D4.3
Report on legal and IPR aspects of service policies in ENVRI domain

Work Package	WP4
Lead partner	UKRI
Status	Final
Deliverable type	Report
Dissemination level	Public
Due date	28 February 2023
Submission date	30 June 2023

Deliverable abstract

D4.3 Report on legal and IPR aspects of service policies in the ENVRI domain describes the policy issues facing ENVRI RIs and in particular the state of plan and plans for progress. The deliverable relies on earlier deliverables, particularly D4.2 which provided the landscape analysis and the ongoing D4.5 updating the policy landscape together with the policy aspects of external development of FAIR services in the deliverable D4.4. It also benefits from the work done on methods for generating policy and maintaining policy consistency both with external factors (e.g., legislation) and the requirements and constraints of individual RIs to be reported in D4.6 and D4.7. The co-evolution of policy among the ENVRI RIs is as essential to interoperability as the technical co-evolution managed in WP5 and WP7, together with the individual ENVRI subdomains in WP8, 9,10 and 11.

DELIVERY SLIP

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DELIVERY LOG

Issue	Date	Comment	Author
V 0.1	3 August 2022	Initial version with outline and some text	Keith G Jeffery
V 1.0	7 October 2022	Version with some subdomain contributions	Keith G Jeffery
V 2.0	11 January 2023	Final Version	Keith G Jeffery
V 3.0	14 June 2023	Final Version after Review	Keith G Jeffery

DOCUMENT AMENDMENT PROCEDURE

Amendments, comments and suggestions should be sent to the Project Manager at manager@envri-fair.eu.

GLOSSARY

A relevant project glossary is included in Appendix A. The latest version of the master list of the glossary is available at http://doi.org/10.5281/zenodo.4471374.

PROJECT SUMMARY

ENVRI-FAIR is the connection of the ESFRI Cluster of Environmental Research Infrastructures (ENVRI) to the European Open Science Cloud (EOSC). Participating research infrastructures (RI) of the environmental domain cover the subdomains Atmosphere, Marine, Solid Earth and Biodiversity / Ecosystems and thus the Earth system in its full complexity.

The overarching goal is that at the end of the proposed project, all participating RIs have built a set of FAIR data services which enhances the efficiency and productivity of researchers, supports innovation, enables data- and knowledge-based decisions and connects the ENVRI Cluster to the EOSC.

This goal is reached by: (1) well defined community policies and standards on all steps of the data life cycle, aligned with the wider European policies, as well as with international developments; (2) each participating RI will have sustainable, transparent and auditable data services, for each step of data life cycle, compliant to the FAIR principles. (3) the focus of the proposed work is put on the implementation of prototypes for testing pre-production services at each RI; the catalogue of prepared services is defined for each RI independently, depending on the maturity of the involved RIs; (4) the complete set of thematic data services and tools provided by the ENVRI cluster is exposed under the EOSC catalogue of services.

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1 Introduction

1.1 The Project

The ENVRI-FAIR project is engaging Research Infrastructures (RIs) in the environmental domain covering the subdomains Atmosphere, Marine, Solid Earth, and Biodiversity / Ecosystems. The overarching goal of ENVRI-FAIR is that all participating RIs will improve their FAIRness – to allow interoperability - and become ready for connection to the European Open Science and Data Cloud (EOSC). With respect to policy, this deliverable reports on the state of the subdomains and RIs in ENVRI, their plans and how policy convergence and co-evolution supports technical interoperability. As demonstrated in D4.2 Landscape Analysis[1], the RIs in ENVRI (the use of the term RIs implies the RIs and their asset suppliers) are at different stages of evolution with respect to policy and the existing and planned policies are somewhat heterogeneous. This implies a great deal of work to achieve sufficient convergence to expedite interoperability and open science, because policy interoperation (represented within the metadata in the IT implementation) is as essential as technical interoperability and open science (represented by both metadata and processes within the IT implementation). Conflicting policies inhibit interoperation and open access equally as effectively as conflicting standards for digital objects.

The deliverable has been hampered due to a lack of policy deliverables emerging from WP4 in the earlier months of the project. However, the management of WP4 has been reorganised, in particular work within WP10 (T10.8) has been generalised and utilised, and progress is being made.

This deliverable relates to Task 4.4: IPR, legislation and ethical conditions applicable for service provision across geographical and discipline borders.

1.2 The Relevant Policy Areas

1.2.1 Personal Data Privacy (GDPR)

The General Data Protection Regulation (GDPR)[2]is part of EU law and thus has to be respected. It essentially allows the person (data subject) to have control over information about them (personal data), consenting (or not) to its use for various purposes. There are exclusions or easements for e.g., national security purposes or for legitimate business purposes.

