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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 towards GEOSS

As a result of WP2: "Inventory of capacities and user needs" a network of activities has been developed by GEO-CRADLE Partners in order to derive a concrete first picture of the current EO-status capacities.

GEO-CRADLE Survey was the key tool for the collection of information about the EO-capacities (Space-borne; Ground-based & In-situ monitoring networks & facilities; and Modelling & Computing Processing capacities) of the RoI, eg. Balkans, North Africa and Middle East. Past projects such as BalkanGEONet, and thorough desk research were also sources of valuable information.
Furthermore, user need analysis has been conducted through the GEO-CRADLE Survey, end-users interviews and the user-dedicated session of GEO-CRADLE Workshop in Novi Sad (Day 1, Part 1). At the workshop, the conclusions of WP2 were presented, the shortcomings were underlined and actions were scheduled in order to move on from the collection of necessary information for the construction of the inventories to the gap analysis and identification of maturity level of the country-partners; actions to address the main objectives of WP3.

The rest of this document presents the achievements of WP2, the shortcomings and future plans to successfully step in WP3. To that end, the following steps were followed:

1. WP2 Task Leaders were in contact with **each partner** and Regional Coordinators to identify and classify ***Raw Data Providers***, ***Value Adders or Intermediate Users*** and ***End Users*** among:
    - *Public and private large and Small-Medium (SM) enterprises*
    - *National/Regional/Local institutions*
    - *Start-ups*
    - Public and Private Research Institutes

Respectively for **Space-borne infrastructure**, **In-situ networks, and Modeling and computing facilities.** The total number of contacts collected has been of **496**.

2. In relation to the KAs identified in the first step:
   - for tasks **T2.1, T2.2, T2.3** an **ad-hoc ON LINE questionnaire** (see Figure 1) containing a combination of the specific questions has been disseminated to each KAs identified by the STEP 1;

- for **T2.4** a set of prefixed questions has been prepared for **personal interview** to value adders and end-users.

The **total number of Organizations** which filled in the survey until 10th June, 2016 was **160**. Figure 2 presents the number of Organizations categorized by Region of Interest (RoI).

