



**EUROPEAN OPEN
SCIENCE CLOUD**

Co-creating a sustainable EOSC

**Outcomes from the
EOSC Consultation Day**

**Co-located with
EOSC-hub Week 2020**



**JUNE
2020**

EOSC Executive Board, May 2020

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Cathrin STÖVER: Executive Board Co-Chair, GÉANT Representative

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The [EOSC Consultation Day](#) took place in May and was co-located with the [EOSC-Hub week 2020](#). Held at the height of the COVID-19 pandemic, the event was delivered online with 600 people from around Europe tuning in and joining in on the interactive discussions held in the various break-out sessions.

The event was an opportunity for community engagement on the work of the [EOSC Executive Board](#) and its [Working Groups](#). The EB forms an important part of the EOSC interim governance which with the [EOSC Governance Board](#) have worked tirelessly over the last 17 months to address a series of strategic challenges on how to implement the EOSC.

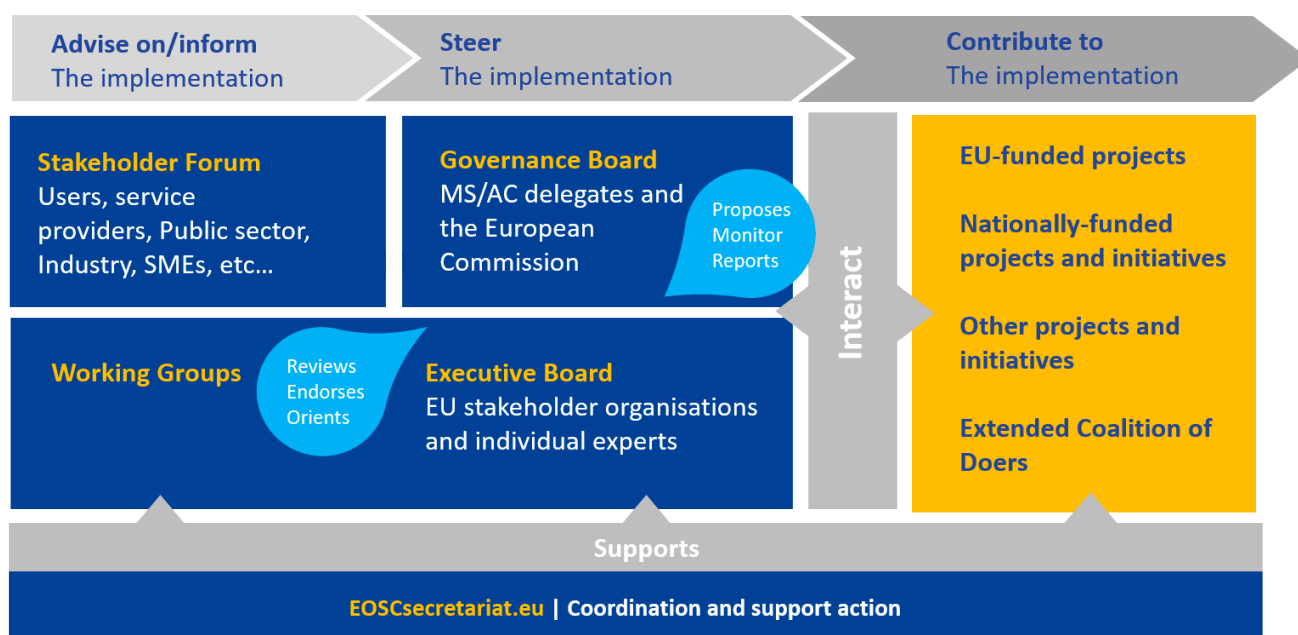
The EOSC interim governance will come to an end at the end of 2020 and the recommendations provided by will be put into place with the establishment of an EOSC Association. This landmark moment coincides with the beginning of the Horizon Europe programme which will be key in the next implementation phase of the EOSC.

A large focus of work to date has therefore been on the EOSC partnership proposal which

