



Disclaimer: This deliverable has not yet been reviewed by the European Commission. Its content might therefore change as a result of the review process.

D5.1: Report on existing policies and guidelines

Author: Mathieu Rochambeau, Teodora Konach

Editor: Teodora Konach, Armin Schmolmüller

Project title: Responsible Open Science in Europe

Project acronym: ROSiE

Grant Agreement no.: 101006430

Lead contractor for this deliverable: Austrian Agency for Research Integrity



Project Number:	101006430
Project Acronym:	ROSiE
Project Title:	Responsible Open Science in Europe
Title of Deliverable:	Report on existing policies and guidelines
Work Package:	WP5
Due date according to contract:	28.02.2022
Editor(s):	Teodora Konach, Armin Schmolmüller
Contributor(s):	Mathieu Rochambeau, Teodora Konach
Reviewer(s):	Rosemarie Bernabe, Søren Holm
Approved by	Rosemarie Bernabe, Søren Holm

Abstract:	This report provides a mapping of the existing Open Science (OS) public policies across Europe. The involvement of each of the selected countries (the European Union MS, Norway and the United Kingdom) in OS is presented through the Country Cards (Annex). These documents give an overview of the current state of OS and facilitate the analysis of the national OS public policies, which in turn allowed the identification of 'responsible' policies, strategies and good practices that will served as a basis for the WP5's Tasks 5.2, 5.3 and 5.4.
Keyword List:	Research Ethic, Research Integrity, Open Science, Open Access, National Policy, Mapping, ECoC, EU, EOSC, FAIR Principles, Citizen Science.



	ROLE	NAME	Short Name	Country
1.	Coordinator	UNIVERSITET I OSLO	UiO	Norway
2.	Partner	ÖSTERREICHISCHE AGENTUR FÜR WISSENSCHAFTLICHE INTEGRITÄT	OeAWI	Austria
3.	Partner	VEREIN DER EUROPÄISCHEN BÜRGERWISSENSCHAFTEN	ECSA	Germany
4.	Partner	EUREC OFFICE GUG	EUREC	Germany
5.	Partner	TIETEELLISTEN SEURAIN VALTUUSKUNNASTA	TSV	Finland
6.	Partner	HAUT CONSEIL DE L'ÉVALUATION DE LA RECHERCHE ET DE L'ENSEIGNEMENT SUPÉRIEUR	Hceres	France
7.	Partner	INSTITUT NATIONAL DE RECHERCHE POUR L'AGRICULTURE, L'ALIMENTATION ET L'ENVIRONNEMENT	INRAe	France
8.	Partner	NATIONAL TECHNICAL UNIVERSITY OF ATHENS	NTUA	Greece
9.	Partner	UNIVERSIDADE CATOLICA PORTUGUESA	UCP	Portugal
10.	Partner	LATVIJAS UNIVERSITATE	UL	Latvia
11.	Partner	TARTU ULIKOOL	UT	Estonia
12.	Partner	UNIVERSITETET I SOROST-NORGE	USN	Norway

Table of contents

1	Introduction	5
1.1	About ROSiE.....	5
1.2	Work Package 5 – Facilitating the use of Responsible Open Science – best practice guidelines and new policy framework	6
1.3	About this Deliverable D5.1	7
1.4	Methodology.....	8
1.5	Partners involvement.....	10
2	Overview and analysis of Open Science ´s public policies in Europe	10



2.1	Mapping and review of the current state of Open Science ´s public policies in Europe.....	10
2.1.1	Introduction – National involvement in OS/OA.....	10
2.1.2	National policies on Open Science & Open Access.....	11
2.1.3	National Laws on Open Science & Open Access	13
2.1.4	National funder policies on Open Science & Open Access.....	14
2.1.5	National Open Access Repositories.....	15
2.1.6	Involvement in INFRAEOSC-5b initiatives	16
2.2	Analysis of the responsible Open Science public policies in Europe	18
2.2.1	Introduction – definition of a responsible OS policy.....	18
2.2.2	Mention of FAIR.....	19
2.2.3	Mention of RE/RI	20
2.2.4	Mention of Infrastructure.....	21
2.2.5	Mention of Citizen Science.....	22
2.2.6	Language availability in English.....	23
2.2.7	Discipline-related perspective	24
2.2.8	Type of Mandate & Scope.....	25
2.3	Presentation of the current responsible OS policies Country-by-Country.	26
2.3.1	Introduction.....	26
2.3.2	Analysis of the selected countries	27
3	Conclusion	35
4	Acknowledgments	36
5	References	36
6	Annex – Country Cards.....	38



List of Abbreviations

CS	Citizen Science
ECoC	European Code of Conduct for Research Integrity
EOSC	European Open Science Cloud
EU	European Union
FAIR	Findability, Accessibility, Interoperability and Reusability
MS	Member States
RE	Research Ethics
RI	Research Integrity
OA	Open Access
OS	Open Science
WP	Work Package

1 Introduction

1.1 About ROSiE

The Responsible Open Science in Europe (ROSiE) project advocates that Open Science (OS), characterised by the free availability of research planning, processes, data and results, is the future of Science. Nonetheless, this practice brings challenges in relation to research ethics (RE) and integrity (RI) and poses new questions to scientific misconduct that have to be addressed and overcome in order to reach and establish OS in the current European research ´s environment and the existing EU-frameworks (PSI Directive, R&I Framework, ERA, and EC ´s eight ambitions on OS).

To promote and advocate for OS in Europe, the ROSiE project provides in-depth analyses and develops practical and reusable tools to enable CS, and foster RE and



RI within the OS framework. In this mission, ROSiE benefits from the expertise and networks of its Europe-wide multi-disciplinary consortium.

To reach its objectives, ROSiE will:

EXPLORE – Provide a systematic inventory of RE/RI, social, and legal implications and challenges of OS; and of existing technologies and platforms that safeguard responsible OS.

ENGAGE – Conduct consultation and stakeholders engagement aimed at creating and sustaining a community of practice involving all European stakeholders interested in OS and RE/RI.

GUIDE – Conduct a strategic policy assessment for promoting responsible OS and, utilising a reflective equilibrium process, develop operational guidelines for relevant stakeholders, including a complement of the European Code of Conduct for Research Integrity.

EQUIP – Develop a RE/RI knowledge hub for OS and training materials for RE/RI aspects of OS.

WP5 is responsible for developing best practice guidelines and a new policy framework for facilitating the use of Responsible Open Science, therefore taking the lead on the ROSiE project's GUIDE phase.

1.2 WP5 – Facilitating the use of Responsible Open Science – best practice guidelines and new policy framework

The WP will lead the project's GUIDE phase through the development of a detailed strategic policy assessment (Task 5.2 & Task 5.3) and operational guidelines (Task 5.4) which are aiming at the promotion of responsible OS and complementing the European Code of Conduct for Research Integrity (ECoC). WP5 will address all important challenges and components of OS including OA, data-sharing, FAIR (Findability, Accessibility, Interoperability and Reusability) and research infrastructures, also in the framework of the existing EU policies and developments, such as the European Open Science Cloud (EOSC).

WP5 will produce and coordinate the mapping of the current OS public policies in Europe (Task 5.1). This task will provide the project with an overview of existing OS policies, strategies and tools in selected European countries, which will be then

analysed in order to flag good practices and responsible OS public policies, as well as existing gaps. Subsequently, this first report will, complemented by the findings from the WP 1, 2 and 3, lay the foundation for the development of a strategic policy paper aimed at identifying the major challenges for responsible OS through a discipline-sensitive perspective (Task 5.2). Taking into account the previous findings, a separate policy document with a proposal for complementing the ECoC will accompany the strategic policy paper (Task 5.3). This gradual research process will then lead WP5 to present a set of discipline-related guidelines, to further specify and contextualise the strategic policy paper (Task 5.4).

As part of this advancement, a co-creation workshop will be performed by WP5, involving key stakeholders with expertise in different disciplines, to guarantee the development of discipline-sensitive guidelines and policy papers.

Throughout the WP´s work, an extended cooperation between WP5 partners, the consortium and the key stakeholders involved will be fostered, to secure a vertical and horizontal collaboration and knowledge-sharing flux.

1.3 About this Deliverable D5.1

This WP5´s first Deliverable will take the form of a report on selected existing policies and guidelines regarding OS in Europe. In this regard, after the WP's kick-off meeting on the 22nd November 2021, WP5 has been developing in co-creation with all the WP´s partners the Country Cards, in order to present an overview of the current state of the OS policy framework in selected European countries. These cards, which present individually each country, have been developed in the period from August 2021 until January 2022. The geographical scope focuses on EU Member States (27 countries), as well as Norway and the United Kingdom. The Country Cards gather selected information regarding OS and OA, including categories such as: involvement in OS, national authority in charge of OS, national policy on OS, national law on OS, national funder policy on OS, national repository and involvement in EOSC 5b regional projects. These criteria will be further analysed in this report.

The first section of the report will present an overview of the existing OS situation in Europe, mapping in particular the existence of national policies and strategies, as well as the existing gaps. The presence or lack of public national policies, laws or funder policies regarding OS, as well as the ongoing strategies, processes and involvement of the national authorities, will facilitate a further in-depth analysis of



the current OS framework in the selected countries. The mapping of the national OS related strategies will allow a comparative investigation and – a formulation of a roadmap/steps needed for the fostering of a responsible OS in Europe.

The involvement in the five INFRAEOSC-5b regional initiatives and projects presents valuable information regarding the continental cooperation of OS in Europe through the patronage of the EU. The INFRAEOSC-5b call covers four initiatives – EOSC-Synergy, NI4OS Europe, ExPaNDS, EOSC-Nordic – and one project – FAIRsFAIR. To include the involvement in these initiatives in this mapping enabled a regional and European perspective. This overview will enable comparative analyses of the selected policies and developments in the second section of this report.

The second section will provide a country-by-country analysis of the selected public policies regarding OS, underlining the responsible policies, strategies and good practices that could eventually be integrated in the Strategic policy paper of WP5 in M28 (Task 5.2 and Task 5.3). In this section, national policies on OS will be further investigated, taking into consideration the following criteria defined as ‘responsible’: the explicit reference to FAIR Data Principles, RE/RI, Data Infrastructure and CS, the language availability in English and the discipline-related perspectives.

Such approach will enrich this report with a mapping of the existing ‘responsible’ public OS policies and will highlight the gaps in Europe.

1.4 Methodology

In order to reach this first objective which aims at providing an analysis of selected public policies on responsible OS policies in Europe, WP5 has been developing the Country Cards (Annex 1). This fiche system has been presented during the WP5 kick-off meeting on the 22nd November 2021, when the content and goal of these cards were presented and discussed, as well as the planned research process leading to this first WP5’s Deliverable.

The Country Cards have been produced country-by-country, in coordination with the WP’s partners. The EU has been selected as geographical scope, with the inclusion of Norway for its involvement in EOSC 5b projects, and due to UiO’s coordination of the ROSiE project, as well as the United Kingdom for its former belonging to the EU and its role in EOSC 5b projects. These countries have been selected and researched, with consideration to the particularities and diversity



regarding their research and scientific environments, as well as their ongoing status, progress and strategies in the field of OS. Both good practices, as well as the absence of OS policies, have been analysed and researched, since this report aims also at determining what gaps should be addressed by the EU-frameworks (Task 5.2, 5.3, 5.4). All these cards have been developed and updated in the period from August 2021 until January 2022, to assure their accuracy at the time of finalising this Deliverable.

These Cards gather multiple selected information that the WP considers as helpful in singling out and analysing existing responsible OS public policies in Europe, or on the contrary – to flag current gaps. These fiches represents consequently a clear technical support and a starting point in the completion of Task 5.1. The main criteria, highlighted in the Country Cards, are as follows: the involvement of the country in the OS (through the support and/or mandate of a national authority regarding OS), national policies on OS, national laws on OS, national funder policies on OS, national repositories and the participation of the country in regional EOSC 5b projects.

The national policies on OS have been selected to be analysed in this Deliverable to flag responsible policies, strategies and tools in place, that could eventually be integrated in the Strategic policy paper (M28). In accordance with the current EU-frameworks on OS and the project´s and WP´s aims, a series of criteria, identified as responsible, have been mapped in the existing OS national public policies – the explicit reference to FAIR Data Principles, RE/RI, Data Infrastructure and CS, the language availability in English and the discipline-related perspectives.

Several sources have been used within this process, in particular the existing EU-frameworks and initiatives. Thus, the SPARC Europe reports – An analysis of Open Science Policies in Europe, v5-v7 (<https://sparceurope.org/what-we-do/open-data/sparc-europe-open-data-resources/>), have been very insightful in their format and content for the development of this report. National authorities (ministries in charge of OS), universities, and OS initiatives have been as well central in the collection work that has been undertaken to map and analyse national OS public policies and ongoing national involvement in OS. Finally, European projects, initiatives and consortia (OpenAire: <https://www.openaire.eu/>, EOSC: <https://eosc-portal.eu/>, and INFRAEOSC-5b initiatives: <https://www.eosc-pillar.eu/infraeosc-5-collaboration>) and the existing EU-frameworks on OS (PSI Directive, R&I Framework, ERA, and EC´s eight ambition on OS) provided us with in-depth resources and knowledge regarding the existing and upcoming relevant developments in Europe.



1.5 Partners' involvement

In this first Task, WP5 has benefitted from the insightful involvement of the WP's partners. This cooperation provided WP5 with the support of well-connected OS, RE and RI experts in multiple European countries and networks, which has been of a major help in the production of the Country Cards. This cooperation has been central in the understanding of each countries' complex and unique research culture and strategies, but it also allowed the WP to gain knowledge of policies in all relevant national languages.

Alongside WP5's partners' support in the production of the Country Cards, their involvement has also accompanied this first deliverable, from the very early stage, in the reflection process on the definition of the *Responsible Open Science*.

The work of WP1 and WP2 have both been greatly insightful in this process, proving an in-depth reflection regarding OS's different challenges, as well as the RE and RI aspects of OS.

Finally, ROSiE's constant vertical and horizontal cooperation contributed to the coherence of this report in regard of the project's and other WP's objectives.

2 Overview and analysis of Open Science's public policies in Europe

2.1 Mapping and review of the current state of Open Science's public policies in Europe

2.1.1 Introduction – National involvement in OS/OA

The Country Cards, co-created with the WP5 partners, provide an extensive collection of information regarding the current status of OS at the national level in Europe.