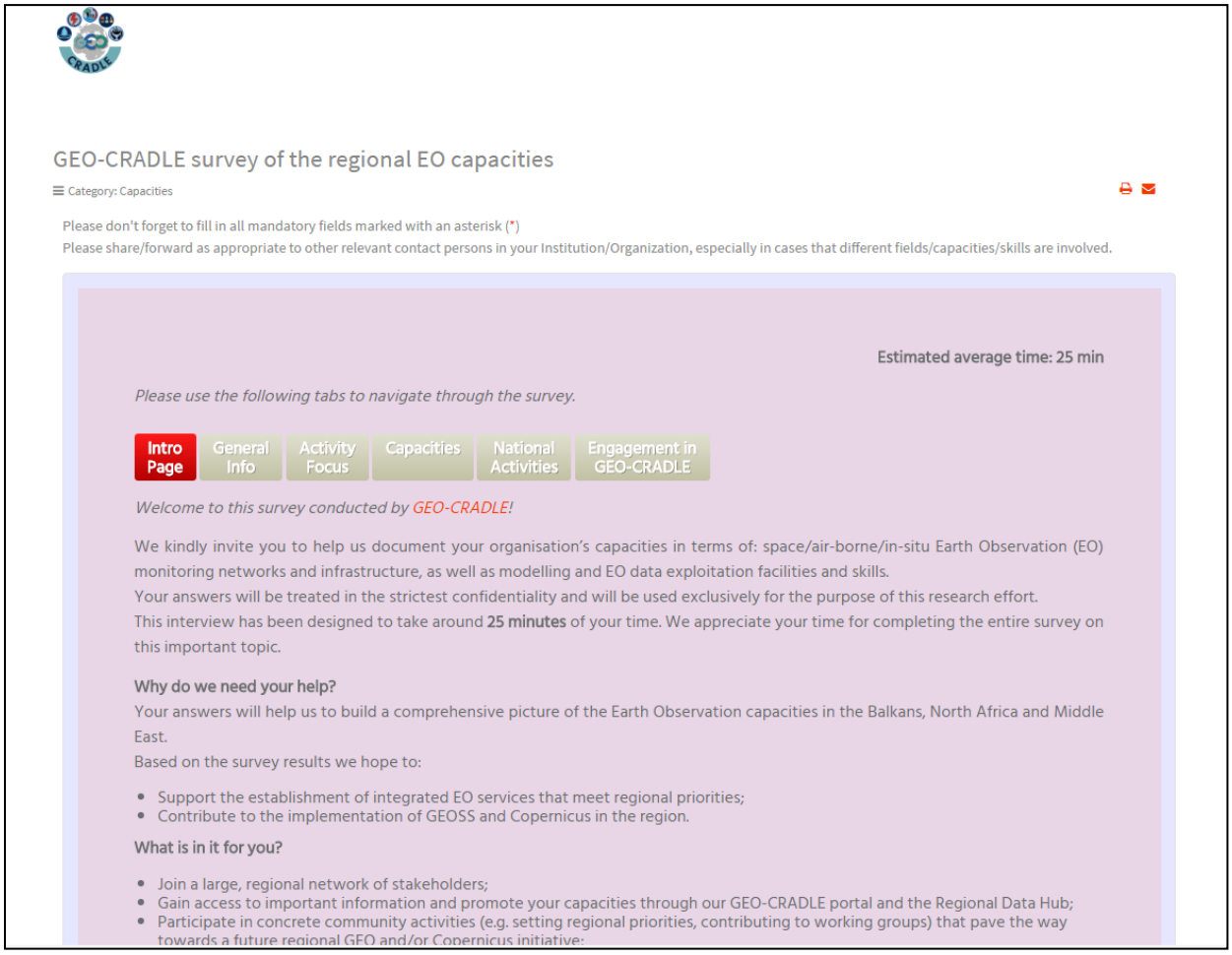

Figure 1: The 5 sections of the GEO-CRADLE survey: General Info, Activity Focus, Capacities, National Activities, Engagement in GEO-CRADLE

REGION	Nº OF ORGANISATIONS
Balkans	97
MENA (Middle East & North Africa)	57
Other country	6
TOTAL	**160**

Figure 2: Number of organisations that filled in the survey, presented by region

T 2.1 Space-borne capacities

Scope:

- thoroughly mapping of the regional capacities with regards to existing **EO Payload Data Ground Segments** and **related satellite missions** within a combined inventory;
- **consolidation of the data, products and services provided by the existing Ground Segments** in a dedicated database along with their metadata identifiers.

The **total number of answers** within the capacity of "Space-borne capacities (EO satellites, Ground Segment (GS), EO satellite acquisition stations & antennas, Mirror sites of GSs, Core GSs, etc)" as of the 10th of June 2016 was **25** coming from **12** countries (see Figure 3).

REGION	COUNTRY		N° OF ANSWERS TO THE SURVEY	
BALKANS	AL	Albania	1	**14**
	BA	Bosnia and Herzegovina	0	
	BG	Bulgaria	1	
	HR	Croatia	0	
	GR	Greece	4	
	MK	F.Y.R.O.M.	1	
	ME	Montenegro	2	
	RO	Romania	4	
	RS	Serbia	1	
	SI	Slovenia	0	
MENA	CY	Cyprus	1	**10**
	EG	Egypt	2	
	JO	Jordan	0	
	MA	Morocco	0	
	TN	Tunisia	2	
	TR	Turkey	5	
OTHER	FR	France	0	**1**
	IT	Italy	1	
	PL	Poland	0	
	ES	Spain	0	
	CH	Switzerland	0	
TOTAL			**25**	**25**

Figure 3: Organisations that filled in the survey and are related to Space-borne capacities (EO satellites, Ground Segment (GS), EO satellite acquisition stations & antennas, Mirror sites of GSs, etc).

T 2.2 Ground-based/In-situ monitoring networks/facilities

Scope:

- to develop an inventory of the available in-situ infrastructure and networks in the RoI
- to determine their status and needs, targeting the collection and harmonization of the existing inter-disciplinary datasets
- To support the efforts towards the integration of the fragmented environmental in-situ sensors available in the RoI.

The **total number of answers** within the capacity of "Ground-based/In-situ monitoring networks/facilities" until 10th of June 2016 was **62** coming from **16** countries (see Figure 4).

REGION	COUNTRY		N° OF ANSWERS TO THE SURVEY	
BALKANS	AL	Albania	2	44
	BA	Bosnia and Herzegovina	1	
	BG	Bulgaria	4	
	HR	Croatia	0	
	GR	Greece	15	
	MK	F.Y.R.O.M.	1	
	ME	Montenegro	3	
	RO	Romania	8	
	RS	Serbia	9	
	SI	Slovenia	1	
MENA	CY	Cyprus	6	15
	EG	Egypt	3	
	JO	Jordan	2	
	MA	Morocco	0	
	TN	Tunisia	1	
	TR	Turkey	3	
OTHER	FR	France	0	3
	IT	Italy	0	
	PL	Poland	1	
	ES	Spain	0	
	CH	Switzerland	2	
TOTAL			62	62

Figure 4: Organisations that filled in the survey and are related to Ground-based/In-situ monitoring networks/facilities.

