The European GEO context for GEO-CRADLE

GEO CRADLE Kick-Off Meeting
Athens, 19 February 2016

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Research and Innovation

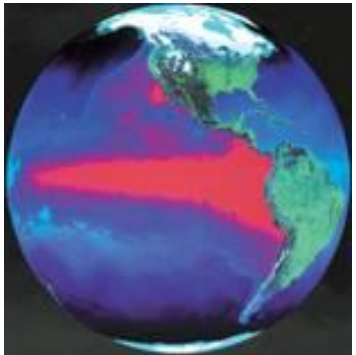
European Commission

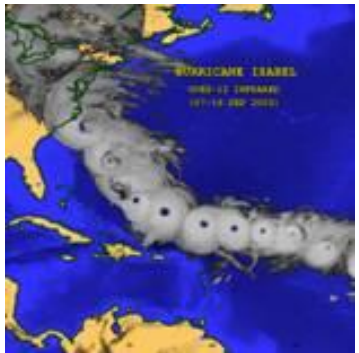
GEO and GEOSS – Why?

GROUP ON EARTH OBSERVATIONS

- Earth observation data: too often collected for a single purpose, use(r) hardly shared or made discoverable
- Global landscape for Earth system monitoring: still too fragmented
- Addressing the full Earth system's dynamics exceeds the capability of any country, or any scientific community
- Scientific understanding and on-going knowledge of the Earth system is fundamental for well-informed economic decision-making
- To sustained Earth observations is a critical issue

Hence, a global approach to Earth observations is required

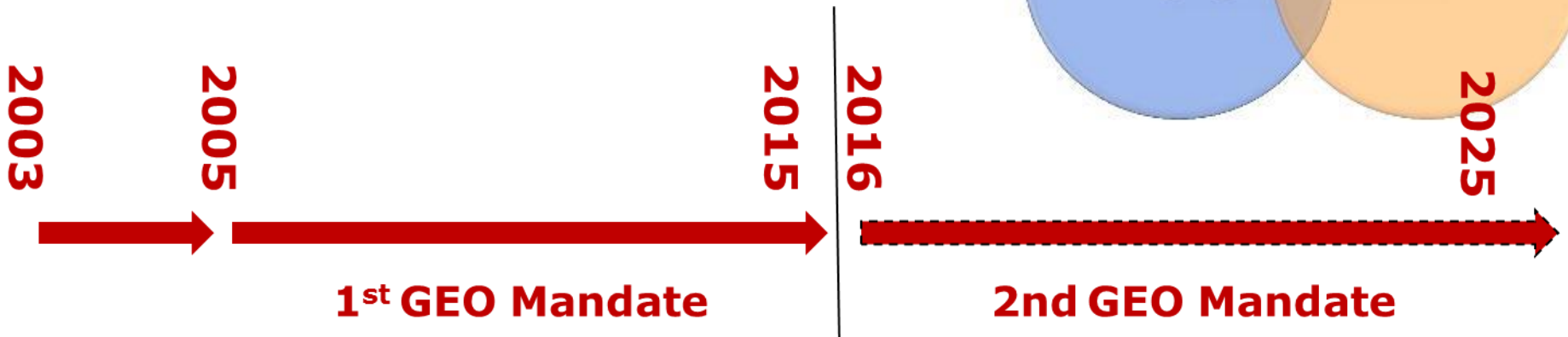



Update on GEO – renewed till 2025

Latest developments:

- Renewed GEO mandate for the period 2016-2025
- Lessons learnt after 10 years of GEOSS implementation
- Mexico City Declaration, 13 November 2015
- New GEO Strategic Plan 2016-2025
- GEO Work Programmes (2016, 2017-2019)
- GEO Programme Board



Regional dimension in the GEO context

GEO membership: All members belong to a regional caucus.