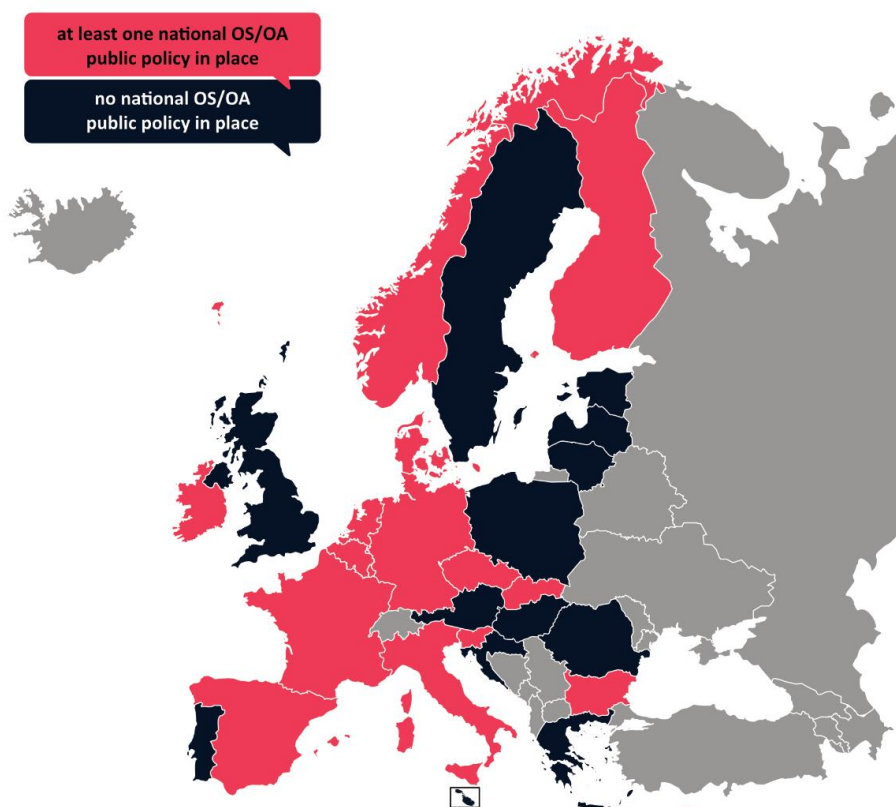
The first and most obvious fact when reviewing these documents is the positive consensus regarding OS by the national authorities in Europe. Indeed, each



European state that has been researched, is involved and active in OS, albeit at very different levels. If this information does not allow for more conclusions at this stage, it sends a positive message on the development of OS in Europe.

A more in-depth review can therefore be conducted based on the Country Cards, in order to assess the national strategies in place and the degree of each country's involvement in OS.

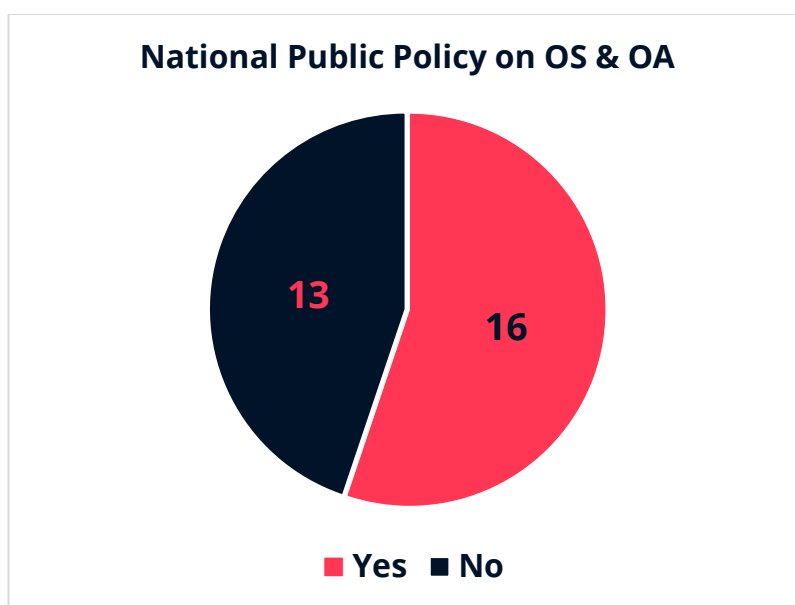
2.1.2 National policies on Open Science & Open Access



Europe map: <https://www.freepik.com/vectors/city/>City vector created by freepik - www.freepik.com

Malta map: <https://www.vecteezy.com/free-vector/malta-map>Malta Map Vectors by Vecteezy

The national OS public policies will be the main material researched as these policies will be selected and analysed in the report's last section in order to flag responsible OS public policies and good practices. The existence of national OS public policies represents the most approachable way to assess the national involvement and support of OS through concrete measures or explicit strategies. It also shows conformity with the EU Directive on Open Data and the Re-use of Public Sector Information (PSI Directive) which calls for the adoption of national policies.



Close to half of the selected countries do have at least one national policy on OS or OA in place as of January 2022. Some countries – Czech Republic, Finland, France, Germany, Bulgaria – have multiple policies in place which either address different focuses (Finland) or present the country's involvement through time and gradual improvement (France, Czech Republic). These policies exist in a wide range of formats: National Policy, National Strategy, National Plan, National Framework, State Plan, Action Plan, OA Strategy, National Programme, Declaration and degree of mandate – hard or soft, which will be analysed more in-depth in the next section against the defined responsible OS public policies' characteristics.



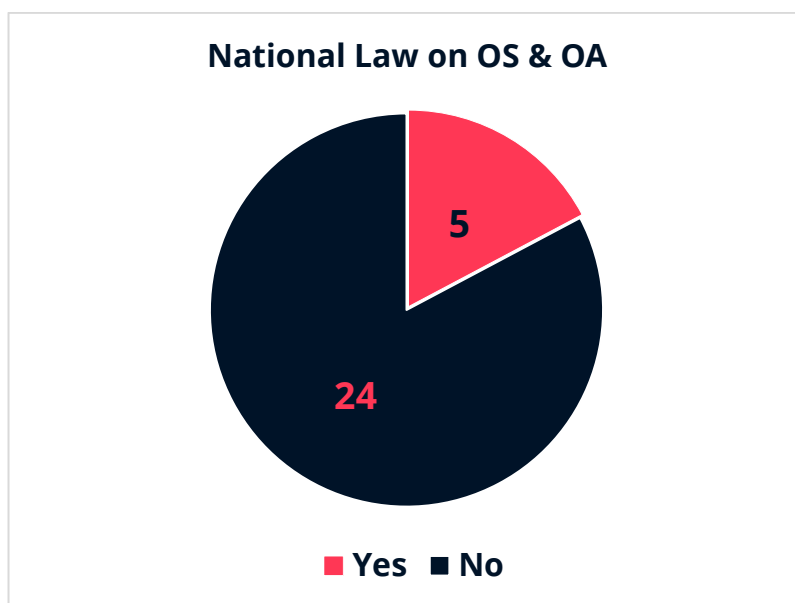
Nevertheless, as presented in the Country Cards, the lack of existing national OS policies does not mean a lack of involvement in OS initiatives, since all selected countries are active in OS in some ways. This multiplicity of national strategies is particularly clear in cases where OS is more the mandate of research institutions, federal or local authorities, or national research funders rather than national authorities (for instance in Malta where the University of Malta is the most active national institution in OS).

Furthermore, the majority of countries without a national OS public policy in place (Austria, Estonia, Greece, Latvia, Lithuania, Latvia, Malta, Poland, Portugal, Romania and Sweden) are in the process of planning and/or implementing national policies at the time this report is produced. Thus, this overview and mapping is therefore to be understood as a work in progress, at the time of this report, with most of the existing OS national public policies having been implemented in the last 5 years in Europe (18 out of 22) have been published since 2017.

2.1.3 National Laws on Open Science & Open Access

The National Laws regarding Open Science & Open Access can be assessed as a stronger commitment than National Policies due to it being strictly legally binding. The existence of such legislation can as well be perceived as a clear strategical position of the national authorities in favour of a binding approach in order to advocate for, support and implement OS.



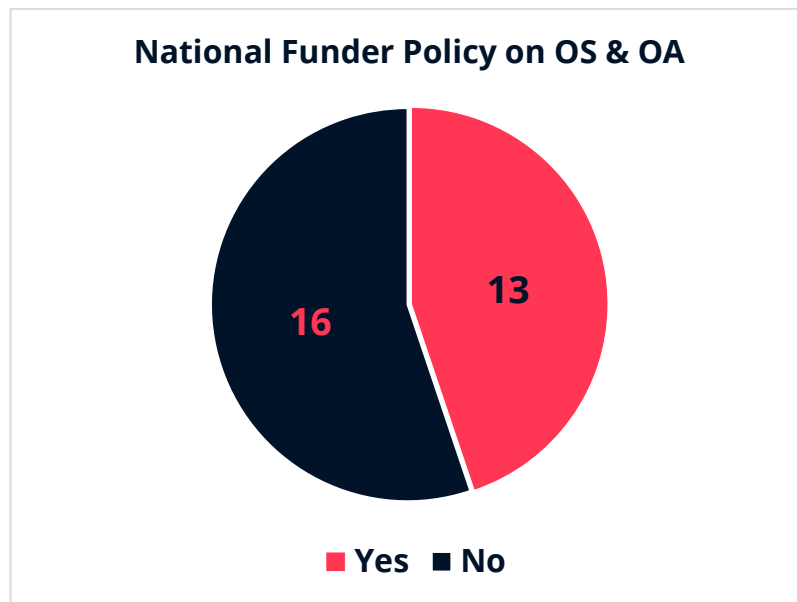


The analysis of the Country Cards shows that this kind of strategy is the least adopted by the national authorities with only 5 National Laws established. It must as well be mentioned that OS rarely is the main scope of the national legislation (only one clause of the Belgium Copyright Law addresses OA, for instance).

2.1.4 National funder policies on Open Science & Open Access

The national funder policies on Open Science can provide a proof of extended national involvement in OS. These national policies can provide relevant OS good practices, examples and tools (such as the Journal Checkers for the cOAlitionS for instance: <https://journalcheckertool.org/>).

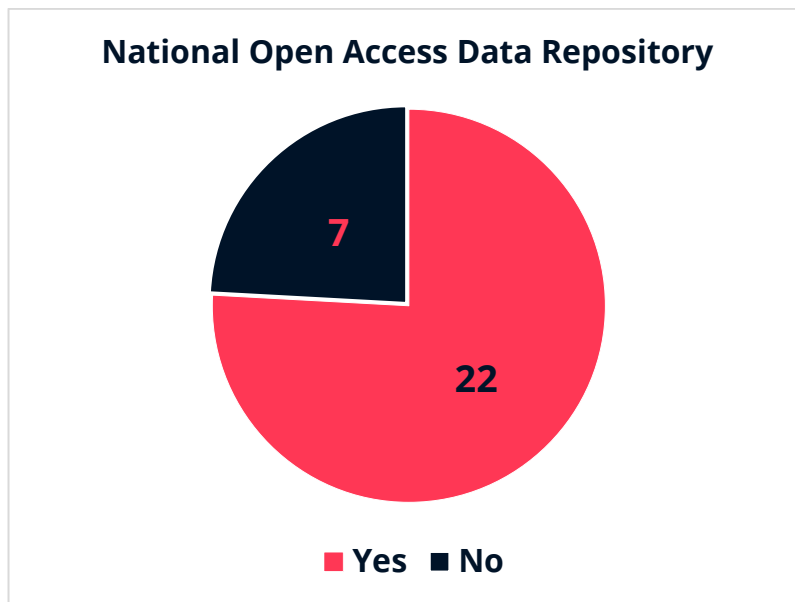




However this data is to be approached carefully due to the fact that some national funder policies do not implement their own policies but rather use the national OS policies instead, when these ones are relevant.

2.1.5 National Open Access Repositories

Having an Open Access infrastructure in place, in particular repositories, is central for a responsible data management environment. The density of OA repositories in Europe is thus widespread.



Nonetheless, these infrastructures, if they are supported and encouraged by the national authorities and OS public policies, are only rarely established and managed by these authorities, but are rather the result of institutional initiatives. This, however, does not stop some of these institutional repositories from gaining a de facto national mandate – in some cases, such as in Malta where the OAR@UM is used by all stakeholders involved in research.

A problem related to this situation remains, as many repositories are focusing on one research field, which can pose limitations for researchers, in particular in the case of interdisciplinary research.

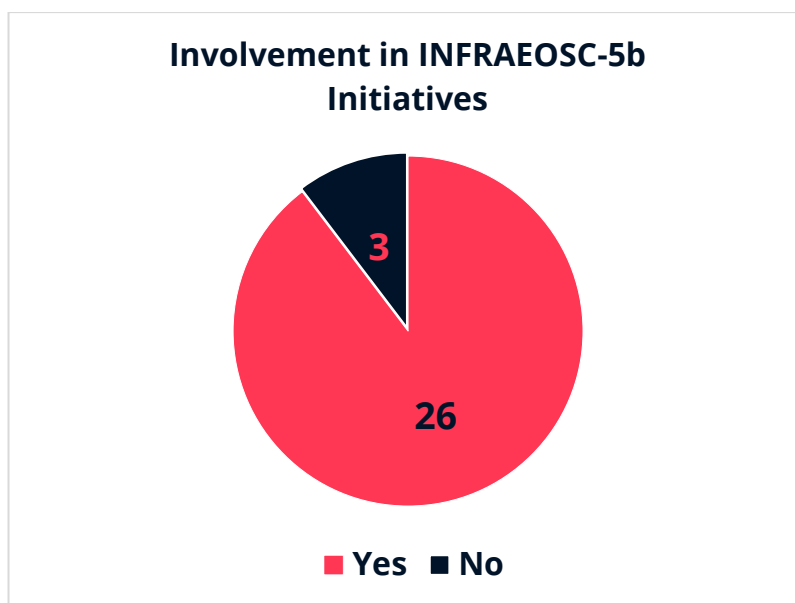
2.1.6 Involvement in INFRAEOSC-5b initiatives

The inclusion of INFRAEOSC-5b initiatives in this research provides a meaningful transnational perspective on OS in a context of growing interconnection and collaboration in Europe under the patronage of the EU.

As a part of the Digital Agenda, the European Commission made public the EOSC Declaration in October 2017 (https://eosc-portal.eu/sites/default/files/eosc_declaration.pdf), calling for the creation of the EOSC as an initiative between the MS, scientific communities, citizens and

industry. This multi-disciplinary environment, where stakeholders are able to publish, find and re-use data, tools and services for research, innovation and educational purposes, is thus one of Europe’s main instruments to support OS. EOSC is indeed seen a pilot action to improve the new European Research Area (ERA) and should be articulated with the European strategy for data. Its completion should lead not only to a higher research productivity, new insights and innovation, but also to an improved trust in science.

In this context, the EC launched the INFRAEOSC-5b call, four regional initiatives (EOSC-Synergy, NI4OS Europe, ExPaNDS, EOSC-Nordic) and one thematic project (FAIRsFAIR), aiming at providing support to integrate EOSC-relevant national initiatives in Europe.



The involvement of 26 from the selected countries in INFRAEOSC-5b initiatives sends a clear message of national support to these EU OS initiatives and projects. The involvement of 10 countries in at least two of these initiatives – Germany being the only one to be involved in all – confirms even more this tendency for great national interest for OS regional engagement.



The fact that countries without OS national public policies are also active within the EU OS framework, in particular, proves that the absence of existing national policies does not echo a lack of national involvement in OS. This can however be interpreted as a specific strategy to implement OS where OS policies would be more in the hands of institutions, with the national authorities being focused on international OS initiatives. The involvement in IFRAEOSC-5b's calls can as well be understand as the national authorities' first step towards the implementation of OS national policies.

A clear consensus, unlike any other information analysed in these Country Cards, appears therefore when it comes to the European Union's OS initiatives. The importance of the EU funding initiatives regarding the development and implementation of OS policies in Europe should therefore be highlighted.

