



European
Commission

European Open Science Cloud (EOSC) Work Plan 2020

This Work Plan, produced by the EOSC Executive Board, outlines activities that will run until the end of 2020.



Research and
Innovation

EOSC Executive Board
May 2020

Executive Board of the European Open Science Cloud (EOSC) - EOSC Work Plan 2020

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European Open Science Cloud (EOSC)

Work Plan 2020

Authored by the EOSC Executive Board

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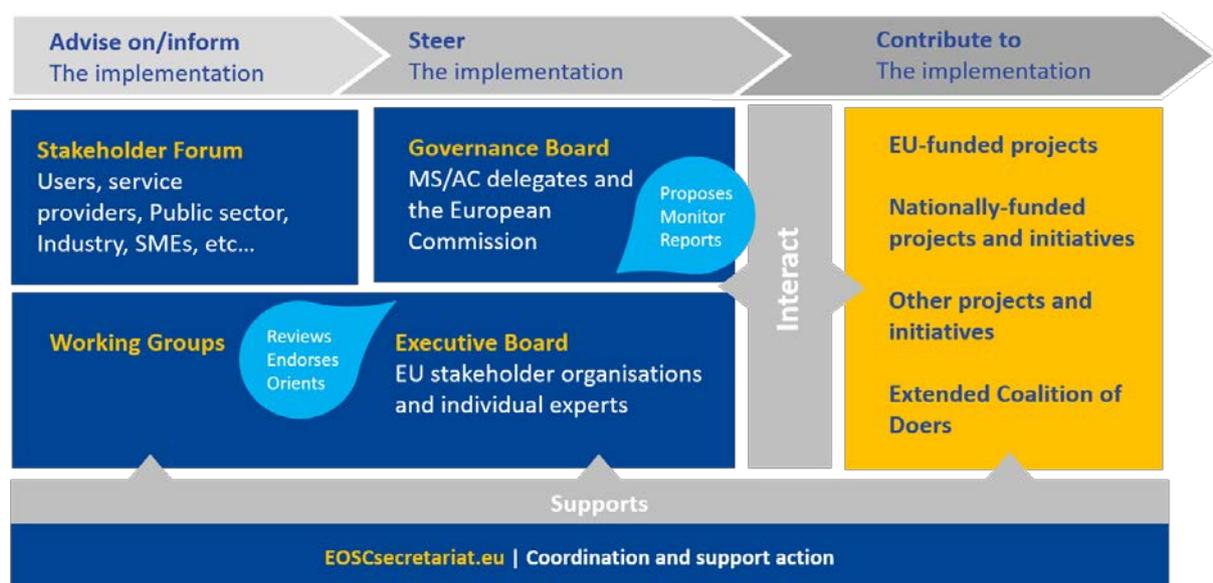
EXECUTIVE SUMMARY

The coordination of investments and other relevant activities to implement and govern the European Open Science Cloud (EOSC) is a multi-year undertaking which is being addressed pragmatically in several stages. This work plan outlines activities that will run until the end of 2020.

An interim governance structure has been established with four key components:

1. A Governance Board (GB) with representatives from the European Commission, Member States and Associated Countries
2. An Executive Board (EB) of 8 community representatives and 3 independent experts selected via an open call
3. A broad-based and inclusive Stakeholder Community open to all
4. A series of Working Groups convened and run by the Executive Board

As shown in the diagram below, the Stakeholder Community, which is composed of the Stakeholder Forum, relevant bodies, projects and initiatives, advise on the implementation together with the EOSC Working Groups. They each provide feedback and recommendations to inform how the Governance Board and Executive Board collectively steer the EOSC. In addition, the many H2020 projects, national initiatives and other 'doers' are the main contributors to the actual implementation of EOSC.



This Work Plan outlines the key outputs which will be delivered in this first phase of implementation. They comprise a first iteration of activities which will be handed over to a new governance structure at the end of 2020. The timelines, methods for delivery and key inputs are outlined below.

1 A first EOSC iteration by end 2020

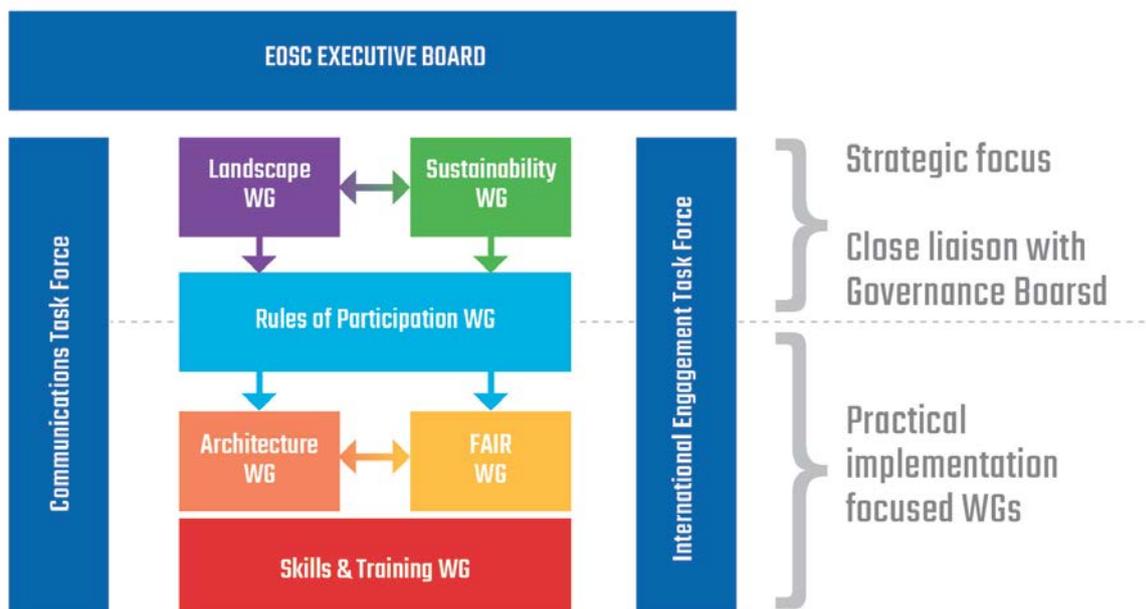
Several interim outputs have been delivered in the first 6 months of activity, these include:

- Strawman and Tinman papers on EOSC sustainability (*Sustainability WG*)
- Report on the landscape of national infrastructures, funding models, strategies and policies (*Landscape WG*)
- A draft Persistent Identifier (PID) Policy (*FAIR WG*)
- Initial Rules of Participation (*RoP WG*)
- Initial papers on FAIR metrics and service certification (*FAIR WG*)
- A partnership proposal for the continuation of EOSC as a Co-Programmed Partnership of Horizon Europe (*Executive Board*)

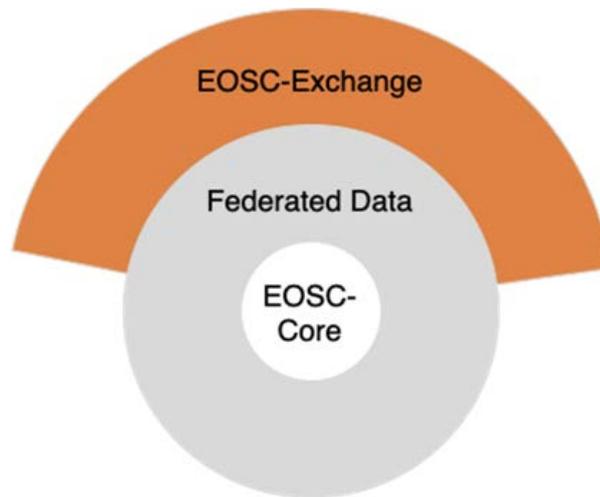
In addition to producing subsequent drafts and final recommendations on the topics above, the Executive Board will also define:

- A legal entity and post 2020 governance structure (*Landscape & Sustainability WGs*)
- A Strategic Research & Innovation Agenda (SRIA) (*Executive Board*)
- A Multi-Annual Roadmap (MAR) (*Executive Board*)
- AAI Principles and Architecture document (*Architecture WG*)
- PID Technical Architecture document (*Architecture WG*)
- EOSC Interoperability Framework (*FAIR, Architecture and RoP WGs*)
- Training catalogue specifications, a minimal skill set for EOSC, and organisational models for competence centers (*Skills and Training WG*)

Activities are split across the six Working Groups and two Task Forces as noted in the diagram below.



At the formal launch event in December 2020, we will present a minimal viable EOSC. As shown in the diagram below, this comprises an EOSC-Core which enables the federation of existing and planned research data infrastructures, as well as layers of federated data and services in the EOSC Exchange. The EOSC-Core includes a restricted set of basic integration services. It provides the means to discover, share, access and re-use data and services but will not store, transport or process data, at least initially. The EOSC-Exchange builds on the EOSC-Core. It is the place where rivalrous services (for example to transport, store and compute research data) will be made available. Any services that wish to be federated into EOSC must conform to the Rules of Participation.



The federation of research data infrastructures into EOSC via the cluster and regional projects is seen as a critical first step. Two initial use cases will be pursued to demonstrate how EOSC enables cross-disciplinary research: one related to the European COVID-19 Research Data Platform and another on Smart Cities as described below.

1.1 *The European COVID-19 Research Data Platform*

A prominent and very recent EOSC use case is the European COVID-19 Research Data Platform. This is a joint effort between EMBL-EBI, the European Commission, EU Member States, research partners such as ELIXIR, the COMPARE project and others¹ to develop and deploy a European COVID-19 Research Data Platform, connected to EOSC and to enable rapid collection and comprehensive data sharing of available research data across different sources and domains for the European and global research communities. Being central to a wider Research and Innovation plan of the Commission on Covid-19 related actions² supporting the European response to the crisis, the deployment of the European research data platform for sharing COVID-19 data is seen as a highly visible priority thematic pilot initiative to realise the EOSC vision of creating a European data space for science, research and innovation.

¹ Including ELIXIR, Instruct-ERIC, RDA and H2020 projects such as EOSC-Life, CORBEL, RECODID, VEO, EXSCALATE4CoV.

² Including complementary actions to (i) coordinate and connect to the EOSC data services by all relevant European Research Infrastructures, (ii) leverage information available in European databases and registries on clinical trials and observational research, (iii) use high performance computers for data analysis, (iv) develop specific Covid-19 data management guidelines, (v) develop rapid and coherent data provisions from relevant Horizon 2020 projects and (vi) facilitate access to data underlying existing and forthcoming Covid-19 publications.

