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NI4OS-Europe

National Initiatives for Open Science in Europe

Deliverable D2.1
Stakeholder map, inventory, policy matrix

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Abstract: Deliverable D2.1 – Stakeholder map, inventory, policy matrix – explains the design of the landscaping study aimed at mapping the existing Open Science initiatives, infrastructures, services, policies, stakeholders and topics in the partner countries. The description of the methodology, designing and implementation of the survey is accompanied with an initial mapping and a preliminary inventory of infrastructures and services and a policy matrix.

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ATHENA RC	Beneficiary	Greece
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30th December 2019	d	Biljana Kosanović, Milica Ševkušić	Corrections according Partners' suggestions

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List of Acronyms

OS	Open Science
WP	Work Package
EOSC	European Open Science Cloud
EU	European Union
EUA	European University Association
FAIR	Findable, Accessible, Interoperable, Reusable
HEI	Higher Education Institution
SME	Small and Medium Enterprise
DPO	Data Protection Officer

Executive summary

What is the focus of this Deliverable?

The deliverable presents the design, implementation and the initial aggregated quantitative results of the landscaping activity. In order to collect information about Open Science initiatives, infrastructures, services, policies, stakeholders and topics in the 15 partner countries, a survey was designed and conducted. The purpose of the survey is to provide an insight into the local capacities and needs, in line with the objectives of WP2, but also to contribute to the final mapping in the overall EOSC Landscape Activity within the EOSC implementation timeline.

What is next in the process to deliver the NI4OS-Europe results?

This activity is relevant at multiple levels. In the context of WP2, the collected information will be used in designing tailored support actions in terms of policies, training, infrastructure and service development, i.e. it is expected to provide input to other activities within WP2, such as creating an inventory of OS initiatives, policies and topics; providing support for national OS initiative and roadmaps, policymakers, etc. In the context of the NI4OS-Europe project, it is expected to provide information to and facilitate the implementation of tasks within other WPs.

What are the deliverable contents?

The deliverable describes the context of the NI4OS-Europe landscaping activity, the process of devising a research strategy (cross-section survey targeting a strategic sample), designing the research instrument (online questionnaire) relying on the qualitative mapping of stakeholders and topics, and implementing the research. It also presents the initial quantitative analysis of collected information and a tentative infrastructure and service inventory and a policy matrix based on survey responses.

Conclusions and recommendations

This deliverable offers an initial mapping of OS-related stakeholders, infrastructures, services and policies in the partner countries at the beginning of the project. This initial mapping will be useful in tailoring further project activities. Although it does not provide a complete and in-depth insight into the mapped landscape, the results of the analysis will indicate the areas where additional insights are needed. A comparison with the landscaping results of the other INFRAEOSC-5b projects and the overall EOSC Landscape study are expected to offer additional information.

1. Introduction

The NI4OS-Europe project seeks to build the local, national and regional capacities by

- supporting the development and inclusion of Open Science initiatives in the 15 partner countries in the overall scheme of EOSC governance;
- facilitating the adoption of FAIR principles through training;
- providing technical and policy support in on-boarding the existing and future service providers into EOSC.[1]

In order to achieve this, it is necessary to map the existing Open Science initiatives, infrastructures, services, policies, stakeholders and topics in each of the partner countries at the start of the project. This activity is relevant at multiple levels. In the context of WP2, the collected information will be used in designing tailored support actions in terms of policies, training, infrastructure and service development, i.e. it is expected to provide input to other activities within this WP, such as creating an inventory of OS initiatives, policies and topics; providing support for national OS initiative and roadmaps, policymakers, etc. [1]. In the context of the NI4OS-Europe project, it is expected to facilitate the implementation of tasks within other WPs and serve as a reference point in measuring the progress achieved and impact made during the project. This activity is also relevant in the context of the EOSC Landscape Activity, where the revised final mapping will include the input by the INFRAEOSC-5b cluster of projects [2] launched in September 2019, which largely share similar aims, while seeking to accomplish them in different parts of Europe. All of the five projects will conduct landscaping activities in a coordinated manner and their inputs will be aggregated and analyzed by an expert hired by the EOSC Secretariat and used by the EOSC Landscape WG [3]. In parallel with the landscaping activity in NI4OS-Europe, the T2.1 task leader was involved in the activities of the EOSC Landscape WG.

This report deals with the processes of designing and conducting the survey that was used to collect relevant information in the 15 partner countries. The activities were launched in June 2019, before the start of the project. The first stage – the preparation of the survey – involved the defining of the domain of research, the selection of the research strategy, the identification of stakeholders, the designing of the questionnaires and setting up the online survey. The survey was launched on 21 October 2019 and was to be closed on 25 November. The deadline was eventually extended until 10 December in order to align this activity with the landscaping activities of the other INFRAEOSC-5b projects. Due to this, the report does not include a detailed analysis of the collected responses but offers only general information about the structure of the collected responses and the initial mapping of infrastructures and services and a policy matrix based on the responses. Another reason why it has been decided not to include the full range of roughly processed data in the present report is the fact that some preliminary results will be included in deliverables produced by other WPs.[1] A detailed analysis of results per stakeholder category will be prepared in later stages of the project and the analyses will be incorporated into the OpenAIRE Graph. Presenting the results in a publication will also be considered.

[1] Raw data have been delivered to WP leaders upon their request

2. Methodology

2.1. Research design

The picture of the OS landscape in the 15 partner countries that we had before the start of the project was highly inaccurate and not necessarily evidence-based. The partner countries include EU Members and Associated Countries. For the countries covered by surveys conducted by EU bodies and organizations or those already involved in OS-related EU projects some information was available in reports or on the project websites. Nevertheless, this information was scattered, and it sometimes belongs to contexts and timeframes that are not mutually comparable. For countries not covered by European surveys and projects, practically no information was available. Therefore, an initial mapping of the state-of-the-art in the countries covered by the landscaping study was a necessary precondition for any further action.

In order to outline an initial mapping and make it possible to assess the gap and differences among partner countries, it was necessary to collect information. The domains in which information should be collected are largely determined by the scope of the project and the EOSC Landscape Activity, and they include the following:

- Stakeholders, as the bearers of initiatives, policies and infrastructure
- OS policies (rules, incentives, FAIR compliance, rights)
- Infrastructure (services, research infrastructures, e-infrastructures)
- EOSC technical readiness and
- EOSC awareness.

As demonstrated by various landscaping studies conducted by EU bodies, non-governmental organizations and projects, different strategies may be taken when conducting this type of research:

1. in-breadth survey, seeking to collect information from a large number of respondents; the collected responses are subject to quantitative processing and the information obtained through this process is then subject to qualitative analysis;
2. comparative in-depth case study, where responses are collected through interviews or data collection templates by targeting a strategic sample of respondents (in most cases local experts, national contact points, representatives of relevant institutions, etc.); the collected information is then subject to a qualitative analysis;
3. desk research relying on the existing materials (reports and literature, policy and repository registries, service catalogues, etc.)[4].

While some studies use a single approach,[2] approaches may sometimes be combined.[3]

[2] The EUA's conducted several cross sectional surveys on FAIR policies, practices and training within the FAIRsFAIR project [5]. The OPERAS Landscape Study used desk research [6] and the OPERAS Usage surveys on Open Access [7] collected data using an online questionnaire. However, both studies were part of a design study that combined different approaches. EUA's annual reports on Open Access are based on the results of surveys which target institutions and solicit one response per institution.

[3] For example in the International Landscape Study of Research and Innovation System, the comparative case study approach was combined with desk research [8]. In the European Landscape

Due to their in-breadth character, surveys enable researchers to collect many responses and to analyze them statistically. They may also serve as a good starting point for qualitative research, because results sometimes indicate domains where additional research, using different strategies, is required or possible. This was the main line of reasoning when selecting the research strategy for the NI4OS-Europe landscaping study.

Comparative case studies or desk research could not have provided sufficient and comparable information for all partner countries. Interviews with selected experts would have been useful, especially in mapping policies, but it would have been difficult to identify relevant experts in all partner countries who could cover all of the topics. The information available in policy and repository registries is limited. For example, Registry of Open Access Repository Mandates and Policies (ROARMAP) lists 41 policies in the countries covered by the landscaping study.[4] However, out of 11 policies in Serbia, two are incorrectly registered as policies of research and funding organizations (and are, in fact, journal policies), while four recently registered policies are not yet visible. Out of five policy records for Greece two institutions seem to have no policy (a link to the policy is missing and policy terms are not specified). Many hyperlinks to policies (and even repositories and institutions) are dead. As for the countries with no policies (according to ROARMAP), it is impossible to say whether the information is missing because there are no policies or because their makers are not aware of ROARMAP. Furthermore, policies are described using the predefined form in ROARMAP, which is insufficiently granular, while the policy text is usually provided in the local language. Repository registries (OpenDOAR, ROAR) and aggregators (BASE, CORE) offer a similarly inaccurate picture. The data repository registry re3data lists data repositories from Bosnia and Herzegovina, Croatia, Greece, Hungary, Romania and Slovenia. However, one of the repositories is incorrectly associated with Bosnia and Herzegovina, instead of Serbia. As for other countries, it is unknown whether there are no data repositories or they are simply not registered. The analysis of the existing studies, reports or publications cannot provide sufficient and comparable information because their scope and methodology are different and they do not cover all of the countries analyzed in this report.[5]

It was only through survey that the full range of topics could have been covered and that relevant information could be collected in all countries at the same time point. The collected results were to be subjected to statistical analysis. The survey targeted a strategic sample, i.e. selected local stakeholders identified by project partners. Although the “units” for the analysis were organizations, the survey also targeted individuals (e.g. OS facilitators and individual researchers). The process of identifying stakeholders and classifying them into five groups was a major challenge and it is explained in greater detail under 3.1. A questionnaire was prepared for each of the five stakeholder groups. The

Study of Research Data Management: SIM4RDM, the responses collected in a survey were enriched through interviews [9].

[4] 11 in Serbia, 9 in Moldova, 8 in Slovenia, 5 in Greece, 4 in Hungary, 2 in Croatia, 1 in Bulgaria and 1 in Romania.

[5] For example EUA’s 2017/2018 Annual Report on Open Access lacks data for Albania, Bulgaria, Georgia, Moldova and Montenegro [10]. Furthermore, the survey covers only universities. SPARC Europe’s latest analysis of Open Data and Open Science covers only Bulgaria, Croatia, Cyprus, Hungary, Greece, Romania, Serbia, Slovenia [11]. The Report on the implementation of Commission Recommendation C(2012) 4890, does not cover Armenia, Georgia and Moldova [12].

process of formulating questions and questionnaires is explained under 3.2. In both activities qualitative mapping was used as the main approach.

2.2. Research strategy

A cross-sectional survey was used to collect information by targeting a strategic sample of respondents. The sample included selected stakeholders divided into five groups. It took the form of an online questionnaire powered by the LimeSurvey software (https://www.limesurvey.org/). The survey could be access through the project website: https://ni4os.eu/survey/. It was launched on 21 October 2019 and was to run until 25 November 2019. The deadline was eventually extended for additional two weeks, until 10 December 2019.

The survey language was English as the responses were collected in the same form and the aggregated data were analyzed centrally by an international team. Closed questions prevailed in the survey, though it included a number of open-ended and triggered questions. The majority of questions were mandatory to ensure that important issues were not skipped.

Participation in the survey was by invitation. Invitations were sent by contact points in each partner country to the identified stakeholders. A model invitation letter was provided by the T2.1 team, with the suggestion that it be translated into local languages and modified by the contact points appointed by project partners. The link to the online survey was distributed with the invitation and posted on the NI4OS-Europe website. However, no (technical) measures were taken to prevent non-invited/random individuals to participate in the survey. Several online meetings and one webinar were organized to provide support to the local contact points. Throughout the survey, they were regularly updated on the progress, in case they wished to take additional actions towards recruiting responses.

The survey was anonymous and no personal information was collected. The survey principally targeted organizations. Although individuals were also invited to respond, their identity was not relevant for the landscaping activity. Respondents were only required to state their country, organization and role. All invitations were handled by contact points in partner countries, due to which there was no need for the T2.1 team to collect e-mails.

When the survey was closed, the responses were exported from LimeSurvey and subjected to quantitative statistical analysis. Raw data were also delivered to project partners, upon their request.

3. Activities

Although the project was officially launched on 1 September 2019, the preparation of the landscaping study had been undertaken already in June 2019. The EOSC-Pillar project (and the landscaping activity within this project) was launched in June 2019 and it was believed at that time that the EOSC Landscape WG would exploit the data collected in the five INFRAEOSC-5b projects already for the initial mapping.[6] Although the idea was later abandoned,[7] the landscaping activities continued before the official launching of the NI4OS-Europe project.[8]

This section covers the preparation of the survey and its launching, as well as the monitoring of the data collection process.

3.1. Mapping stakeholders

Once the research strategy was defined, it was necessary to identify local stakeholders who would provide responses. Potential groups of stakeholders were indicated already in the project proposal: researchers, research performing organizations, policymakers, public sector, funders, innovation agencies, local businesses [1]. Nevertheless, refining the stakeholder groups was a major challenge for several reasons: (1) the situation in the partner countries varied significantly, (2) there was an information gap in certain partner countries due to the fragmented local scenery (3) the overall scheme had to be comparable to the classifications used by other INFRAEOSC-5b projects aligning to the EOSC Landscape actions. Nevertheless, this activity was undertaken already in June 2019, and at the time, the EOSC Landscape WG specifications were in an initial stage.

Due to the aforementioned reasons, the activity fully relied on the input from project partners: contact points in each partner country were to compile lists of stakeholders classified into groups, as defined by the T2.1 team. The classification into five groups based on the **role** of actors in OS was defined already at this stage and was basically the same as the final classification, the only differences being the descriptions of the groups and the explicit reference to policymakers in the final classification. The stakeholders were grouped as follows:

1. **Funders and policymakers – FUND**: the actors who fund research and, most commonly, shape research-related policies, including:
   - Public sector research funders: government's funding mechanisms supporting national research and innovation strategies and plans;
   - Private sector research funders, i.e. individuals or organizations providing financial support for the creation and continuation of research programmes and initiatives;
2. **The ones who perform research – CREATE**:
   - Research performing organizations:

[6] Coordination among the EOSC Call-5 projects was discussed early in June at the EOSC Jam Session held in Turin: https://www.eoscsecretariat.eu/news-opinion/eosc-jam-session-turin-italy. The session was attended by NI4OS-Europe WP2 representatives.

[7] According to the minutes of the First meeting of the EOSC Landscape WG, the initial mapping was to be carried out without the help of INFRAEOSC-5b projects and was to be completed by the end of September [13].

[8] A detailed list of activities is provided in Annex 1

  - universities and HEIs: public and private sector organizations providing knowledge and education in studies covering all disciplines, from more theoretical to applied and interdisciplinary sciences;
  - research institutes / centres: public and private sector organizations producing new knowledge and technologies aimed at improving professionals' and citizens' life by providing flexible and innovative solutions to everyday need;
- Researchers:
  - individuals (in all stages of their career);
  - research communities: groups of researchers undertaking research activities in domain-specific disciplines;
  - citizen scientists: anyone with direct or indirect participation in citizen science projects/initiatives;
  - data and OS enthusiasts: everyone interested in data and open science trends and developments;

3. **The ones who perform research – SUPPORT:**
   - Repositories;
   - Research infrastructures, i.e. vertical infrastructures, are facilities, resources and services dedicated to domain-specific studies for use by relevant research communities;
   - e-Infrastructures, i.e. horizontal infrastructures, are domain-agnostic facilities, resources and services adopted and utilized by a wider range of researchers;
   - Service providers;
   - Libraries, esp. academic and research libraries;
4. **The ones who "consume" research – CONSUME:**
   - SMEs, i.e. small and medium-sized start-ups and other companies which could benefit from the use of open technologies and open data in creating new products and new technologies;
   - Citizens: the public; people who are legally part of countries' population;
5. **OS facilitators (including OS initiatives) – FACILITATE**: including international nodes, coordinators and other structures; every beneficiary representing European or national initiatives for OS with an aim to inspire and support OS policies and practices nationally and their alignment with EU.

Still, the process of defining stakeholder groups involved discussion. The most common issues raised were whether research performing organizations and service providers should be subgroups within the same group, or whether research supporting organizations should be divided into multiple groups. Introducing more stakeholder groups would have implied designing more customized questionnaires. As a more diversified classification would have made mapping very difficult in the countries with less developed research infrastructure (both institutional and technical), this approach would have yielded empty stakeholder groups in some countries and, consequently, zero responses. The insight into the first version of the EOSC-Pillar questionnaires (shared with NI4OS-Europe partners in late August 2019) additionally supported the decision to use a simple classification of stakeholders.

Another issue constantly raised until the late stages of survey development was whether funders and policymakers should be in the same group or not. In some countries, funders and policymakers are distinct bodies, whereas in others funders are at the same time

policymakers. Also, universities may be policymakers. It was decided to keep them within the same group of stakeholders because their agency with regard to research was basically similar.

Project partners identified a number of organizations and individuals who performed multiple roles. It was agreed that they should fill out the survey for each role they performed.

The process of compiling stakeholder lists was not straightforward and it extended until October 2019. In August, T2.1 team members were approached by a representative of Turkey with a request to include this country in the NI4OS-Europe survey. After a Skype call with the representative of Turkey, this country got actively involved in the NI4OS-Europe landscaping activity. Nevertheless, close to the end of the survey, Turkey decided to abandon the activities and seek a solution in collaboration with the EOSC Secretariat.

It was also suggested that Kosovo* should join the survey but it was only after much effort and support provided by project partners from North Macedonia that Kosovo* joined the survey (not as a partner country). However, until the end of the survey, no more than three responses were collected, due to which Kosovo* will not be featured in this report.