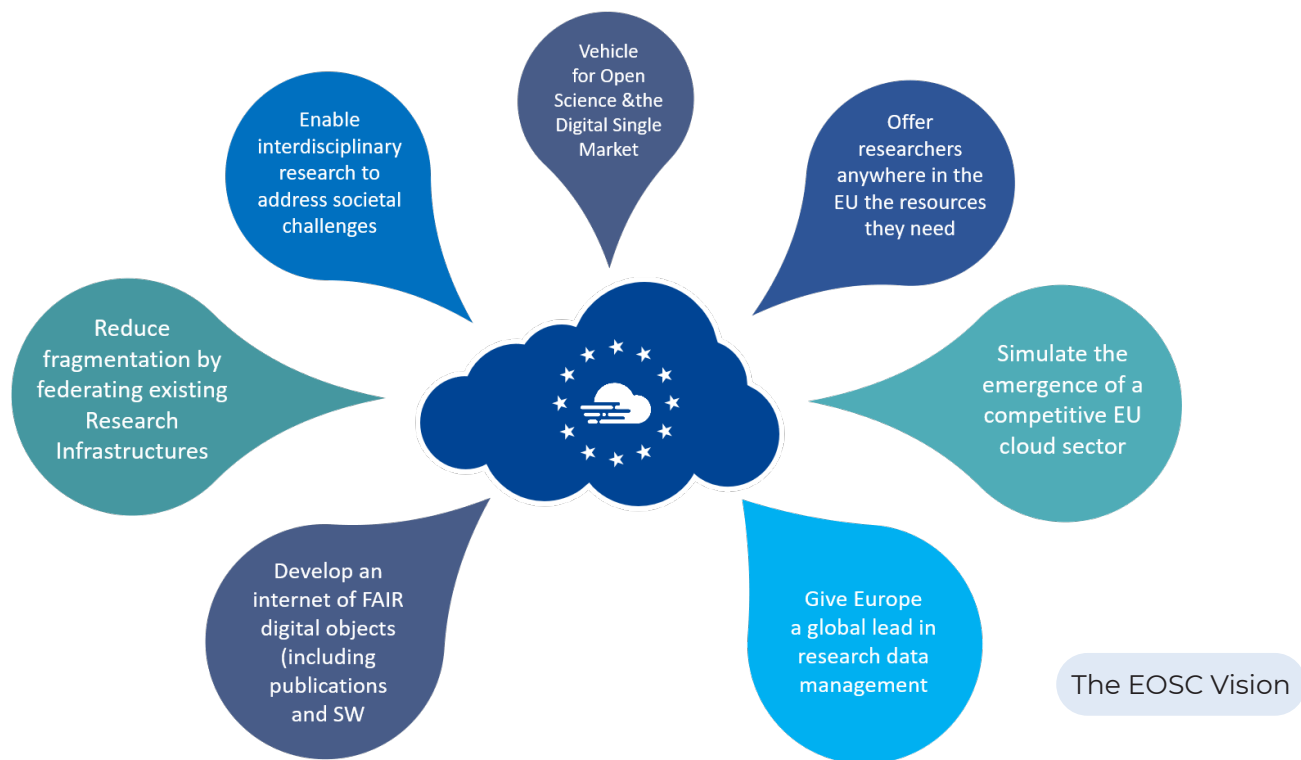
brings the EOSC governance towards a co-programmed partnership under Horizon Europe (Download here the EOSC partnership proposal: ec.europa.eu/digital-single-market/en/news/eosc-beyond-2020-next-steps).

With 49 partnerships being developed for Horizon Europe, the EOSC is the only partnership being proposed under Horizon Europe that addresses the 3 main goals of Horizon Europe: Better science, societal challenges and innovation. It's this integrating factor in the rise of the digital age that makes EOSC such a cross pillar partnership.

However, Karel Luyben (CESAER, co-chair of the EOSC Executive Board) remarked that beyond the EOSC Association, the real EOSC remains the EOSC ecosystem of federated data that belongs to everyone. This cannot be bought, sold or owned. The EOSC can be compared to the World Wide Web and will have real value once services are built on it.



EOSC Governance structure



Sustainability

For the consolidation of EOSC in the scientific research world, an EOSC legal entity must be established by the end of the year (when the current mandate of the interim governance comes to an end). Rupert Lueck (EMBL, co-chair of the EOSC Sustainability WG) and Lidia Borrell-Damian (Science Europe, co-chair of the EOSC Sustainability WG) with the support of the Sustainability WG have been working on this aspect as part of the Iron Lady version of the Sustainability plan ([join the EOSC Liaison Platform](#) to have access to the earlier [“Tinman” version of the document](#)). The legal entity will be in the form of an Association (International not-for-profit Association (AISBL) under Belgian law). Its role will be to develop and govern the federating core, manage the compliance framework, manage trusted certification, manage the AAI, manage PID policies, develop outreach, monitor services and transactions, manage EOSC trademarks, and contribute to Horizon Europe policies. The statutes for the EOSC Association have been drafted by the WG and are being reviewed by the governance structures.

The EOSC will be a co-programmed partnership. Firstly, with a bi-partite agreement with the European Commission and secondly through a partnership board formed by the representatives from Member State and Associated Countries, the EC and the Executive board of the Association.

With questions around the future sustainability of the EOSC Association, Rupert Lueck highlighted that 2 studies are being carried out on Business models. The first will be published in Summer 2020 and is establishing the costs of the MVE which are associated with services with input coming from the Research Infrastructures. A second study to be published in November 2020 will address the financial lines that could be used to finance the EOSC Association.

Finally, given the federated nature of the EOSC and its services, coordination of the different stakeholders is a key job of the future Association.

For further information about the EOSC Association and how to become a member please read the latest blog from Cathrin Stover (GÉANT, EOSC Executive Board co-chair) “Establishing the EOSC legal entity” www.eoscsecretariat.eu/news-opinion/establishing-eosc-legal-entity.

