EOSC National Tri-partite Event

28th Sep 2022

Dublin

Paddy Howard is a Principal Officer in the Department of Further and Higher Education, Research, Innovation and Science. He is responsible for the monitoring and funding of innovation and research organisations and programmes including Science Foundation Ireland and the Irish Research Council and international research organisations in which Ireland participates including the European Open Science Cloud.

Dr. Thomas Neidenmark is a policy officer at the Open Science unit, European Commission, Directorate-General for Research and Innovation where he is focused on the transition to open science. He is engaged with the EOSC (European Open Science Cloud) Steering Board and open science monitoring as a member of the EOSC team.

Prof. Karel Luyben is Rector Magnificus Emeritus of the Delft University of Technology since 2018. At present he is primarily active in the domain of Open Science. He is national coordinator for Open Science in The Netherlands, Chairman of the Board for the Dutch Techcentre for Life Sciences and President of the EOSC-Association.

Roberto Sabatino is Research Engagement Officer at HEAnet. He represents HEAnet in the EOSC-Association, where HEAnet is Ireland's mandated member. He is also representing Ireland, on behalf of DFHERIS, in the EOSC-Steering Board.

Dr. Daniel Bangert is Ireland's National Open Research Coordinator. He coordinates the activities of the National Open Research Forum (NORF). He is a member of the Council for National Open Science Coordination (CoNOSC), the EOSC Task Force on Research Careers, Recognition and Credit, and co-chairs the RDA Working Group on National PID Strategies. His background is in arts and humanities research, academic librarianship, and European Open Science projects (RDA, FAIRsFAIR).

The EOSC Tripartite collaboration

National EOSC tripartite event – Ireland

Dublin, 28 September 2022

Thomas Neidenmark

Policy officer, SNE, Open Science

DG R&I, European Commission

Science is in transition

Image by Nick Youngson CC BY-SA 3.0 Alpha Stock Images

The **Open Science (OS) paradigm** affects the whole research cycle and all its stakeholders

It implies sharing knowledge and tools:

- "as early as possible" in the research process;
- "as openly as possible";
- "as FAIR as possible";

not only within a discipline but also between disciplines and society at large.

Open Science: a Political Priority of the Union

Council of the European Union

2016: Council Conclusions on the '**Transition Towards an Open Science System**'

2018: EC Recommendation on '**Access to and Preservation of Scientific Information**'

2020: EC Communication on the '**New ERA**'

2021: Council Recommendation on a '**Pact for R&I in Europe**'

2021: Council Conclusions on the '**Future Governance of the ERA**' including the '**ERA Policy Agenda**

2022: Council Conclusions on '**Research Assessment and Implementation of Open Science**'

EC strategy for Open Science

- **Improve the practice of research and innovation**:

    - Open access to scholarly publications,
    - RDM and FAIR digital outputs,
    - Reproducible results,
    - Research integrity,
    - Societal engagement & responsibility.

- **Develop proper enablers**:

    - Rewards and incentives,
    - Skills and education,
    - Open Research Infrastructures (including EOSC and ORE),
    - Legal & regulatory environment

- **International context of Open Science**

EOSC in the European Data Strategy

(February 2020)

The EU will create a single market for data by:

- ❑ Setting clear and fair rules on access and re-use of data;
- ❑ Investing in next generation standards, tools and infrastructures to store and process data;
- ❑ Joining forces in European cloud capacity;
- ❑ **Pooling European data in key sectors, with EU-wide common and interoperable data spaces;**
- ❑ Giving users rights, tools and skills to stay in full control of their data.

"***EOSC*** *is the basis for a science, research and innovation data space that will bring together data resulting from research and deployment programmes and will be connected and fully articulated with the sectoral data spaces.*"
(European Data Strategy, COM(2020) 66 final)

| Health | Industrial & Manufacturing | Agriculture | Finance | Mobility | Green Deal | Energy | Public Administration | Skills |

EOSC: a crosscutting data space for Research and Innovation

OS and EOSC in the ERA Policy Agenda 2022-2024

ERA Priority Area:

"Deepening a truly functioning internal market for knowledge"

Action 1 (out of 20):

"*Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud*"

- Commitments by 24/27 MS
- Three outcomes by end of 2024
- Synergies with other ERA actions:

Data legislative framework for research
Research Infrastructures
Green/digital transition

Reform of the Research Assessment
International cooperation
ERA monitoring mechanism

How to implement the EOSC?

➢ **A community-driven process**

➢ Gradual implementation based on **mutual alignment at European, national and institutional levels**

➢ **EOSC Tripartite governance**: Current implementation phase (2021-2030) steered by the EC, the Member States and Associated Countries and the EOSC Association representing the voice of the community

➢ **EOSC European Partnership to pooling resources**: Horizon Europe grants & procurement plus in-kind additional activities by the members of the EOSC Association

Let's co-create EOSC

Courtesy of the EOSC Association.

Strategic Research and Innovation Agenda (SRIA) of the European Open Science Cloud (EOSC)
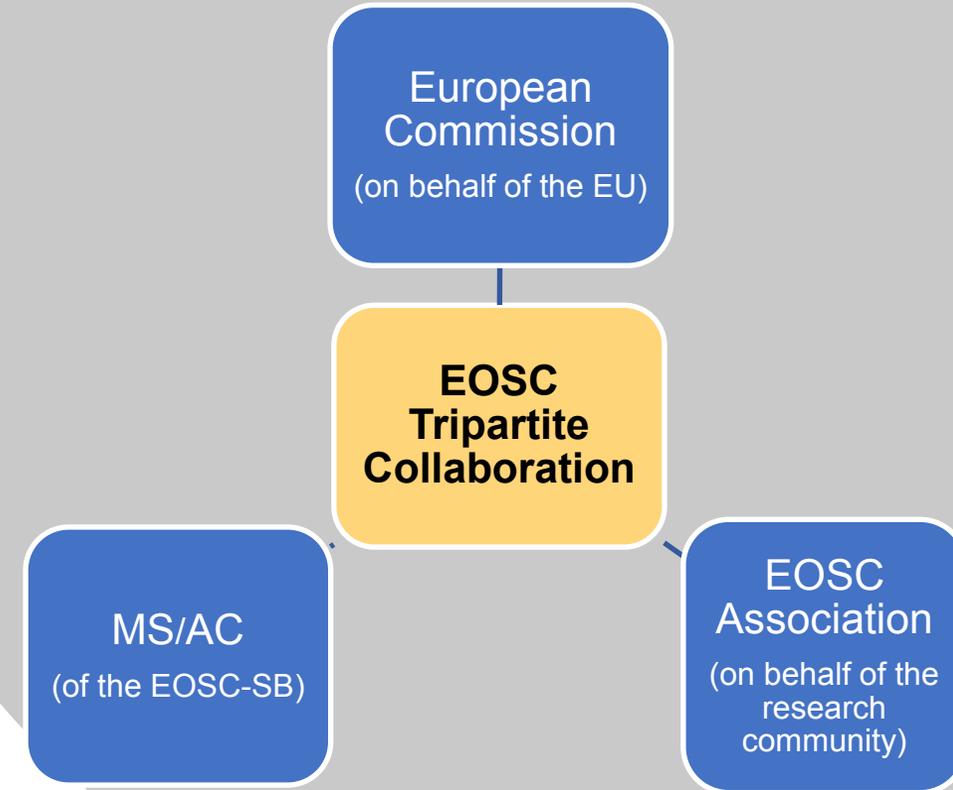
Version 1.0
21 June 2021

Independent Expert Report

EOSC Executive Board

Roadmap

- **2021-2022**: Deploying EOSC foundations

- **2023-2024**: Deploying value-added services for scientists

- **2025-2027**: Engaging with industry and society

- **Continued**: Web of FAIR data and services for science

Three implementation levels

- **European** (Horizon Europe)

- **National** / **regional** (Additional activities)

- **Institutional**: (Additional activities)

EOSC tripartite collaboration – a level playing field for EOSC implementation discussion and coordination

Consensus in 2021 to accelerate implementation of

- the deployment of a viable EOSC platform for use by the research communities;
  ☞ *EOSC procurement (ongoing)*

- the deployment of a single joint capacity to monitor the uptake of open science and respective contributions to the EOSC;
  ☞ *EOSC Observatory*

- alignment of policies, investments, and practices at European, national/regional, and institutional levels to foster synergies and leverage effects of the conducted actions.
  ☞ *EOSC tripartite catalogue (being populated)*

European Commission
(on behalf of the EU)

EOSC Tripartite Collaboration

MS/AC
(of the EOSC-SB)

EOSC Association
(on behalf of the research community)

New set of resources for EOSC from Horizon 2020

- Investments in EOSC via Horizon 2020 grants an   EUR 320 Million

- Actions of direct EOSC-relevance were included in the European Research Infrastructures (incl. e-Infrastructures):

  - WP 2016–2017: EUR 70 Million under the calls "European Open Science Cloud for Research", "Data and Distributed Computing e-infrastructures for Open Science" and "Platform-driven e-infrastructure innovation"

  - WP 2018 – 2020: EUR 250 Million under a dedicated call "Implementing the European Open Science Cloud"

Horizon Europe Projects (2021 calls: EUR 70 Million)

FAIR-EASE	FAIR EArth Sciences & Environment services
FAIRCORE4EOSC	Core Components Supporting a FAIR EOSC
FAIR-IMPACT	Expanding FAIR Solutions across EOSC
WorldFAIR	Global cooperation on FAIR data policy and practice
BY-COVID	BeYond-COVID
EOSC4Cancer	A European-wide foundation to accelerate Data-driven Cancer Research
Skills4EOSC	Skills for the European Open Science Commons: Creating a Training Ecosystem for Open and FAIR Science
AI4EOSC	Artificial Intelligence for the European Open Science Cloud
EuroScienceGateway	leveraging the European compute infrastructures for data-intensive research guided by FAIR principles
RAISE	Research Analysis Identifier SystEm
EOSC Focus	EOSC Focus
e-IRGSP	e-Infrastructures reflection group support programme