1.2.2 IPR including licensing and terms &conditions

This is necessary to protect the digital asset from unlawful use. In general, open and free use is supported in ENVRI, subject to acknowledgement or citation. In general, the choice of licence depends on the type of digital asset. For example, licences for documents, datasets and software may all use different licensing (mainly because of the use to which the digital asset may be put). In general, for documents and datasets some form of open access licensing is used to allow open science. For software, again an open access and use licence is preferred but depending on the conditions for further use of the software (for example in combination with other software) different licence schemes provide varying levels of openness and protection.

1.2.3 Terms & Conditions including liability

ENVRI Research Infrastructures (RIs) need to protect themselves and/or their asset suppliers by declaring terms and conditions (T&C) of use of their digital assets. Such T&C include respect for licences but also liability disclaim, effectively stating that the user utilises the information at their own risk.

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[1] https://iagos-comm.iek.fz-juelich.de/dmsf/files/5289/view

[2] https://gdpr-info.eu/

1.2.4 Cookies

Cookies may be classified as Duration: session/permanent, Provenance: first party/third party, Purpose: strictly necessary/preference/statistics/marketing. The legalistic control of cookies and their use is split between GDPR and the e-Privacy directive[3]. Cookies that identify users qualify as personal data under GDPR. The e-Privacy directive requires that a RI or asset supplier (usually through the access portal) arranges to:

- Receive users' consent before you use any cookies **except** strictly necessary cookies.
- Provide accurate and specific information about the data each cookie tracks and its purpose in plain language before consent is received.
- Document and store consent received from users.
- Allow users to access your service even if they refuse to allow the use of certain cookies
- Make it as easy for users to withdraw their consent as it was for them to give their consent in the first place.

Use of cookies is usually described in T&C. Consent to both use of personal data and cookies is usually obtained at the access portal together with agreement to T&C.

1.2.5 Open Science and Data

This includes security (protection of assets and persons including authentication/authorisation) ensuring appropriate availability, curation, provenance, licensing (including relationship to IPR), quality assurance, metadata, citation & acknowledgement (related to licensing, IPR, terms & conditions). These aspects are usually drawn together in a Data Policy document with related Data Management Plan (DMP) for which a European Commission standard template is available[4]. ENVRI prioritises Open Science and Data in the T&C (including licence acceptance and cookies) and personal data.

1.2.6 Responsible Research and Innovation (RRI)

There is an EU publication[5] and many local publications at institution and university level. This policy area overlaps considerably with all of the above, in particular governance and open access. Ethics is covered by guidelines based on policies and while generally relevant has particular relevance in life/biomedical sciences and in social sciences. Additional areas covered are gender equality, public engagement, and science education. Usually, organisations within ENVRI have their own policies covering these areas. Gender equality may be subject to legislation or directives. ENVRI has put much effort into public engagement and science education with information on the website[6] and a training platform with catalogue of available training[7].

1.3 Legal Aspects of Policies, Guidelines, IT Implementations

Protection of personal data is covered by law, and there are very harsh penalties for infringement.

User consent to T&C constitutes a contract and is thus under appropriate legislation.

It is important that guidelines refer to policies (there is a n:m relationship) and that IT implementations (e.g., where consent is obtained) also point to the relevant policy documents and guidelines as appropriate so that the user understand that to which they consent.

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[3] https://edps.europa.eu/data-protection/our-work/subjects/eprivacy-directive_en
[4] https://enspire.science/wp-content/uploads/2021/09/Horizon-Europe-Data-Management-Plan-Template.pdf
[5] https://op.europa.eu/en/publication-detail/-/publication/ee9bacdf-fdad-46eb-8cd8-32879e310191/language-en
[6] https://envri.eu/
[7] https://envri.eu/training/

2 State of the RIs and Subdomains

2.1 <u>Atmosphere</u>

The atmosphere subdomain has several RIs (such as ICOS, IAGOS, EISCAT 3D, ACTRIS) with differing characteristics which are somewhat reflected in differing policies. A specific policy – especially GDPR - workshop was organised for the subdomain.

2.1.1 Personal Data Privacy (GDPR)

The subdomain RIs are informed about privacy and GDPR and have appropriate policies and constraints in place. All have an appropriate consent pop-up.

2.1.2 IPR including licensing and terms & conditions

The subdomain RIs have appropriate policies and – in some cases – appropriate metadata in their catalogues of digital assets. The task force on licensing and citation is led by a RI in the subdomain.

2.1.3 Terms & Conditions including liability

All RIs have an appropriate policy on terms and conditions although they may not cover all aspects. Some have an appropriate consent pop-up.

2.1.4 Cookies

The portals of the RIs use cookies. All have an appropriate consent pop-up.

2.1.5 Open Science and Data

All the RIs have the intent to support open science by providing open access to digital assets, in some cases embargoed for prior publication or restricted for commercial reasons.