The Strategic Research and Innovation Agenda (SRIA)

A key role of the eventual Association will be the evolution of the SRIA. The objective of the SRIA is to create a single reference document that can be accessed by all stakeholders including representatives from the EC, infrastructures, funding agencies and science, explains Jean-Francois Abramatic (INRIA, EOSC Architecture WG Chair). The document which will evolve over time will focus on a number of key features such as the main values and principles, technical and societal challenges and expected impacts. Importantly, it will also chart a course for the future with a multi-annual roadmap. An initial draft of the document is now underway with open consultation planned to be happening over the late summer.

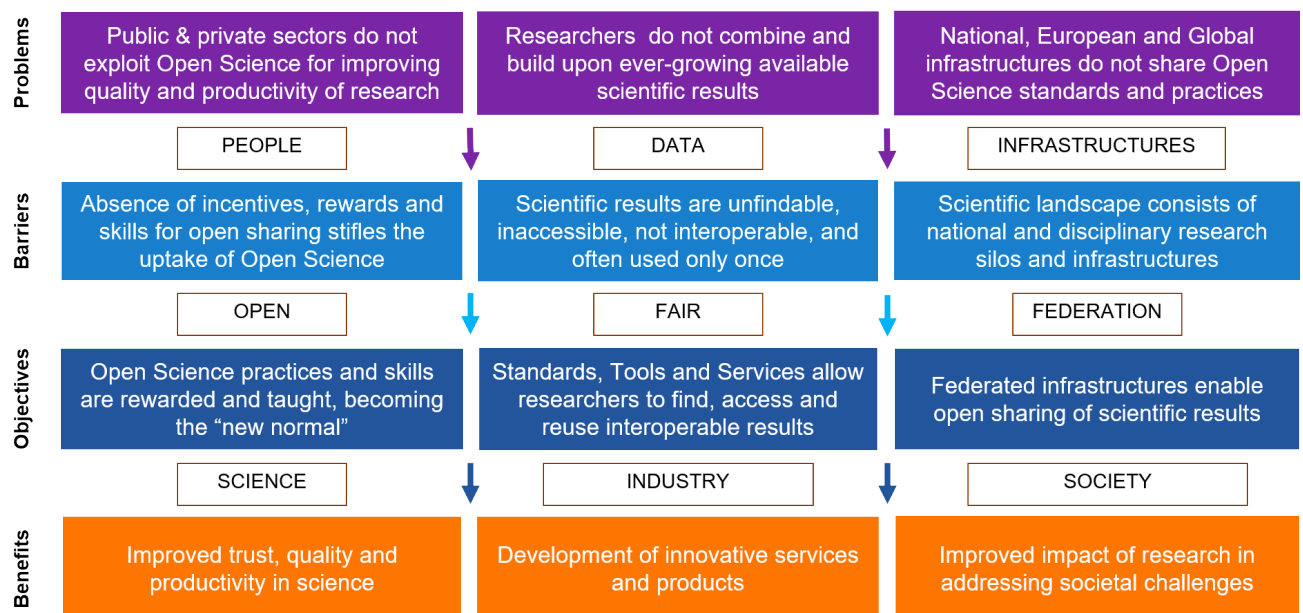
Much discussion at the event was also focused on defining what the Minimal Viable EOSC will be. The Tinman document published by the Sustainability WG states that the EOSC MVE will “enable the federation of research data infrastructures for the benefit of publicly funded researchers accessing openly available data. The EOSC-core provides the means to discover,

share, access and re-use data and services. This requires the following elements:

- A mechanism for naming and locating data and services
- A mechanism for discovery of and access to data and services
- A common framework for managing user identity and access.

These provide the starting point for EOSC, the foundation on which value-added services can be created”. Karel Luyben, co-chair of the EOSC EB, highlighted that this core provides the means to discover, share, access and re-use data and initial services while it will not initially store, transport or process data.

With the establishment of the EOSC Association and a clear sustainability plan implanted, EOSC will progress with services built on top of this core. Karel proposed second and third iterations of the EOSC which could come by 2024. Extensions are envisioned to serve public sector and industry and ideally one marketplace would exist. With growing users and providers, differing requirements and legislations may



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The EOSC SRIA will cover all possible aspect of the European Open Science Cloud, always taking into consideration its main objectives (as shown above). It will serve as a single reference document, to be updated over time.

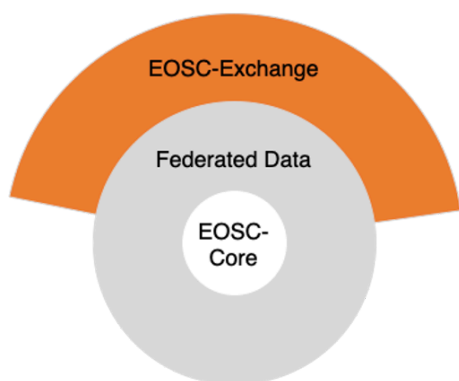
need to be linked with alternately governed spaces.

