EOSC Future

D2.8a

EOSC Observatory

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Abstract

This report provides a short description of the first release of the back end of the EOSC Observatory. The observatory is a policy intelligence tool being developed by OpenAIRE and Technopolis Group in the EOSC Future project to monitor policies, practices, and impact related to the European Open Science Cloud (EOSC). The first release focused on technically implementing the back end of the observatory by (1) deploying the internal dashboard (2) setting up the login and access management (3) developing the survey tool to create and manage surveys as well as to collect and visualise data (4) running the first EOSC-SB survey on National Contributions to EOSC including collecting and visualising preliminary survey data. The report first explains the policy background and main aims of the observatory, then describes the technical implementation of the observatory, and finally outlines the release of the observatory with the first EOSC Steering Board survey.

Version History

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Glossary

EOSC Future project Glossary is incorporated by reference: https://wiki.eoscfuture.eu/x/JQCK

List of Abbreviations

Acronym	Definition
AAI	Authentication and Authorisation Infrastructure
AUP	Acceptable Use Policy
ARC	Athena Research Centre
DPP	Data Privacy Policy
EC	European Commission
EGI	EGI Foundation
EOSC	European Open Science Cloud
EOSC-A	EOSC Association
EOSC-SB	EOSC Steering Board
JNP	JNP Strategy and Management Consulting
KPI	Key Performance Indicator
MS/AC	Member States and Associated Countries
TGB	Technopolis Group Belgium
WP	Work Package

1 Executive Summary

The EOSC Observatory (henceforth the 'observatory') is a policy intelligence tool that is being developed by OpenAIRE and Technopolis Group Belgium in Work Package 2 of the EOSC Future project for monitoring policies, practices, and impacts related to the European Open Science Cloud (EOSC). The observatory consists of an interactive online dashboard for the collection, analysis, and presentation of data on the implementation and uptake of EOSC at national and European levels. The data in the observatory will be updated regularly and is aimed at all stakeholders with an interest in EOSC including Member States and Associated Countries (MS/AC) in the EOSC Steering Board (EOSC-SB) and members of the EOSC Association (EOSC-A). The observatory will support the research community in staying updated on the state-of-play of EOSC and tracking the overall progress of EOSC as well as supporting key stakeholders in developing policies for EOSC.

The data to be collected for the observatory will encompass a wide spectrum of policies, practices, and impacts to track the overall development and progress of EOSC in Europe. The data collection will be steered by a comprehensive monitoring framework linked to key performance indicators (KPIs) and will focus on research resources, infrastructures, and priorities for EOSC. The data to be collected through the surveys will be delivered by authoritative representatives of the EOSC community. This includes trusted data that has been collected and validated both at MS/AC level from EOSC-SB and at EOSC Partnership level from EOSC-A. This approach will be complemented by additional data automatically harvested from existing trusted data sources and from national experts on Open Science and EOSC. The observatory will strategically align with relevant EOSC activities by these key stakeholders to develop and refine the monitoring framework, to develop and implement the annual surveys, and to meet the monitoring needs of the EOSC community.

This report provides a short description of the first release of the EOSC Observatory deliverable. The first release of the observatory focused on technically implementing the back end of the observatory by (1) deploying the internal dashboard (2) setting up the login and access management (3) developing the survey tool to create and manage surveys as well as to collect and visualise data (4) running the first EOSC-SB survey on National Contributions to EOSC including collecting and visualising preliminary survey data. The first release granted EOSC-members access to the internal dashboard including surveys and functionalities, the creation and publication of the EOSC-SB survey on National Contributions to EOSC, and the preliminary collection and visualisation of data from the ongoing EOSC-SB survey. The EOSC Portal AAI login and survey tool was extensively tested and verified (including by volunteers from EOSC-SB) and the first EOSC-SB survey was published in the internal dashboard of the observatory in March 2022. While the collection of survey responses will be ongoing until the survey deadline in August 2022, many EOSC-SB representatives have already logged into the observatory and are filling in the survey for their MS/AC, with some respondents even already having validated their responses for their MS/AC. Initial functionalities have also been developed to extract collected data in a variety of formats and visualise the data to compare across countries. Positive feedback has been received by EOSC-SB members on the survey tool and initial visualisations, whereby the potential of the observatory to support mutual learning and implementation of EOSC has been underscored.

2 Introduction

The EOSC Observatory (henceforth the 'observatory') is a policy intelligence tool that is being developed by OpenAIRE and Technopolis Group Belgium in Work Package (WP) 2 of the EOSC Future project for monitoring policies, practices, and impacts related to the European Open Science Cloud (EOSC). The observatory consists of an interactive online dashboard for the collection, analysis, and presentation of data on the implementation and uptake of EOSC at national and European levels. The data in the observatory will be updated regularly and is aimed at all stakeholders with an interest in EOSC including Member States and Associated Countries (MS/AC) in the EOSC Steering Board (EOSC-SB) [1] and members of the EOSC Association (EOSC-A) [2] . The observatory will support the research community in staying updated on the state-of-play of EOSC and tracking the overall progress of EOSC as well as supporting key stakeholders in developing policies for EOSC.

The observatory is a platform hosted on a website which is divided into two sides: a closed back end which collects relevant data on EOSC and a public front end which presents the collected data on EOSC. The back end consists of (1) a survey tool for EOSC Future observatory team administrators to create and manage surveys aimed at targeted stakeholders (2) an internal dashboard for those stakeholders to respond to surveys and manage their own responses as well as to visualise and exploit collected data (3) a database of collected data from the surveys and external data sources. Access to the internal dashboard as well as the surveys and database is granted by the observatory team, whereby the level of access will differ according to the assigned user roles. The collected data feeds into the front end which consists of a public dashboard where users can visualise and exploit the collected data on the website of the observatory. The public dashboard presents the collected data at national and European levels as well as across key thematic categories relevant for EOSC.

