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Setup and management of the EOSC Secretariat supporting the EOSC Governance

# A workshop on priorities and international alignment for the **European Open Science Cloud**

RDA

RESEARCH DATA ALLIANCE

**RDA Virtual Plenary**

23 April 2021

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## Executive Summary

The European Open Science Cloud is a potential game-changer for the sharing and exploitation of data not just in Europe but also globally, benefitting scientific research and helping to address societal challenges across the globe.

Open Science, Open Innovation and Open to the World are the principles in the EOSCs international activities. With numerous regional and national Open Research Data Commons and Open Science Clouds being developed, an objective of EOSC is to liaise with international bodies such as the Research Data Alliance (RDA).

As the EOSC enters its implementation phase 2021-2022, the newly published Strategic Research and Innovation Agenda (SRIA) of the EOSC lays out a clear roadmap for the coming decade to ensure commitment, cooperation and consensus of all stakeholders. This workshop held at the Research Data Alliance (RDA) Virtual Plenary provided an overview of the main aspects of the SRIA with specific reference to both strategic and practical priorities which will be the main focus of newly formed EOSC Advisory Groups and Task Forces. The workshop also focused on the various partnerships and international collaborations that the EOSC should establish based on an initial scoping activity carried out by RDA and commissioned by the EOSC governance (through the EOSCsecretariat.eu project).

Topics covered included:

- The landscape of the research and scientific communities and their awareness and readiness to engage with Open Science Clouds / Open Research Commons
- Collaborations across regional, disciplinary, and national Open Research Data Commons and Open Science Clouds via the RDA Global Open Research Commons Interest Group
- Support for organisations to engage with Open Science Clouds / Open Research Commons

## Acknowledgements

We would like to thank the speakers and panelists for their excellent input at this workshop. In particular the members of the European RDA4EOSC team and RDA for their support in organizing the workshop at the RDA 17th Virtual Plenary Meeting.

This report was produced by the EOSCSecretariat.eu project which has received funding from the European Union's Horizon Programme call H2020- INFRAEOSC-05-2018-2019, Grant Agreement No. 831644.

## Disclaimer

# 1 Introduction

The European Open Science Cloud is a potential game-changer for the sharing and exploitation of data not just in Europe but also globally, benefitting scientific research and helping to address societal challenges across the globe.

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As the EOSC enters its implementation phase 2021-2022, the newly published Strategic Research and Innovation Agenda of the EOSC (SRIA) lays out a clear roadmap for the coming decade to ensure commitment, cooperation and consensus of all stakeholders. This workshop held at the RDA 17th Virtual Plenary Meeting provided over 74 participants from around the world an overview of the main aspects of the newly published SRIA, which lays out a clear roadmap for the coming decade to ensure the commitment, cooperation, and consensus of all stakeholders. It also explored the various partnerships and international collaborations that the EOSC should establish based on an initial scoping activity carried out by RDA and commissioned by the EOSC governance (through the EOSCsecretariat.eu project).

# 2 The European Open Science Cloud in a global ecosystem

The first half of the workshop focused on the road ahead for EOSC in the coming years, while also tying this to the wider global context.

## 2.1 Introduction

The first half of the workshop started with an introduction from session chair Nicholas Ferguson from Trust-IT Services, who highlighted the fact that Open Science and Open Innovation are global initiatives and are two of the main principles of the European Open Science Cloud. The EOSC Association was established in late 2020, marking the beginning of the crucial implementation phase.

## 2.2 Lessons learned from the EOSC Implementation phase 2018-2020

Next to speak was Michel Schouppe from DG RTG, European Commission, on lessons learned from the previous phase of EOSC development. He commented on how the wide grant approach, funding many projects to work on different aspects of EOSC, was a good way of prototyping EOSC and engaging hundreds of research institutions across Europe in trying to answer hundreds of questions about EOSC implementation. But moving into the implementation phase, these results must be streamlined, and a shift must be made from a project-based approach to a stakeholder-based approach. It is also important that a real minimum viable EOSC is operationally consolidated. He also indicated that the EC will likely use public procurement to achieve this in the future.