2024 has also been suggested as a date for when commercial service providers could join the EOSC to kick-off the so called “EOSC Exchange” as per Tinman report.

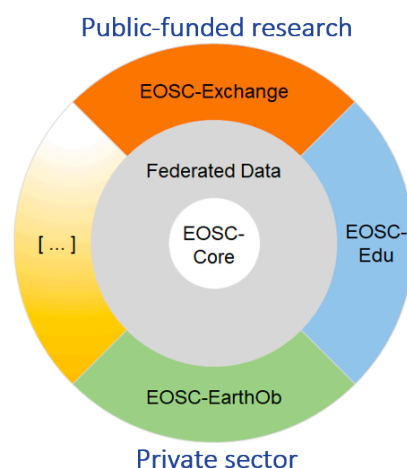
The [draft EOSC Interoperability Framework](#), which is now [open for comment](#), was also presented by Oscar Corcho (Universidad Politécnica de Madrid, EOSC FAIR WG Member).

It identifies general principles and organises them into the four layers: technical, semantic, organisational and legal. The framework also contains a proposal for how the management of FAIR Digital Objects should be done in the context of EOSC.

Minimum Viable EOSC (MVE)



Maximum Valuable EOSC ☺



Minimum Viable EOSC (MVE), from the Tinman report “Solutions for a Sustainable EOSC”, EOSC Sustainability WG. The diagram shows the transition from an initial Minimum Viable EOSC towards the Maximum Valuable EOSC and its additional components.

Authentication and Authorisation Infrastructure (AAI)

The Authentication and Authorisation Infrastructure session was chaired by Christos Kanellopoulos (GÉANT). The AAI will establish a common global ecosystem to identity and access control infrastructures for the European Open Science Cloud. The federated nature of the EOSC means that the EOSC AAI is a set of principles and governance structures for how the architecture evolves and grows over time. The objective is to provide an open and fair playing field for service delivery to the scientific

community. The starting point of the AAI is the [AARC Blueprint](#) which was first drafted in November 2019. The AARC Blueprint builds on existing practice used within the scientific community and provides a clear guidance on how campus identity integrates with science. The AAI task Force is investigating the gaps and challenges that need to be addressed during the upcoming months. This includes: community attributes and authorisation, multi-infrastructure workflows and scalability.

Persistent Identifier (PID) policy for the European Open Science Cloud (EOSC)

The [second version of the PID policy](#) was recently published by the FAIR and Architecture WGs and presented by Brian Matthews (UKRI-STFC, EOSC Architecture WG member), Rachael Kotarski (British Library, EOSC FAIR WG member), and Anders Conrad (DeiC, EOSC FAIR WG member). The PID is written for decision makers within potential EOSC service and infrastructure providers.

The PID policy targets senior decision makers and sets basic requirements for providers and the basic services they should offer. As an essential element of the EOSC MVE, it is designed to effect a sustainable trusted PID infrastructure that is suitable for the long-term sustainability for the EOSC. The PID policy is also designed to accommodate the wide range of use cases that the EOSC should cater for and

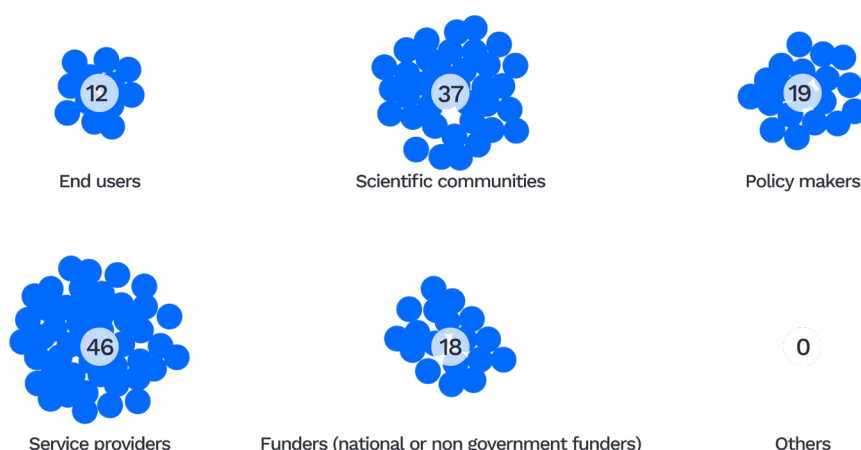
also the variety of PID practices and suppliers, by remaining balanced and not favoring one approach, technology or provider over the other as long as they fulfil the requirements and adhere to the policy. Questions later in the final session focussed on the importance of keeping EOSC modular and avoiding putting AAI in a PID system. It is clear that not all data, such as sensitive data, can be openly accessed. Design of the PID functions are though at an early stage and access controls are required and this is an area that will be covered in the work of the AAI and referenced in the PID systems.