The objective is to speed up and improve, within the shortest timeframe, bringing together, storing, sharing, processing and accessing research data and metadata on the SARS-CoV-2 virus and the COVID-19 disease from across a wide spectrum of research and biomedical disciplines. This initiative builds upon EMBL-EBI's extensive expertise in operating one of the world's largest open access data infrastructures and services for the life sciences. Technically the European Research COVID-19 Data Platform will implement two major components³: (i) The SARS-CoV-2 data hubs, a concept to support data sharing amongst virologists which is already successfully operated in partnership with institutions across a number of European countries and (ii) a COVID-19 Data Portal, which will bring together relevant datasets submitted to EMBL-EBI and other major centres for biomedical data.

There are high hopes that this Platform will significantly contribute to accelerating coronavirus research, ultimately providing an open, trusted, and scalable environment where researchers can store and share relevant datasets, as well as provide systems for data exploration and visualisation and a cloud compute facility where scientists and public health workers can collaborate.

1.2 *Climate-neutral and smart cities use case*

More than half of the world's population now lives in urban areas. This is expected to reach 80% by 2050. Cities and metropolitan areas are centres of economic activity, knowledge generation, innovation and new technologies. As such, Climate-neutral and smart cities is one of the EC's missions. Major European cities are now restructuring their infrastructure, for example by expanding the number of biking lanes, to ensure safe and green transport. Both the EC and OECD are working on resilient and smart cities, with respect to energy and green technologies, on inclusive-ness and diversity, on safety, health and biodiversity.⁴

To study climate-neutral and smart cities we will need diverse data: on aerosols, mobility, quality of life, energy use, fear of crime, sense of tolerance, emissions. Data will be both quantitative and qualitative (multimedia, text documents), facing multilingual issues, differences in attitudes and norms, and appear as cross-sections, time series, event histories, registries, context data. Landscape analyses can help to get an overview of relevant data, e.g. via ESFRI Road Map, EC RISCAPe project and EOSC Landscape Analysis. Integrating catalogues from ESFRI Research Infrastructures in EOSC will help in Findability and Accessibility of relevant data. There have been various EC projects, from astronomy to humanities, that deal with Big Data and continuous data streams generated by the cities, companies, social media.

Bringing relevant data together, in such a diverse area as climate neutral and smart cities, will increase efficiency, improve comparability and provide a level-playing field as all researchers have the same opportunities for using the data. To increase this Interoperability and Reusability, knowledge development tracks can help to better understand the idea of development from data via information to knowledge. In this way, we can also open relevant information to non-researchers, such as policy-makers and citizens.

³ <https://www.covid19dataportal.org/about>

⁴ Vandecasteele, I., Baranzelli, C., Siragusa, A. and Aurambout, J. editor(s), (2019), *The Future of Cities*, doi:10.2760/375209 (online) and Figueiredo, L., T. Honiden and A. Schumann (2018), "Indicators for Resilient Cities", *OECD Regional Development Working Papers*, No. 2018/02 <https://doi.org/10.1787/6f1f6065-en>.

2 Activities by Group

2.1 Executive Board wide activities

Partnership Proposal and Strategic Research and Innovation Agenda

In Autumn 2019 it became clear that the Executive Board would need to draft a series of documents to ensure Governance Board approval of the EOSC initiative. EOSC is one of 49 candidate partnerships to be launched as part of Horizon Europe. A Partnership Proposal has been iteratively drafted and submitted to the EOSC Governance Board to approve. This was endorsed in Spring 2020. The main effort in this period will be dedicated to the Strategic Research and Innovation Agenda and the Multi-Annual Roadmap. These documents highlight priorities for investment in infrastructure to facilitate the EOSC vision. A major consultation on the SRIA will be held between July-September 2020.

Assessment of the first phase of EOSC

The European Commission will undertake an assessment of the implementation of the EOSC for the period up until the end of 2020 (the 'first phase'). The EOSC Secretariat.eu project is working with the Commission to gather information to feed into the assessment report.

This includes a study of the contributions of the EOSC-related projects in helping to progress towards the milestones identified in the Commission Staff Working Document - Implementation Roadmap for the European Open Science Cloud (SWD). This takes the six core work areas noted in the Staff Working Document "Towards a roadmap for EOSC" and outlines high level objectives. Progress made towards the stated milestones in that report will be measured in both qualitative and quantitative ways to assess progress. The KPIs of individual EOSC projects are also considered, as is the Executive Board delivery against the Strategic Implementation Plan. The input from the projects is sought to understand their contribution to the overall progress of the implementation and inform and support the overall assessment of progress of the first phase of the EOSC implementation. The final version of the EOSC Secretariat report is expected by early July 2020.

The Final Progress Report delivered by the Executive Board will build on these outcomes and reflect on lessons learned to help steer future EOSC activity.

2.2 Rules of Participation

The Rules of Participation work built on the deliverables from the EOSCPilot project. The Rules of Participation define the rights, obligations and accountability of the various EOSC actors, notably data producers, service providers, data/service users. The implementation of the Rules will differ according to the maturity and role of EOSC actors. Feedback on key questions and directions for the Rules of Participation was solicited at the EOSC Symposium in Budapest in November 2019. A first version of the Rules was then released for consultation in January 2020. Further iterations will be released over Summer 2020 with additions from the Architecture and FAIR Working Groups. A final version of the Rules will be released in Q3 2020.

