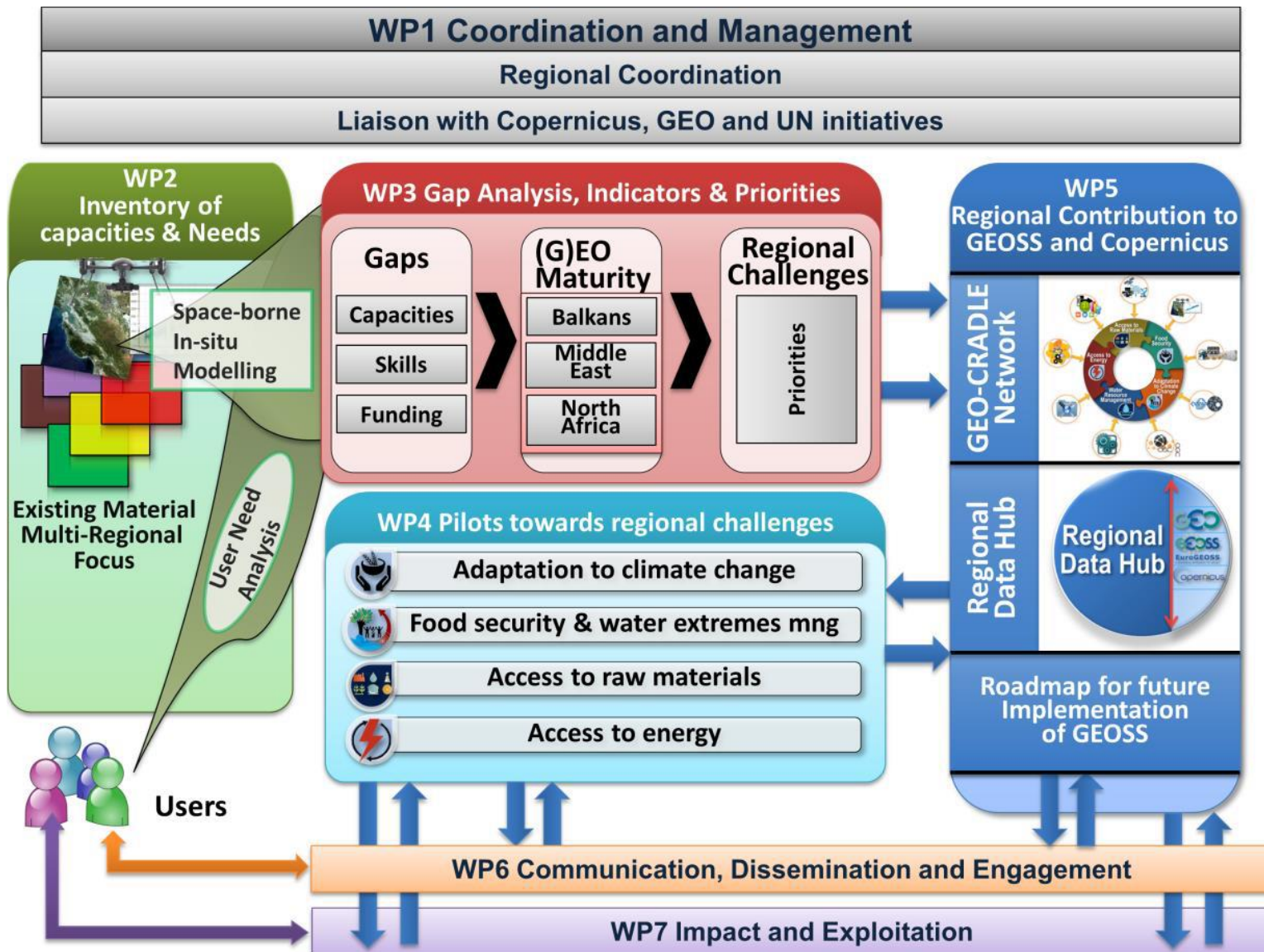
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GEO-CRADLE – The objectives