Governance, maintenance and sustainability of metrics and PIDs

In an earlier and extremely interactive session chaired by Sarah Jones (DCC, EOSC FAIR WG Chair), Francoise Genova (CNRS, EOSC FAIR WG co-chair) and Rachael Kotarski (British Library, EOSC FAIR WG member), the governance, maintenance and sustainability of the PID policies and metrics of the EOSC was discussed. The audience has been consulted to understand how to consolidate and validate the [Second draft Persistent Identifier \(PID\)](#) policy for EOSC, recently released by the FAIR WG: which are the stakeholders that must be consulted (publishers and libraries were mentioned among those that should be taken into account), what kind of information is missing

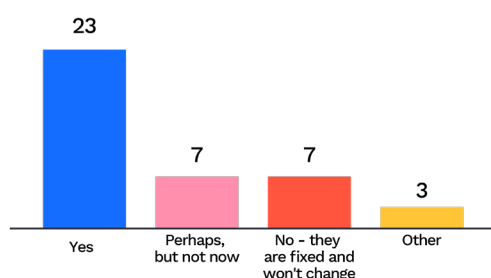
and how this can be collected (the WG seems to be the most appropriate instrument therefore Sarah Jones, chair of the FAIR WG, reminded participants [how to become part of the WGs](#)). The discussion then focused on which bodies should be in charge of maintaining the PID policies and metrics going forward: [RDA](#), [W3C](#), the [DONA foundation](#), the EOSC Association were indicated as the best candidates and the audience remarked the need for independent and inclusive bodies. How the governance of FAIR principle has to be structured was also discussed with consensus reached that the FAIR principles need to be governed and that this should be better done at international level.

Which stakeholders need to be consulted to review the PID policy and FAIR metrics?



Consultation with attendees over the stakeholders to be consulted to review PID Policy and FAIR Metrics resulted in a preference towards Service providers and Scientific communities. Among other questions, participants agreed on a need for FAIR principles to be governed.

Do the FAIR principles need to be governed?



Rules of Participation (RoP)

Trust is an essential element of the EOSC and the Rules of Participation are key if users are to trust the system. Juan Bicarregui (Research Data Alliance - RDA, STFC and Rules of Participation (RoP) WG Chair), remarked that the EOSC Rules of Participation will embrace the principles of openness, transparency and inclusiveness. They will also guarantee an open, secure and cost-effective federated EOSC with services of documented quality.

With 2 public consultations of the RoP already completed, the WG is preparing a third version which will be put up for consultation by June-August, 2020.

Discussions focussed on the need for easy but enforceable compliance. Indeed, clear procedures need to be in place in order to deal with rule violations. While measurable criteria to evaluate compliance was also recommended, it was also highlighted that enforcement of RoP should be expected as the EOSC matures.

One consideration that came to the fore was that FAIR is by no means the only measure

of quality assessment as it can fit poorly for many services. Therefore, a balance needs to be reached on this aspect as well. Finally, to encourage engagement, minimum standards for participation are essential but must be inclusive. Indeed, care needs to be taken to ensure that the RoP are inclusive and ways to encourage compliance and guarantee trustworthiness of rules should be explored by the group.

A question was raised in the closing session regarding aggregating metadata at national level or thematic repository level. Sarah Jones stressed that EOSC is a federation of catalogues or a catalogue of catalogues. Country-wide or thematic catalogues would be aggregated in the EOSC. Juan Bicarregui added that there will be a subsidiary approach where individual infrastructures, eInfrastructures and projects will have a fair deal of autonomy about how they will be able to bring in their services into the EOSC and will be able to set their own terms of use.

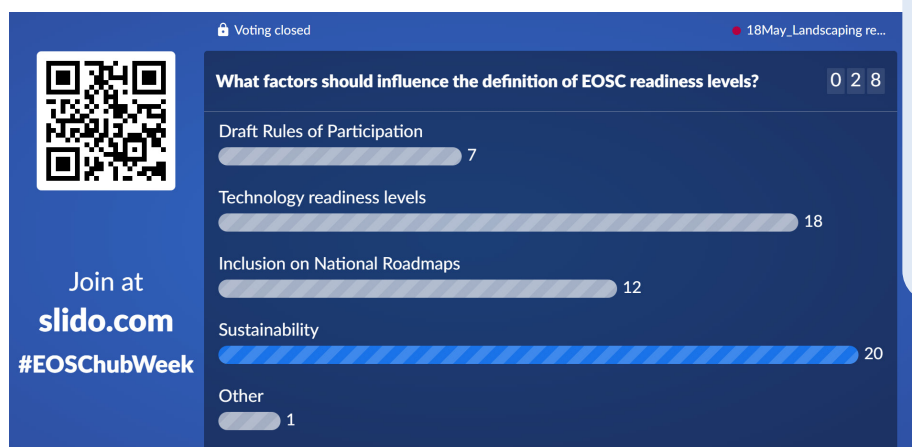
Landscape

Jan Hrusak (ESFRI Chair, EOSC Landscape WG co-chair) and John Womersley (European Spallation Source ERIC, EOSC Landscape WG co-chair) and Joy Davidson (DCC) updated the community on the work of the [Landscape WG](#) and in particular the Landscape report which is being updated iteratively based on a recent validation mainly involved representatives of the EOSC Governing Board and of the EOSC [regional](#) and [cluster](#) projects.