2.1.6 Responsible Research and Innovation (RRI)

All the RIs have policies supporting – at least some aspects of – RRI.

2.2 Marine subdomain

The Marine subdomain consists of multiple RIs (EMSO, Euro-Argo, Danubius-RI, plus elements of ICOS, LifeWatch, and SIOS. In addition, some information is provided for SeaDataNet.

2.2.1 Personal Data Privacy (GDPR)

Most RIs in this subdomain have appropriate privacy policies, but EURO-ARGO is in the process of updating theirs and Danubius-RI is in the process of launching their RI.
The SeaDataNet portal complies with GDPR with respect to providing a privacy policy required to support GDPR as specified in the regulation.[8] At the moment, there is no consent button for the policy, or a cookie statement.

2.2.2 IPR including licensing and terms &conditions

Most RIs in this subdomain have appropriate terms and conditions, but EURO-ARGO is in the process of updating theirs and Danubius-RI is in the process of launching their RI.

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[8] https://www.seadatanet.org/Tools/Privacy-policy

The SeaDataNet portal provides access to these under "Data License and IPR".

2.2.3 Terms & Conditions including liability.[9]

Most RIs in this subdomain have appropriate terms and conditions, but EURO-ARGO is in the process of updating theirs and Danubius-RI is in the process of launching their RI.
Liability limitation is provided as part of the License document.[10]

2.2.4 Cookies

In general, there are no third-party cookies in the websites. Cookie statements are implemented, with pop-ups, but are under revision with EURO-ARGO and construction with Danubius-RI.

2.2.5 Open Science and Data

The data policies promote where possible Open data with license: CC-BY-4.0, defined as "The data are available under the Creative Commons Attribution 4.0 International Public License[11]"

2.2.6 Responsible Research and Innovation (RRI)

There is no information around RRI.

2.3 Solid Earth

The Solid Earth Subdomain is represented by EPOS, though EMSO also deals in the solid earth.

2.3.1 Personal Data Privacy (GDPR)

The EPOS portal complies with GDPR providing an acknowledgement button and access to the information required to support GDPR as specified in the regulation.

2.3.2 IPR including licensing and terms & conditions

The EPOS portal provides access to these under T&C.

2.3.3 Terms & Conditions including liability

The EPOS portal provides a consent button and access to the relevant documents.

2.3.4 Cookies

The EPOS portal provides a choice/consent button and access to the relevant documents.

2.3.5 Open Science and Data

The EPOS data policy supports Open Science and Data and the FAIR principles.

2.3.6 Responsible Research and Innovation (RRI)

EPOS-ERIC supports RRI through gender equality, science education, and the guidelines and practice under the other policies.

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[9] https://www.seadatanet.org/Data-Access/License/1.0
[10] https://www.seadatanet.org/Data-Access/License/1.0
[11] https://creativecommons.org/licenses/by/4.0/

2.4 Biodiversity / Ecosystem subdomain

The Biodiversity / Ecosystem subdomain has several RIs (SIOS, eLTER, LifeWatch, DISCCo, AnaEE) with differing characteristics which are somewhat reflected in differing policies. In addition, they are at very different stages of development.

2.4.1 Personal Data Privacy (GDPR)

All have appropriate privacy policies, though in the case of DISSCo, they are in the process of launching the RI.

2.4.2 IPR including licensing and terms &conditions

All have appropriate terms and conditions, though only partially implemented for eLTER and in the process of implementation for DISSCo.

2.4.3 Terms & Conditions including liability

All have appropriate terms and conditions, though in the process of implementation for DISSCo.

2.4.4 Cookies

All have appropriate implementation of cookies, though consent pop-ups are only partially implemented.

2.4.5 Open Science and Data

No information available

2.4.6 Responsible Research and Innovation (RRI)

No information available

2.5 Overview of Current State

In general, ENVRI RIs have available from a portal or website documents covering (individually or consolidated in various combinations):
1. policy on personal data privacy
2. policy on data (that may include licensing and citation and in some cases a liability disclaimer)
3. policy on terms and conditions (which usually includes a liability disclaimer but may intersect with data policy on e.g., licensing)

2.5.1 Personal Data Privacy (GDPR)

In general, RIs in ENVRI are aware of GDPR, assisted by training events provided during 2021-22. Most RIs have excellent, clearly worded documents explaining user rights. However, awareness/consent buttons are less developed.

2.5.2 IPR including licensing and terms & conditions

Most RIs have IP protection by statements in a data policy or in T&C. Furthermore, CC:BY:4.0 is widely used as the licence for digital assets (especially data) although some use more restrictive licences (e.g., for data collected by citizen scientists) thus precluding commercial use and ensuring derivations use the same licence. In the case of software there is no generally agreed or favoured licence.

2.5.3 Terms & Conditions including liability

Most RIs have a T&C document available including liability disclaimer.