The contact points in Armenia and Georgia remained unresponsive for long, due to which it was decided to seek help from Iryna Kuchma (Electronic Information for Libraries[9] – EIFL), the Open Access Programme Manager for EIFL who was familiar with the local situations and has direct contacts with organizations and stakeholders from these countries. Several Skype meetings were organized to support this activity and the partners from Armenia and Georgia eventually provided the lists of stakeholders.

3.2. Defining questionnaires: mapping topics

The process of defining survey questions was all but straightforward. The activity was launched in June 2019: WP leaders were invited to suggest questions in their areas of expertise, and this was done with the idea of providing input not only to the NI4OS-Europe landscaping activity but also to those conducted by other INFRAEOSC-5b projects and to the EOSC Landscape study. However, in July 2019, possible hiring of an expert who would design the landscape survey for the five INFRAEOSC-5b projects, in order to avoid duplication of work and ensure good coordination, was discussed at the meeting of EOSC Landscape WG. It was also decided that the mapping template designed by EOSC-Pillar would be circulated among the EOSC Landscape WG and the INFRAEOSC-5b projects [13].

3.2.1. Initial input by WP leaders

During the summer, the input of WP leaders was collected. The number of type of questions varied and the link between the questions and project tasks was obvious. During Skype consultations in July 2019, it was suggested that a balance be made between closed and open-ended questions and that some of the suggested questionnaires were too

[9] https://www.eifl.net/

extensive. The topics identified as relevant and covered in the questions suggested by WP leaders are summarized in Table 2.[10]

WP	Targeted stakeholder group[11]	Main topic	Specific topics	no. of qn.	Comment
WP2	Not specified	General information		3	
		OS services / support	governance models	1	
			OS practices	1	
			OS awareness	2	
			OS support	5	
		OS services / repositories	publications	9	
			data	14	
			software	10	
		OS policies	OA policies, RDM, data preservation, data security, codes of conduct, etc.	9	
WP3	Service providers		service categories	1	
			operational requirements	3	access, maturity, management framework
			service portfolio	multiple	suitable for a case study, optional
	HPC centres	Technical requirements	not defined	-	optional
		Operational requirements	not defined	-	optional
	Pre-production environment		access enabling services and tools	1	optional
WP4	Content providers & service providers	OS awareness	RDM guidelines	1	open-ended
			policies	1	open-ended
			OS-related tools	1	open-ended
			rules and certifications schemes	2	open-ended
			rating OS-related concepts	1	
WP5	Service providers	Services	features	2	
			utilization	2	
			integration potential	1	
			recognized value (publications)	1	
			maintenance effort	1	
	Resource providers	Infrastructure	features	1	
			utilization	2	
			recognized value	1	
	Researchers	Infrastructure	needs and preferences	4	
WP6	Project partners	Case demonstrations	interested user communities	4	open-ended
		Services	documentation	1	open-ended

[10] The mapping was done by abstracting concepts from the lists of questions submitted by WP leaders, relying as much as possible on the classifications suggested by them. This task was not relevant for WP1 and this WP did not provide any input.

[11] WP leaders used different classifications because the final classification of stakeholders was agreed only after this input.

WP	Targeted stakeholder group[11]	Main topic	Specific topics	no. of qn.	Comment
	Service providers		recognized value	1	open-ended
		FAIRness	FAIR	21	for each service
		Thematic services	Domain and description	3	partly open-ended
			readiness level	1+1	
			documentation	1	
			recognized value	1	
	Researchers	Training	needs and interests	2	open-ended

Table 1: Topic mapping in the questions suggested by WP leaders

3.2.2.The first draft

Once the EOSC-Pillar Survey was shared (23 August 2019), it was decided to use it as the starting point for the NI4OS-Europe questionnaire in order to ensure the mutual comparability of the INFRAEOSC-5b projects. The input provided by WP leaders was assessed against the framework set by EOSC-Pillar.[12] The questions that could fit into this framework and complement it were included in the questionnaires. In some cases, the questions were insufficiently clear and additional explanations had to be sought from WP leaders.

Also, each question from the EOSC-Pillar Survey was assessed for relevance for NI4OS-Europe partners. Some of the questions that were included had to be rephrased to adapt to regional stakeholders' needs. A number of questions were reshaped, in most cases merged into matrix questions. Furthermore, a major difference regarding the questions suggested by WP leaders was a strong accent on EOSC in the EOSC-Pillar survey: each questionnaire contained a set of questions seeking to assess respondents' awareness of, readiness for and expectations from EOSC, whereas the NI4OS-Europe WP leaders were more focused on specific project strategy and the reference to EOSC in their questions was implied rather than explicit.

A number of questions from some already published surveys were included as well. The following surveys were used: Policy Mapping Survey by Regional Cooperation Council, EUA's Open Access Survey and the FAIRsFAIR Policy and Practice Survey 2019 [5].

Finally, five questionnaires were defined – one for each stakeholder group. Although they differed in length and scope, some questions were shared across different questionnaires. The questionnaire for funders and policymakers contained 23 questions,[13] for research-performing organizations 49, for research-supporting organizations 59 and for research consuming organizations 45. The questionnaire for OS facilitators included all questions for all stakeholder groups and this unusual approach requires additional clarification. As far as OS facilitators were concerned, it was assessed that the questionnaire had an

[12] The structure of stakeholder groups in the EOSC-Pillar survey was not the same as the one defined in the NI4OS-Europe project. There were four groups: funding bodies, universities, research infrastructures and e-infrastructures. The first two overlapped with the FUND and CREATE groups, whether the third and fourth were contained in the SUPPORT group in the NI4OS-Europe survey. While the questionnaires for the first three stakeholder groups were rather short, the one for e-infrastructures was very extensive and detailed.

[13] Including triggered questions.

educational potential and it was decided that they should receive the complete survey, though it was apparent that some questions were beyond their expertise. Therefore, the UoB members of the T2.1 team, being themselves OS facilitators, considered that their counterparts in all partner countries should be at least superficially familiar with those concepts, documents, services and tools. In other words, as regards OS facilitators, the aim of the survey was somewhat different: it was not limited to obtaining information, but it also sought to trigger interest within this small group of stakeholders. This approach by no means challenged the quality of the collected data, especially in quantitative terms. Not only that the stakeholder group was small, but it could easily be excluded from the main body of data, all the more it was not relevant for the EOSC Landscape study and did not have a counterpart among EOSC-Pillar stakeholders. At the same time, the responses could indicate the areas and topics where additional training for OS facilitators was required.

The first draft of the survey was compiled in a Google sheet as a cumulative list containing all the questions for all stakeholder groups. However, it was possible to filter questions according to the five stakeholder groups and export individual questionnaires. Each question was accompanied with the information about its source (e.g. whether it was adopted from the EOSC-Pillar survey, or any other survey, or it was suggested by a WP leader). The team sought to minimize the number of open-ended questions in order to diminish the risk of irrelevant responses. Furthermore, this type of questions would have made the processing of responses additionally complicated.

RA	1 1 0 1	Which of these aspects are taken into account most when evaluating researchers? (a) research publications (b) data (c) patents/innovation (d) software (e) project participation (f) citizen science (g) other types		For every statement: Don't know Unimportant Of little importance Moderately important Important Very important	EUA-Q8
	1 0 0 0	Does your organisation, as a funder, impose funding rules on recipients regarding the following aspects? (a) publication repositories (b) open data (c) data management plans (d) data protection in research data (e) publishing platforms (f) PIDs (persistent identifiers, ex. DOI, ORCID...) (g) long-term availability of research data (h) APC (i) open software (j) open education resources (k) open practices (methodologies, peer review, metrics, citations, etc.) (l) FAIR (m) IPR (n) other		For every statement: no regulation encouraged but optional mandatory for some projects/groups mandatory for all not applicable	Pillar F16 + WP2

Figure 1: The first draft of the survey

3.2.3.Revisions

The first draft of the survey was shared with WP leaders on 2 September 2019. They were invited to add comments directly in the shared sheet.

The key inputs and issues raised during the discussion include the following:

- improving the wording;
- adding additional answer options;

- suggestions how to clarify of merge particular questions;
- the relevance of the question related to the Commission Recommendation (EU) 2018/790;[14]
- the relevance of questions about research assessment.[15]

3.2.4.The final sets of questions

The content of the questionnaires was defined in this stage of work. The full list of questions can be found in Annex 2. There are 82 questions in all questionnaires. Open-ended questions account for 14.63% of all questions. If we exclude general questions (5) from the calculation, 48.05% (37) of questions in all questionnaires are the same or similar to the corresponding questions in the EOSC-Pillar survey, whereas 38.96% (30) of questions are those suggested by WP leaders. The purpose of these figures is merely to illustrate the "overlap" between the NI4OS-Europe and EOSC-Pillar surveys. The latter percentage includes only questions that do not appear in the EOSC-Pillar survey. The questions that appear in both surveys and were suggested by WP leaders are here included in the EOSC-Pillar percentage. Most questions suggested by WP leaders (and not present in the EOSC-Pillar survey) were related to publication and data repositories, content types, training, OS and FAIR awareness.

To make the comparison between the initial input of WP leaders and the final questions easier, the latter are mapped according to topics in Tables 3–6.[16]

Main topic	Specific topics	no. of questions
General		4+1[17]
Profile of the organization		2
Funding	criteria	2
	rules	1
	user support	1
Policies	infrastructure roadmap	1+1
	OS compliance	1
	research assessment	1+2
Services	needs and preferences	1
FAIR	awareness	1
EOSC	awareness	2+2

Table 2: Topic mapping in the final questionnaire for funders and policymakers

[14] The Recommendation is one of the key documents dealing with infrastructures for OS and it repeatedly mentions EOSC [14]. The purpose of the question was to establish whether various stakeholders were familiar with the concepts and goals explained in the document and whether they were aware that they should comply with some regulations.

[15] Research evaluation is highly relevant in the context of OS policies, namely in terms of incentivizing OS practices through the official research evaluation system. Therefore, it is important to trace any research evaluation criteria in participating countries that include incentives for OS-related activities.

[16] The questionnaire for OS facilitators is not provided. It contains all the questions and a summary of topics would be redundant.

[17] The formula "+n" indicates triggered questions. These questions appeared only if a specific answer was selected in a previous question.

Main topic	Specific topics	no. of questions
General		4+1
Profile of the organization	domain and size	3
	content and rights	1
Funding	criteria	2
	user support	1
Policies	institutional	1
	infrastructure roadmap	1+1
	OS compliance	1
	research assessment	1+2
Infrastructure	for OS	1
	needs and preferences	1
Services	needs and preferences	1
Open Science	training	3
	publication repositories	1+6
	data repositories	1+7
FAIR	awareness	1
	implementation	3
	support	1
EOSC	awareness	2+2

Table 3: Topic mapping in the final questionnaire for the ones who perform research – CREATE

Main topic	Specific topics	no. of questions
General		4+1
Profile of the organization		3
Funding	criteria	2
	sources	2
	user support	1
Policies	institutional	1
	infrastructure roadmap	1+1
	OS compliance	1
Infrastructure	needs and preferences	1
Services	profile	6
	maintenance	3
	access	4+2
	policies	3+1
	technical readiness	3
	users and user support	3+1
	needs and preferences	1
Open Science	integration (institutional)	1
	training	1
	awareness	1
FAIR	awareness	1
	implementation	2
	support	3
EOSC	awareness	2+2
	support to integration	1

Table 4: Topic mapping in the final questionnaire for the ones who perform research – SUPPORT

Main topic	Specific topics	no. of questions
General		4+1
Profile of the organization	domain and size	3
	content and rights	1
Funding	criteria	2
	user support	1
Policies	institutional	1
	infrastructure roadmap	1+1
	research assessment	1+2
Infrastructure	for OS	1
	needs and preferences	1
Services	needs and preferences	1
Open Science	training	3
	publication repositories	1+6
	data repositories	1+7
FAIR	awareness	1
	implementation	3
	support	1
EOSC	awareness	2+2

Table 5: Topic mapping in the final questionnaire for the ones who consume research

3.2.5.Designing the online survey

Parallel with the revisions, the T2.1 team was discussing the technical implementation of the survey: which software to use, whether it was better to make five separate surveys or to make one survey in forking directions, etc. It was decided to use LimeSurvey and to make one survey with forking paths. After answering the preliminary questions (country, organization name, organization profile, domain of the organization's activities, the respondent's position within the organization), a respondent was redirected to the appropriate questionnaire. The selection was triggered by selecting the organization's profile.

The second draft of the questionnaire, which included partners' suggestions, was implemented in LimeSurvey. It was shared with WP leaders on 13 September 2019. In this stage, the focus was shifted from the structure of questions to the functioning of the online application to the testing of various scenarios. During the testing, some inconsistencies in the structure of the questions were observed (e.g. the order of the answer options, including "other" and "I don't know" as option in a number of questions, etc). It was found necessary to provide additional explanations and links to some concepts and documents as some of the stakeholders could have been unfamiliar with them (e.g. EOSC, FAIR, IR, AAI, etc.).