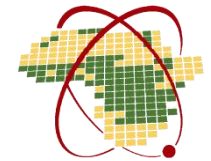
- 1** To create a multi-regional (Balkans, N. Africa and Middle East, namely RoI) coordination network
- 2** Support the effective integration of Earth Observation capacities in the RoI
- 3** Facilitate the engagement of the complete ecosystem of EO stakeholders in the RoI
- 4** Promote the uptake of 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



GEO-CRADLE – The approach



- Greece:
 - Considerable investments in EO programmes, led to several start-ups
 - Fiscal crisis has interrupted the growth potential of SMEs
 - Geo-return is at the level of the country's contribution (2%)
 - Mostly services for specific governmental agencies, Word Bank, JRC, etc.
 - Difficulty moving from R&I to commercialization
- Balkans: countries in several gears
 - Albania is at a very early stage
 - Serbia: stronger SME activity
 - Romania is investing a lot in EO, e.g. optional ESA programmes
- In Middle East and N. Africa the situation is can be very diverse:
 - African Association of Remote Sensing of the Environment
 - Algeria Alsat satellite family
 - Cyprus, Israel, United Arab Emirates & Egypt seem to show commitment
 - Great potential in Turkey
 - There are some EO SMEs in Tunisia

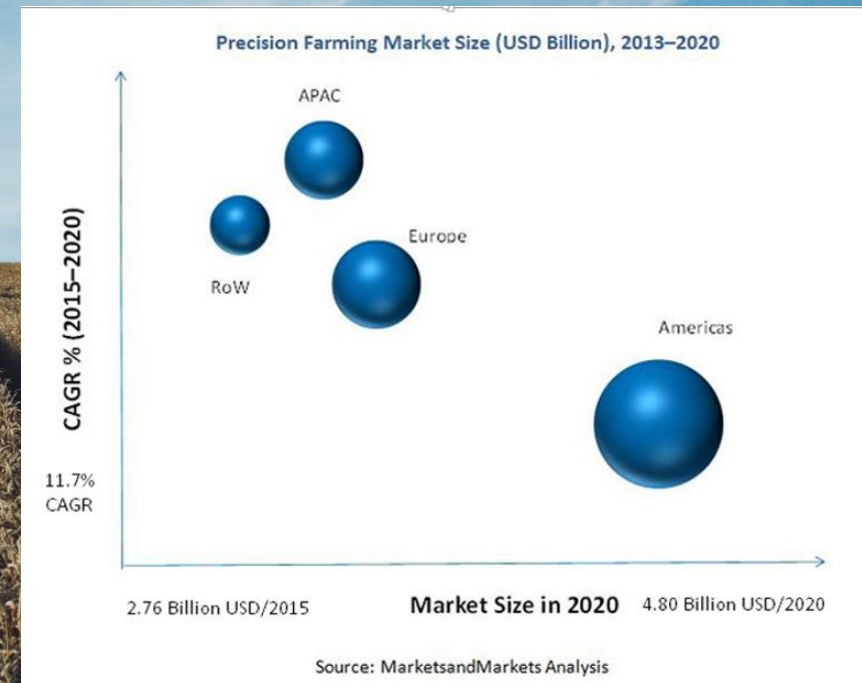


A A R S E

- si-cluster (Hellenic Space Technologies and Applications Cluster) in corallia
- Brings together private and public actors
- Characteristics:
 - 43 members, employing locally more than 1,500 professionals
 - > € 150 mil. turnover, > € 30 mil. exports
- But:
 - Limited participation of public entities
 - Limited participation to EARSC
 - Has not capitalized on the regional growth potential