2.5.4 Cookies

Some RIs have the policy that they do not use third party cookies. Most provide a cookie consent (or restriction of cookie use) pop-up form.

2.5.5 Open Science and Data

The whole purpose of RIs in ENVRI is to promote open science and open access to digital assets including data. In general, RIs have appropriate policies, although not always formalised.

2.5.6 Responsible Research and Innovation (RRI)

RRI intersects many other policies such as governance, open science and those policies derived from ethical considerations. ENVRI RIs follow RRI to a great extent, especially on governance, open science, gender, ethics, and science education although there is always room for improvement.

3 Plans

3.1 Atmosphere

Within the context of ENVRI-FAIR, all RIs in the subdomain are improving the policy aspects of their operation.

3.1.1 Personal Data Privacy (GDPR)

All RIs in the sub domain are moving towards having a clear and accessible privacy policy accessible from a consent pop-up.

3.1.2 IPR including licensing and terms & conditions

Planning of ensuring metadata to record licensing (and citation) and allow appropriate enforcement is underway within the task force and RIs in this subdomain have contributed heavily to the ongoing work. There are cross links with appropriate RDA groups.

3.1.3 Terms & Conditions including liability

All RIs plan to provide appropriate T&C policies and appropriate consent pop-up.

3.1.4 Cookies

Although some RIs use no third-party cookies, a policy on cookies with appropriate pop-up (to choose or allow cookies) is planned for those RIs where it does not yet exist.

3.1.5 Open Science and Data

The RIs in the subdomain constantly improve the openness of their digital assets with improved metadata, documentation and progressive harmonisation and interoperation.

3.1.6 Responsible Research and Innovation (RRI)

All RIs have some plans to improve RRI policy although different aspects of RRI may be chosen for prioritisation in different RIs.

3.2 Marine subdomain

The Marine subdomain consists of multiple RIs (EMSO, Euro-Argo, Danubius-RI, plus elements of ICOS, LifeWatch, and SIOS). In addition, some information is provided for SeaDataNet. SeaDataNet is currently organised around the AISBL which provides the directions for the network.

3.2.1 Personal Data Privacy (GDPR)

The RIs have appropriate policies and are at various stages of development of the appropriate pop-up forms for consent. SeaDataNet via the AISBL tracks any changes in GDPR and will react accordingly.

3.2.2 IPR including licensing and terms &conditions

The Data policy and License document is adequate for now but may be revised in the light of experience.

3.2.3 Terms & Conditions including liability

The Data policy and License document is adequate for now but may be revised in the light of experience.

3.2.4 Cookies

There is no cookie statement at the moment. It is planned to add this.

3.2.5 Open Science and Data

The current statement in the Data policy is adequate for now but may be revised in the light of experience.

3.2.6 Responsible Research and Innovation (RRI)

There are no plans to work on this.

3.3 Solid Earth

Policies, and associated guidelines and IT implementation evolve continuously with changing external conditions – including legislation, with changes in requirements of users and (in the case of IT) with changing technology. Within EPOS there is a policy team working on this. The current set of policies and guidelines being developed are listed in ANNEX D Relevant Information Solid Earth.

3.3.1 Personal Data Privacy (GDPR)

EPOS has a plan and appropriate resources to track any changes in GDPR and to react accordingly. Also, the EPOS data protection officer tracks experience of GDPR to learn of any improvements to be made.

3.3.2 IPR including licensing and terms & conditions

EPOS has a plan and appropriate resources to track any changes in IPR and licensing and to react accordingly, modifying the Licensing policy as necessary.

3.3.3 Terms & Conditions including liability

The initial T&C policy document is adequate for now but will be revised in the light of experience.

3.3.4 Cookies

The initial cookies policy document is adequate for now but will be revised in the light of experience.

3.3.5 Open Science and Data

At present EPOS refers to the European Commission documents. No requirement for a specific EPOS Open Science and Data document is foreseen since most aspects are covered by other policy documents.

3.3.6 Responsible Research and Innovation (RRI)

As indicated above, this is at present covered by other policies with the exceptions of gender equality and science education. EPOS-ERIC member organisations have their own policies on these two issues, although discussions concerning an education/training platform for EPOS to bring together currently scattered and disparate learning resources are ongoing.

3.4 Biodiversity / Ecosystem

3.4.1 Personal Data Privacy (GDPR)

In general, all the RIs are addressing the issue. A discussion to exchange common practices and support each other will be started soon.

3.4.2 IPR including licensing and terms & conditions

The different levels of development of the RIs lead to a different readiness. The more developed RIs have already in place a clear licence and conditions system. The others are developing it looking to the experience of the others.

3.4.3 Terms & Conditions including liability

Similarly, to the IPR and licensing also the terms and conditions and liability are fully addressed in the most developed RIs and under construction in the others.

