



The Future is (Still) Open (and Growing)

An Update on the PKP Community and Open Source Publishing Software

DOI: <https://doi.org/10.7557/5.7772> This work is licensed under the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/)

“ The Scholarly Publishing **INDUSTRIAL COMPLEX**

A large-scale **network** of industries, organisations, and institutions that work together and influence one another, often in a way that **consolidates power and perpetuates certain activities or policies**. Most commonly associated with systems where there is significant interaction between business interests and government or social structures.

The term industrial complex implies a self-sustaining network that drives and benefits from specific practices with significant implications for policy, economics, and society – such as rankings, metrics, and indicators.

Centre and Periphery

“... the inequalities of the international knowledge system run very deep, have strong institutional support and **significant historical roots**, and are often in the interests of those who wield power, whether that power is military, economic, **intellectual, or technological**. It is unlikely that even the best intentions, buttressed by resolutions of the United Nations or the programs of UNESCO, can dislodge the basic power relationships among nations, especially when **those in the industrialized nations, who hold power, have shown little inclination to yield it in the past.**”

“The apparatus of knowledge access and distribution is concentrated at the center ... **Major publishers of scientific materials, the prestigious academic journals, and the like are predominantly located at the centers.**”

“It is widely assumed that a ‘new international order’ predicated on a more equitable international system should include **a greater degree of autonomy and equality for educational institutions in ‘have-not’ parts of the world.**”



PKP IS A GLOBAL COMMUNITY

Publishing software that is developed, maintained, and sustained by a global community of **developers, users, translators, institutions, financial contributors, and strategic partners.**

National Platforms

openjournals.nl, Netherlands

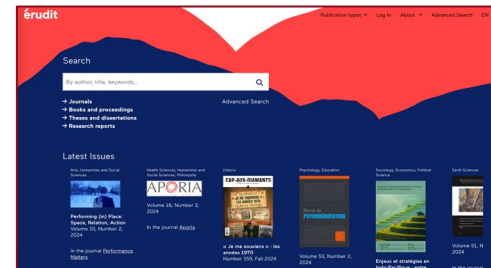
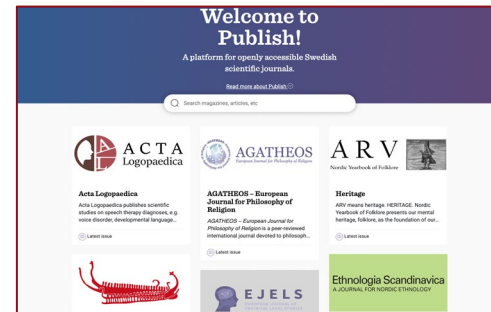
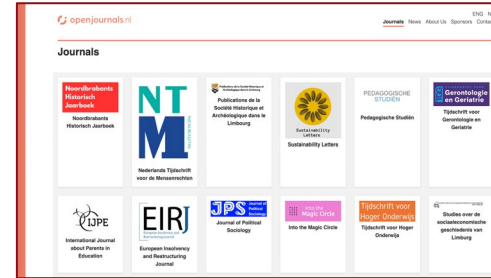
c.40 Journals

Publicera, Sweden

c.35 journals

Érudit, Canada

Hbst over 300 journals with 5 million users p.a.



National Platforms

Journal.fi, Finland

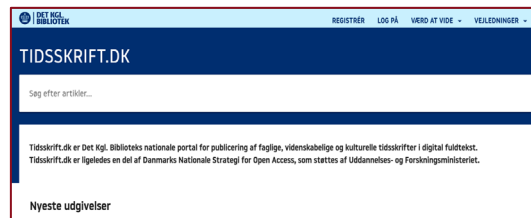
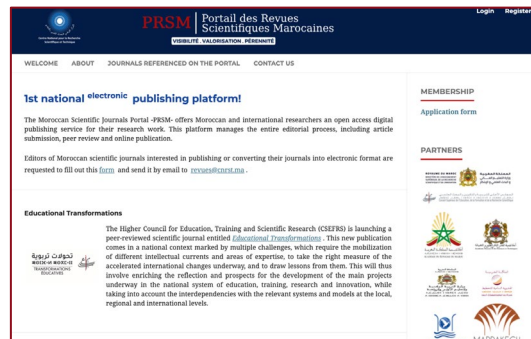
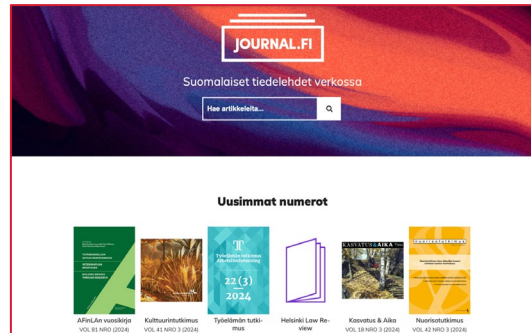
140+ Journals

