



Fostering Innovation Through Open Science Workshop

Executive Summary

On January 13–14, 2026, in New York City, the Open Research Community Accelerator ([ORCA](#)), in collaboration with Microsoft, the Alfred P. Sloan Foundation and CERN, convened a group of leaders from academia, industry, philanthropy, and civil society (see Appendix A for participating organizations)¹. Building off of ORCA's [Fostering Innovation through Open Science: A cross-sector roadmap for impact](#), the workshop aimed to identify practical opportunities for collaboration across open science, open source, and open data.

Open science (an umbrella term we use here to encompass open source software and hardware, open data, open access, and a range of other open sharing practices) offers a way to fuel innovation, accelerate discovery, enable AI breakthroughs, catalyze economic growth, and advance societal progress while ensuring that science delivers broad and lasting public value. These benefits accrue to science, industry, and society. Spanning sectors, disciplines, and geographies, participants agreed that the move toward greater openness is increasingly motivated by practical needs rather than abstract principles. However, they also identified a set of structural barriers that continue to limit the impact of open science. Incentives remain misaligned, meaning researchers are often evaluated and rewarded in ways that do not recognize open practices. There is growing concern about imbalance in the AI ecosystem, where open data can be extracted by actors with significant computing power without meaningful contribution back to the commons. At the same time, much current investment focuses on research and development, while the long-term maintenance of shared digital infrastructure is underfunded and fragile.

Participants emphasized that none of these challenges or opportunities can be effectively addressed by any single interest holder. To name a few specific limitations: universities steward knowledge but may lack agility, as well as expertise in technical and financial sustainability;

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industry brings entrepreneurialism, engineering capacity, and capital, but cannot set norms and good practices on its own; philanthropy can catalyze experimentation but cannot operationalize systems at scale; and governments set policy but rely on others for implementation. Progress toward an open, resilient research ecosystem therefore depends on coordinated action across these complementary roles.

To that end, the workshop closed with a shared commitment to launch a demonstration pilot that treats openness as core innovation infrastructure rather than as an afterthought or dissemination requirement. The pilot will initially be framed out by a cross-sector steering group, coordinated by ORCA, Microsoft, and CERN. Drawing from opportunities broached at the workshop, the steering group will identify a concrete technical challenge with real economic and societal stakes. The broader group, dubbed the Fostering Innovation Network (FIN), will then use this as a test case to show how creative coalition building can meaningfully advance open science in practical ways.

Context and Pre-Workshop Perspectives

The urgency of this work stems from coinciding pressures that make incremental progress inadequate. AI is sharply increasing the value of open scientific data while concentrating the capacity to use it among a small number of well-resourced actors. Meanwhile, the digital infrastructure underpinning modern science remains under-resourced and poorly aligned with long-term sustainability. This convergence creates a narrow window for coordinated action: without intervention, inefficient and uneven models will harden; with it, open science will be structurally embedded within the fabric of an innovative and transparent R&D ecosystem.

Pre-workshop input highlighted shared motivations for engaging in open science and open source work, centered around both aforementioned meta-goals of fostering R&D and driving societal progress. Another point of consensus was the perception of artificial intelligence as both a catalyst and a source of risk. Respondents emphasized investing in AI in ways that reinforce transparency, accountability, and shared contribution to the commons.

Survey responses also highlighted structural interdependence across sectors: researchers depend on shared data and compute they cannot sustain alone; industry depends on interoperable commons; funders seek durable impact beyond single grants; and policymakers rely on trustworthy, reusable outputs. Openness is viewed not as a normative preference but as necessary coordination infrastructure. When asked what they hoped to gain from the workshop,

participants prioritized visibility into promising initiatives, collaborative funding opportunities, alignment on shared tools and standards, and a trusted forum to translate enthusiasm into concrete next steps.