3.4.4 Cookies

The management of the cookies is just a matter of time and organisation since all will be made fully compliant with the EU rules as soon as possible in all the RIs (where not already done)

3.4.5 Open Science and Data

Open data is the aim of all the RIs in the subdomain, although there are differences in the strategy followed. Discussion among the RIs will be held in the last part of the ENVRI-FAIR project in order to evaluate the possibility to move toward a common and similar/intercompatible system.

3.4.6 Responsible Research and Innovation (RRI)

RRIs issues are in general addressed in a different and heterogeneous way. In particular the participation in the RIs of different institutions that already have plans on the different aspects that although could differ in the details they are in general similar and in agreement with the EU guidelines.

3.5 Overview of Plans

3.5.1 Personal Data Privacy (GDPR)

All RIs understand the importance of this policy area, especially GDPR. All either have an appropriate policy in place or intend to have one soon. Most have an appropriate consent pop-up.

3.5.2 IPR including licensing and terms & conditions

All RIs have some policy in this area, and deal with the contradiction between open access and the need for IP protection and IP acknowledgement through citation or other means. A task force working on this is engaged with multiple international initiatives to try to find a recommendable approach.

3.5.3 Terms & Conditions including liability

Most RIs have a T&C policy document and appropriate pop-up for consent. However, not all RIs have this implemented fully, and the policies have varying content – not all aspects are covered by every policy.

3.5.4 Cookies

All RIs have a cookie policy, and most have an appropriate consent pop-up. Others are considering how best to manage this. Even if the portal of a RI has no third-party cookies, acceptance/consent by the user to (optionally chosen) cookies is necessary.

3.5.5 Open Science and Data

The very purpose of ENVRI is open science and especially access (usually through services ranging from simple view/download to sophisticated analytics and visualisation) to data. All RIs provide this, with

varying levels of content volume, quality, and accessibility. The RI catalogues are heterogeneous in schema (syntax and semantics) which inhibits cross-domain research. However, the ENVRI-Hub is intended to provide a homogeneous, harmonised view using rich metadata – thus supporting an open science policy.

3.5.6 Responsible Research and Innovation (RRI)

Many RIs do not specifically address this area of policy in their data policy documents, although other policy areas (such as open science) intersect with RRI and 'unspoken policies' such as ethics (which may be encoded to some extent in T&C) are in fact covered. Gender balance is considered by RIs and ENVRI while science education is supported by the training platform and particular events.

4   Policies and Interoperability

4.1   Personal Data Privacy (GDPR)

GDPR can have a restrictive effect on interoperability and Open Science and Data. In general, researchers are willing to present themselves, their organisation, position, project participation and major outputs. In general, such information collection is considered to be for the legitimate interests of the organisation (as defined in the personal data/privacy policy document). However, if researchers – or other users – are unwilling then their rights under GDPR can hinder interoperability and Open Science and Data.

4.2   IPR including licensing and terms &conditions.

It is expected that – except possibly for digital assets that have national or local strategic or commercial significance - that digital assets are made available openly and freely for Open Science and Data with the proviso that the digital asset is cited or acknowledged. This means that appropriate licensing has to be applied, such as Creative Commons CC-BY[12] or with commercial restriction CC-BY-NC[13], the latter restricting open access for commercial organisations. Similarly, commercial organisations may make their digital assets available but restrict access to certain organisations/users, again restricting open science. Some digital assets may be embargoed to allow for prior publication by the persons or organisation owning the asset thus restricting interoperability and open science for a period of time. The Creative Commons licences are the most commonly used and are described[14].

In the case of software as digital assets, different licences provide different degrees of openness and protection. A useful comparison of appropriate licences exists[15].

4.3   Terms & Conditions including liability

Each RI or asset supplier defines their own T&C but restrictive licensing or excessive restriction of use of non-necessary cookies may restrict interoperability and Open Science and Data either by users refusing to consent to the licence or the cookies.

4.4   Cookies

Any use of cookies beyond strictly necessary cookies may improve interoperability and Open Science and Data at the potential expense of personal privacy. Preference cookies usually provide a more convenient and time-saving user experience. Statistics cookies provide information that may improve performance and user satisfaction. However, users may not consent to the use of such cookies thus making the associated digital assets unavailable to them.

4.5   Open Science and Data

A major rationale for Open Science and Data is to improve interoperability. Anything restricting adherence to Open Science and Data principles (including the FAIR principles) is likely to inhibit interoperability.

4.6   Responsible Research and Innovation (RRI)

As indicated above, RRI is mainly covered by other policies. Gender equality is generally accepted as beneficial for Open Science and Data, and for society, and may improve interoperability. Science education is likely to improve end-user access to relevant digital assets thus increasing utilisation of Open Science and Data principles within RRI.

