European Commission

The European Open Science Cloud

First ESCAPE Progress Meeting

26-27 February 2020

DG RTD G.4
Open Science

DG CNECT C.1
eInfrastructure and Science Cloud

The role of the European Open Science Cloud (EOSC) is to ensure that **European scientists reap the full benefits of data-driven science**, by offering:

1.9 million *European researchers and* *70 million* *professionals in science and technology a* ***trusted open distributed environment*** *providing seamless access to data and interoperable services addressing the whole research data life cycle.*

The development of the EOSC realises EU policy objectives including Open Science, FAIR data implementation and the Digital Single Market

European Commission

What is EOSC?

Trusted digital platform

FAIR (Findable, Accessible, Interoperable Reusable) standards

Innovative services

Universal gateway

Federation

User-oriented

Across borders

EOSC

Rules for participation

Seamless access

Cross-disciplinary research

Why EOSC?

Enabler for Open Science

Enable interdisciplinary research to address societal challenges

Offer researchers anywhere in the EU the ressources they need

Reduce fragmentation by federating existing Research Infrastructures

Stimulate the emergence of a competitive EU cloud sector

Develop an internet of FAIR digital objects (including publications and SW)

Give Europe a global lead in research data management

European Commission

EOSC today

EOSC in numbers

1.9 **million**
researchers and
70 million
professionals
will benefit from EOSC

€ 250 million
in 2018-2020
(Horizon 2020)

>30 core EU-funded
projects implementing
EOSC

The **EOSC implementation roadmap** , published in 2018 by the Commission, addresses the implementation of EOSC under six action lines:

| Data interoperability, FAIR standards | Federation of public research infrastructures | Provision of innovative services (incl. commercial) | Access and interface EOSC portal | Governance | Rules for Participation |
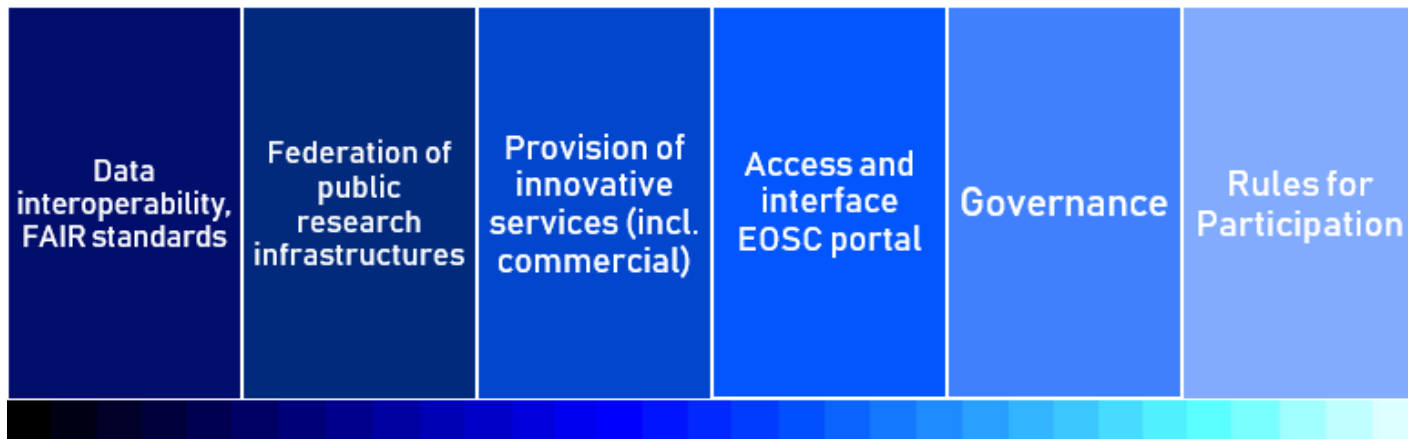
EOSC Reference Documents

2015

2016

2017

2018

2015

Council conclusions on open, data-intensive and networked research as a driver for faster and wider innovation
ST 9360 2015 INIT

A Digital Single Market Strategy for Europe
COM(2015) 192 final

2016

Council Conclusions on the transition towards an open science system
ST 9526 2016 INIT