The data for EOSC to be collected and presented by the observatory will come from two main sources:

- **Responses to surveys**: The surveys that will be run through the survey tool will form primary data that is both qualitative and quantitative. The surveys will be filled in by key stakeholders in the EOSC ecosystem including members of EOSC-SB, members of EOSC-A, and national experts on Open Science and EOSC. The surveys will be run annually providing responses for a given year. The annual data collectively will provide a longitudinal overview of the implementation and uptake of EOSC.
- **Trusted data sources**: Quantitative data will also be collected from existing trusted data sources to complement the primary survey data. This data will be harvested automatically from the OpenAIRE Research Graph [3] and EOSC Portal [4] and will allow a snapshot at any given moment in time as well as both an annual and longitudinal overview of the implementation and uptake of EOSC.

The data to be collected for the observatory will encompass a wide spectrum of policies, practices, and impacts to track the overall development and progress of EOSC in Europe. The data collection will be steered by a comprehensive monitoring framework linked to key performance indicators (KPIs) and will focus on research resources, infrastructures, and priorities for EOSC. The data to be collected through the surveys will be delivered by authoritative representatives of the EOSC community. This includes trusted data that has been collected and validated both at MS/AC level from EOSC-SB and at EOSC Partnership level from EOSC-A. This approach will be complemented by additional data by national experts on Open Science and EOSC. The observatory will align closely with these key stakeholders to develop and refine the monitoring framework, to develop and implement the annual surveys, and to meet the monitoring needs of the EOSC community.

This report provides a short description of the first release of the EOSC Observatory deliverable. The first release focused on technically implementing the back end of the observatory by (1) deploying the internal dashboard (2) setting up the login and access management (3) developing the survey tool to create and manage surveys as well as to collect and visualise data (4) running the first EOSC-SB survey on National Contributions to EOSC including collecting and visualising preliminary survey data. Section 1 on Policy Monitoring explains the policy background, alignment aims, and monitoring aims of the observatory. Section 2 on Dashboard Implementation describes the technical architecture, data workflow, access mechanism, and survey tool of the observatory. Section 3 on Observatory Release details the actual release of the observatory through the development, publication, and data collection of the first EOSC-SB survey. The report closes with some lessons learned from the first release and next steps forward for the public release of the observatory.

3 Policy Monitoring

3.1 Policy Background

There is a critical need among the key stakeholders of EOSC not only to monitor the implementation and uptake of EOSC but also to strategically align and coordinate monitoring activities across these stakeholders. This need arises from the diverse policies and practices for EOSC and the differing states of EOSC readiness across MS/AC. Members of EOSC-SB and EOSC-A have noted that there are too many surveys related to Open Science and EOSC leading to an overlap in reporting and survey fatigue as well as diverging narratives and a lack of trust in surveys. The EOSC Future observatory team reached out to key EOSC stakeholders early in the project to strategically align and coordinate the monitoring of EOSC, gather their requirements for such monitoring activities, and develop the observatory as a fit-for-purpose and sustainable EOSC monitoring tool. The consulted stakeholders included representatives of the Task Force Landscaping of the INFRAEOSC-05-2018-2019 projects [5], EOSC-SB, and EOSC-A, who together with the observatory team have set up biweekly meetings to align and coordinate their monitoring activities and provide input to develop the observatory.

3.2 Policy Alignment

The Task Force Landscaping proposed initial indicators for monitoring the EOSC readiness of MS/AC [6] and developed a prototype dashboard to test the data collection and presentation for the indicators [7]. This work was taken forward in WP2 of EOSC Future to propose indicators for monitoring the EOSC readiness of MS/AC [8] and to develop and implement the observatory to monitor the progress of EOSC. The Tripartite EOSC Governance has proposed that EOSC-SB play a key role in providing trusted data on Open Science and EOSC and that the observatory be used as a tool for aligning and running surveys on EOSC [9]. EOSC-SB has agreed to align their activities on monitoring EOSC via an annual survey on contributions by MS/AC to EOSC. EOSC-A has agreed to align their activities on monitoring the EOSC Partnership, as defined in the monitoring framework for the EOSC Partnership [10], via annual surveys on contributions by EOSC-A members to EOSC. All the surveys will be run via the observatory including the collection and presentation of the survey data.

EOSC-SB and EOSC-A have thus agreed to align and coordinate their EOSC monitoring activities with each other and utilise the observatory as a single tool for publishing their surveys and collecting and presenting the collected data to their members as well as to the wider community of EOSC stakeholders. A further need was identified to collect additional information from experts on initiatives and activities on Open Science and EOSC across countries in Europe. The observatory will bring the monitoring activities of EOSC together and focus as shown in Figure 3.1 on four layers of data collection: (1) indicators for monitoring the readiness of MS/AC (2) indicators for monitoring the EOSC Partnership (3) contributions to the EOSC Partnership (4) policies relevant for the EOSC ecosystem. Whereas Layer 1 is targeted at EOSC-SB members, Layers 2 and 3 are targeted at EOSC-A members, and Layer 4 is targeted at national experts on Open Science and EOSC.

Figure 3.1: Layers of Data Collection for the EOSC Observatory

3.3 Monitoring Framework

A monitoring framework for the strategic alignment and coordination of the data collection and data presentation via the observatory has been set up which takes into account the monitoring needs and policy priorities of the EC and key stakeholders as well as key components of EOSC as shown in Table 3.1. The framework is divided into the three monitoring dimensions adopted by the EC and EOSC-SB for monitoring the progress towards Open Science becoming the new normal: (1) policies (2) practices (3) impact. These three dimensions are refined by eight thematic categories representing key components of EOSC: (1) publications (2) data (3) software (4) services (5) infrastructure (6) training/skills (7) assessment (8) engagement. Relevant indicators are now being developed or adopted from existing indicators across the three dimensions and eight EOSC categories to frame the survey questions for data collection and data presentation in the observatory. This monitoring framework will serve as the overarching structure for the observatory and the indicators will serve as the entry points to access and visualise the collected survey data in the observatory. It should be noted that the first EOSC-SB survey focuses only on policies and practices for the eight categories of EOSC.

