GEO-CRADLE

Panel Session 3:

Contributions to specific challenges, GEOSS and Copernicus

Regional Contribution to GEOSS and Copernicus

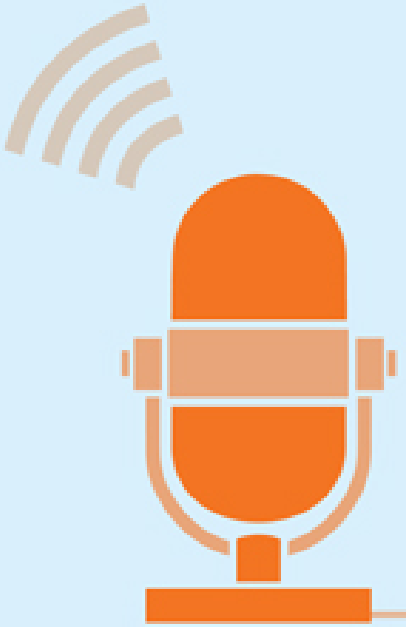
Evangelos Gerasopoulos (*chair*),
GEO-CRADLE Liaison Office, Director of the Greek GEO Office

Jose-Miguel Rubio-Iglesias
European Commission, DG Research & Innovation, I4

Andiswa Mlisa
GEO Secretariat, AfriGEOSS, CB and User Engagement

Hesham El Ascary
CEDARE, Regional Coordinator

Vassilis Tsironis
GEO-CRADLE, IT



Panel Discussion

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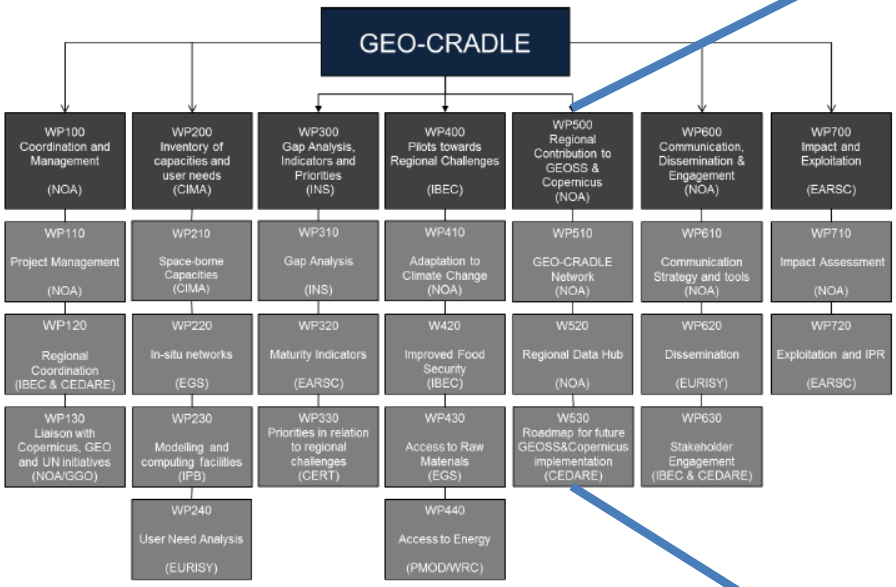
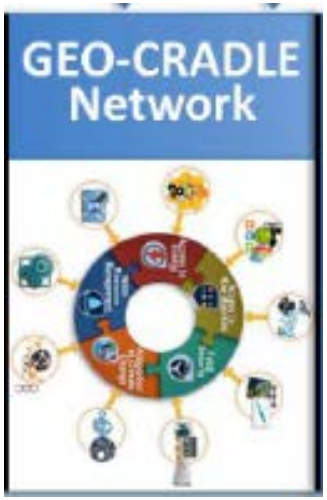
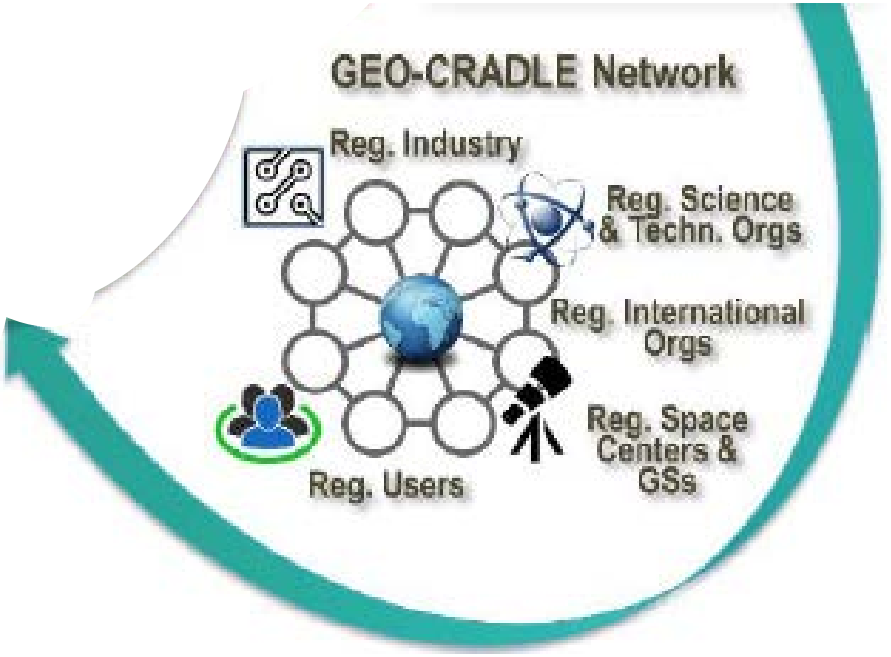