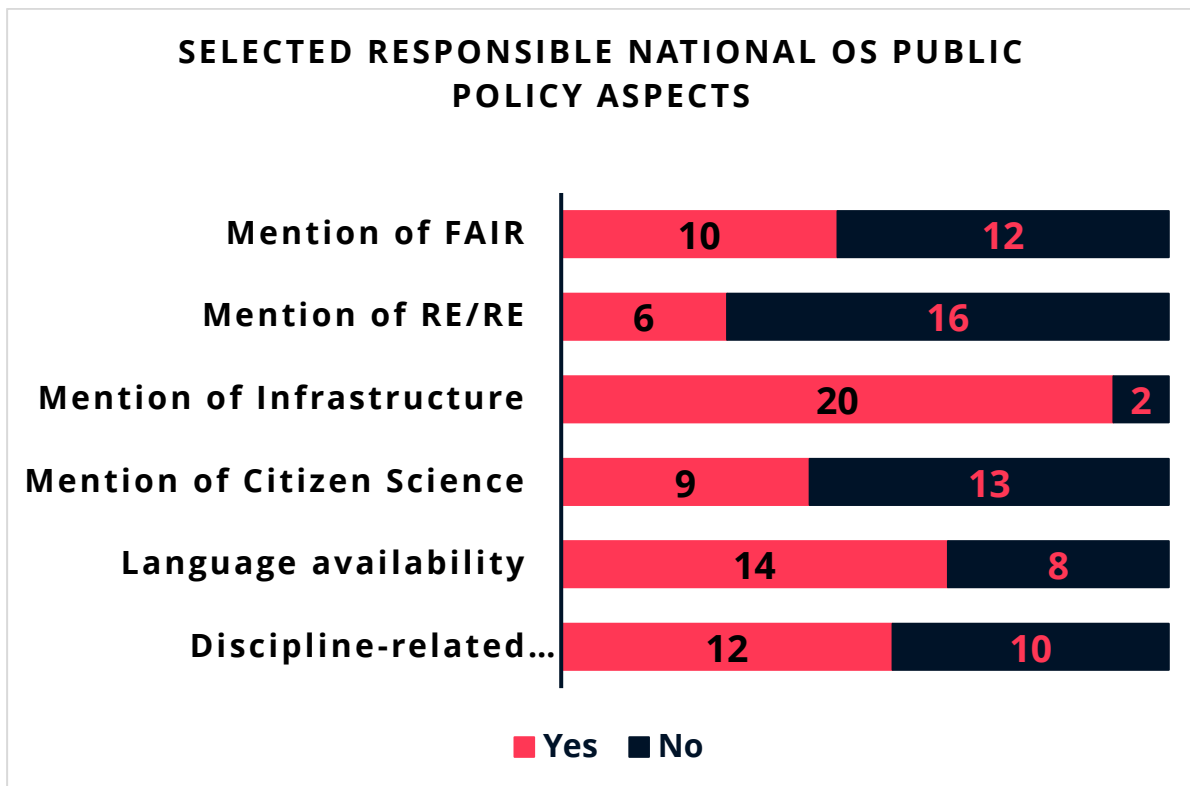
2.2 Analysis of the responsible Open Science public policies in Europe

2.2.1 Introduction – definition of a responsible OS policy

Having presented an overview of the current state of OS in Europe with the Country Cards, it is now possible to focus on OS national public policies. The analysis of the 22 selected policies will provide us with insights on what can be considered as a 'responsible' OS policy and thus be used on a later stage to produce a policy paper (Task 5.2 & Task 5.3) and guidelines (Task 5.4).

The following aspects will therefore be monitored in the light of the established definition in the methodology and in the current Open Science EU-frameworks – the explicit reference to FAIR Data Principles, RE/RI, Data Infrastructure and CS, the language availability in English, discipline-related perspectives and the type of mandate. A final definition for responsible OS policy is currently being developed by WP1 and WP2.

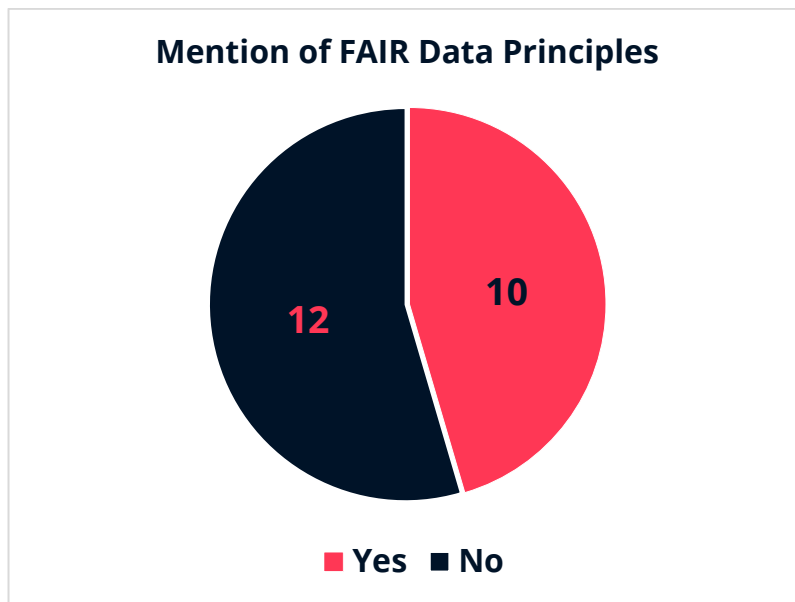




2.2.2 Mention of FAIR

The FAIR Data Principles – Findability, Accessibility, Interoperability, and Reusability – are a key concept of responsible OS. These principles, first developed in 2016, are currently unanimously supported, including in the EU’s Open Science Framework – as one of the EC’s eight ambitions of OS. There are all stated in the PSI Directive – which strategy can be summarised by the maxim “as open as possible, as closed as necessary”. Its mention in OS national public policies must therefore be monitored and included in this research as a clear responsible practice.

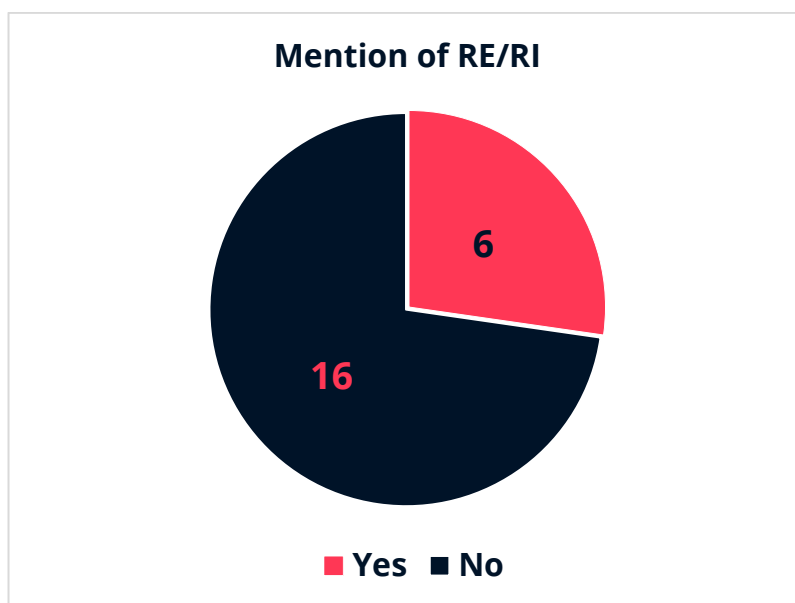




Despite the importance of FAIR Data Principles for OS, only roughly half of the selected national OS public policies mention it explicitly (10). This can be partly explained by the fact that the EU-frameworks – which support FAIR – are already implemented by the selected countries (the PSI Directive should have been implemented by the MS by the 16th July 2021), thus do not need to be included in national OS policies. But it could also be analysed in a time context: the majority of the policies implemented after 2016 (when the FAIR principles were first developed and published) do explicitly mention FAIR Data Principles (10 out of 18). Hence, there is now a clear consensus of its importance for OS in Europe.

2.2.3 Mention of RE/RI

One of the ROSiE project main goals is to foster RE and RI, to become a structural component of the OS framework. In this light, for a national OS public policy to explicitly mention RE/RI echoes strongly with our project´s aims and provides insightful examples of good practices that could potentially be reused and adapted in the upcoming tasks of this WP.

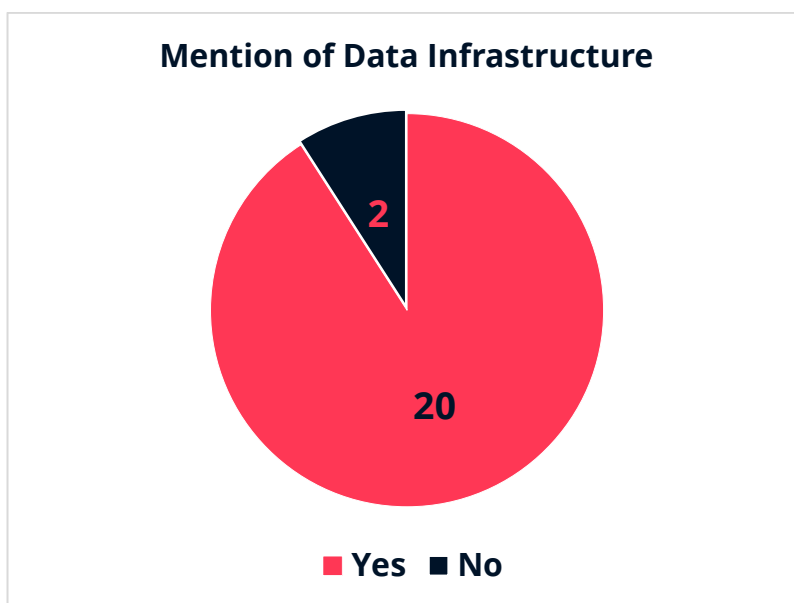


The mention of RE and RI is rather uncommon in the selected national OS public policies analysed with only 6 explicit references. These gaps confirm therefore the relevance and necessity of WP5´s aims, particularly - the Strategic policy paper (Task 5.2 and Task 5.3) that will be developed based on the findings of this report.

2.2.4 Mention of Infrastructure

OA infrastructure represents a main aspect of responsible OS. The requirement or support of this practice in a national OS/OA policy should therefore be encouraged.



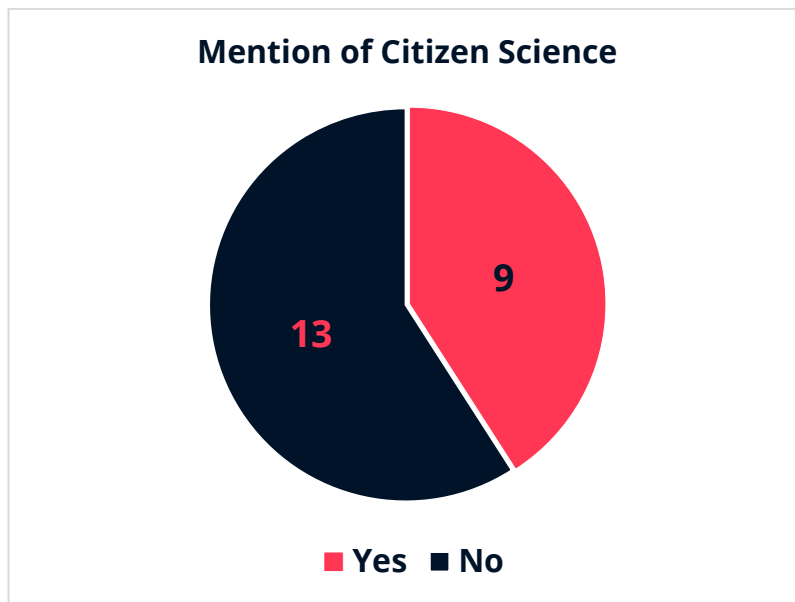


However, if such national support in the OA practice is already widespread in the existing national OS national public policies in Europe with 20 mentions, these indications often lack preciseness. As presented before, supporting the use of open data repositories in the case of countries that do not have national repositories can be a potential source of confusion for the researchers. Quite often, the policies mention the need to publish research on “the suitable repository” (mentioned in the *National Policy of the Republic of Cyprus for Open Access to Scientific Information published in 2016*), without any more clear guidance. This can be understood as a strategy – the policy leaves room for individual decisions – but can eventually lead to ineffectiveness.

2.2.5 Mention of Citizen Science

Citizen science is particularly important within the OS framework since the availability of data is partly aimed at enabling citizens to take an active part in all aspects of science and research. The mention of citizen science – which has been presented as one of the eight ambitions in OS by the EC – in an OS public policy can therefore represent a criterion for ‘responsibility’.

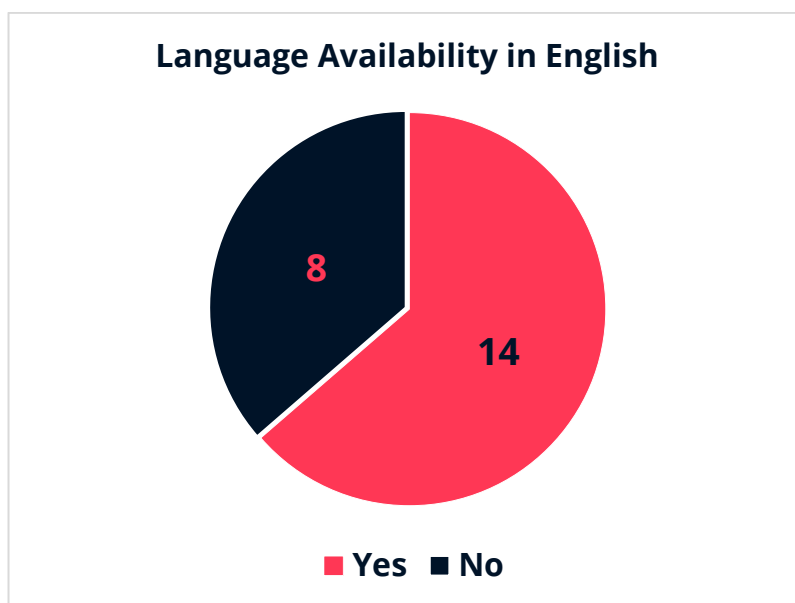




CS is explicitly mentioned in 9 selected national OS public policies. This rather low proportion can however be comprehended by the fact that a responsible OS environment and policy would eventually be positive and support citizen science initiatives. To include CS reference into a national OS public policy would nonetheless send a clear signal of support for such practice, in accordance with the current EU-frameworks, which should thus be encouraged.

2.2.6 Language availability in English

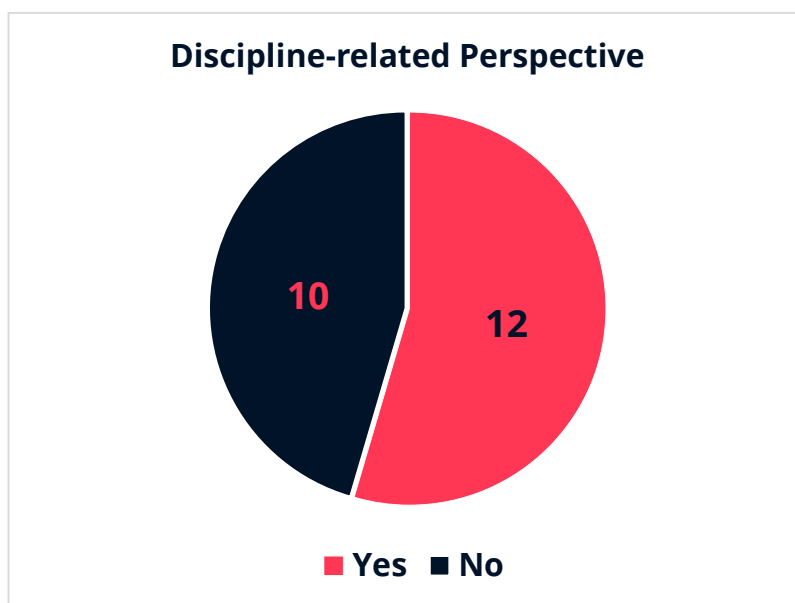
The availability of public OS documents in English and other languages in addition to the national language should be strongly supported and advocated for. In a context of expanding universalisation and international cooperation, particularly in the EU, the accessibility of data, good practices and policies should not be interrupted by issues of language accessibility.



