iLRN Scanning Signals (4th edition)

- Signal: Open Science as Amplifier, Not Automatic Impact
- Signal: Collaborative Models for Sustainable Open Access Publishing in Africa

Signal: Open Science as Amplifier, Not Automatic Impact

Signal Statement

> *Our scans suggest openness matters—but only when paired with strong design, curation, and dialogue.*

What We're Seeing
Recent findings from the **Open Science Impact Pathways (PathOS)** initiative indicate that open access to research articles, data, and software produces **real but conditional benefits**. Open outputs tend to receive more scholarly citations, are referenced more frequently in patent applications, and support learning among public participants such as citizen scientists. However, the evidence does **not** consistently demonstrate broad, long-term social or economic impact from openness alone.

The PathOS team emphasizes that it remains difficult to isolate the effects of openness from other factors such as research quality, timing, and usability. Their conclusion reframes open science less as a guaranteed engine of impact and more as an **amplifier of strong research when reuse conditions are well designed**.

Source: https://www.pathosproject.eu/

Why This Matters Now
After more than two decades of investment in open-access publishing and public data repositories, policymakers and funders—particularly in Europe—are increasingly asking whether openness is delivering on its promises. PathOS stands out for combining large-scale quantitative analysis with qualitative case studies, offering one of the most comprehensive assessments to date.

Reporting in **Science** underscores a key shift in thinking: the central challenge is no longer whether research is open, but **how open resources are curated, contextualized, and taken up in practice**.

Source: https://www.science.org/

Connection to Immersive Learning (2025–2026)
This signal closely parallels developments in immersive learning and AI-mediated education, where access to environments, tools, or data is insufficient on its own. Value increasingly emerges through:

- Designed experiences that support interpretation and sense-making

- Scholarly systems that encourage reuse, iteration, and dialogue
- Immersive data visualizations and discourse spaces that help learners *work with* knowledge rather than merely encounter it

In this view, open science and immersive learning share a common logic: **impact is relational, contextual, and design-dependent**.

Design Implication
If open science is to meaningfully support discovery, learning, and public understanding, future infrastructures must prioritize:

- Usability, documentation, and curation of open resources
- Contextual framing that supports interpretation and ethical judgment
- Dialogic environments—often AI-mediated—where meaning, trust, and responsibility can develop over time

Openness creates the conditions for impact; **design determines whether those conditions are realized**.

Signal Metadata

- **Signal Type:** Scholarly Infrastructure & Open Science
- **Source(s):**
  - Open Science Impact Pathways (PathOS): https://www.pathosproject.eu/
  - *Science* magazine coverage: https://www.science.org/
- **Geographic Scope:** Europe (with global relevance)
- **Time Horizon:** Near- to mid-term (2025–2028)
- **Confidence Level:** Medium–High (based on multi-method empirical study)
- **Related Signals:**
  - Dialogic & Reflective Immersion
  - Human–AI Co-Agency in Learning
  - Evolving Scholarly Systems & Open Review
  - Immersive Data Visualization for Sense-Making

Signal: Collaborative Models for Sustainable Open Access Publishing in Africa

Signal Statement

> *Open access scales when governance, infrastructure, and professional practice evolve together.*

What We're Seeing
The **EIFL** initiative on collaboration for sustainable open access publishing in Africa documents a **systems-level approach** to strengthening scholar-led publishing across the continent. Rather than centering on article processing charges or isolated platform adoption, EIFL works with libraries, journal editors, and national stakeholders to co-design shared services, governance models, and capacity-building practices that support long-term viability.

This work reframes journals as **public knowledge goods embedded within regional research ecosystems**, emphasizing collective ownership and local stewardship. Open access, in this model, is not a transactional service but a coordinated scholarly infrastructure sustained through collaboration, training, and policy alignment.

Source: https://www.eifl.org/eifl-in-action/collaboration-sustainable-open-access-publishing-africa

Why This Matters Now
As global open access mandates expand, questions of sustainability, equity, and control have become more urgent—particularly in regions historically underserved by commercial publishing systems. EIFL's work demonstrates that durable openness depends less on fee models or technical tools than on **institutional coordination and shared governance capacity**, especially where resources are constrained.

This case offers a concrete counterpoint to platform-centric approaches to openness, showing how libraries can function as **long-term stewards of scholarly infrastructure**, not merely access providers.

Connection to Immersive Learning (2025–2026)
For immersive learning and XR scholarship, this signal is highly instructive. Many immersive artifacts—datasets, simulations, virtual environments, and multimodal narratives—sit outside conventional publishing pipelines. EIFL's model suggests how scholarly communities can steward

nontraditional outputs with the same rigor and durability as journals when governance, training, and infrastructure are designed together.

As iLRN advances the Codex, Repository of Immersive Learning Experiences, and Chapter Showcases, this signal reinforces a key lesson: immersive learning infrastructure should be treated as a **shared scholarly commons**, supported by collaborative governance and regionally grounded capacity building rather than one-off platforms or isolated repositories.

Design Implication
Sustainable openness in immersive learning will require:

- Library-led stewardship of digital and multimodal artifacts
- Shared standards, documentation, and governance for nontraditional outputs
- Investment in professional practice and regional capacity alongside technical systems

EIFL's approach demonstrates that openness becomes durable when **ownership, responsibility, and infrastructure are collectively held**.

Signal Metadata

- **Signal Type:** Scholarly Infrastructure & Open Science
- **Primary Source:**
  - EIFL — Collaboration for Sustainable Open Access Publishing in Africa https://www.eifl.org/eifl-in-action/collaboration-sustainable-open-access-publishing-africa
- **Geographic Scope:** Africa
- **Primary Domain:** Open Science · Scholarly Publishing · Library-led Infrastructure
- **Time Horizon:** Near- to mid-term (2024–2028)
- **Confidence Level:** Medium–High (established program with multi-country implementation)
- **Relevance to Immersive Learning:**
  - Governance models for open, nontraditional scholarly outputs
  - Library stewardship of digital and multimodal artifacts
  - Capacity building for sustainable, community-owned knowledge systems
- **iLRN Alignment:**
  - Knowledge Tree (Scholarly Evidence)
  - Codex (Standards & Documentation)
  - Chapters (Regional Ecosystems)
- **Keywords:**
  #Africa #PanAfrican
  #OpenScience #ScholarlyInfrastructure #KnowledgeCommons
  #Governance #Stewardship #CapacityBuilding #Sustainability
  #OpenAccessPublishing #MultimodalScholarship #NonTraditionalOutputs
  #LibraryLed #CommunityOwned #RegionalEcosystems
  #ImmersiveLearning

#iLRNCodex #KnowledgeTree #ChapterEcosystems #OpenImmersiveSociety