GEO-CRADLE
WP100 Coordination and Management (NOA)
WP110 Project Management (NOA)
WP120 Regional Coordination (IBEC & CEDARE)
WP130 Liaison with Copernicus, GEO and UN initiatives (NOA/GGO)
WP200 Inventory of capacities and user needs (CIMA)
WP210 Space-borne Capacities (CIMA)
WP220 In-situ networks (EGS)
WP230 Modelling and computing facilities (IPB)
WP240 User Need Analysis (EURISY)
WP300 Gap Analysis, Indicators and Priorities (INS)
WP310 Gap Analysis (INS)
WP320 Maturity Indicators (EARSC)
WP330 Priorities in relation to regional challenges (CERT)
WP400 Pilots towards Regional Challenges (IBEC)
WP410 Adaptation to Climate Change (NOA)
W420 Improved Food Security (IBEC)
WP430 Access to Raw Materials (EGS)
WP440 Access to Energy (PMOD/WRC)
WP500 Regional Contribution to GEOSS & Copernicus (NOA)
WP510 GEO-CRADLE Network (NOA)
W520 Regional Data Hub (NOA)
W530 Roadmap for future GEOSS&Copernicus implementation (CEDARE)
WP600 Communication, Dissemination & Engagement (NOA)
WP610 Communication Strategy and tools (NOA)
WP620 Dissemination (EURISY)
WP630 Stakeholder Engagement (IBEC & CEDARE)
WP700 Impact and Exploitation (EARSC)
WP710 Impact Assessment (NOA)
WP720 Exploitation and IPR (EARSC)

WP500
Regional Contribution to GEOSS and Copernicus
GEO-CRADLE Network
Regional Data Hub
Regional Data Hub
Roadmap for future Implementation of GEOSS

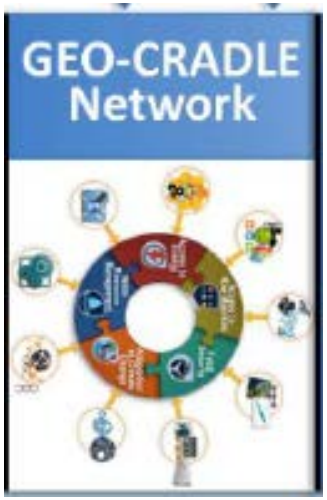
GEO-CRADLE



Whom and where?