2.3 Landscaping exercise

The Landscape Working Group of the EOSC Executive Board has set out to survey and document the landscape of infrastructures, initiatives and policies across Europe related to the development of the European Open Science Cloud. The initial activity of the Landscape WG was desk studies of existing national activities. The first deliverable (Q3

2019) inventoried available infrastructures, initiatives, and services based on synthesis performed on existing documents. The second phase of the data gathering was a survey conducted between the Member states and associated countries. This activity was foreseen to be finalized by Q4 2019, but was postponed to Q2 2020. The inputs of the project are collected with the help of an external agency hired by the EOSC Secretariat. That agency also provided input to the country sheet collection on countries and regions that have not responded in due time.

The second draft of the report was circulated in Q1 to the EB and GB. The work builds on existing surveys and information provided by national authorities, various stakeholder communities and the relevant H2020 projects in close collaboration with the Member States (MS) and Associated countries (AC). Initial references include the recent report of the e-Infrastructure Reflection Group, findings of the EC group of National points of reference, the surveys carried out by the OpenAIRE project, the EOSC-Pillar project, analysis of preliminary mapping of the UK's research and innovation infrastructure landscape, the experience of ESFRI on cross-disciplinary collaboration of ESFRI Landmarks, other relevant documents identified by the WG members, and outcomes of the survey (country sheets) performed by the Landscape WG itself. The WG has collated inputs from e-infrastructures including data and HPC facilities, from European and national research networks, from pan-European research infrastructures and ESFRI roadmap projects and clusters, and from interest groups such as the Research Data Alliance. Information has so far been collated on 47 MS and AC.

A validation workshop with relevant stakeholder communities that was foreseen 2019/2020 was postponed due to the COVID-19 outbreak to 27-28 April. The working group's report summarises and describes activities in the Member States (MS) and Associated Countries (AC) related to EOSC. It summarises existing policies and investments and is based on input from the MS and AC and on the expert knowledge of the WG members and delegates to the EOSC governing board, complemented by information from Horizon 2020 research projects and from open sources. The final report containing also an analytical part and strategic considerations on national policies including funding models will be developed during Q2 and will be delivered in Q3 2020. External consultancy will be hired in Q2 by the EOSC SEC and is expected to contribute to the analytical part of the report within the upper mentioned timeline. A final Validation workshop is foreseen in September 2020.

The WG has also surveyed the landscape of policy development across Europe regarding open science and EOSC. Most countries have research evaluation policies in place, as one would hope. We find that the majority (61%) of the MS and AC responding have policies in place regarding open access to scholarly publications, but only 34% have a policy in place regarding FAIR data (though encouragingly 44% have one either in planning or under development). Few countries seem ready to mandate that research data should automatically be made open. Relatively few countries (21%) mention EOSC in their policies, but 38% plan to do so in future; but only three countries so far (BG, DK, RO) include mention of EOSC in their criteria for funding. More than half of responding countries have nominated contact points for Open Science (53%) and for EOSC (42%).

The work builds on existing surveys and information provided by national authorities, different stakeholder communities, and the relevant H2020 projects, in close collaboration with the Member States (MS) and Associated countries (AC). Initial references include the recent report of e-IRG⁵, findings of the EC group of National points of reference⁶, the surveys of the OpenAIRE project⁷, the survey⁸ of the EOSC-Pillar project, analysis of preliminary mapping UK's research and innovation infrastructure

⁵<http://e-irg.eu/documents/10920/238968/NationalNodesGettingorganisedhowfararewe.pdf>

⁶<https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=3477>

⁷ <https://www.openaire.eu/frontpage/country-pages>

⁸<https://drive.google.com/file/d/1GPzdSfVSvpvVldSGLa2qT6yRaaAbBlz-/view?usp=sharing>

landscape⁹, the experience of ESFRI on cross-disciplinary collaboration of ESFRI Landmarks,¹⁰ any other relevant documents identified by the WG members, the outcomes of the survey (country sheets) performed by the Landscape WG itself, and by other means should it become necessary to complement earlier findings. The Framework covers various aspects of national policies, existing funding streams and planned strategic outlooks at national and pan-European levels. First interim report was produced in Q4 2019. The interim results are to be validated by a workshop with all the stakeholders in Q2 2020. These preliminary findings will be complemented by targeted surveys, fact finding missions, and interviews. Hereby, significant contributions are expected from the newly funded H2020 (INFRAEOSC 5b) projects (EOSC-Nordic, EOSC-Pillar, ExPaNDS, EOSC-synergy, and NI4OS-Europe) (to be delivered in Q3 2020).

2.4 Strategic and financing options

The work on the strategic and financing options is led by the Sustainability Working Group. A major task is to support the establishment of the new EOSC Legal Entity and the related post-2020 governance model. Following a critical timeline and in close interaction with MS and AC as well as the Executive Board, the Sustainability WG will provide guidance on critical elements to set up an association which is expected to enter into a European Strategic Partnership with the European Commission in December 2020 taking effect on 01.01.2021.