Mexico Summit Declaration of 13 November 2015:
"(…) Resolve to strengthen and facilitate the active participation of developing countries in GEO and the GEOSS, including through regional initiatives (…)"

GEO Strategic Plan 2016-2025:

- Stakeholder engagement and Capacity Building: "GEO will (…) promote regional cooperation through national and regional GEO mechanisms"

- Core function – Implementing sustained global and regional services: "(…) Incubate and pilot regional (…) initiatives to provide data or information services to meet shared information needs for societal benefits (…)"

- Core function – Cultivating awareness, building capacity and promoting innovation: "(…) Strengthen cooperation at regional (…) level by identifying country-specific opportunities to develop EO plans and establishing national GEO structures(…)"

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Europe and GEO & GEOSS

- Key instrument to deliver data and information to **inform EU policy objectives** (e.g. Space, Climate, Energy, Marine, Development policies)

- Support EU in **negotiations and international agreements** (e.g. Agenda post-2015 for SD, CBD, UNFCCC, CBD, UNSDR).

- New opportunities to **stimulate a global EO market**, with untapped business from a wealth of free, full and open EO data.

- An untapped potential for **intensifying EO innovation** and support of science diplomacy, increasing **synergies with Copernicus programme**.

The Commission agenda for Jobs, Growth, Fairness and Democratic Change (July 2014)

Ten priorities for a bigger and more ambitious Union, including:

- A Stronger Global Actor
- A Connected Digital Single Market
- A resilient energy Union with a forward-looking climate change policy

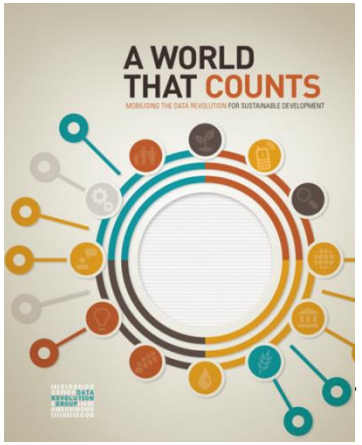
Research and

Multilateral opportunities

2015 TIME FOR GLOBAL ACTION FOR PEOPLE AND PLANET

UNITED NATIONS SUSTAINABLE DEVELOPMENT SUMMIT 2015 25-27 SEPTEMBER

- UNFCCC COP 21 meeting (Paris, December 2015)
- Post-2015 Development Agenda (New York, September 2015)
- Global System of Financing for Development (Addis Ababa, July 2015)
- Post Hyogo Framework 2015-2030 (Sendai, March 2015)
- The UN Advisory Group on a Data Revolution for Sustainable Development (Nov 2014)
- The G8 Open Data Charter (June 2013)
- The United Nations initiative on Global Geospatial Information Management (UN-GGIM) (2011)



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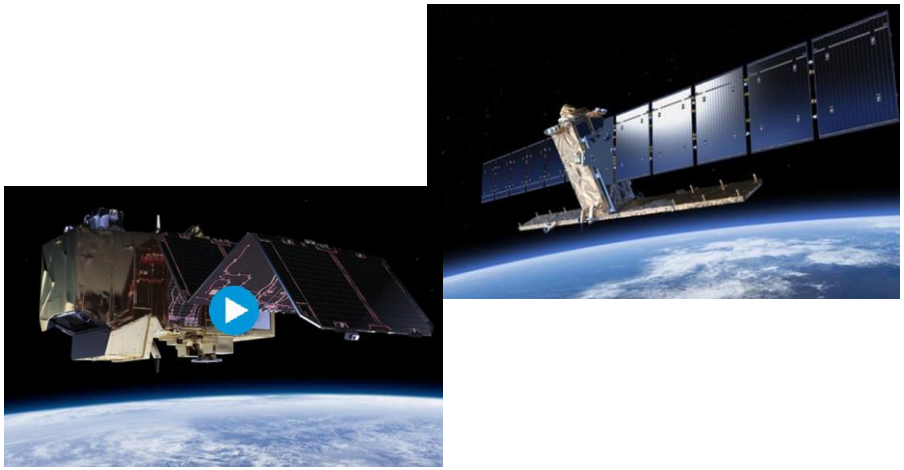
The EU Programme "Copernicus"

"Copernicus data and Copernicus information should be available freely and openly to support the Digital Agenda for Europe"

(Regulation (EU) No 377/2014 establishing the Copernicus Programme)

"GMES open dissemination should be fully compatible with GEOSS data sharing principles"

(Delegated Regulation (EU) No 1159/2013 on access to Copernicus data and infor.)