GEO-CRADLE



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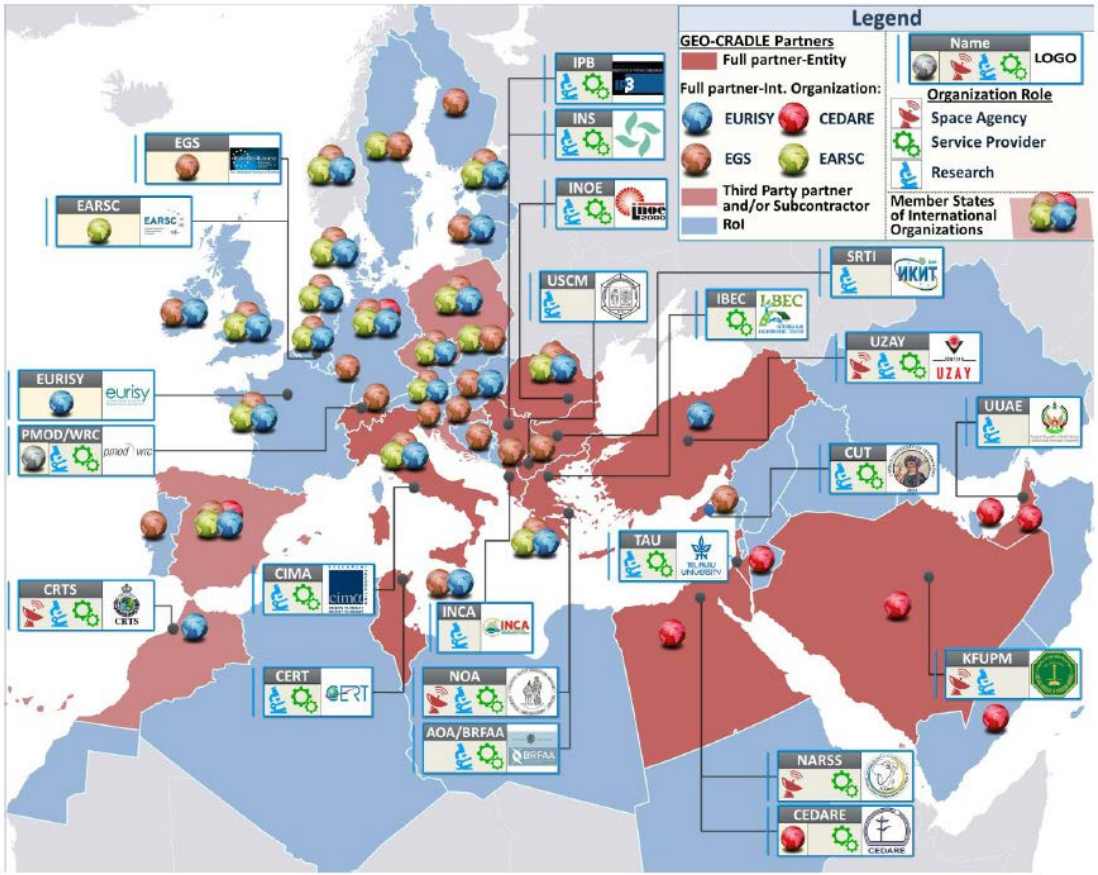