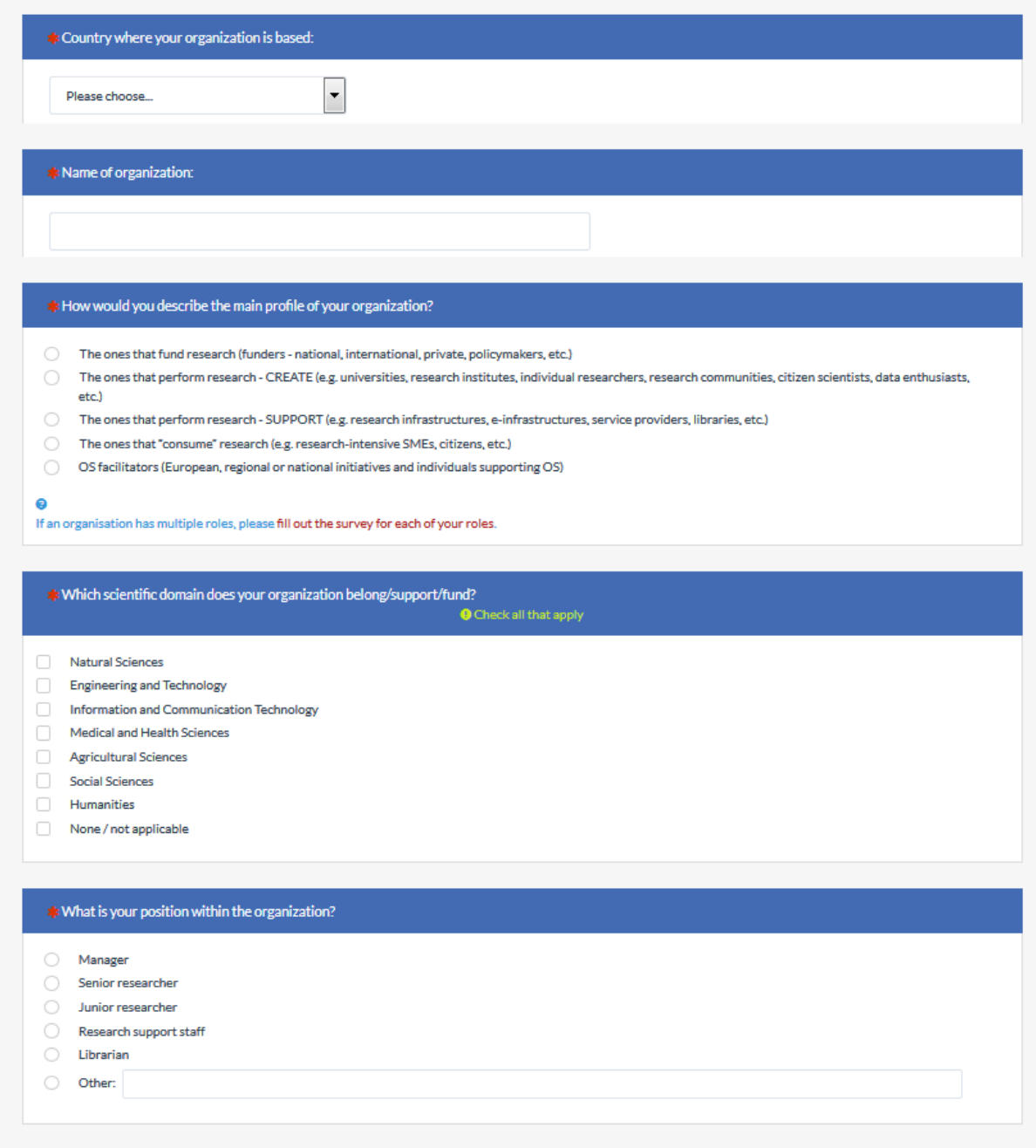


Figure 2: Preliminary questions

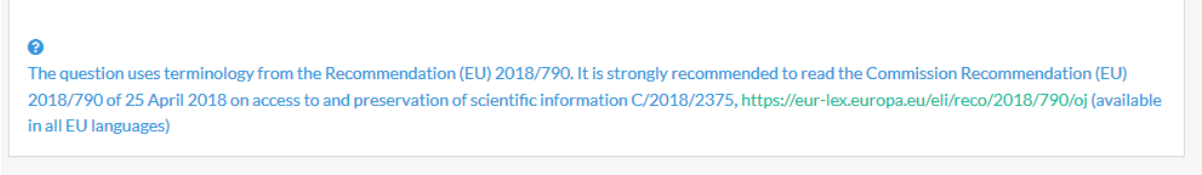


Figure 3: Tips clarifying the concepts that may be unknown to some respondents

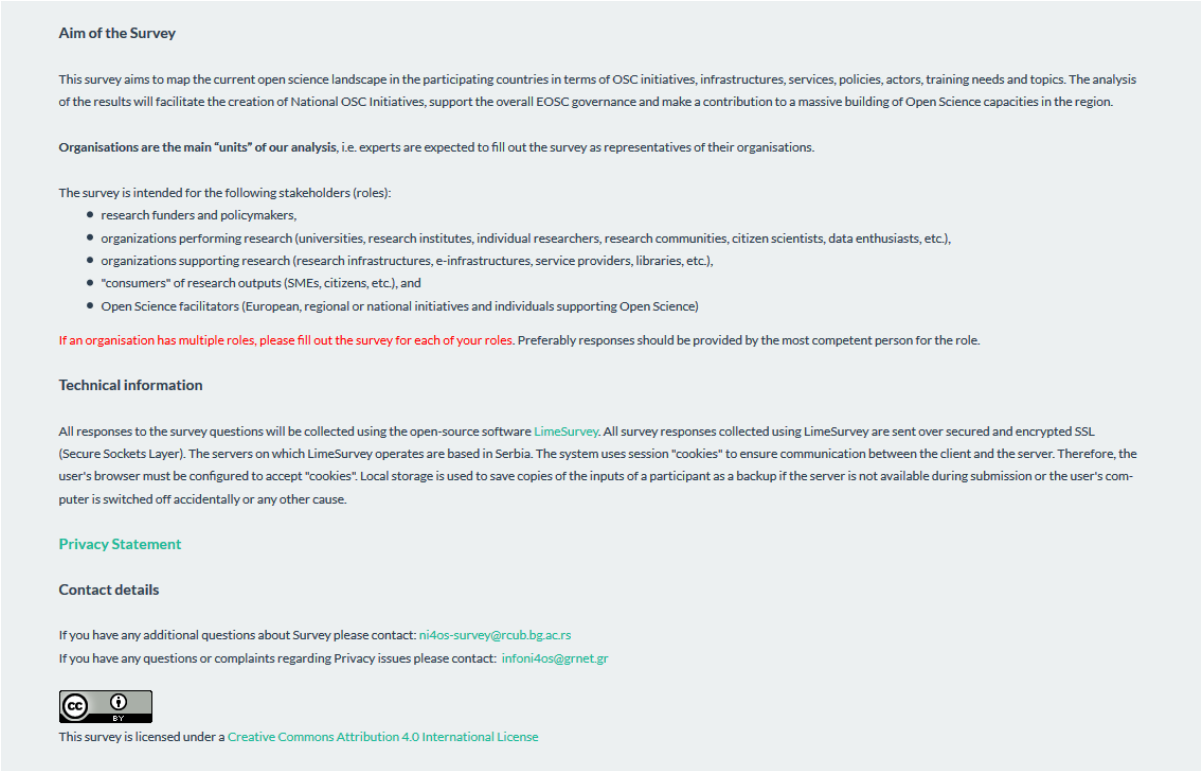
The final testing was undertaken on 30 September 2019 UoB, UKIM and ATHENA. After the testing, the survey was shared with the EOSC-Pillar team.

3.3. Launching the survey

The final preparations before launching the survey included:

- drafting the introductory text for the survey (the aims of the survey, stakeholders, technical instruction, contact details and the license);
- drafting a privacy statement;
- drafting the model for the invitation letter;
- organizing a webinar for contact points in participating countries.

The terms and the wording of the privacy statement were discussed during several Skype sessions involving members of the T2.1 team, the WP2 leader and GRNET's Data Protection Officer (DPO). The agreed privacy statement was in line with the General Data Protection Regulation.



Aim of the Survey

This survey aims to map the current open science landscape in the participating countries in terms of OSC initiatives, infrastructures, services, policies, actors, training needs and topics. The analysis of the results will facilitate the creation of National OSC Initiatives, support the overall EOSC governance and make a contribution to a massive building of Open Science capacities in the region.

Organisations are the main "units" of our analysis, i.e. experts are expected to fill out the survey as representatives of their organisations.

The survey is intended for the following stakeholders (roles):

- research funders and policymakers,
- organizations performing research (universities, research institutes, individual researchers, research communities, citizen scientists, data enthusiasts, etc.),
- organizations supporting research (research infrastructures, e-infrastructures, service providers, libraries, etc.),
- "consumers" of research outputs (SMEs, citizens, etc.), and
- Open Science facilitators (European, regional or national initiatives and individuals supporting Open Science)

If an organisation has multiple roles, please fill out the survey for each of your roles. Preferably responses should be provided by the most competent person for the role.

Technical information

All responses to the survey questions will be collected using the open-source software LimeSurvey. All survey responses collected using LimeSurvey are sent over secured and encrypted SSL (Secure Sockets Layer). The servers on which LimeSurvey operates are based in Serbia. The system uses session "cookies" to ensure communication between the client and the server. Therefore, the user's browser must be configured to accept "cookies". Local storage is used to save copies of the inputs of a participant as a backup if the server is not available during submission or the user's computer is switched off accidentally or any other cause.

Privacy Statement

Contact details

If you have any additional questions about Survey please contact: ni4os-survey@rcub.bg.ac.rs
If you have any questions or complaints regarding Privacy issues please contact: infoni4os@grnet.gr

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Figure 4: Introductory page

In line with this, on the introductory page, before accessing the main part of the questionnaire, respondents were asked to provide their consent by checking the appropriate option. They were able to exit the survey at any point and to delete the responses provided up to that point. The contact information for questions and complaints regarding privacy was also provided. A dedicated e-mail account was set-up for general questions and information about the survey and this contact information was provided as well.

Finally, the main access page (through which the actual survey was reached) was set up within the NI4OS-Europe website: https://ni4os.eu/survey/.

Figure 5: Access page on the NI4OS-Europe website

The model for the letter inviting stakeholders to respond to the survey was first presented at the NI4OS kick-off meeting on 8 October 2019. Invitations to respondents were to be sent by the national contact points (appointed during the kick-off meeting) and not centrally, by the T2.1 team. Each respondent was to receive a personalized invitation indicating the stakeholder group to which they belonged. The letter cited the purpose and aims of the landscaping activity, as well as the fact that the NI4OS-Europe project was endorsed by the ministries responsible for science in the partner countries. It was suggested that the letter be translated into local languages and adjusted to local tastes and needs. This approach was intended to motivate stakeholders to respond to the survey.

A webinar for all countries participating in the survey was organized on 18 October 2019. It was attended by the representatives of all participating countries (25 attendees). Detailed instructions regarding the procedures for inviting potential respondents, providing assistance at various levels while the survey is open and reporting on the progress were provided. The webinar was recorded and both the recording and other materials (the presentation and the model for the invitation letter) were made available on App Box.

The survey was launched on 21 October 2019. According to the information provided by local contact points, 1170 invitations were sent to identified stakeholders.

Although it had originally been planned to run until 25 November, the decision was made to extend the survey until 10 December 2019 in order to enable better coordination with the landscaping activities of the other INFRAEOSC-5b projects. It was also decided that the T2.1 team would make the raw data for individual countries available to the partners as soon as the survey was closed, so that they could be used in the upcoming deliverables.

3.4. Progress monitoring

Throughout the data collection period, reports on the progress were delivered to the local contact points. The weekly reports delivered by e-mail (on Mondays) contained a list of respondents' institutions. For each record it was indicated whether the survey was completed or merely started.

Institution	mail	Date
Association of metallurgical engineers of Serbia (OS FACILITATORS) (Started)		2019-10-22
BioSense Insttute (CREATE) (Started)		2019-10-23
Clinical Center of Serbia (CREATE) (Started)		2019-10-25
EIFL (OS FACILITATORS) (Done)		2019-11-11
EIFL (OS FACILITATORS) (Started)		2019-10-22
Faculty of agriculture-University of Belgrade (CREATE) (Done)		2019-10-22
Faculty of Biology University of Belgrade (CREATE) (Started)		2019-10-21
Faculty of Biology, University of Belgrade (CREATE) (Started)		2019-10-22

Figure 6: Weekly progress reports

3.5. Dissemination

A news post about the launching of the survey was published on the project website: https://ni4os.eu/2019/10/24/ni4os-europe-launches-survey-for-mapping-national-open-science-landscape-in-south-east-europe/. The information about the NI4OS-Europe landscaping activity was disseminated not only internally but also at the meetings of the EOSC Landscape WG and through the presentation of the NI4OS-Europe landscaping activity during the EOSC-Pillar webinar held on 11 October 2019.

4. Results

This section presents the preliminary results of the landscaping activity, including the results of stakeholder identification performed by project partners and the survey results relating to infrastructures and services, and policies. As already mentioned, a detailed analysis will be prepared later. It will rely on the refined results of the survey and, where necessary, additional input of the project partners. The fact that the survey was extended by two weeks has considerably affected the scope of this report, which was originally intended to provide input for deliverables prepared by other WPs. At the time when the survey was closed the preparation of these deliverables had already been underway and instead of using the preliminary results presented in D2.1, WP leaders undertook to extract the required information from raw data provided by the T2.1 team. In this context, presenting the whole set of preliminary data in this report would be of little use both for the WP2 and project goals and for other WPs.

The survey collected 575 completed responses from 482 distinct entities in the partner countries. The overall response rate is 41.28%.[18] The number of incomplete responses is considerably greater. Although they may include important information, these responses will not be analyzed at this stage. The greatest number of complete responses was collected in Moldova and Croatia and the least responses came from Albania and Armenia. Table 6 shows the number of responses per stakeholder group from each country. The percentage columns show the share of responses from a particular country in the total responses received from a stakeholder group.

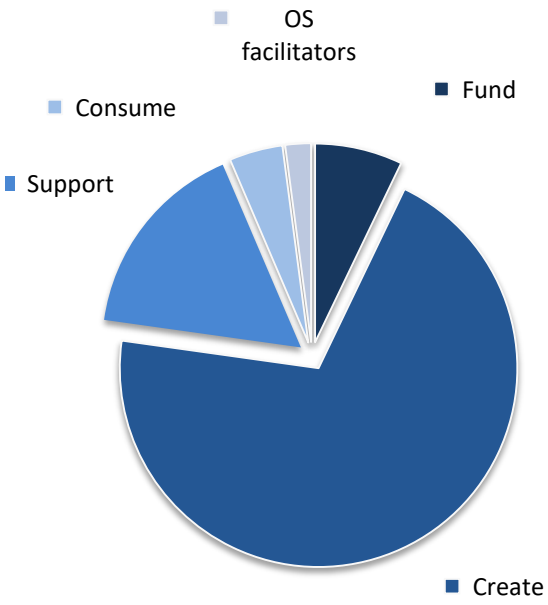
Country	Fund		Create		Support		Consume		OS facilitators		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Albania	0	0%	11	2.73%	0	0.00%	0	0.00%	0	0.00%	11	**1.91%**
Armenia	0	0%	10	2.48%	1	1.06%	0	0.00%	0	0.00%	11	**1.91%**
Bosnia and Herzegovina	4	9.76%	8	1.99%	5	5.32%	3	12.00%	0	0.00%	20	**3.48%**
Bulgaria	1	2.44%	33	8.19%	4	4.26%	4	16.00%	1	8.33%	43	**7.48%**
Croatia	1	2.44%	69	17.12%	6	6.38%	0	0.00%	0	0.00%	76	**13.22%**
Cyprus	3	7.32%	25	6.20%	3	3.19%	2	8.00%	1	8.33%	34	**5.91%**
Georgia	1	2.44%	14	3.47%	4	4.26%	1	4.00%	0	0.00%	20	**3.48%**
Greece	7	17.07%	16	3.97%	4	4.26%	1	4.00%	2	16.67%	30	**5.22%**
Hungary	4	9.76%	17	4.22%	9	9.57%	0	0.00%	1	8.33%	31	**5.39%**
Moldova	9	21.95%	65	16.13%	21	22.34%	0	0.00%	0	0.00%	95	**16.52%**
Montenegro	2	4.88%	7	1.74%	5	5.32%	4	16.00%	1	8.33%	19	**3.30%**
North Macedonia	2	4.88%	16	3.97%	16	17.02%	3	12.00%	0	0.00%	37	**6.43%**

[18] Explained under 4.1

Country	Fund		Create		Support		Consume		OS facilitators		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Romania	4	9.76%	37	9.18%	4	4.26%	6	24.00%	0	0.00%	51	**8.87%**
Serbia	1	2.44%	48	11.91%	5	5.32%	0	0.00%	2	16.67%	56	**9.74%**
Slovenia	2	4.88%	27	6.70%	7	7.45%	1	4.00%	4	33.33%	41	**7.13%**

Table 6: Completed surveys per stakeholder group per country

Research-performing organizations are the most represented stakeholder group (70.09%), while the least represented are OS facilitators (2.09%) (Table 7). The structure of the respondents does not fully reflect the structure of the invited stakeholders (see Table 8). While the share of funders and policymakers is expected, the share of research supporting organizations, research consumers and OS facilitators is by more than half smaller than in the targeted sample. At same time, the share of research performing entities among respondents is by almost 20% greater than the share of the corresponding group in the targeted sample.[19]



Stakeholder group	Responses	%
Fund	41	7.13%
Create	403	70.09%
Support	94	16.35%
Consume	25	4.35%
OS facilitators	12	2.09%

Table 7: The share of individual stakeholder groups in the total responses

Table 6 reveals 17 stakeholder groups in nine countries who provided zero responses. The invited research funders from Albania and Armenia did not respond to the survey. Albania is the only country with no responses from research-supporting organizations. Zero responses were collected from research consuming organizations in Albania, Armenia, Croatia, Hungary, Moldova, and Serbia, as well as from OS facilitators in Albania, Armenia,

[19] In the sample identified by the project partners, funders and policymakers account for 6.92%, research performing entities 51.2%, research supporting organizations 29.98%, research consumers 9.8% and OS facilitators for 5.64%. Calculated from Table 8.

Bosnia and Herzegovina, Croatia, Georgia, Moldova, North Macedonia and Romania. A comparison between these results and the initial input provided by the project partners (i.e. stakeholder lists or numbers) shows that the initial input was more complete and in some cases more reliable (see the following section). Due to this, it has been decided to use the project partners' input as the basis for stakeholder mapping and, where relevant, to refine it and supplement using the information collected in the survey. As far as the inventory and policy matrix are concerned, they will be compiled from the information collected in the survey. This information will later be checked and amended based on publicly available registries and literature. Where relevant, additional input will be required from the partners.

4.1. Stakeholder map

In the context of the NI4OS-Europe project, the purpose of stakeholder mapping is twofold: identifying potential respondents for the survey (i.e. a preparatory action for conducting the survey) and identifying institutions, infrastructures and services to be targeted by project activities. As already mentioned, the preliminary stakeholder map has been compiled based on the partners' input. Once the stakeholder groups were defined, the partners provided either lists of institutions[20] classified into stakeholder groups or merely the number of entities per each group.

Table 8 shows the number of entities per stakeholder group in each country based on the partners' input. In most cases, the entities identified as stakeholders were organizations. However, Cyprus, Hungary, Romania, Serbia and Slovenia identified a number of individual researchers as stakeholders. Their names, status (independent researcher, citizen scientist, researcher affiliated with a university or a research institute, etc.) and affiliations were not disclosed. Only the number of individual researchers was indicated. In Table 8, the formula "+n" indicates individuals identified as stakeholders. Furthermore, some partners provided stakeholder lists subdivided according to stakeholder subgroups, where the same entities appeared both as e.g. research infrastructures and e-Infrastructures. If the same entity appeared multiple times in the same stakeholder group, it was counted only once (i.e. multiple mentions within the same stakeholder group are not reflected in Table 6). If the same entity appeared in different stakeholder groups, it was counted as a distinct stakeholder in each of them. Armenia, Bosnia and Herzegovina, Croatia and Montenegro provided only the number of contacts per stakeholder group. The numbers presented for these countries might include individuals, along with organizations, or multiple mentions of the same entity in the same stakeholder group. Additional input is required to refine the results. For all these reasons, the totals per country in Table 8 do not reflect the number of unique entities (organizations, individuals, infrastructures, services, etc.).

[20] The lists included only the institution names and URLs of institutional websites. No contact details or personal names were provided.

Country	fund	create	support	consume	facilitate	Total
Albania	2	14	3	0	1	20
Armenia	3	14	5	3	2	27
Bosnia and Herzegovina	3	8	7	3	2	23
Bulgaria	3	17	8	5	3	36
Croatia	2	90	45	20	4	161
Cyprus	21	32+13	22	7+3	4	102
Georgia	1	6	3	0	2	12
Greece	16	59	59	15	15	164
Hungary	6	52+12	28	4	7	109
Moldova	3	46	30	2	5	86
Montenegro	2	5	10	6	3	26
North Macedonia	4	18	4	9	0	35
Romania	6	27+7	33	24	2	99
Serbia	4	107+4	17	10	3	145
Slovenia	5	47+26	30	4	13	125
Total	**81**	**604**	**304**	**115**	**66**	**1170**

Table 8: Stakeholders in partner countries: partners' input

4.1.1.Visualization

For the purpose of this report, an attempt has been made to visualize the locations of stakeholders and the size of stakeholder groups. The free version of the BatchGeo (https://batchgeo.com/), proprietary mapping software has been used for this purpose. It is easy to use and makes it possible to show the size of stakeholder groups in a country even if their physical addresses and names are not provided.

Unfortunately, the free version allows to visualize up to 250 entities/locations per map. Due to this, it has not been possible to map the whole dataset (1170 entities) in a single map. Several maps have been generated to cover all partner countries. The maps are not publicly retrievable but can be accessed by anyone through the following links:

- Armenia, Cyprus and Georgia: https://batchgeo.com/map/26078420fb0d0e4669c51a569eabee20
- Albania, Bulgaria and Greece: https://batchgeo.com/map/a5b0f664c4c1b33e531e4731bfb5c054
- North Macedonia and Serbia
- https://batchgeo.com/map/30223907585115c42b4b7072dfaab93d
- Bosnia and Herzegovina, Croatia and Montenegro: https://batchgeo.com/map/dbcedcde7bec9a61cb3a9a2cedc19d2c
- Hungary and Slovenia: https://batchgeo.com/map/cddb261111df620c0205a21cc35b8f09
- Moldova and Romania:
- https://batchgeo.com/map/7bd4a948dbb909f761ceda151546b0c5.

