

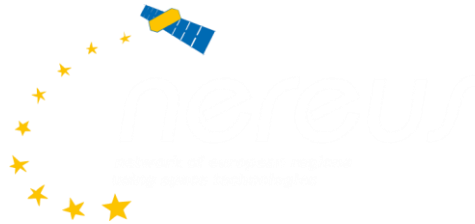
NEREUS

„67 Uses of Copernicus....“

– Efforts to learn more about the regional deployment situation

Naumur, 23th October 2015

*Roya Ayazi, NEREUS*



# NEREUS

„67 Uses of Copernicus....“

- Efforts to learn more about the regional deployment situation

Naumur, 23th October 2015



## NEREUS: 25 Full Members (regions)+ 43 Associate Members

|                                      |                                   |
|--------------------------------------|-----------------------------------|
| Abruzzo (I)                          | Guyana (F)                        |
| Andalusia (Spain)                    | Hesse (D)                         |
| Apulia (I)                           | Lazio (Italy)                     |
| Aquitaine (F)                        | Lombardy (Italy)                  |
| Azores (Portugal)                    | Madrid (Spain)                    |
| Baden-Württemberg (D)                | Mazovia (Poland)                  |
| Basilicata (I)                       | Midi-Pyrenees (F)                 |
| Bavaria (D)                          | Piedmont (I)                      |
| Brandenburg (D)                      | Provence-Alpes-Côte<br>d'Azur (F) |
| Brittany (F)                         | South Holland (NL)                |
| East Midlands (UK)                   | Tuscany (I)                       |
| Free Hanseatic City of<br>Bremen (D) | Veneto (Italy)                    |
|                                      | <b>Wallonia (B)</b>               |



# Core mission NEREUS

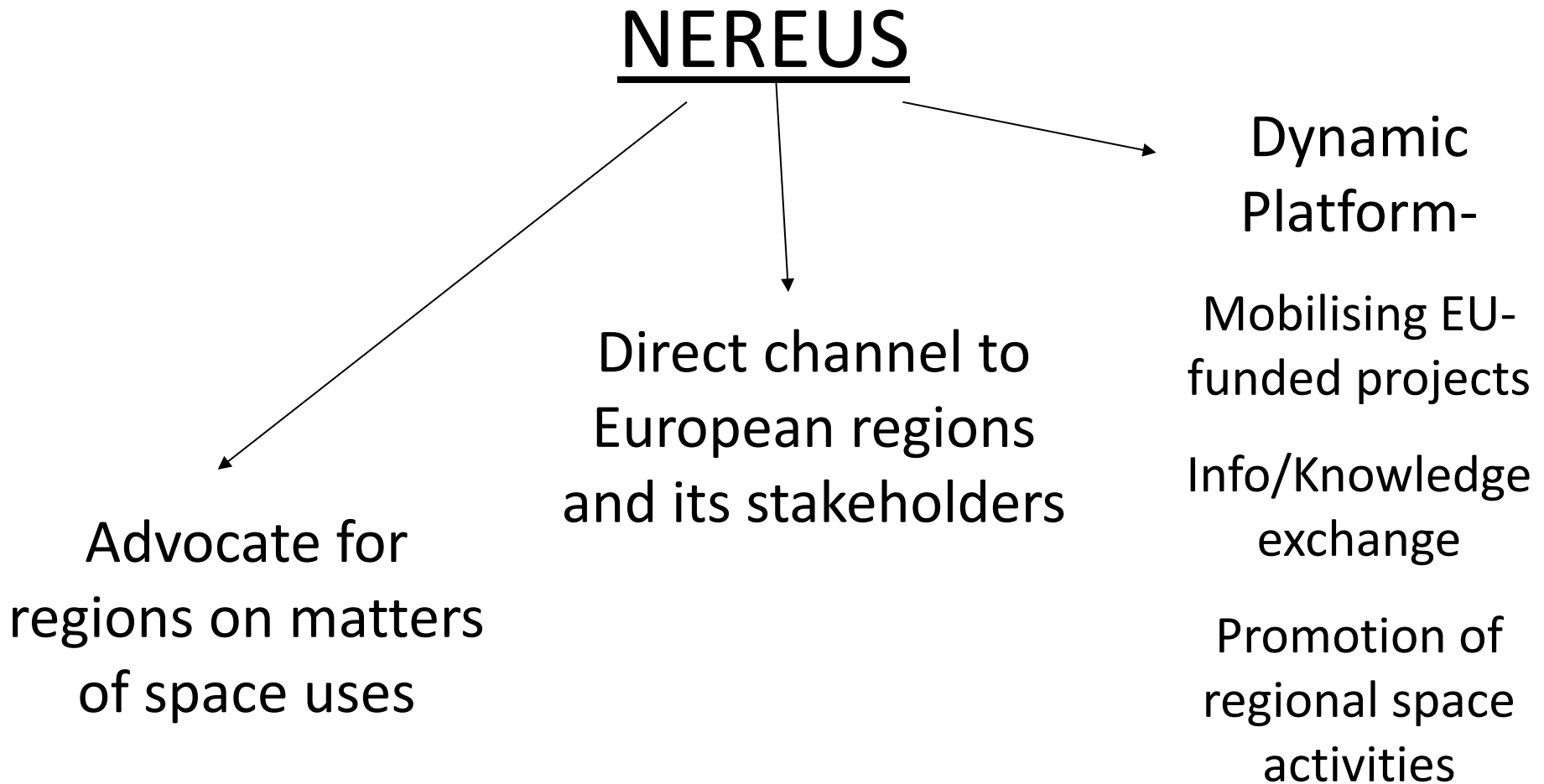
Spreading use of space technologies at regional level