Copernicus
The European Earth Observation Programme

Opportunities for Europe in GEO Post-2015

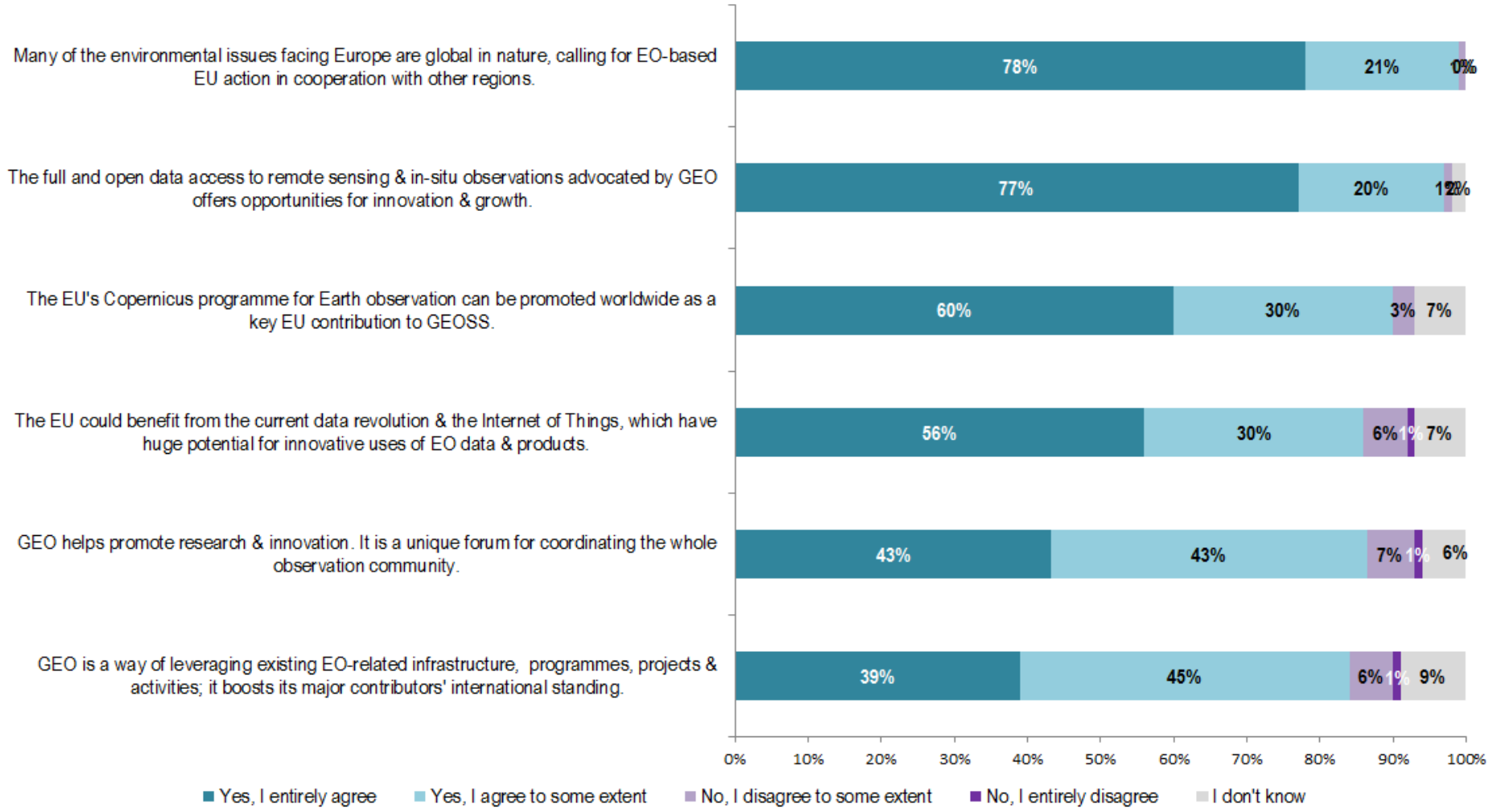
- Current transition period is a **unique opportunity for Europe** to assess and review its position in GEO:
  - Lessons learnt after 10 years of GEO
  - Political momentum (GEO Ministerial in Jan 2014 and Nov 2015)
  - New 10-year Strategic Plan
  - EU Copernicus programme becoming operational
  - Horizon 2020
- European Commission has conducted **consultations** (independent experts, GEO High Level Working Group, general public) in 2013, 2014 and 2015 (including a EU survey).
- Commission Document "**Global Earth Observation System of Systems (GEOSS): Achievements to date and challenges to 2025**"