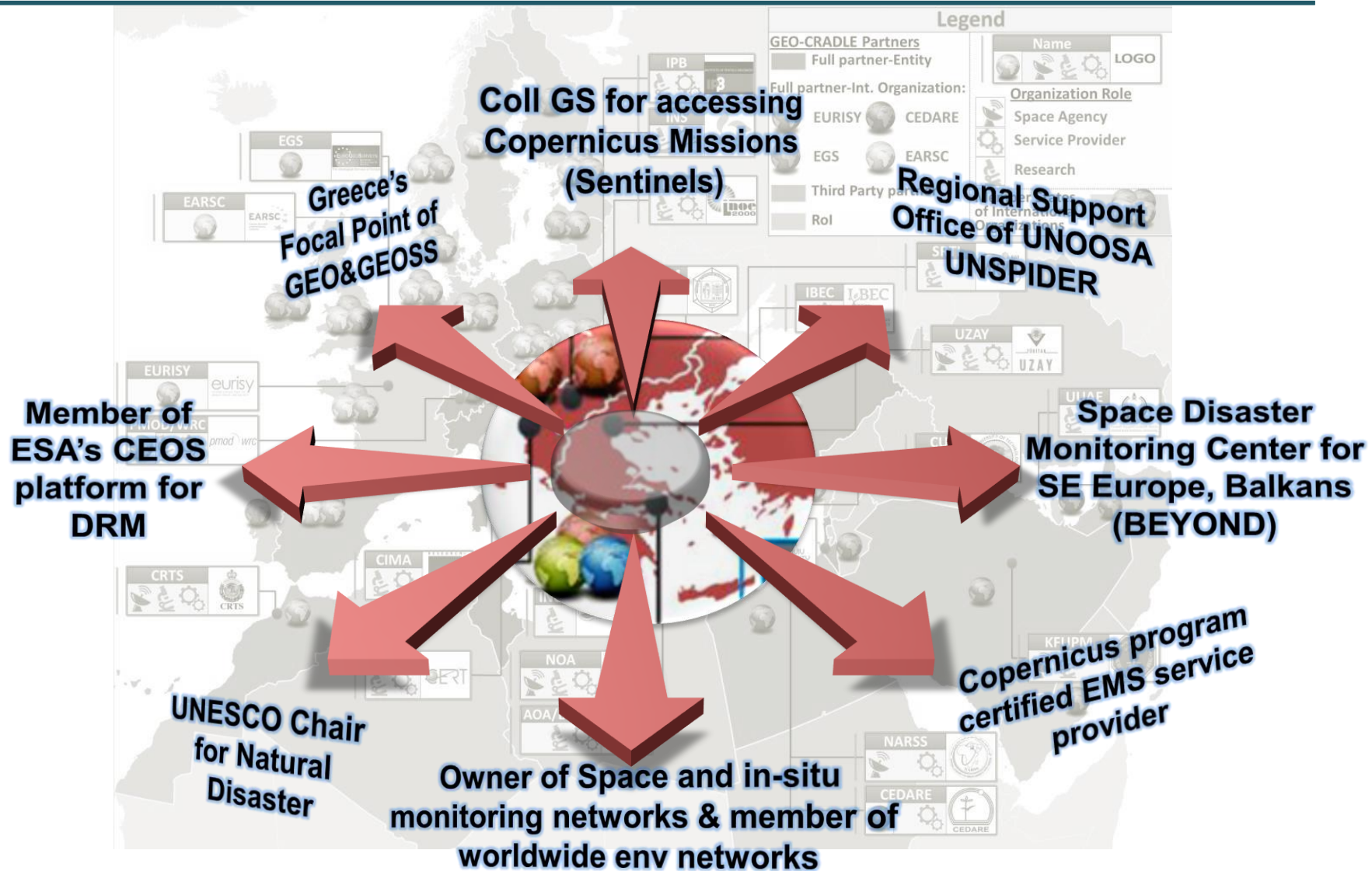


- Excellence & innovation can be found but is fragmented
- APOLLO project
 - Tillage Scheduling
 - Irrigation Scheduling
 - Crop Growth Monitoring
 - Yield Estimation
- Smart Detection of Pests (sdop)
 - Avoid yield losses of 5-10%
 - Deploy drones
 - Employ intelligent data analytics