Stimulating the development of space  
applications

Awareness raising/Promotion for potential of space and its  
benefits for regions and their citizen

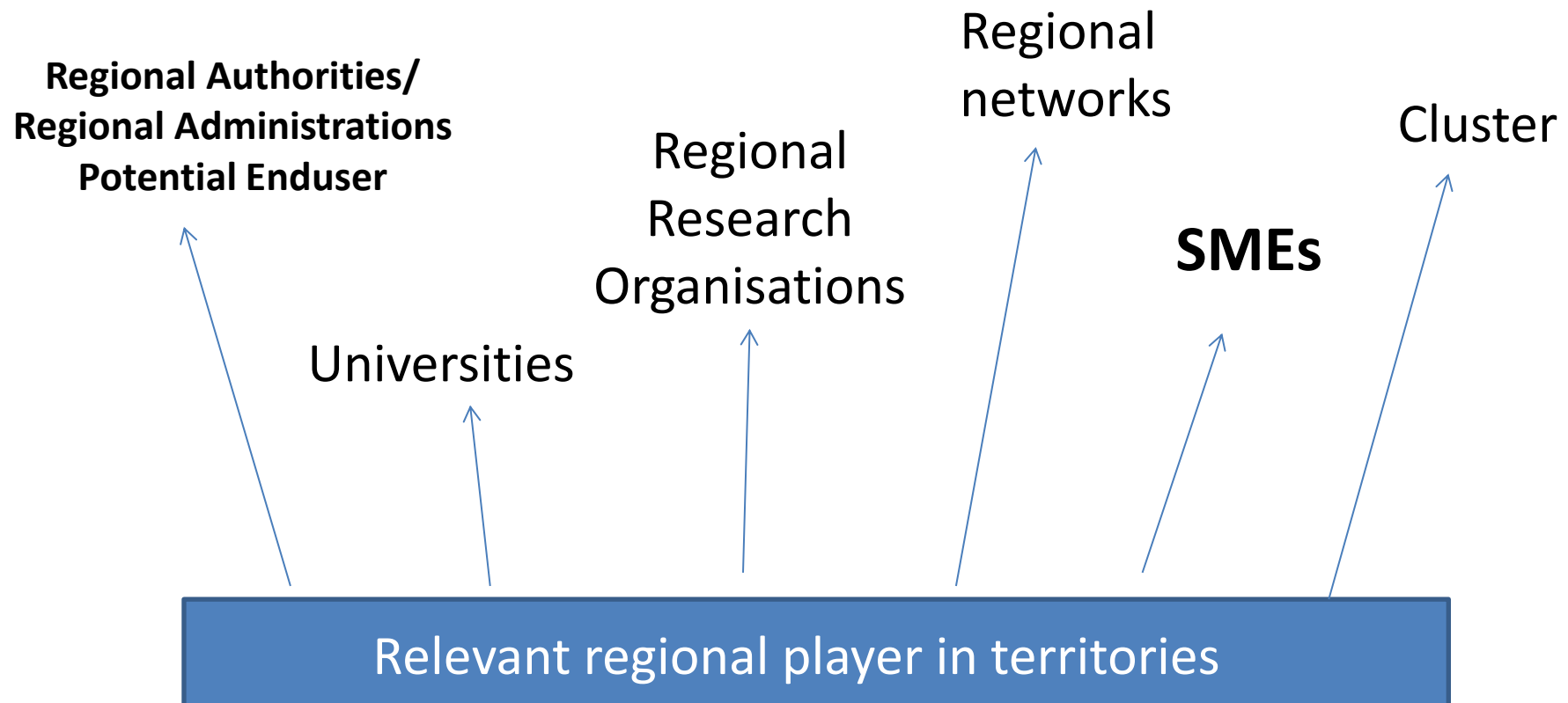
Advocacy for matters of regional space uses