Despite these important technical aspects, Schouppe was clear in stating that the EOSC challenge goes beyond linking datasets, combining services, federating infrastructures, and aligning policies. It is primarily about engaging people and organisations, and its success will likely depend on a change in culture among researchers towards more openness in research. Funders will need to take a role in this culture shift in terms of how funding and incentives work. The EC is already committed to doing this through the Horizon

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Europe programme, which it will use to foster open access data management according to the FAIR principles (Findable, Accessible, Interoperable, Reusable), as well as incentives and rewards for openness.

## 2.3 The EOSC vision becoming a reality in a global ecosystem

Next to speak was the President of the EOSC Association Karel Luyben. He started by defining EOSC as a web of fair data services, enabling a fair science commons. He made it clear that EOSC is not the same thing as e-infrastructure, but is rather a "data-infrastructure and could be seen as a twin sister (or brother) of the European e-infrastructure organisations." The overarching principle for developing EOSC is that research is at the centre of the initiative. This principle is accompanied by the five guiding principles: Multi-stakeholderism, Openness, FAIR principles, federation of infrastructures, and machine-actionable system/data. The EOSC Association plays the role of advancing the European Open Science Cloud, and is a single voice for the broader stakeholders. Luyben finished by stating that if 50% of all relevant data in 10 years' time is FAIR, EOSC will have been a success. "It will take Time, Trust and Persistence".

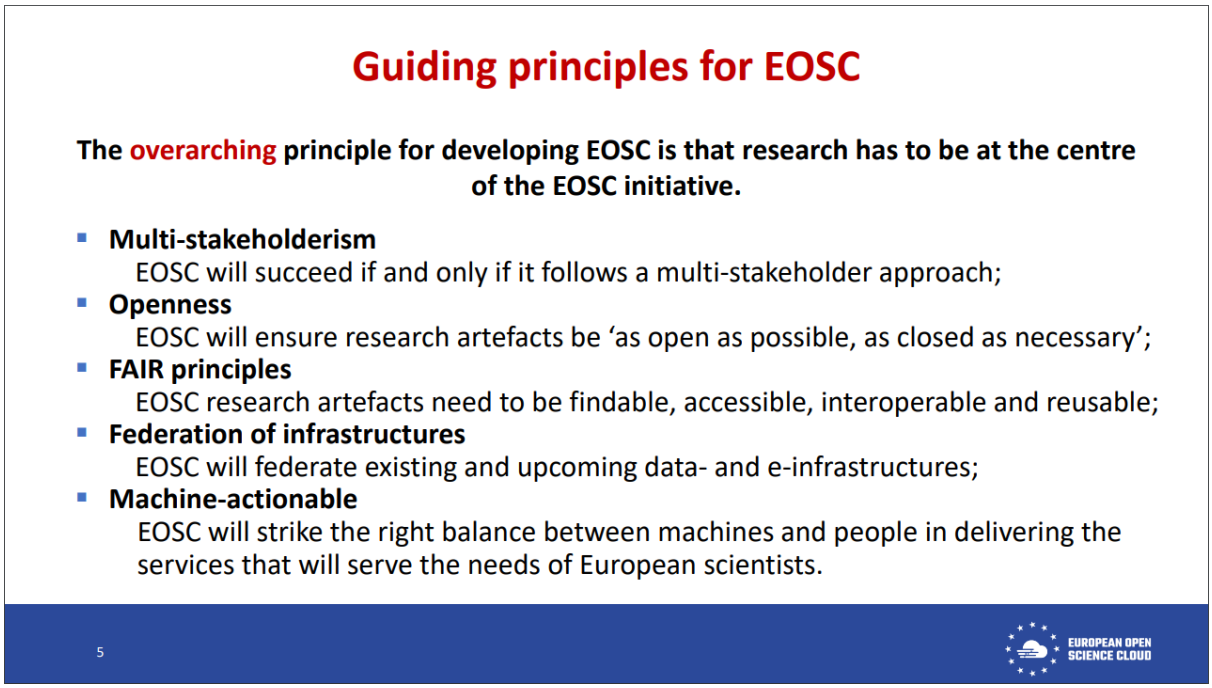


*Figure 1: Guiding Principles for EOSC*

## 2.4 Implementation Priorities and focus of the EOSC Advisory Groups

EOSC Association Director Sarah Jones then gave a presentation on the EOSC Association Advisory Groups (AGs) and Task Forces (TFs) which she stated are a continuation of the working groups from the EOSCsecretariat.eu project. The AGs and TFs will help steer the implementation of EOSC and will identify strategic gaps and areas for investment which will contribute to updating the EOSC Strategic Research and Innovation Agenda (SRIA). EOSC Association members are allowed to lead or propose groups, but group members may also be external to the Association. Under each AG are a series of Task Forces. Each AG has a Director from the EOSC Association board assigned as a liaison between the AG, TF, and the board, but also to facilitate collaboration and synergy between different TFs.