Table 3.1: Monitoring Framework for the EOSC Observatory

	Policies	Practices	Impact
Publications	Indicators	Indicators	Indicators
Data			
Software			
Services			
Infrastructure			
Training/Skills			
Assessment			
Engagement			

4 Dashboard Implementation

4.1 Technical Architecture

The technical architecture of the observatory consists of four main components which allow administrators to operate and manage the observatory and users to interact and exploit the data collected in the observatory:

- **Data layer:** Manages the storage and indexing of all content that is handled by the observatory including data from the survey tool and data sources as well as user logs and statistics.
- **Application layer**: Handles the core functionalities of the observatory including user management and user rights administration as well as survey creation and survey response management.
- **Data visualisation**: Extracts data from the underlying database, transforms the data into the required format, and generates a dynamic visualisation that adjusts to the database content.
- **User interface**: Exposes the functionalities of the observatory to the users allowing them to select data from the database, configure the visualisation of the data, and further exploit the data.

4.2 Data Workflow

The data workflow of the observatory models the high-level flow of data from the survey tool and external data sources to the users as shown in Figure 4.1. The data is collected manually from key stakeholders via the surveys published in the survey tool (such as EOSC-SB, EOSC-A, and national experts) and automatically from trusted data sources monitoring Open Science and EOSC statistics (such as the OpenAIRE Research Graph and EOSC Portal). The collected data forms the database of the observatory which allows exploitation of the data by users of the observatory. The data is available in the internal dashboard of the observatory for authorised users who gain access via the EOSC Portal Authentication and Authorisation Interface (AAI). The data can then be aggregated and analysed in the internal dashboard leading to reporting and eventual visualisation of the data for exploitation by users in the public dashboard. It should be noted that while the data collected from the surveys and data sources will be available for authorised users in the internal dashboard, not all but rather a selection of this data will be ultimately made available in the public dashboard.

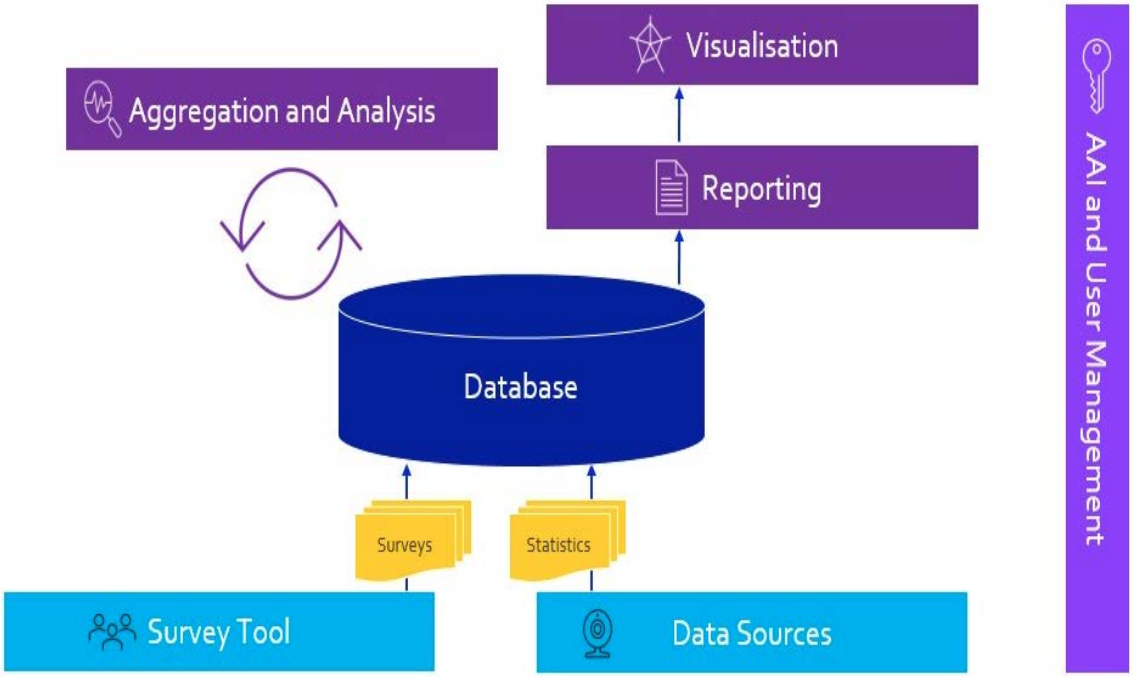

Figure 4.1: Data Workflow of the EOSC Observatory

4.3 Access Mechanism

The observatory is technically deployed in a virtual machine hosted by EOSC Future beneficiary Cyfronet in Poland on the EOSC Portal website on a designated subdomain for the observatory [11] . The home page of the

observatory currently only displays summary information about the observatory and a login button for users to gain access to the internal dashboard via the EOSC Portal AAI as shown in Figure 4.2. The observatory administrators first register the targeted survey respondents in the observatory and then the registered users can access the internal dashboard by logging in with their personal credentials from their home organisations or other identity providers that are recognised by the EOSC Portal AAI. The login supports the OAuth 2.0 protocol [12] and interacts with a number of external identity providers: Aria; B2Access; Dariah; eduTeams; EGI Checkin; Google; IGTF; OpenAIRE; ORCID; EduGAIN as shown in Figure 4.3. The EOSC Portal AAI first authenticates the login information provided by the identity providers. The EOSC Portal AAI then either authorises the user (as they have already been registered) or does not authorise the user (as they are not recognised to gain access to the internal dashboard). Users who log in to the observatory for the first time are presented with an Acceptable Use Policy (AUP) [13] and a Data Privacy Policy (DPP) to use the observatory.