Realising the European Open Science Cloud

European Cloud Initiative
COM(2016) 178 final

2017

EP resolution on the European Cloud initiative supporting EOSC
P8_TA(2017)0052

EOSC Declaration

OSPP – Report on the governance and financial schemes for the European Open Science Cloud

2018

Council Conclusions Accelerating knowledge circulation in the EU
ST 9291 2018 INIT

Council Conclusions on EOSC
ST 9291 2018 INIT

The European Open Science Cloud Governance model

Prompting an EOSC in practice

Cost-benefit analysis for FAIR research data. Policy recommendations

Turning FAIR into reality

OSPP recommendations

Implementation Roadmap for the EOSC
SWD(2018) 83 final

Set up the EB Expert Group
C(2018) 5552 final

Horizon 2020 Work Programme 2018–2020 on European research infrastructures
C(2018) 7238

EC Recommendation on access to and preservation of scientific information
L 134/12 2018

- Council and EP
- Experts
- Commission

Governance Structure

a Governance Board

- Consists of Representatives from all 28 Member States , 10 associated countries and the European Commission who jointly decide the future of the EOSC and steer its implementation.
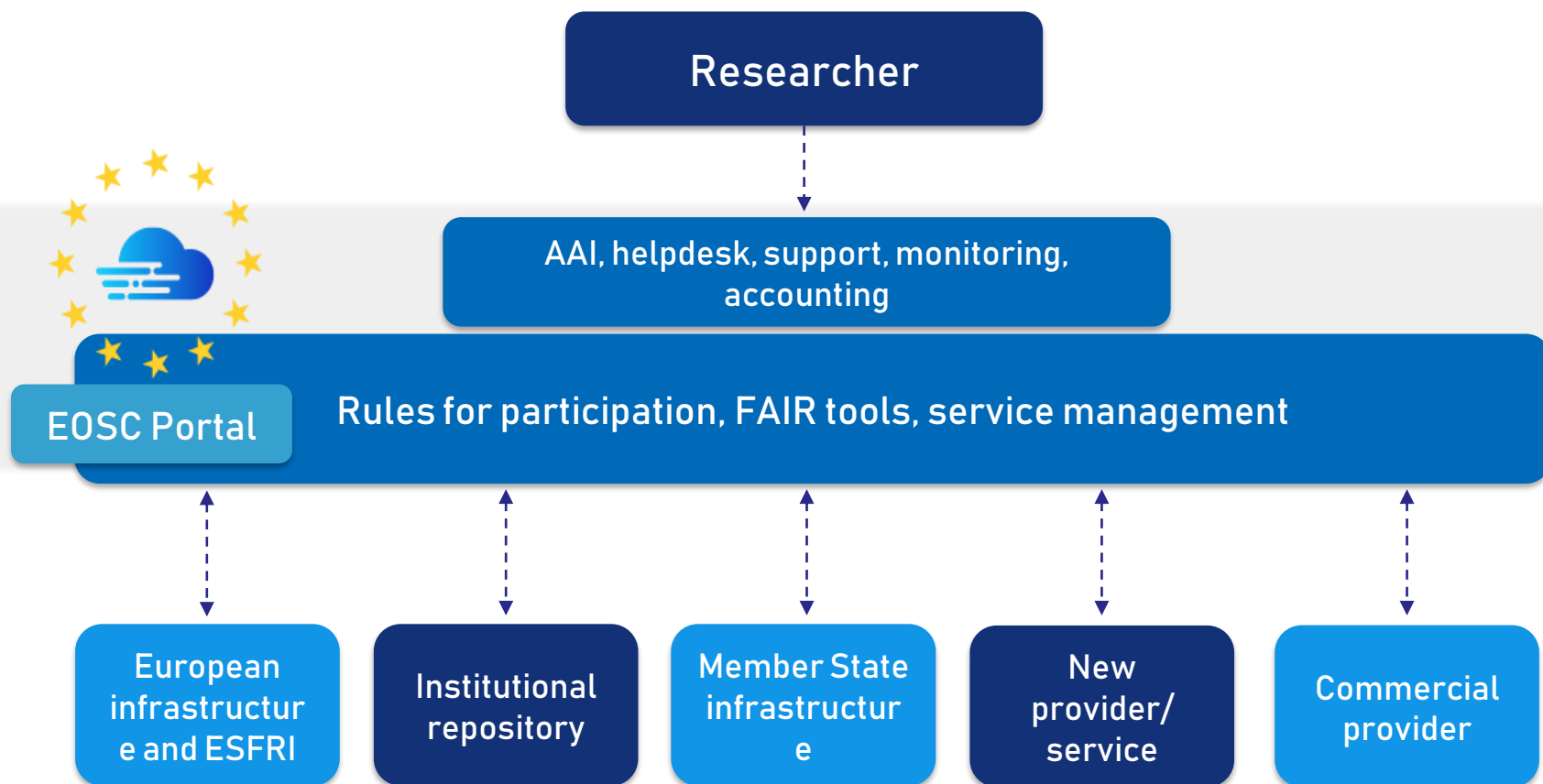
an Executive Board