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[12] https://creativecommons.org/licenses/by-nc/2.0/
[13] https://creativecommons.org/licenses/by-nc-nd/2.0/
[14] https://creativecommons.org/licenses/
[15] https://choosealicense.com/licenses/

5 ENVRI Policy Convergent Evolution

5.1 Why?

5.1.1 Interoperation

If ENVRI RIs have conflicting policies, then interoperability is reduced. Policies which imply restriction of open access to digital assets, or restriction in the way the assets may be used, reduce interoperability. This undermines the objective of ENVRI to encourage cross- and multi-disciplinary open science.
The ENVRI RIs are in varying states of evolution in terms of policy development and implementation. An objective is to converge the policies of the RIs towards a position such that policy provides no barriers to interoperability and open science.

5.1.2 Sharing of experience/expertise

The ENVRI RIs are in varying states of evolution in terms of policy development and there is much to be gained by learning from each other. In this way, optimal policies for the purpose should be developed.

5.1.3 Sharing of policy documents, guidelines

Similarly, sharing information on policies and guidelines leads to better policy outcomes and encourages convergence to the same, or similar, policies. Re-use of already-developed policy documents, or co-development of policy documents, could reduce costs for RIs in ENVRI. As an example, ICOS recently requested the EPOS policy documents to study them.

5.1.4 Sharing of IT Implementation

A major cost of dealing with policies is the IT implementation to support them. This involves ensuring that:
(a) all legal and directive obligations are covered by appropriate documents available to users and consent or choice buttons as appropriate (example GDPR, Cookies);
(b) the licensing and other conditions of asset suppliers concerning a digital asset are recorded in the metadata, and that consent is obtained at the user interface (Example T&C).

Use of already-developed software, or co-development of software, to support policies could reduce costs for RIs in ENVRI.

5.2 How?

5.2.1 WP5 Task Forces (TFs)

WP5 TF1 concerns the catalogue and hence the metadata required to support users accessing ENVRI assets through the ENVRI-Hub. The specifications developed by TF1 should ensure provision of appropriate metadata for policy support.

WP5 TF2 concerns AAAI: this is the mechanism through which any restrictions of access to digital assets is managed.

WP5 TF5 concerns licensing and citation (and, by implication, acknowledgement). This requires an IT mechanism not only to ensure that the user consents to the licence, but also that the user adheres to the licence conditions. This latter aspect is a real challenge since it is costly and time consuming since the use of the asset may be after a considerable time interval.

5.2.2 WP7 assisting WPs 8-11

The function of WP7 is to assist the subdomains (represented by WP8-11) in their implementation of the architecture defined by the TFs within WP5. Clearly, WP7 has a large role to play in ensuring that the digital assets of the ENVRI RIs are represented and findable / accessible / interoperable / re-usable effectively through ENVRI-Hub.

5.3 Evolution with changes in RI requirements/constraints and External Factors

The ENVRI community exists in a fast-changing world. Increasing automation of sensors provides rapidly increasing amounts of data, both from the natural environment and the laboratory as well as from space. New requirements demand novel utilisation of the digital assets, especially related to research (particularly multidisciplinary research), commercial utilisation for wealth creation and public sector advice improving the quality of life. New legal frameworks and directives demand policy changes. New technological opportunities – especially in software – may enhance the way users utilise digital assets and include advanced analytics, simulation/modelling and visualisation enhanced by Artificial Intelligence (AI). Thus, ENVRI needs to monitor these changes and be ready to implement necessary policy (and consequent) updates.

5.4 Legal considerations

Above all, ENVRI policies - whether at ENVRI level or the level of individual RIs – must respect the laws and directives pertaining to that geographical area, organisation or scientific discipline at the time. Users of ENVRI facilities and assets must also be informed of those legalistic constraints and consent to adhere to them. This is both for the protection of the ENVRI community, RIs in ENVRI and the users themselves.

ENVRI does not have a legal personality. This is a disadvantage for the ENVRI community in entering into contracts (e.g., for participation in a project) but conversely it means that the appropriate legal personalities (e.g., for liability as well as entering contracts) are the RIs within ENVRI and/or their asset suppliers.

6   Conclusions

Development of policy to provide interoperability and homogeneous access across heterogeneous (governance and technical) RIs is a huge challenge. Convergent evolution from pre-existing (or barely existing) heterogeneous policies, guidelines and technical implementation towards a situation where policies respect the governance of the RIs (including external stakeholders) - but also permit maximal open access and interoperation - takes time because attitudes, strongly held views and governance positions need to change under persuasion of the benefits versus the costs.

This deliverable provides a 'snapshot' of the current state of this convergent evolution in the ENVRI RIs within the ENVRI-FAIR project. ENVRI can claim significant progress during the ENVRI-FAIR project, although policy work is never completed and evolves continuously with external and internal governance aspects.