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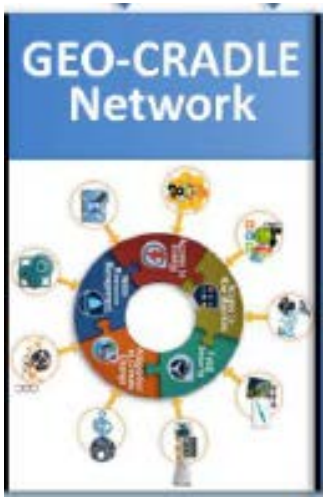
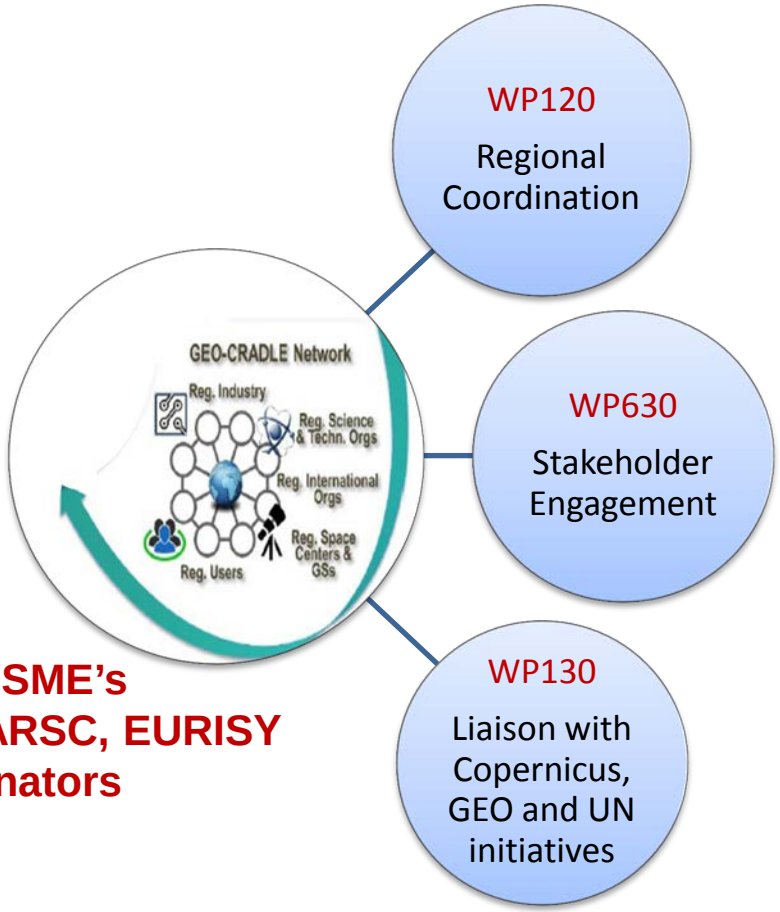
Links and feedbacks