- Consists of experts from key European research and eInfrastructures communities who advise on the EOSC's implementation and the way forward.
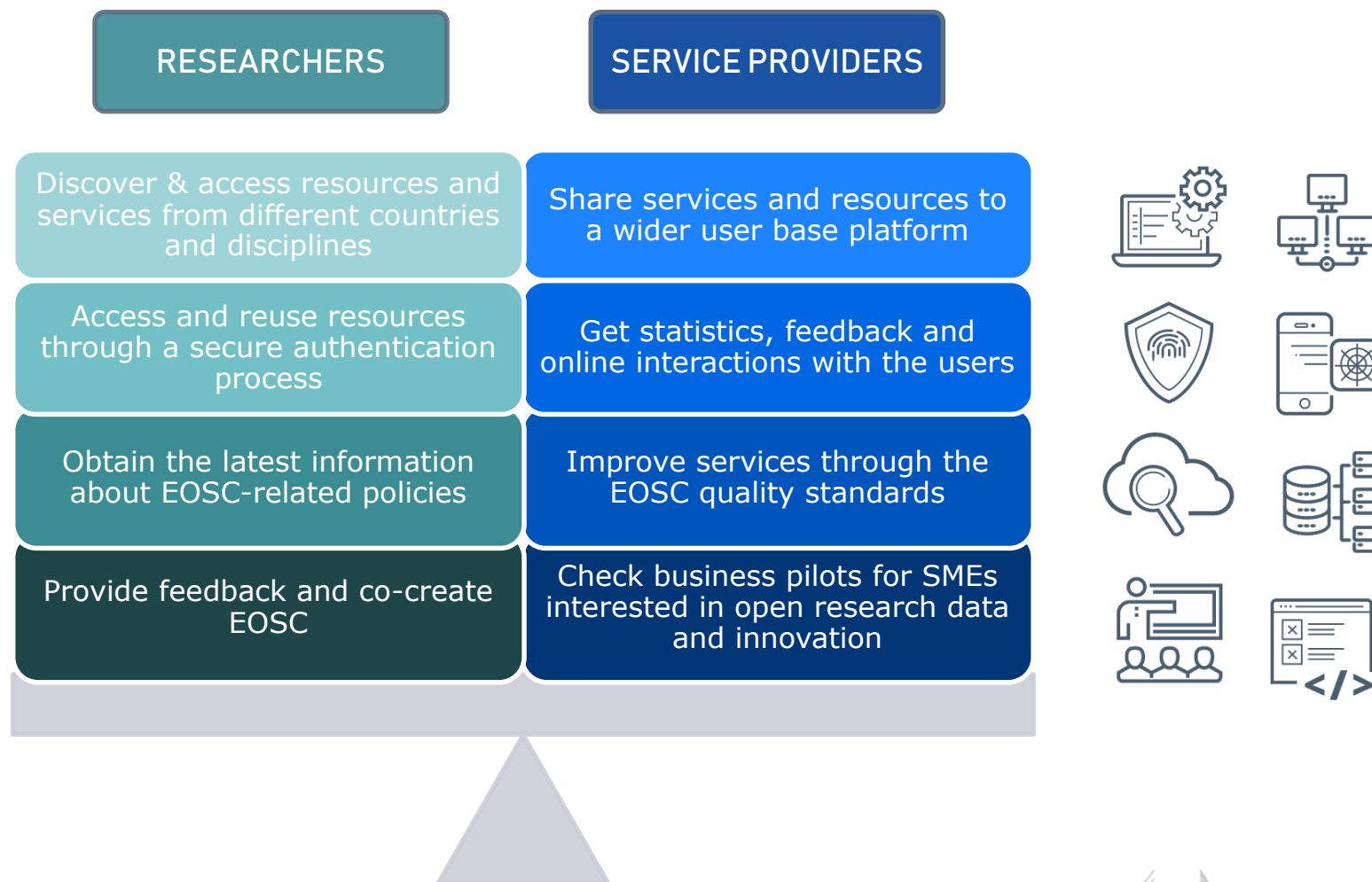
a Stakeholders Forum