EU survey on Earth observation in a global context (Jan -Apr 2015)

- **Element of a continued multi-stakeholder dialogue**
  - to consult on eventual Earth Observation-related actions at EU level which would support the Commission priorities fixed by President Juncker
- **Purposes of the consultation**:
  - Estimate **general awareness** of and stance on:
    Earth Observations (EO), the Group on Earth Observation (GEO), the Global Earth Observation System of Systems (GEOSS) and Copernicus;
  - Appreciate how to maximize EU benefits from increased **European coordination** in Earth observation in the GEO context;
  - Collect views and priorities on a set of possible **actions at EU level**.

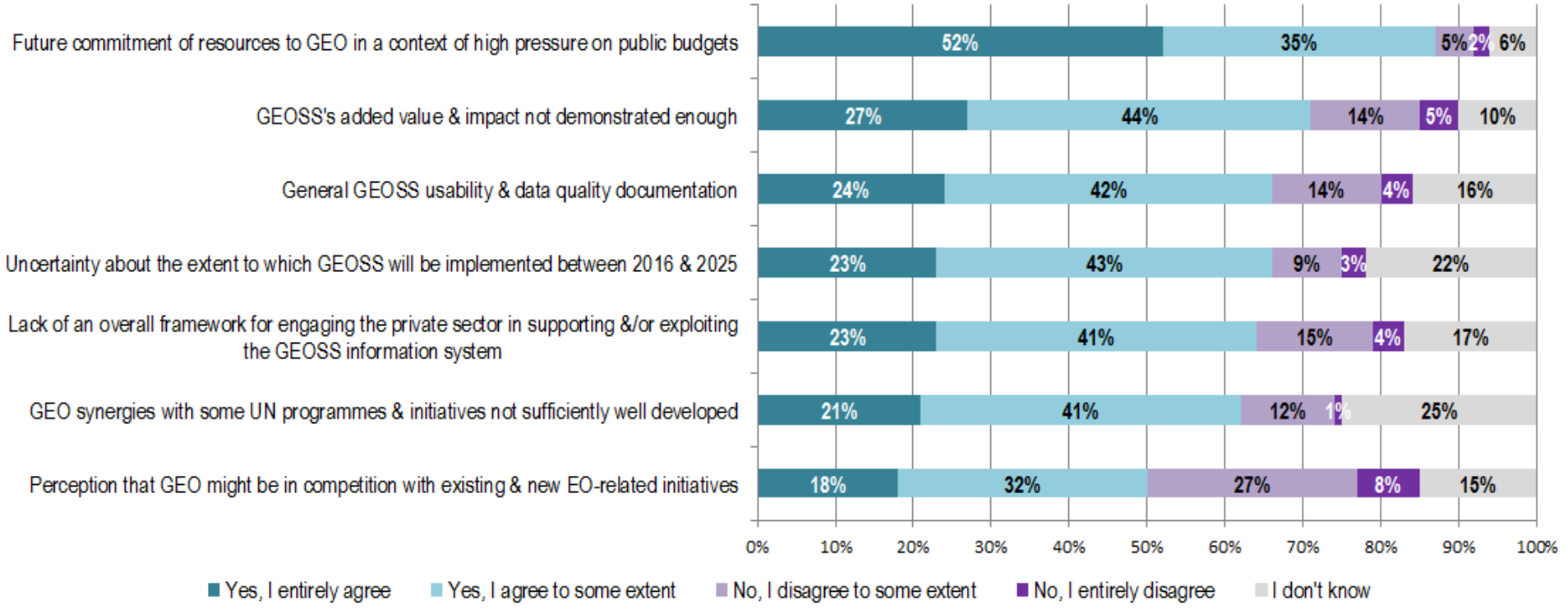
Assessing benefits from a stronger EU coordination of Earth observation through GEO

Key reasons justifying a stronger EU approach to GEO and global Earth observations