Workshop Structure and Emerging Themes

The workshop opened with a group discussion on the organizational motivations and barriers when working in open science and open source. This dialogue made clear that many organizations engage in open science as a practical strategy for addressing structural constraints in the R&D system. In this context, open science was consistently described as a force multiplier to extend the value of limited expertise, data, and resources. One practical example cited was antibiotics research, where a limited talent pool of researchers necessitates collective effort to shift approval timelines.

The growing ubiquity of AI has sharpened practical interest in open science by underscoring how fully AI's scientific value depends on the quality, accessibility, and governance of the knowledge infrastructure beneath it. Participants emphasized that open, well-managed data are essential for AI-enabled advances in areas such as biotechnology and drug discovery, but only if they are supported by shared norms and validation frameworks that ensure reliability, reproducibility, computational fitness, and proper licensing and attribution. Many expressed a desire to redirect the current market emphasis on consumer-facing AI tools toward "AI for science," grounded in open and trustworthy research inputs. This, in turn, reinforced a broader call to preserve and sustain the knowledge commons by identifying critical open digital and hardware infrastructure and shifting from one-time release to ongoing stewardship, with durable governance, licensing, and attribution mechanisms to keep these resources viable in an AI-driven environment.

The discussion repeatedly returned to the human and social dimensions of openness. Making resources technically open is necessary but not sufficient. Researchers, practitioners, policymakers, educators, and communities must be able to find, understand, synthesize, and use them. Participants emphasized the need for a broader civic strategy that connects open science to real-world outcomes, strengthens links between research and policy, and engenders public trust in evidence amid growing polarization.

Despite widespread agreement on the promise of open science, the group identified several persistent barriers to a mature and sustainable ecosystem. These include incentive structures

that undervalue open practices and funding patterns that prioritize outputs over long-term infrastructure and organizational sustainability. Concerns were also raised about growing asymmetries in the AI landscape. Even when data are open, the computing power and technical expertise required to use it are often concentrated among a small number of actors. This creates risks of extractive reuse, especially in the absence of clear governance and professionalized data management.

In response to these challenges, participants outlined several foundational elements of a robust, resilient open science ecosystem:

- **Distributed Architecture.** Shared data and compute systems that are interoperable, resilient, and broadly accessible.
- **Accountable Governance.** Clear frameworks to make sure data and other research information is shared safely and used ethically.
- **Workforce Capacity.** Professionalized data management roles and integration of open science competencies into learning curricula across career stages, including both formal education and ongoing professional training.
- **Institutional Commitment.** Sustained investment and other structural support from university administrators, philanthropic leaders, senior industry executives, private investors, and other key actors, demonstrating open science as central to their missions.

From this group discussion, the workshop pivoted to iterative dialogues across small groups to further unpack shared themes and priorities. Through eight guided breakout discussions, participants surfaced a number of timely opportunities for ongoing collaborations:

I. Moving from Silos to Systems

It would be to our collective benefit if we stop treating "open science," "open source," and "open data" as siloed activities. Particularly in light of the emerging AI moment, we need to build space to talk candidly about issues that transcend traditional boundaries. Examples include exploring data sources for AI models; transparent reporting about how LLMs are weighted; and the balance between open source and commercialization. There are parallel conversations happening within subdomains of open science that would be more informed and impactful if they were cross-cutting.

II. Building a Bigger Tent

Directly related to the above, advancing open science requires creative coalition building to encompass the wide range of actors and interests that shape how research is conceptualized, supported, conducted, evaluated, and translated into societal benefit. Yet until now the range of interest holders actively engaging in, and advocating for, open science has remained relatively modest. Participants agreed that any workstreams emerging from the workshop should include ample opportunities for others not present to contribute.

III. Recognizing Blind Spots

The sessions identified significant structural impediments to the scaling of open initiatives. A primary hurdle is the absence of a collective intelligence map to catalog expertise across the landscape, which complicates the coordination of mentorship and researcher support. Furthermore, organizational limitations, including 501(c)(3) advocacy restrictions, hinder direct engagement with policymakers. Participants noted a critical gap in professionalized standards. For example, there is no academic equivalent to industry standards bodies (such as the Linux Foundation) to anchor interoperability and ensure the long-term sustainability of digital platforms.