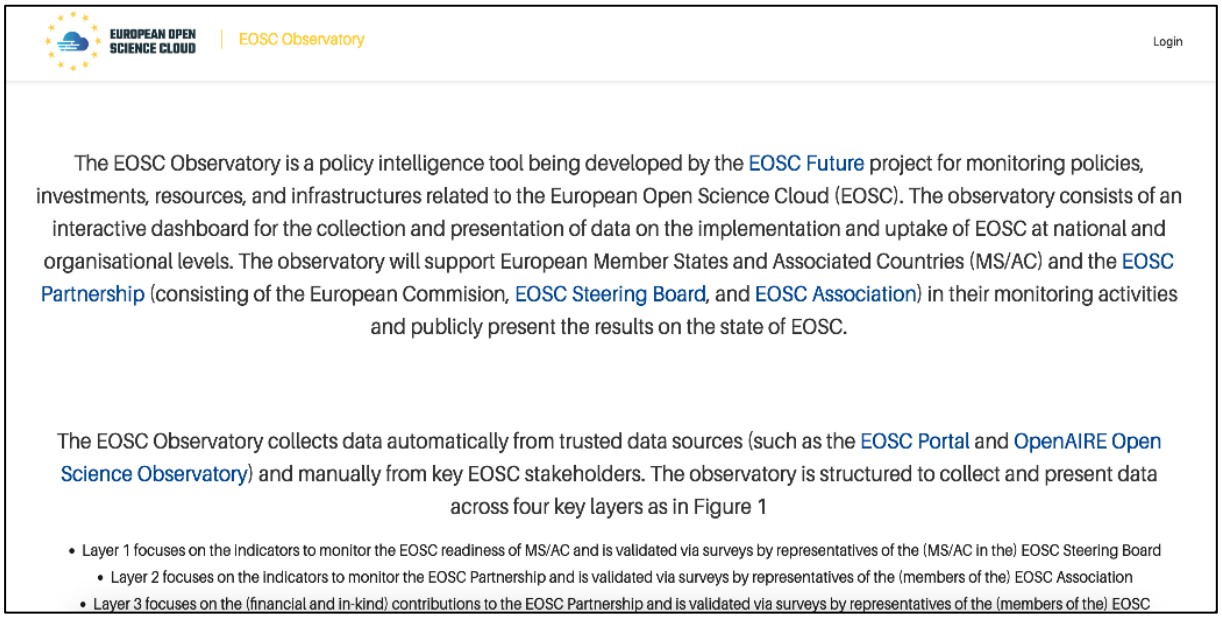

Figure 4.2: Home Page of the EOSC Observatory

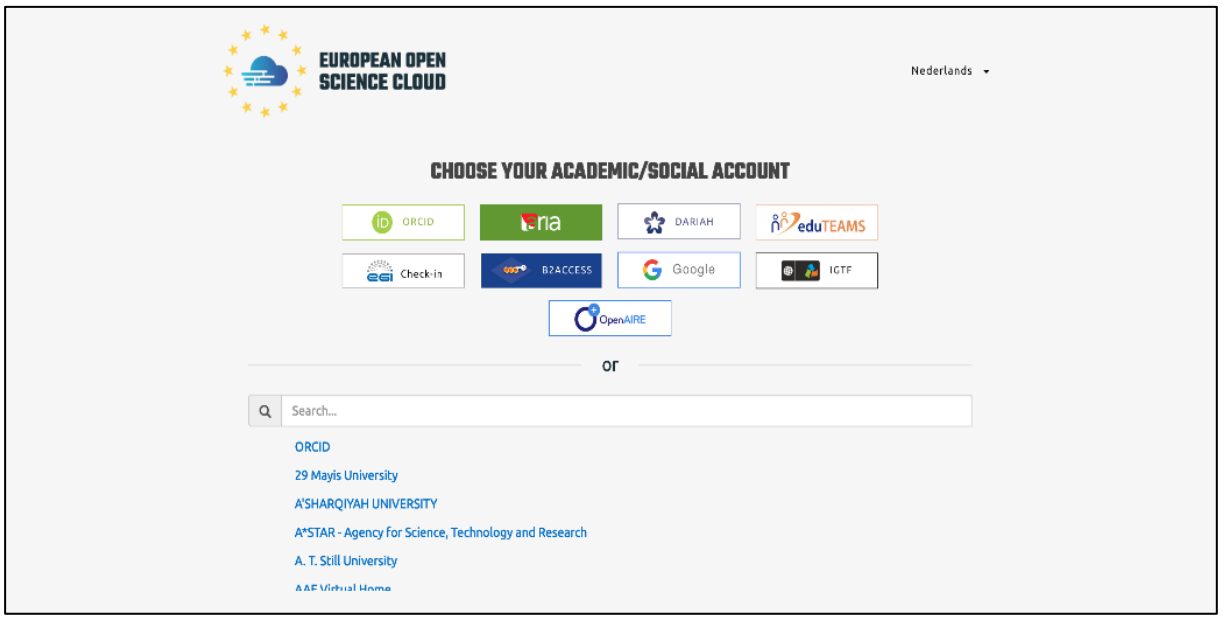

Figure 4.3: EOSC Portal AAI Login for the EOSC Observatory

The observatory recognises three groups of stakeholders that will be able to access the survey tool: (1) EOSC-SB members (2) EOSC-A members (3) national experts on Open Science and EOSC. These three groups are able to see and respond to surveys in observatory that are relevant for their activities. The access mechanism of the

observatory distinguishes four roles which determine the rights assigned to users in terms of the operations that they are able to perform and the level of access that they have to surveys and collected data:

- **Administrator**: Develops and manages the technical deployment of the observatory. Manages access to the back end of the observatory. Creates and manages surveys. Develops functionalities for visualising and exploiting the collected data. Has full access to all surveys and collected data. This role is for the technical developers from EOSC Future who are building the platform of the observatory.
- **Coordinator**: Has read access to surveys and collected data for their stakeholder group. This role is for key representatives from EOSC Future and the three stakeholder groups to oversee the implementation of the observatory and to align and coordinate the surveys and monitoring activities.
- **Manager**: Has edit access to surveys for their stakeholder group and can add/remove relevant contributors to help fill in the responses to individual surveys. This role is for key representatives from the three stakeholder groups to coordinate and validate the responses for individual stakeholders.
- **Contributor**: Is chosen by a manager and has edit access to surveys for their stakeholder group. This role is for experts from a stakeholder group to help fill in the responses for individual stakeholders.