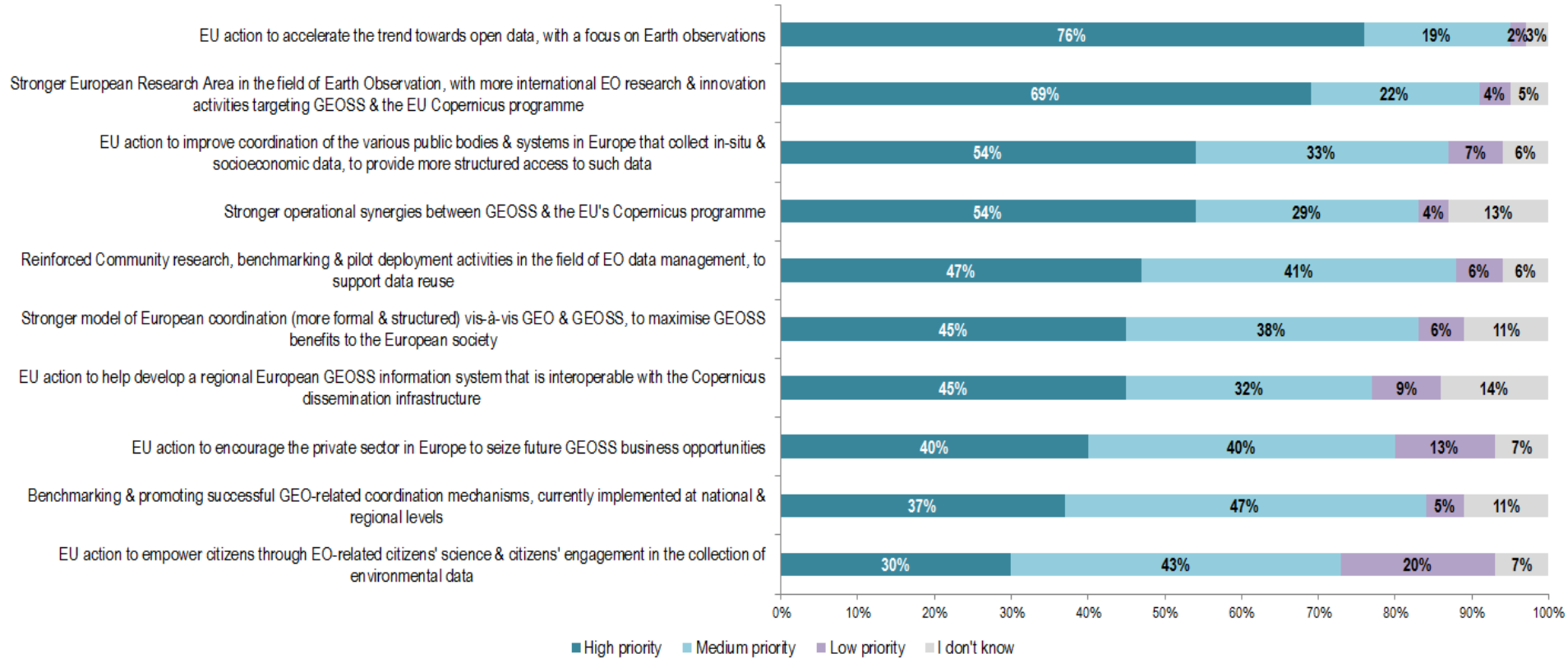
Assessing barriers to a stronger EU coordination of Earth observation through GEO

Main barriers to a stronger EU approach to GEO and global Earth observations



Possible EU-level action in the field of global Earth observation and GEO

Towards a stronger EU approach



Towards an ERA coordination in Earth observation

- Lessons learnt from 10 years of European involvement in GEO show that Europe would gain **from a more coordinated approach when conducting EO research and innovation programmes**.

- A **strengthened European Research Area** would reduce fragmentation, align agendas, pool resources towards more transnational activities and leverage impact of public funded research.

- This would also consolidate R&I efforts in the context of **Copernicus**

- FP7/Horizon 2020 overwhelmingly recognised as essential for progressing on GEOSS and adding value to national contributions. Offers great potential to achieve R&I breakthroughs in EO.