Support to policy discussion – example from the EOSC-SB survey 2021
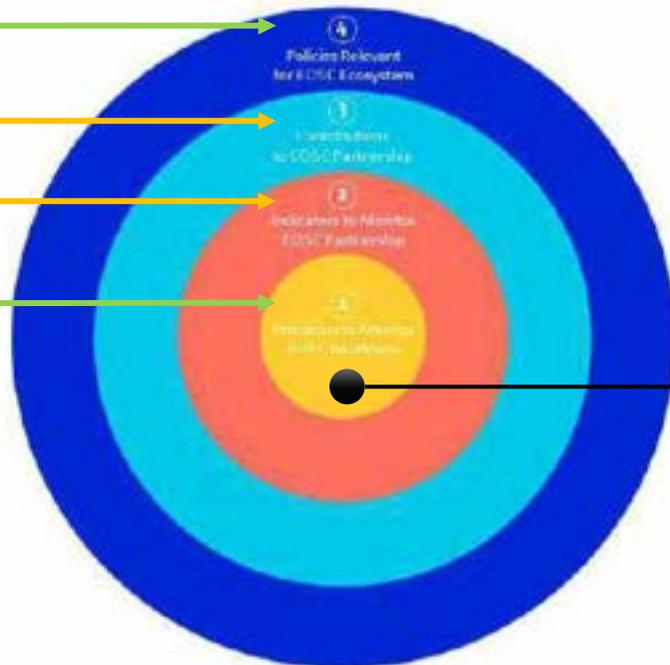

Figure 1: Four Layers of Data Collected by the EOSC Observatory

EOSC Association

EOSC Steering Board

2021 survey monitor 45 countries:
- 27 EU MS
- 16 AC
- 1 with Observer status in the EOSC-SB expert group
- 1 other country (CH)

🔵 Countries with national policy on RIs that include aspects of open science

🔶 Countries with financial strategies for EOSC-relevant infrastructures

🟢 Countries with use cases and best practices on RIs that include aspects of open science

https://eoscobservatory.eosc-portal.eu/

Further data for policy discussion expected by EOSC-SB indicators (for layer 1 and 4)

Open Science the new normal by 2030

1. Policies → 2. Practices → 3. Impact

	POLICIES	PRACTICES
PUBLICATIONS		
DATA		
SOFTWARE	National Policy on X [Y/N]	National Monitoring on X [Y/N]
SERVICES	Financial Strategy on X [Y/N]	Best Practices on X [Y/N]
INFRASTRUCTURE	RPOs with Policy on X [#]	Financial Investments in X [€]
SKILLS/TRAINING	RFOs with Policy on X [#]	Output Indicator for X [#]
ASSESSMENT		
ENGAGEMENT		

IMPACT
TBD

Desired impact to monitor
- Increased reproducibility
- Increased trust in science
- Increased research efficiency
- Increased effectiveness
- Results taken up by the society

Coordination of outcome of National EOSC Tripartite Events


EOSC SYMPOSIUM 2022
14 to 17 November

EOSC Tripartite Event

https://eosc.eu/tripartite-collaboration

https://events.eoscfuture.eu/Symposium2022
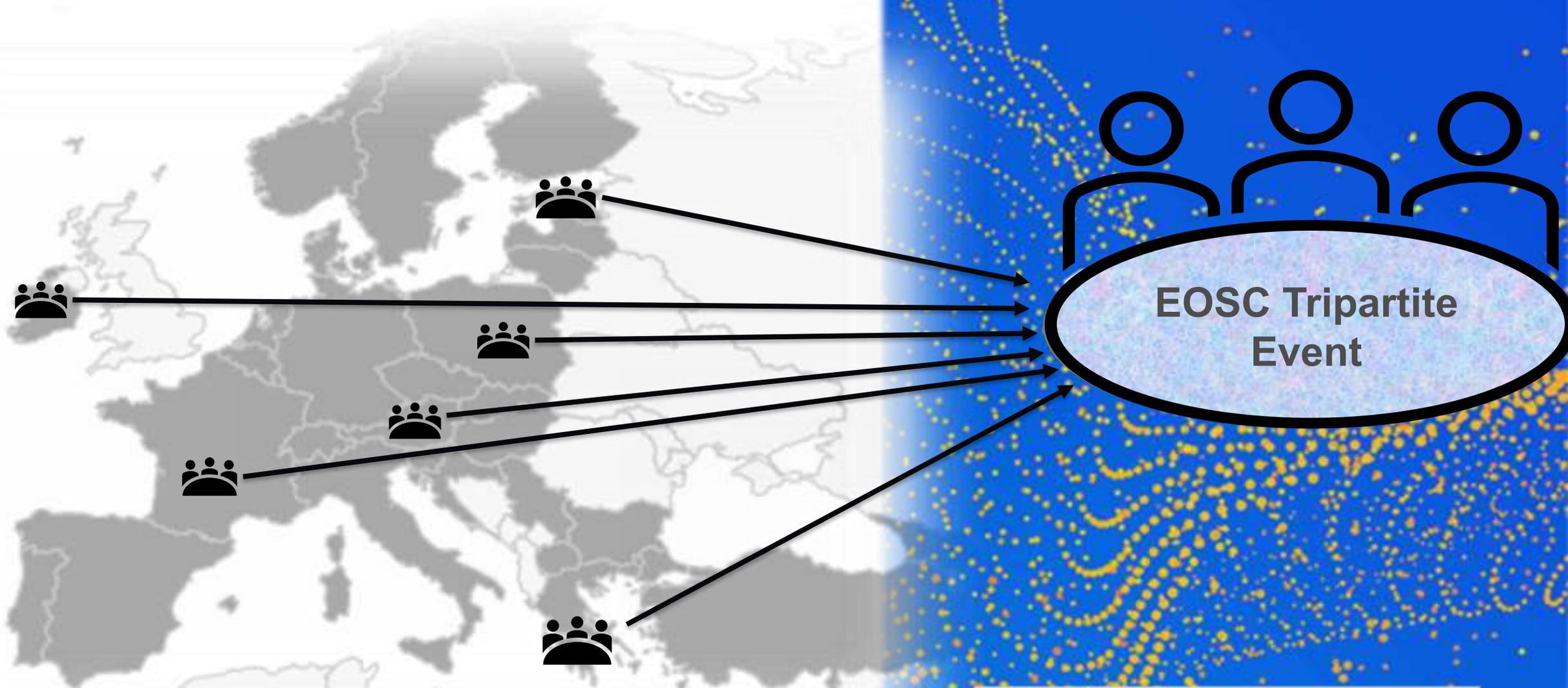
Example of national coordination initiative:
Towards an EOSC Support Office in Austria

Three Involved Ministries

Researchers engagement in Austria

Austrian Country Report (quarterly)

Landscaping activity, continuous Monitoring

Liaison with the EOSC Association (ACONET as a mandated organization)

Liaison with FAIR Initiative in Austria

Liaison with RDA Austria national node

Reference point for qualified information on the EOSC

Courtesy of P. Budroni, TU Wien, 2021

11

Our vision for open science by 2030 is that the research is based on open collaborative work and the systematic sharing of knowledge and data as early and widely as possible in the process, where research digital objects are FAIR and open and reproducible, and citizens, civil society and end-users are involved in the co-creation of the R&I agendas and content.
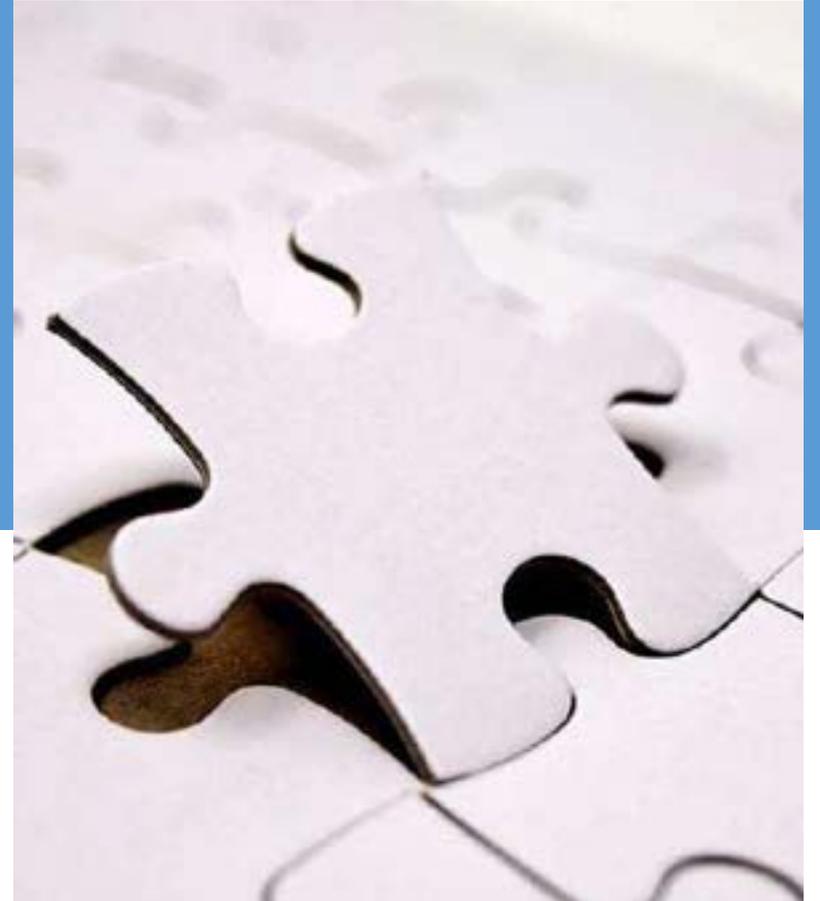
Thank you

EOSC Steering Board

National Tripartite Event

Roberto Sabatino

Dublin, 28th Sep 2022

EOSC-SB overview

- Representatives of MS/AC – usually from relevant ministries
  - Can be delegated – HEAnet delegated by DFHERIS for Ireland
- Objectives (Work Plan 2022)
  - To create a common understanding between the Commission, the Member States and the countries associated to the Research and Innovation Framework Programme on the direction of policy developments required for achieving the strategic, political and implementation objectives of the EOSC.
  - To pursue synergies and alignment of national policies and investments relevant to the European Open Science Cloud.