- The needs: are common and transnational
- The driver: the data are there, multi-modal, open and free of charge
- The challenges:
 - Steep learning curve – geolCT skills shortage
 - Entrepreneurial spirit
 - Inter-industry (e.g. EO and ICT) synergies are not fully exploited
 - Fragmented resources & partners
 - Few cross-border collaborations schemes for solving common problems
- The verdict: Overall the EO commercial sector size in the Balkans, Middle East and North Africa is **fragmented**
- The opportunity: First mover advantages

NOA as a regional EO Focal Point



NOA: Our strategy

The vision: establish NOA as an EO hub for data, products and services in the Balkans, Middle East and North Africa



**For companies, research entities and public bodies in the RoI,
NOA is a regional Copernicus & GEO-based information facilitator,
that brings together unique infrastructural capacities, novel virtualisation & IT
technologies, and downstream application paradigms,
capitalising on its national mandate and the expertise acquired through several EC
and ESA funded projects**

High level approach

Infrastructure



Resources virtualization



NextGEOSS



thematic exploitation platform

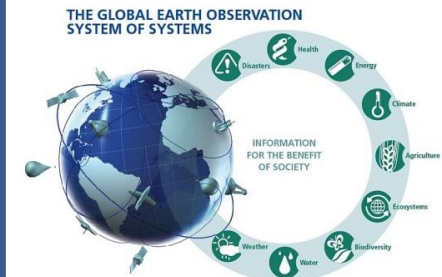


MYGEOSS
APPS FOR YOUR
ENVIRONMENT

Regional integration



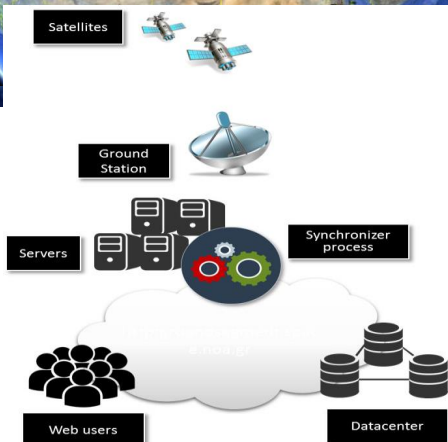
Applications



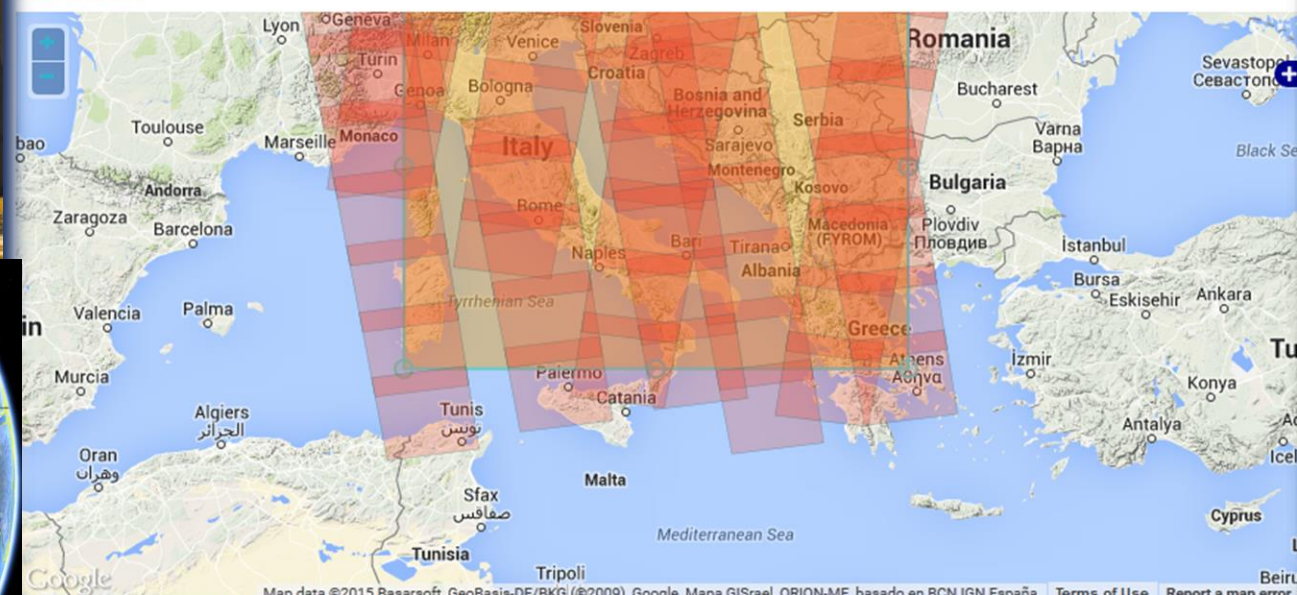
Copernicus
EMS

RE
CAP

<http://sentinels.space.noa.gr/>



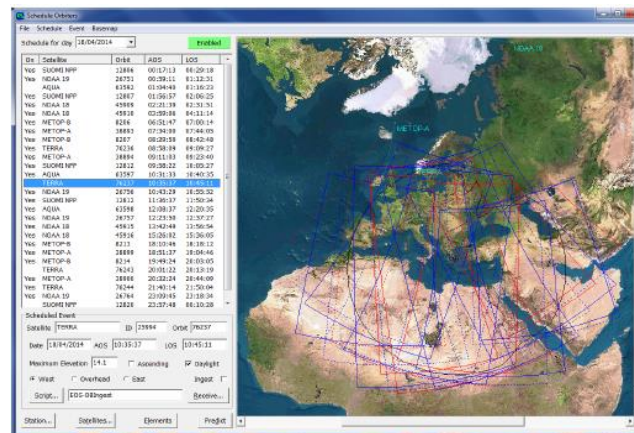
SEARCH



QLook	Platform	Level	Instrument	Prod.Type	Mode	Swath	Direction	Polarization	Start Date	Stop Date	Preview	Order
	SENTINEL-1	SAR Slice L0 product	SAR	RAW	IW		ASCENDING	VV	2015-01-27 17:23:33.294807	2015-01-27 17:23:05.694894		
	SENTINEL-1	SAR Slice L0 product	SAR	RAW	IW		ASCENDING	VV	2015-01-28 16:23:31.023506	2015-01-28 16:24:03.4235		
	SENTINEL-1	SAR Slice L0 product	SAR	RAW	IW		ASCENDING	VV	2015-01-27 17:20:53.293342	2015-01-27 17:21:25.693336		