The majority of selected countries implemented their OS national policies in their native language and in English (14 policies out of 22). The language availability of national OS public policies is thus rather widespread in Europe, but gaps remain. It may also be the case that for some countries another language than English may be more appropriate in addition to the national language.

2.2.7 Discipline-related perspective

This report aims at identifying potential discipline-related improvement regarding national OS public policies. The mapping of existing discipline-related perspectives in the selected OS policies comes therefore in conformity with this goal and will be later mobilizable during the development of discipline-related guidelines (Task 5.4).



It appears that with 12 National OS public policies addressing discipline-related particularities, this practice is somehow accepted. However, these mentions are in most cases not defined, nor explained in-depth. This can be explained by the wish for clarity and inclusivity of these policies which aim to be clear and general – reusable in each field. However, this practice tends to overlook the particularities and different needs of each scientific field. This also confirms the relevance and needs for the guidelines that will be produced by WP5 in Task 5.4.

2.2.8 Type of Mandate & Scope

The last aspect analysed is the type of mandate and the scope of the policies. These data informed the report on research environment and strategy in place in the selected countries regarding the existing OS framework. It is important to keep in mind that each country has its own particular strategy, but also legal settings, which has to be respected and followed when implementing new policies. A responsible national OS public policy in one country could not therefore always be implemented as it is in another one due to local legal and administrative particularities and preferences.

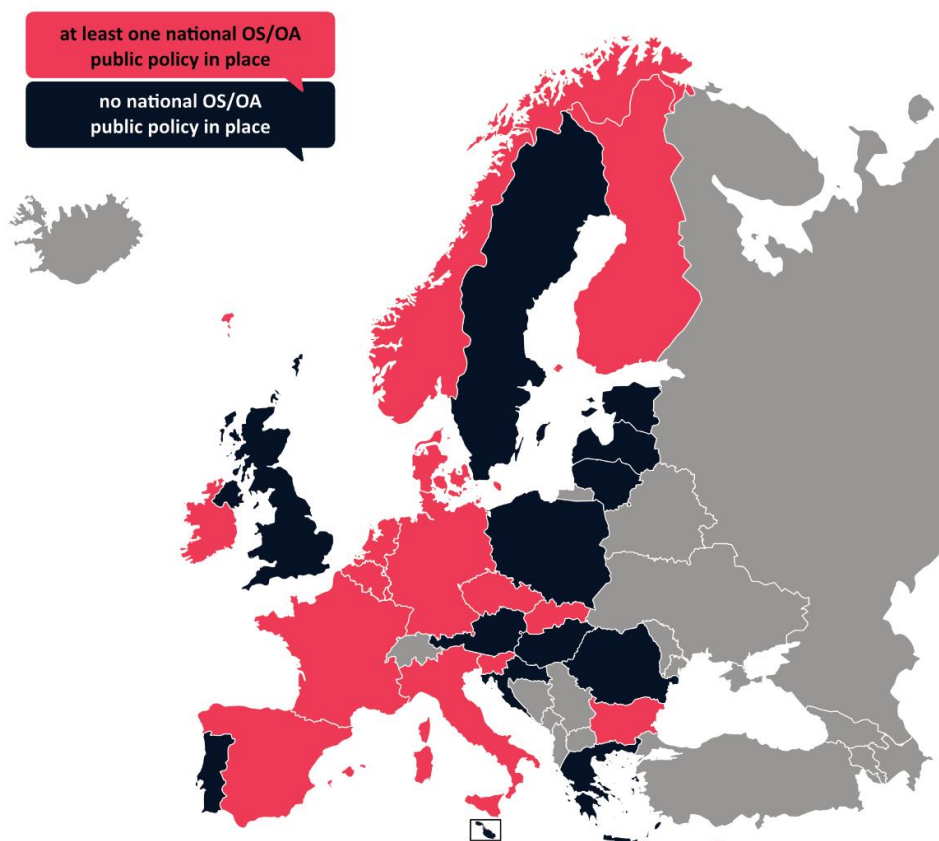
It appears that in term of mandate, no clear conclusion can be drawn. National policy and national strategy are the two most favoured types of policy. The soft



mandates have as well a limited popularity among the selected national OS public policies; however, there is no correlation between the type of policy and its mandate. This part is therefore mostly related to a specific phrasing, thus a strategy in place, or to an administrative and/or cultural research environment.

2.3 Presentation of the current responsible OS policies Country-by-Country

2.3.1 Introduction

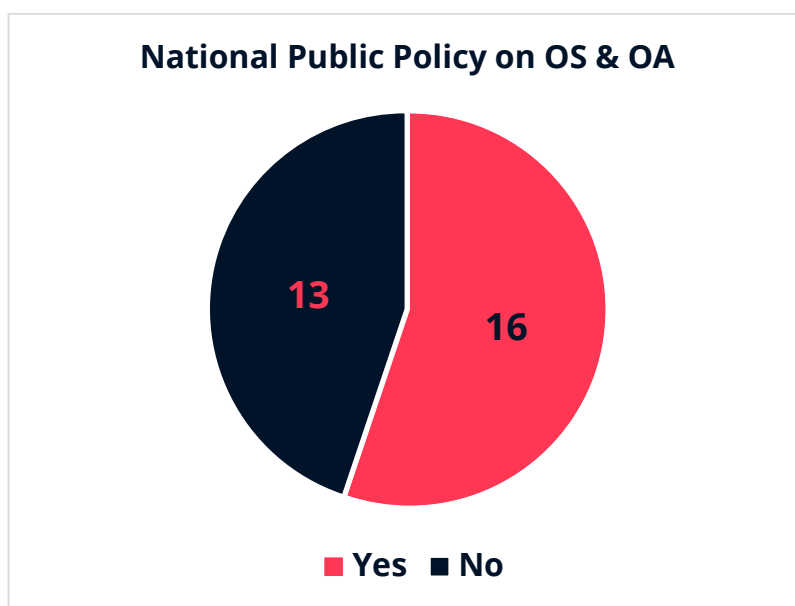


Europe map: <https://www.freepik.com/vectors/city/>City vector created by freepik - www.freepik.com

Malta map: <https://www.vecteezy.com/free-vector/malta-map>Malta Map Vectors by Vecteezy



This last section will shortly present the existing national OS public policies in each of the selected countries, namely the European Union MS, Norway and the United Kingdom. This will cover 22 selected national OS public policies implemented in 16 countries. The current state of OS will also be briefly presented for the 10 countries that are currently working on the development and implementation of a national OS public policy.



2.3.2 Analysis of the selected countries

2.3.2.1 Austria

Austria does not currently have a national OS public policy in place.

The country is however very active in this field. Since 2020 a National Open Science Strategy for Austria is being developed in collaboration between the Open Science Network Austria (OANA) and the national authorities responsible for OS.



2.3.2.2 Belgium

Belgium has a national OS public policy in place: the *Brussels Declaration on Open Access* published in 2012. Belgium has therefore the oldest national OS public policy within the analysed countries. The policy focuses on OA. The document is accessible in three languages (French, Dutch and English) and is aiming at providing information to researchers regarding OA, as well as to support OA and the creation of data repositories. The Declaration has a soft mandate and is rather short and not addressing the most recent OS developments. This might explain, why no discipline-related particularity or FAIR Data Principles are mentioned.

2.3.2.3 Bulgaria

Bulgaria has two national OS public policies in place: the *National Plan for the Development of the Open Science Initiative in the Republic of Bulgaria* and the *National Programme for Stimulation of publishing activity in authoritative international scientific journals and open access to scientific information*, both published in 2021. These policies address OS through a soft mandate, clearly support data repositories, and are only available in Bulgarian. The main topic addressed are the transition towards a research environment where OS is the default practice. The national plan makes an explicit mention of FAIR Data Principles and CS, and provides a discipline-related understanding. From the selected responsible aspects, the national programme does only address the use of data repository.

2.3.2.4 Croatia

Croatia does not currently have a national OS public policy in place.

The country is however very active within the OA frameworks with multiple publications and policies from the national authorities and the scientific community, supporting and mandating further compliance with OA practices.

2.3.2.5 Cyprus

Cyprus has a national OS public policy in place: the *National Policy of the Republic of Cyprus for Open Access to Scientific Information*, published in 2016. The policy focuses on OA, is available in English and encourages researchers to publish in



suitable data repositories. The policy had a soft mandate and hope to create the conditions and environment for OA, in accordance and line with the relevant EU OA´ framework.

2.3.2.6 Czech Republic

Czech Republic has two national OS public policies in place: the *National Strategy on Open Access to Scientific Information of the Czech Republic for 2017-2020* and the *Action Plan for Implantation of the National Strategy on Open Access to Scientific Information of the Czech Republic for 2017-2020*, published respectively in 2017 and 2019. Both documents have a soft mandate and focus on OA. The policies are to be understood together, since the Action Plan is aiming at implementing the National Strategy. They are both available only in Czech and mention the use of repositories. Due to the lack of language availability, it has not been possible to determine if these documents have a discipline-related perspective.

2.3.2.7 Denmark

Denmark has a national OS public policy in place: the *Denmark´s Strategy for Open Access* published in 2018. The document, which is available in English, addresses OA with a soft mandate and supports the use of data repositories. The national strategy is aiming for 2025 to guarantee OA practices for research publication from Danish research institutions.

2.3.2.8 Estonia

Estonia does not currently have a national OS public policy in place.

The country is nonetheless very active in OS with multiple ongoing processes aiming at developing some national framework for OS. The *Organisation of Research and Development Act* in particular is currently being prepared by the Ministry of Education and Research and it will include a national framework for OS. The policy should be presented and approved in 2023. Furthermore, multiple national public policies already mention and support OA and OS.



2.3.2.9 Finland

Finland has three national OS public policies in place: the *Open access to scholarly publication. National Policy and executive plan by the research community in Finland for 2020-2025*; the *Open education and educational resources. National policy and executive plan by the higher education and research community for 2021-2025*; and the *Open research data and methods. National policy and executive plan by the higher education and research community for 2021-2025*, published respectively in 2019, 2020 and 2021. The policies have been published as a part of a global strategy on OA by the national authorities in Finland. They have a hard mandate, are focusing on OA and are available in English. They are aiming at using OA as default in respect of the motto “as open as possible, as closed as necessary”. The three documents clearly support the use of data repositories, the 2020 and 2021’s policies also address discipline-related perspective, and the 2021’s policy explicitly mentions FAIR Data Principles and RI.

2.3.2.10 France

France has two national OS public policies in place: the *First National Plan for Open Science* and the *Second National Plan for Open Science 2021-2024*, published in 2018 and 2021 respectively. These two national plans are to be understood in a continuity and as a progressive improvement. The two documents are available in English, focus on OS and have a hard mandate. And they both address the same selected responsible aspects, namely clearly mentioning the FAIR Data Principles, the use of data repositories, CS and discipline-related perspectives. Their major goals, beside the support and generalisation of OA and for OS to become the default practice, is also to take an active part in the European and international OS dynamics.

2.3.2.11 Germany

Germany has two national OS public policies in place: the *Open Access in Germany* and the *Research Data Action Plan* published in 2016 and 2020 respectively. While none of these documents are available in English, both have a soft mandate. Furthermore, if the two documents address OA, the main focus on the 2020’s Research Data Action Plan is targeting mainly the data management. The action plan published in 2020 explicitly mentions FAIR Data Principles, the use of data repositories and addresses discipline-related perspective. The 2016’s



document however do not explicitly include any of the aspects selected as responsible in this report.

2.3.2.12 Greece

Greece does not currently have a national OS public policy in place.

Nevertheless, the country is very active and does currently have two national initiatives for OS, one aiming at developing a National Open Science Plan.

2.3.2.13 Hungary

Hungary does not currently have a national OS public policy in place.

The national authorities are however very active and vocal in their support for further involvement in OS with strategies and a position paper on OS already published.

2.3.2.14 Ireland

Ireland has a national OS public policy in place: the *National Framework on the Transition to an Open Research Environment* published in 2019. The policy focuses on OS and has been published in English. The national framework has a hard mandate and addresses all aspects defined in this report as responsible – it mentions FAIR, RE/RI, repositories, CS, and discipline-related particularities. It aims at aligning with the existing EC policy on OS.

2.3.2.15 Italy

Italy has a national OS public policy in place: the *National Programme for Research 2021-2027* published in 2021. The policy focuses on OS and is only available in Italian. Beside the absence of English version, the national programme addresses all the aspects defined in this report as responsible – it mentions FAIR, RE/RI, repositories, CS, and discipline-related particularities. The document presents the National Plan for Open Science, that should be issued as a stand-alone document in the future. Due to the lack of English translation, it has not been possible to determine if the policy has a soft or hard mandate.



2.3.2.16 Latvia

Latvia does not currently have a national OS public policy in place.

The national authorities are nonetheless working on a *National Open Science Strategy* - currently under reviewing, to be approved in 2022.

2.3.2.17 Lithuania

Lithuania does not currently have a national OS public policy in place.

The Ministry of Education, Science and Sport, the national authority responsible for OS in Lithuania, is however currently developing a national Open Access/Open Science policy.

2.3.2.18 Luxembourg

Luxembourg has a national OS public policy in place: the *National Policy on Open Access* published in 2015. The policy focuses on OA and is available in English. The hard mandate's document addresses discipline-related perspective and supports the use of data repositories and responsible OA practices. The national policy aims at aligning with the EU framework on OA, particularly the EC's Recommendations on Access to and Preservation of Scientific Information and the EC's Communication Towards better access to scientific information.

2.3.2.19 Malta

Malta does not currently have a national OS public policy in place.

Nevertheless, the main national institutions, involved in OS are currently working on the development of a National Open Access Policy.

2.3.2.20 Netherlands

The Netherlands has a national OS public policy in place: the *National Plan Open Science* published in 2017. The policy focuses on OS and is available in English. The national plan has a soft mandate and addresses all the aspects defined in this report as responsible – it mentions FAIR, RE/RI, repositories, CS, and discipline-



related particularities. Its objectives are the promotion of OA to scientific publications for their optimal use and reuse, as well as the adaptation of the evaluation and award systems to the OS framework.

2.3.2.21 Norway

Norway has a national OS public policy in place: the *National Strategy on access to and sharing of research data* published in 2017. The policy focuses on OA and is available in English. The policy has a hard mandate and addresses the use of data repositories. Research data should be “as open as possible, as closed as necessary”.

2.3.2.22 Poland

Poland does not currently have a national OS public policy in place.

The country is nonetheless active in OS. In 2018, the Ministry of Science and Higher Education published for instance a report regarding the implementation of an OA policy in the country.

2.3.2.23 Portugal

Portugal does not currently have a national OS public policy in place.

The national authorities are, however, currently working on the development of a National Policy for Open Science.

2.3.2.24 Romania

Romania does not currently have a national OS public policy in place.

Nevertheless, the country remains active in OS with publications supporting OS. The national authorities responsible for OS are collaborating since 2019 on the development of a national strategic framework on OS.



2.3.2.25 Slovakia

Slovakia has a national OS public policy in place: the *National Strategy for Open Science 2021-2028*, published in 2021. The policy is focusing on OS and is available in English. The national strategy has a soft mandate and addresses all the aspects defined in this report as responsible – it mentions FAIR, RE/RI, repositories, CS, and discipline-related particularities. Its objectives cover OA's infrastructures and practices, but also intellectual property rights and OS financing and education.

2.3.2.26 Slovenia

Slovenia has a national OS public policy in place: the *National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020* published in 2015. The national strategy focuses on OA, has a hard mandate and is available in English. The document explicitly mention the use of repositories and CS. It establishes OA as default, provides recommendations, and was implemented by an Action Plan in 2017.