- Gives voice to the wider community of users, service providers, industry and the public sector to contribute to the EOSC implementation.
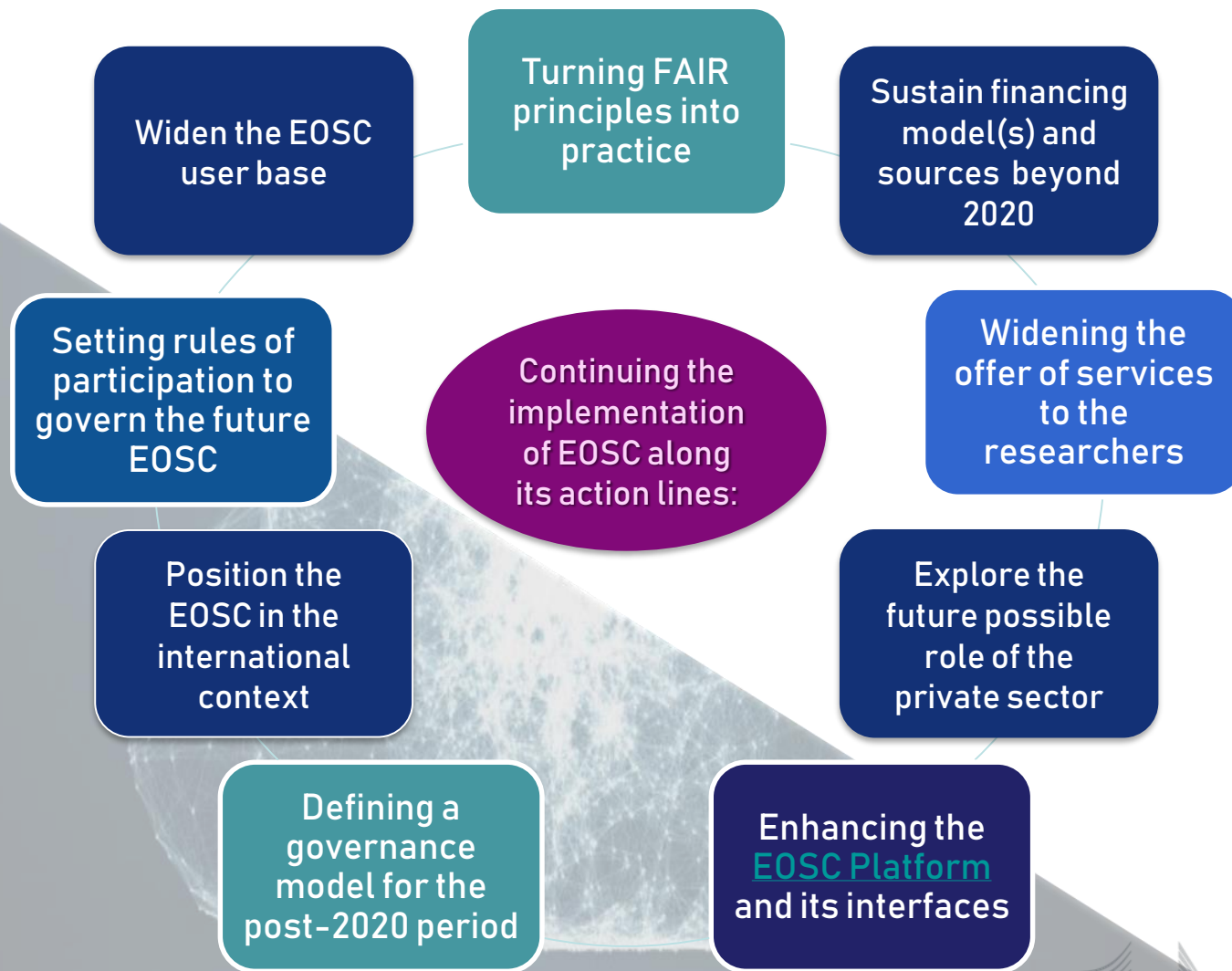
EOSC portal: a universal gateway to EOSC services