T2.3 Modelling and computing processing capacities

Scope:

- to develop an inventory of the available numerical modelling activities and computing capacities in the RoI;
- to determine their status and needs;
- to support the efforts towards the integration of the modelling and computing processing capacities in the RoI.

The **total number of answers** within the "Modelling and computing processing capacities" as of the 14th of June 2016 were **59** coming from **16 countries** and **52 institutions** (see Figure 5).

REGION	COUNTRY		N° OF ANSWERS TO THE SURVEY	
BALKANS	AL	Albania	0	37
	BA	Bosnia and Herzegovina	5	
	BG	Bulgaria	2	
	HR	Croatia	0	
	GR	Greece	11	
	MK	F.Y.R.O.M.	2	
	ME	Montenegro	1	
	RO	Romania	5	
	RS	Serbia	10	
	SI	Slovenia	1	
MENA	CY	Cyprus	5	20
	EG	Egypt	5	
	JO	Jordan	1	
	MA	Morocco	2	
	TN	Tunisia	2	
	TR	Turkey	5	
OTHER	FR	France	1	2
	IT	Italy	0	
	PL	Poland	0	
	ES	Spain	1	
	CH	Switzerland	0	
TOTAL			59	59

Figure 5: Organisations that filled in the survey and are related to Modelling and computing processing capacities.

T2.4 User Need Analysis

Scope:

- Definitions of "end-users", "intermediate users" and "value-added chain" taking into account the perspective of the project partners.
- Stakeholder mapping: the value-added chain (raw data providers > intermediate users/service providers > end-users)
- Needs survey

The **numbers of interviews per country** conducted for the user need analysis are shown in Figure 6.

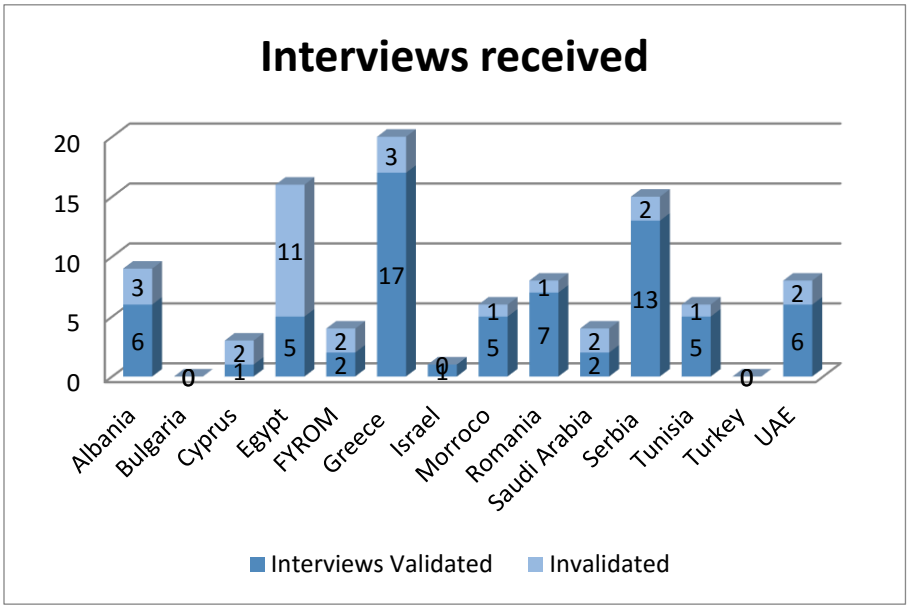

Figure 6: Interviews received per country, validated and invalidated.

General Conclusions of T2.4:

- In countries where analysis was done thoroughly it is easier to identify structures of networks, patterns and synergies in data use.
- Missing interviews: still necessary. Focus on commercial sector and raw materials.
- Gap analysis could take eg. of info needs as a starting point for identifying value-adding chain.
- Serbia, Romania, Greece, Tunisia are strong candidates for pilots, if necessary.

To sum up, WP2 is still on until a small number of country–partners provide a concrete picture of their facilities. This is scheduled to be completed until the middle of September 2016. GEO-CRADLE will complete the creation of the respective inventories for each country of the RoI and provide the input for WP3. The main objectives of the latter are the conduction of a thorough gap analysis, the mapping of the user needs collected in T2.4 against the accurate picture of existing EO capacities obtained through the inventories in T2.1/2.2/2.3; the formulation of a set of maturity indicators pertaining to the level of progress of each country vis-à-vis the implementation of GEO and Copernicus vision and allowing monitoring of the project's impact with regards to raising this level during and after the project's lifetime. Finally, it will define the priorities related to regional challenges using the outputs of the previous two steps and devise an action plan to tackle them.