In total EOSC-SB has:

- 93 representatives from Members and Observers
- 27 Member States
- 16 Associated countries
- 2 Observers (incl. EOSC Association)

16 countries associated to the Horizon Europe Framework Programme (September 2022) invited:

Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Iceland, Israel, Kosovo, Moldova, Montenegro, Norway, North Macedonia, Serbia, Tunisia, Turkey, and Ukraine.

EOSC-SB Monitoring survey 2021

- Focus on investments in infrastructure and services in 2020, and policies and practices to 2021

- All member states to gather information from RFOs and RPOs in country

- Experience from 2021

  - Information on investments difficult to obtain

  - Ambiguity in respect of what constituted an EOSC-related investment

- Developing survey for 2022, with data on investments for 2021. Feedback sought from NORF Steering Group

Steering Board Policy Issues 2022

The EOSC-SB has identified 3 policy issues of priority to be addressed as building blocks of the EOSC Tripartite Governance strategy for 2022

A policy on EOSC and the for-profit(commercial) partners
to ensure a reliable accord witch commercially oriented actors

A policy on Sovereignty on FAIR data
to guarantee a safe level playing field for sharing and reuse of research digital artefacts

A policy on Data literacy
to support state of the art production of FAIR research data
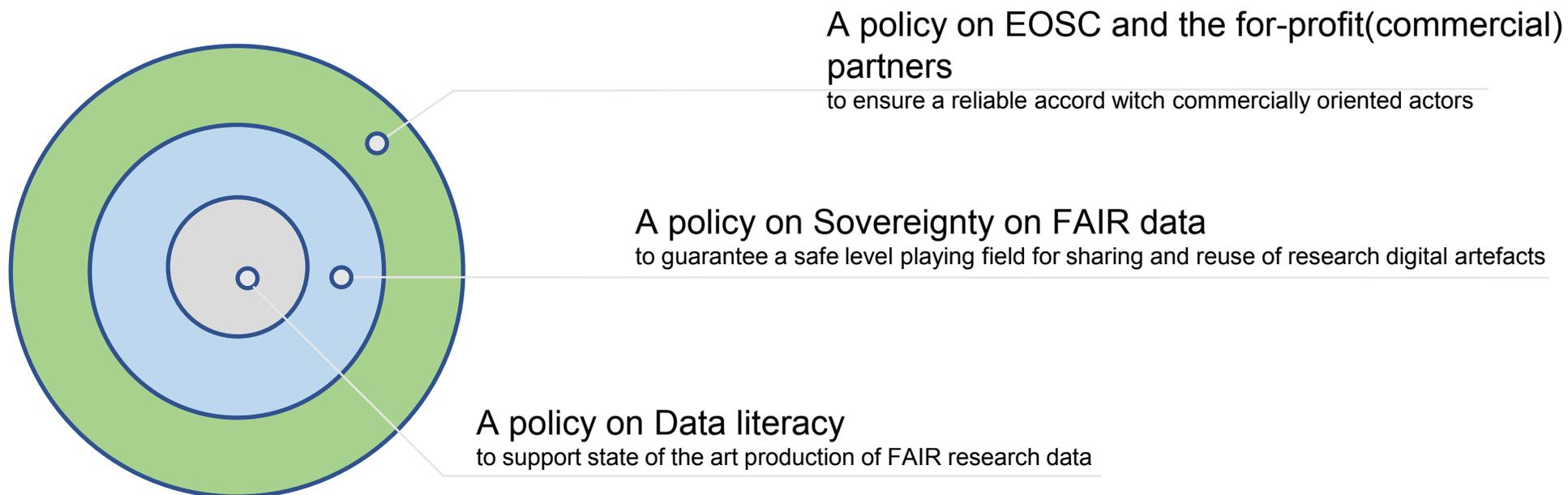
Three discussion papers have been drafted by the EOSC-SB Policy sub-group for the SB to discuss and eventually converge on proposals that, also through contributions matured at national level, will be inputs to the
Tripartite event in November 2022 and subsequently finalised as position papers.

EOSC and commercial partners Recommendations EU level

Recommendations for EOSC implementation on the European level

- Recommends that the EOSC is developed to be a public good. In order to achieve this, the European public research sector shall remain the driving force behind the EOSC construction and future service provision, as unrestricted as possible towards other contributions at for-profit or international levels.

- Recommends performing a SWOT analysis concerning the participation of for-profit partners in EOSC.

- Recommends reviewing the RoP in EOSC in view of the role of for-profit partners should have in EOSC, both as providers and consumers.

- Recommends exploring synergies as well as clarifying and formalising the collaborations with the European Data Spaces and initiatives like GAIA-X. This shall include gathering information about the timeline of the upcoming Data Spaces, their relevance for the EOSC, and what elements relative to the EOSC could be integrated in the regulations in the early draft stages

EOSC and commercial partners Recommendations national level

- Recommends that investments at national level into the private sector in fields related to service provision of FAIR data and services are co-aligned with the EOSC. This addresses mainly the EOSC SB members, who shall support coherence of investment at the national level.

- **Recommends that EOSC Steering Board delegates facilitate discussion in their own Countries about the role of for-profit operators in the provision of EOSC core services. In addition, they should evaluate whether a procurement in the Horizon Europe INFRA-EOSC 2025/2026 work programme is the best tool to continue the EOSC core activities.** A common recommendation should then be discussed at the EOSC Steering Board and communicated to the EC before the first draft of the HE-INFRA-2025/2026-EOSC work programme is developed.

- Recommends that the EOSC Steering Board delegates bring the topic 'EOSC and for-profit operators' **to the discussion in national tripartite events** and to communicate national implementation strategies to the EOSC Steering Board

Data literacy policy – Vision for 2024

- open data skills and competence for researchers at all career stages accelerate a stable and solid increase of open research data shared in line with the FAIR principles and re-usage of existing data;

- sustainable support for researchers is provided in their activities by profiles of Data Science professionals with well-defined roles and responsibilities;

- mutual learning is widely practiced in the area of open science across Europe by creating respective networks and platforms;

- awareness for FAIR data and data literacy is wide-spread among the European, national, and institutional decision-and policy makers by nominating, educating, and training FAIR data / EOSC Ambassadors (Champions) selected among them.

Data literacy policy - actions

Opinion paper proposes 17 actions at 3 levels – examples below

- European:

  - Establish a European network of competence centres of national and institutional scope

  - European programmes for FAIR data training

- National:

  - Build research support staff capacity centres that provide training for new FAIR data professionals

  - Create frameworks for recognition of open data skills and competencies

- Institutional

  - Implementation of Data Management Plans in application forms

Sovereignty of FAIR Data - Definition

- The protection of rights of the data owners/communities/funders (IPRs, academic freedom, institutional sovereignty, geo-localization, quality protection) to safeguard the value and investment in making FAIR datasets and in developing/operating FAIR data services;

- The safeguard of a minimum autonomy/freedom by the research community regarding access to critical services along the data life cycle (including digital services from non-profit public actors);

- The transparency on data provenance and of how the data have been processed

- The right to withdraw a FD set based on scientific reasons

- The elaboration of appropriate rule settings targeting public or private partners and other users from non-EU and associated countries(see EOSC-SB opinion paper on EOSC and commercial partners).

Sovereignty of FAIR Data – Example Actions

- The Rules of Participation evolve over time in response to developments in quality standards per discipline

- Ensure that IT architecture and services can respond to these developments

- Keeping up to date information on national EOSC-ready/compliant nodes or infrastructure

- Align with national laws and European common practice

Your input and engagement

- Opinion papers circulated to NORF Steering Group

    - Who else should feedback, and how do we go about it ?

- Time until mid October for feedback

- The policy issues will be concluded in the EOSC tripartite event on 14 November in Prague (back to back with the EOSC Symposium)

- All invited to register to the EOSC Symposium in Prague, CZ, 15-17 November – the main annual EOSC event https://events.eoscfuture.eu/Symposium2022

- You can join the WGs as an expert on any of the specific topics

The Role of Mandated Organisations in the EOSC-Association.

National Tripartite Event

Roberto Sabatino
Dublin, 28th Sep 2022

From the Articles of Association

- "Each Member State or Associated Country that has one or more organisations that are Members of the Association may appoint one (1) Member to act as its Mandated Organisation, to represent national interests"

- HEAnet is Ireland's only member of the EOSC-Association and appointed by DFHERIS as its mandated member.

- Mandated members have more weight in voting matters than ordinary members - some matters require double majority (mandated and ordinary members majority)

- Roles and expectations defined in May 2022, as bidirectional:

  - Towards the EOSC-Association

  - Towards the stakeholders in their countries

  - This includes providing input relevant to the broader engagement and priorities relevant to their national research system to the EOSC Association, and vice-versa.

Towards the EOSC-Association

- Coordinate the view from the stakeholders in their countries;

- Consult the EOSC-A members and active participants (Task Force members, etc.) in their constituencies on important decisions to be taken by EOSC-A

Towards national Stakeholders

- Translate and communicate the mission of EOSC in the national context;

- Encourage and facilitate communication between and alignment of relevant funding agencies (public and private);

- Raise any needs of the communities to the respective EOSC-SB member;

- Inform Members, Observers, members of the EOSC National Initiative (if any) and other stakeholders on the development of EOSC and help to coordinate the discussion in their countries;

- Translate the European developments to help structure the infrastructure within their countries;

- Monitor and suggest proper alignment of infrastructures and policies within the countries and Europe;

- Reach out to relevant stakeholders and help grow the EOSC-A member base in order to increase community representation and impact

and more…

Contribute to relevant activities on a national level:

- Organisation of National Tripartite meetings and events;
- Regular meetings in the respective country with EOSC-A Members and Observers, also inviting Task Force members;
- Support EOSC-A in its task to produce an annual Additional Activities Plan;
- Promote monitoring activities of EOSC-A;
- Maintain contact with beneficiaries of relevant EU-funded projects (closing of H2020 and kick-off of HE).