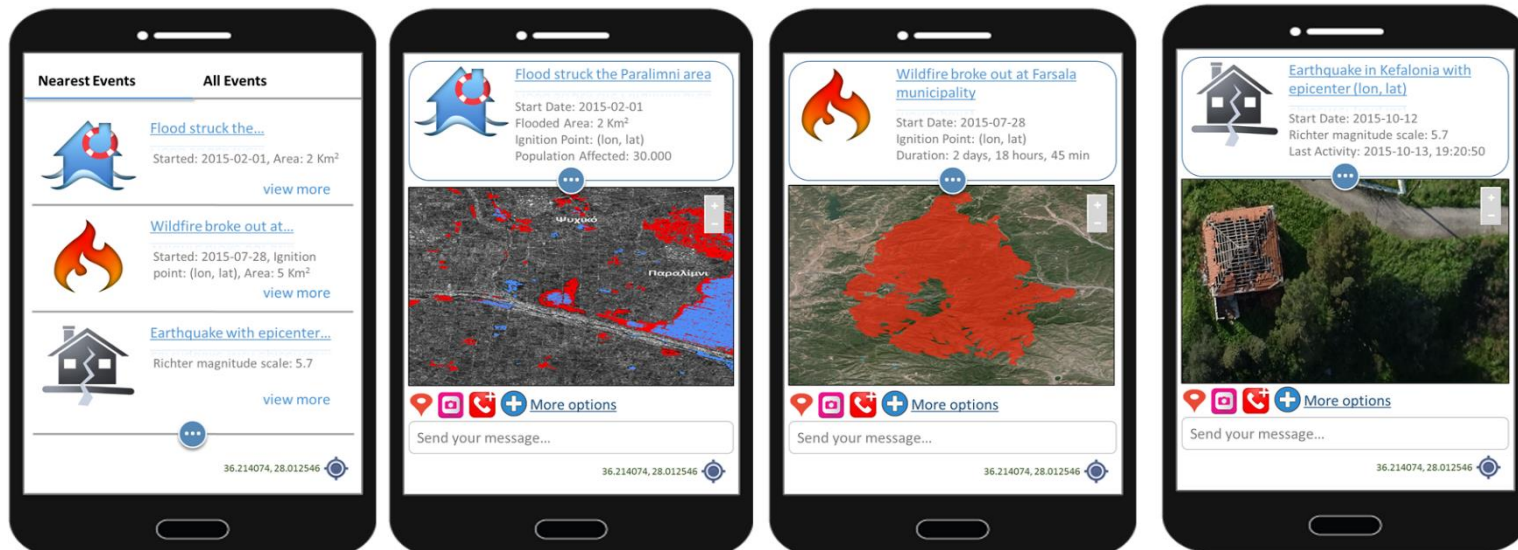


- Multitude of monitoring networks (space borne and in-situ) to operate in a complementary, unified, and coordinated manner
- Transforms the observations to added value products ready for down-streaming to specific societal needs in the domain of environmental monitoring and Natural Disasters
- BEYOND delivers online observations and higher level EO products and services to stakeholders, including private sector entities