Researcher

AAI, helpdesk, support, monitoring, accounting

EOSC Portal

Rules for participation, FAIR tools, service management

European infrastructure and ESFRI	Institutional repository	Member State infrastructure	New provider/ service	Commercial provider

European Commission

EOSC portal: a universal gateway to EOSC services

RESEARCHERS	SERVICE PROVIDERS
Discover & access resources and services from different countries and disciplines	Share services and resources to a wider user base platform
Access and reuse resources through a secure authentication process	Get statistics, feedback and online interactions with the users
Obtain the latest information about EOSC-related policies	Improve services through the EOSC quality standards
Provide feedback and co-create EOSC	Check business pilots for SMEs interested in open research data and innovation

European Commission

EOSC next steps

Widen the EOSC user base

Turning FAIR principles into practice

Sustain financing model(s) and sources beyond 2020

Setting rules of participation to govern the future EOSC

Continuing the implementation of EOSC along its action lines:

Widening the offer of services to the researchers

Position the EOSC in the international context

Explore the future possible role of the private sector

Defining a governance model for the post–2020 period

Enhancing the EOSC Platform and its interfaces

European Commission

EOSC Working Groups

EOSCRoP — Executive Board Working Group

Designing the Rules of Partici[...]
that shall define the rights, ob[...]
governing EOSC transactions [...]
EOSC users, providers and ope[...]

Chair
Juan Bicarregui

Main Objectives:

recommending a minimal set of clear Rules [...]
Participation that shall define the rights, obl[...]
accountability governing all EOSC transactio[...]
various EOSC users, providers and operators.

Embrace the principles of openness, transpa[...]
inclusiveness, guaranteeing an open, secure [...]
effective federated EOSC with services of do[...]
quality.

Setting general principles for:

- the use of the tools, specifications, catalog[...]
  standarids and applicable methodologies
- the principles for regulating transactions
- the applicable legal frameworks.

Apply differnt rules to different EOSC partici[...]
depending on their maturity and role (provic[...]
users, scientists or innovators), location (Euro[...]
global research partners), and would need to[...]
specificities of different scientific disciplines.

Milestones

- Q3 2019: Initial EOSC Rules of Participatior[...]
- Q3 2020: Final EOSC Rules of Participatior[...]

EOSCArchitect[...] — Executive Board Working Group

Defining the technical framework [...]
required to enable and sustain an [...]
evolving EOSC federation of syster[...]

Chair
Jean-François Abramatic

Main Objectives:

Propose the technical framework required to enab[...]
sustain an evolving EOSC federation of systems.

Provide an in-depth independent review of the cur[...]
offering and the required evolution of the EOSC te[...]
architecture, its standards and best practices.

Comprise a federating core and a variety of federat[...]
research data infrastructures committed to provid[...]
services as part of the EOSC.

Federating data infrastructures at the European le[...]
offering shared services (e.g. EGI, EUDAT, ELIXIR, EI[...]
etc.).

Milestones

Overall Milestones:
- Q4 2019: Initial EOSC ederating core in place
- Q4 2019: Registry of data infrastructures of the I[...] (initial)
- Q2 2020: Preliminary connection of most infrastructures and services to the EOSC

Services Milestones:
- Q4 2018: Initial EOSC Catalogue of services acce[...] prototype EOSC Portal accessible
- Q4 2019: Updated EOSC Catalogue of services &[...] Portal
- Q2 2019: Initial EOSC Catalogue of datasets acce[...]