Moroccan Scientific Journals Portal PRSM

160 multilingual journals in Arabic, French & English

Tidsskrift.dk, Denmark

c. 190 journals



SFU

PKP

PUBLIC
KNOWLEDGE
PROJECT

52,320

Journals on OJS

Publishing over 2 million articles.

Public Knowledge Project | PKP in Numbers

21,500

Books on OMP

Released by 390 publishers.

4,520

Preprints on OPS

Across 30 installations worldwide.

OJS IS THE WORLD'S MOST WIDELY USED JOURNAL PUBLISHING SYSTEM

Translated into	40+ languages
Publishing in	160+ countries
Diamond OA model	84.2%

'Invisibility' from a lack of indexing:

Web of Science	1.2%
Scopus	5.7%
EBSCOHost	3.4%
Google Scholar	88.3%



 A low-angle photograph of a modern glass skyscraper at dusk. The building's facade is composed of many rectangular glass panels, some of which are illuminated from within, creating a warm glow against the deep blue twilight sky. The building's structure is complex, with multiple levels and a curved section at the bottom. A red banner with white text is overlaid on the left side of the image.

PKP WINS BID TO DEVELOP THE OPEN RESEARCH EUROPE PUBLISHING PLATFORM

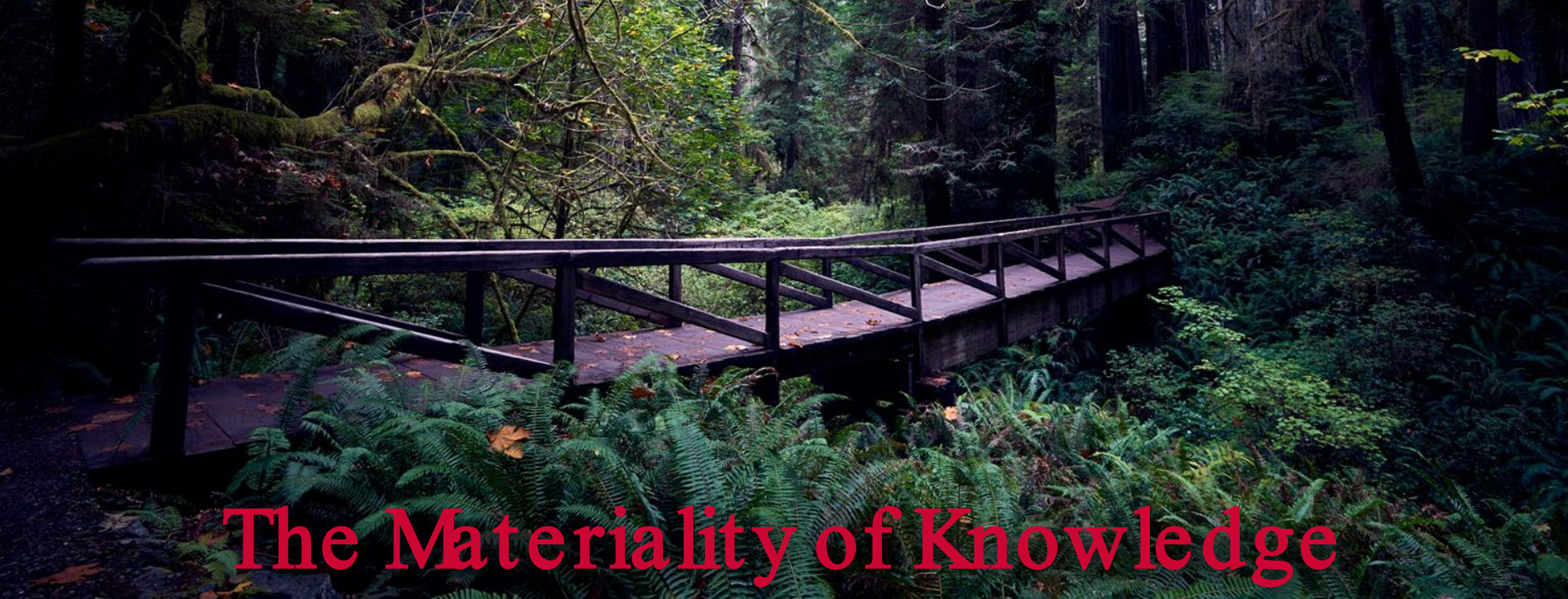
The European Commission awarded PKP the tender to deliver an open source, end-to-end publishing platform using OJS for Open Research Europe (delivery in 2026).