The basis for the continuous work of the Sustainability WG is the Tinman version of the "Solutions for a Sustainable EOSC". It was distributed at the beginning of the year to the EOSC stakeholders and builds on the earlier Strawman document taking into account feedback provided by more than 30 H2020 EOSC projects, organisations, Governance and Executive Board members, as well as the working groups. The Tinman document and the respective feedback, which the WG received and consolidated, will give rise to the first studies to be commissioned by the Sustainability WG in the coming weeks and months. Driven by those studies, the Sustainability WG will continue to explore business models and funding options as well as the readiness of MS and AC to contribute financially and in kind to the possible EOSC model developed for the various elements of the proposed iterative implementation approach of the EOSC. The findings will then flow into the Sustainability WG's final report in Q3 2020. Throughout this process, the WG will link its activities with those of the other EOSC WGs and share the outcomes of its activity with the EOSC Executive Board members. Similarly, it will present the outcomes at the Governance Board meetings for informed decision-making.

Finally, Sustainability WG continues to examine the results of the Landscaping Working Group and other outputs, e.g. by EOSC projects, to determine the potential scope and timing for the federation of data infrastructures and services with EOSC.

2.5 Architecture documents for AAI and PID frameworks

Based on the consultation of stakeholders, the EOSC will be a federation of existing and planned research data infrastructures, adding a *soft* overlay to connect them and making them operate as one seamless European research data infrastructure. In terms of architecture, the EOSC would essentially comprise a federating core and a large variety of federated research data infrastructures committed to providing services as part of the EOSC. The groundwork for such a federated EOSC architecture was laid by several projects funded under Horizon 2020, which were aiming at federating data infrastructures at the European level and offering shared services.

⁹ <https://www.ukri.org/research/infrastructure>

¹⁰ <http://roadmap2018.esfri.eu>

A first proposal for the EOSC architecture was delivered by the EOSCPilot project. The Executive Board has set up the Architecture Working Group which assembles representatives from the Member States and Associated Countries together with representatives of the H2020 projects. By the end of 2020 the Working Group will deliver Architecture documents focused on two key elements of the EOSC Architecture: Authentication & Authorization Infrastructure (AAI) & Persistent Identifiers (PID). It will also propose a technical definition of the Minimal Viable EOSC (MVE) that will allow us to prioritise efforts starting 2021.

2.6 Persistent Identifier policy

The Architecture and FAIR Working Groups have jointly developed a draft Persistent Identifier (PID) policy for EOSC.¹¹ This was released in December 2019 and has been out for consultation since.¹² The policy covers a broad range of identifiers needed for data and other outputs, researchers, organisations, funders, research activities, services and other entities. It will be accompanied by implementation guidelines.

The draft PID policy has been downloaded over 1000 times and comments have been received from a wide range of international stakeholders. Presentations have been given at various conferences, including a specific consultation session at PIPapalooza in Lisbon in January 2020. The PID Task Force is updating the policy in light of comments received. Subsequent drafts and implementation guidelines will be released in Spring and Summer 2020. The potential for stakeholder workshops to solicit specific feedback and input on the implementation guidelines is also being considered.

2.7 EOSC Interoperability Framework

Work on the EOSC Interoperability Framework is being led by a Task Force in the FAIR Working Group in collaboration with Architecture and Rules of Participation Working Groups. In 2019 the task force began defining what coverage is required, agreeing that the Framework must address all aspects of interoperability - semantic, legal, technical and organisational. Key references include the European Interoperability Framework¹³ and various research object or FAIR digital object models. The task force has interviewed various groups such as BBMRI, CESSDA, SKA and CLARIN to understand current practice and adoption of standards.

Within the FAIR Working Group, the FAIR practice Task Force has been investigating activity across research disciplines. Over 50 different reports, research articles and project deliverables have been analysed to identify adoption of FAIR and any issues encountered.¹⁴ This analysis will be worked into a report during a 3-day writing sprint in Summer 2020. The work from the FAIR Practice Task Force is informing the development of the Interoperability Framework.

Two co-creation requests have been awarded to support work in this area: one will commission a study on legal interoperability across the different jurisdictions and the other is a workshop to explore useful models to adopt. The legal study tender was released in March 2020 and the workshop is anticipated for May.

¹¹ <https://doi.org/10.5281/zenodo.3574203>

¹² <https://www.eoscsecretariat.eu/news-opinion/launch-persistent-identifier-policy-eosc>

¹³ https://ec.europa.eu/isa2/eif_en

¹⁴ <https://docs.google.com/spreadsheets/d/13MDn1I07OkXdrBGd9SDUNcil58Pid6BvOEUkItT9a0/edit#gid=0>

Also see the blog post introducing the work - <https://www.eoscsecretariat.eu/news-opinion/how-move-fair-principles-fair-practice>

A draft version of the Interoperability Framework will be released for consultation in May 2020, with the final version due in Q3 2020 for full implementation under the new governance structure. It will provide a series of standards, guidelines and protocols for EOSC service providers and users to abide by to ensure data can be widely exchanged and reused. Open standards and APIs will be promoted and agreed on via the Global Open Science Commons Interest Group of the Research Data Alliance and other relevant fora to ensure EOSC supports and is in line with international best practices.