(Inter-)MO activities facilitated by EOSC-A Board and Secretariat:

- Regular (bimonthly or quarterly) meetings of MOs with Board and Secretariat;
- Set-up of a dedicated MO area on the future EOSC-A community platform for sharing of information;
- Promotion of national activities on EOSC-A website and social media channels

Reality in Ireland

- Need for more, and structured coordination and communication between stakeholders, to enable HEAnet to provide a national view to EOSC-A (rather than personal) and vice-versa.
    - applies to EOSC-SB too

- Some Interactions with NORF Steering Group

A (simple) way forward

- EOSC-SB developments and EOSC-Association developments both need input from national stakeholders

- Propose informal cafe-style gatherings, on regular basis, where ongoing topics can be shared and discussed

  - online calls via MSteams/zoo

  - once a month/6 weeks

  - supported by a mailing list

- Topics may include

  - EOSC-SB policy/opinion papers discussion

  - EOSC-Association Task-force developments

  - INFRA-EOSC projects update

- A more formal, annual NTE event

National Tripartite Event

IRELAND

Ireland's National Open Research Forum and National Action Plan for Open Research

Dr Daniel Bangert

National Open Research Coordinator

Digital Repository of Ireland

Outline

Ireland's National Open Research Forum

National Action Plan for Open Research

- Establishing a culture of open research
- Achieving 100% open access to research publications
- Enabling FAIR research data and other outputs

Summary and reflections

Website: https://norf.ie/

Twitter: @norfireland

Open Science: recent drivers and developments

European Research Area Policy Agenda 2022-2024

Enable the open sharing of knowledge and the re-use of research outputs, including through the development of the European Open Science Cloud

Horizon Europe 2021-2027

UNESCO Recommendation on Open Science 2021

WHOSTP Memorandum 2022

Open Science in the era of COVID-19

Source: UNESCO

Open science increases scientific collaborations and sharing of information for the benefits of science and society

OPEN SCIENCE

makes multilingual scientific knowledge openly available, accessible and reusable for everyone

opens the processes of scientific knowledge creation, evaluation and communication to societal actors beyond the traditional scientific community.

Ireland's National Open Research Forum

Established in 2017 to drive the Irish agenda for Open Research

First phase of work included developing Ireland's *National Framework on the Transition to an Open Research Environment* (July 2019)

Since late 2020 working on the development and delivery of a *National Action Plan for Open Research*

Development of the National Action Plan has been supported by national Working Groups in five strategic areas

https://doi.org/10.7486/DRI.0287dj04d

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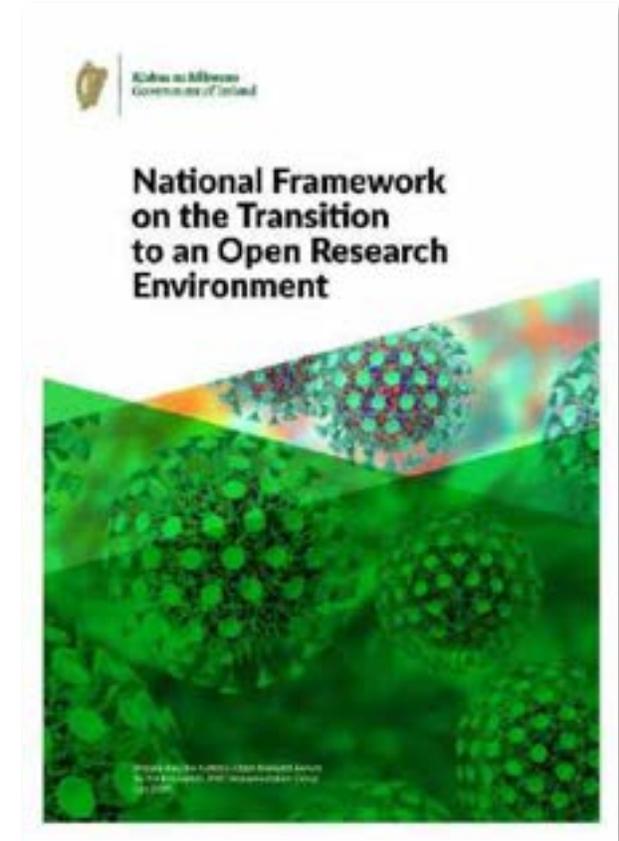
Development of the National Action Plan

Led by NORF, with direct input from over 90 stakeholder representatives and further input via public and targeted consultations

2019
National Framework

2021
Landscape Report

2021
Policy Briefs

2022
National Action Plan

NORF publications: https://norf.ie/index.php/publications/

Development of the National Action Plan

Webinar series presenting results from each NORF WG in dialogue with international developments with invited speakers

Targeted consultations with specific communities, e.g., workshops with the Irish Humanities Alliance and Irish academic publishers

Data steward instructor training delivered with FAIRsFAIR and EOSC-Synergy

Participation in FAIRsFAIR policy enhancement support programme

Public consultations on drafts of the National Open Research Landscape Report (2021) and the National Action Plan for Open Research (2022)

Landscape Report and 14 policy briefs are supporting outputs that provide further rationale and background for actions in the National Action Plan

National Action Plan for Open Research 2022-2030

Outlines a national vision for a research system fully aligned with open research principles and practices by 2030.

The action plan is structured according to three themes or overall aspirations, under which a vision, goals, and actions are articulated:

- **Establishing a culture of open research**

- **Achieving 100% open access to research publications**

- **Enabling FAIR research data and other outputs**

Establishing a culture of open research

As an approach to the research process, open research practices impact on methodologies across the research lifecycle and contribute to research excellence. Open research should therefore be fostered and become embedded in the Irish research system through consistent and system-wide recognition and reward mechanisms.

Dutch Recognition and Rewards Programme 'Room for everyone's talent':

> Diversifying career paths for academics, recognising individual and team performance, emphasising quality of work, encouraging all aspects of open science, encouraging high quality academic leadership.

Paris Call on Research Assessment: we need to align what we assess with what we value

Agreement on Reforming Research Assessment

Which types of academic work matter most for research careers?

Legend:
- Don't know
- Unimportant
- Of little importance
- Moderately important
- Important
- Very important

Type of academic work	Don't know	Unimportant	Of little importance	Moderately important	Important	Very important
Research publications			9	10	80	
Attracting external research funding		4	14	24	57	
Research impact and knowledge transfer		8	23	34	34	
Teaching activities		9	25	31	31	
Research collaborations within academia		11	23	34	29	
Research collaborations outside academia		11	30	28	29	
Research supervision activities		6	28	42	21	
Research networking		8	32	37	20	
Mentoring activities	7	16	29	28	19	
Social outreach and knowledge transfer	5	22	27	29	16	
Other types of research output	7	19	24	34	14	
Open Science and Open Access	14	22	23	26	12	

Number of responses: between 191-195/197

Source: https://eua.eu/resources/publications/888:research-assessment-in-the-transition-to-open-science.html

45

Establishing a culture of open research

By 2030 a culture of open research will be embedded at every level of the Irish research system. The re-orientation of research recognition and rewards towards responsible research evaluation and open research metrics and practices will be well underway or complete, and approaches to research assessment will be broadly aligned at a system level across all stakeholders. Researchers at all career levels will have opportunities to learn open research skills, with clear incentives to do so. Across the system, there will be widely available specialist open research support for researchers, provided by dedicated support professionals, who have access to accredited training and clear career progression routes. An embedded culture of open research supported by responsible research evaluation and assessment, national training programmes, and increased specialist support, will promote and support the quality and impact of Irish research.

Actions to establish a culture of open research

- Upskill researchers and relevant professional support staff in open research
- Strengthen the system-wide recognition and reward of open research practices
- Align research assessment with the principles of open research
- Support institutional and community networks for open research
- Encourage initiatives to facilitate open research in funding programmes and awards

Achieving 100% OA to research publications

Ireland's *National Framework* sets a target for all Irish scholarly publications resulting from publicly funded research to be openly available by default. To progress towards this objective, we support multi-track policies and pathways to open access, enabling both repository-mediated (also known as Green OA) and publisher-mediated (Gold OA) routes, without an embargo period.

Current overall level of Open Access for Ireland estimated at 47%.

OPEN ACCESS PERCENTAGE	TOTAL PUBLICATIONS	TOTAL OPEN PUBLICATIONS	TOTAL CITATIONS
47%	198k	93k	5.2m

BREAKDOWN

PUBLISHER OPEN	BOTH	OTHER PLATFORM OPEN	CLOSED
10%	19%	18%	53%

Source: https://open.coki.ac/country/IRL/

Achieving 100% OA to research publications

By 2030 Ireland will have implemented a sustainable and inclusive course for achieving 100% open access to research publications. Provisions put in place to support a diverse open access publishing ecosystem and the retention of authors' rights will ensure Irish researchers have the freedom to choose from a range of quality options for making their research open access. An interoperable and robust network of repositories will contribute to making Irish research more visible and accessible locally and internationally. Benchmarking, drawing on a transparent national open access monitoring mechanism, will place Ireland amongst the leading countries internationally in terms of achieving 100% open access.

Actions to achieve 100% OA to research publications

- Strengthen Ireland's network of open access repositories

- Support rights retention for Irish researchers

- Support bibliodiversity in Ireland

- Invest in Persistent Identifier infrastructure to enable consistent monitoring and improve interoperability

- Align policies for open access to publications

Enabling FAIR research data and other outputs

Ireland's *National Framework* supports the principle that FAIR (Findable, Accessible, Interoperable, Reusable) data contribute to research integrity and reproducibility, and that research data should be 'as open as possible, as closed as necessary'.