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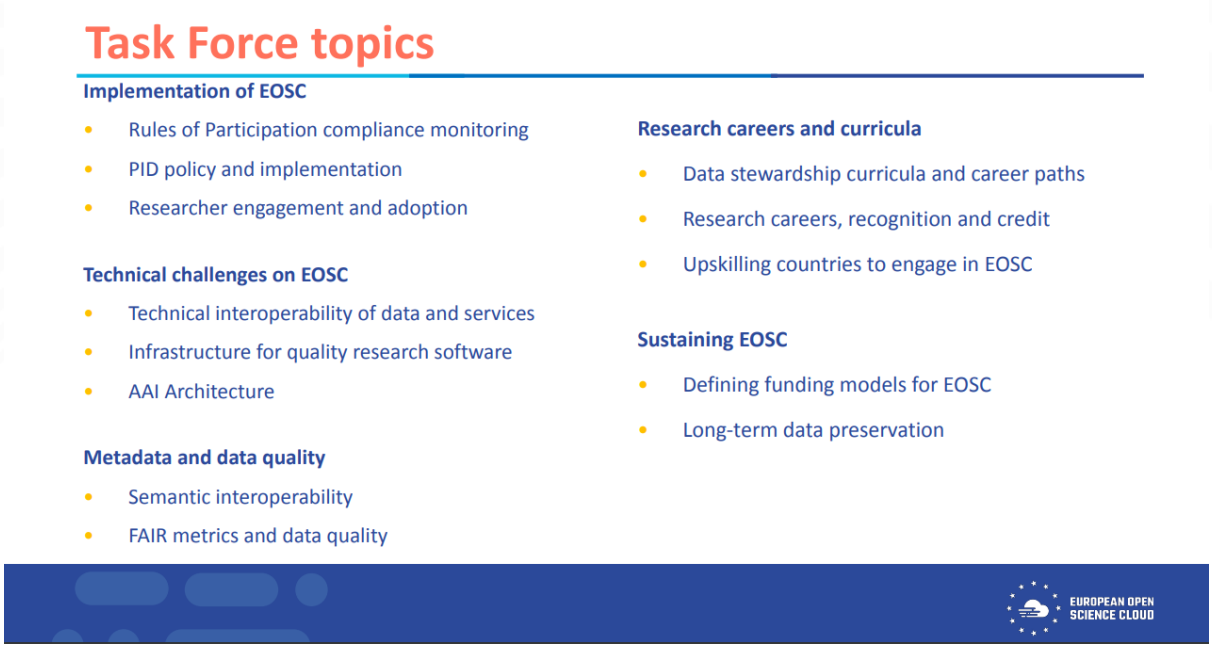


*Figure 2: EOSC Association AGs and Task Forces*

There are five Advisory Groups and thirteen Task Forces. Each TF, depending on the work to be done, will last for 12-24 months. Group sizes haven't yet been decided, but each task force should individually propose two chairs to lead the TF, one female and one male female. Inclusivity is essential for EOSC, this should be reflected in these groups across gender, stakeholder groups, disciplines, and nationalities etc.

## 2.5 Panel Q&A

After Sarah Jones' presentation there were 10 minutes given to respond to questions from the audience. The panel members were Michel Schouppe, Karel Luyben, and Sarah Jones.