The EOSC Landscape report provides a comprehensive picture of the current state of EOSC across Europe to help better understand of gaps and future actions and directions needed. It is a **living document** with links and references enabling the reader to follow

development that should be sustained by the EOSC Association and become a live EOSC landscape compendium or dashboard.

A third edition of the report is being finalised to include National approaches to EOSC and preparedness of Members States for EOSC Implementation. The aim is to explore the diversity of countries and highlight good practise examples in MS and AC in an informative way. Joy Davidson from DCC pointed out that there is currently no framework on how to assess MS EOSC Readiness. Therefore, having a set of questions will help with how this will be addressed in the analytical part of the Landscape report. This will feed into the final version of the report.



Skills & Training

The newly formed [Skills and Training WG](#) was presented by Natalia Manola (OpenAIRE, EOSC Skills & Training WG Chair), Vinciane Gaillard (EUA, EOSC Skills & Training WG co-chair) and Iryna Kuchma (EIFL, EOSC Skills & Training WG rapporteur). It looks at establishing a skills development framework and identifying and prioritizing open science and digital skill

sets for EOSC. This will target researchers – for open science and RDM practices, service providers – for providing their services to EOSC – and policy makers – on how to align with open science and data policies. The WG is based on four Task forces which presented objectives and updated on progress.

The newly formed EOSC Skills & Training Working Group, took the occasion of the EOSC Consultation Day to present its 4 Task Forces.



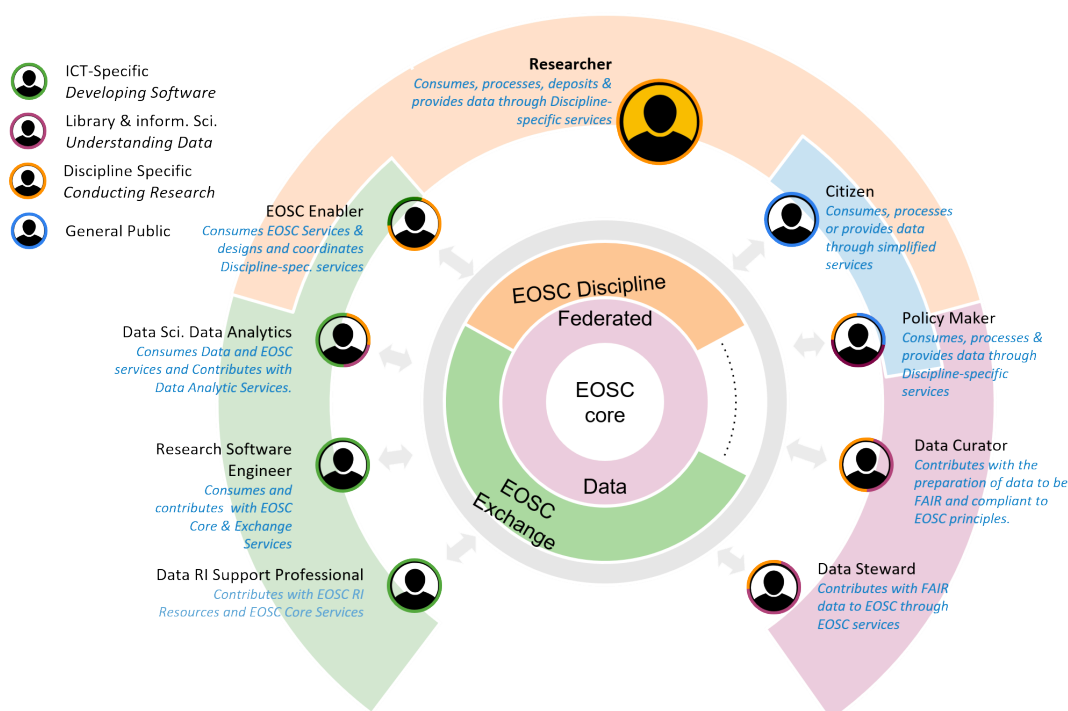
The **Minimal EOSC Skill set Task Force** will establish a skills development framework, and identify and prioritize open science and digital skill sets for EOSC, targeting researchers (for open science and RDM practices), service providers (for providing their services to EOSC), and policy makers (on how to align with open science and data policies).

The **Competence Centers Task Force** is outlining organizational models for the training and skills elements of the Research Infrastructures, national and institutional competence centers targeting professional groups that support researchers in the

stewardship of research outputs, EOSC-service providers, trainers and researchers – EOSC-users.

The **EOSC in National Strategies for Digital Skills Task Force** is working on scoping a report on how EOSC skills – FAIR data and data intensive science – and EU Digital Skills Agenda – integral components of the digital workforce – fit in wider national policies and strategies.