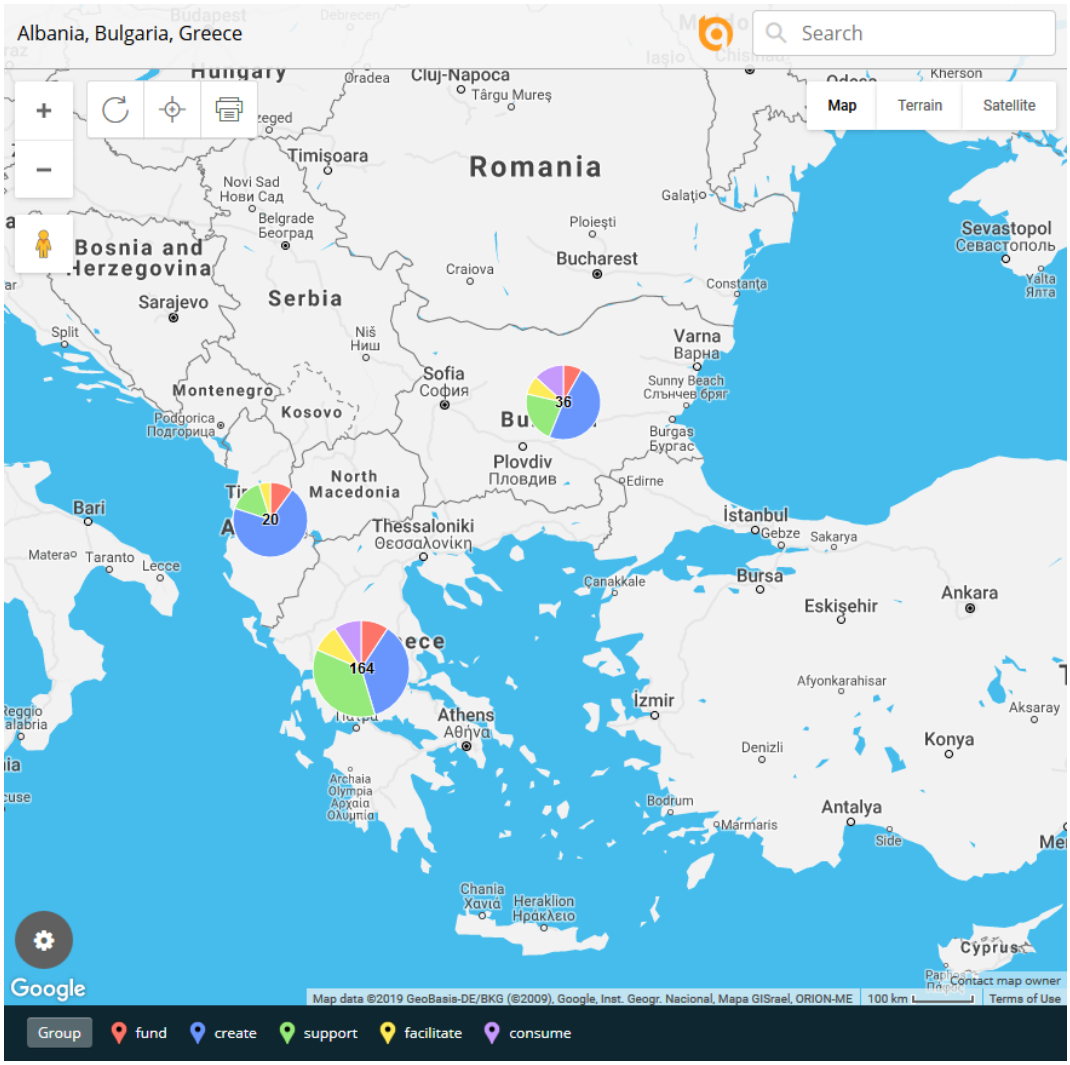


Figure 7: Visualization of stakeholder groups using BatchGeo

If partners provided stakeholder lists with institutions' names and websites, the data could be enriched by adding the physical addresses (street names and numbers, and ZIP codes) retrieved from institutions' websites or publicly available registries. At the moment complete mapping has been done only for Moldova and Romania. If only the numbers were provided, the sets included series of "anonymous" data: the name of the country and stakeholder group, and a random code instead of the institution's name (Figure 8). Individual researchers are not shown in the map. The map features links to institutional websites.

The T2.1 team members have not had previous experience in geolocation and the software has been selected at random to be used for demonstration. It is certainly possible to find a better free solution that would enable data visualization using the same dataset in a single map. The idea is to invite project partners to provide the missing information, check and refine the collected data. The final dataset containing a full list of all stakeholders in the 15 partner countries can easily be enriched with GPS coordinates using GPS Visualizer (https://www.gpsvisualizer.com/geocoder/) and made available in the .csv format under the CC0 license in a data repository.

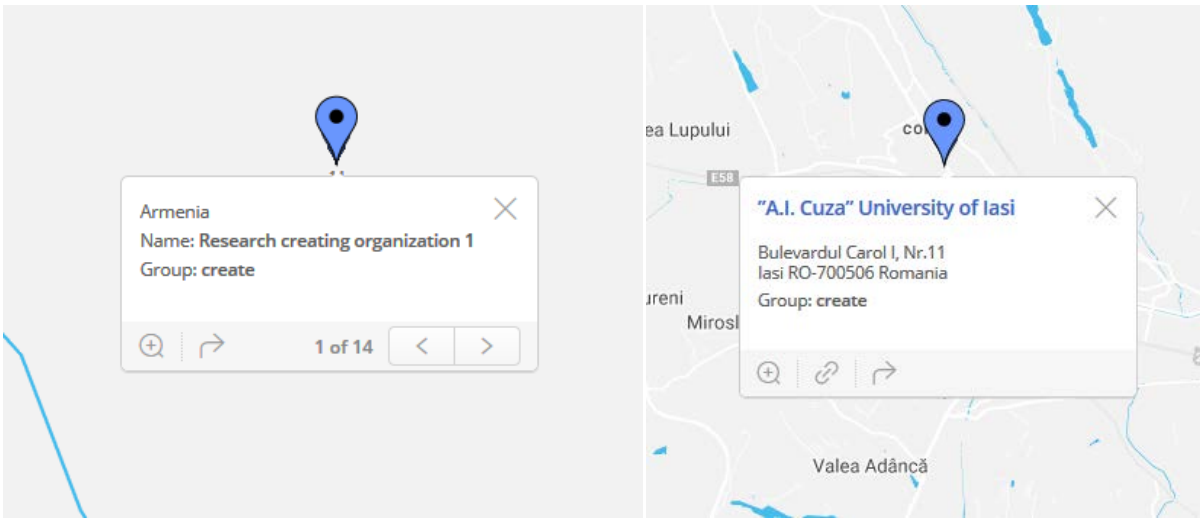


Figure 8: "Anonymous" and "known" stakeholders

4.1.2.Further considerations

A preliminary analysis of survey results reveals some interesting details relevant for stakeholder mapping. An attempt to calculate the response rate for each stakeholder group revealed some interesting points. In order to perform the calculation, it was necessary to identify distinct entities[21] among the organization names provided by the respondents. The number of distinct entities who responded to the survey broken down per country and per stakeholder group is provided in Table 9.

Country	Fund	Create	Support	Consume	OS facilitators	Total
Albania	0	11	0	0	0	11
Armenia	0	10	1	0	0	11
Bosnia and Herzegovina	4	8	5	3	0	20
Bulgaria	1	14	4	4	1	24
Croatia	1	63	6	0	0	70
Cyprus	3	18+1[22]	3	2	1	28
Georgia	1	12	3	1	0	17
Greece	6	12	4	1	2	25
Hungary	3	17[23]	9	0	1	30
Moldova	8	46	14	0	0	**68**
Montenegro	2	7	5	4	1	19

[21] This was done based on the organization names provided by respondents. Some organizations provided multiple responses for the same role. These responses were not taken into consideration when calculating the response rate. Only the number of distinct entities was taken into account.
[22] The formula "+n" indicates individual researchers.
[23] In case of Hungary, Romania, Serbia and Slovenia, it seems that no individual researchers responded.

Country	Fund	Create	Support	Consume	OS facilitators	Total
North Macedonia	2	16	11	3	0	32
Romania	4	33	4	6	0	47
Serbia	1	41	5	0	2	49
Slovenia	2	18[24]	7	1	4	32
Total	**38**	**327**	**81**	**25**	**12**	**483**

Table 9: Distinct entities involved in the survey per stakeholder group per country

The figures marked in red indicate that the number of entities who responded to the survey is greater than the number of entities identified by the partners. In case of Moldova, it is possible to compare the list of responding organizations with the stakeholder list provided by the partners. It seems that some "funders" selected their roles (and consequently the questionnaires) incorrectly.[25] The same applies to research performing organizations in the same country,[26] whereas in case of Montenegro and Romania[27] the initial list of stakeholders performing research should probably be amended based on survey results. As for research supporting entities in North Macedonia, at least three respondents cannot be associated with a single organization while at least two seem to have selected the wrong role.

The response rate for each stakeholder group was calculated by dividing the number of distinct entities identified in the survey results and the number of stakeholders presented in Table 8. The response rates for individual stakeholder groups (Table 10) show that a stakeholder map compiled based on survey responses would fail to cover a considerable part of the landscape.

Stakeholder group	Collected responses (distinct entities)	Expected responses	Response rate
Fund	38	81	**46.91%**
Create	327	604	**54.14%**
Support	81	304	**26.64%**
Consume	25	115	**21.74%**
OS facilitators	12	66	**18.18%**
Total	**483**	**1170**	**41.28%**

Table 10: Response rate per stakeholder group

[24] One library responded only as a research performing organization.

[25] In case of Moldova, only one of the three "expected" funders responded, whereas the other responses were provided by two universities, one library, three research institutes and one laboratory (within a research institute). The two universities and one institute also responded to the survey as research performing organizations, and the library also responded as a research supporting organization. Two institutes and the laboratory responded only as research funders, which most probably means that they selected the wrong role.

[26] Three libraries and one organization responded only as research creating organizations, although they were invited as research supporting organizations.

[27] Nevertheless, for at least two respondents other roles would have been more appropriate.

4.2. Inventory

The survey sought to capture both factual information and perceptions reflecting the awareness level. The same topics were covered by multiple questions. As detailed analysis will require some time, it is not possible to present all the data in the present report. However, a brief insight into the responses reveals that some answers are inconsistent and that factual information contained in them will have to be checked and verified. For this reason, the presentation of the inventory will be limited to the information about infrastructure and services that could be easily extracted from the responses and it will focus on publication and data repositories, as well as on the other services highlighted by the respondents. Further analysis and data processing will be done in relevant WPs – depending on the topics/services they focus on.

4.2.1. Publication repositories

The list of publication repositories was compiled from the responses. Respondents were asked to provide the URL of their institutional repository. Only 133 responses stating a URL were taken into consideration. The results were refined and all URLs were checked. A list including 75 repositories was compiled after removing 16 duplicates, 4 dead links, 23 websites that were not repositories[28] and 5 websites that could be described as "other services". Additional nine repositories listed as services in response to another question were added to this list.[29] The complete list of repositories is provided in Annex 3.

The most represented software platforms are DSpace (including DSpace CRIS) and Islandora (Table 11). All instances of Islandora are in Croatia.

Software platform	No.	%
DSpace (including DSpace CRIS)	33	39.28%
EPrints	9	10.71%
In-house solution + other	11	13.09%
Islandora	24	28.57%
Phaidra	5	0.59%
Fedora	2	0.23%

Table 11: Software platforms used in partner countries

Table 12 shows the distribution of the 84 repositories in the partner countries. Apparently, the responses do not reflect the situation captured by OpenDOAR. Some participants in the survey did not respond to this question although their organization had a repository. This suggests poor awareness of the existing infrastructure even when it is available.

[28] They did not contain structured metadata and a metadata harvesting protocol ensuring interoperability, in line with the definition of the Open Archives Initiative [15]. In this specific case, those were mostly institutional websites.

[29] In some cases respondents did not mention the institutional repository when asked to provide information about repositories but did mention it when asked to provide information about a service offered by their organization.

country	responses	OpenDOAR
Albania	0	1
Armenia	2	0
Bosnia and Herzegovina	2	2
Bulgaria	2	9
Croatia	26	119
Cyprus	5	0
Georgia	3	0
Greece	4	39
Hungary	9	43
Moldova	9	11
Montenegro	1	0
North Macedonia	2	5
Romania	0	5
Serbia	14	28
Slovenia	5	12

Table 12: Repositories per country

According to the responses, in most repositories licenses are assigned to the content. Information is provided for 75 repositories: 43 use Creative Commons licenses, and 18 use other types of licenses. In 15 repositories no licenses are used.

Most repositories (58) are maintained by a trained staff member. In most cases (38) the respondents did not know how often it was backed up. Other responses suggest that this is usually done either daily (18) or weekly (13). The majority of the respondents who already have an institutional repository believe that it should be funded by the institution (37) or by the government (24).[30] Five respondents suggest that it should be funded through EOSC.

According to responses, 32 repositories are harvested by one or more major aggregators (OpenAIRE, BASE or CORE): 8 by all three, 2 by OpenAIRE and BASE, 1 by BASE and CORE, 26 by OpenAIRE only, 5 by BASE only and 1 by CORE only. This suggests a certain level of interoperability, however, these figures are entirely based on responses and additional analysis is required to check the information and establish more precisely the size of repositories and level of interoperability.

4.2.2.Data repositories

The number of data repositories is even smaller. Again, respondents were asked to provide the URL of their institutional repository. Out of 41 responses in which a URL is provided, only 27 contain valid links to repositories, but not necessarily data repositories.

[30] This was a triggered question visible only to those who said they had an institutional repository.

No more than 6 are purely data repositories, though one contains open government data rather than research data. All the other repositories (21) are prevailingly or exclusively publications repositories and more than half of them contain only MA and PhD theses. However, the software platforms used allow for data archiving.

Additional seven data repositories were listed as services in response to another question. They were added to the list, which is provided in Annex 3. It contains only those repositories that are not already listed as publication repositories. Various platforms (CKAN, Dataverse, DKAN, Geonode), as well as in-house solutions are used.

4.2.3.Other services

Respondents were asked to describe one or more services provided by their organization. This list is diversified and includes person-to-person consultancy, various types of websites, IT services, library services, repositories, research activities, OS initiatives, etc. As it is very difficult to assess the relevance of all inputs, a rough selection has been made and it is presented in Annex 3. It does not include the repositories already included in the lists of repositories, library web pages, institutional websites, descriptions of research activities, OPACs, conventional library services, general-purpose business solutions and all services for which insufficient information has been provided. Still, some of the services excluded from the current list may be relevant in the context of the project. All inputs will be analyzed in detail and assessed in collaboration with experts to determine whether they should be included in the final inventory.

4.3. Policy matrix

The survey addresses various aspects of policies: open access to publications and research data, sharing software under free licenses, the preservation of scientific information, information and data security, rules regarding repositories, publishing platforms, FAIR principles, intellectual property rights, access to services and terms of use, etc. The survey provides abundant information about policies, but already a brief insight into the responses reveals major inconsistencies: e.g. in the answer to one question it is claimed that an institution has a policy on OA to research data, while in the answer to another, the same respondent says that no rules are in place regarding OA to research data. There are many such examples. Accordingly, the reliability of the responses may be disputed.

For the purpose of this report, an attempt has been made to identify, based on the responses, funders and institutions that (may) have policies in place. Two tables have been compiled: one for funders and the other for institutions. The focus is on the policies regarding OA to publications, policy compliance monitoring, OA to research data, preservation of scientific information, information and data security, and mandatory software sharing. For each country, organizations are listed that have a policy relating to a particular topic. Only “adopted” polices have been taken into consideration and no attempt has been made to track pending or planned policies. Colour coding is used to indicate the number of policies. However, it must be pointed out that the countries with the greatest number of institutional policies are the same countries that provided the greatest number of responses. Furthermore, it is possible that some policies identified as “funder’ policies are actually institutional policies: there are indications that a number of respondents did not select the appropriate role. In some cases, multiple respondents from

the same organization provided contradicting information (e.g. one claimed that a policy was adopted, whereas others claimed that it was pending, planned or not even planned). In such cases, the institution has been included in the list, but the inconsistency has been indicated in a footnote.

Although insufficiently reliable, this matrix is valuable as a starting point in mapping and tracking policies in the partner countries. The responses to other policy-related questions will be analyzed later and all useful information that can be extracted will be used to correct and amend this matrix. Partners' assistance will also be required in verifying the reliability of the collected information.