- CSAs and an ERA-NET as instruments:

- **ConnectinGEO** CSA (February 2015 – January 2017)
- **GEO-CRADLE** CSA (February 2016 – July 2018)
- **ERA-PLANET** ERA-NET (kicked-off in February 2016)

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ConnectinGEO

"Coordinating an Observation Network of Networks Encompassing Satellite and In-Situ To Fill the Gaps in European Observations"

- ConnectinGEO links existing coordinated Earth observation networks with science and technology (S&T) communities, the industry sector and the GEOSS and Copernicus stakeholders.
- The emerging UN Sustainable Development Goals (SDGs) are a motivation.
- The resulting "network of networks" (**ENEON**) should consist of a wide spectrum of European stakeholders outlasting ConnectinGEO
- Outcome of the action:
  - prioritized list of critical gaps within the European Union in observations and the models that translate observations into practice-relevant knowledge.
  - It will include the research activities required to address these gaps.
  - Increase coherency of European observation networks, increase the use of Earth observations and inform the planning for future observation systems.

ENEON

European Network of EO Networks ENEON

- The thematic partners (that represent thematic observation networks),
- The GEOSS S&T Stakeholder Network and GEOSS CoPs,
- Copernicus services, Sentinel missions and in-situ support data representatives,
- European networks representatives for space-based, airborne and in-situ observations (e.g. EPOS, EMSO and GROOM, etc)
- Representatives of the SMEs and industry sector.
- European and national funding agencies and in particular the ones participating in the ERA-PLANET

elixir

ACTRiS

EPOS
EUROPEANPLATEOBSERVINGSYSTEM

IAGOS

emso

AnaEE
Analysis and Experimentation on Ecosystems

INTER ⇄ ACT

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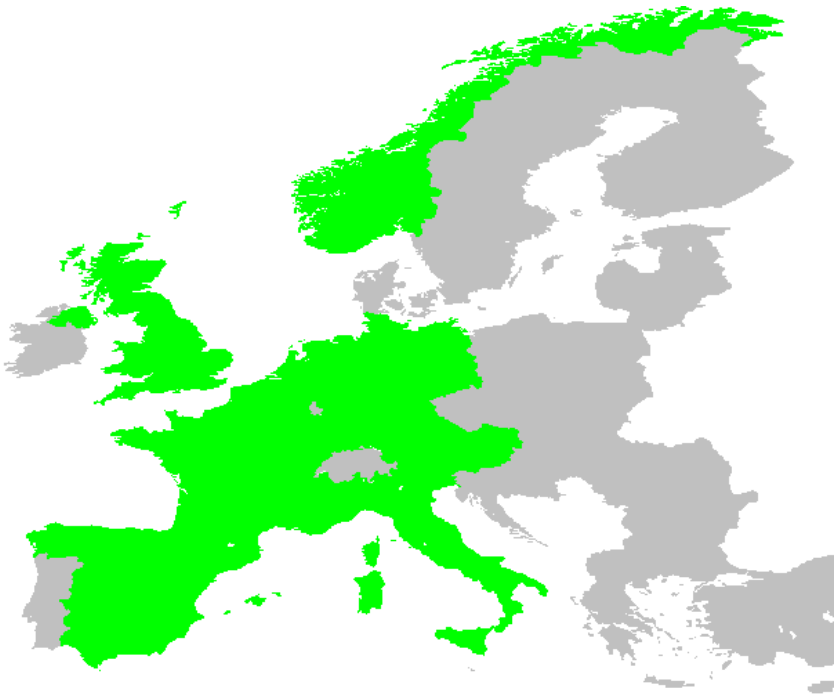
ConnectinGEO

"Coordinating an Observation Network of Networks Encompassing Satellite and In-Situ To Fill the Gaps in European Observations"



4 challenges

- Renewable energy challenge
- In-situ and Remote Sensing challenge
- In-situ integration in the GeoDAB
- Remote Sensing industry Challenge

15 Partners, 9 countries

- 1 partner in common (EARSC)

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ERA-PLANET: The European Network for Observing Our Changing Planet

Kicked off earlier this week (16-17 February).

Objectives:

- Prepare and launch **joint transnational calls** structured along the 4 strands.
- Fund projects according to a **priority list set by external experts**, to monitor funded projects under the joint call
- Develop **a strategic research agenda to reinforce the ERA** and to coordinate the cross- and inter-cooperation of European and national programmes in EO;
- **Improve the interoperability** among existing and future projects on EO and links to the GEOSS-GCI.