# What do we offer to regions?



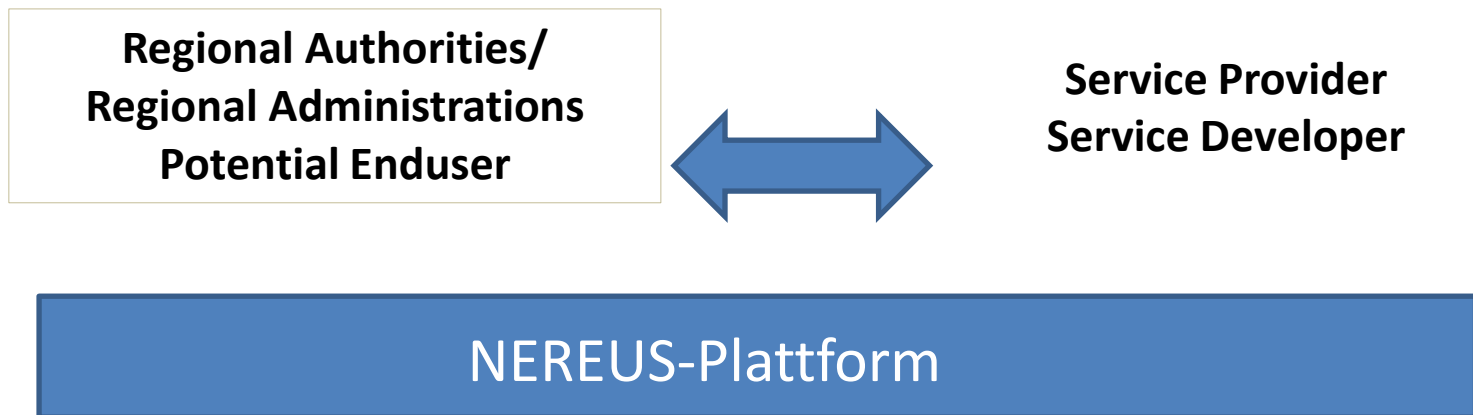


# Different regional player in territory



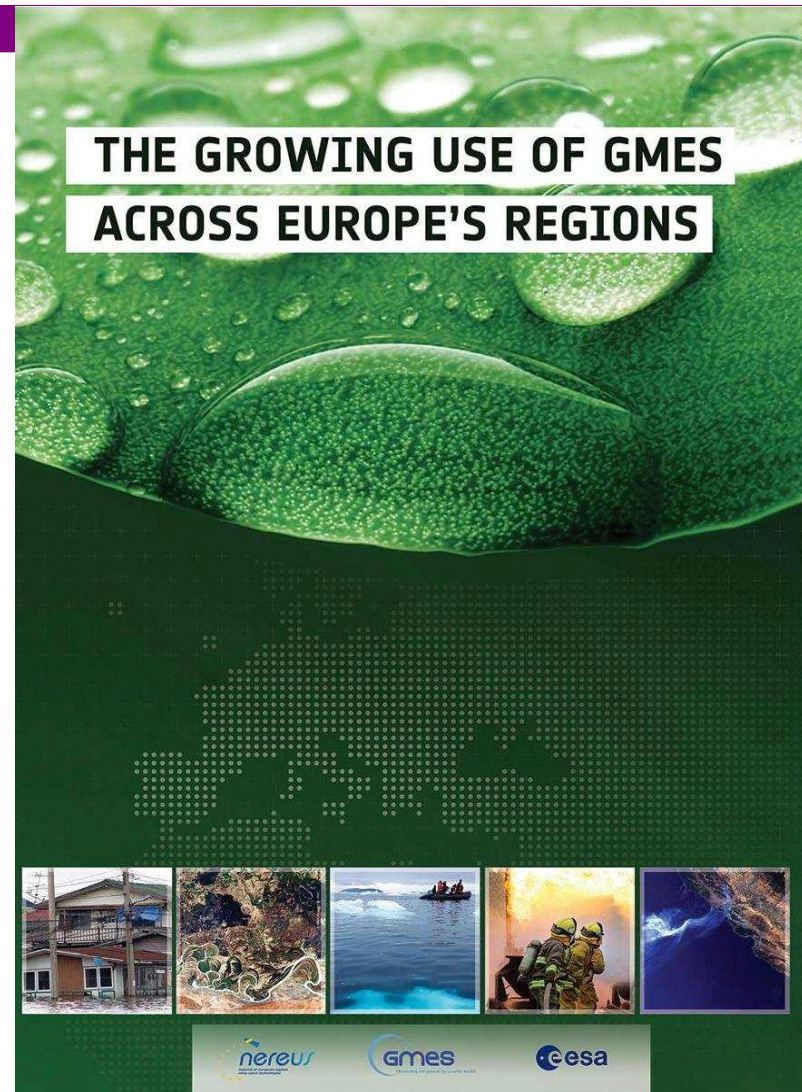


# Plattform bringen together End-user and Service provider



# First NEREUS/ESA-cooperation (1)

- Collection of regional Copernicus uses (joint NEREUS/ESA publication)
- Through a call for articles project team gathered 67 regional GMES-uses from 47 different regions covering 17 Member States
- Reference book for policy makers to understand the social and economic benefits of Copernicus uses in Europe





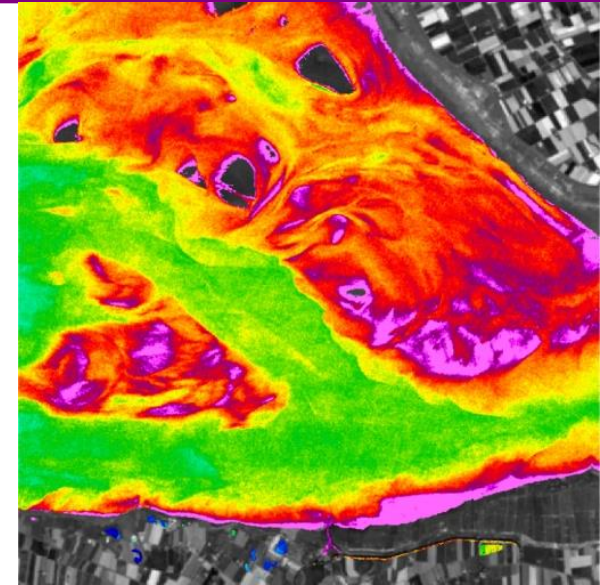
## First NEREUS/ESA-cooperation (2)

- Objectives had been to demonstrate to a non-technical audience the added value of Copernicus uses by portraying cases where Copernicus contributed to better informed decision making, better deployment of available resources, cost- and energy savings, more precision etc
- Benefits for the citizen key criteria
- In which areas are Copernicus uses relevant for regions?

# First NEREUS/ESA-cooperation (3)

Using Copernicus data for environmental purposes and Crisis Management were identified as areas of significant importance to regions:

- Crisis Management - 9 articles: Forest Fires; Flood Management, Earth Quakes: Copernicus data contributes to supporting the rescue service responding to various natural and manmade disasters; identifying risks to buildings and bridges from subsidence, oil spills, rapid response to forest fires.)



Suspended matter content of the river Elbe. The dynamic and varying concentration can be highlighted

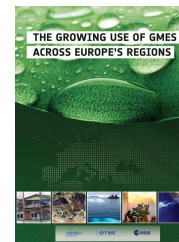
# First NEREUS/ESA-cooperation (4)

Using Copernicus data to monitor

- Water Quality was identified as an important area (5 articles: Andalusia, Bavaria, Flanders/Wallonia/Bxl-Capital, Brittany, Balaton Lake)
- The Balaton Limnological Institute used satellite imagery and highlighted in its article that Sentinel data will support the initiative by providing high-resolution data
- Air Pollution from traffic and industry/Air Quality is of high relevance for many regions (4 articles: East Midlands, Lombardy/Emilia-Romagna, Tuscany)
- Agriculture/Forestry
- Managing coastlines

# Advocacy for regional space uses

- NEREUS invited **end-user representatives** to join a Parliament Debate and festive launch event of NEREUS/ESA-GMES-publication on 10/10/2012
- Among the invited speakers ESA-Director Volker Liebig, MEP Glante, Prodi, A. Patriciello, Head of EC-GMES-Bureau Schulte-Braucks, Prof. Wells
- 114 registered participants
- Covered on ESA-website and more info on NEREUS-website