National examples: Ireland's Health Research Board; Digital Repository of Ireland; Irish ORCID Consortium

Source: FOSTER
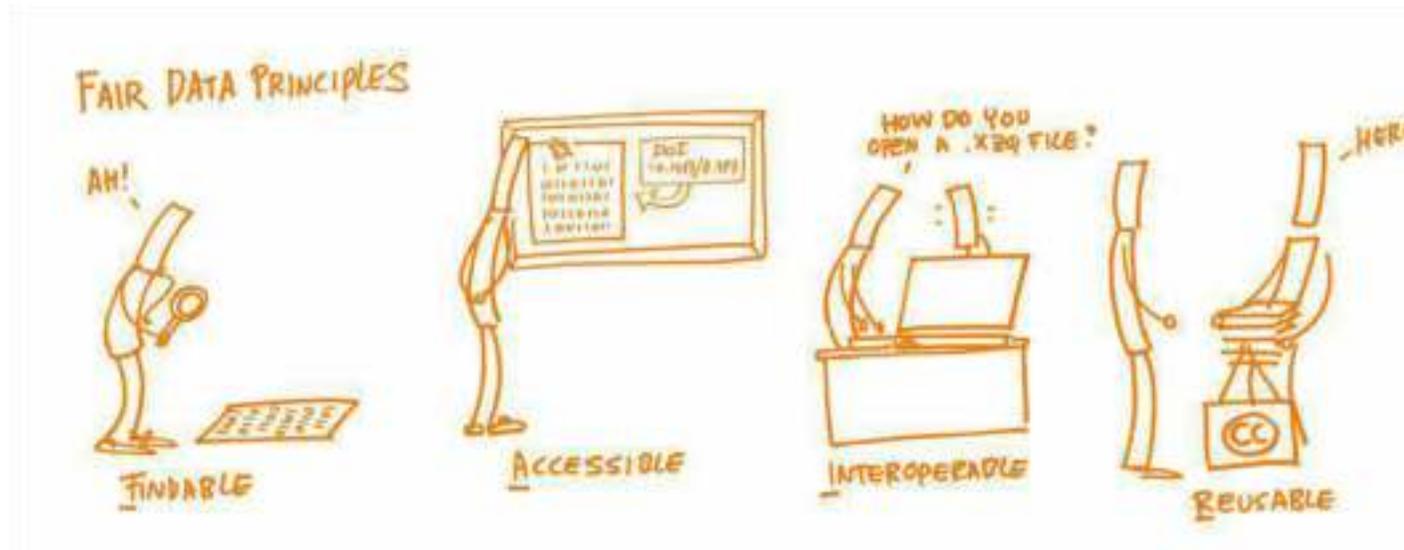
Enabling FAIR research data and other outputs

By 2030 Ireland will have a mature ecosystem of infrastructures to support the responsible management and sharing of research data and other outputs in line with the FAIR principles. A diverse range of research activities and outputs will be recognised and rewarded in research assessment and evaluation, including data sharing. Data stewardship will be firmly established in the national landscape, with data stewards providing key expertise to assist researchers with research data management needs. Open research infrastructures will be considered and planned for within national roadmaps for research infrastructures. As an outcome of national roadmapping processes, open research infrastructures will receive adequate funding, form part of a coherent and sustainable approach to RIs, and will be benchmarked against other national RIs.

Actions to enable FAIR research data and other outputs

- Support the development and professionalisation of research data stewardship nationally

- Support national services for storing, managing, sharing and preserving research data

- Align policies for the management and sharing of research data, software, and other outputs

- Contribute to a Research Infrastructure roadmapping strategy

- Strengthen connections to international infrastructures supporting open research and research data, including the EOSC

Through consultation with national stakeholder groups, promote active engagement with the European Open Science Cloud (EOSC). Support the development of EOSC by contributing Irish infrastructures and datasets to the EOSC catalogue and marketplace, promoting EOSC resources, and supporting Irish researchers and institutions to use EOSC's system of federated data and services.

Implementation and support

Impact 2030: Ireland's Research and Innovation Strategy

Open research is a key cross-cutting policy agenda supporting the strategic objective to embed consistent good research practices to drive research excellence and quality of outcomes

DFHERIS announcement: €1.725 million to support the uptake and implementation of open research practices in Irish higher education institutions and the wider Irish research system. Funding through the HEA, administered by the Digital Repository of Ireland.

"This announcement signals our Government's commitment to open science, the sharing of research data and knowledge with each other nationally, and with our colleagues in Europe and beyond."

NORF 2022 Open Research Fund

National Open Access Monitoring: to develop a monitor for open access at the national level to publish, analyse and track progress towards 100% OA.

Open Access Repository Assessment and Alignment: to conduct a national programme of repository alignment to deliver standardised metadata nationally while building infrastructure in line with international best practices.

Open Access Transition Programme: to conduct a feasibility study and pilot with a view to establishing a national platform for Diamond OA publication of journals and books.

Open Research Training Programme: to develop a national open research training programme to enable researchers at all stages of their career to upskill in open research practices.

National Data Stewardship Network: to establish a national network across research performing organisations, funders, and related research support services and infrastructures to build national capacity in FAIR data management and stewardship.

Shared Data Storage Pilot: to develop a national shared data storage service for active data, starting with a pilot for diverse research groups.

Summary and reflections

Open research is a key cross-cutting policy agenda for R&I

National agenda through a multi-stakeholder, consultative approach to build community consensus

Underlying challenge of culture change: making open research possible through infrastructure, easy through training and support, normative through communities, rewarding through incentives, and required through policies (Nosek/COS)

National coordination aims to overcome fragmentation and avoid duplication by identifying and implementing prioritised actions of benefit to the Irish research community as a whole

Implementation requires collective and collaborative action at all levels (local, national, international)

Panel-1 Research Infrastructures in support of Open Science and FAIR data

National Tripartite Event

Sarah Jones, Denis Shields, Natalie Harrower, Sandra Collins, Venkatesh Kannan, Jennifer Symonds

Dublin 28th Sep 2022

Sarah Jones is EOSC Engagement Manager at GÉANT, where she works with NRENs on supporting Open Science. Sarah was rapporteur on the European Commission's FAIR Data Expert Group and independent expert on the EOSC Executive Board, chairing the FAIR Working Group. She now sits on the EOSC Association Board of Directors.

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Denis Shields – ELIXIR Ireland node

IRELAND

EUROPE

Enables scientists to access and analyse life science data

legal agreements

Provide local training & supports

  SFI CRT Genomics Data Science PhD Programme

  Data Stewardship Manager (UCD, Elixir funded, CONVERGE award)

Provide to Europe/world

  Database services; software services (funded by Ireland), sequence data

  Expertise (Machine Learning, single cell)

Receive from Europe

  Funding, data systems and training

  Training tools, software, platform, data, compute, technical community memberships

  Routes to participate in funded initiatives (Elixir; EOSC; Digital Europe; INFRA; DEV etc)

Example: Genomics Data Infrastructure (GDI)

Countries that have signed the 1+MG Declaration since 2018

- Irish implementation of a Federated Genomics Data Infrastructure
- Builds on 1+ Million Genomes Programme
- Horizon Digital Europe support with HRB co-funding in Ireland
- Led by Elixir Hub (at European Bioinformatics Institute, Cambridge, UK)
- 4 years funding 1+ staff (from Nov 2022)
  - RCSI led (Gianpiero Cavalleri): human data management, ethics, public patient engagement
  - UCD (D Shields): training and Elixir integration
  - UL (A Culhane): cloud implementation of Elixir Europe systems genomics data sharing
    - Controlled **access** by user authentication AAI
    - BEACON query systems to **find** data, international GA4GH standard
    - **Interoperability**: simulated data test ('onboarding' country, playing catch-up)
    - Grow towards systems for **re-use** of the data
  - MU (M Helfert): data **governance**
  - National Mirror Group for human genomics data

Ireland node has more limited resources compared to others

- How do we manage the opportunities, to select those to focus on?

- Elixir is looking for us to lead on an area of excellence to meet unmet needs in Europe: can we rise to this challenge?

- Ireland is looking for us to support partnerships across a wide range of topics: how do we best use limited resources to engage with these proposals?

The way forward for Elixir Ireland

- Engage widely, align opportunities with core skills and strategic partnerships

- Demonstrator programme to develop key area(s) of excellence led by Elixir Ireland