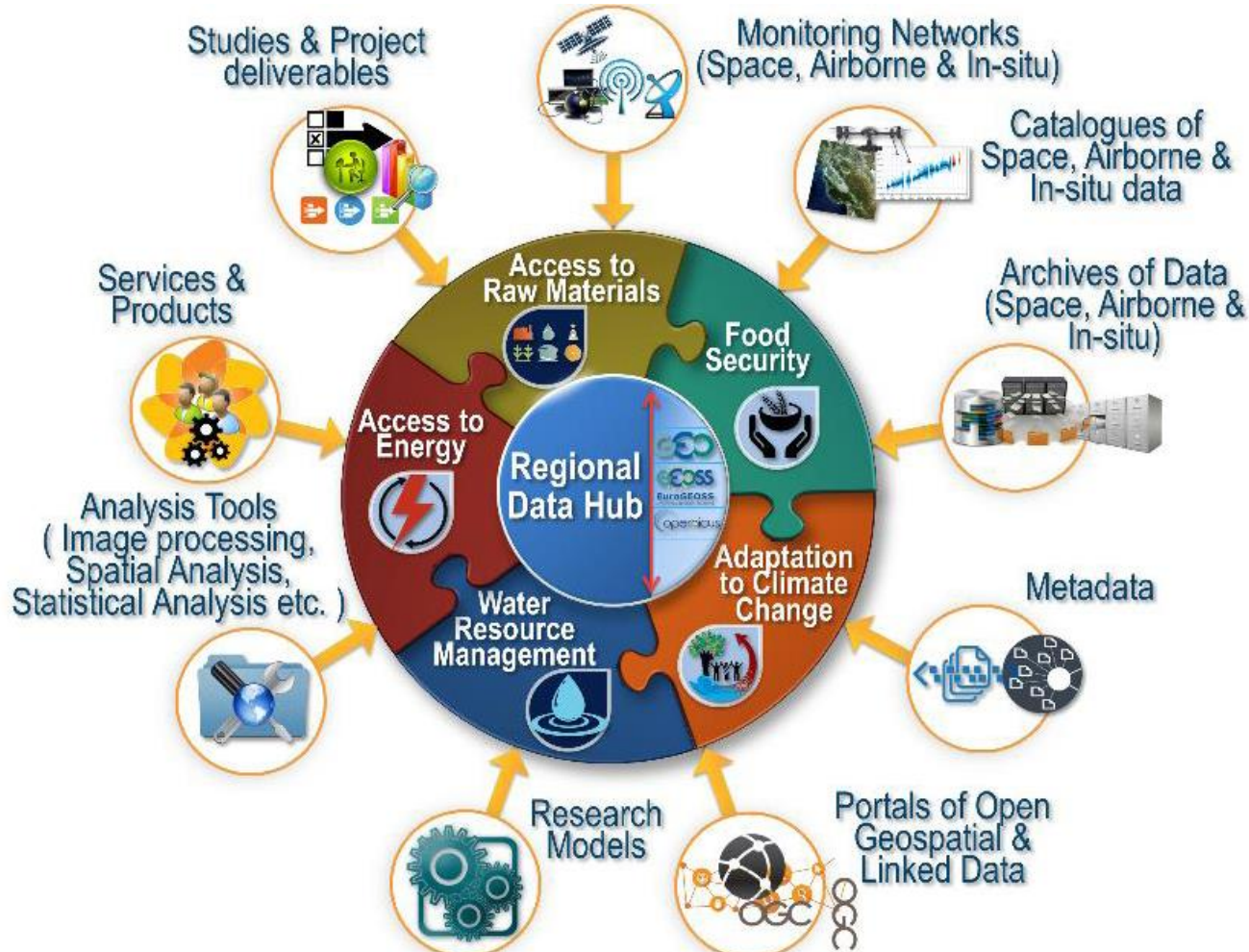
Resources virtualization & federation

- **NextGEOSS**: Next Generation GEOSS for **Business & Innovation**
 - Implement a **federated data hub** for access and exploitation of EO data
 - User-friendly tools for data mining, discovery, access and exploitation
 - Engagement of EO communities for supporting the creation of innovative and **business oriented applications**
 - Engages main providers of EO data, including **Copernicus Collaborative Ground Segments** and Core Services
- **MyGEOSS DisasterHub**: A mobile application for enabling **crowd generated data fusion** in Earth Observation disaster management services





Regional integration GEO-CRADLE – The approach

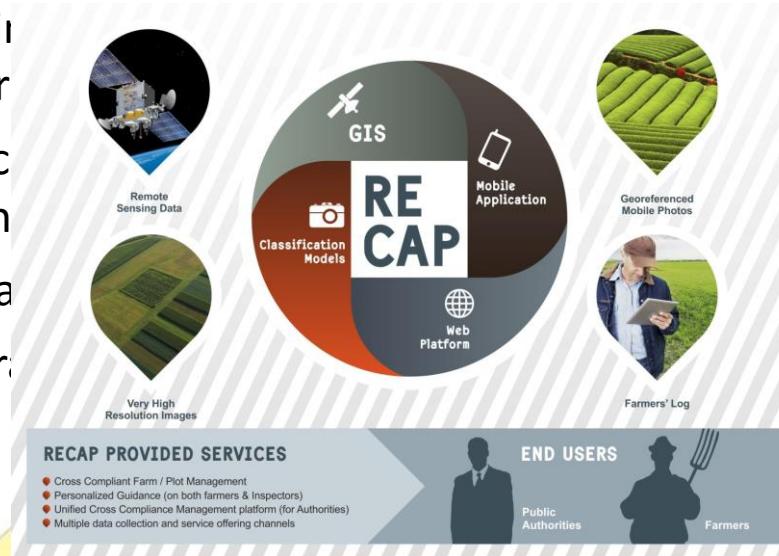


Acts as “one-stop-shop” that offers free access and several discovery options to catalogs of data and metadata specific to the RoI