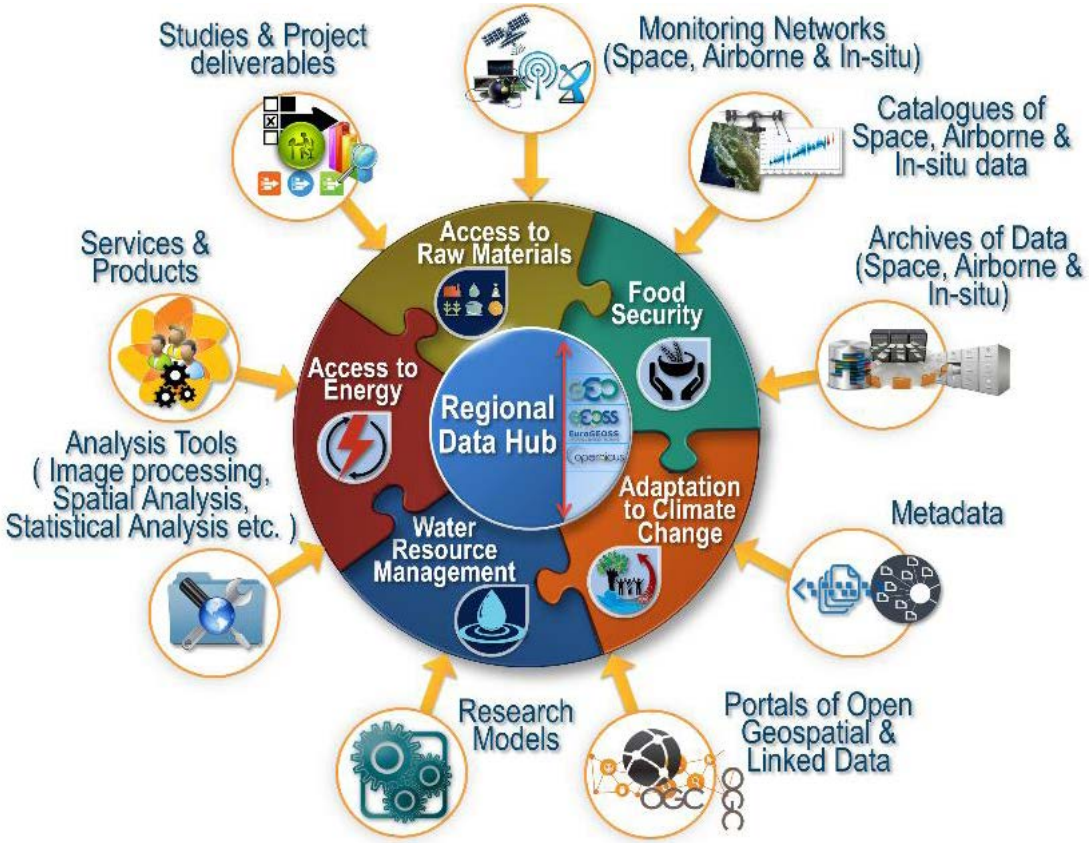
Open questions - target

- **How can we amplify the – currently weak role of SME's**
- **What activities are envisaged by partners e.g.EARSC, EURISY**
- **What initiatives are expected by regional coordinators**
- **Is there early precaution for this e.g. in WP2**

… a catalogued network of existing-available SME's (profile, service capacities, evaluation, areas of interest (food security, air, raw material, CC, water) …

GEO-CRADLE

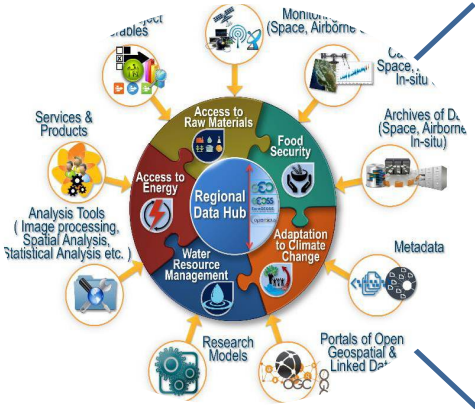
From a Community Portal to a Regional Data Hub



GEO-CRADLE

Links and feedbacks

Open questions - target



WP400

Pilot towards regional challenges

WP200

Inventory of capacities and user needs

WP130

Liaison with Copernicus, GEO and UN initiatives

- **What is the best we should aim at for delivering the RDH**
- **How could partners and reg. coordinators commit to bring or establish links with regional data, services, products … providers (WP2)**
- **How could we assure compatibility with GEOSS GCI**
- **What feedback could GEO-CRADLE provide back to GEOSS regarding e.g. user friendliness, architecture**

A first operational RDH architecture with initial links to GEOSS GCI, continuous flow of regional data, demonstrational services, and a specific plan for future sustainable operation to be fed into the Roadmap

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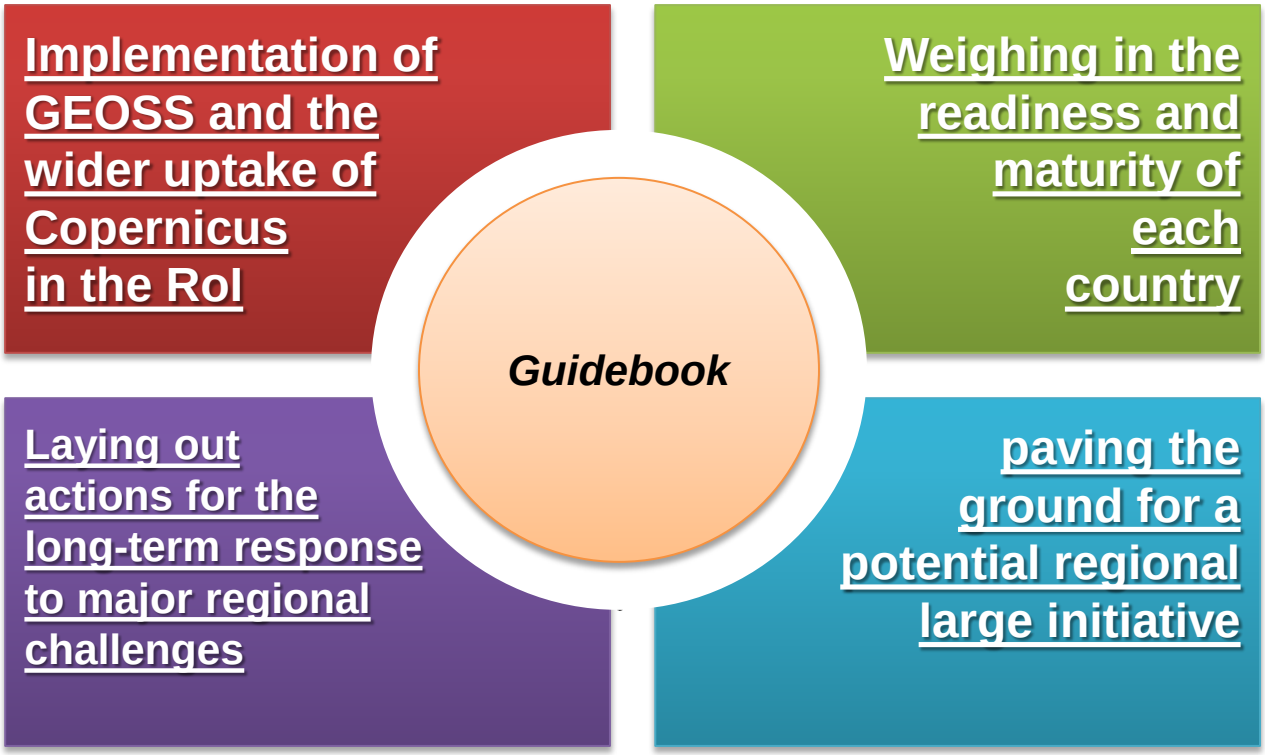
Roadmap for future Implementation of GEOSS