# Lessons learnt

- Numerous examples are already available to demonstrate that Copernicus is an important tool to contribute to better informed decision making, more effective deployment of resources and long term planning and decision making
- Space community and service provider need to communicate more effectively with non-specialist audience, more focused on solutions, benefits etc.
- Potential end-user better defined and approached
- Dialogue/interaction between LRA and service-provider needs to be enhanced
- More knowledge and information about needs of LRA's is needed

# Next NEREUS/ESA-Initiative

***“Improving Copernicus take-up among Local and Regional Authorities via dedicated thematic workshops” -***

Launching a dialogue between local and regional authorities (LRA) to collect information and learn more about their specific needs and the obstacles/roadblocks for deployment of Copernicus Services

# Online Consultation of Local & Regional Authorities (LRAs)

## ➤ Who?

(...public institutions with legal personality, component of the State structure, below the level of central government and accountable to citizens. Local Authorities are usually composed of a deliberative or policy-making body (council or assembly) and an executive body (the Mayor or other executive officer), directly or indirectly elected or selected at local level. The term encompasses different tiers of government, e.g. villages, municipalities, districts, counties, provinces, regions, etc. Local and regional authorities are also responsible bodies in charge of certain public policies of managerial tasks of territory management e.g. Port Authorities, Environment agencies etc.)COM (2013) 280 final

- Duration: 8 months (24/4/14 to 15/12/14)
- Online questionnaire in English, French, German, Italian and Polish to identify LRA's areas of interest, success & problems in the use of EO, in particular Copernicus data



# Responses by LRAs

- LRAs had to select max. 3 topics from 12 proposed topics and respond to some general questions (max. 5 min.)
  - In total, 256 responses received but not all were valid: **175 valid responses** came from LRAs in **60 regions** spread across **13 European countries**
  - The online consultation was not a comprehensive survey but influenced by the following factors:
    - Languages, Networks, NEREUS Membership, Communication channels, Previous awareness/involvement of regions in Copernicus
- ⇒ The analysis provides a snapshot of local and regional interests in Europe.