This evolution has been supported by landscape surveys (reported in deliverables D4,2 and the upcoming D4.5), analysis of external policy aspects (reported in the upcoming deliverable D4.4) and the series of workshops resulting in D4.6 and the forthcoming D4.7.

7   Impact on the project

Much of the ENVRI-FAIR project has been concerned with technical provision of open access and interoperability. However, the interchange of experience and information on the policy development and implementation in RIs has proved advantageous for all and has led to RIs co-evolving policies to allow for cross-RI open access and interoperability, as well as opening up (through ENVRI-Hub) wider access using EOSC.

The policy work has improved greatly the information available to ENVRI RIs on how to think about policy, construct policy documents and guidelines and implement appropriate IT.

8   Impact on stakeholders

The impact on ENVRI RIs implementing governance / policy as formulated jointly through the workshops, is to have a robust policy environment, appropriate policies to protect them (as much as possible) from litigation, policies to encourage open science supported by guidelines and IT implementation.

The impact on external stakeholders (users) is to have a clearly defined policy environment to which they acknowledge/consent in order to pursue their research or other interests using RI digital assets and/or facilities under appropriate governance.

9 References

Relevant information has been provided inline through footnotes. References/URLs for the subdomains are in the following annexes.

10 ANNEX A GLOSSARY

ACRONYM	MEANING
AAAI	Authentication, Authorisation, Accounting Infrastructure
AARC	Authentication and Authorisation for Research Collaborations (a series of EC-funded projects)
CERIF	Common European Research Information Format (an EU Recommendation to Member States)
DMP	Data Management Plan
EC	European Commission
ECO	EPOS Coordination Office
EOSC	European Open Science and Data Cloud
EPOS	European Plate Observing System
EPOS-DCAT-AP	An application profile (AP) of DCAT (Data Catalogue Vocabulary) for EPOS
EPOS-ERIC	European Research Infrastructure Consortium for EPOS
FAIR	Findable, Accessible, Interoperable, Reusable
GA	General Assembly
GDPR	General Data Protection Regulation
GEANT	The European network connecting National Research and Education Networks
HO	Hosting Organisations (of EPOS)
ICS	Integrated Core Services (of EPOS)
IT	Information Technology
ITB	IT Board (of EPOS)
KPI	Key Performance Indicators
QA	Quality Assurance
RDA	Research Data Alliance
RI	Research Infrastructure
RRI	Responsible Research and Innovation
SCC	Services Coordination Committee (of EPOS)
TCS	Thematic Core Services (of EPOS)
TNA	Trans-National Access

11 ANNEX B Relevant Information Atmosphere

RI	IAGOS	ACTRIS	ICOS	EISCAT
Data Policy	https://www.iagos.org/data-policy/	https://intranet.actris.eu/index.php/s/NytzH7PBGgssqZG?dir=undefined&openfile=44777	https://www.icos-cp.eu/data-services/about-data-portal/data-license	https://eiscat.se/scientist/data/ https://eiscat.se/projects/eosc/
Terms and Conditions	https://www.iagos.org/data-policy/	https://www.actris.eu/ppgm-privacy-policy-full	https://www.icos-cp.eu/data-services/about-data-portal/data-license	https://eiscat.se/scientist/data/ https://eiscat.se/projects/eosc/
Liability	https://www.iagos.org/imprint/	https://www.actris.eu/ppgm-privacy-policy-full	https://www.icos-cp.eu/data-services/about-data-portal/data-license	https://eiscat.se/about/?highlight=liability
Cookies	https://www.iagos.org/data-privacy/	https://www.actris.eu/ppgm-privacy-policy-full	https://www.icos-cp.eu/privacy	https://eiscat.se/about/gdpr-general-data-protection-regulation/
Privacy	https://www.iagos.org/data-privacy/	https://www.actris.eu/ppgm-privacy-policy-full	https://www.icos-cp.eu/privacy	https://eiscat.se/about/gdpr-general-data-protection-regulation/
Pop-up notifications?	no	yes	yes	privacy only, for others - written statement with a link is displayed on http://portal.eiscat.se and connected webpages

12 ANNEX C Relevant Information Ocean

RI	DANUBIUS	EURO ARGO	EMSO
Data Policy	not yet implemented	https://argo.ucsd.edu/organization/argo-data-system/ https://www.euro-argo.eu/Activities/Data-Management/Argo-Data-System	http://data.emso.eu ?
Terms and Conditions	not yet implemented	Terms and Conditions being revised.	https://emso.eu/wp-content/uploads/2023/06/EMSO-ERIC_WEBSITE_Terms-and-conditions.pdf
Liability	not yet implemented	Terms and Conditions being revised.	http://emso.eu/privacy-policy/
Cookies	not yet implemented	Terms and Conditions being revised.	http://emso.eu/privacy-policy/
Privacy	not yet implemented	Terms and Conditions being revised.	https://emso.eu/privacy-and-data-protection/
Pop-up notifications?	not yet implemented	There is no identification or tracking of users. Terms and Conditions being revised, including consent pop-ups.	yes