Lastly, a more recent **Task Force** is working on **Specifications for Training Catalogues**, building on the recommendations from the workshop report “[Training in the EOSC](#)”.

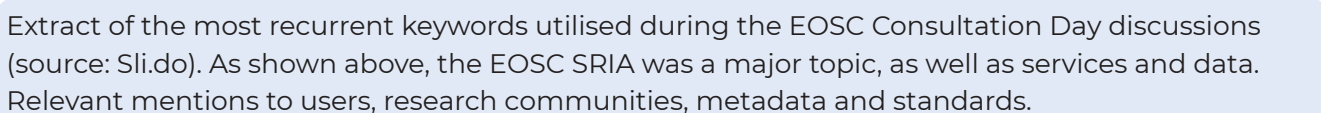


A draft diagram to improve the visibility of the EOSC users system, with specific training needs, of e.g. different scientific communities, individual researchers and institutions was introduced for the first time and discussed at the EOSC Consultation Day.

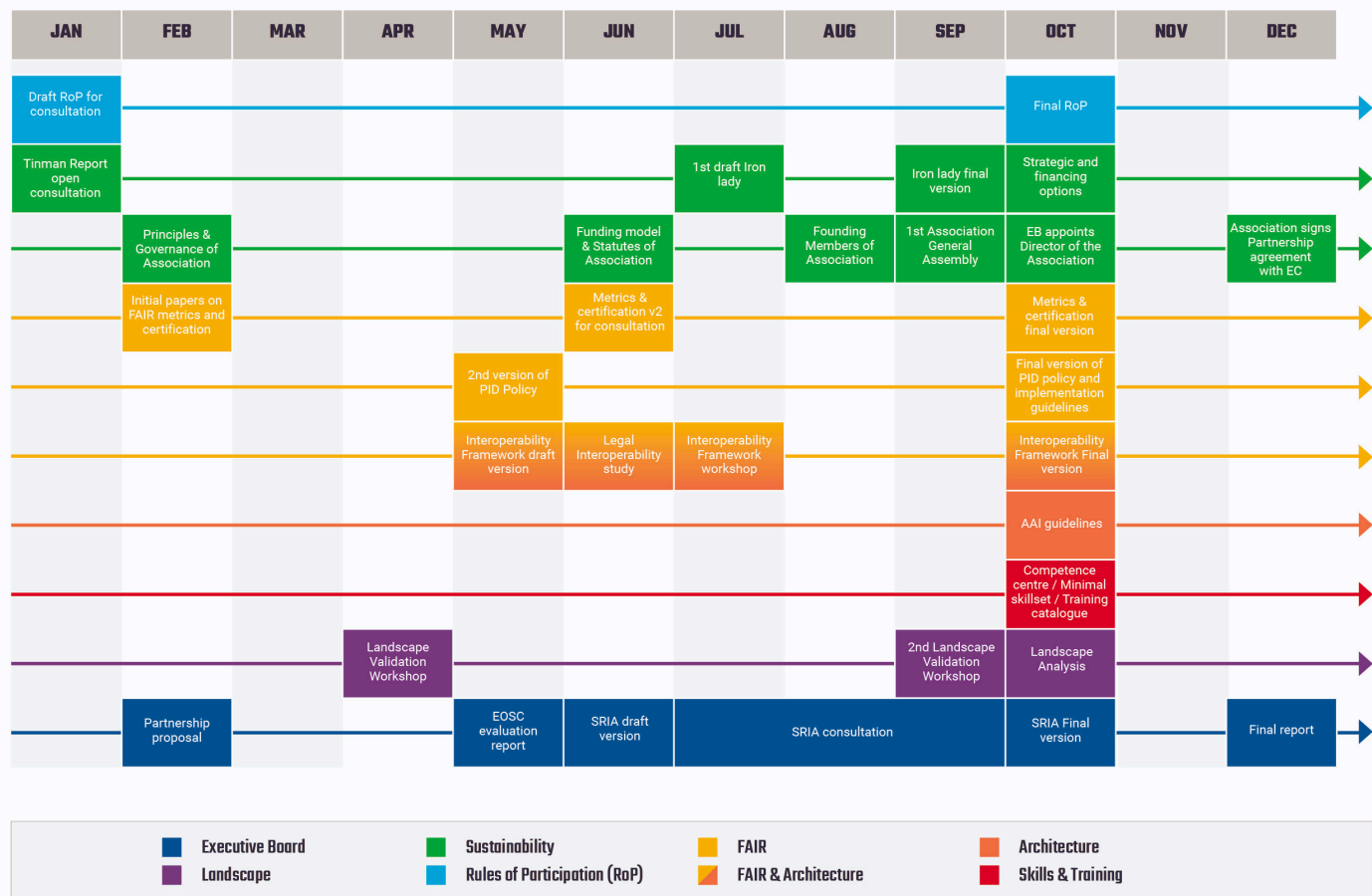
Juan Bicarregui added that just like many infrastructures operate, EOSC can provide benefit without it being visible to the user. The participation of EOSC projects will bring new features to their own infrastructures which will then benefit their own researchers without them actually being directly involved in the EOSC themselves. A lot of the benefits

The beauty of EOSC is the federation and the fact that existing services will be federated to the EOSC. This means that People will be able to use their existing repositories without having to learn a new system or go to a new place. This is how researchers will discover EOSC.