The panel members were asked how sustainability of services and not competition between services will be guaranteed, what the business model is going forward, and whether EOSC will provide stable and guaranteed infrastructure or if another model is being considered. **Karel Luyben** highlighted the important difference between EOSC and EOSC ecosystems. In the EOSC ecosystem there will be services of which some will be free and some will need to be purchased. **Sarah Jones** stated that some services are part of the core infrastructure (i.e., PID, AAI etc.) and need to be free. Optional services, where the user can choose to use them or not, will most likely be paid services with more than one provider for the same service. They were then asked for advice for other countries or regions planning on establishing a similar Open Science ecosystem. **Michel Schouppe** considers linking people and organisations as the biggest obstacle, more so than technical challenges. Both **Luyben** and **Jones** agreed with **Schrouppe**. **Jones** added that RDA provides useful models for how to address this challenge in terms of bringing a community together, building things together and reaching consensus.

# 3 RDA in support of the internationalisation of EOSC

The second half of the event focused more on RDA, its involvement with EOSC, the international open science movement, and how EOSC can learn from and contribute to other similar initiatives around the world.

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## 3.1 Introduction

The session was opened and chaired by Hilary Hanahoe, General Secretary of RDA, who laid out the vision and mission of RDA, now 8 years old, which is an initiative funded by the EU together with the US and Australian governments.

**Vision:** Researchers and innovators can openly share and re-use data across technologies, disciplines, and countries to address the grand challenges of society.

**Mission:** RDA builds the social and technical bridges that enable open sharing and re-use of data.

RDA's guiding principles are openness, consensus, inclusivity, harmonisation, community-driven approach, non-profit, and technology neutral.

Hanahoe then gave an overview of the RDA4EOSC activity, funded by an EOSCsecretariat.eu open call. The activity was a joint collaboration between RDA, the Digital Repository of Ireland (DRI), and the Digital Curation Centre (DCC), running from November 2020 to May 2021 in close collaboration with EOSCsecretariat.eu. The activity focussed on 5 tasks (see image below).


*Figure 3: The five activities of the RDA4EOSC project*

Although this activity finished in May 2021, the work carried out will be continued in the EOSC Future project, in which RDA is taking part.

Finally, she highlighted the fact that RDA is only one of several actors in this field that can contribute to open science. RDA collaborates with many global stakeholders of importance to realising global open research and science commons, including with CODATA, GO FAIR, and World Data System in a cluster called "Data Together," looking to synchronize and support the open science community together. A joint statement was released in March 2021 about fostering cooperation on open science platforms.

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## 3.2 Supporting disciplinary and organisational engagement in EOSC

Timea Biro from the Digital Repository of Ireland presented the work done on the RDA4EOSC project in terms of engagement with different disciplines and organisations. Their task was to identify new scientific and research communities to engage with EOSC.

In terms of **scientific disciplines**, they found that Engineering, Technology, Chemical Sciences, Librarianship, Archival Science, Information Science, Public Sector Data/Open Government Data/Sustainable Development Goals are underrepresented communities in EOSC. The next steps to be taken are to collect additional insights from community representatives, consult the community - disciplinary groups and domain ambassadors, consider the RDA Communities of Practice, as well as the upcoming activities under EOSC Future.