Country	OA to publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
Albania						
Armenia						
Bosnia and Herzegovina						
Bulgaria	Ministry of Education and Science	Ministry of Education and Science		Ministry of Education and Science	Ministry of Education and Science	
Croatia				Ministry of Education and Science	Ministry of Education and Science	
Cyprus	1. Research and Innovation Foundation 2. Sylvia Ioannou Foundation	Sylvia Ioannou Foundation	Sylvia Ioannou Foundation	Sylvia Ioannou Foundation	Sylvia Ioannou Foundation	
Georgia					LEPL – Shota Rustaveli National Science Foundation of Georgia	
Greece	1. ATHENA RIC 2. General Secretariat for Research and Technology	ATHENA RIC	ATHENA RIC	1. General Secretariat for Research and Technology 2. Research Centre for the Humanities	General Secretariat for Research and Technology	
Hungary	1. University of Debrecen 2. National Research Development and Innovation Office	1. University of Debrecen 2. National Research Development and Innovation Office 3. University of Miskolc	1. University of Debrecen 2. National Research Development and Innovation Office 3. University of Miskolc	University of Debrecen	University of Debrecen	University of Debrecen

Country	OA to publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
Moldova		1. National Agency for Research and Development 2. Institute of Emergency Medicine 3. Institute of Crop Science "Porumbeni"		1. National Agency for Research and Development 2. Institute of Crop Science "Porumbeni"	1. Vladimir Andrunachievici Institute of Mathematics and Computer Science 2. National Agency for Research and Development 3. Universitatea Tehnică a Moldovei	
Montenegro						
North Macedonia		Fund for Innovation and Technology Development				
Romania	1. University of Pitesti 2. Dare 2 Succeed 3. Administration Romania	1. University of Pitesti 2. Dare 2 Succeed 3. Administration Romania	1. Romanian Office for Science and Technology to the EU 2. University of Pitesti 3. Dare 2 Succeed 4. Administration Romania	1. University of Pitesti 2. Dare 2 Succeed 3. Administration Romania	1. Romanian Office for Science and Technology to the EU 2. University of Pitesti 3. Dare 2 Succeed 4. Administration Romania	1. Romanian Office for Science and Technology to the EU 2. University of Pitesti 3. Dare 2 Succeed 4. Administration Romania
Serbia	Ministry of Education, Science and Technological Development		Ministry of Education, Science and Technological Development	Ministry of Education, Science and Technological Development		
Slovenia	Ministry of Education, Science and Sport	Ministry of Education, Science and Sport				

Table 13: Policies adopted by funders and policymakers

Colour codes:

- 1 policy
- 2 policies
- 3 policies
- 4 policies

Table 14: Adopted institutional policies

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
Albania		Universiteti i Elbasanit "Aleksandër Xhuvani"	1. University Aleksander Moisiu 2. Universiteti i Elbasanit "Aleksandër Xhuvani"	1. University Aleksander Moisiu 2. Universiteti i Elbasanit "Aleksandër Xhuvani"	1. University Aleksander Moisiu 2. University of Medicine, Tirana 3. Fan s. Noli University	
Armenia	1. Byurakan Astrophysical Observatory (BAO) 2. Fundamental Scientific Library of the National Academy of Sciences 3. Yerevan State University	Byurakan Astrophysical Observatory (BAO)	1. Byurakan Astrophysical Observatory (BAO) 2. Institute of Geological Sciences, National Academy of Sciences	1. Byurakan Astrophysical Observatory 2. Institute of Geological Sciences, National Academy of Sciences 3. Institute for Physical Research, NAS of Armenia	Byurakan Astrophysical Observatory (BAO)	Fundamental Scientific Library of the National Academy of Sciences
Bosnia and Herzegovina	1. Academy of Sciences and Arts of Bosnia and Herzegovina 2. National and University Library of Republic of Srpska 3. University of Tuzla		1. Academy of Sciences and Arts of Bosnia and Herzegovina 2. National and University Library of Republic of Srpska 3. University of Tuzla	1. Academy of Sciences and Arts of Bosnia and Herzegovina 2. National and University Library of Republic of Srpska 3. University of Tuzla	1. Academy of Sciences and Arts of Bosnia and Herzegovina 2. Institute of Genetic Resources 3. University Computing Centre, University of Banja Luka 4. University of Banja Luka – Entrepreneurship and Technology Transfer Centre 5. University of Sarajevo 6. University of Tuzla	1. Institute of Genetic Resources 2. University Computing Centre, University of Banja Luka 3. University of Tuzla
Bulgaria	. Institute of Mathematics and Informatics at	1. Institute of Information and Communication Technologies[&]	1. Institute of Mathematics and Informatics at	1. Institute of Mathematics and Informatics at	1. Institute of Mathematics and Informatics at	1. Institute of Mathematics and Informatics at

[&] Other respondents from the same organization claim that policy adoption is pending.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	Bulgarian Academy of Sciences (IMI-BAS) . Institute of Information and Communication Technologies . Institute of Molecular Biology at Bulgarian Academy of Sciences . National Institute of Geophysics, Geodesy and Geography-BAS . Sofia University St Kliment Ohridski* . National Museum of Natural History at the Bulgarian Academy of Sciences . Institute of Oceanology – Bulgarian Academy of Sciences . Bulgarian Academy of Sciences . National Institute of Meteorology and Hydrology 0. University of Plovdiv Paisii Hilendarski 1. National Museum of Natural History at the Bulgarian Academy lof Sciences 2. Central Library of the Bulgarian Academy of Sciences	2. Institute of Molecular Biology at Bulgarian Academy of Sciences 3. National Institute of Geophysics, Geodesy and Geography-BAS& 4. Sofia University St Kliment Ohridski 5. National Museum of Natural History at the Bulgarian Academy of Sciences 6. Institute of Oceanology – Bulgarian Academy of Sciences 7. Bulgarian Academy of Sciences 8. National Institute of Meteorology and Hydrology 9. University of Plovdiv Paisii Hilendarski 10. Geological Institute, Bulgarian Academy of Sciences 11. National Museum of Natural History at the Bulgarian Academy lof Sciences 12. Central Library of the Bulgarian Academy of Sciences 13. University of National and World Economy 14. Institute of Mechanics – BAS*	Bulgarian Academy of Sciences (IMI-BAS) 2. Institute of Information and Communication Technologies 3. Institute of Molecular Biology at Bulgarian Academy of Sciences 4. National Institute of Geophysics, Geodesy and Geography-BAS$ 5. Sofia University St Kliment Ohridski* 6. National Museum of Natural History at the Bulgarian Academy of Sciences 7. Institute of Oceanology – Bulgarian Academy of Sciences 8. National Institute of Meteorology and Hydrology 9. University of Plovdiv Paisii Hilendarski 10. Geological Institute, Bulgarian Academy of Sciences 11. Central Library of the Bulgarian	Bulgarian Academy of Sciences (IMI-BAS) * 2. Institute of Information and Communication Technologies* 3. Sofia University St Kliment Ohridski 4. Institute of Oceanology – Bulgarian Academy of Sciences 5. Bulgarian Academy of Sciences 6. National Institute of Meteorology and Hydrology 7. University of Plovdiv Paisii Hilendarski 8. Geological Institute, Bulgarian Academy of Sciences 9. Central Library of the Bulgarian Academy of Sciences 10. Institute of Mechanics – BAS 11. Medical University of Sofia	Bulgarian Academy of Sciences (IMI-BAS) * 2. Institute of Information and Communication Technologies* 3. Sofia University St Kliment Ohridski 4. National Museum of Natural History at the Bulgarian Academy of Sciences 5. Bulgarian Academy of Sciences 6. National Institute of Meteorology and Hydrology 7. Central Library of the Bulgarian Academy of Sciences 8. Institute of Mechanics – BAS 9. Medical University of Sofia	Bulgarian Academy of Sciences (IMI-BAS) 2. Institute of Information and Communication Technologies 3. State University of Library Studies and Information Technologies 4. Institute of Molecular Biology at Bulgarian Academy of Sciences 5. Sofia University St Kliment Ohridski* 6. Institute of Oceanology – Bulgarian Academy of Sciences 7. Bulgarian Academy of Sciences 8. National Institute of Meteorology and Hydrology 9. Institute of Mechanics – BAS 10. Institute of Mechanics – BAS$

* Other respondents from the same organization claim that policy adoption is pending or planned.
$ Another respondent from the same organization claims that the policy is not planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
			Academy of Sciences 12. University of National and World Economy			
Croatia	1. Andrija Štampar Teaching Institute of Public Health 2. Arheološki muzej u Zagrebu 3. Croatian veterinary institute 4. Faculty of Education, J.J. Strossmayer University of Osijek 5. J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology 6. Faculty of Food Technology and Biotechnology University of Zagreb 7. Faculty of Law, Josip Juraj Strossmayer University in Osijek 8. Faculty of Political Science, University of Zagreb 9. Fakultet agrobiotehničkih znanosti Osijek	1. Faculty of Chemical Engineering and Technology, University of Zagreb 2. J.J. Strossmayer University of Osijek, Faculty of Education 3. J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology 4. Faculty of Food Technology and Biotechnology University of Zagreb 5. Faculty of Humanities and Social Sciences in Split[#] 6. Faculty of Political Science, University of Zagreb 7. Faculty of Science, University of Split 8. Institute of Economics, Zagreb 9. Institute of Oceanography and Fisheries 10. Ivan Kukuljević Sakcinski Institute (Croatian State Archives)	1. Andrija Štampar Teaching Institute of Public Health 2. Arheološki muzej u Zagrebu 3. Croatian veterinary institute 4. J.J. Strossmayer University of Osijek, Faculty of Education 5. J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology 6. Faculty of Law, Josip Juraj Strossmayer University in Osijek 7. Faculty of Political Science, University of Zagreb 8. Faculty of Science, University of Split 9. Institute of Archaeology 10. Institute of Economics, Zagreb 11. Ivan Kukuljević Sakcinski Institute	1. Andrija Štampar Teaching Institute of Public Health 2. National and University Library in Zagreb 3. J.J. Strossmayer University of Osijek, Faculty of Education 4. J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering Computer Science and Information Technology 5. Faculty of Food Technology and Biotechnology University of Zagreb 6. Faculty of Humanities and Social Sciences in Split[#] 7. Faculty of Law, Josip Juraj Strossmayer University in Osijek 8. Faculty of Political Science, University of Zagreb	1. Andrija Štampar Teaching Institute of Public Health 2. Arheološki muzej u Zagrebu 3. Department of Chemistry, Josip Juraj Strossmayer University of Osijek 4. Ericsson Nikola Tesla d.d. 5. National and University Library in Zagreb 6. Faculty of Education, J.J. Strossmayer University of Osijek 7. J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering, Computer Science and Information Technology 8. Faculty of Food Technology and Biotechnology University of Zagreb 9. Faculty of Organization and Informatics	1. Ericsson Nikola Tesla d.d. 2. National and University Library in Zagreb 3. University of Zagreb, Faculty of Civil Engineering 4. J.J. Strossmayer University of Osijek, Faculty of Education 5. J.J. Strossmayer University of Osijek, Faculty of Electrical Engineering Computer Science and Information Technology 6. Faculty of Humanities and Social Sciences in Split[#] 7. Faculty of Law, Josip Juraj Strossmayer University in Osijek 8. Faculty of Organization and Informatics 9. Faculty of Political Science, University of Zagreb

[#] Other respondents from the same organization claim that policy is planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	10. Institute of Archaeology 11. Institute of Art History 12. Institute of Economics, Zagreb 13. Institute of Oceanography and Fisheries 14. Rudjer Boskovic Institute 15. SRCE – University of Zagreb University Computing Centre 16. Old Church Slavonic Institute 17. Police Academy (Police College) 18. School of Medicine University of Zagreb 19. University of Rijeka^ 20. University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture 21. University of Zagreb Faculty of Electrical Engineering and Computing 22. University of Zagreb, Faculty of Education and Rehabilitation Sciences	11. Old Church Slavonic Institute 12. Police Academy (Police College) 13. School of Medicine University of Zagreb 14. University Hospital Centre Sisters of Charity 15. University Hospital of Split 16. University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture	(Croatian State Archives) 12. Old Church Slavonic Institute 13. Police Academy (Police College) 14. School of Medicine University of Zagreb 15. University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture 16. University of Zagreb, Faculty of Education and Rehabilitation Sciences	9. Faculty of Science, University of Split 10. Croatian Geological Survey 11. Institute of Archaeology 12. Institute of Economics, Zagreb 13. Institute of Oceanography and Fisheries 14. Rudjer Boskovic Institute# 15. Institute of Public Finance 16. Ivan Kukuljević Sakcinski Institute (Croatian State Archives) 17. Old Church Slavonic Institute 18. Police Academy (Police College) 19. School of Medicine University of Zagreb 20. University Hospital Centre Sisters of Charity 21. University Hospital of Split 22. University of Split – Faculty of Maritime Studies 23. University of Zagreb, Faculty of Education and Rehabilitation Sciences	10. Faculty of Political Science, University of Zagreb 11. Faculty of Science, University of Split 12. Fakultet agrobiotehničkih znanosti Osijek 13. Croatian Geological Survey 14. Institute of Archaeology 15. Institute of Economics, Zagreb 16. Institute of Oceanography and Fisheries 17. Rudjer Boskovic Institute# 18. Institute of Public Finance 19. Ivan Kukuljević Sakcinski Institute (Croatian State Archives) 20. Oikon – Institute of Applied Ecology 21. SRCE – University of Zagreb University Computing Centre 22. Old Church Slavonic Institute 23. Police Academy (Police College) 24. School of Medicine University of Zagreb 25. University of Zagreb Faculty of Metallurgy 26. University Hospital Center Zagreb	10. Fakultet agrobiotehničkih znanosti Osijek 11. Croatian Geological Survey 12. Institute of Economics, Zagreb* 13. Ivan Kukuljević Sakcinski Institute (Croatian State Archives) 14. Old Church Slavonic Institute 15. School of Medicine University of Zagreb 16. University Hospital of Split 17. University of Rijeka^ 18. University of Split – Faculty of Maritime Studies 19. University of Split, Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture 20. University of Zadar 21. University of Zagreb Academy of Music Library 22. Croatian Academic and Research Network – CARNET 23. University of Zagreb, Faculty of Education and

^ Other respondents from the same organization claim that the policy is planned or not even planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
					27. University Hospital of Split 28. University of Applied Health Sciences 29. University of Rijeka[$] 30. University of Split – Faculty of Maritime Studies 31. University of Split, Faculty of Civil Engineering, Architecture and Geodesy 32. University of Zadar 33. University of Zagreb Academy of Music Library 34. University of Zagreb Faculty of Economics & Business 35. University of Zagreb Faculty of Electrical Engineering and Computing 36. Croatian Academic and Research Network – CARNET 37. University of Zagreb, Faculty of Education and Rehabilitation Sciences 38. University of Zagreb, Faculty of Science	Rehabilitation Sciences
Cyprus	1. Cyprus Institute[*] 2. University of Nicosia	1. Cyprus Institute* 2. University of Nicosia 3. Research Centre on Interactive Media, Smart	1. Cyprus Institute* 2. University of Nicosia	1. University of Cyprus 2. Cyprus Institute* 3. Cyprus University of Technology[$]	1. The Cyprus Institute 2. University of Cyprus	1. University of Cyprus 2. European University Research Center 3. DELOITTE

[*] Other respondents from the same organization claim that policy adoption is pending or planned.
[$] Other respondents from the same organization claim that policy is not planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	3. Research Centre on Interactive Media, Smart Systems and Emerging Technologies (RISE Ltd) 4. Cyprus University of Technology 5. European University Research Center 6. CY-Biobank 7. Cyprus Institute of Neurology and Genetics 8. DELOITTE	Systems and Emerging Technologies (RISE Ltd) 4. Cyprus University of Technology 5. European University Research Center 6. Cyprus Institute of Neurology and Genetics 7. DELOITTE 8. European University Cyprus 9. Bank of Cyprus Cultural Foundation	3. Research Centre on Interactive Media, Smart Systems and Emerging Technologies (RISE Ltd) 4. Cyprus University of Technology[&] 5. European University Research Center 6. CY-Biobank 7. Cyprus Institute of Neurology and Genetics 8. DELOITTE 9. ARTos Foundation 10. Cyprus Center for European and International Affairs, University of Nicosia	4. European University Research Center 5. CY-Biobank 6. Cyprus Institute of Neurology and Genetics 7. DELOITTE 8. Cyprus Center for European and International Affairs, University of Nicosia 9. Bank of Cyprus Cultural Foundation	3. Cyprus Institute* 4. European University Research Center 5. CY-Biobank 6. Cyprus Institute of Neurology and Genetics 7. DELOITTE 8. Open University of Cyprus 9. ARTos Foundation 10. KPMG 11. Cyprus Center for European and International Affairs, University of Nicosia 12. Bank of Cyprus Cultural Foundation	4. Open University of Cyprus 5. KPMG 6. European University Cyprus 7. Cyprus Center for European and International Affairs, University of Nicosia 8. Bank of Cyprus Cultural Foundation

[&] Other respondents from the same organization claim that policy adoption is pending.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
Georgia	1. National Environmental Agency 2. Georgian Technical University 3. Akaki Tsereteli State University 4. Ilia State University[&]	1. Georgian Technical University 2. Tbilisi State Medical University	1. National Environmental Agency 2. Ilia State University 3. Georgian Technical University 4. Akaki Tsereteli State University 5. Tbilisi State Medical University	1. National Environmental Agency[$] 2. TSU National Science Library 3. The University of Georgia 4. Ilia State University 5. Ivane Beritashvili Centre of Experimental Biomedicine 6. Georgian Technical University 7. Akaki Tsereteli State University 8. Tbilisi State Medical University 9. Caucasus University 10. University of Georgia 11. David Agmashenebeli University of Georgia	1. Georgian Research and Educational Networking Association 2. National Environmental Agency 3. The University of Georgia 4. Ilia State University 5. Ivane Beritashvili Centre of Experimental Biomedicine 6. Georgian Technical University 7. Akaki Tsereteli State University 8. Tbilisi State Medical University 9. Caucasus University 10. University of Georgia 11. David Agmashenebeli University of Georgia	1. TSU National Science Library 2. The University of Georgia 3. Georgian Technical University
Greece	1. National Centre for Social Research (EKKE) 2. National Hellenic Research Foundation[*] 3. Biomedical Sciences Research Center 'Alexander Fleming'	1. Foundation for Research and Technology Hellas, Institute of Computer Science 2. National Observatory of Athens[$] 3. National Hellenic Research Foundation[*]	1. Foundation for Research and Technology Hellas, Institute of Computer Science 2. National Centre for Social Research (EKKE) 3. National Hellenic Research Foundation[*]	1. ATHENA Research Center[#] 2. Foundation for Research and Technology Hellas, Institute of Computer Science 3. National Centre for Social Research (EKKE)	1. ATHENA Research Center[*] 2. Demokritus University of Thrace 3. Foundation for Research and Technology Hellas, Institute of Computer Science	1. ATHENA Research Center* 2. National Observatory of Athens 3. Foundation for Research and Technology Hellas, Institute of Computer Science