Modified from slides by Nicola Pirrone (CNR)

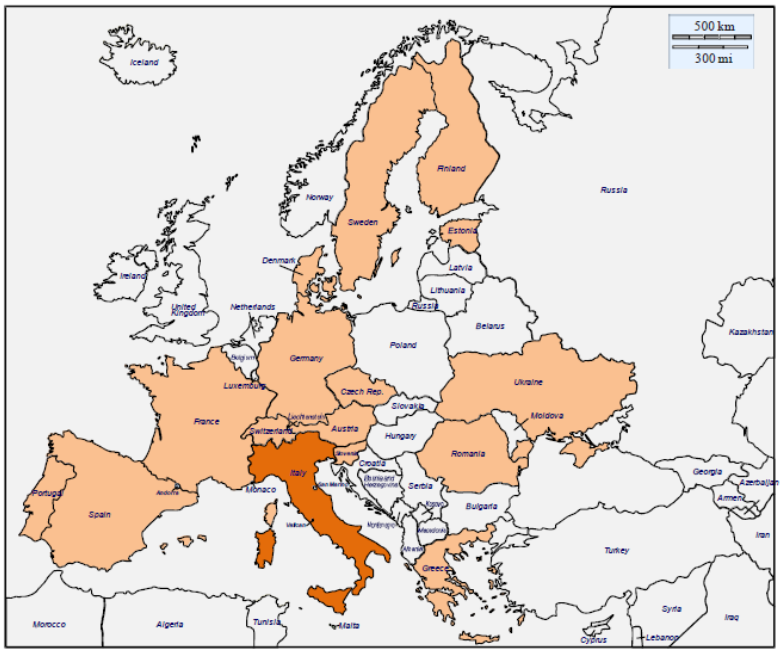

Figure 5 – Countries participating to ERA-PLANET

ERA-PLANET

STRAND 1	STRAND 2	STRAND 3	STRAND 4
Smart cities and resilient societies	Resource efficiency & environmental management	Global change and Environmental treaties	Polar areas and natural resources




4 strands of work
35 Partners, 16 countries
2 partners in common
(NOA and AoA)

Modified from slides by Nicola Pirrone (CNR)

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Future beyond 2018…..

- Currently thinking of the future H2020 WP 2018-2020

- **European strategy** regarding the international dimension of Earth observation and related R&I needs and benefits

- Targeted investments for boosting the development of a **market of Earth observation services** based on the exploitation of EO-GEOSS data.

- Targeted R&I investments in support to the **consolidation of the GEOSS Common Infrastructure** and of the European hub.

- Targeted **strategic actions** in support to the 2nd 10-year phase of GEO.

- Need to move towards better integration with related EO flagship programmes such as **Copernicus**

Concluding remarks (I)

We expect GEO-CRADLE to:

- Identify gaps between local user needs and capacities, helping build capacities in the three regions building on past activities.
- Integrate knowledge to demonstrate value for current policy priorities (migration, energy, climate change, digital economy).
- Design a roadmap for the implementation of GEO and Copernicus as an input for future activities in region.
- Create synergies between your network and the other EU coordinating activities (ConnectinGEO/ENEON, ERA-PLANET)
- Promote a free, full and open flow of data within and beyond these regions, maximising commercial opportunities

Concluding remarks (II)

(cont'):

- Advocate GEOSS Data Sharing Principles and GEOSS Data Management Principles implementation in the three regions
- Contribute to the GEOSS implementation through participation in GEO tasks and activities, especially in-situ coordination.
- Flag (pilots') success stories of delivering knowledge from EO to ensure the policy impact of GEO-CRADLE
- Engage actively with the commercial sector in the RoI: our actions need to contribute to build the markets of the future.
- Open results as much as possible!!
- Reinforce European neighbourhood contribution to GEO!

- Annual event bringing together European stakeholders interested in and actively contributing to GEOSS.
- This year more focused on co-creation with GEO European actors
- Possible session focused on EO activities in the three regions coordinated by GEO-CRADLE?


Thank you
Athens observed by Sentinel-2A
5 August 2015
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