2.8 Metrics for FAIR data and certified services

The FAIR Working Group had been monitoring the development of metrics for FAIR data and certified services to make recommendations on what should be adopted in the context of EOSC. There is already a significant level of activity in this space. The RDA FAIR Data Maturity Model Working Group¹⁵ is coordinating international activity to define a common set of core assessment criteria for FAIRness and a generic and expandable self-assessment model for measuring the maturity level of a dataset. The Group has run a series of workshops and will release outputs in the same timeframe as the FAIR Working Group.

The FAIRsFAIR project has been tasked with supporting the co-development and implementation of certification schemes for data repositories. The recommendations and outcomes of this project will be taken up in the INFRAEOSC National Initiative and Cluster projects. The FAIR Working Group has been liaising closely with FAIRsFAIR and others undertaking activities on assessing services to ensure the EOSC is a trusted environment with appropriate functionality.

Two initial consultation papers were released in early 2020.¹⁶ These detail existing work and the considerations to specify initial metrics for FAIR data and frameworks for service certification. A first set of metrics and proposals for service certification will be released in early Summer 2020. These will be consulted on to agree a final recommendation for implementation within EOSC to be agreed before the Symposium in Autumn. A workshop to inform service certification frameworks is being planned for May 2020 in collaboration with FAIRsFAIR.

2.9 Skills

The EOSC Skills and Training Working Group was established in Spring 2020. Its remit is to build competence (skills) and capabilities (training) for EOSC. These include core Open Science and RDM skills needed by the research community and knowledge of how to engage with EOSC and federate services for infrastructure providers. The core outputs will be a minimal skill set for EOSC, organisational models for competence centers, training catalogue specifications, and a report for positioning open science and data intensive skills for the science enterprise as part of the broader national Digital Skills agendas. All of these will be delivered in Autumn 2020.

The training catalogue specification will involve a review of existing models (e.g., EOSC pilot FAIR4S framework) and industry standards (e.g., IEEE LOM, SCORM) to define metadata, formats, APIs, and the curation, certification, and preservation of training materials. The minimum skillset for EOSC will take stock of existing work to prioritise open science and digital skill sets for researchers, the skills required by infrastructures to provide their services to EOSC, and skills for policy makers to align with open science and data policies. Finally the organisational models for competence centres will review training structures at institutional / national / EU settings and provide options for Member

¹⁵ <https://www.rd-alliance.org/groups/fair-data-maturity-model-wg>

¹⁶ <https://www.eoscsecretariat.eu/eosc-liaison-platform/post/interim-recommendations-fair-metrics-and-service-certification-apply>

States and Associated Countries to implement training and education programmes for EOSC.

2.10 Communications and branding

The Executive Board established a Task Force on Communication in 2019. This Task Force consists of six members, coming from the Executive Board, Governance Board and communication experts from EOSC Secretariat and European Commission. Depending on the topic more experts can be called in.

The main remit of the Task Force is to oversee communications from the EOSC governance and provide guidelines on the EOSC brand. Initial tasks were to design a template for (PowerPoint) presentations, to be used by EOSC Executive Board, Governance Board, Working Groups and EC. Secondly, the Task Force worked out a policy on use of the logo to accommodate requests from (EC) projects and external entities on the use of the EOSC logo. This policy was approved by the Executive Board, and published on the website of EOSC Secretariat.

For 2020, the focus will be on elaborating key messages for the different stakeholder groups, and explaining EOSC terminology via FAQs, use cases and best practices. Once the EOSC legal entity has been established, there will be a discussion on ownership and licensing issues regarding tools and services provided by EC projects and other contributors to EOSC. The Task Force will also start up work for a communication strategy for the EOSC legal entity.