“ OPEN RESEARCH EUROPE

Technological autonomy is essential in the long-term vision: the European Commission will support the development of an **open source publishing infrastructure** for Open Research Europe to align to the European Commission Open Source Strategy 2020-2031

“ THINK OPEN – THE EC OPEN SOURCE VISION

To leverage the **transformative, innovative, and collaborative power of open source**, encouraging the sharing and reuse of software solutions, knowledge and expertise, to deliver better European services that enrich society and focus on lowering costs to that society.



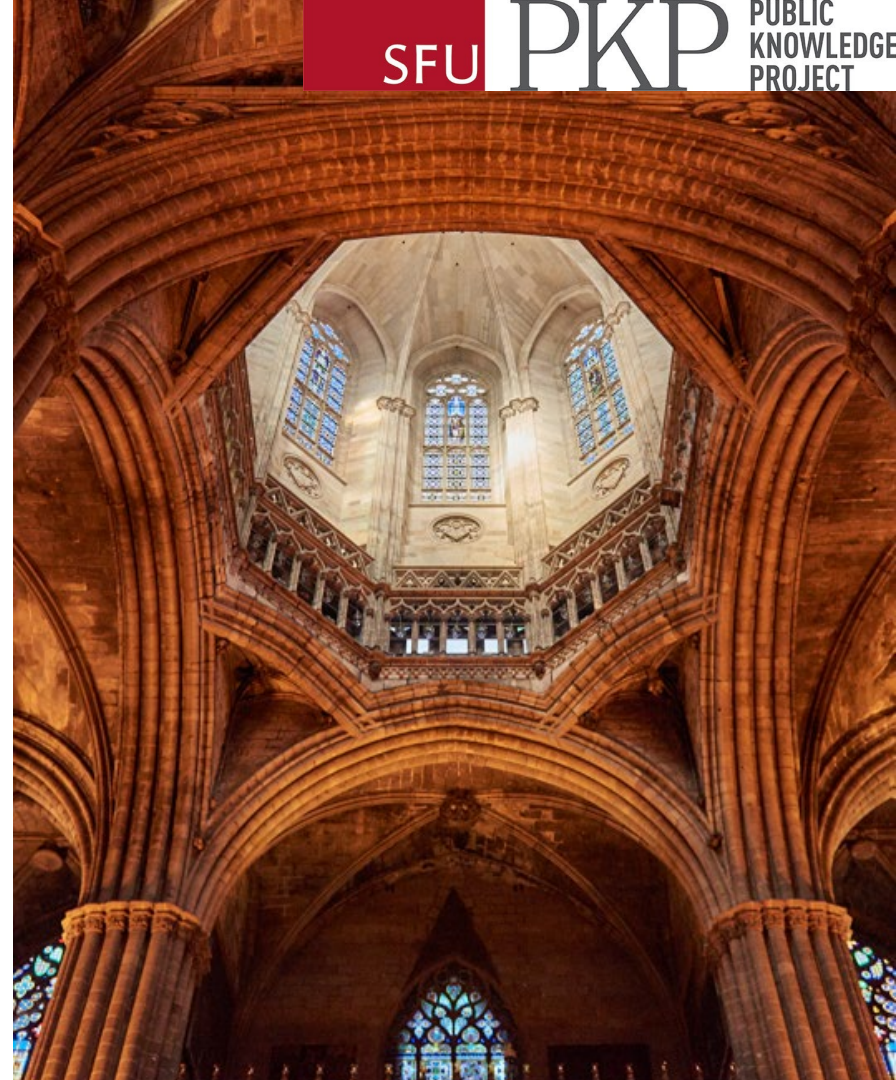
The Materiality of Knowledge

How open access and open infrastructure are reshaping global scholarly publishing, driving innovation, and bridging knowledge gaps worldwide

Innovation is the cornerstone of societal progress, advancing technology, the economy, and scientific understanding

The shift to digital and the push to Open Access always had the **potential to remove barriers to knowledge and information**

But the specific **impact on innovation** is not well known



How science shapes innovation

Measuring Scientific Non-Patent References (SNPRs) to identify the information and inspiration that drives invention and innovation



US008282728B2

(12) **United States Patent**
Subramanian et al.

