

CERN-NASA Summit: working groups deliverables

The kickoff calls provided a space for both summit participants and newcomers to discuss specific topics on the closing statement commitments: infrastructure, incentives, equity and evidence-based policy. The aim of these meetings was to identify concrete outputs that each group can work on to get us closer to the [closing statement outcomes](#).

We organized the discussion in three main sections: what do we know already, what are the identifiable gaps this group can address, and what is one concrete output we can work on for the next year.

Cross-cutting ideas:

- Deliverables include a specific resource + an implementation case
- The audiences are primarily public and private research funders, plus research institutions. The private sector can also play a role by engaging in public-private partnerships to e.g. offset publication costs, incorporate small businesses to diversify open science suppliers, etc.
- Each resource should be co-designed/tested with a focus group with members of the target audience
- Implementation cases can often be found within the summit participants/their networks
- Due to the groups' composition, main value sits in the intersection of international alignment and cross-sector coordination
- The four deliverables should be consolidated into a single platform/delivery vehicle in a coordinated way

Deliverables

Working Group	Deliverable	How are they going to use the resource?	What does success look like?
WG 1: Sustainable & open infrastructure	<p>The open infrastructure strategy we need for open science</p> <p>More: Open science policies demand incorporating open infrastructure strategies; this is not happening today.</p> <p>The deliverable (specific format TBD) presents key actions and</p>	Learn what others are doing, use it in advocacy to exert “international peer pressure”	<p>At least one case of an institution engaging with the platform for their own policy design process.</p> <p>Potential cases:</p> <ul style="list-style-type: none"> - Work with IOI - CAS? - TBD

recommendations for a strategy to promote open infrastructure, based on an international gap analysis with examples from successful cases across sectors.

<p>WG 2: Incentives</p>	<p>OS incentives: international comparison</p> <p>A “clinic” and meta-analysis of at least two implementations of incentives for OS in different contexts, capturing lessons-learned and aligning criteria that can inspire others worldwide.</p>	<p>Interacting with the tool to learn how others are designing their own action plans for incentivizing OS, receiving 1:1 advice from the ORFG + experts in the process (“clinics”)</p>	<p>At least one case of an institution using the resource for their own action plans design process.</p> <p>Cases: - CoARA national chapters (France) + Aix-Marseille University - HELIOS case? - CAS?</p>
<p>WG 3: Equitable open scholarship</p>	<p>Equitable OS: successful examples for everyday practice</p> <p>More: A crowdsourced map of real-world interventions across the research cycle that effectively improve equity in OS, across geographies and sectors</p>	<p>As an educational resource on concrete successful strategies for equity, in different stages of the research cycle</p>	<p>At least one institution adopting practices from the map</p> <p>Potential cases: - Nova Scotia OS policy? - Other suggestions?</p>
<p>WG 4: Evidence-based policy for open scholarship</p>	<p>How to make your open science policy evidence-based</p> <p>More: A tool showcasing how different countries and sectors are collecting, analyzing and using evidence for designing, implementing and monitoring OS policies. Including what to measure, how to measure, what it means in terms of policy adoption.</p>	<p>A how-to guide for evidence-based OS policy making and monitoring, according to different contexts and sectors. Identifying areas for data and practices interoperability.</p>	<p>At least one program either at CERN or NASA implements these strategies</p> <p>Potential cases: - The Irish National OA Monitor, which is monitoring OA at national, institutional, funder level.</p> <p>- The European Open Science Monitor which monitors policies, infrastructure, uptake in every European country.</p>

Key resources and identified gaps

Working Group	Key resources	Identified gaps
WG 1: Sustainable and open infrastructure	<ul style="list-style-type: none"> • An article in Science (ArXiv) reviewing open research platforms (US perspective) • Hi-Acts and HZDR-Innovation (Germany) • IOI shared how they catalyze funding, support services and their future plans • OpenAIRE shared their charter, a catalog of research infra, their knowledge graph of open science and a publication linking this work to support interoperability, discoverability and machine actionability of DMPs • European Open Science Cloud • Research Software Alliance • Digital Sovereignty Fund (Germany) • https://www.unesco.org/en/open-science/toolkit?hub=686 • NIST Research Data Framework (https://www.nist.gov/programs-projects/research-data-framework-rdaf). • GOSC (https://goscloud.net/). 	<ul style="list-style-type: none"> • Funders' reluctance to invest in open infrastructures and lack of international peer pressure (the idea of "falling behind") • Lack of a clear, aligned international message from the community on what is and what is not open infrastructure, how it works and how to fund it • Fast-paced changes in open infrastructure paradigms add confusion • Leveraging the role of the private sector, who benefits hugely from open science, to request reinvestment in open infrastructure
WG 2: Incentives	<ul style="list-style-type: none"> • CoARA Working Groups: https://coara.eu/coalition/working-groups/ • CoARA National Chapters https://coara.eu/coalition/national-chapters/ • ORFG policy clause bank and policy generator • https://www.unesco.org/en/open-science/toolkit?hub=686 • CoAra groups with OS components e.g. Responsible metrics and indicators -> led by LMU Open Science Center managing director, based on the work: https://doi.org/10.23668/psycharchives.8162 and https://osf.io/preprints/psyarxiv/5yexm/ clearly focused on assessing and rewarding OS practices. • https://projectopen.io/ • HELIOS 	<ul style="list-style-type: none"> • Too much focus on sticks rather than carrots • Lack of incentives for established labs • No Open Science working group at CoARA but resources can be found in other groups

<p>WG 3: Equitable open scholarship</p>	<ul style="list-style-type: none"> • Open and Equitable Model Funding Program • Toward equitable open research: stakeholder co-created recommendations for research institutions, funders and researchers • Chtena et al (2023). The neglect of equity and inclusion in open science policies of Europe and the Americas. In SciELO Preprints. • CLEAR lab methodologies • https://www.unesco.org/en/open-science/toolkit?hub=686 • An infographic: https://zenodo.org/records/5736934 • Mapping OS resources by world region etc: https://access2perspectives.pub/pub/org/pub/uwl451ti/release/1 	<ul style="list-style-type: none"> • Equity discussions tend to focus solely on APCs, but there is no information on other domains of open scholarship and examples from around the world • Inequitable situations are often framed as North/South though within wealthy countries there are inequities in terms of well-funded/poorly-funded institutions
<p>WG 4: Evidence-based policy for open scholarship</p>	<ul style="list-style-type: none"> • Toolkit for policy makers on Open Science and Open Access • OpenAIRE Monitor • The Transforming Evidence Funders Network • French Open Science Monitor • ORFG Seed Awards • Indicators of Impact of OS in the PathOS project: Open Science Indicator Handbook • Notes from one of the CERN-NASA Summit breakout rooms • https://www.unesco.org/en/open-science/toolkit?hub=686 • new DSIT/UKRI metascience unit that has just been given the go-ahead 'to conduct experiments to test and robustly evaluate the effectiveness of changes in the funding processes delivered by UKRI and other institutions.' (also builds on the work of RoRI): https://assets.publishing.service.gov.uk/media/655e2a2f1b00a600d58e60a/evolution_of_rdi-organisation-landscape-government-response.pdf • https://unesdoc.unesco.org/ark:/48223/pf0000383710 	<ul style="list-style-type: none"> • Observatories are popping up everywhere, but there's no metadata on how countries and institutes are doing data collection / monitoring / analysis • UNESCO has a working group but there is no concrete work on a deliverable • All initiatives focus on data collection but no one looks at how to make decisions with that data

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