2.3.2.27 Spain

Spain has a national OS public policy in place: the *State Plan for Research, Development and Innovation 2017-2020* published in 2018. The policy focuses on OA and is only available in Spanish. The FAIR Data Principles, research ethic, CS, as well as repositories are explicitly addressed in the policy, that also has a discipline-related perspective. The policy has a soft mandate and support the availability of publicly funded research data to be published in OA. The policy also acknowledges the security, confidentiality and commercial challenges of OA, in accordance with the motto "as open as possible, as closed as necessary".

2.3.2.28 Sweden

Sweden does not currently have a national OS public policy in place.

The country is however active in OS with national and institutional publications supporting OA. Furthermore, in 2017, the national authorities assigned the main institutional organisation active in OS to coordinate the national implementation of OA.



2.3.2.29 United Kingdom

The United Kingdom does not currently have a national OS public policy in place.

The country's research environment is quite specific due to the country political and administrative organisation. The authority and mandate on OS is therefore in the hands of the four UK higher education funding bodies in each nations: the UK Research and Innovation, the Higher Education Funding Council for Wales, the Scottish Funding Council and the Department for the Economy in Northern Ireland.

3 Conclusion

This report has provided us with in-depth insights of the current situation of OS in Europe, thanks to the production of the Country Cards. This overview equipped us with a mapping of selected OS public policies that we analysed in the second section of this report and from which we were able to draw conclusions. Certainly, it remains impossible to provide overall generalities in regard of such a wide and various range of countries and policies on OS. But despite these individual particularities, some trends can be determined.

The first and probably the clearer one is that OS is strongly supported and progressing in Europe. All of the selected countries are indeed involved in OS, the majority of them have national OS public policies in place, and the countries that do not are mostly in the process of developing one. This support and involvement is also to be seen in the time context. The growing involvement and support for OS in Europe is indeed quite recent. The role of the EU is also to be emphasised in this regard, since the EU initiatives, statements and policies on OS have been widely taken into account in the development of national OS public policies. It seems indeed that the EU involvement in OS increases the chances for the implementation of OS at the national level. This should be kept in mind when drafting policy papers (Task 5.2 & Task 5.3) aiming at closing the gaps of the existing EU-frameworks in place.

The second tendency that has already been presented, are the clear and thorough national and regional characteristics, with some significant particularities when it comes to strategies or existing policies. These strategies and policies are therefore to be understood and approached taking in consideration these particularities, in terms of national strategies, research environments and legislation. A



‘responsible’ policy in a given country could, for instance, not be perceived as such in another one.

To conclude, OS has in the recent years extensively grown in Europe’s research environment, with a broad involvement from all actors involved, from the supranational level with the EU as the main actor, to the national, regional, institutional and citizen level. This rather recent process has furthermore found itself becoming more and more relevant in the current global context of the COVID-19 pandemic, which has demonstrated the advantages provided by OS.

4 Acknowledgments

We would like to thank our colleagues for their extensive support and expertise in the production of the Country Cards and this report; in particular to: Teodora Konach (OeAWI) for her guidance and support throughout the report’s production, and for the production of the Country Cards of Bulgaria & Poland; Armin Schmolmüller (OeAWI) for the production and design of the Country Cards and the report’s graphics and maps; Dr. Panagiotis Kavouras (NTUA) for the production of the Country Cards of Cyprus & Greece; Dr. Soren Holm (UiO) for the production of the Country Cards of Denmark & the United Kingdom; Dr. Kadri Simm (UT) & Jaana Eigi-Watkin (UT) for the production of the Country Card of Estonia; Dr. Henriikka Mustajoki (TSV) & Elina Koivisto (TSV) for the production of the Country Card of Finland; Dr. Olivier Le Gall (INRAe) & Maud Medves (Hceres) for the production of the Country Card of France; Tom Lindemann (EUREC) for the production of the Country Card of Germany; Dr. Signe Mežinska (UL) & Inese Poļaka (UL) for the production of the Country Card of Latvia; and Rosemarie de la Cruz Bernabe (UiO/USN) & Cristiana-Anca Voinov (USN) for the production of the Country Card of Norway.

5 References

Council of the European Union (2020), Council Conclusions on the New European Research Area.



Directorate-General for Research, & Innovation. (2020). Landscape of EOSC-related infrastructures and initiatives: report from the EOSC executive board working group (WG) landscape : version 2. Publications Office of the European Union.

European Commission (2010), Communication from the Commission Europe 2020 – A strategy for smart, sustainable and inclusive growth.

European Commission (2019), Open Science – The eight ambitions of Open Science.

European Commission (2020), Landscape of EOSC-Related Infrastructures and Initiatives – Report from the EOSC Executive Board Working Group (WG) Landscape Version 2.

European open science cloud (EOSC). (2019). European Commission - European Commission. **https://ec.europa.eu/info/research-and-innovation/strategy/strategy-2020-2024/our-digital-future/open-science/european-open-science-cloud-eosc_en**.

European Open Science Cloud – EOSC (2022), **<https://eosc-portal.eu/>**.

Journal Checker Tool (2022), **<https://journalcheckertool.org/>**.



OpenAIRE (2022), <https://www.openaire.eu/>.

Open Science Europe (2022), <https://openscience.eu/>.

ROARMAP (2022), Registry of Open Access Repository Mandates and Policies,
<http://roarmap.eprints.org/>.

SPARC Europe & the Digital Curation Centre (DCC) (2021), Report : An Analysis of
Open Science Policies in Europe, v7.

Wilkinson, Mark D. et al. (2016), *Comment : The FAIR Guiding Principles for
scientific data management and stewardship*, SCIENTIFIC DATA.

6 Annex – Country Cards



AUSTRIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories		●
Involved in INFRAEOSC 5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Austrian Federal Ministry of Education, Science and Research (BMBWF)
(<https://www.bmbwf.gv.at/en.html>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The Austrian Federal Ministry of Education, Science and Research (BMBWF) will develop in 2021 a National Open Science Strategy for Austria.
- The **Open Science Network Austria (OANA)** (<https://oana.at/>) Working Group delivered in 2020 **Recommendations for a National Open Science Strategy** (<https://www.oana.at/arbeitsgruppen/ag-open-science-strategie/empfehlungen-fuer-eine-nationale-open-science-strategie-in-oesterreich/>) in the country.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws regarding Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **FWF Open Access Policy: Open Access to Research Data - 2019**
(<https://www.fwf.ac.at/en/research-funding/open-access-policy/open-access-to-research-data/>)

Objectives:

- The policy expect FWF´s funded research data to be accessible in Open Access and FAIR.

NATIONAL DATA REPOSITORIES

Austria does not have national repositories but has multiples repositories at the institutional level.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Pillar** (<https://www.eosc-pillar.eu>)

Objectives:

- Facilitating the liaison with budding national initiatives for the coordination of data and open science services, which are at the heart of the project concept.
- Ensuring the complementarity of competences and expertise, while including the point of view of the key stakeholders represented in the national initiatives (namely involving key research communities alongside e-Infrastructures and data service providers).

FURTHER DETAILS

Information regarding Open Science in Austria can be found on **OANA – Open Science Network Austria** (<https://backend.univie.ac.at/index.php?id=67453&L=2>).



BELGIUM

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS	●	
National Funder Policies on OS	●	
National Data Repositories		●
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

- **Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique** (<https://www.academieroyale.be/>)
- **Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten** (<https://kvab.be/>)
- **Académie Royale de Médecine de Belgique** (<https://www.armb.be/>)
- **Koninklijke Academie voor Geneeskunde van België** (<https://www.academiegeneeskunde.be/>)
- **Belgian Federal Science Policy Office** (<https://www.belspo.be/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **Brussels Declaration on Open Access - 2012** (<https://openaccessbelgium.files.wordpress.com/2012/11/signedbrussels-declaration-on-open-access.pdf>)

Objectives:

- To actively inform researchers about Open Access and advocate in favour of OA.
- To support the creation and maintenance of Open Access repositories.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability	×	
Discipline-related perspective		×
Type of Mandate - Scope	Declaration - OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

- **Belgian Copyright Law - Open Access clause - 2018**
(http://www.ejustice.just.fgov.be/cgi/article.pl?urlimage=%2Fmopdf%2F2018%2F09%2F05_1.pdf%23Page81&callee%20r=summary&language=fr&pub_date=2018-09-05&numac=2018031589)

Objectives:

- Research publications must be available in Open Access if publicly funded for at least 50%.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **BELSPo Open Research Data mandate - 2019**
(http://www.belspo.be/belspo/openscience/doc/ORD_Policy_Dec2019.pdf)

Objectives:



- Researchers are mandated to deposit data in certified and trusted online repositories and/or data centres.
- The principle “as open as possible, as closed as necessary” must be respected.

NATIONAL DATA REPOSITORIES

Belgium does not have national repositories but has **multiple repositories** (<https://openaccess.be/open-access-in-belgium/open-access-repositories/>) at the institutional level.

INFRAEOSC-5b CALL

The country takes currently part in two INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Pillar** (<https://www.eosc-pillar.eu>)

Objectives:

- Facilitating the liaison with budding national initiatives for the coordination of data and open science services, which are at the heart of the project concept.
- Ensuring the complementarity of competences and expertise, while including the point of view of the key stakeholders represented in the national initiatives (namely involving key research communities alongside e-Infrastructures and data service providers).

FURTHER DETAILS

Information regarding Open Science in Belgium can be found on **Open Access Belgium** (<https://openaccess.be/open-access-in-belgium/>).



BULGARIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education and Science (<https://www.mon.bg/en/100000>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Plan for the Development of the Open Science Initiative in the Republic of Bulgaria – 2021** (https://www.mon.bg/upload/24848/plan-otvorena-nauka_130121.pdf)

Objectives:

- The plan sets out the strategic goals, the necessary steps and tools for the transition to the transformation of open science into a standard practice for conducting research.

Responsibility aspect	Yes	No
Mention of FAIR	✘	
Mention of RE/RI		✘
Mention of Infrastructure	✘	
Mention of Citizen Science	✘	
Language availability		✘
Discipline-related perspective	✘	
Type of Mandate - Scope	National Plan - OS SOFT	

- **National Programme – Stimulation of publishing activity in authoritative international scientific journals and open access to scientific information – 2021** (https://bpos.bg/api/FilesStorage?key=32d6b70d-4780-4ea7-a22e-0e6a323c5d74&fileName=rMS733_NNP_Publikacii_27102021.pdf.pdf&dbId=1)

Objectives:

- The programme is related to the sharing of scientific results in the Bulgarian Open Science Portal.

Responsibility aspect	Yes	No
Mention of FAIR		✗
Mention of RE/RI		✗
Mention of Infrastructure	✗	
Mention of Citizen Science		✗
Language availability		✗
Discipline-related perspective		✗
Type of Mandate - Scope	National Programme - OS SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws regarding Open Science.

NATIONAL FUNDER POLICIES

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **BPOS – Bulgarian Portal for Open Science – 2020** (<https://bpos.bg/>)

Level: National.

Details: Cross-disciplinary repository administrated by **NACID** (<https://nacid.bg/en/>).

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **NI4OS** (<https://ni4os.eu/>)

Objectives:

- Support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the EOSC governance.
- Instil within the community the EOSC philosophy and FAIR principles for data Findability, Accessibility, Interoperability and Reusability.
- Provide technical and policy support for on-boarding of service providers into EOSC, including generic services (compute, data storage, data management), thematic services, repositories and data sets.

FURTHER DETAILS

Information regarding Open Science in Bulgaria can be found on the **Bulgarian Portal for Open Science** (<https://bpos.bg/>).

Acknowledgements

With the contribution of Teodora Konach from OeAWI

CROATIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Science and Education (MSE) (<https://mzo.gov.hr/en>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The Croatian Rectors' Conference announced its support to OA in the **Research assessment and promotion of OA to scientific information and research data - 2015** (http://www.rektorski-zbor.hr/fileadmin/rektorat/O_Sveucilistu/Tijela_sluzbe/Rektorski_zbor/dokumenti2/Vrednovanje_znanstvenog_rada_i_otvoreni_pristup_znanstvenim_informacijama_Rektorski_zbor.pdf).
- The **Strategy of Education, Science and Technology - 2014** (<https://mzo.gov.hr/UserDocImages/dokumenti/Obrazovanje/Strategy%20for%20Education,%20Science%20and%20Tehnology.pdf>) recognises that an OA system for research data, publications and teaching resources would be a major improvement for the research environment.

- The **Croatian Research and Innovation Infrastructures Roadmap 2014-2020** (https://www.obzor2020.hr/userfiles/obzor2020/pdfs/Strategija_poticanja_inovacija_18_12_14.pdf) promotes Open Access to scientific papers and research data, in particular when publicly funded.
- The **Croatian Act on Scientific Activity and Higher Education** (<https://www.zakon.hr/z/320/Zakon-o-znanstvenoj-djelatnosti-i-visokom-obrazovanju>) mandates higher education theses to be archived in academic library repositories.
- The **Croatian Open Access Declaration** (<https://www.fer.unizg.hr/oa2012/declaration>) was signed in 2012. It states that “results of the activities financed by public funds, especially in the field of education and science, should be made available in OA”.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **DABAR (Digital Academic Archives and Repositories) - 2015**
(<https://dabar.srce.hr/en>)

Level: National.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **NI4OS** (<https://ni4os.eu/>)

Objectives:

- Support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the EOSC governance.

- Instil within the community the EOSC philosophy and FAIR principles for data Findability, Accessibility, Interoperability and Reusability.
- Provide technical and policy support for on-boarding of service providers into EOSC, including generic services (compute, data storage, data management), thematic services, repositories and data sets.

CYPRUS

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories		●
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Deputy Ministry of Research, Innovation and Digital Policy
(https://www.dmid.gov.cy/dmid/research.nsf/home_en/home_en?opendocument)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Policy of the Republic of Cyprus for Open Access to Scientific Information - 2016** (<https://opensciency.ucy.ac.cy/wp-content/uploads/2019/09/FINAL-EN-National-Policy-for-Open-Access-to-Scientific-Information.pdf>)

Objectives:

- To create Open Access conditions (accessible to citizens, researchers, businesses) for all publications of research and academic institutions in the country, publicly or privately funded.

- To align the country's Open Access legislation with the European policies (European Commission recommendation, Horizon 2020) and best practices.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability	×	
Discipline-related perspective		×
Type of Mandate - Scope	National Policy - OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

Cyprus does not have national repositories but has multiples repositories at the institutional level.



INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **NI4OS** (<https://ni4os.eu/>)

Objectives:

- Support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the EOSC governance.
- Instil within the community the EOSC philosophy and FAIR principles for data Findability, Accessibility, Interoperability and Reusability.
- Provide technical and policy support for on-boarding of service providers into EOSC, including generic services (compute, data storage, data management), thematic services, repositories and data sets.

Acknowledgements

With the contribution of Dr. Panagiotis Kavouras from NTUA

CZECH REPUBLIC

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories		●
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Governmental Office for Research, Development and Innovation
(<http://www.vyzkum.cz/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **Action Plan for Implementation of the National Strategy on Open Access to Scientific Information of the Czech Republic for 2017-2020 - 2019**
(<https://www.vyzkum.cz/FrontClanek.aspx?idsekce=876326&ad=1&%E2%80%A6>)

Objectives:

- Defines concrete goals and methods to fulfil general ideas of the National Strategy.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability		×
Discipline-related perspective	N/A	N/A
Type of Mandate - Scope	Action Plan – OA SOFT	

- **National Strategy on Open Access to Scientific Information of the Czech Republic for 2017-2020 – 2017**
(<https://www.vyzkum.cz/FrontClanek.aspx?idsekce=876326&ad=1&%E2%80%A6>)

Objectives:

- Covers research publications and research data

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability		×
Discipline-related perspective	N/A	N/A
Type of Mandate - Scope	State Plan - OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

Czech Republic does not have national repositories but has multiples repositories at the institutional level.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).



- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.
- Develop the EOSC Human capital.

FURTHER DETAILS

Information regarding Open Access in Czech Republic can be found on **Open Access in the Czech Republic** (<https://openaccess.cz/en/open-access-in-the-czech-republic/>).

DENMARK

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS	●	
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Higher Education and Science (<https://ufm.dk/en/the-ministry/organisation/the-ministry>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **Denmark's National Strategy for Open Access - 2018** (<https://ufm.dk/en/research-and-innovation/cooperation-between-research-and-innovation/open-access/Publications/denmarks-national-strategy-for-open-access/national-strategy-for-open-access-english.pdf>)

Objectives:

- To ensure unimpeded, digital access by 2025 for all to all peer-reviewed research publication from Danish research institutions – with a maximum delay of 12 months.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability	×	
Discipline-related perspective		×
Type of Mandate - Scope	National Strategy - OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

- **Bekendtgørelse nr. 514 af 20. april 2020 om anmeldelse af forskningsdata skabt af statslige myndigheder - 2020** (<https://www.retsinformation.dk/eli/lta/2020/514>)
- **Bekendtgørelse nr. 33 af 8. januar 2020 om bevaring og kassation af arkivalier i regionerne - 2020** (<https://www.retsinformation.dk/eli/lta/2020/33>)
- **Bekendtgørelse nr. 183 af 26. januar 2018 om bevaring og kassation af digitalt skabte data og dokumenter fra kommunerne - 2018** (<https://www.retsinformation.dk/eli/lta/2018/183>)

Objectives:

- All research data produced by public institutions, including universities must be notified to Rigsarkivet (the National Archive), and deposited if Rigsarkivet find that preservation of the data is necessary.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **Open Access-politik for offentlige forskningsfonde (Open Access policy for public research funders) - 2022** (<https://ufm.dk/forskning-og->



[innovation/samspil-mellem-viden-og-innovation/open-access/artikler/open-access-i-rad-og-fonde/open-access-politik-for-offentlige-forskningsfonde\)](#)

Objectives:

- Accession to the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities.
- To make Open Access standard for all journal publications.

NATIONAL DATA REPOSITORIES

- **The Danish National Archives (Rigsarkivet) – 2014** (<https://www.sa.dk/en/>)

Level: National.

Details: All research data produced by public institutions, including universities must be notified to Rigsarkivet (the National Archive), and deposited if Rigsarkivet find that preservation of the data is necessary. Research data from private entities can be deposited voluntarily. The repository incorporates the previously existing Dansk Data Arkiv (1973-1993).

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

Acknowledgements

With the contribution of Dr. Soren Holm from UiO

ESTONIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories		●
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education and Research (<https://www.hm.ee/en>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The new **Organisation of Research and Development Act** (<https://www.hm.ee/et/taks>) is currently under development in the Ministry of Education and Research, with the estimated date of approval in the first quarter of 2023. The working group includes a subgroup on Open Science that has produced a draft version of the national framework for Open Science.
- The **Estonian Research, Development, Innovation and Entrepreneurship Strategy 2021–2035** (<https://www.hm.ee/en/activities/strategic-planning-2021-2035>) has been produced by the Ministry of Education and Research and the Ministry of Economic Affairs and Communications. It is supposed to include an annex on the principles of Open Science, currently under development.
- The Estonian **Code of Conduct for Research Integrity - 2017** (https://www.eetika.ee/sites/default/files/www_ut/hea_teadustava_eng_trukis.pdf)

postulates openness as one of the fundamental values in research and describes its manifestations at different stages of research; Open Access is also mentioned.

- The **Implementation Plan 2016-2019 for achieving the objectives of the Estonian Research and Development and Innovation Strategy 2014-2020 “Knowledge-based Estonia”** (https://www.hm.ee/sites/default/files/tai_rakendusplaan_2016-2020-ennewtextpdf.pdf) was adopted by the Estonian government in 2016. Its priority number 5 addresses and promote Open Access.
- An Open Science Expert Group was established in 2015 by the Estonian Research Council in order to draft a national Open Science policy. Their report **Open Science in Estonia – Open Science Expert Group of the Estonian Research Council, Principles and Recommendations for Developing National Policies** (<https://www.etag.ee/wp-content/uploads/2017/03/Open-Science-in-Estonia-Principles-and-Recommendations-final.pdf>) were published in 2016.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws regarding Open Science or Open Access.

NATIONAL FUNDER POLICIES

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

Estonia does not have national repositories but has multiples repositories at the institutional level.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.

- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

Acknowledgements

With the contribution of Dr. Kadri Simm & Jaana Eigi-Watkin from UT

FINLAND

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS	●	
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education and Culture
(<https://okm.fi/en/ministry#:~:text=The%20Ministry%20of%20Education%20and%20Culture%20is%20one,Government%20by%20planning%2C%20outlining%20and%20implementing%20its%20policies.>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **Open research data and methods. National policy and executive plan by the higher education and research community for 2021–2025 – 2021**
(<https://avointiede.fi/sites/default/files/2021-05/Open%20research%20data%20and%20methods%2C%20policy%20component%201.pdf>)

Objectives:

- Research data and methods are as open as possible and as closed as necessary. The data is managed appropriately with the aim of implementing the FAIR principles. Research methods and research data are identified as independent research outputs.

Responsibility aspect	Yes	No
Mention of FAIR	✗	
Mention of RE/RI	✗	
Mention of Infrastructure	✗	
Mention of Citizen Science		✗
Language availability	✗	
Discipline-related perspective	✗	
Type of Mandate - Scope	National Policy – OA HARD	

- **Open education and educational resources. National policy and executive plan by the higher education and research community for 2021-2025 – 2020** (<https://avointiede.fi/sites/default/files/2020-12/final-version%20eng%20oppimislinjaus%201.pdf>)

Objectives:

- Creating, using and joint development of open educational resources and other open educational practices are part of daily work in higher education and enable continuous learning.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability	×	
Discipline-related perspective	×	
Type of Mandate - Scope	National Policy – OA HARD	

- **Open access to scholarly publications. National Policy and executive plan by the research community in Finland for 2020–2025 – 2019** (<https://avointiede.fi/sites/default/files/2020-03/openaccess2019.pdf>)

Objectives:

- No later than 2022, all new scientific articles and conference publications will be immediately openly accessible.

Responsibility aspect	Yes	No
Mention of FAIR		✗
Mention of RE/RI		✗
Mention of Infrastructure	✗	
Mention of Citizen Science		✗
Language availability	✗	
Discipline-related perspective		✗
Type of Mandate - Scope	National Policy – OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

- **Laki julkisin varoin tuotettujen tutkimusaineistojen uudelleenkäytöstä – 2021** (<https://www.finlex.fi/fi/laki/alkup/2021/20210713>)

Objectives:

- The law for the reuse of research material produced with public funds (based on EU directive of open data 1024/2019/EU) states that the publisher of research materials in question must allow their use for commercial or non-commercial purposes free of charge.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **Academy of Finland – Policies on Open Science** (<https://www.aka.fi/en/research-funding/responsible-science/open-science/academy-policies-on-open-science/>)

Objectives:

- The Academy of Finland's main objectives regarding Open Science can be found **here** (<https://www.aka.fi/en/research-funding/responsible-science/open-science/our-science-policy-objectives/>).

NATIONAL DATA REPOSITORIES

- **Fairdata.fi – 2021** (<https://www.fairdata.fi/en/>)

Level: National.

Details: Repository from the Ministry of Education and Culture. More repositories exist.

- **Research.fi – 2020** (<https://research.fi/en/>)

Level: National.

Details: Repository from the Ministry of Education and Culture. More repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in two INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.

- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

FURTHER DETAILS

Information regarding Open Science in Finland can be found on **Open Science** (<https://avointiede.fi/en>).

Acknowledgements

**With the contribution of Dr. Henriikka Mustajoki & Elina Koivisto
from TSV**

FRANCE

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Bodies involved in OS	●	
National Policies on OS	●	
National Laws on OS	●	
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

BODIES INVOLVED IN OPEN SCIENCE & ACCESS

Ministère de l'Enseignement Supérieur, de la Recherche et de l'Innovation
(<https://www.enseignementsup-recherche.gouv.fr/fr>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **Second National Plan for Open Science 2021–2024 - 2021**
(<https://www.ouvrirelascience.fr/deuxieme-plan-national-pour-la-science-ouverte/>)

Objectives:

- Generalise open access to publications.
- Structuring, sharing and opening up research data.
- Opening up and promoting source code produced by research.
- Transforming practices to make open science the default principle.

Responsibility aspect	Yes	No
Mention of FAIR	✘	
Mention of RE/RI		✘
Mention of Infrastructure	✘	
Mention of Citizen Science	✘	
Language availability	✘	
Discipline-related perspective	✘	
Type of Mandate - Scope	National Plan - OS HARD	

- **First National Plan for Open Science - 2018**
(<https://www.ouvri.lascience.fr/plan-national-pour-la-science-ouverte/>)

Objectives:

- Generalise open access to publications.
- Structure research data and make it available through open access.
- Be part of a sustainable European and international open science dynamic.

Responsibility aspect	Yes	No
Mention of FAIR	✗	
Mention of RE/RI		✗
Mention of Infrastructure	✗	
Mention of Citizen Science	✗	
Language availability	✗	
Discipline-related perspective	✗	
Type of Mandate - Scope	National Plan - OS HARD	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

- **Law for a Digital Republic - 2016**
(<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000033202746?r=XZnej8B7xU>)

Objectives:

- Unleashing innovation by circulating information and knowledge to prepare France in the face of global challenges of the data economy.
- Create a clear framework of trust, guaranteeing users' rights and protecting personal data.
- Build an open and inclusive digital Republic, so that opportunities related to the digital transition benefit as many people as possible.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **ANR Open Science Policy - 2013** (<https://anr.fr/en/anrs-role-in-research/values-and-commitments/open-science/>)

Objectives:



- Promote open access to publications (scientific publications – full text – must be submitted to an open archive (national HAL or local institutional archives).
- Contribute to open research data wherever possible (DMPs required for funded projects since 2019).
- This policy fully aligns with the Second National Plan for Open Science 2021–2024 – 2021.

NATIONAL DATA REPOSITORIES

- **HAL Open Science – 2001** (<https://hal.archives-ouvertes.fr/?lang=en>)

Level: National.

Details: More repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in three INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **ExPaNDS** (<https://expands.eu/>)

Objectives:

- Enable EOSC services and to provide coherent FAIR data services to the scientific users of national Photon and Neutron sources.
- Connect national PaN RIs through a platform of data analysis as a service for users from research institutes universities, industry etc.
- Develop and maintain a catalogue of data and analysis software for Photon and Neutron data.
- Gather feedback and cooperate with the EOSC governance bodies to improve the EOSC and develop standard relationships between scientific publications, Photon and Neutron scientific dataset (raw data), experimental reports, instruments and authors (via ORCID).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Pillar** (<https://www.eosc-pillar.eu>)



Objectives:

- Facilitating the liaison with budding national initiatives for the coordination of data and open science services, which are at the heart of the project concept.
- Ensuring the complementarity of competences and expertise, while including the point of view of the key stakeholders represented in the national initiatives (namely involving key research communities alongside e-Infrastructures and data service providers).

FURTHER DETAILS

Information regarding Open Science in France can be found on **Ouvrir La Science** (<https://www.ouvrirlascience.fr/category/ressources/>).

Acknowledgements

With the contribution of Dr. Olivier Le Gall from INRAe & Maud Medves from Hceres

GERMANY

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Federal Ministry of Education and Research
(https://www.bmbf.de/bmbf/en/home/home_node.html)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **Open Access in Germany - 2016**
(https://www.bmbf.de/SharedDocs/Publikationen/de/bmbf/1/24102_Open_Access_in_Deutschland.pdf?__blob=publicationFile&v=5)

Objectives:

- To support and strengthen the Green Way to Open Access.

Responsibility aspect	Yes	No
Mention of FAIR		✗
Mention of RE/RI		✗
Mention of Infrastructure		✗
Mention of Citizen Science		✗
Language availability		✗
Discipline-related perspective		✗
Type of Mandate - Scope	Open Access Strategy - OA SOFT	

- **Research Data Action Plan - 2020** (https://www.bildung-forschung.digital/digitalezukunft/shareddocs/Downloads/files/163_20_faktenblatt_aktionsplan_3_final.pdf?_blob=publicationFile&v=1)

Objectives:

- Focuses on data sovereignty and data infrastructures, data-based innovations and data competencies.

Responsibility aspect	Yes	No
Mention of FAIR	✘	
Mention of RE/RI		✘
Mention of Infrastructure	✘	
Mention of Citizen Science		✘
Language availability		✘
Discipline-related perspective	✘	
Type of Mandate - Scope	Action Plan – OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **DFG – Guidelines for the Use of Fund – 2015**
(https://www.dfg.de/formulare/2_012e/2_012e.pdf)

Objectives:

- Results funded by the DFG are expected to be published and available in OA.
- These results should be deposited in discipline-specific or institutional repositories.

NATIONAL DATA REPOSITORIES

- **OA-Netzwerk – Deutsche Initiative für Netzwerkinformation e.V. (DINI) – 1991** (<https://dini.de/dienste-projekte/projekte/oa-netzwerk/>)



Level: de facto National – Network of certified OA repositories.

Details: Support the national networking of repositories. More institutional and federal repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in five INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **ExPaNDS** (<https://expands.eu/>)

Objectives:

- Enable EOSC services and to provide coherent FAIR data services to the scientific users of national Photon and Neutron sources.
- Connect national PaN RIs through a platform of data analysis as a service for users from research institutes universities, industry etc.
- Develop and maintain a catalogue of data and analysis software for Photon and Neutron data.
- Gather feedback and cooperate with the EOSC governance bodies to improve the EOSC and develop standard relationships between scientific publications, Photon and Neutron scientific dataset (raw data), experimental reports, instruments and authors (via ORCID).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.

- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

- **EOSC-Pillar** (<https://www.eosc-pillar.eu>)

Objectives:

- Facilitating the liaison with budding national initiatives for the coordination of data and open science services, which are at the heart of the project concept.
- Ensuring the complementarity of competences and expertise, while including the point of view of the key stakeholders represented in the national initiatives (namely involving key research communities alongside e-Infrastructures and data service providers).

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.

FURTHER DETAILS

Information regarding Open Access in Germany can be found on [open-access.network](https://open-access.network/en/home) (<https://open-access.network/en/home>).

Acknowledgements

With the contribution of Tom Lindemann from EUREC

GREECE

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

- **Ministry of Education and Religious Affairs** (<https://www.minedu.gov.gr/>)
- **Ministry of Development and Investments** (<https://www.mindev.gov.gr/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- There are currently two national initiatives for Open Science in Greece, one top-down lead by the General Secretariat of Research and Technology (GSRT) Working Group and the bottom-up initiative lead by the National Open Science Task Force which is composed of representatives of 25 national academic and research institutions, research infrastructures, national nodes and Open Science initiatives working on a **National Open Science Plan** (<https://www.openaire.eu/blogs/drafting-the-proposal-for-a-national-open-science-strategy-in-greece-an-interinstitutional-approach>).