The event has been a key milestone for the EOSC EB to collect feedback from the community and for the EOSC stakeholders to get an overview of what's happening on EOSC in the next months.

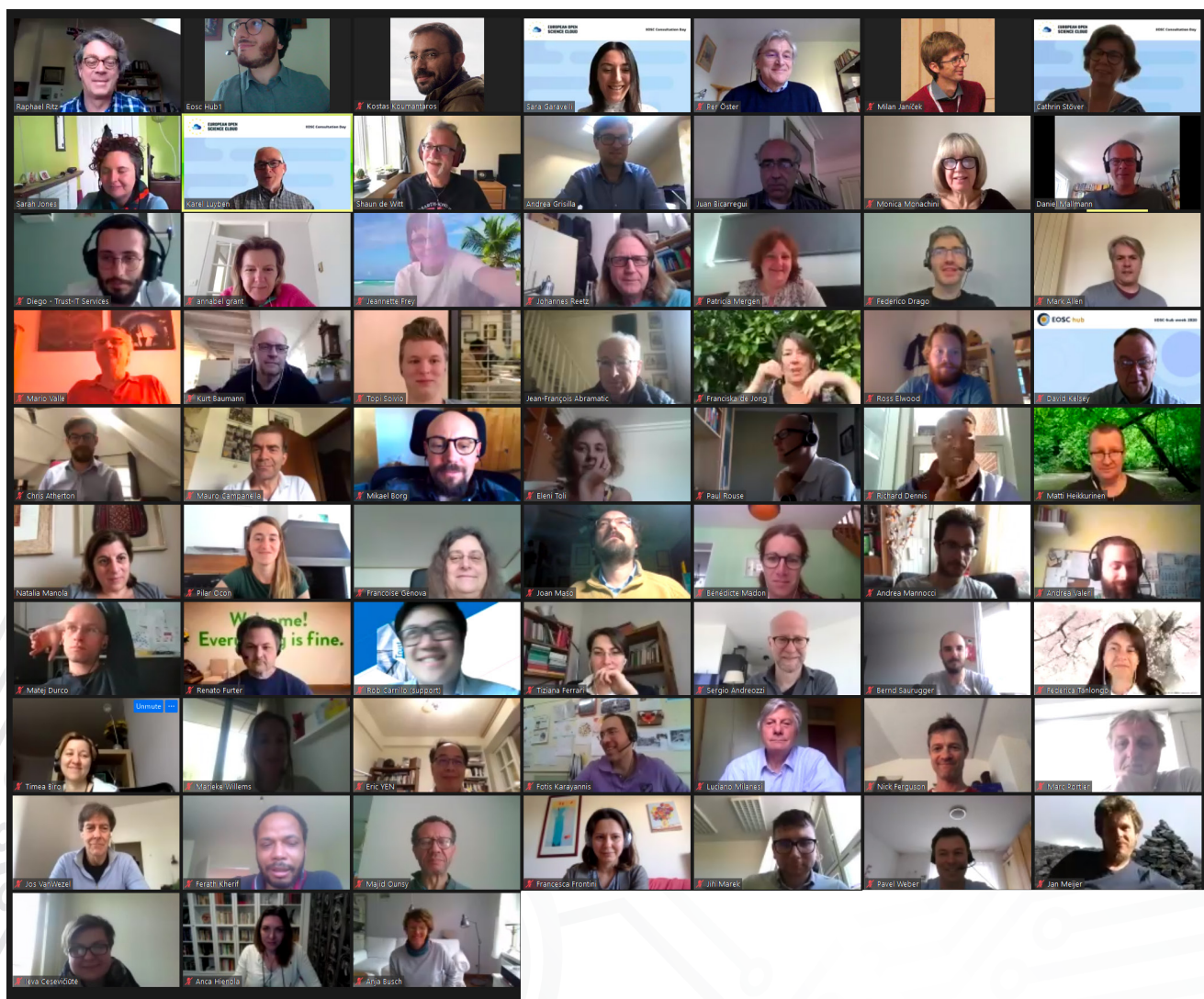


EOSC 2020 WORKPLAN



The next gathering point will be the EOSC Symposium taking place on the 19-20 October 2020 in Berlin, Germany.

If you want to provide further feedback to the EOSC EB and WG please use the contact emails available on the EOSC WG webpages or the EOSC Secretariat Liaison platform www.eoscsecretariat.eu/eosc-liaison-platform.



Faces from the EOSC Consultation Day





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