SeaDataNet's main policy documents are at the moment:
- Data policy: https://www.seadatanet.org/Data-Access/Data-policy
- Data license and IPR: https://www.seadatanet.org/Data-Access/License/1.0
- Privacy policy (GDPR): https://www.seadatanet.org/Tools/Privacy-policy

13 ANNEX D Relevant Information Solid Earth

RI	EPOS
Data Policy	https://gnss-metadata.eu/Guidelines/EPOS-Data_Policy.pdf
Terms and Conditions	https://www.epos-eu.org/sites/default/files/Terms_and_Conditions.pdf
Liability	https://www.epos-eu.org/sites/default/files/Terms_and_Conditions.pdf
Cookies	https://www.epos-eu.org/sites/default/files/Cookie_Policy.pdf
Privacy	https://www.epos-eu.org/sites/default/files/Privacy_Policy.pdf
Pop-up notifications?	Yes e.g. https://www.ics-c.epos-eu.org/data/search

The approach to policy in the solid earth subdomain relies on the concept of policies, guidelines and IT implementation.

Policies and guidelines are related as in Figure 1 :
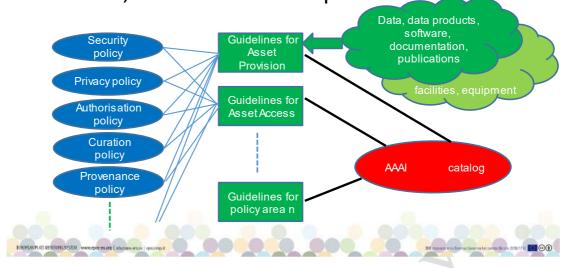
Policies, Guidelines and Implementation

Figure 1Policies, Guidelines and IT Implementation

The policy documents prepared by the EPOS Policy Team are:

Terms&Conditions
Cookies
Privacy (GDPR)
Quality Assurance
Identifiers
Metadata
Curation
Provenance
Security Authentication
Security Authorisation
Security Physical Security
Security Disaster Recovery
Licensing
Acknowledgement

And the guidelines documents under preparation are:

Asset Provision Data,
Asset Provision Services,
Asset Provision Software,
Asset Provision Documentation
Asset Provision Publication
Asset Access Data
Asset Access Services
Asset Access Software
Asset Access Documentation
Asset Access Publication
Personal Data Privacy
Security: Physical Security

| Security: Disaster Recovery |
| Security: Authentication |
| Security: Authorisation |

14 ANNEX E Relevant Information Biodiversity / Ecosystem

RI	SIOS	eLTER	LifeWatch	DiSSCo	AnaEE
Data Policy	https://www.sios-svalbard.org/sites/sios-svalbard.org/files/common/SIOS_Data_Policy.pdf	Not yet published	https://www.lifewatchitaly.eu/en/data-policy-eng/	Not yet operational. https://www.dissco.eu/dissco/technical-infrastructure/	https://www.anaee.eu/sites/anaee/files/Mediatheque/Resources/reportsdocuments/std_-_v_7.1_-_appendix_6_-_16.10.2020.pdf
Terms and Conditions	https://www.sios-svalbard.org/sites/sios-svalbard.org/files/common/SIOS_Data_Policy.pdf	https://deims.org/terms for DAR and EcoSense in development	https://www.lifewatch.eu/terms-and-conditions/	Not yet operational. https://www.dissco.eu/dissco/technical-infrastructure/	https://www.anaee.eu/legal-notice
Liability	https://www.sios-svalbard.org/sites/sios-svalbard.org/files/common/SIOS_Data_Policy.pdf	https://deims.org/terms	https://www.lifewatch.eu/lw-acceptable-use-policy/	Not yet operational. https://www.dissco.eu/dissco/technical-infrastructure/	https://www.anaee.eu/legal-notice
Cookies	https://www.sios-svalbard.org/SIOSPrivacyPolicy	https://elter-ri.eu/privacy-policy https://deims.org/privacy	https://www.lifewatch.eu/privacy-policy-2021/	https://elvis.dissco.eu/privacy-statement	https://www.anaee.eu/legal-notice
Privacy	https://www.sios-svalbard.org/SIOSPrivacyPolicy	https://elter-ri.eu/privacy-policy https://deims.org/privacy	https://www.lifewatch.eu/privacy-policy-2021/	https://elvis.dissco.eu/privacy-statement	https://www.anaee.eu/legal-notice
Pop-up notifications?	yes	yes, for DEIMS	no	no	Yes for AnaEE websites updated 2022-2023 (some in French)