[&] Other respondents from the same organization claim that policy adoption is pending.
[$] Other respondents from the same organization claim that policy is not planned.
[*] Other respondents from the same organization claim that policy adoption is pending or planned.
[#] Other respondents from the same organization claim that policy is planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	4. National and Kapodistrian University of Athens, Library and Information Center 5. Library and Information Centre of the Technical University of Crete 6. Centre for research and Technology Hellas – CERTH*	4. Centre for research and Technology Hellas – CERTH*	4. Biomedical Sciences Research Center 'Alexander Fleming'	4. National Hellenic Research Foundation 5. Biomedical Sciences Research Center 'Alexander Fleming' 6. KEFiM Markos Dragoumis 7. Library and Information Centre of the Technical University of Crete	4. National Hellenic Research Foundation* 5. Biomedical Sciences Research Center 'Alexander Fleming' 6. GRNET 7. KEFiM Markos Dragoumis 8. Library and Information Centre of the Technical University of Crete 9. Centre for research and Technology Hellas – CERTH*	4. National Hellenic Research Foundation
Hungary	1. BME 2. DRHE 3. Library and Information Centre, Hungarian Academy of Sciences 4. Obuda University 5. Pázmány Péter Catholic University 6. Semmelweis University Central Library 7. Szent István University Entz Ferenc Library and Archives 8. Szent István University Kosáry Domokos Library and Archives 9. University of Miskolc	1. BME 2. DRHE 3. Pázmány Péter Catholic University 4. Semmelweis University Central Library 5. University of Miskolc	1. DRHE 2. Obuda University 3. Semmelweis University Central Library 4. University of Miskolc	1. Corvinus University of Budapest 2. DRHE 3. Hungarian Academy of Sciences Institute for Nuclear Research 4. Library and Information Centre, Hungarian Academy of Sciences 5. Semmelweis University Central Library 6. Szent István University Entz Ferenc Library and Archives 7. Szent István University Kosáry Domokos Library and Archives 8. Tomori Pál College 9. University of Pécs	1. Budapest Metropolitan University 2. Corvinus University of Budapest 3. DRHE 4. Eotvos Lorand University 5. Eszterhazy Karoly University 6. Hungarian Academy of Sciences Institute for Nuclear Research 7. John von Neumann University Library and Information Center 8. Obuda University 9. Semmelweis University Central Library 10. Szent István University Entz Ferenc Library and Archives 11. Szent István University Kosáry Domokos Library and Archives	1. BME 2. Corvinus University of Budapest 3. DRHE 4. Semmelweis University Central Library 5. Szent István University 6. University of Miskolc

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
					12. Szent István University, Faculty of Landscape Architecture and Urbanism 13. Tomori Pál College 14. University of Debrecen	
Moldova	1. Academy of Economic Studies of Moldova 2. Academy of Music, Theater and Fine Arts 3. Alecu Russo Balti State University 4. Biblioteca Stiintifica USARB 5. Cahul State University "Bogdan Petriceicu Hasdeu" 6. Forest Research and Management Institute 7. Free International University of Moldova 8. IMSO IMU 9. Information Society Development Institute* 10. Institute of Applied Physics 11. Institute of Geography and Ecology 12. Institute of History	1. Academy of Economic Studies of Moldova 2. Academy of Music, Theater and Fine Arts 3. Biblioteca Stiintifica USARB[$] 4. Cahul State University "Bogdan Petriceicu Hasdeu" 5. Forest Research and Management Institute 6. Free International University of Moldova 7. Institute of Applied Physics 8. Institute of Geography and Ecology 9. Institute of History 10. Institute of International Relations of Moldova 11. Institute of Power Engineering 12. Institute of Zoology 13. Library and Information Department ULIM 14. Library of the Academy of Public Administration 15. Mather and child Institute	1. Academy of Economic Studies of Moldova[$] 2. Academy of Music, Theater and Fine Arts 3. Biblioteca Stiintifica USARB[#] 4. Cahul State University "Bogdan Petriceicu Hasdeu" 5. Cahul State University "Bogdan Petriceicu Hasdeu" 6. Forest Research and Management Institute 7. Free International University of Moldova 8. Institute of Applied Physics 9. Institute of Geography and Ecology 10. Institute of History 11. Institute of Power Engineering 12. Institute of Zoology	1. Academy of Economic Studies of Moldova[$] 2. Academy of Music, Theater and Fine Arts[&] 3. Biblioteca Stiintifica USARB[$] 4. Cahul State University "Bogdan Petriceicu Hasdeu"[*] 5. Forest Research and Management Institute 6. Free International University of Moldova 7. Information Society Development Institute 8. Institute of Applied Physics 9. Institute of History 10. Institute of International Relations of Moldova	1. Academy of Economic Studies of Moldova[$] 2. Academy of Music, Theater and Fine Arts[&] 3. Alecu Russo Balti State University 4. B.P. Hasdeu Municipal Library, Chisinau* 5. Forest Research and Management Institute 6. Free International University of Moldova 7. IMSO IMU 8. Information Society Development Institute 9. Institute of Applied Physics 10. Institute of History 11. Institute of International Relations of Moldova	1. Academy of Music, Theater and Fine Arts 2. Biblioteca Stiintifica USARB 3. Forest Research and Management Institute 4. Free International University of Moldova 5. IMSO IMU 6. Information Society Development Institute 7. Institute of Applied Physics 8. Institute of Geography and Ecology 9. Institute of History[&] 10. Library and Information Department ULIM 11. Moldova State University[?]

[$] Other respondents from the same organization claim that policy is not planned.
[&] Other respondents from the same organization claim that policy adoption is pending.
[*] Other respondents from the same organization claim that policy adoption is pending or planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	13. Institute of International Relations of Moldova 14. Institute of Power Engineering 15. Institute of Zoology 16. Library and Information Department ULIM 17. Library of the Academy of Public Administration 18. Mather and child Institute 19. Moldova State University[?] 20. National Book Chamber of the Republic of Moldova 21. National Institute for Economic Research 22. National Museum of Ethnography and Natural History 23. Nicolae Testemitanu State University of Medicine and Pharmacy 24. Republican Scientific Agricultural Library of State Agrarian University of Moldova	16. Moldova State University[?] 17. National Institute for Economic Research 18. National Museum of Ethnography and Natural History 19. Nicolae Testemitanu State University of Medicine and Pharmacy[&] 20. Republican Scientific Agricultural Library of State Agrarian University of Moldova 21. Scientific Library of Academy of Economic Studies of Moldova 22. Scientific Library of the Trade Co-operative University of Moldova 23. State Agrarian University of Moldova[?] 24. Institute of Legal, Political and Sociological Research 25. Republican Technical-Scientific Library of the National Institute of Economy 26. Vladimir Andrunachievici Institute of Mathematics and Computer Science[#]	13. Library and Information Department ULIM 14. Library of the Academy of Public Administration 15. Mather and child Institute 16. Moldova State University[?] 17. National Book Chamber of the Republic of Moldova 18. National Institute for Economic Research 19. Nicolae Testemitanu State University of Medicine and Pharmacy[&] 20. Technical University of Moldova[&] 21. Republican Technical-Scientific Library of the National Institute of Economy 22. Universitatea de Stat din Tiraspol[^] 23. Vladimir Andrunachievici Institute of	11. Institute of Power Engineering 12. Institute of Zoology[&] 13. Moldova State University[?] 14. National Book Chamber of the Republic of Moldova 15. National Institute for Economic Research 16. National Museum of Ethnography and Natural History 17. Nicolae Testemitanu State University of Medicine and Pharmacy[&] 18. Scientific Library of Academy of Economic Studies of Moldova[#] 19. Republican Technical-Scientific Library of the National Institute of Economy[#] 20. Universitatea de Stat din Tiraspol[^] 21. Vladimir Andrunachievici Institute of	12. Institute of Microbiology and Biotechnology[#] 13. Institute of Power Engineering 14. Institute of Zoology[&] 15. Library and Information Department ULIM 16. Moldova State University[?] 17. National Book Chamber of the Republic of Moldova 18. National Institute for Economic Research 19. National Museum of Ethnography and Natural History 20. Nicolae Testemitanu State University of Medicine and Pharmacy[&] 21. RENAM Association[#] 22. Scientific Library of Academy of Economic Studies of Moldova[#] 23. Scientific Library of the Grigore Ţsamblac State University in Taraclia	12. National Institute for Economic Research 13. Nicolae Testemitanu State University of Medicine and Pharmacy 14. Republican Scientific Agricultural Library of State Agrarian University of Moldova 15. State Agrarian University of Moldova[?]

[?] Other respondents from the same organization claim that the policies are pending, planned and even not planned.
[&] Other respondents from the same organization claim that policy adoption is pending.
[#] Other respondents from the same organization clams that policy is planned.
[#] Other respondents from the same organization clams that policy is planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	25. Scientific Library of Academy of Economic Studies of Moldova 26. Scientific Library of the Trade Co-operative University of Moldova 27. State Agrarian University of Moldova[?] 28. Republican Technical-Scientific Library of the National Institute of Economy 29. Universitatea de Stat din Tiraspol[^] 30. Vladimir Andrunachievici Institute of Mathematics and Computer Science[#]		Mathematics and Computer Science[#]	Mathematics and Computer Science[#]	24. Scientific Library of the Trade Co-operative University of Moldova 25. State Agrarian University of Moldova[?] 26. Technical University of Moldova[&] 27. Universitatea de Stat din Tiraspol[^] 28. Scientific Library of the Grigore Țamblac State University in Taraclia 29. Vladimir Andrunachievici Institute of Mathematics and Computer Science[#]	
Montenegro	1. Innovation and Entrepreneurship Centre Tehnopolis 2. University of Montenegro		1. Faculty of Information Technology, University Mediterranean 2. Innovation and Entrepreneurship Centre Tehnopolis		1. Institute of Public Health of Montenegro 2. Ministry of Science – Scientific Network	University of Montenegro
North Macedonia	1. Faculty of Pharmacy, UKIM, Skopje 2. Institute for Sociological, Politicial and Juridical Research 3. University	1. Institute of Ethnology and Anthropology, Faculty of Natural Sciences and Mathematics, "Ss.Cyril and Methodius" University – Skopje[&]	Institute of Ethnology and Anthropology, Faculty of Natural Sciences and Mathematics, "Ss.Cyril		1. Netcetera DOOEL 2. South East European University 3. SS Cyril and Methodius University (UKIM)	Institute of Ethnology and Anthropology, Faculty of Natural Sciences and Mathematics, "Ss.Cyril

[^] Other respondents from the same organization claim that the policy is planned or not even planned.
[#] Other respondents from the same organization claim that policy is planned.
[#] Other respondents from the same organization claim that policy is planned.
[&] Other respondents from the same organization claim that policy adoption is pending.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	4. Institute of Ethnology and Anthropology, Faculty of Natural Sciences and Mathematics, "Ss.Cyril and Methodius" University – Skopje 5. Ss. Cyril and Methodius University, Faculty of Computer Science and Engineering 6. University of Tetova	2. University of Tetova	and Methodius" University – Skopje			and Methodius" University – Skopje[$]
Romania	1. Apollonia University of Iasi, Romania 2. Carol Davila University of Medicine and Pharmacy 3. European Academy of Innovation 4. 'Henri Coanda' Air Force Academy 5. Military Equipment and Technologies Research Agency 6. National Defense University "Carol I" Bucharest 7. National Institute for Aerospace Research "Elie Carafoli" 8. National Institute of Research and Development for Biological Sciences	1. Apollonia University of Iasi, Romania 2. Carol Davila University of Medicine and Pharmacy 3. European Academy of Innovation 4. 'Henri Coanda' Air Force Academy 5. National Defense University "Carol I" Bucharest 6. National Institute for Aerospace Research "Elie Carafoli" 7. National Institute of Research and Development for Biological Sciences 8. National University of Political Science and Public Administration[#] 9. Valahia University of Targoviste	1. Apollonia University of Iasi, Romania 2. Carol Davila University of Medicine and Pharmacy 3. European Academy of Innovation 4. 'Henri Coanda' Air Force Academy 5. Lucian Blaga University of Sibiu[#] 6. Military Equipment and Technologies Research Agency 7. National Defense University "Carol I" Bucharest 8. National Institute for Aerospace Research "Elie Carafoli" 9. National Institute of Research and	1. Carol Davila University of Medicine and Pharmacy 2. European Academy of Innovation 3. 'Henri Coanda' Air Force Academy 4. National Defense University "Carol I" Bucharest 5. National Institute for Aerospace Research "Elie Carafoli" 6. National Institute of Research and Development for Biological Sciences 7. Research Institute for Artificial Intelligence "Mihai Draganescu", Romanian Academy	1. "Alexandru Ioan Cuza" Police Academy 2. Apollonia University of Iasi, Romania 3. Bucharest University of Economic Studies 4. Carol Davila University of Medicine and Pharmacy 5. European Academy of Innovation 6. 'Henri Coanda' Air Force Academy 7. Horia Hulubei National Institute of Physics and Nuclear Engineering 8. Lucian Blaga University of Sibiu[#] 9. Military Equipment and Technologies Research Agency	1. "Alexandru Ioan Cuza" Police Academy 2. Apollonia University of Iasi, Romania 3. Bucharest University of Economic Studies 4. Carol Davila University of Medicine and Pharmacy 5. European Academy of Innovation 6. 'Henri Coanda' Air Force Academy 7. Lucian Blaga University of Sibiu[#] 8. National Defense University "Carol I" Bucharest 9. National Institute for Aerospace Research "Elie Carafoli"

[$] Other respondents from the same organization claim that policy is not planned.
[#] Other respondents from the same organization claim that policy is planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	9. National University of Political Science and Public Administration[#] 10. Technical University of Cluj-Napoca, Computer Graphics and Interactive Systems Laboratory 11. Valahia University of Targoviste 12. Vasile Alecsandri University of Bacau 13. Vasile Alecsandri University of Bacau[&]	10. Vasile Alecsandri University of Bacau 11. Vasile Alecsandri University of Bacau	Development for Biological Sciences 10. National University of Political Science and Public Administration 11. National University of Political Science and Public Administration 12. Technical University of Cluj-Napoca, Computer Graphics and Interactive Systems Laboratory 13. Valahia University of Targoviste 14. Vasile Alecsandri University of Bacau[&]	8. Universitatea Nationala de Arte Bucuresti 9. Vasile Alecsandri University of Bacau	10. National Defense University "Carol I" Bucharest 11. National Institute for Aerospace Research "Elie Carafoli" 12. National Institute for Research and Development in Informatics – ICI Bucharest 13. National Institute of Marine Geology and Geoecology – GeoEcoMar 14. National Institute of Research and Development for Biological Sciences 15. National University of Political Science and Public Administration[#] 16. New Strategy Center 17. Research Institute for Artificial Intelligence "Mihai Draganescu", Romanian Academy 18. Universitatea Nationala de Arte Bucuresti 19. Valahia University of Targoviste 20. Vasile Alecsandri University of Bacau	10. National Institute of Research and Development for Biological Sciences 11. National University of Political Science and Public Administration 12. Research Institute for Artificial Intelligence "Mihai Draganescu", Romanian Academy 13. Romanian Social Data Archive 14. Spiru Haret University 15. Technical University of Cluj-Napoca, Computer Graphics and Interactive Systems Laboratory 16. Valahia University of Targoviste[&]

[&] Other respondents from the same organization claim that policy adoption is pending.
[#] Other respondents from the same organization clams that policy is planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
					21. Vasile Alecsandri University of Bacau[&]	
Serbia	1. University of Belgrade – School of Electrical Engineering 2. Institute of Technical Sciences of SASA 3. University of Belgrade , University library "Svetozar Markovic" 4. Institute for Medical Research 5. University library in Kragujevac 6. University of Belgrade, Technical faculty in Bor 7. University Belgrade – Faculty of Chemistry 8. Institute of Ethnography SASA, Belgrade 9. University of Arts in Belgrade 10. University of Belgrade – Faculty of Architecture 11. Institute of Physics Belgrade[$] 12. Faculty of Technology and Metallurgy 13. University of Arts in Belgrade	1. Institute of Technical Sciences of SASA 2. Faculty of medicine, University of Belgrade 3. Faculty of Medicine, University of Belgrade 4. University library in Kragujevac 5. Faculty of Technology and Metallurgy 6. University of Nis 7. University of Novi Sad Faculty of Sciences 8. Institute for Philosophy and Social Theory 9. Faculty of dramatic arts in Belgrade 10. Institute for Biological Research "Siniša Stanković", University of Belgrade 11. Institute of Field and Vegetable Crops 12. Institute of Musicology, Serbian Academy of Sciences and Arts 13. Institute of Rheumatology,Belgrade 14. Maize Research Institute, Zemun Polje	1. Faculty of Medicine, University of Belgrade 2. University of Belgrade – Faculty of Architecture 3. Institute of Physics Belgrade[$] 4. Faculty of Technology and Metallurgy 5. University of Arts in Belgrade 6. University of Nis 7. University of Novi Sad Faculty of Sciences 8. Institute for Philosophy and Social Theory 9. Faculty of dramatic arts in Belgrade 10. Institute for Biological Research "Siniša Stanković", University of Belgrade 11. Institute for Plant Protection and Environment 12. Institute of Musicology, Serbian Academy of Sciences and Arts	1. University of Novi Sad Faculty of Sport and Physical Education 2. University of Belgrade – School of Electrical Engineering 3. Faculty of medicine, University of Belgrade 4. University of Belgrade , University library "Svetozar Markovic" 5. Institute of Archaeology 6. University Belgrade – Faculty of Chemistry 7. The Faculty of Law, University of Novi Sad, Serbia 8. University of Belgrade – Faculty of Architecture 9. Faculty of Technology and Metallurgy 10. University of Nis 11. University of Novi Sad Faculty of Sciences	1. Institute of Archaeology 2. Faculty of Medicine, University of Belgrade 3. University of Belgrade – Faculty of pharmacy 4. University of Belgrade, Technical faculty in Bor 5. University Belgrade – Faculty of Chemistry 6. The Faculty of Law, University of Novi Sad, Serbia 7. Faculty of Medicine, University of Belgrade 8. Institute of Physics Belgrade[$] 9. Faculty of Technology and Metallurgy 10. University of Nis 11. University of Novi Sad Faculty of Sciences 12. Institute for Philosophy and Social Theory 13. Faculty of dramatic arts in Belgrade 14. Institute of Field and Vegetable Crops	1. University of Belgrade , University library "Svetozar Markovic" 2. Faculty of Medicine, University of Belgrade 3. University Belgrade – Faculty of Chemistry 4. University of Arts in Belgrade 5. Faculty of Medicine, University of Belgrade 6. Faculty of Technology and Metallurgy 7. University of Novi Sad Faculty of Sciences 8. Institute for Philosophy and Social Theory 9. Faculty of dramatic arts in Belgrade 10. Institute of Rheumatology, Belgrade 11. Maize Research Institute, Zemun Polje