- Develop a sustainable Irish National Strategy for Life Science Big Data

  - Launch at Elixir All-Hands meeting June 2023

    - 400 life data scientists converge at the Dublin Convention Centre

denis.shields@ucd.ie

Natalie Harrower – DRI

The Digital Repository of Ireland

Trustworthy Digital Repository
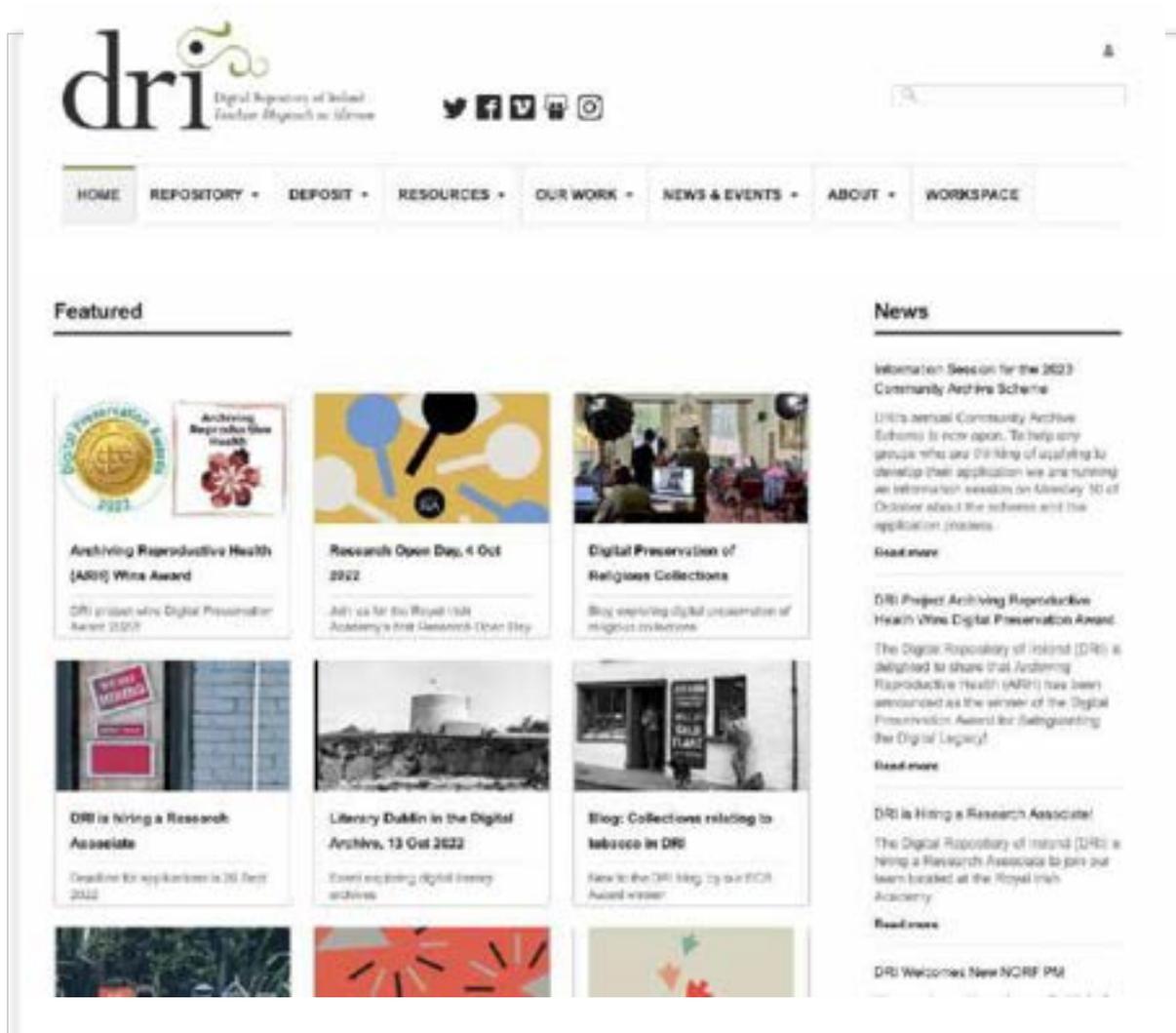
- Trustworthy Digital Repository

- Long-term preservation

- Access & Discovery

- CoreTrustSeal certified

- Disciplinary remit: Humanities, Social Sciences, Cultural Heritage

- Sectoral remit: Research & Higher Education, Culture, Government

- FAIR-enabling

The Digital Repository of Ireland

Research Centre/Best Practice Hub

DPASSH: Digital Preservation of Religious Collections

- Digital Archiving

- Digital Preservation

- Digital Collections & Exhibitions

- FAIR & Open Science

- Training & Education Programme

- Membership Groups, Activities

- Guidelines & publications

The Digital Repository of Ireland

Research Projects

EOSC Future

H2020 project Implementing the EOSC. (INFRAEOSC-03-2020)

WorldFAIR: improving image sharing in cultural heritage

EnrichEuropeana+ Transcription & Discovery

OS200: Digitally Re-mapping Ireland's Ordnance Survey Heritage

Archiving Reproductive Health
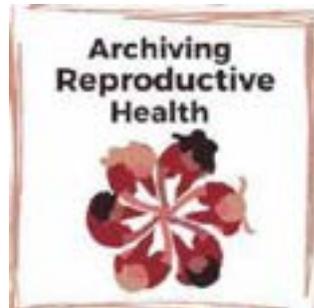
Archive & Access to the digital footprint of the Referendum on the 8th Amendment

- Contribute to state-of-the-art in data preservation, access and discovery

- Develop expertise as a FAIR-enabling digital research infrastructure

- Test our own practices against recognised good practice

- Build international partnerships for exposure to new developments

The Digital Repository of Ireland

International engagement: Networks, Working Groups, Taskforces
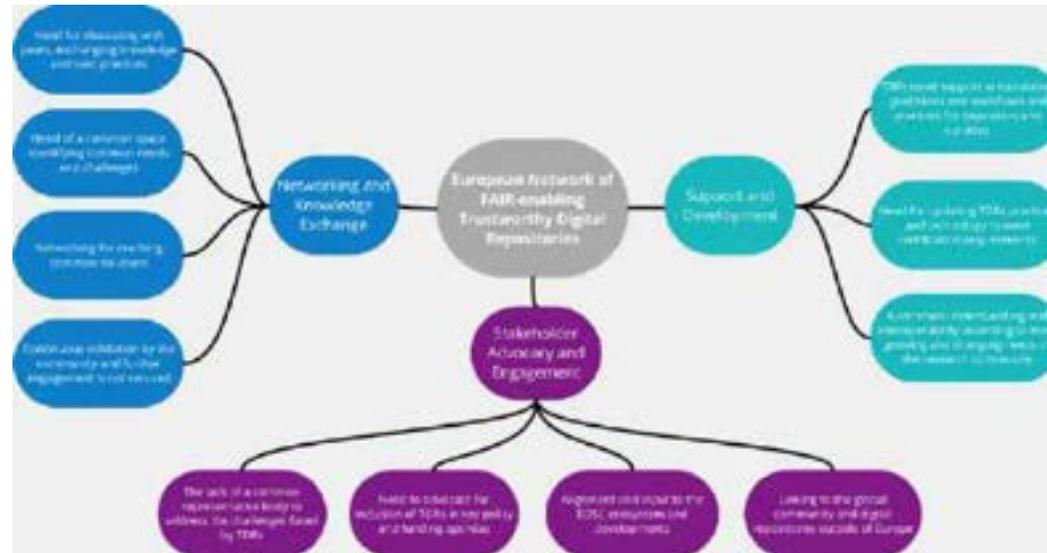
Towards a Network of FAIR-enabling TDRs
https://doi.org/10.5281/zenodo.7034315

The Digital Repository of Ireland

National Open Research Forum

- NORF is a forum with representatives from across the Irish research and RPO sector

- DRI is the coordinating organisation for the NORF

- Administering Ireland's first national budget for Open Research

- Funded projects to address 6 key targeted actions to start 1 Nov 2022

NATIONAL OPEN RESEARCH
LANDSCAPE REPORT

December 2021

NORF
NATIONAL OPEN
RESEARCH FORUM
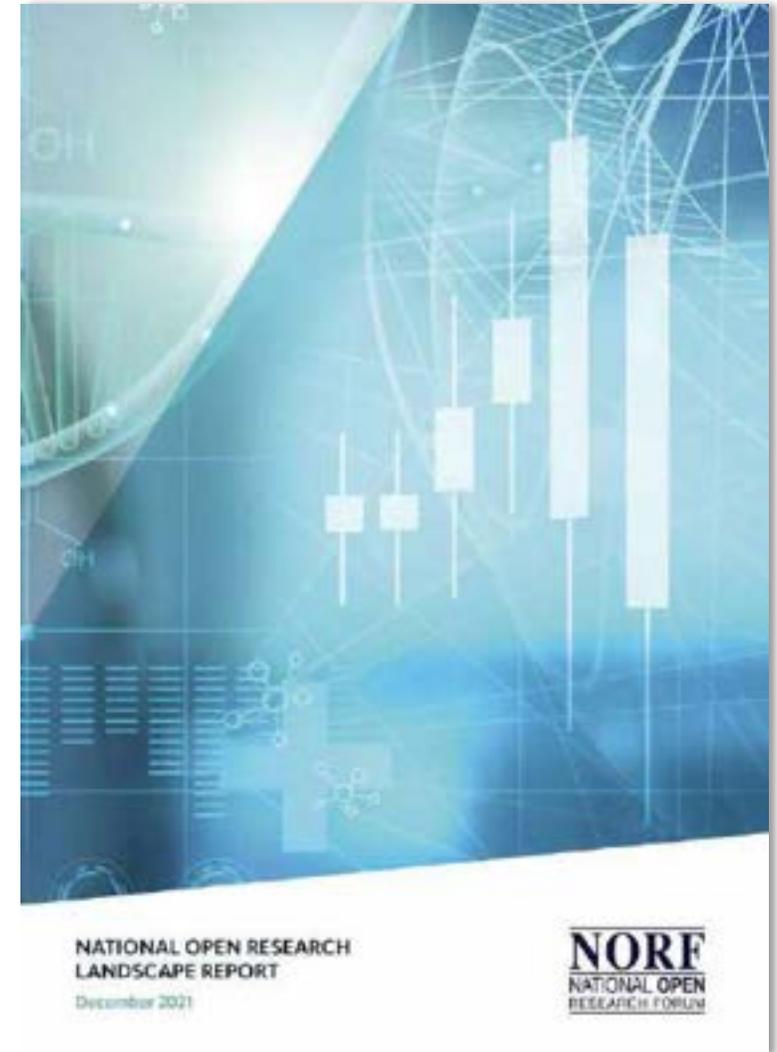
Sandra Collins – UCD Library / CESSDA

Policy — Make it required

Incentives — Make it rewarding

Communities — Make it normative

User Interface/Experience — Make it easy

Infrastructure — Make it possible
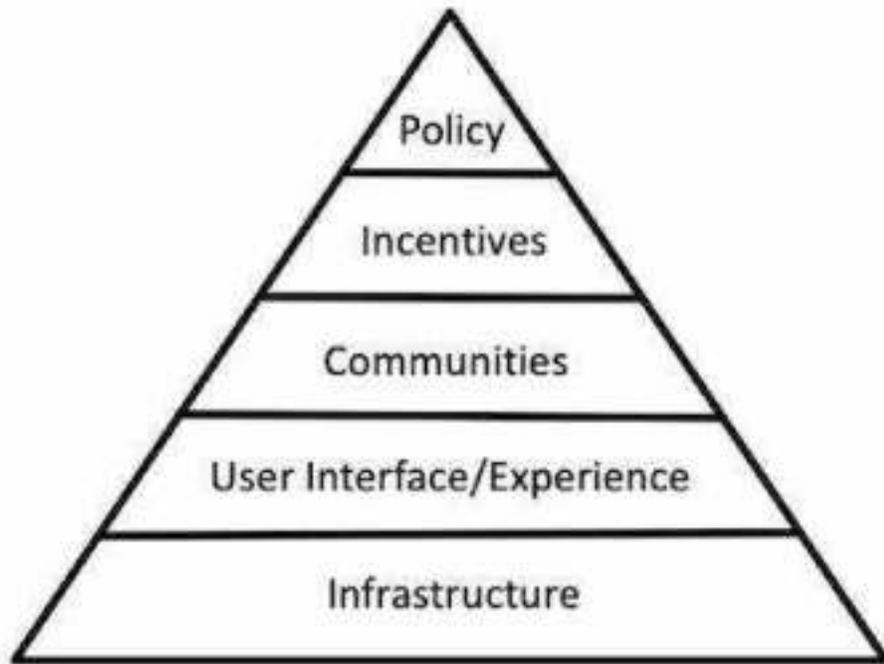
Centre for Open Science

UCD DUBLIN — Leabharlann UCD UCD Library

Institutional Repository

Research Repository UCD is a digital collection of green open access scholarly research publications from University College Dublin.