Main Scope



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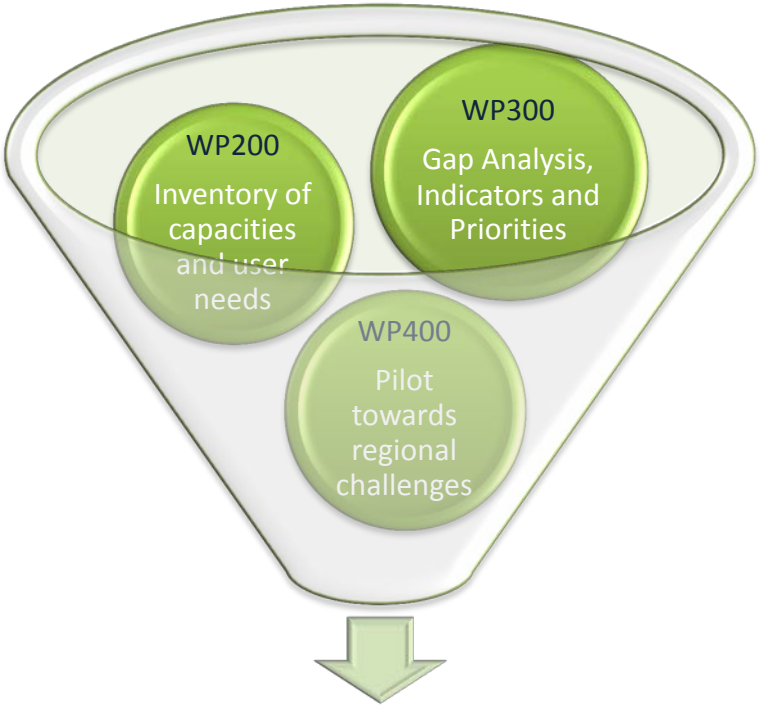
Roadmap for future Implementation of GEOSS

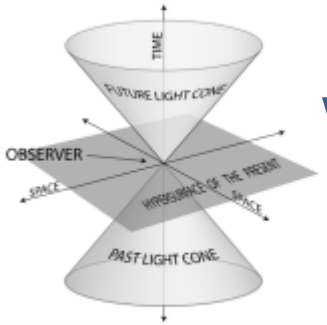


Means

- ❑ Enable transfer of best practices
- ❑ Adjust actions by member's "GEO" maturity
- ❑ Promote Data Sharing Principles
- ❑ Funding opportunities
- ❑ Work together on GEOSS and Copernicus ***regional VISION***

GEO-CRADLE

Roadmap for future Implementation of GEOSS



What is our future?