4.4 Survey Tool

The survey tool is the one of the main functionalities of the observatory and consists of two types of high-level digital objects: surveys and survey responses. Each survey contains the questions for the survey as well as metadata about the survey including the creator and targeted respondent groups. Each survey response contains the responses to the questions in the related survey as well as metadata about the response including the name and affiliation of the respondent and response modifications. Survey respondents are presented with the home page of the survey tool once they have successfully logged in to the internal dashboard via the EOSC Portal AAI as shown in Figure 4.4. The home page provides a summary overview of the survey tool, a button to access published surveys that are relevant for them as well as their responses, a button to contact the observatory support team, and the AUP and relevant DPPs to use the observatory. It should be noted that the survey tool will contain surveys across the four layers in Figure 3.1 which are targeted at the different stakeholder groups. While administrators and coordinators will be able to see all surveys and responses, managers (such as EOSC-SB and EOSC-A representatives and national experts) will only be able to see those surveys that are targeted at them and their own responses. Key representatives of EC, EOSC-SB, and EOSC-A may be given high-level access to all surveys and responses to facilitate alignment and coordination activities.

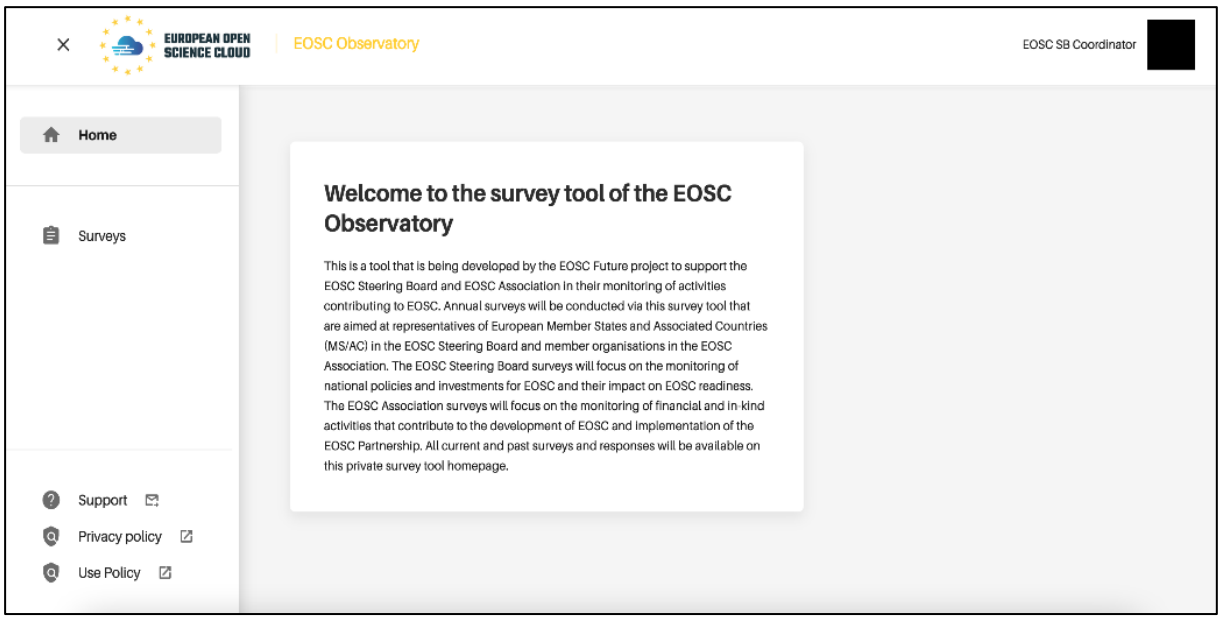

Figure 4.4: Survey Tool Home Page of the EOSC Observatory

One of the main requirements behind the design and creation of the surveys is that the surveys will be run at least once per year and that respondents have enough time to fill in and validate their responses to a survey.

This will ensure that respondents are able to fill in accurate and up-to-date data on EOSC as well as enable users to faithfully and timely track the evolution of responses on EOSC over time. Responses to surveys can remain in draft mode and be added, modified, and deleted for as long as a survey is open and are kept private in the internal dashboard for administrators and survey respondents. The survey respondents then validate their final responses before submitting the survey within the survey deadline so that the submitted data can eventually be made available in the public dashboard. A strict restriction is imposed once the submitted data is made public, whereby survey responses can no longer be added, modified, or deleted in order to maintain coordination and continuity across survey periods. Only minor modifications will be allowed in exceptional circumstances (such as changing an answer to a specific question) once survey responses have been made public. Initial functionalities for visualising and analysing the collected data are already available to the survey respondents in the internal dashboard and will be further developed for the release of the public dashboard.

5 Observatory Release

5.1 EOSC-SB Survey

The subgroup on National Contributions to EOSC under EOSC-SB was created to monitor the EOSC readiness of MS/AC and their contributions to EOSC through the development of an annual survey for representatives of MS/AC in EOSC-SB. The first annual survey on National Contributions to EOSC was developed by EOSC-SB in collaboration with EOSC Future and was shared preliminarily with EOSC-SB in December 2021 [14] . The survey originally consisted of around 145 questions on Open Science and EOSC but was reduced to around 20 questions focusing on policies, financial investments, and practices for EOSC. The survey was intended to be a pilot to test the survey questions and use the survey responses to set a baseline for the monitoring. The survey was also intended to be a pilot to realise the first release of the observatory and thereby test and develop the login via the EOSC Portal AAI as well as the survey tool including creating and publishing surveys, adding and managing respondents, and collecting and visualising data. EOSC-SB and EOSC Future aimed to benefit from lessons learned in the first survey and refine future surveys and functionalities in the observatory. It should be noted that EOSC-SB has also invited other countries which are non-MS/AC to fill in the first EOSC-SB survey.

5.2 EOSC-SB Access

In order to set up the EOSC Portal AAI login and add survey respondents to the survey tool, a DPP was first drafted to collect data via the EOSC Portal AAI and the surveys from EOSC-SB members [15] . Instruction materials were also created to support EOSC-SB representatives with logging into the internal dashboard of the observatory. EOSC-SB representatives were next registered in the observatory and tagged as 'EOSC-SB' and 'manager'. This gives them access to all EOSC-SB surveys and puts them in charge of coordinating the survey responses for their MS/AC. This also allows them to add experts as 'contributors' to support filling in the surveys for their MS/AC. These registered EOSC-SB representatives received invitations by email to log into the observatory via the EOSC Portal AAI and needed to accept the AUP and DPP. Once they accepted the invitation and logged into the observatory, they received access to the survey tool including all EOSC-SB surveys, collected data, and initial functionalities for visualising and analysing the collected data. It should be noted that while the collected data for a given survey is first only available to EOSC-SB members in the internal dashboard, after validation the data is quality checked and eventually shared in the public dashboard.