The repository collects, preserves and makes freely available publications including peer-reviewed articles, working papers and conference papers created by UCD researchers.

No cost to authors or readers – increases visibility and global impact of research

Approx 15,000 publications free to access online

UCD DUBLIN — RESEARCH REPOSITORY UCD
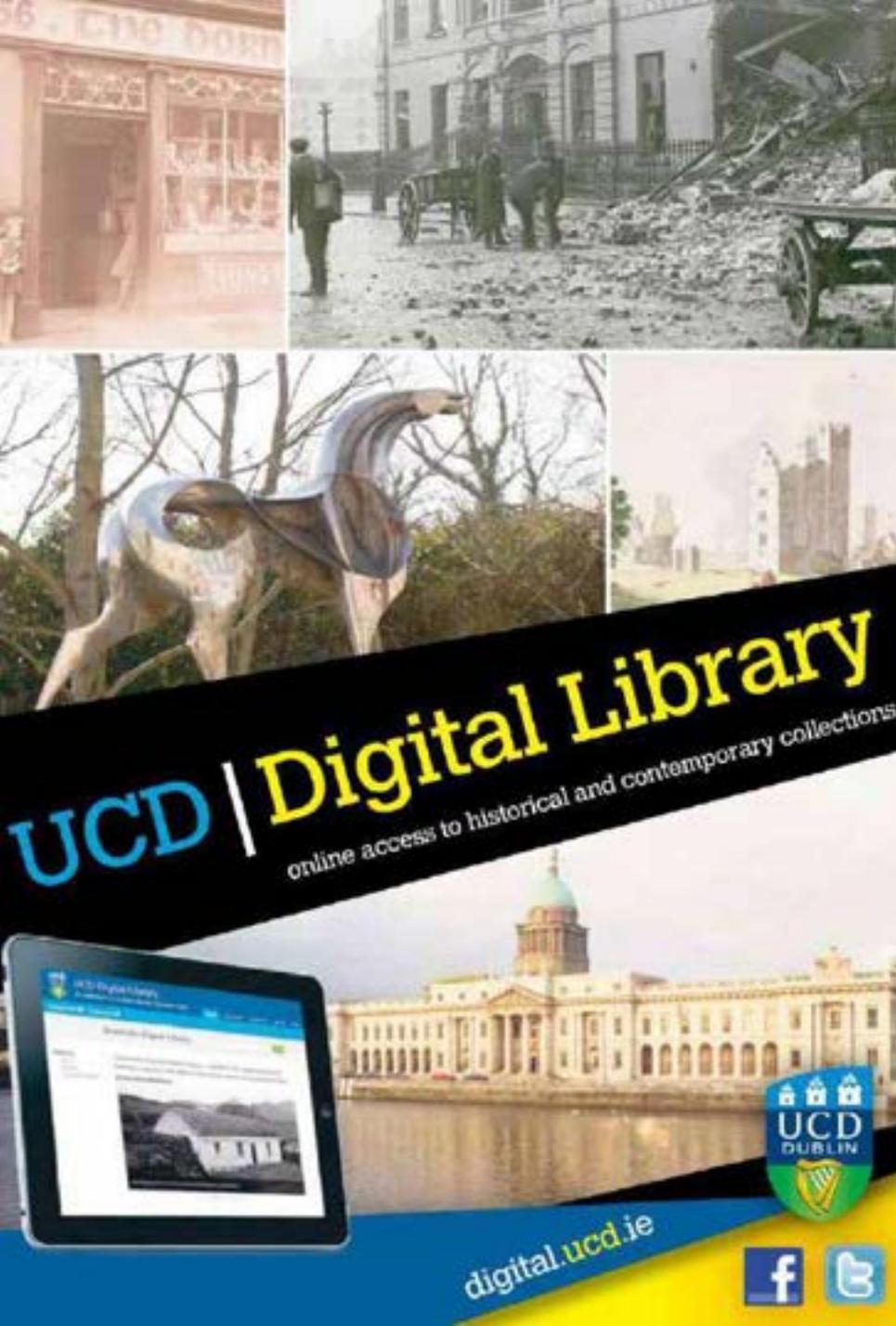
UCD Digital Library

A digital preservation and access platform for digital assets from UCD Library's cultural heritage repositories, campus partners, and external partners, including the Garda Museum, Irish Lights, OSi, and the Dublin Diocesan Archive.

Delivers community engagement, global impact and collaboration with international data aggregators such as Europeana and Google Arts & Culture.

3.5 million pageviews from all over the world

Leabharlann UCD
UCD Library

ISSDA is Ireland's national centre for quantitative social science data

70+ key datasets including TILDA, Growing up in Ireland, EU-SILC, Labour Force Survey, Irish Survey of Student Engagement

Long-term digital preservation and access, established in 2000

ISSDA became the designated Irish service provider to CESSDA in 2021

ISSDA
Irish Social Science Data Archive

www.ucd.ie/issda

cessda

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

Research Data Management

RDM Service Development

- Enhanced training & one-to-one support for researchers, greater focus on ECRs, helping to build capacity & support research career development

- Assist UCD researchers in developing high quality DMPs via **DMPonline @ UCD**, supporting legal, ethical & IP obligations as well as best practice

- RDM Community of Practice in collaboration with key campus stakeholders to exchange knowledge & best practice

- Establish a UCD Community on Zenodo supported by advice & assistance from UCD Library

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Panel-2 Implementing Open Science policies: perspetives from funders and institutions

National Tripartite Event

Joseph Moore, Patricia Clarke, Veronica Cunningham, Brian Fitzgerald, Lorraine Byrne, Geraldine Canny

Dublin, 28th Sep 2022

Joseph Moore is Principal Officer at DFHERIS – Innovation, Research & Development Policy unit, where he is responsible for the development, coordination and implementation of cross Government national, EU and international Research, Development & Innovation policy including Impact 2030 – Ireland's National Research and Innovation Strategy.

Prof. Brian Fitzgerald is currently Director of Lero, having previously held the role of Chief Scientist. In 2020, he was elected President of the Association for Information Systems, the global body for information systems worldwide. Recently, Lero announced its Open Source Program Office (OSPO) and its Open Science Charter.

Dr. Patricia Clarke is a *Programme Manager for Health Research Board (HRB) with responsibility for work on EU Framework Programmes, leading on open research agendas. Her current role includes managing the HRB Open Research platform (https://www.hrbopenresearch.org/), co-Chair of National Open Research Forum Ireland and National Delegate for Horizon Europe Cluster 1 Health.*

Lorraine Byrne is the Executive Director of the SFI Centre for Advanced Materials and Bioengineering research (AMBER) and the CRANN Institute at Trinity College Dublin. Within this role she has leadership responsibility for the non-scientific aspects of both organisations including Industry engagement, Funding diversification, Communications, Public Engagement and governance.

Veronica Cunningham's current role is Research Funding Office Manager with responsibility for the management of its Research Programme. She is a member of the JPI Oceans Management Board, and represents the Marine Institute on several national and international fora (e.g. National Research Integrity Forum, National Open Research Forum, EPA Climate Research Coordination Group, etc).

Dr Geraldine Canny is Head of Research at SETU where she leads the research support team. She holds a Ph.D. in Immunology from University College Dublin. Between 2018 and 2021 Dr Canny held the position of Marie Sklodowska-Curie actions (MSCA) National Delegate and National Contact Point. During her tenure as Head of the Irish MSCA office funding awarded to irish HEIs, companies and non-academic organisations exceeded 95 million euros.

National Tripartite Event

IRELAND

Implementing Open Science policies: the Health
Research Board (HRB) approach

Dr Patricia Clarke, HRB

HRB approach to Open Science

(Tools and Partnerships)

National OA principles →

HRB OA policy

Open Science and Ireland Conference

National Open Research Forum (NORF)

Collaboration with GO-FAIR and DTL

Building awareness FAIR workshops

HRB Open Research platform F1000

HRB DORA signatory

HRB-HEI data stewards upskilling, Leiden

Phase I FAIR DMP pilot in HRB funding schemes

National Framework for transitioning to open research published by Irish government

National Integrity Policy Statement

HRB
- Adopted Science Europe RDM guidelines
- FAIR Funders Implementation Study Phase II
- Secondary data analysis awards
- DASSL data linkage PoC award
- Panel Observers

National Open Research Forum (NORF) Phase 2

Irish ORCID Consortium

HRB policy on sharing and managing research data

HRB Open Research Phase 2

FAIR DMP pilot Phase 2: International review of DMPs

HRB national GDPR and national ethics roles (potential for synergies)

Researcher access to Irish COVID-19 Data Hub

EU reform of Research Assessment

EU Joint Action Towards a European Health Data Space

| 2016 | 2017 | 2018 | 2019 | 2020+ |

HRB Strategy 2021-2025

To ensure that HRB funded research can have the **greatest possible impact** by increasing:

- Openness and transparency
- Reproducibility and replicability – research validation
- Acceleration of knowledge and its application - innovation
- Interoperability across different domains and disciplines
- Discoverability and accessibility and (Re)Usability - less research waste