IV. Identifying Foundational Requirements

Addressing these challenges requires defining and socializing a system of shared norms and principles. This could encompass technical foundations where data storage and computing power are distributed, governance is transparent, data trusts create safe and ethical pathways for collaboration, and no single organization or interest holds exclusive control. To advance this vision, participants envisioned a community of practice to facilitate open science education, professionalization, knowledge exchange, infrastructure, and co-investment.

Concluding Discussion and Next Steps

The final workshop session focused on translating ideas surfaced over the course of the meeting into concrete action. A recurring theme was that open science efforts remain fragmented, and while no one wants to create “yet another coalition,” there is real value in sustained coordination, shared learning, and clearer visibility into who is doing what across the field.

Discussions emphasized the need to move beyond abstract agreement toward near-term, high-value collaboration. Participants noted that the scale and complexity of challenges facing open science (particularly in relation to AI, infrastructure, and governance) can make it difficult to identify actionable next steps. This challenge is compounded by real and perceived barriers, including a sense that individual contributions are too small to matter and limited time or incentives to explore new models. As a result, the group stressed the importance of parsing large problems into smaller, discrete efforts that allow progress without requiring full systemic overhaul. There was also strong interest in practical support, such as lightweight communication spaces to keep the community connected between convenings.

The conversation converged on a strong preference for experimentation over additional declarations. Participants agreed that the most effective next step would be to launch one or two bold, joint initiatives that no single organization could pursue alone. These efforts would treat openness as core innovation infrastructure, require multi-sector coordination, and measure success through capability, reuse, and downstream investment rather than publications or other traditional metrics.

Building on this consensus, the workshop concluded with a proposal to form a small, time-bounded, heterogeneous steering group tasked with designing a concrete Open Innovation Pilot. The group would operate with a focused 90-day mandate. Its goal would be to identify a shared technical problem with real economic and societal stakes, design a pilot anchored in contribution-based participation, establish clear governance and licensing principles, and secure modest but meaningful co-investment. If successful, the pilot would be positioned to scale into durable infrastructure, as well as to serve as a model for future collaborations. If not, it would be wound down cleanly. ORCA, Microsoft, and CERN have committed to coordinating this initiative. This model would have the further benefit of demonstrating that open science advances are more efficiently realized when they are built, governed, and sustained collectively.

As noted by many participants, the workshop was in many ways a microcosm of the “big tent” coalition to which open science can and should aspire. It brought together people who don’t typically interact, owing largely to the artificial barriers that often separate open source from open access, higher education from industry, etc. The spirited discussion and commitment to action provide a meaningful blueprint for how we can create opportunities for dialogue and engagement that overcome these barriers. In doing so, we can optimize open science as both an enabler of innovation and growth and a tool to drive societal progress.

Appendix A: Participants' Affiliations

- Addgene
- Alfred P. Sloan Foundation
- Allen Institute
- Bloomberg LP
- Carnegie Mellon University
- CERN
- Chan Zuckerberg Initiative/Biohub
- Creative Commons
- CURIOS
- Data Funders Collaborative
- Dryad
- FIWARE Foundation
- Foundation for American Innovation
- Gates Foundation
- Georgetown University Center for Security and Emerging Technology
- German Sovereign Tech Agency
- Google.org
- GovLab/New York University
- Hugging Face
- John Templeton Foundation
- Johns Hopkins Technology Ventures
- Microsoft
- MIT Initiative on the Digital Economy
- Open Research Community Accelerator (ORCA)
- Open Science Hardware Foundation
- OpenForum Europe
- Phare Bio
- SAP
- Schmidt Sciences
- Siegel Endowment
- Templeton World Charity Foundation
- UN Office of Information and Communication Technologies
- Wikimedia Foundation