[$] Other respondents from the same organization claim that policy is not planned.
[$] Other respondents from the same organization claim that policy is not planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	14. University of Nis 15. University of Novi Sad Faculty of Sciences 16. Institute for Philosophy and Social Theory 17. Faculty of dramatic arts in Belgrade 18. Institute for Literature and Art 19. Institute for Biological Research "Siniša Stanković", University of Belgrade 20. Institute of Field and Vegetable Crops 21. Institute for Plant Protection and Environment 22. Institute of Musicology, Serbian Academy of Sciences and Arts 23. Institute of Rheumatology, Belgrade 24. Maize Research Institute, Zemun Polje		13. Institute of Rheumatology, Belgrade 14. Maize Research Institute, Zemun Polje	12. Institute for Philosophy and Social Theory 13. Faculty of dramatic arts in Belgrade 14. Institute for Biological Research "Siniša Stanković", University of Belgrade 15. Institute of Musicology, Serbian Academy of Sciences and Arts 16. Institute of Rheumatology, Belgrade 17. Maize Research Institute, Zemun Polje	15. Institute of Rheumatology, Belgrade 16. Maize Research Institute, Zemun Polje	
Slovenia	1. CESSDA/UL/ADP Social Science Data Archive Slovenia 2. IEDC-Bled School of Management 3. Institute of Metals and Technology	1. IEDC-Bled School of Management 2. National and Unviersity Library 3. Research centre of the Slovenian Academy of Sciences and Arts*	1. CESSDA/UL/ADP Social Science Data Archive Slovenia 2. IEDC-Bled School of Management 3. National and Unviersity Library	1. IEDC-Bled School of Management 2. Institute of Contemporary History 3. Jožef Stefan Institute	1. Agricultural Institute of Slovenia 2. CESSDA/UL/ADP Social Science Data Archive Slovenia 3. Geological Survey of Slovenia	1. Agricultural Institute of Slovenia 2. Geological Survey of Slovenia 3. Institute of Contemporary History[#]

[#] Other respondents from the same organization clams that policy is planned.

Country	OA policy for publications	Monitoring policy compliance	OA to research data	Preservation of scientific information	Information and data security	Mandatory software sharing
	4. National and Unviersity Library 5. Research centre of the Slovenian Academy of Sciences and Arts* 6. School of Economics and Business LU, Central Economics Library 7. Slovenian National Building and Civil Engineering Institute 8. University of Ljubljana, Faculty of Arts		4. National Institute of Chemistry# 5. Research centre of the Slovenian Academy of Sciences and Arts* 6. Slovenian National Building and Civil Engineering Institute	4. National and Unviersity Library 5. National Institute of Chemistry# 6. Research centre of the Slovenian Academy of Sciences and Arts*	4. IEDC-Bled School of Management 5. Institute of Contemporary History 6. Jožef Stefan Institute 7. National Institute of Chemistry# 8. Research centre of the Slovenian Academy of Sciences and Arts* 9. University of Ljubljana*	4. Institute of Metals and Technology 5. Jožef Stefan Institute 6. National Institute of Chemistry# 7. Research centre of the Slovenian Academy of Sciences and Arts*

Colour codes

- 1–5 policies
- 6–10 policies
- 11–20 policies
- 21–30 policies
- 31–40 policies

* Other respondents from the same organization claim that policy adoption is pending or planned.

5. Conclusions

The landscaping activity conducted within the scope of the NI4OS-Europe project has provided a relevant initial input for other project activities even without a detailed analysis of the collected responses. A detailed analysis will be performed in the following months. Throughout the process, the activities will be coordinated with the EOSC Landscaping activity.

At this stage, the following conclusions can be made:

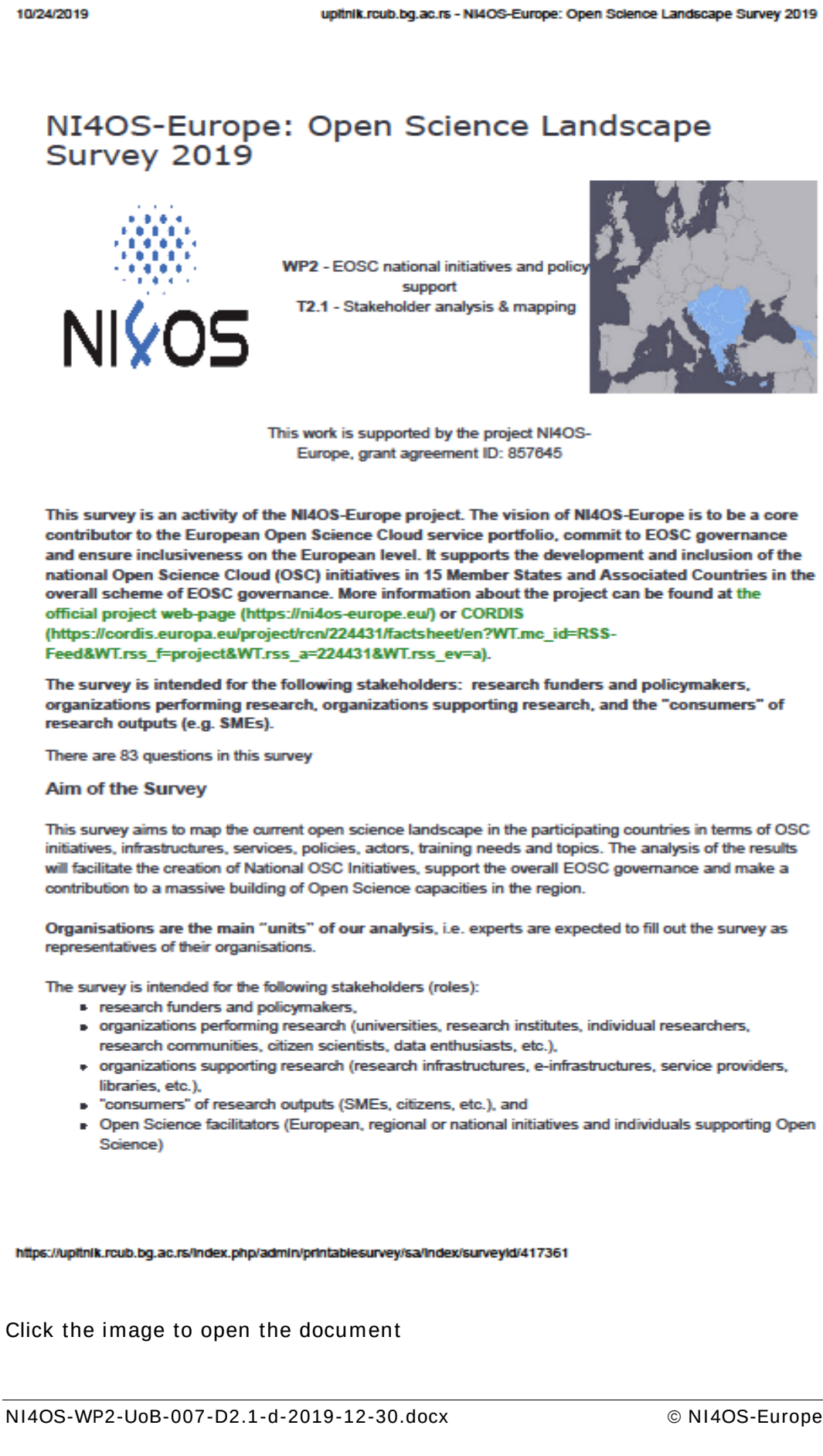
- Due to the information gap in partner countries, the involvement of project partners, especially WP leaders, has been crucial in performing the activities related to landscaping (especially stakeholder mapping). The initial assessment of the quality of information derived from survey responses indicates that their input will be required in further stages as well.
- Initial stakeholder mapping has been performed. It has been done based on the initial input of the project partners. It has been decided to use this initial input (and not the information extracted from the survey results) as the basis for the final mapping. The report suggests a possible solution for visualizing the distribution of stakeholders in partner countries. However, not all partners have provided the names of organizations in their countries. This information can be partly extracted from the survey results. Nevertheless, additional input from project partners will be required.
- The survey results provide abundant information. While this information will be very useful in identifying awareness levels, opinions and needs, the reliability of the collected factual information is in some cases disputable.
- An initial inventory of infrastructures and services has been identified based on the survey results. Further efforts should be directed towards extracting other information from the survey results that may be relevant for the inventory.
- An initial policy matrix has been drafted based on the survey results. The collected information requires verification and the assistance of the project partners will be necessary in this process. Policies are usually available only in local languages and are difficult to find and analyze. Local stakeholders should be encouraged to register their policies in ROARMAP, which requires them to describe policies using a standardized form. Although insufficiently granular (and unable to track e.g. FAIR-related rules), it is helpful in mapping policies. Local stakeholders should also be encouraged to make their policies publicly available on the Internet, so that the final policy map may link to actual documents.

6. Annex 1 – Activity timeline

Date	Activity
06-07/06/2019	EOSC Jam Session Workshop (Turin)
11/06/2019	WP leaders invited to send questions for the survey
19/06/2019	Stakeholder groups defined (preliminary structure)
26/06/2019	The first meeting of WP leaders (skype call, notes)
09/07/2019	Defining stakeholders groups (skype call)
18/07/2019	Meeting of the EOSC Landscape WG
22/07/2019	Invitation to WP leaders to start compiling the lists of stakeholders in their countries
23/08/2019	Invitation to comment on the EOSC-Pillar survey
26/08/2019	Reminder to WP leaders to compile lists of stakeholders
27/08/2019	Meeting of the EOSC Landscape WG
02/09/2019	The first draft to the survey (cumulative questionnaire) shared with WP leaders
04/09/2019	Reminder to WP leaders to compile lists of stakeholders
03-12/09/2019	Comments received and discussed
13/09/2019	The second draft of the survey (LimeSurvey questionnaire) shared with WP leaders.
14-25/09/2019	Comments received and discussed
17/09/2019	Consultations with Iryna Kuchma regarding her support to landscape activities in Georgia and Armenia
17/09/2019	Meeting of the NI4OS-Europe team at the Open Science Fair in Porto
18/09/2019	WP2 consultations about the survey and D2.1 (Porto)
19/09/2019	Landscaping activities in EOSC-Pillar and NI4OS-Europe (Skype meeting)
30/09/2019	The final testing of the survey (Athena, UoB, UKIM). Comments
02/10/2019	Survey shared with EOSC-Pillar
02/10/2019	Iryna Kuchma's report about activities in Georgia and Armenia
03/10/2019	Skype call on the privacy statement
08/10/2019	Presentation at the NI4OS-Europe kick-off meeting: introducing the survey, explaining stakeholder groups, a draft of the invitation letter.
11/10/2019	Presentation of the NI4OS-Europe landscaping activity at the EOSC-Pillar webinar
14/10/2019	Meeting of the EOSC Landscape WG (remote)
15/10/2019	Finalizing the survey and a skype call to discuss the privacy statement
18/10/2019	Webinar for all project partners (instructions regarding the launching of the survey and invitations to stakeholders; the template for the invitation letter was shared)
21/10/2019	Launching the survey
22/10/2019	Preparing a news post for the NI4OS-Europe website

23/10/2019	Meeting of the EOSC Landscape WG (remote)
31/10/2019	Landscape support for Armenia and Georgia – Skype call with Iryna Kuchma
28/10/2019 04/11/2019 11/11/2019 25/11/2019 02/12/2019	Survey monitoring. Every Monday the partners receive a list of responses collected from their country

7. Annex 2 – Full list of questions



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NI4OS-Europe: Open Science Landscape Survey 2019

WP2 - EOSC national initiatives and policy support
T2.1 - Stakeholder analysis & mapping

This work is supported by the project NI4OS-Europe, grant agreement ID: 857645

This survey is an activity of the NI4OS-Europe project. The vision of NI4OS-Europe is to be a core contributor to the European Open Science Cloud service portfolio, commit to EOSC governance and ensure inclusiveness on the European level. It supports the development and inclusion of the national Open Science Cloud (OSC) initiatives in 15 Member States and Associated Countries in the overall scheme of EOSC governance. More information about the project can be found at the official project web-page (https://ni4os-europe.eu/) or CORDIS (https://cordis.europa.eu/project/rcn/224431/factsheet/en?WT.mc_id=RSS-Feed&WT.rss_f=project&WT.rss_a=224431&WT.rss_ev=a).

The survey is intended for the following stakeholders: research funders and policymakers, organizations performing research, organizations supporting research, and the "consumers" of research outputs (e.g. SMEs).

There are 83 questions in this survey

Aim of the Survey

This survey aims to map the current open science landscape in the participating countries in terms of OSC initiatives, infrastructures, services, policies, actors, training needs and topics. The analysis of the results will facilitate the creation of National OSC Initiatives, support the overall EOSC governance and make a contribution to a massive building of Open Science capacities in the region.

Organisations are the main "units" of our analysis, i.e. experts are expected to fill out the survey as representatives of their organisations.

The survey is intended for the following stakeholders (roles):

- research funders and policymakers,
- organizations performing research (universities, research institutes, individual researchers, research communities, citizen scientists, data enthusiasts, etc.),
- organizations supporting research (research infrastructures, e-infrastructures, service providers, libraries, etc.),
- "consumers" of research outputs (SMEs, citizens, etc.), and
- Open Science facilitators (European, regional or national initiatives and individuals supporting Open Science)

https://upitnik.rcub.bg.ac.rs/index.php/admin/printablesurvey/sa/index/surveyid/417361 1/32

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8. Annex 3 – Publication and data repositories, services

8.1. Publication repositories

Country	Organization	URL	Software platform
Armenia	National Science Laboratory after A. Alikhanyan (Yerevanb Physics Institute)	http://invenio.yerphi.am/	Invenio
Armenia	Fundamental Scientific Library of the National Academy of Sciences	https://arar.sci.am/dlibra	dLibra
Bosnia-Herzegovina	Institute of Genetic Resources	http://eteze.unibl.org/	Phaidra
Bosnia-Herzegovina	University of Banja Luka	https://phaidra.unibl.org/	Phaidra
Bulgaria	Institute of Mathematics and Informatics, Bulgarian Academy of Silences	http://sci-gems.math.bas.bg	DSpace
Bulgaria	Institute of Mathematics and Informatics at the Bulgarian Academy of Sciences	http://sci-gems.math.bas.bg/jspui/	DSpace
Croatia	Ruđer Bošković Institute	http://fulir.irb.hr/	Eprints
Croatia	University of Zadar	http://www.unizd.hr/digitalni-repozitoriji	Islandora
Croatia	University of Zagreb Faculty of Humanities and Social Sciences	https://darhiv.ffzg.unizg.hr	Eprints
Croatia	University of Zagreb Academy of Music Library	https://drma.muza.unizg.hr/	Islandora
Croatia	University of Rijeka, Faculty of Civil Engineering	https://repository.gradri.uniri.hr/en	Islandora
Croatia	University of Zagreb Faculty of Economics & Business	https://repozitorij.efzg.unizg.hr/	Islandora
Croatia	University of Zagreb, Faculty of Education and Rehabilitation Sciences	https://repozitorij.erf.unizg.hr/	Islandora
Croatia	Fakultet agrobiotehničkih znanosti Osijek	https://repozitorij.fazos.hr	Islandora
Croatia	Faculty of Humanities and Social Sciences, University of Osijek	https://repozitorij.ffos.hr/	Islandora
Croatia	University of Zagreb Faculty of Humanities and Social Sciences	https://repozitorij.ffzg.unizg.hr	Islandora
Croatia	Faculty of Education, J.J. Strossmayer University of Osijek	https://repozitorij.foozos.hr/	Islandora
Croatia	Faculty of Political Science, University of Zagreb	https://repozitorij.fpzg.unizg.hr/	Islandora
Croatia	Faculty of Civil Engineering, University of Zagreb	https://repozitorij.grad.unizg.hr/	Islandora
Croatia	University of Split, Faculty of Civil Engineering, Architecture and Geodesy	https://repozitorij.gradst.unist.hr/en	Islandora
Croatia	Institute of Public Finance	https://repozitorij.ijf.hr/	Islandora
Croatia	University of Zagreb Faculty of Kinesiology	https://repozitorij.kif.unizg.hr/	Islandora