(10) **Patent No.:** US 8,282,728 B2
(45) **Date of Patent:** Oct. 9, 2012

(54) **MATERIALS WITH TRIGONAL BIPYRAMIDAL COORDINATION AND METHODS OF MAKING THE SAME**

6,541,112 B1 4/2003 Swiler et al. 549:5
6,541,645 B1* 4/2003 Canary et al.
6,582,814 B2 6/2003 Swiler et al.
7,024,068 B2* 4/2006 Canary et al. 385:15
2003/0229131 A1* 12/2003 Sessler et al. 514:410

(75) Inventors: **Munirpallam A. Subramanian**, Philomath, OR (US); **Arthur W. Sleight**, Philomath, OR (US); **Andrew E. Smith**, Rice Lake, WI (US)

OTHER PUBLICATIONS

Smith, Andrew E. et al., "Mn³⁺ in Trigonal Bipyramidal Coordination: A New Blue Chromophore" *J. Am. Chem. Soc.*, vol. 131, No. 47 (available online on Nov. 9, 2009) pp. 17084-17086.*
Subramanian, Munirpallam A. et al., "Novel tunable ferroelectric compositions: Ba_{1-x}Ln_xTi_{1-x}MnO₃ (Ln=La, Sm, Gd, Dy; M=Al, Fe, Cr)" *Solid State Sciences* 2 (2000) pp. 507-512.*

(Continued)

(73) Assignee: **State of Oregon Acting by and through the State Board of Higher Education on behalf of Oregon State University**, Corvallis, OR (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 197 days.

(21) Appl. No.: **12/802,700**

Primary Examiner — Jessica L Ward
Assistant Examiner — Ross J Christie
(74) *Attorney, Agent, or Firm* — Klarquist Sparkman, LLP

(22) Filed: **Jun. 10, 2010**

(65) **Prior Publication Data**

US 2010/0317503 A1 Dec. 16, 2010

Related U.S. Application Data

(60) Provisional application No. 61/268,479, filed on Jun.

(57) **ABSTRACT**

Embodiments of compositions comprising materials satisfying the general formula $AM_{1-x}M'_xO_{3+y}$ are disclosed, along with methods of making the materials and compositions. In some embodiments, M and M' are +3 cations, at least

US 8,282,728 B2

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TABLE 8-continued

Crystal data and structure refinement YIn _{0.33} Mn _{0.66} O ₃	
Crystal system	Hexagonal
Space group	P6 ₃ cm
Unit cell dimensions	a = 6.1709(6) Å c = 11.770(2) Å
Volume	388.17(9) Å ³
Z	6
Density (calculated)	5.437 mg/m ³
Absorption coefficient	28.267 mm ⁻¹
F(000)	576
Crystal size	0.05 × 0.03 × 0.01 mm
Theta range for data collection	3.46 to 28.31°
Index ranges	-7 ≤ h ≤ 8, -7 ≤ k ≤ 7, -15 ≤ l ≤ 15
Reflections collected	3766
Independent reflections	363 [R(int) = 0.0263]
Completeness to theta = 28.31°	98.0%
Absorption correction	Semi-empirical from equivalents
Max. and min. transmission	0.7653 and 0.3322
Refinement method	Full-matrix least-squares on F ²
Data/restraints/parameters	363/0/31
Goodness-of-fit on F ²	1.178
Final R indices [I > 2sigma(I)]	R1 = 0.0219, wR2 = 0.0407
R indices (all data)	R1 = 0.0288, wR2 = 0.0438
Largest diff. peak and hole	0.934 and -0.629 e/Å ³

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TABLE 11

Anisotropic displacement parameters (Å ² × 10 ³)*						
	U ¹¹	U ²²	U ³³	U ¹²	U ¹³	U ²³
Y1	2(1)	2(1)	6(1)	0	0	1(1)
Y2	6(1)	6(1)	28(1)	0	0	3(1)
Mn1a	7(1)	5(1)	5(1)	0	-1(1)	2(1)
O3	33(7)	33(7)	5(7)	0	0	17(9)
O4	3(3)	3(3)	33(7)	0	0	1(1)

The anisotropic displacement factor exponent takes the form -2π²(h²u¹¹ + ... + 2hk²u¹² + ...)