EOSCLandscape — Executive Board Working Group

Mapping of the existing research
infrastructures in Europe which are
candidates to be part of the EOSC
federation

Chair
Jan Hrusak

Main Objectives:

Mapping EOSC-relevant national infrastructures
highlighting the current level of spending on research
data infrastructures.

Monitoring constraints and opportunities

at the various architectural levels, arising from national
and regional structures and initiatives.

Facilitate convergence and alignment between European,
national and regional structures and initiatives.

Facilitate convergence and alignment between European,
national and regional structures and initiatives.

Milestones

- Q4 2019: Draft of the analysis presented to the EB
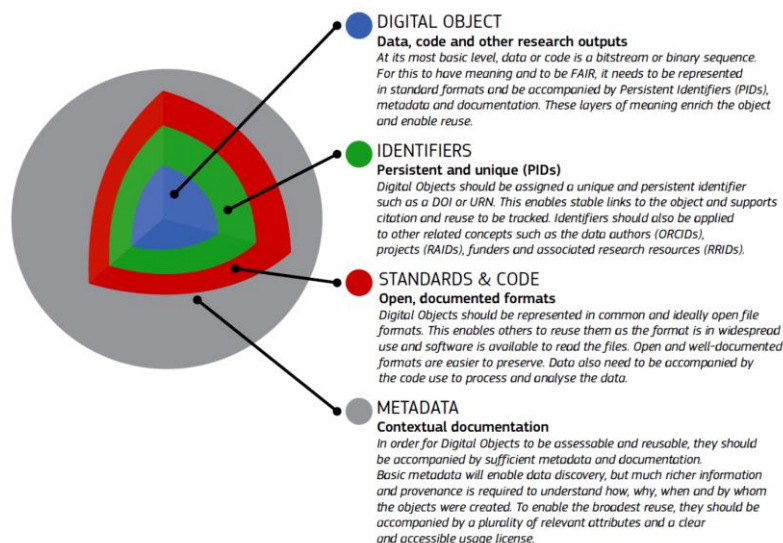- Q3 2020: Report presented to the EB

released

https://www.eoscsecretariat.eu/sites/default/files/eoscsec_wgs_flyer_v3.pdf

EOSC Strategic Implementation Plan

EOSC Workplan

- FAIR Digital Objects concept – central to the realization of FAIR need to be in place for data to be FAIR)

- Community-led effort

TURNING FAIR INTO REALITY

2018

https://doi.org/10.2777/1524

- Timeline of developments since 1995 (DO Architecture first proposed by Kahn and Wilenski): conceptualization, design and implementation (recently involving RDA GEDE Working Group)

- New RDA Interest Group on FAIR Digital Objects

- At present, Task Forces within the Architecture and FAIR Working Groups of the EOSC Executive Board are working on a PID policy, FAIR metrics, repository certification, AAI protocols, common APIs and the overall EOSC Architecture.

- EOSC Interoperability Framework is jointly being designed (Architecture and FAIR WGs) which will specify base level requirements for semantic, legal, technical and organisational interoperability.

- Draft recommendations for consultation:

  - Initial Persistent Identifier (PID) policy– joint effort by FAIR and Architecture WGs; released in December 2019 for community feedback and comment

  - Interim recommendations for FAIR metrics and service certification to apply within EOSC: FAIR metrics for EOSC and EOSC service certification– outlining plans in terms of FAIR metrics for digital objects and certification frameworks for repositories and other services that enable FAIR.

Engagement with EOSC

- Liaise with ESFRI Secretariat (managed by the Commission) in relation to EOSC and ESFRI
- Contribute with community feedback and review e.g. FAIR WG PID Policy, Metrics and Certification; Rules of participation ; Landscape analysis (Validation workshop 23-24 March 2020, Brussels)
- Contribute to the work in the EB WGs e.g. ESCAPE participates in the Architecture WG (Kay Graf, Simone Campana)
- Public consultation on EOSC Strategic and Innovation Agenda (SRIA)- summer 2020
- Apply to EOSC Secretariat.eu co-creation calls
- Join us at the next events E.g. EOSC Symposium 2020 (tentative October 2020)

Thank you!