5.3 EOSC-SB Responses

Before any surveys could be published in the observatory, the survey tool needed to be developed and went through exhaustive testing and verification (including by volunteers from EOSC-SB) before the EOSC-SB survey could be published. The first EOSC-SB survey was incorporated into the observatory and was published in the survey tool and made available to registered EOSC-SB representatives in March 2022 as shown in Figure 5.1. The EOSC Future observatory team, acting as administrators of the dashboard in the survey tool, were able to track the respondents and their survey responses as shown in Figure 5.2. Responses to the survey were initially slow due to not all EOSC-SB representatives having accepted the initial invitation to log into the observatory and due to the time required to gather the information requested in the survey questions. It should be noted that responses to the survey questions are not mandatory and thus EOSC-SB representatives can choose to not respond to specific questions. Once EOSC-SB representatives have finished responding to the survey, they are asked to officially validate their survey responses, which means that they have checked their responses and confirm that the responses are the official responses for their MS/AC. The first survey is currently still open and the deadline for EOSC-SB to respond before the survey is closed is in August 2022.

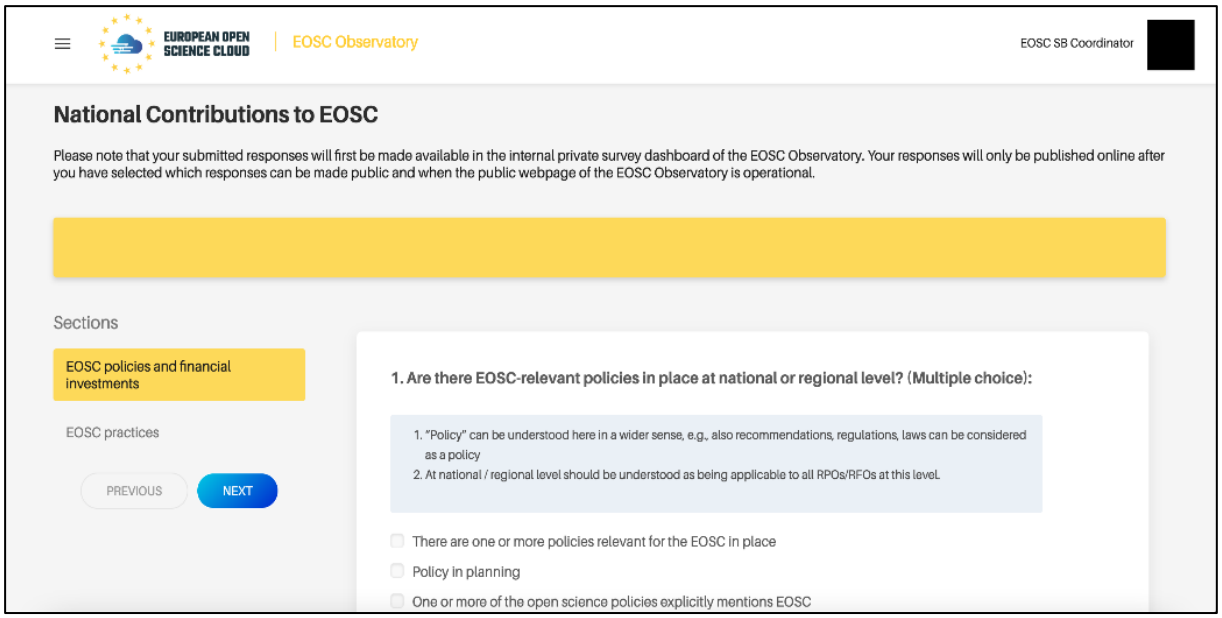

Figure 5.1: EOSC-SB Survey in the EOSC Observatory

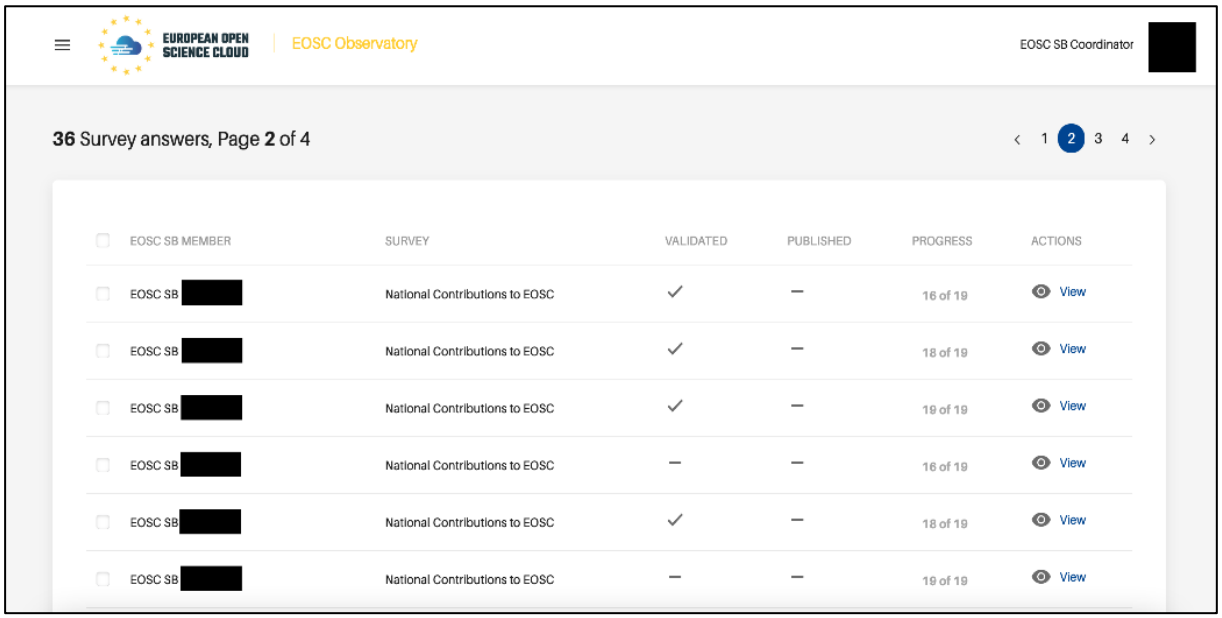

Figure 5.2: EOSC-SB Responses in the EOSC Observatory

There has already been an excellent response by EOSC-SB members to the first survey with a high number of registrations in the observatory, survey responses in progress, and some responses already being validated:

- 35 MS/AC of which 26 MS and 9 AC are currently registered in the observatory,
- 14 MS/AC are still filling in the survey and have yet to validate their responses,
- 15 MS/AC have filled in the survey and have already validated their responses,
- 6 MS/AC are registered in the observatory but have yet to start filling in the survey,
- 1 other country has filled in the survey and has already validated their responses.

5.4 Data Visualisations

Functionalities for extracting collected data in a variety of formats as well as visualising collected data to compare survey responses across MS/AC have been developed and are already available for the collected data from the first EOSC-SB survey in the internal dashboard. An example of a visualisation for collected data on

policies for EOSC is shown in Figure 5.3 where the map indicates countries which have EOSC-relevant policies in place at national or regional level as well as countries with financial strategies linked to the policy. An example of a visualisation for collected data on investments for EOSC is shown in Figure 5.4 where the map indicates countries which have dedicated financial contributions to EOSC linked to reported policies. And finally, an example of a visualisation for collected data on practices for EOSC is shown in Figure 5.5 where the map indicates countries which have appointed a mandated organisation in EOSC-A. The first EOSC-SB survey will remain open until August 2022 and the expectation is that even more countries will be registered in the observatory, fill in the survey, and validate their responses. Once the survey has been closed, the responses will be quality checked together with EOSC-SB and then the collected data will be ready to be published in the public dashboard for exploitation by the EOSC community. EOSC Future will further conduct an analysis in collaboration with EOSC-SB of both the lessons learned during the first release of the observatory and the final collected responses to the survey in order to further improve the survey tool, provide a summary of the first EOSC-SB survey, and refine the survey structure and questions for the next EOSC-SB survey end of 2022.

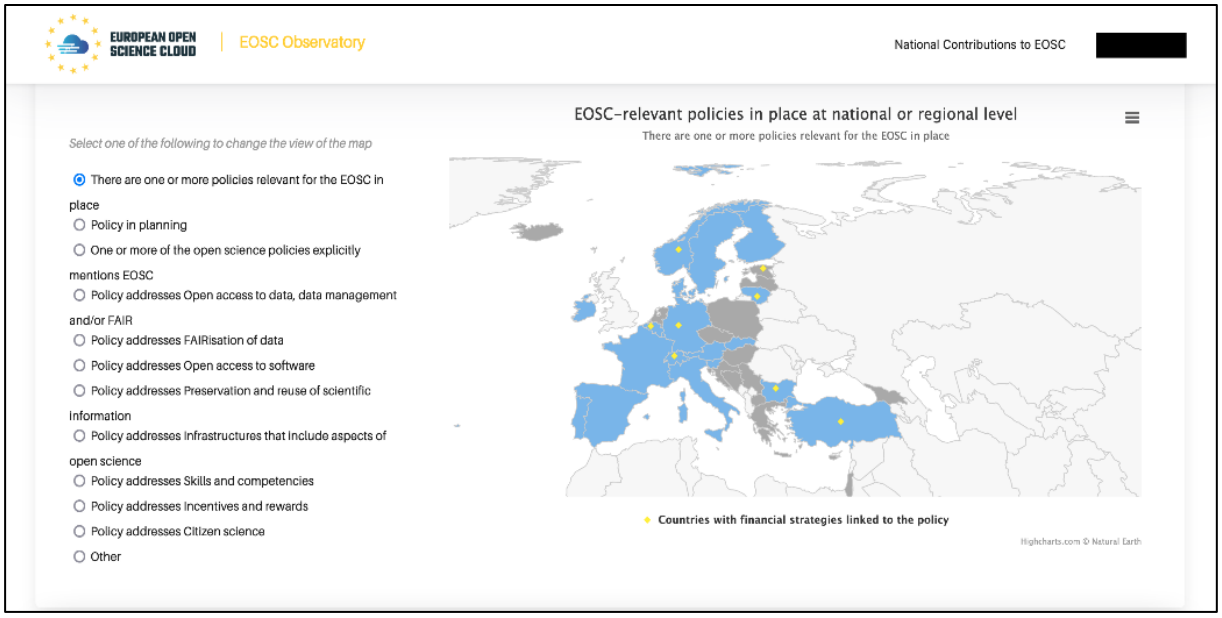

Figure 5.3: Example of EOSC-SB Policies Data Visualisation in the EOSC Observatory