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **HELIX** - **Hellenic Data Service** - **2012**
(<https://hellenicdataservice.gr/project/page/what-is-helix>)

Level: National.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **NI4OS** (<https://ni4os.eu/>)

Objectives:

- Support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the EOSC governance.
- Instil within the community the EOSC philosophy and FAIR principles for data Findability, Accessibility, Interoperability and Reusability.
- Provide technical and policy support for on-boarding of service providers into EOSC, including generic services (compute, data storage, data management), thematic services, repositories and data sets.

Acknowledgements

With the contribution of Dr. Panagiotis Kavouras from NTUA



HUNGARY

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

National Research, Development and Innovation Office (<https://nkfi.gov.hu/for-the-applicants>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- In 2021, the **National Research, Development and Innovation Office** (<https://nkfi.gov.hu/for-the-applicants>) published a **Position Paper on Open Science** (<https://nkfi.gov.hu/openscience/position-paper-on-open>) to call for further support in Open Science.
- The **National Research and Development Strategy** (<https://nkfi.gov.hu/english/research-development-innovation-strategy>) has been adopted in order to strengthen the knowledge production, improve its flow and make its use more efficient.
- In order to meet the National Reform Programme and Europe 2020 Strategy's objectives the **Research Infrastructures in Hungary** (<https://nkfi.gov.hu/english-2017/strategy-making-by-the/hungarian->

FURTHER DETAILS

Information regarding Open Science in Hungary can be found on **Open Science** (<https://openscience.hu/>).



The ROSiE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



iRELAND

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call		●

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Department of Further and Higher Education, Research, Innovation and Science (DFHERIS) (<https://www.gov.ie/en/organisation/department-of-higher-education-innovation-and-science/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Framework on the Transition to an Open Research Environment – 2019** (<https://repository.dri.ie/catalog/0287dj04d>)

Objectives:

- To transit toward and create a National Action Plan regarding open research.
- Align with the European Commission policy regarding Open Science.

Responsibility aspect	Yes	No
Mention of FAIR	×	
Mention of RE/RI	×	
Mention of Infrastructure	×	
Mention of Citizen Science	×	
Language availability	×	×
Discipline-related perspective	×	
Type of Mandate - Scope	National Framework – OS HARD	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **Digital Repository of Ireland – 2015** (<https://www.dri.ie/>)

Level: National – Thematic (Arts, Social Sciences & Humanities).

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country is not currently involved in INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).



The ROSiE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



iTALY

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories		●
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of University and Research (<https://www.mur.gov.it/it>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Programme for Research 2021-2027 - 2021**
(<https://www.mur.gov.it/sites/default/files/2021-01/Pnr2021-27.pdf>)

Objectives:

- The National Programme for Research 2021-2027 contains in the 6.2 section a presentation of the National Plan Open Science that should be issued as a stand-alone document.

Responsibility aspect	Yes	No
Mention of FAIR	✘	
Mention of RE/RI	✘	
Mention of Infrastructure	✘	
Mention of Citizen Science	✘	
Language availability		✘
Discipline-related perspective	✘	
Type of Mandate - Scope	National Plan - OS N/A	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

Italy does not have national repositories but has multiples repositories at the institutional level.



INFRAEOSC-5b CALL

The country takes currently part in three INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **ExPaNDS** (<https://expands.eu/>)

Objectives:

- Enable EOSC services and to provide coherent FAIR data services to the scientific users of national Photon and Neutron sources.
- Connect national PaN RIs through a platform of data analysis as a service for users from research institutes universities, industry etc.
- Develop and maintain a catalogue of data and analysis software for Photon and Neutron data.
- Gather feedback and cooperate with the EOSC governance bodies to improve the EOSC and develop standard relationships between scientific publications, Photon and Neutron scientific dataset (raw data), experimental reports, instruments and authors (via ORCID).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Pillar** (<https://www.eosc-pillar.eu>)

Objectives:

- Facilitating the liaison with budding national initiatives for the coordination of data and open science services, which are at the heart of the project concept.
- Ensuring the complementarity of competences and expertise, while including the point of view of the key stakeholders represented in the national initiatives (namely involving key research communities alongside e-Infrastructures and data service providers).

LATViA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education and Science (<https://www.izm.gov.lv/en>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The Ministry of Education and Science is currently working on a National Open Science Strategy. The draft was open to public comments in 2021 and should be approved in 2022. **Here** (<https://www.izm.gov.lv/lv/latvijas-atvertas-zinatnes-strategija-2021-2027-gadam>) is the draft (in Latvian). The document include responsible aspect: mention of FAIR, citizen science and infrastructure.
- The Ministry of Education and Science implemented and published a study in 2020 **On open science and the development of a policy road map** (https://www.izm.gov.lv/sites/izm/files/petijums-atverta_zinatne_21_2.pdf) that mention research integrity.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **National Library of Latvia – ACADEMIA – 2016** (<https://academia.lndb.lv/par-academia/>)

Level: National.

Details: More institutional repositories exist – **University of Latvia** (<https://dspace.lu.lv/dspace/>) & **Riga Technical University** (<https://www.rtu.lv/en/research/open-access-initiative/rtu-e-resource-repository>).

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

FURTHER DETAILS

Information regarding Open Science & Open Access in Latvia can be found on the **National Open Access Service** (<https://www.napd.lu.lv/>).

Acknowledgements

With the contribution of Dr. Signe Mežinska & Inese Poļaka from UL

LITHUANIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS	●	
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education, Science and Sport (<https://smsm.lrv.lt/en/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- A Working Group has been set up in 2020 by the Ministry of Education, Science and Sport to develop a national Open Access/Open Science Policy.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

- **Law on Higher Education and Research – 2009 (last amended in 2016)** (<https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/548a2a30ead611e59b76f36d7fa634f8?jfwid=rp9xf47k7>)

Objectives:



The ROSiE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



- The Law covers Open Access and research data with the obligation for research institutions and higher education 's research works to be communicated to the public.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **LMT Guidelines on Open Access to Scientific Publications and Data – 2016** (https://www.lmt.lt/data/public/uploads/2016/09/eng_-atvira-prieiga_-_galutinis.pdf)

Objectives:

- To ensure the dissemination of research results and to circulate scientific knowledge.
- To promote cooperation between researchers and to avoid potentially identical or uncoordinated research.
- To enhance the credibility of research results, transparent obtaining and maintaining of data, and cherish academic ethics.
- To facilitate the cooperation between business and science, science and policy makers, and social partners.
- To provide a better societal and economic return of research results.

NATIONAL DATA REPOSITORIES

- **The Lithuanian Academic Electronic Library (eLABa) – 2006** (<https://www.elaba.lt/elaba-portal/en/pradzia>)

Level: National.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.

- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.



LUXEMBOURG

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call		●

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Higher Education and Research (MESR)
(<https://mesr.gouvernement.lu/en/le-ministere.html>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Policy on Open Access - 2015**
(<https://storage.fnr.lu/index.php/s/O4DDe2SgEL0N9J5#pdfviewer>)

Objectives:

- Results from publicly funded research are expected to be disseminated via high quality, peer-reviewed publications that are made freely available to any potential reader or user with access to internet.
- The Luxembourg's research institutions are adhering to the **Science Europe Principles for the Transition to Open Access to Research Publications** (<https://www.vr.se/download/18.514d156f1639984ae0741758/1529480567395/Science%20Europe%20Principles%20on%20Open%20Access%20to%20Research%20Publications.pdf>).

- This policy is in line with the **European Commission´s Recommendations on Access to and Preservation of Scientific Information** (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32018H0790>), and the **European Commission´s Communication Towards better access to scientific information** (https://www.eesc.europa.eu/sites/default/files/resources/docs/2012-09_26_-better-access-to-scientific-information.pdf).

Responsibility aspect	Yes	No
Mention of FAIR		✗
Mention of RE/RI		✗
Mention of Infrastructure	✗	
Mention of Citizen Science		✗
Language availability	✗	
Discipline-related perspective	✗	
Type of Mandate - Scope	National Policy – OA HARD	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **FNR Open Access policy – 2017** (<https://www.fnr.lu/2017-annual-report/>)

Objectives:

- Projects (co)funded by FNR must be accessible in Open Access to peer-reviewed scientific publications.
- This policy has been completed by FNR´s alignment with the **Plan S** (<https://www.coalition-s.org/>) guidelines in **2021** (<https://www.fnr.lu/open-access->



coalition-s-plan-s-implementation-guidance/?hilite=%27Open%27%2C%27access%27%2C%27policy%27).

NATIONAL DATA REPOSITORIES

- **National Library of Luxembourg a-z.lu - 2013**
(<https://bnl.public.lu/fr/rechercher/outils-recherche/az-lu.html>)

Level: Institutional – de facto National.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country is not currently involved in INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

MALTA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call		●

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

- **Ministry for Education and Sport** (<https://education.gov.mt/en/Pages/educ.aspx>)
- **Ministry for Equality, Research and Innovation** (<https://mfer.gov.mt/en/Pages/Homepage.aspx>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The **University of Malta (UM) (Library)** (<https://www.um.edu.mt/library>) and **MCST** (<https://mcst.gov.mt/>) are currently leading a consortium working on the production of a National Policy on Open Science.
- With support of the H2020 Policy Support Facility, Malta is working on an **National Open Access Policy** (https://meae.gov.mt/en/Public_Consultations/MRIC/Pages/Consultations/TheNationalOpenAccessPolicy.aspx).

- The country's **National Research and Innovation Strategy 2020 – 2014** (<http://mcst.gov.mt/wp-content/uploads/2017/02/National-RI-Strategy-2020-June-2014.pdf>) foresees that publicly funded research are available in Open Access.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **OAR@UM – 2014** (<https://www.um.edu.mt/library/oar/>)

Level: Institutional – de facto National.

Details: Only repository in the country.

INFRAEOSC-5b CALL

The country is not currently involved in INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

FURTHER DETAILS

Information regarding Open Science in Malta can be found on the **PluMTri (Platform for Maltese Research and Innovation)** (<https://www.plumtri.org/open-science>).

NETHERLANDS

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education, Culture and Science
(<https://www.government.nl/ministries/ministry-of-education-culture-and-science>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Plan Open Science - 2017**
(https://www.openscience.nl/files/openscience/2019-02/nationalplanopenscience_en.pdf)

Objectives:

- Promoting Open Access to scientific publications (open access).
- Promoting optimal use and reuse of research data.
- Adapting evaluation and award systems to bring them into line with the objectives of open science (reward systems).

Responsibility aspect	Yes	No
Mention of FAIR	✗	
Mention of RE/RI	✗	
Mention of Infrastructure	✗	
Mention of Citizen Science	✗	
Language availability	✗	
Discipline-related perspective	✗	
Type of Mandate - Scope	National Plan - OS SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws regarding Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **NARCIS - National Academic Research and Collaborations Information System - 2004** (<https://www.narcis.nl/about/Language/en>)

Level: National.

Details: NARCIS is a national portal giving access to scientific information and publications in OA from the repositories of all Dutch universities, research funding organisations and research performing organisations.

INFRAEOSC-5b CALL

The country takes currently part in three INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.
- Develop the EOSC Human capital.

FURTHER DETAILS

More information regarding Open Science in the Netherlands can be found on the [National Platform Open Science](#).



The ROSiE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



NORWAY

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Norwegian Ministry of Education and Research
(<https://www.regjeringen.no/no/dep/kd/id586/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Strategy on access to and sharing of research data - 2017**
(https://www.regjeringen.no/contentassets/3a0ceea1c9b4611a1b86fc5616abde7/en-gb/pdfs/national-strategy-on-access_summary.pdf)

Objectives:

- Research data should be as open as possible, as closed as necessary.
- Research communities should make sure to address the archive aspect of research data.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science		×
Language availability	×	
Discipline-related perspective		×
Type of Mandate - Scope	National Strategy - OA HARD	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **The Research Council Policy for Open Science - 2020**
(<https://www.forskningradet.no/siteassets/forskningpolitisk-radgivning/apen-forskning/nfr-policy-open-science-eng.pdf>)
- **The Research Council of Norway's Policy for Open Access to Research Data - 2017**
(<https://www.forskningradet.no/contentassets/e4cd6d2c23cf49d4989bb10c5eea087a/the-research-council-of-norways-policy-for-open-access-to-research-data.pdf>)

Objectives:

- The Research Council will “use its funding instruments to help to increase expertise within open science and issues relating to research ethics”.
- Provided research is made publicly available. The council will “provide funding to cover costs for open access publication”. Making the research publicly available can consist of:
 - Publishing through open access platforms,
 - Using open repositories, or

- Publishing in journals which are part of a collective agreement that aims at transitioning to open access
- Funded stakeholders must comply with open data and metadata storage rules, adhere to FAIR guiding principles, and relevant projects must archive in the Norwegian Centre for Research Data (NSD).

NATIONAL DATA REPOSITORIES

- **CRISTin - NORA - Norwegian Open Research Archive - 2005**
(<https://nora.openaccess.no/>)

Level: de facto National.

Details: Harvest all Norwegian institutional repositories. More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

Acknowledgements

With the contribution of Rosemarie de la Cruz Bernabe & Cristiana-Anca Voinov from UiO





The ROSIE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



POLAND

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Bodies involved in OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories		●
Involved in INFRAEOSC-5b call	●	

BODIES INVOLVED IN OPEN SCIENCE & ACCESS

Ministry of Science and Higher Education (MNiSW) (<https://www.gov.pl/web/science>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- In 2018 the Ministry of Science and Higher Education (MNiSW) published a **report** (<https://www.gov.pl/web/edukacja-i-nauka/dokumenty-na-temat-otwartego-dostepu>) on the implementation of an Open Access policy.
- An initial strategic document on the future of Open Access in Poland was published in 2015: "Directions of the development of open access to research publications and research results in Poland". This document is addressing briefly research data, by recommending an adoption of an open data policy, taking into consideration internationally recognised best practices. These recommendations are not binding for the research performing organisations in Poland.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws regarding Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **National Science Centre (NCN) Policy on Open Access - 2021**
(https://www.ncn.gov.pl/sites/default/files/pliki/2021_10_instrukcja_open_access_NCN.pdf)

Objectives:

- All scholarly publications on the results from research funded by the NCN must be published in Open Access Journals, on Open Access Platforms, or made immediately available through Open Access Repositories.
- A Journal Checker Tool is available on the website of NCN - a web-based tool which provides clear advice to researchers on how they can comply with the Funder's Open Access policy when seeking to publish.

NATIONAL DATA REPOSITORIES

Poland does not have national repositories but has multiples repositories at the institutional level.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.
- Develop the EOSC Human capital.

Acknowledgements

With the contribution of Teodora Konach from OeAWI

PORTUGAL

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Science, Technology and Higher Education - MCTES
(<https://www.portugal.gov.pt/en/gc21/ministries/science-technology-and-higher-education>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- Since 2016 the government and the MCTES are working on the development of a **National Policy for Open Science** (<https://www.ciencia-aberta.pt/nosp>). Two **reports** (<https://www.ciencia-aberta.pt/documentos>) have been produced within that process.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **FTC Policy on management and sharing of data and other results arising from FTC-funded research – 2014**
(https://www.fct.pt/documentos/PoliticaAcessoAberto_Dados.pdf)

Objectives:

- Call researchers to share their data with other researchers in appropriate Open Access databases – the policy is however not mandatory.
- Encourage data management plan to be produced and best practices to be followed.

NATIONAL DATA REPOSITORIES

- **RCAAP - Repositórios Científicos de Acesso Aberto de Portugal - 2008**
(<https://www.rcaap.pt/>)

Level: de facto National.

Details: More institutional repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in two INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.



- Develop the EOSC Human capital.

FURTHER DETAILS

Information regarding Open Science in Portugal can be found on **Open Science** (<https://www.ciencia-aberta.pt/home>).