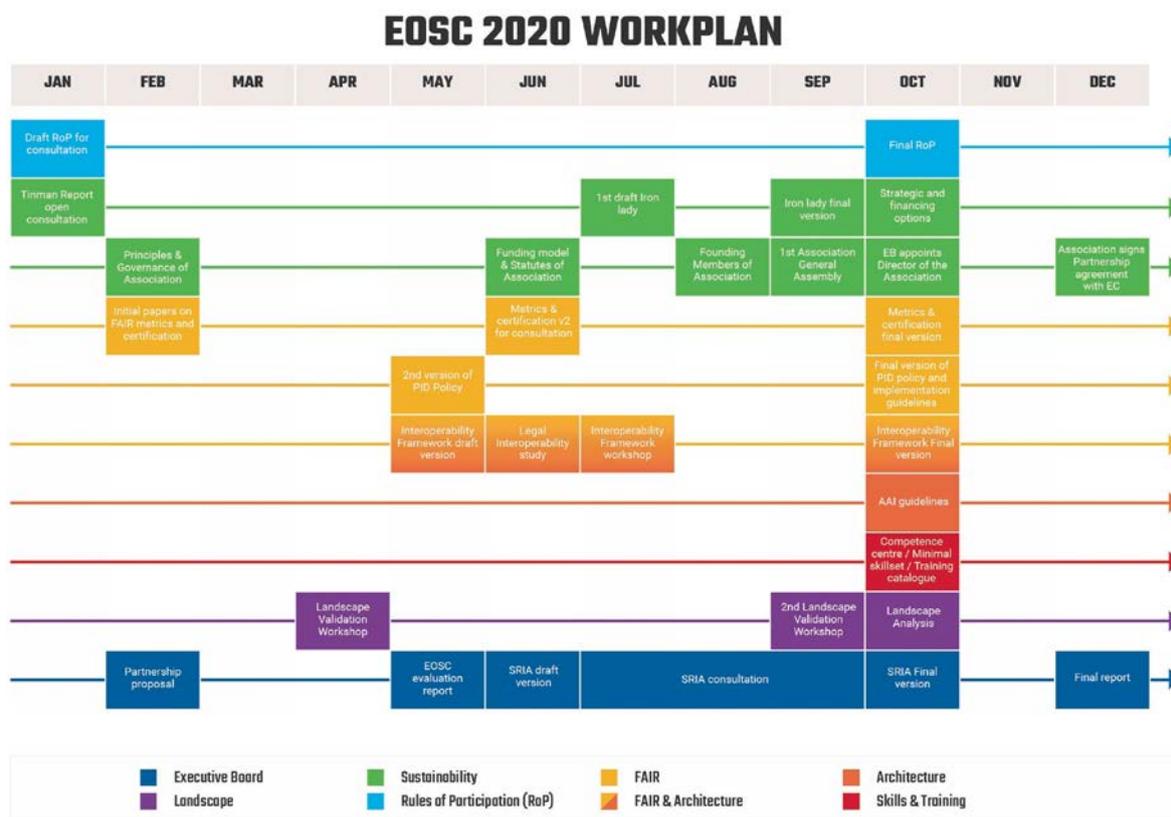
2.11 International engagement

The European Open Science Cloud (EOSC) Task Force on International Engagement was created in early 2020 to strengthen links with international partners outside European member states and associated countries, to encourage them to collaborate with EOSC and co-create a Global Open Research Commons. The Task Force will target existing research data repositories/ infrastructures and national/regional initiatives for Open Science. The Task Force will also take into account the needs of international researchers, institutions, and service providers in the design and implementation of EOSC and an eventual Global Open Research Commons.

The Task Force will be co-chaired by Cathrin Stöver and Karel Luyben and consist of a subset of Executive Board members and the European Commission and be supported by EOSCsecretariat. The Task Force will liaise and coordinate with key representatives and experts from international organisations which have been identified in the first meeting of the task force and subsequently been endorsed by the EOSC Executive Board.

Together with the TF on Communications and Branding, the task force will develop communications messages and material to ensure consistent bi- and multi-lateral information exchanges with international partners. The task force will meet monthly via VC until the end of December 2020.

3 Timeline



4 Key decision-making points

Based on the timeline above, the table below indexes the Executive and Governance Board meetings, highlighting which items need to be discussed and agreed at each to ensure the timeline is achieved.

Board	Meeting date	Key items
Executive	30-31 January 2020	Agree updated text in the Partnership Proposal Discuss the Legal Entities paper
Governance	17 February 2020	Agree the Legal Entities model
Executive	27-28 February 2020	Discuss the Strategic Research and Innovation Agenda
Governance	25 March meeting	Agree the membership principles and governance model for the Legal Entity Discuss the outline SRIA
Executive	26-27 March 2020	Allocate tasks in writing the SRIA and workplan
Executive	23-24 April 2020	Discuss a draft of the Legal Entity statutes

		Discuss the first draft of the SRIA Approve the workplan
Governance	20 May 2020	Agree the funding model, fee structure, voting rights & statutes for the Legal Entity Review the draft SRIA and outline budget
Executive	28-29 May 2020	Approve SRIA before Open Consultation
Governance	17 June 2020	Final opinion on the Statutes. Agree the funding model, fee structure. Review SRIA and MAR
Executive	25-26 June 2020	Review the EOSC Interoperability Framework Review the PID implementation guidelines Review the Architecture and AAI guidelines
Governance	16 September	Review interim SRIA
Executive	24-25 September 2020	Review interim SRIA including GB comments Review final documents (RoP, PID policy, Skills, Metrics & Certification, Interoperability Framework & governance) Agree appointment of interim Director of Legal Entity
Governance	21 October (tbc)	Feedback from Symposium
Executive	29-30 October 2020	Digest user feedback from EOSC Symposium
Governance	27 November 2020	Review EOSC progress report
Executive	26-27 November 2020	Finalise all EOSC outputs Agree final progress and monitoring report

5 Procedures and required inputs

5.1 *Liaison with H2020 projects, national initiatives, disciplinary services and others*

The EOSC Working Groups, supported by the EOSCsecretariat, will conduct a range of activities to gather inputs from all those active in building the EOSC. Two concertation days were held in 2019 which brought together all major EOSC-related projects. A series of consultations and stakeholder events will encourage engagement, and the EOSC Liaison Platform will allow updates and knowledge sharing from the wider community.¹⁷

Other efforts are also being made to coordinate across existing EOSC-related H2020 projects, such as collaboration agreements and synchronisation task forces. Where relevant, Working Group members will engage in these events or invite representatives to present at Working Group meetings. An open approach to information sharing and regular communication between projects and EOSC Working Groups is critical to effective coordination. Indeed, several members of EOSC Working Groups are heavily involved in existing projects.

In order to deliver EOSC and get full engagement from research communities, discussion must go beyond H2020 projects. Disciplinary research infrastructures, national initiatives and research institutions play a critical role. The various engagement activities supported by the EOSCsecretariat such as stakeholder events and the EOSC liaison platform will act as the main locus for connections.