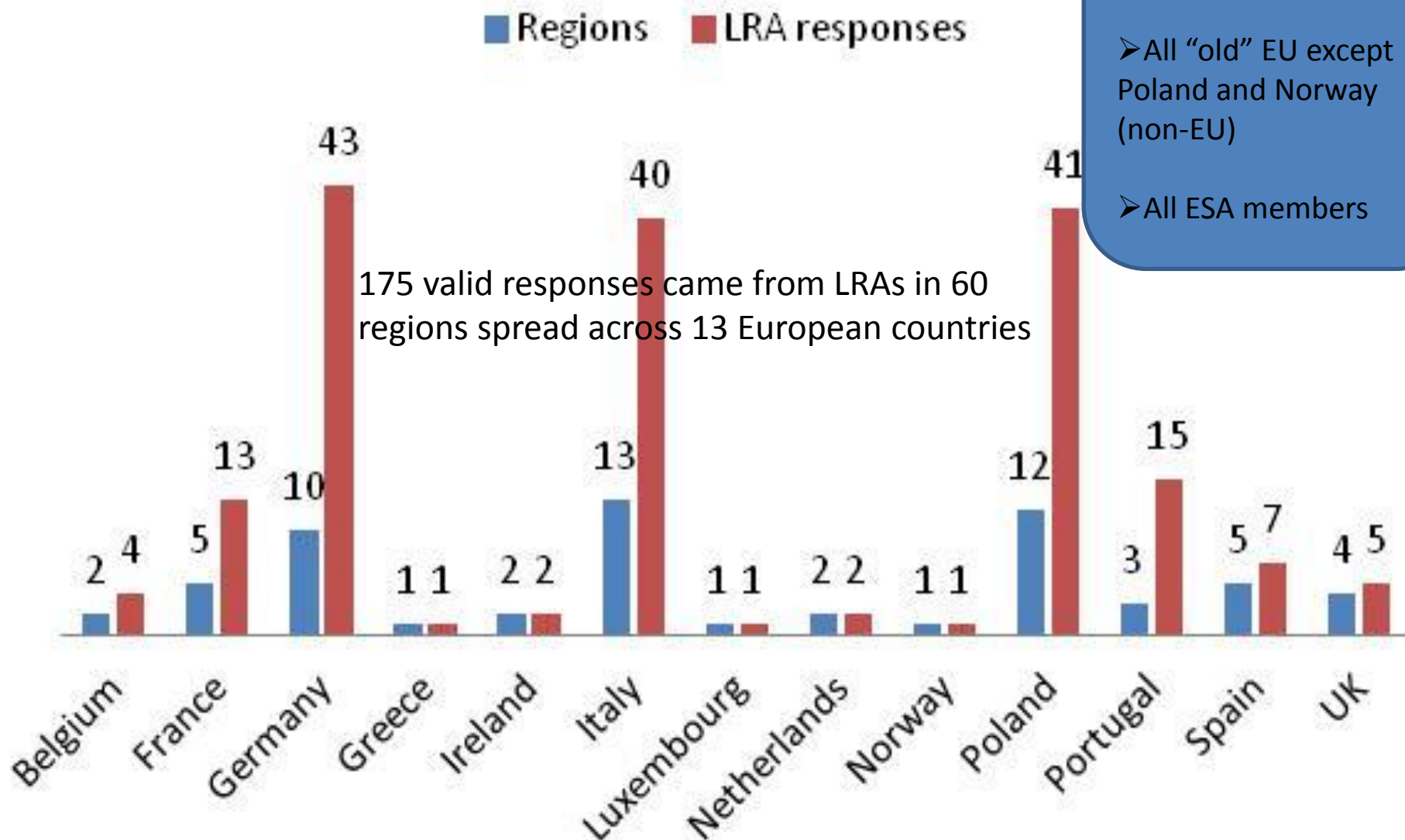
# Geographic Spread

➤ Most LRA responses from Germany, Italy & Poland then France and Portugal

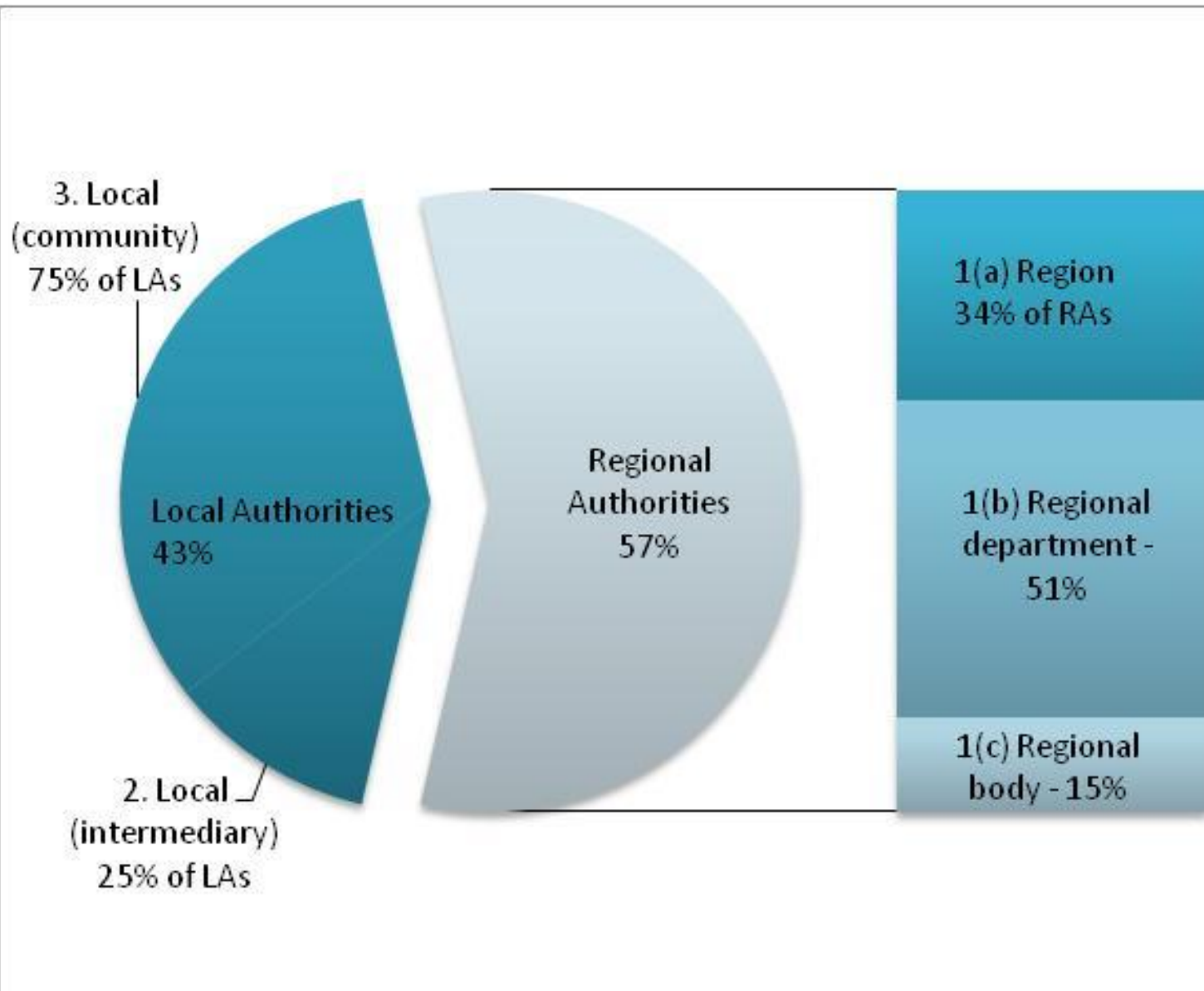
➤ All “old” EU except Poland and Norway (non-EU)