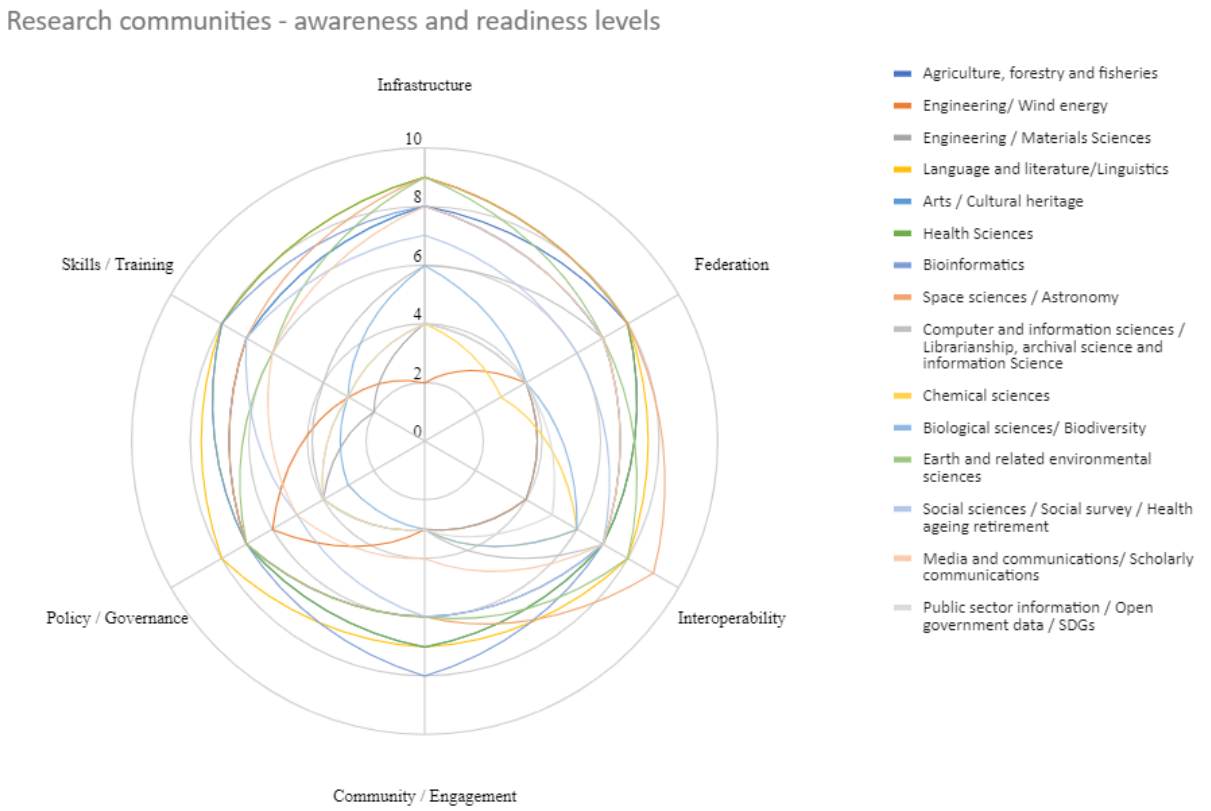


*Figure 4: Research Communities awareness and readiness levels*

In terms of **organisations**, they are supporting the RDA organisational and regional members with their open science agenda and engagement in global or regional data commons activities such as EOSC. They are preparing a series of policy briefs to help institutional and organisational and policy makers to engage in EOSC.

Biro concluded that this is a journey of awareness and capacity building. It has multiple social and technical bridges that need to be crossed, RDA has built and is building some of these bridges. Forums such as RDA can support EOSC via **individual** memberships and contributions, or through **organisational** contributions by providing connections to other data commons like EOSC.

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## 3.3 Collaborations across regional, disciplinary, and national Open Research Data Commons and Open Science Clouds via the GORC Interest Group and International Benchmarking WG

Next up was Mark Leggott from Research Data Canada presenting on the RDA Global Open Research Commons (GORC) Interest Group & Working Group. Their task was to reach a shared understanding of what commons means in the context of open research, look outside the RDA community to connect with relevant national, regional, and international initiatives, and to coordinate the delivery of a GORC and monitor progress.

The definition reached was, a global trusted ecosystem that provides seamless access to high quality interoperable research outputs and services (Digital research resources for the common good), but they will continue to revise the model with input from the community.

Out of the GORC IG a GORC Benchmarking WG was formed to complete three deliverables (see the below image).