HRB Strategic Objective 3
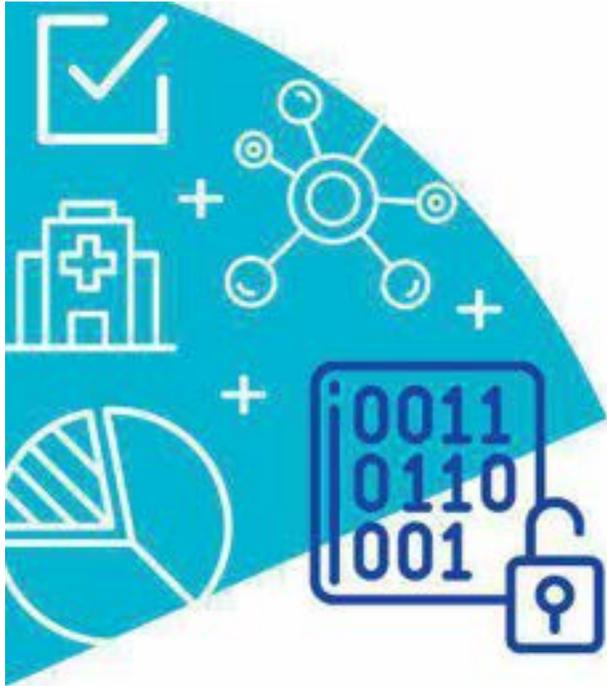
Promote and enable the use of data to shape health policy, enhance healthcare delivery, and drive broader research and innovation initiatives

Trusted data

Strategy
2021–2025

HRB Strategic Objective 3

- National, applied data infrastructure supports research for health, social care and well-being

- An active partner in EU initiatives that support a common European health data space

- HRB's national health information systems support policy, planning, service delivery and research

- HRB data and evidence inform the implementation of the national drugs and alcohol strategies

- Patients, the public, researchers and policy-makers have confidence in the way that health data are used for research

- Health research and data in Ireland is open and FAIR

HRB Research Data Management and Sharing Policy

- Mandated for new Calls from January 2020
- Alignment with FAIR principles
- Unless justification is provided, all underlying data must be made openly available – at a minimum, data that underlies all publications
- All metadata must be made openly available
- DMP requirement:
  - Aligned to Science Europe DMP guidelines;
  - HRB DMP template available on DMP Online;
  - Declaration from Host Institution;
  - Submissions for successful awards – at start and end of award
- Desire to implement at a national level

HRB Open Research

Relevant National and EU Policy Agenda

- European Strategy for Data
- Data Governance Act
- GDPR and e-privacy Directive
- EU Recommendation on EHR exchange format and e-health network
- European Health Data Space
- EU Reference Networks
- One Health Action Plan-AMR
- HERA and pandemic preparedness
- European Open Science Cloud

Healthcare Transformation & Health system strengthening agenda in Ireland

European Strategy for a data-enabled future

Digital Transformation of Healthcare
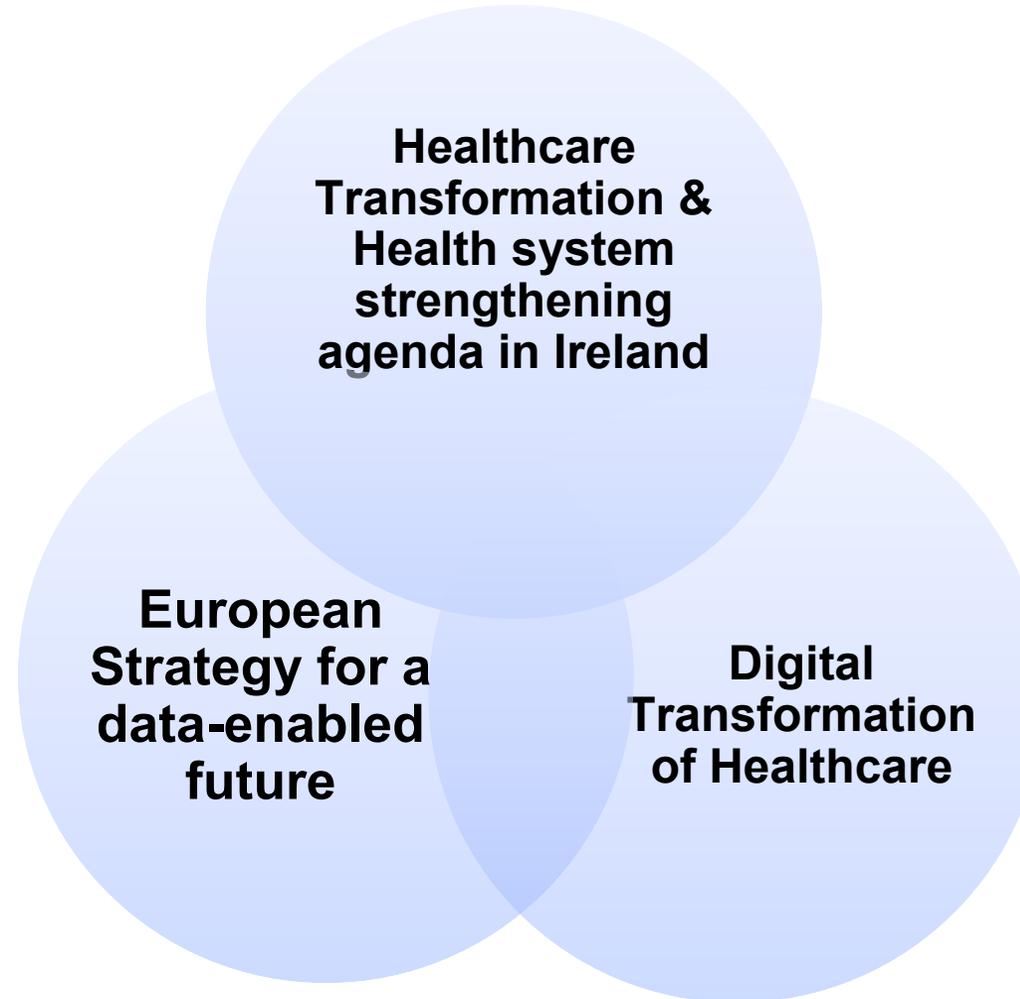
Critical opportunity to bridge otherwise disconnected areas and deliver a modern and trusted health data system in Ireland that can also collaborate in Europe

- Electronic Health records
- Remote Care/telehealth
- Artificial Intelligence
- Personalised Medicine
- Genomic Medicine
- Robotics
- Wearables
- Assisted Living

Progress
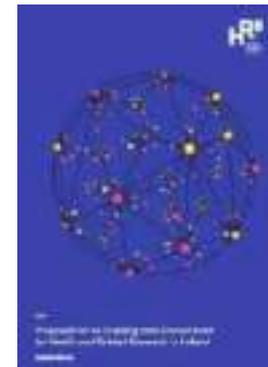
Veronica Cunningham - Marine Instituite

Implementing Open Science policies: perspectives from institutions and funders

- Marine Institute – Marine Data Source
- Marine Institute – Research Performer
- Marine Institute – Research Funder

Implementing Open Science policies: perspectives from institutions and funders

- Marine Data Source & Research Performer – Significant work already undertaken Marine Data Centre, Marine Institute Data Policy and Data Management Quality Management Framework.

- Marine Institute Open Access Repository.

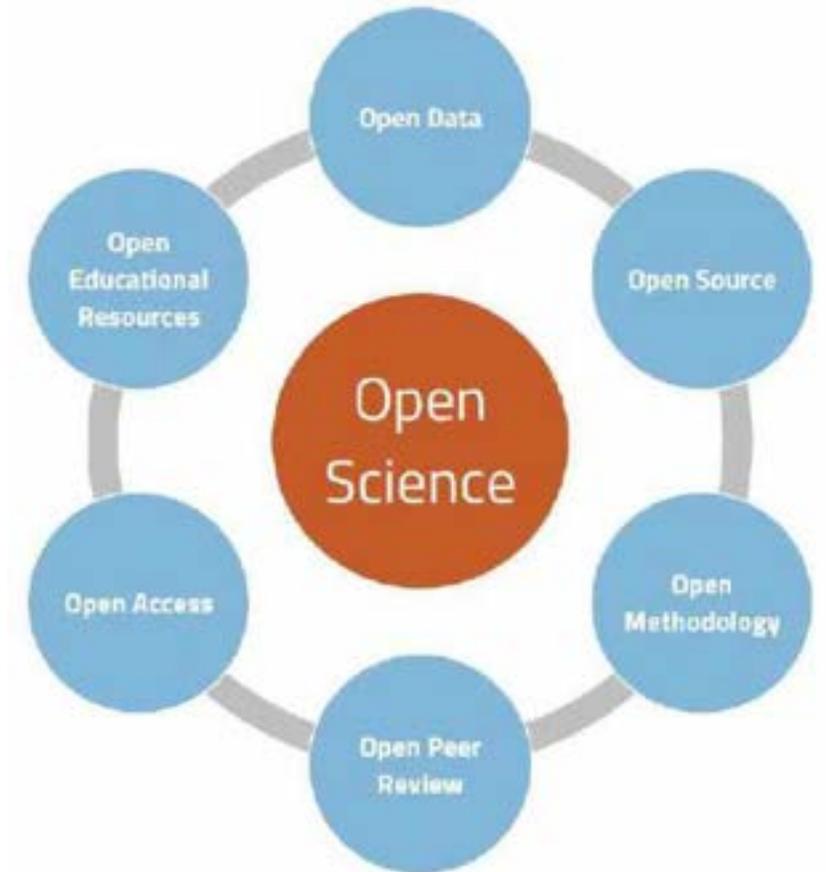- Data Stewards in place for each Service Group.

Implementing Open Science policies: perspectives from institutions and funders

- Research Funder – Outputs from funded research projects accessible via the Marine Institute's [Research Database](). Funding for open access publications provided. Investment in tools e.g. DAMVAD and Scopus from Elsevier (impact tracking).

Implementing Open Science policies: perspectives from institutions and funders

- Challenges – Resourcing (especially for data management staff in current competitive job market), responsibility for legacy project data, costs of long-term storage. Making all aspects open – methodologies and peer review.

- Planned Improvements – Working on improving the functionality of current databases. Core Trust Seal Accreditation (trustworthy data repositories).

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