➤ All ESA members

175 valid responses came from LRAs in 60 regions spread across 13 European countries

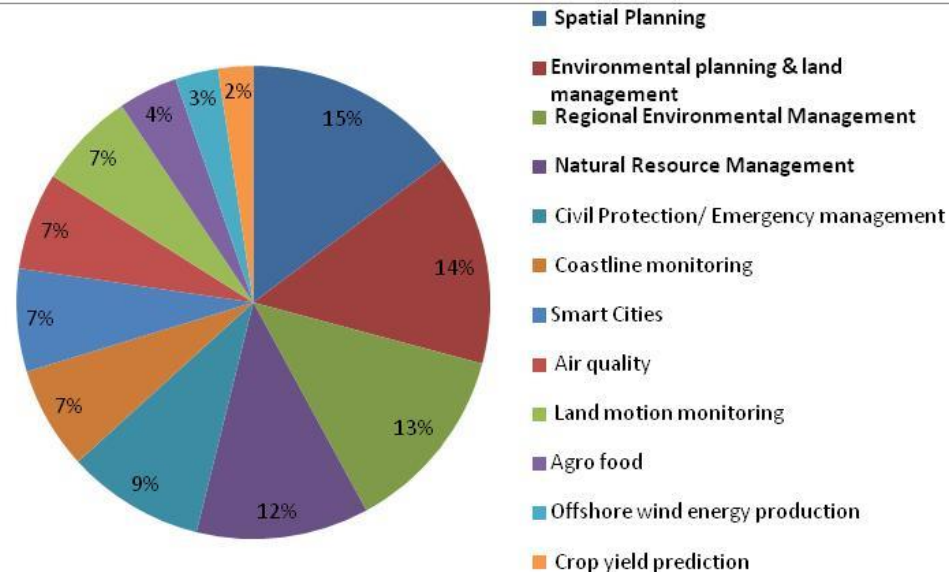


# Types of LRA in the sample



# Part 1: Topics of Regional Interest

| Topic                                    | Number of times selected by LRAs |
|------------------------------------------|----------------------------------|
| Spatial Planning                         | 80                               |
| Environmental Planning & Land Management | 78                               |
| Regional Environmental Management        | 70                               |
| Natural Resource Management              | 64                               |
| Civil Protection/ Emergency Management   | 51                               |
| Coastline Monitoring                     | 38                               |
| Smart Cities                             | 38                               |
| Air Quality                              | 36                               |
| Land Motion Monitoring                   | 36                               |
| Agro Food                                | 22                               |
| Offshore Wind Energy Production          | 16                               |
| Crop Yield Prediction                    | 13                               |
| Crop Yield Prediction                    | 13                               |



➤ First 4 topics > 50% of responses

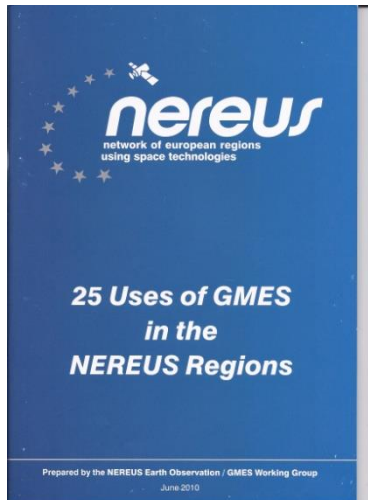
➤ Last 3 topics < 10%

➤ All other topics account for 7% each (9% Civil Protection/Emergency man.)