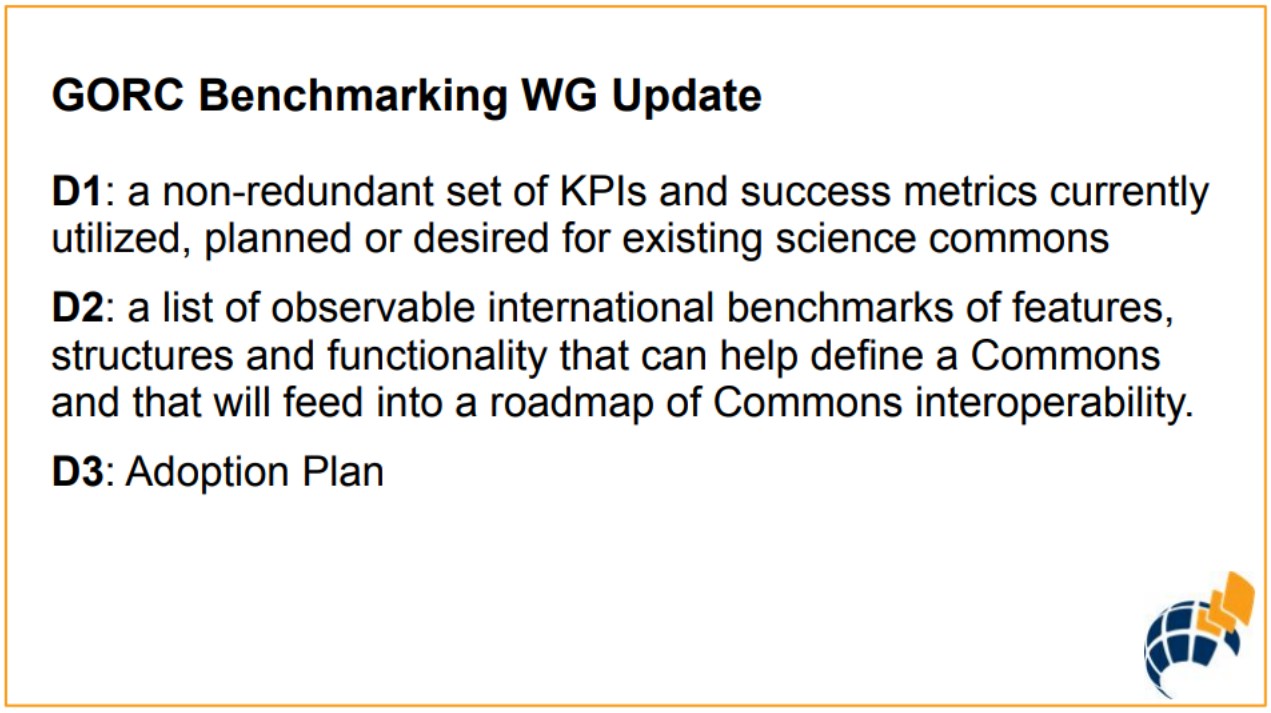


*Figure 5: Three GORC benchmarking deliverables*

Two task groups were formed, one focuses on individual commons such as EOSC or AOSP or regional commons and the second focuses on the typological elements from these models. Essentially one group investigates specific examples and the other high-level typology. The process can be seen in the image below.

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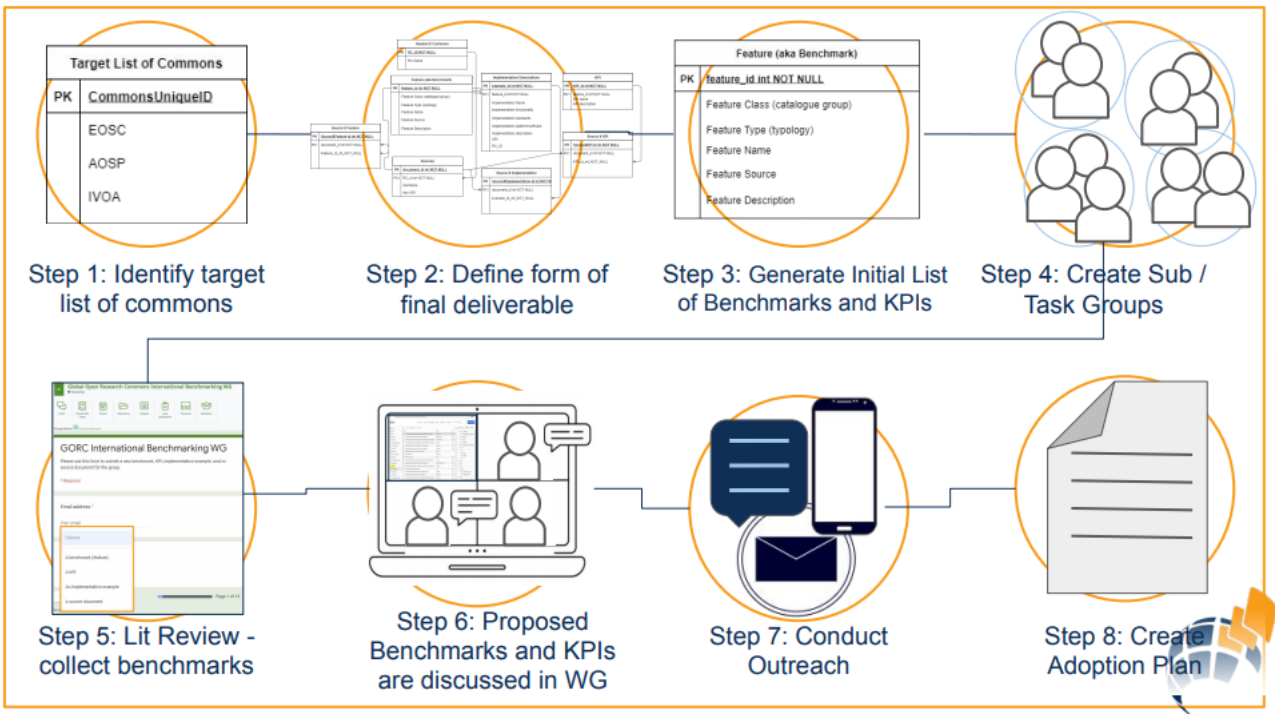