Country	Organization	URL	Software platform
Croatia	School of Medicine University of Zagreb	https://repozitorij.mef.unizg.hr/en/node/1	Islandora
Croatia	University of Split School of Medicine	https://repozitorij.mefst.unist.hr/	Islandora
Croatia	Faculty of Food Technology and Biotechnology University of Zagreb	https://repozitorij.pbf.unizg.hr/	Islandora
Croatia	University of Zagreb Faculty of Pharmacy an Biochemistry	https://repozitorij.pharma.unizg.hr/en	Islandora
Croatia	Faculty of Science, University of Split	https://repozitorij.pmfst.unist.hr/	Islandora
Croatia	Faculty of Law, Josip Juraj Strossmayer University in Osijek	https://repozitorij.pravos.unios.hr/	Islandora
Croatia	School of Dental Medicine, University of Zagreb	https://repozitorij.sfzg.unizg.hr	Islandora
Croatia	University of Zagreb Faculty of Metallurgy	https://repozitorij.simet.unizg.hr/	Islandora
Croatia	University of Zagreb Faculty of Textile Technology	https://repozitorij.ttf.unizg.hr/	Islandora
Croatia	University of Dubrovnik	https://repozitorij.unidu.hr	Islandora
Cyprus	University of Cyprus	https://gnosis.library.ucy.ac.cy/	DSpace
Cyprus	University of Cyprus	https://lekythos.library.ucy.ac.cy/	DSpace
Cyprus	Cyprus University of Technology	https://ktisis.cut.ac.cy	DSpace
Cyprus	Open University of Cyprus (Library)	https://kypseli.ouc.ac.cy	DSpace
Cyprus	European University Cyprus	https://repo.euc.ac.cy/	DSpace
Georgia	TSU National Science Library	https://openscience.ge	DSpace
Georgia	Ilia State University	http://eprints.iliauni.edu.ge/	EPrints
Georgia	Ivave Javakhishvili Tbilisi State University	http://eprints.tsu.ge/	EPrints
Greece	National Hellenic Research Foundation	http://helios-eie.ekt.gr/EIE/handle/10442/11335	In-house solution
Greece	Athena Research Center	https://kalliergos.athenarc.gr/jspui/	DSpace
Greece	National and Kapodistrian University of Athens, Library and Information Center	https://pergamos.lib.uoa.gr	Proprietary based on Fedora Commons
Greece	Library and Information Centre of the Technical University of Crete	https://dias.library.tuc.gr/	Other
Hungary	Budapest Business School	http://publikaciotar.repozitorium.uni-bge.hu/	EPrints
Hungary	Széchenyi István University	http://szerep.sze.hu/jadox/portal/	Jadox
Hungary	Hungarian Academy of Sciences, Institute for Nuclear Research	https://dea.lib.unideb.hu/dea/?locale-attribute=en	DSpace
Hungary	Library of the Hungarian Academy of Sciences	http://real.mtak.hu/	EPrints
Hungary	DRHE	https://derep-k.drhe.hu	EPrints
Hungary	Eotvos Lorand University	https://edit.elte.hu/	DSpace

Country	Organization	URL	Software platform
Hungary	Eszter4azy Karoly University	https://konyvtar.uni-eszterhazy.hu/hu/ktarhu/repozitoriumok	EPrints
Hungary	University of Pécs	https://pea.lib.pte.hu/	DSpace
Hungary	Budapest Metropolitan University	https://szakdolgozat.metropolitan.hu/en_GB	Other
Moldova	Library of the Academy of Public Administration	http://dspace.aap.gov.md/	DSpace
Moldova	Academy of Music, Theater and Fine Arts	http://repository.amtap.md:8080/	DSpace
Moldova	Ion Creanga State Pedagogical University	http://dir.upsc.md:8080/xmlui/	DSpace
Moldova	National Institute for Economic Research	http://dspace.ince.md/jspui/	DSpace
Moldova	State Agrarian Univrsity of Moldova	http://dspace.uasm.md	DSpace
Moldova	Scientific Library of Alecu Russo State University Balts	http://dspace.usarb.md:8080/jspui/	DSpace
Moldova	Moldova State University	http://dspace.usm.md:8080/xmlui/	DSpace
Moldova	SMPhU Nicolae Testemitsanu	http://irms.library.usmf.md:8080/jspui/	DSpace
Moldova	Technical University of Moldova	http://repository.utm.md/	DSpace
Montenegro	University of Montenegro, Faculty of Electrical Engineering	https://phaidra.ucg.ac.me/	Phaidra
North Macedonia	University of Tetova	http://eprints.unite.edu.mk/	EPrints
North Macedonia	UKIM Faculty of veterinary medicine – Skopje	https://repository.ukim.mk	DSpace
Serbia	University of Belgrade – Institute of Chemistry, Technology and Metallurgy	http://cer.ihtm.bg.ac.rs/	DSpace
Serbia	University Belgrade – Faculty of Chemistry	http://cherry.chem.bg.ac.rs	DSpace
Serbia	Institute of Technical Sciences of SASA	http://dais.sanu.ac.rs/handle/123456789/73	DSpace
Serbia	Institute of Musicology, Serbian Academy of Sciences and Arts	http://dais.sanu.ac.rs/handle/123456789/914	DSpace
Serbia	Institute for Biological Research "Siniša Stanković", University of Belgrade	http://ibiss-r.rcub.bg.ac.rs/	DSpace
Serbia	Serbian Government	http://nardus.mpn.gov.rs/	DSpace
Serbia	University of Nis	http://open.ni.ac.rs/	DSpace
Serbia	University of Kragujevac	https://phaidrakg.kg.ac.rs/	Phaidra
Serbia	University of Novi Sad	https://www.cris.uns.ac.rs/pmf.jsf	In-house solution
Serbia	Institute for Plant Protection and Environment	http://plantarum.izbis.bg.ac.rs/	DSpace
Serbia	Institute for Philosophy and Social Theory	http://rifdt.instifdt.bg.ac.rs/	DSpace
Serbia	University of Nis	https://eteze.ni.ac.rs/	Phaidra
Serbia	University of Novi Sad Faculty of Sciences	https://open.uns.ac.rs	DSpace

Country	Organization	URL	Software platform
Serbia	Maize Research Institute, Zemun Polje	http://rik.mrizp.rs/	DSpace
Slovenia	Geological Survey of Slovenia	http://egeologija.si	Other
Slovenia	National and Unviersity Library	http://www.dlib.si/	Fedora
Slovenia	University of Maribor	https://dk.um.si/	In house solution
Slovenia	University of Ljubljana	https://repozitorij.uni-lj.si/	In house solution
Slovenia	Institute of Contemporary History	www.sistory.si	Fedora

8.2. Data repositories

Country	Organization	URL	Software platform
Armenia	Institute of Geological Sciences, National Academy of Sciences	http://vgse.geology.am/	In-house solution
Bulgaria	Sofia University St. Kliment Ohridski	http://cris.fmi.uni-sofia.bg	DSpace
Croatia	University of Zagreb Faculty of Humanities and Social Sciences	https://dataverse.ffzg.unizg.hr	Dataverse
Cyprus	Open University of Cyprus (Library)	https://www.data.gov.cy/	DSpace
Greece	Ministry of Digital Governance	http://data.gov.gr/	CKAN
Greece	Athena Research Center	https://hellenicdataservice.gr	CKAN
Greece	National Observatory of Athens	http://datahub.geocradle.eu/search/type/dataset	DKAN
Greece	National Hellenic Research Foundation	http://www.hasi.gr/	Drupal?
Greece	NATIONAL CENTRE FOR SOCIAL RESEARCH (EKKE)	www.sodanet.gr	Dataverse + Nesstar
North Macedonia	Institute of Ethnology and Anthropology, Faculty of Natural Sciences and Mathematics, "Ss.Cyril and Methodius" University – Skopje	http://149.56.44.66:28081/	ArcivesSpace
Romania	Romanian Social Data Archive	http://www.roda.ro/en/data-catalog	In-house solution
Slovenia	Geological Survey of Slovenia	http://egeologija.si	geonetwork 3.0.3.0
Slovenia	University of Ljubljana	https://www.adp.fdv.uni-lj.si/	In-house solution
Slovenia	Institute of Contemporary History	www.sistory4.sistory.si	Fedora

8.3. Other services

Country	Organization	Service	Desription	URL
Bosnia and Herzegovina	Faculty of Electrical Engineering Computer Center	E-learning platform	Based on Moodle and BigBlueButton	https://el.etfbl.net
Bosnia-Herzegovina	Academic and Research Network of Republic of Srpska	Internet connection		http://www.jusarnet.net/
Bulgaria	Institute of Information and Communication Technologies	HPC Access to supercomputer Avitohol		sftp://gw.avitohol.acad.bg:22/
Bulgaria	National Institute of Geophysics, Geodesy and Geography-BAS	Real-time information for earthquakes		http://ndc.niggg.bas.bg/
Bulgaria	Central Library of the Bulgarian Academy of Sciences	Cultural heritage collections	Access to the digital content of cultural heritage through the digital collections on our website.	http://cl.bas.bg/en/digital-collections/
Croatia	Croatian Academic and Research Network – CARNET	CARNET	Maintenance of the central computer and information CARNET systems, development of public and internal application solutions, maintenance of registers and databases, maintenance and upgrade of internal computer and information infrastructure and services, as well as computer and system support for all users and member institutions.	https://www.carnet.hr/en/about-carnet/organisation/
Croatia	Rudjer Boskovic Institute	CROSBI	Croatian national bibliographic database about all scientific and professional publications published by Croatian scientists. CROSBI also enables archiving of full-text files and collects bibliometric data and links publication records with authors, institutions and projects so it enables various reporting functionalities.	https://www.bib.irb.hr/lang/en
Croatia	SRCE - University of Zagreb University Computing Centre	DABAR (Digital Academic Archives and Repositories)	Technological solutions that facilitate maintenance of higher education and science institutions' digital assets, i.e. various digital objects produced by the institutions and their employees.	https://dabar.srce.hr/en/
Croatia	National and University Library in Zagreb	Electronic Resources Portal	Electronic Resources Portal for the Croatian Academic and Scientific Community (baze.nsk.hr) is the main access point to all licenced and open access electronic resources of scientific information (databases and e-journal collections) for Croatian	http://baze.nsk.hr/

Country	Organization	Service	Desription	URL
			Academic and Scientific Community.	
Cyprus	Cyprus Institute	STARC	This repository holds digital objects created in various projects over the last 5 years at the STARC research center of the Cyprus Institute.	http://public.cyi.ac.cy/starcRepo/
Georgia	National Environmental Agency	Hydrometeorological data	Current and historical hydrometeorological data on the territory of Georgia; sStatistical parameters of long-term hydrometeorological data; short, medium and long-term general and special weather forecasts; Warnings about impending disaster hydrometeorological events. Special Forecasts and Special Precautions in Avalanches (Snow Avalanches); Installation and installation of meteorological and hydrological observation equipment, etc.	http://nea.gov.ge/
Georgia	Georgian Research and Educational Networking Association GRENA	GRENA Cloud	Virtual machines and services based on specifictechnical requirements; VM installation and full administration; VM 24/7 online monitoring service; Backup of VM and the data; Cybersecurity and fast response to cyber incidents; Control panels adapted to your requirements	https://www.grena.ge/eng/vps
Georgia	Georgian Research and Educational Networking Association	High-bandwidth network		https://www.grena.ge/eng/internet
Greece	EOSC Governing Board member	BIP Finder	A tool that assists the discovery of valuable publications. This tool supports ranking and comparing of scientific articles based on their popularity (short-term impact) or influence (long-term impact), while it provides useful features like intuitive infographics for each article and a mechanism of bookmarks.	https://bip.imsi.athenarc.gr/
Greece	Ministry of Education	Education policies		https://www.minedu.gov.gr/
Greece	GRNET	GRNET national HPC ARIS	(Advanced Research Information System) Infrastructure provides state-of-the-art supercomputing capabilities for large-scale scientific applications.	www.hpc.grnet.gr
Greece	PANACEA Research Infrastructure (Affilliation National Observatory of Athens)	PANACEA	Monitoring and assessment of air pollution relevant episodes/event/accidents with mobile units and instrumentation	https://panacea-ri.gr/

Country	Organization	Service	Desription	URL
Greece	GRNET	ARIS	The ARIS infrastructure consists of a total of four computing system nodes, based on Intel x86 architecture, interconnected into a single Infiniband FDR14 network offering multiple options and processing architectures.	https://hpc.grnet.gr/en/
Greece	GRNET	ARIS Storage	ARIS supports shared file systems on , HOME (250TB) and WORKDIR (500TB) based on IBM GPFS Parallel file system. All login and compute nodes may access same data on shared file systems.	https://hpc.grnet.gr
Greece	GRNET	Vi-Seem Archive	The archival service allows moving less frequently used data to a separate storage device. Typically, it is used for archival of scientific data, whose preservation is important for future reference and reproducibility of scientific simulations, but are not currently being used. The archived data are indexed and are searchable within this service, so that the files and their parts can be easily located and retrieved. The archival service is operated by GRNET, and behind the service 1.5 PB of dedicated disk and 2 PB of dedicated tape storage is available.	http://hpc.grnet.gr/en
Greece	GRNET	Vi-Seem Repo	Repository service allows users to deposit and share data. It is used to host publications and their associated datasets, as well as software or references to software and workflows, used to generate such datasets and publications. It is also the service for storing simplified data formats such as images, videos or others suitable also for the general public. Although the service is based on DSpace technology, it is customized to satisfy demands of regional virtual research communities by GRNET.	https://repo.vi-seem.eu
Greece	GRNET	Openstack	The Openstack service at GRNET is a primarily a typical IaaS service to provide our user with persistent cloud instances, with advanced self-service options for networking, firewalling, load balancing etc.	https://ui.cloud.grnet.gr
Hungary	HUNOR (Hungarian Open Access Repositories Consortia)	Open Science	Librarians training each other for supporting open science activities. It is a volunteer program.	https://openscience.hu/
Hungary	Library of Kaposvar University	Repositories of Kaposvar University		http://kea.ke.hu/

Country	Organization	Service	Desription	URL
Hungary	Library and Information Centre, Hungarian Academy of Sciences	National scientific bibliography database		http://www.mtmt.hu
Hungary	Semmelweis University Central Library	MOKKA	Federated search of the catalogues of Hungarian libraries	http://www.mokka.hu/en/
Moldova	Scientific Library of Comrat State University from Moldova	Collections of scientific conferences of the Comrat State University		https://kdu.md/en/science-and-international-relations/collections-of-scientific-conferences
Moldova	RENAM Association	Eduroam – Wi-Fi internet access roaming		https://www.eduroam.md/
Moldova	Information Society Development Institute	National Bibliometric Instrument (IBN)	The largest Open Access electronic library of articles published in national scientific journals, as well as conference proceedings from the Republic of Moldova for 1993-2019	https://ibn.idsi.md/
Moldova	RENAM	RENAM Scientific Cloud		cloud.renam.md
Moldova	Vladimir Andrunachievici Institute of Mathematics and Computer Science	Journal publishing platform		http://www.math.md/publications/
Montenegro	Montenegrin Research and Education Network (MREN)	MREN CA	Security infrastructure needed for the operation of all MREN resources and authentication of all MREN users, hosts and services.	http://mren-ca.ac.me/index.php
Montenegro	Ministry of Science - Scientific Network	Naučna mreža	Portal for the presentation of the research organiyations, their research equipment and researchers. Individual researchers are provided with a personal page where the basic research data are listed, together with publications, projects and innovative results.	www.naucnamreza.me
North Macedonia	Ss. Cyril and Methodius University, Faculty of Computer Science and Engineering	A High Performance Computing (HPC) cluster on each node.	84 nodes, each of them with two 6 core Xeon L5640 (total of 1,008 physical CPU cores / 2016 virtual CPU cores, and total of 2 TB RAM). The nodes are interconnected with QDR Infiniband interconnection, achieving 7.776 TFlops peak measured computing power (86% efficiency). The cluster is	http://hpgcc.finki.ukim.mk/

Country	Organization	Service	Desription	URL
			supported by a 36 TB storage system under Lustre FS, providing high-throughput I/O for every cluster node. The HPC system also supports a Hadoop installation, which can utilise local 250 GB disks on each node.	
North Macedonia	MARNET, National Academic and Research Network of North Macedonia	MARNET	Network infrastructure for connecting R&E institutions in North Macedonia to the European GEANT R&E network and the Internet.	http://marnet.mk/en/mreza/
North Macedonia	Social science data archive of North Macedonia (at Institute for sociological, political and juridical research, Skopje)	Data-related services	Help in creation of study description for data depositors. Access to data for data users.	https://mk.seedsproject.ffzg.hr/?lang=mk
Slovenia	IZUM - Institut of Information Science, Maribor	ILS for libraries, discovery services for end-users, CRIS system for researchers		https://plus.si.cobiss.net/opac7/bib/search
Slovenia	Academic and Research Network of Slovenia	Infrastructure for education, research and culture.		www.arnes.si/infrastructure
Slovenia	Infrastructure for Systems Biology Europe, Slovenian Hub	ISBE	We promote systems biology research in Slovenia, member if ISBE Slovenia provide (but not ISBE itself, yet) provide training and tools for systems biology.	http://isbe.si/
Slovenia	University of Ljubljana	OpenAIRE National Open Access Desk (NOAD)	The OpenAIRE NOAD provides support to researchers, RPOs, RFOs, government, libraries, publishers, CRIS systems, generic and research infrastructures on issues related to open access to publications and FAIR and open research data.	https://www.openaire.eu/contact-noads