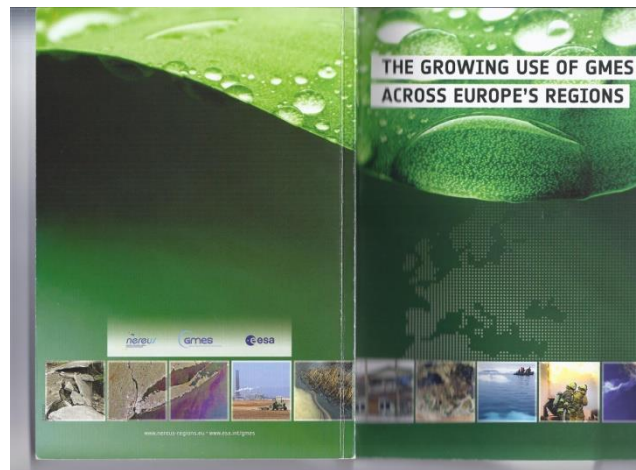
## Part 2: Copernicus Awareness

- Smaller sample for this optional part (<50%)
- >70% had heard of the Copernicus programme
- 30% use Copernicus/EO services (either operationally or experimentally)
- 69% were unaware of Copernicus/EO services in their region
- Most responses came from Germany followed by Italy
- However, amongst other countries, a relatively high # of Polish LRAs answered Q1&2 and indicated much less awareness and use of Copernicus than Germany/Italy.

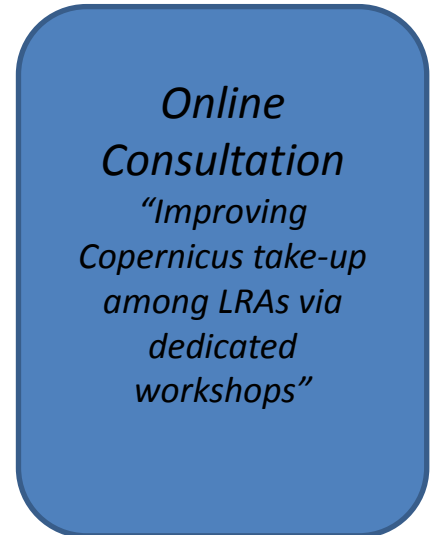
# Previous ESA/NEREUS publications



2010, Nereus  
25 applications  
17 Regions



2012, NEREUS/ESA  
67 applications  
47 Regions



2015, NEREUS/ESA  
12 topics/175 LRAs  
60 Regions

# Comparison with previous publications

## Previous Publications

Open call for EO based applications & services developed or used in the region

- Commercial Service Providers
- Research Institutes
- LRA users
- Other users (inter-regional, national, commercial, research)

## Methodology

## Online Consultation

LRAs asked to choose from 12 general, thematic topics of interest in their region

## Stakeholder Sample

- LRA users
- LRA potential users

# Conclusions on Regional Interests

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- Online consultation has contacted LRAs (users) – some using EO data but some with no experience *whereas* previous publications contain applications authored by EO community (service provider/research organisation/region)
- For all 12 topics, more regions expressed an interest than indicated by previous publications
- As before, the largest area of interest remains land with significant interest in marine and emergency services as well as atmosphere (air quality)

# Selected NEREUS/ESA-Workshops

- 28th September 2015 – “***The use of sentinel data for supporting land and marine spatial planning and management – specificities of small oceanic islands***” – hosted by Azores in cooperation with Bremen.
- 20th October 2015 – Workshop “***Copernicus satellites as “sentinels” of environmental and economical changes: Trip from Mountains to Valley***” hosted by Lombardy region in Milan around Expo2015.
- ⇒ 12th November 2015 – Workshop “***Natural Resource Management using Copernicus’ Data and Services***” hosted by Bavaria in cooperation with Wallonia. –

YOU ARE VERY WELCOME TO JOIN!!!!



# Next Steps

⇒ NEREUS/ESA plan for June 2016 large political event to present project's outcomes to a political audience

You are welcome to join!

Thank you for your attention

# Why regions?

## **Regions in their institutional role:**

- large end-user group
- thus key market for space based data and services
- Regions need Copernicus data to comply with current EU-environmental legislation, to implement wide range of EU-Directives e.g. EU-Air Quality Directives, Ground Water Directive, INSPIRE etc.

## **Regions as a fertile ground to develop space applications**

- Regions are the closest level to the European citizen
- Regions host different institutional player and different economic and business communities (non-space sector and space sector)
- Regions support and host innovation stimulating structures (such as business parks, clusters, networks, etc.)