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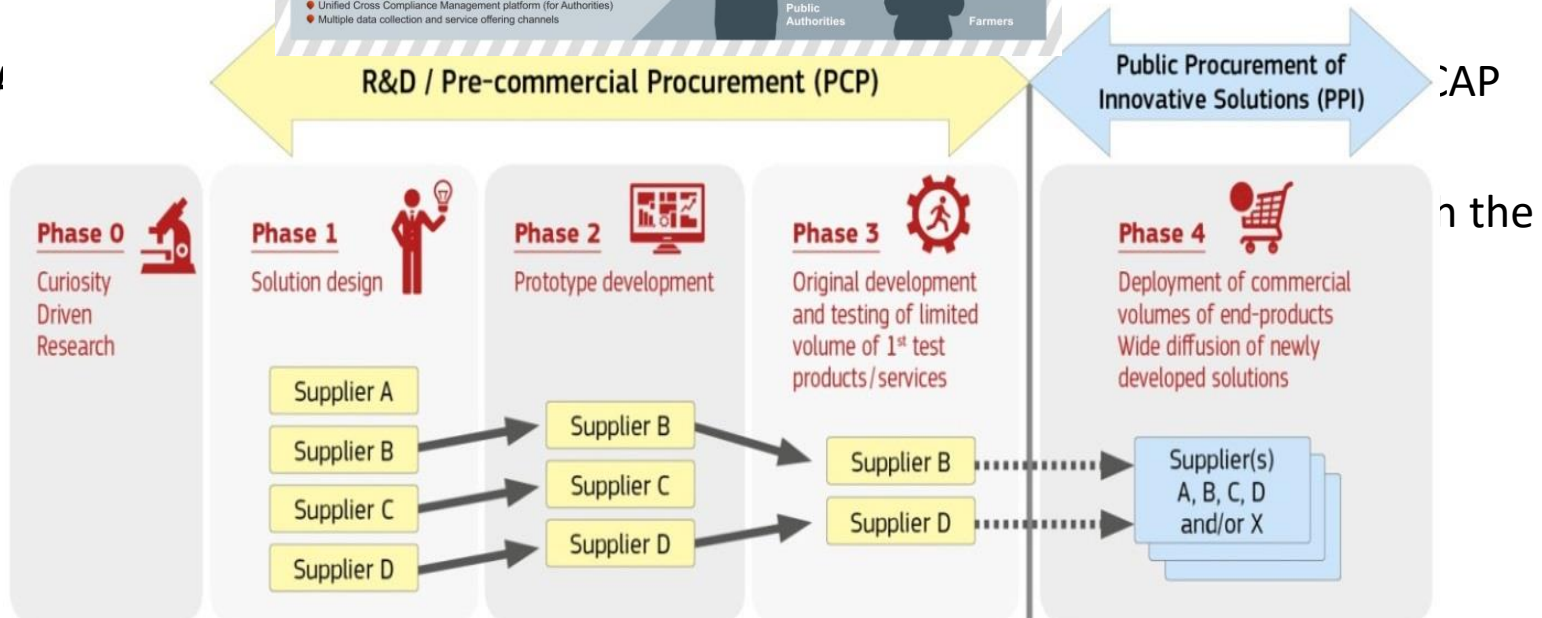
- **Marine-EO: Bridging** for Integrated marine monitoring
 - Pre-commercial procurement on the existing
 - Create a dynamic
 - Strengthen trust



Copernicus enabled Services
 Priority
ed services, leveraging
 market to grow
 awareness

RECAP

-
-
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- Need to register the assets, expertise and technologies available in the RoI
- GEO-CRADLE paves the way for fostering commercial alliances towards GEO and Copernicus, through:
 - its GEOSS empowered and Copernicus driven **Regional Data Hub**
 - establishing a **Regional Network** consisting of research, public agencies and private companies

thank you!

Greek Sentinel Collaborative Ground Segment

- a **GSC Core Ground Segment**, with **GSC-funded Functions and Elements**, providing :
 - the primary access to Sentinel Missions data as well as
 - the coordinating access functions to Contributing Missions data