Flagship

GEO-CRADLE

Initiative

Community Activity

GEO-CRADLE's Liaison Activities

GEO Office

Director: **Dr. Evangelos Gerasopoulos**

Secretary: **Mrs Eleni Christia**

National Delegation

GEO Principal: **Prof. Christos Zerefos**

Deputy GEO Principal: **Prof. Kanaris Tsinganos**

http://www.greekgeo.noa.gr/

GEO-CRADLE

Report on 1st Liaison Activities

day1

1st Meeting, GEO-CRADLE – GEOSEC

GEO-CRADLE Liaison Office (represented by Evangelos Gerasopoulos, Greek GEO Office Director) and GEO Secretariat (represented by Barbara Ryan, Sec. Director, Andiswa Mlisa, AfriGEOSS Capacity Building and User Engagement and Paola De Salvo, Information Technology Officer) at **Geneva on Feb 1st 2016**.

HORIZON 2020

GEO-CRADLE

Report on 1st Liaison Activities

day1

Brief presentation of GEO-CRADLE:

- Coincidence of many of GEO-CRADLE's tasks with GEO's Foundational Tasks (such as CD-01 Capacity Building Coordination, CD-02 Reinforcing Engagement at National and Regional levels and GD-07 GCI Development) and Initiatives (GI-06 AfriGEOSS)
- Establish connection with GEO's Work Programme
- Community building and key actors engagement in the RoI
- Inform regional GEO Principals for the project and national activities
- Linkages with the GEO Societal Benefit Areas (SBAs)

Representation of GEO in GEO-CRADLE's Advisory Board:

- Cover the need for continuous and multi-aspect interaction
- Transfer best practices and lessons learnt e.g. from AfriGEOSS
- Establish links with other GEOSEC key personnel and/or GEO Community at large

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GEO-CRADLE

Report on 1st Liaison Activities

day1

GEO-CRADLE Regional Data Hub:

- A Regional Data Hub (RDH) could easily start as a “Community Portal”
- Regional info and data from the GCI to the the RDH
- RDH and relevant GEO-CRADLE’s WP tasks to identify and bring back to the GCI regional user needs
- GEO-CRADLE RDH as a GEOSS pilot - well documented processes
- Balance between RDHs own “character” and compatibility with GEOSS
- Establishment of specific working groups e.g. GEO-CRADLE ITs with GEO’s GCI Development team. Discovery and Access Broker (DAB), ESA – portal restructuring

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GEO-CRADLE

Report on 1st Liaison Activities

day3

2nd Meeting, GEO-CRADLE – WMO/GAW

GEO-CRADLE Liaison Office (represented by Evangelos Gerasopoulos, Greek GEO Office Director) and WMO/GAW (represented by Oksana Tarasova, Chief, AER/WMO) at **Geneva on Feb 3rd 2016**.

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GEO-CRADLE

Report on 1st Liaison Activities

day3

Brief presentation of GEO-CRADLE:

- Turning science data into services or products
- Tailored type of collaboration and a regional mechanism for WMO regional capacities maintainance/coordination
- Identification of regional challenges and prioritization

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GEO-CRADLE

Deliverables

Del N°	Deliverable Name	Delivery Date	Brief Description
D510.1	Online database for inventory of capacities and needs	M1	Online database to store the information produced in WP200
D510.2	GEO-CRADLE Portal Specifications (I: Functional & II: Technical)	M3 M4	Describes the functional (M3) and technical (M4) specifications of the portal
D510.3	GEO-CRADLE Portal (I, II, III)	M6 M12 M24	First release of online database with integrated front-end (M6); fully-functional release of operational portal with integrated Data Hub (M12); final upgrade (M24)
D520.1	Regional Data Hub Specifications	M6	Describes the functional and technical specifications of the Data Hub, incl. links to datasets, user interfaces etc.
D530.1	Roadmap for future implementation of GEOSS and Copernicus	M27	Provides a set of recommendations for future action towards implementation of GEOSS and Copernicus in the RoI

GEOSS Portal

Introduction: The GEOSS Portal is the main entry point to Earth Observation data from all over the world. Links the world-wide community of practice in nine **Societal Benefit Areas** providing the necessary tools for searching and/or registering data.