The ROSiE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



ROMANIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

- **Ministry of Research, Innovation and Digitalisation**
(<https://www.research.gov.ro/>)
- **UEFISCDI Executive Agency for Higher Education, Research, Development and Innovation Funding - Ministry of Education**
(https://uefiscdi.gov.ro/?we=module.org.uefiscdi.home&wtok=&wtkps=fY5LDolwFE X30jmVfnjIYw/GxBWQtsirlloVMDHuXWDmxNn9njvcBjW+EypkiSyrExYSmQjLEB2QV2 NDuQYodZF8nGEuBj/3JPMwtiZ73UyZ+oyM6p5q2wpAZu19OF8OsgKt8mMJW14h+/FC 79zpP7UeWdwuVjxE0/WOx8eVT66lZCzxLoa1/3wB&wchk=8c5f2597c180ef9b72b7ad5 9058e1762c4148f2f))

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- Since 2019 and in collaboration with the Ministry of Education, UEFISCDI is working on developing a **national strategic framework** (<https://uefiscdi.gov.ro/open-science-in-romania>) on Open Science.
- The **National Plan for Research and Innovation 2015-2020** (<https://www.research.gov.ro/ro/articol/1434/programe-nationale>) offered limited support to Open Science.
- The **National RDI Strategy 2014-2020** (<https://gov.ro/en/government/cabinet-meeting/national-research-development-and-innovation-strategy-sncdi-2014-2020-engine-of-economic-and-social-development>) offered limited support to Open Science.
- Romania passed series of five **Action Plans** (<https://www.opengovpartnership.org/members/romania/#current-action-plan>) as part of the **National Plan for Open Government Partnership** (<https://www.opengovpartnership.org/>) since 2012. These action plans are composed of commitments to support open data and pushing for the creation of national-level policies.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **AnelisPlus National Deposit – 2013** (<https://dspace.anelisplus.ro/xmlui/>)

Level: De facto National.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **NI4OS** (<https://ni4os.eu/>)



Objectives:

- Support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the EOSC governance.
- Instil within the community the EOSC philosophy and FAIR principles for data Findability, Accessibility, Interoperability and Reusability.
- Provide technical and policy support for on-boarding of service providers into EOSC, including generic services (compute, data storage, data management), thematic services, repositories and data sets.

FURTHER DETAILS

Information regarding Open Science & Open Access in Romania can be found on **BrainMap** (<https://www.brainmap.ro/>) & **ERRIS** (<https://eeris.eu/index.php>).

SLOVAKIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education, Science, Research and Sport of the Slovak Republic
(<https://www.minedu.sk/about-the-ministry/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Strategy for Open Science - 2021-2028 - 2021**
(<https://www.openaire.eu/blogs/slovak-national-strategy-for-open-science-2021-2028>)

Objectives:

- Open access to publicly funded publications and scientific data.
- Open Science financing and education, and the technical infrastructure for Open Science
- Protection of intellectual property rights.
- Usage of existing open IT tools and open data.
- Evaluation of R&D with principles of Open Science & Citizen Science support.
- This strategy will be implemented through two-years actions plans, the first one being the **Action Plan for Open Government in Slovak Republic for years - 2020-2021**

(https://www.opengovpartnership.org/wp-content/uploads/2019/12/Slovakia_Action-Plan_2019-2021_EN.pdf).

Responsibility aspect	Yes	No
Mention of FAIR	×	
Mention of RE/RI	×	
Mention of Infrastructure	×	
Mention of Citizen Science	×	
Language availability	×	
Discipline-related perspective	×	
Type of Mandate - Scope	National Strategy – Open Science SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **Slovak Centre of Scientific and Technical Information (SCSTI) – SK CRIS – 2013** (<https://www.cvtisr.sk/>)

Level: Thematic (natural, technical, economic and social sciences) – de facto National.



Details: The system respects international standards for information systems on science and research, recommended by the European Commission.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.
- Develop the EOSC Human capital.

SLOVENIA

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education, Science and Sport (<https://www.gov.si/en/state-authorities/ministries/ministry-of-education-science-and-sport/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **National Strategy of Open Access to Scientific Publications and Research Data in Slovenia 2015-2020** – 2015
(<https://www.gov.si/assets/ministrstva/MIZS/Dokumenti/ZNANOST/Strategije/National-strategy-of-open-access-to-scientific-publications-and-research-data-in-Slovenia-2015-2020.pdf>)

Objectives:

- Require Open Access by default.
- Require the production of a data management plan.
- Provide recommendations regarding long term data storing.

- The Strategy was completed by the **Action Plan** (<https://www.gov.si/assets/ministrstva/MIZS/Dokumenti/ZNANOST/Strategije/Akcij-ski-nacrt-izvedbe-nacionalne-strategije-odprtega-dostopa-do-znanstvenih-objav-in-raziskovalnih-podatkov-v-Sloveniji-2015-2020.pdf>) in 2017.

Responsibility aspect	Yes	No
Mention of FAIR		×
Mention of RE/RI		×
Mention of Infrastructure	×	
Mention of Citizen Science	×	
Language availability	×	
Discipline-related perspective		×
Type of Mandate - Scope	National Strategy - OA HARD	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **Open Science Slovenia Portal – 2013** (<http://openscience.si/Default.aspx>)

Level: National.



The ROSIE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



Details: The portal has been developed by the country's universities in cooperation with the Ministry of Education, Science and Sport in order to gather the country's repositories.

INFRAEOSC-5b CALL

The country takes currently part in one INFRAEOSC-5b initiative, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **NI4OS** (<https://ni4os.eu/>)

Objectives:

- Support the development and inclusion of the national Open Science Cloud initiatives in 15 Member States and Associated Countries in the EOSC governance.
- Instil within the community the EOSC philosophy and FAIR principles for data Findability, Accessibility, Interoperability and Reusability.
- Provide technical and policy support for on-boarding of service providers into EOSC, including generic services (compute, data storage, data management), thematic services, repositories and data sets.

SPAIN

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS	●	
National Laws on OS		●
National Funder Policies on OS		●
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Science and Innovation (<https://www.ciencia.gob.es/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

- **State Plan for Research, Development and Innovation 2017-2020 – 2018**
(https://www.google.at/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjD6fG_lbn1AhXVRPEDHSuMDngQFnoECAgQAQ&url=https%3A%2F%2Fwww.ciencia.gob.es%2Fdam%2Fjcr%3A4df69bec-c113-4e22-ae45-37ba72d53b7c%2FPlanEstatalIDI.pdf&usg=AOvVaw3IijQatdKsKXU3aVcyKec)

Objectives:

- The State Plan represent the main instrument in the hands of the Government to reach the objectives laid in the **Spanish Strategy for Science and Technology and Innovation 2013-2020**
(<https://services.icono.fecyt.es/politicas/Documents/Resumen%20ejecutivo%20EST>)

RATEGIA%20ESPA%C3%91OLA%20DE%20CIENCIA%20Y%20TECNOLOG%C3%8DA%20Y%20DE%20INNOVACI%C3%93N%202013-2020.pdf) and the Europe 2020 Strategy.

- The State Plan Data provides a voluntary mandate on publicly funded research data, which should be stored and made available through Open Access. It also acknowledges that for reasons of security, confidentiality or commercial reasons, data must as well be protected and might not always be accessible in Open Access.

Responsibility aspect	Yes	No
Mention of FAIR	×	
Mention of RE/RI	×	
Mention of Infrastructure	×	
Mention of Citizen Science	×	
Language availability		×
Discipline-related perspective	×	
Type of Mandate - Scope	State Plan - OA SOFT	

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national funder policies on Open Science or Open Access.

NATIONAL DATA REPOSITORIES

- **Ministry of Science and Innovation - RECOLECTA- 2007**
(<https://www.recolecta.fecyt.es/what-is-it?language=en>)



The ROSIE project has received funding from the European Union's Horizon 2020 research and innovation programme under GA No 101006430



Level: de facto National – National aggregator of national repositories.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in three INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **ExPaNDS** (<https://expands.eu/>)

Objectives:

- Enable EOSC services and to provide coherent FAIR data services to the scientific users of national Photon and Neutron sources.
- Connect national PaN RIs through a platform of data analysis as a service for users from research institutes universities, industry etc.
- Develop and maintain a catalogue of data and analysis software for Photon and Neutron data.
- Gather feedback and cooperate with the EOSC governance bodies to improve the EOSC and develop standard relationships between scientific publications, Photon and Neutron scientific dataset (raw data), experimental reports, instruments and authors (via ORCID).

- **FAIRsFAIR** (<https://www.fairsfair.eu/>)

Objectives:

- Development of global standards for FAIR certification of repositories.
- Provide a platform for using and implementing the FAIR principles in the day to day work of European research data providers and repositories.
- Deliver essential FAIR dimensions of the Rules of Participation (RoP) and regulatory compliance.

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.
- Develop the EOSC Human capital.

SWEDEN

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity		●
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Ministry of Education and Research (<https://www.government.se/government-of-sweden/ministry-of-education-and-research/>)

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The **Swedish Research Council (Vetenskapsrådet, VR)** (<https://www.vr.se/english.html>) received assignment from the government in 2017 to coordinate the national implementation of Open Access to research data and in 2018 to develop criteria assessing the compliance of research data at least partly financed publicly with the FAIR principles.
- The Government in the **Research Bill Knowledge in Collaboration - 2016** (<https://www.government.se/press-releases/2016/11/collaborating-for-knowledge--for-societys-challenges-and-strengthened-competitiveness/>) promotes Open Access for research results in order to maintain and further research excellency.

- The national funder organisation **Swedish Research Council (Vetenskapsrådet, VR)** (<https://www.vr.se/english.html>) published a **“Proposal for National Guidelines for Open Access to Scientific Information”** (<https://www.vr.se/english/analysis/reports/our-reports/2015-03-02-proposal-for-national-guidelines-for-open-access-to-scientific-information.html>) in January 2015 that proposes a set of guidelines addressing the publication in Open Access.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws regarding Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **FORMAS – Guidelines for applicants – 2021** (<https://formas.se/en/start-page/applying-for-funding/how-it-works/good-to-know-before-you-apply.html#h-Openaccesstoresearchresultsanddata>)

Objectives:

- Require the publication of research results and data in Open Access.
- Require a clear mention of the ethical aspects of the research.

NATIONAL DATA REPOSITORIES

- **SND – Swedish National Data Service – 2008** (<https://snd.gu.se/en>)

Level: de facto National – Consortium.

Details: More institutional and thematic repositories exist.

INFRAEOSC-5b CALL

The country takes currently part in two INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://expands.eu/>).

- **ExPaNDS** (<https://expands.eu/>)

Objectives:

- Enable EOSC services and to provide coherent FAIR data services to the scientific users of national Photon and Neutron sources.
- Connect national PaN RIs through a platform of data analysis as a service for users from research institutes universities, industry etc.



- Develop and maintain a catalogue of data and analysis software for Photon and Neutron data.
- Gather feedback and cooperate with the EOSC governance bodies to improve the EOSC and develop standard relationships between scientific publications, Photon and Neutron scientific dataset (raw data), experimental reports, instruments and authors (via ORCID).

- **EOSC-Nordic** (<https://eosc-nordic.eu/>)

Objectives:

- EOSC-Nordic aims to facilitate the alignment of the delivery of horizontal services by improving interoperability practices across the national initiatives.
- This will include identifying and engaging with prospective service providers and supporting their integration with the EOSC catalogue, service management framework and operational environment.
- EOSC-Nordic will work in close collaboration with FAIRsFAIR and other relevant initiatives (such as GoFAIR) on data management to promote best practices and support the adoption of relevant certification schemas.
- The project will demonstrate the potential of EOSC by piloting innovative solutions, designed to support cross border research collaboration, using the Nordic and Baltic countries as a testbed environment.
- EOSC-Nordic will consolidate and expand a distributed network of experts and service operators at local and national levels.

UNITED KINGDOM

OVERVIEW	Yes	No
Active in Open Science	●	
Research Ethic & Integrity	●	
Authorities responsible for OS	●	
National Policies on OS		●
National Laws on OS		●
National Funder Policies on OS	●	
National Data Repositories	●	
Involved in INFRAEOSC-5b call	●	

AUTHORITIES RESPONSIBLE FOR OPEN SCIENCE & ACCESS

Policy in relation to higher education and research is devolved to the nations of the UK

NATIONAL POLICIES ON OPEN SCIENCE & ACCESS

The country does not currently have national policies on Open Science or Open Access but is active in this field:

- The main institutions involved in OS are the four UK higher education's funding bodies, namely the UK Research and Innovation, the Higher Education Funding Council for Wales, the Scottish Funding Council and the Department for the Economy in Northern Ireland.

NATIONAL LAWS ON OPEN SCIENCE & ACCESS

The country does not currently have national laws on Open Science or Open Access.

NATIONAL FUNDER POLICIES ON OPEN SCIENCE & ACCESS

- **UK Research and Innovation. UKRI Open Access Policy – 2021** (<https://www.ukri.org/wp-content/uploads/2021/08/UKRI-201221-UKRIOpenAccessPolicy-3.pdf>)

Objectives:

- Ensuring Open Access for research articles based on UKRI funded research published on or after 1 April 2022.
- Ensuring Open Access for monographs, book chapters and edited collections based on UKRI funded research published on or after 1 January 2024.

- **Higher Education Funding Council for England, Research Councils UK, Universities UK, Wellcome Trust. Concordat on Open Research Data – 2016** (<https://www.ukri.org/wp-content/uploads/2020/10/UKRI-020920-ConcordatonOpenResearchData.pdf>)

Objectives:

- To ensure research data gathered and generated by members of the UK research community is, wherever possible, made openly available for use by others in a manner consistent with relevant legal, ethical and regulatory frameworks and disciplinary norms, and with due regard to the costs involved.

NATIONAL DATA REPOSITORIES

- **UK Data Service – 1967** (<https://ukdataservice.ac.uk/>)

Level: National.

Details: Established 1967 funded by the Economics and Social Research Council (ESRC). Funded by UK Research and Innovation since 2018. De facto national repository for social science data from research projects. ESRC funded researcher must deposit metadata in the UK Data Service to make the data set findable, and must deposit full data sets either in the UK Data Service or elsewhere (e.g. an institutional repository) <https://www.ukri.org/manage-your-award/publishing-your-research-findings/making-your-research-data-open/> Also holds census data and other official data.

INFRAEOSC-5b CALL

The country takes currently part in two INFRAEOSC-5b initiatives, regional initiatives established to support the **European Open Science Cloud (EOSC)** (<https://eosc-portal.eu/>).

- **ExPaNDS** (<https://expands.eu/>)

Objectives:



- Enable EOSC services and to provide coherent FAIR data services to the scientific users of national Photon and Neutron sources.
- Connect national PaN RIs through a platform of data analysis as a service for users from research institutes universities, industry etc.
- Develop and maintain a catalogue of data and analysis software for Photon and Neutron data.
- Gather feedback and cooperate with the EOSC governance bodies to improve the EOSC and develop standard relationships between scientific publications, Photon and Neutron scientific dataset (raw data), experimental reports, instruments and authors (via ORCID).

- **EOSC-Synergy** (<https://www.eosc-synergy.eu/>)

Objectives:

- Expand EOSC capacity.
- Building EOSC capabilities.
- Foster EOSC services integration and promote quality.
- Promoting EOSC policy harmonisation.
- Develop the EOSC Human capital.

FURTHER DETAILS

Information regarding Open Science in the United Kingdom can be found on **UK Reproducibility Network** (<https://www.ukrn.org/>).

Acknowledgements

With the contribution of Dr. Soren Holm from UiO