*Figure 6: GORC IG process*

Ultimately, the goal of all this work is to create a framework of functional components (benchmarks, KPIs, metrics) to determine functionalities across the global research commons ecosystem, and also to suggest areas of interoperability and review. The hope is that this will feed into some other work that is being done, such as that by the CODATA team and their colleagues from the Chinese Academy of Sciences. The goal is that these various organisations will work together in a complimentary fashion to facilitate the implementation of EOSC and other similar initiatives around the world.

## 3.4 The Global Open Science Cloud

Simon Hodson explained that his organisation CODATA was established by the International Science Council (ISC) to advance science as a public good. In the current ISC action plan there are two objectives that relate to open science:

1. To promote open science more broadly.
2. To ensure and encourage the development of open science platforms globally.

There are two main motivations behind these actions, to make sure that the global South is not left behind in relation to these developments, and to avoid silos between the various national or regional open science initiatives. CODATA in the last few years has been involved in supporting these actions through a pilot project towards an African Open Science Cloud, as well as working with the Malaysian Science Council to build a Malaysian Open Science Cloud, which will hopefully be extended and opened to the whole region.

After a series of workshops held at the CODATA 2019 conference in Beijing, CODATA received funding from the Chinese Academy of Science for the Global Open Science Cloud project which would encourage cooperation, alignment, and ultimately interoperability on various levels, between these sorts of initiatives. They began with that funding but, as it is a broad project, they hope to bring in funding from other initiatives, such as the Malaysian and African OSCs (Open Science Clouds).

# 4 Priorities and next steps for RDA-EOSC collaboration

This session was chaired by Hilary Hanahoe, and began with a quick overview of the Global Open Science Cloud (GOSC), and ended with a panel discussion involving Ron Dekker (CESSDA ERIC Director, SSHOC & EOSC-Future Project Coordinator) Ingrid Dillo (Deputy Director DANS, FAIRSFAIR Project Coordinator), Simon Hodson (Executive Director, CODATA & CODATA Global Open Science Cloud), Mark Leggott (Executive Director, Research Data Canada & RDA Global Open Research Commons), and Klaus Tochtermann (Director, EOSC Association & Data Together Group).

## 4.1 Panel Discussion

The panellists answered three questions from the Panel Chair Hilary Hanahoe on priorities for EOSC in the coming years and how RDA can support them, how RDA and other global partners can ensure that EOSC doesn't become too EU-centric, and how to ensure that international and national policies are aligned with various principles such as UNESCO and how this can inform the formulation of best practices in support of Open Science / Open Research Commons. The main priorities for EOSC raised by the panellists were researcher and community engagement, long term commitment, the Web of FAIR Data and Services, , and making data machine readable and accessible. As Ingrid Dillo noted "Only 5% of university researchers has a high awareness of the FAIR principles". That is, in itself, a barrier to be overcome. The panellists didn't sense a great risk of EOSC becoming too EU-centric, instead the reiterated the fact that EOSC is global. It is an opportunity to bring European solutions to the global table, a way for Europe to bring benefit to the whole world. On the final question there was less agreement, with some panellist saying that researchers should all sign the UNESCO pledge on open Science, and others sceptical of the top-down approach, saying that researchers should drive the alignment.

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