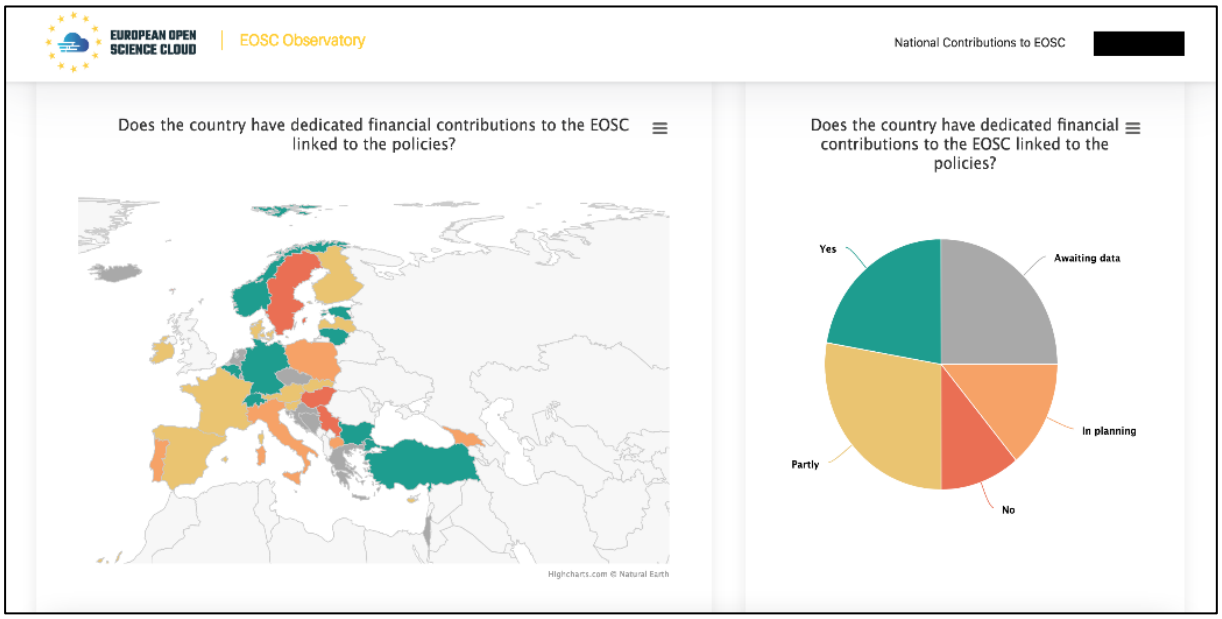

Figure 5.4: Example of EOSC-SB Investments Data Visualisation in the EOSC Observatory

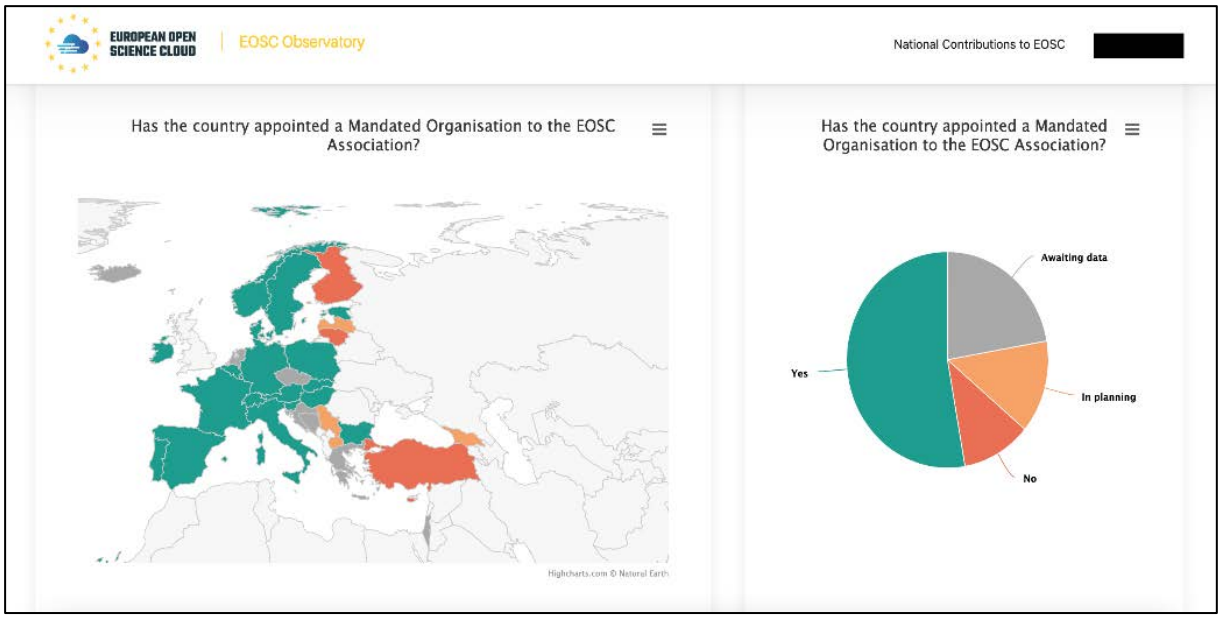

Figure 5.5: Example of EOSC-SB Practices Data Visualisation in the EOSC Observatory

6 Conclusions

The first release of the observatory focused on technically implementing the back end of the observatory by (1) deploying the internal dashboard (2) setting up the login and access management (3) developing the survey tool to create and manage surveys as well as to collect and visualise data (4) running the first EOSC-SB survey on National Contributions to EOSC including collecting and visualising preliminary survey data. The first release granted EOSC-members access to the internal dashboard including surveys and functionalities, the creation and publication of the EOSC-SB survey on National Contributions to EOSC, and the preliminary collection and visualisation of data from the ongoing EOSC-SB survey. The EOSC Portal AAI login and survey tool was extensively tested and verified (including by volunteers from EOSC-SB) and the first EOSC-SB survey was published in the internal dashboard of the observatory in March 2022. While the collection of survey responses will be ongoing until the survey deadline in August 2022, many EOSC-SB representatives have already logged into the observatory and are filling in the survey for their MS/AC, with some respondents even already having validated their responses for their MS/AC. Initial functionalities have also been developed to extract collected data in a variety of formats and visualise the data to compare across countries. Positive feedback has been received by EOSC-SB members on the survey tool and initial visualisations, whereby the potential of the observatory to support mutual learning and implementation of EOSC has been underscored.

The next steps will focus on the preparation for the public release of the observatory for the EOSC community. An operational agreement is currently being finalised that will identify the main goals, technical and content specifications, targeted users, and designated roles of EOSC Future partners of the observatory. The public dashboard of the observatory will be developed to present collected data according to the monitoring framework of three monitoring dimensions for policies, practices, and impact across the eight EOSC categories proposed in this report. The lessons learned and final collected responses from the first EOSC-SB survey will be analysed in order to improve the survey tool and refine the next EOSC-SB survey planned for the end of 2022. The functionalities of the survey tool will be further developed in accordance with the needs of observatory users. The observatory will lastly start incorporating the surveys for EOSC-A and developing the survey for national experts of Open Science and EOSC that will also be published in the observatory. The public release of the observatory will showcase collected data from the surveys as well as functionalities of the observatory and greatly contribute to the monitoring of the implementation and uptake of EOSC in Europe.

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