1) Not friendly User Interface

2) Old Technology

3) Not clear understanding of the system

4) Low Integration of EO data

Vision: The Regional Data Hub (RDH) aspires to become a concrete contribution of GEO-CRADLE to the implementation of GEOSS and Copernicus in the RoI.

- ✓ Strengthen the Portal capabilities.
- ✓ Alleviate its shortcomings.

1) Interoperability

2) Open Data, Open Data Sharing Principles, Openness

3) Single point of entry to vast amount of EO data

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Approach

- User Needs
- System Specs
- Data Collection

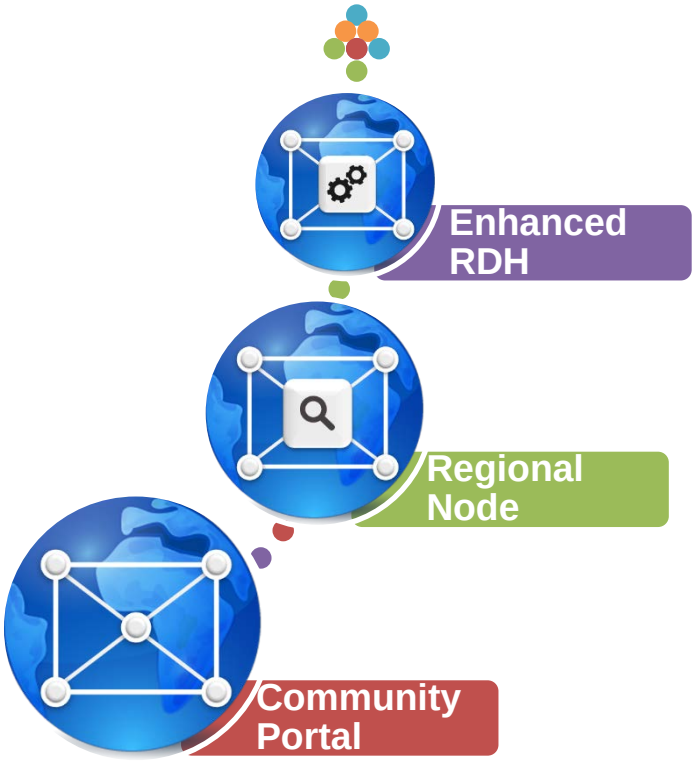
Collaboration

- GCI, DAB APIs
- Architecture
- Source Code

GCI APIs

Implementation Extension

- Regional Implementation
- API extensions
- RDH Improvements



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User Friendly Interface

- Based on up-to-date Human Computer Interaction and User Experience principles.
- Based on state of the art Web frameworks: Angular JS, Lavarel PHP, etc.
- Model View Controller (MVC) architecture for the separation of the Graphical User Interface (GUI) from the underlying logic.

Federation

- Homogenization of the integrated data / metadata (e.g. NetCDF, HDF for the space-borne data).
- Standardized access interfaces based on well established protocols (e.g. OGC WFS).
- Standardized metadata cataloguing, storing and dissemination (e.g. INSPIRE Implementing rules, GML format).

One-stop-shop for **RoI specific data/information/ knowledge access** for EO players, service providers, and end users.

Fine-Grained Organization

- Better organization of data, metadata, services and products.
- Cleaner navigation between:
  - Metadata catalogues,
  - Data storages, Product services,
  - OGC services such WMS, WFS, etc.

Enhanced Functionality

- Systematic verification / validation of each dataset availability (e.g. heuristic mechanisms deciding a resource's availability) .
- Free-text search functionality using state-of the art APIs such as OpenSearch.
- An advanced filtering mechanism enabling the user to pose flexible and complex queries.

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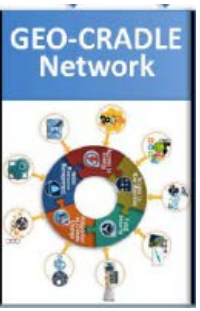
GEO-CRADLE

Panel Session 3:

Contributions to specific challenges, GEOSS and Copernicus

Regional Contribution to GEOSS and Copernicus



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