The Working Groups will have regular monthly telecons and quarterly face-to-face meetings. Dates for these, particularly for the Architecture and FAIR WGs, will be announced publicly to allow projects to share information in advance. Close partnership and communication are planned so the Working Groups can help to coordinate activities and provide constructive feedback on developments. Regular testing and stakeholder engagement is also planned to ensure EOSC delivers on the requirements and functionality research communities require.

5.2 *Liaison with Governance Board*

The Landscape and Sustainability Working Groups continue to liaise closely with the Governance Board and Member State representatives. A validation workshop is foreseen for mid 2020 to outline proposals for the legal entity, funding aspects and governance structure to ensure fitness for purpose, acceptance and the ability to adopt proposals.

The Executive Board and Governance Board successfully collaborated to define a shared vision for the EOSC during joint meetings in 2019 and will establish a shared communications group to define the EOSC brand and register a trademark. Collective ownership and community engagement is regarded as fundamental by both Boards.

5.3 *Iteration and testing*

As EOSC outputs are released, Working Groups will review them and in collaboration with the EOSCsecretariat project undertake broad stakeholder evaluation and testing. This will include communications to announce new outputs, webinars and events to explain the outputs or services, and various methods to support testing and the collation of user feedback. These might include usability testing, focus groups, surveys and wide use of the EOSC Liaison Platform.

Outputs will be tested in earnest by the broad research community to ensure they are fit for purpose and meet end user needs. An iterative approach is expected of projects and a

¹⁷ <https://www.eoscsecretariat.eu/eosc-liaison-platform>

willingness to take user feedback on board and make appropriate changes. Acceptance by the user community will guide recommendations by the Working Groups for endorsement by the Executive Board.

5.4 The role of the Stakeholder Community

The Stakeholder Community will play a critical role in ensuring the building of the EOSC remains on track and supports end user needs. It must allow broad and inclusive participation to all interested parties and a range of opportunities to provide feedback and input. CNR will lead engagement activities on behalf of the EOSCsecretariat.

Stakeholder Community events

A series of events is planned to allow the community to learn about and engage in EOSC. These will provide opportunities to ask questions, share inputs and test outputs. The key stakeholder forum events for 2020 are listed below.

Date	Event	Location
29/01/2020	PID policy at PIDapalooza	Lisbon
18/05/2020	EOSC EB consultation day	Online
19-20/10/2020	EOSC symposium	Berlin
December 2020	EOSC launch	Berlin

A [calendar of EOSC stakeholder events](#) will be maintained. Blogs from events will be delivered by the secretariat to report on outcomes and collect the feedback.

The EOSC EB consultation day, 18 May 2020, online

A one-day consultation co-located with the [EOSC-hub week 2020](#), is being organised by the EOSC Executive Board. It will present the latest developments of the EOSC and to gather feedback and input from the EOSC stakeholders on all the latest released documents.

The EOSC Symposium, 19-20 October 2020, Berlin

The EOSC Symposium 2020 brings together researchers, data scientists, e-Infrastructures, Research Infrastructures, EOSC projects, EOSC Working Group members and representatives of the EU27 Member States and associated countries to discuss the final steps towards the establishment of a first version of a fully-fledged European Open Science Cloud.

Organised by the EOSC Executive & Governing Boards with the support of the EOSC Secretariat project, the two-day programme will analyse the progress of EOSC after two years from its official launch focusing on the added value of EOSC for the European scientific community.

Data-driven use cases addressing the most pressing societal challenges (COVID-19, [the mission areas of Horizon Europe](#)), success stories, failures and lessons learnt from the first two years of EOSC, but also discussions on the strategic research and innovation agenda of the EOSC partnership within the framework of the future Horizon Europe programme, will shape the programme of this event that will be a key milestone towards the launch of the second phase of EOSC.

The launch of the new EOSC Governance, December 2020, Berlin

A one-day event jointly organised by the EOSC Executive & Governing Boards with the support of the EOSC Secretariat project to disseminate the results of the first two years of EOSC and announce the future EOSC Governance to policy makers, funders and Member States representatives.

EOSC Liaison Platform and the Research Data Alliance

In addition to events, the EOSC liaison platform¹⁸ allows continuous engagement to support open consultations and allow the Stakeholder Community to raise ideas and issues. Users are required to register for the platform and can then post messages and leave comments. The global Research Data Alliance (RDA) will also be used as a key vehicle in implementing EOSC and aligning with international activity. Various Interest and Working Groups provide key inputs for this work plan, for example the FAIR Data Maturity Model, Data Description Registry Interoperability and Persistent Identifiers Group, amongst others. The RDA will be utilised as fora to gain international consensus and global solutions so the EOSC approach is not a European silo that doesn't connect well to parallel initiatives in other regions. The Global Open Research Commons interest group¹⁹ will be key in this aim and a great opportunity for EOSC to put forward its developments for input and endorsement by others to define global standards and protocols for adoption beyond our region.

¹⁸ <https://www.eoscsecretariat.eu/eosc-liaison-platform>

¹⁹ <https://www.rd-alliance.org/groups/global-open-research-commons-ig>

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The coordination of investments and other relevant activities to implement and govern the European Open Science Cloud (EOSC) is a multi-year undertaking which is being addressed pragmatically in several stages.

This Work Plan outlines the key outputs which will be delivered in this first phase of implementation. They comprise a first iteration of activities which will be handed over to a new governance structure at the end of 2020.

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