First-Principles Calculations

First-principles calculations were performed with plane-wave density functional theory using the Vienna Ab-initio Simulation Package (VASP). (Kresse, G., and Furthmüller, J., *Phys. Rev. B* 54, 11169-11186 (1996); Kresse, G., and Joubert, D., *Phys. Rev. B* 59, 1758-1775 (1999).) Exchange and correlation effects are treated on the level of LSDA+U, with an on-site Coulomb repulsion U=5.0 eV and an intra-atomic exchange splitting of J=0.5 eV for Mn d states. (Liechtenstein, A. I., Anisimov, V. I., and Zaanen, J., *Phys. Rev. B* 52, R5467-R5470 (1995).) A global antiferromagnetic ordering with ferromagnetic Mn planes was adopted for the simulations. Intermediates within periodic boundary conditions were studied using the supercell approach with lattice constants taken from experimental values presented in FIG. 7. The 40-atom supercells permit concentrations of x=0.0, 0.25,

The Nexus of Open Science and Innovation, Maddi 2024



Scientific Non-Patent References identify the inspiration that drives invention and innovation

Open Access publications were 38% more prevalent in patent citations.

This “...illuminates the **sybiotic relationship between open science and inventive activity...**[and] highlights the **transformative potential of open access resources** in driving technological innovation ...shift towards leveraging openly accessible scientific knowledge in the inventive process.”

Intangible

SFU

PKP

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lacks physical sub
patents, copyright

INTANGIBLE ASSET INTENSITY

Intangible assets include **patents and proprietary technology** and provide a measure of an economy's shift toward knowledge-based industries where intangible assets, rather than physical capital, are the key value drivers and signal for future growth. They are increasingly central to modern economies, particularly in the digital and innovation-driven sectors

An indicator of how well science and knowledge aid technological innovation within a country.

Open Access is increasingly important in shaping inventive processes and scientific progress

Western knowledge is hard-baked into digital platforms and systems

Digital epistemic colonialism manifests in the language, infrastructure, and culture, often excluding and marginalising non-Western knowledge systems.



Government investment in science at universities is a strategic approach to developing national prosperity, security, and well-being.

Policymakers do well to identify the growing importance of Open Access to innovation especially in disciplines such as biology, medicine, chemistry, and computer science.



INDONESIA

the fourth most populous country in the world spanning one eighth of world's circumference



Image: Georgi Kovachev

2023

663,594 articles

23,524 journals

Since 2019

2 million articles

Diamond OA publishing
in a non-industrialised
ecosystem

nature

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NEWS | 15 May 2019

Indonesia tops open-access publishing charts

Countries in southeast Asia, Africa and South America lead the way on free-to-read literature.

By [Richard Van Noorden](#)



European funders have been [leading a charge under 'Plan S'](#) to make more of the scientific literature free to read. Yet the nations that publish the highest proportion of their research



PRESIDEN
REPUBLIK INDONESIA

- 2 -

d. bahwa berdasarkan pertimbangan dimaksud dalam huruf a, huruf b, c perlu membentuk Undang-Undang tentang Nasional Ilmu Pengetahuan dan Teknologi

: Pasal 5 ayat (1), Pasal 20, Pasal 28C ayat (31 ayat (5) Undang-Undang Dasar Negara Indonesia Tahun 1945;

Dengan Persetujuan Bersama

WAN PERWAKILAN RAKYAT REPUBLIK INDONESIA

dan

PRESIDEN REPUBLIK INDONESIA

2014: Open Access Mandate

Universities obligated to make scientific publications openly available

2017: Publication Requirements

Graduates at all levels mandated to publish in scholarly publications

2019: 25-Year Science & Technology Plan

Implement research and development for invention and innovation

2019: Bahasa Indonesia Mandate

Presidential decree – Bahasa Indonesia now mandatory in science publishing

WIPO Global Innovation Index

> Indonesia GII Ranking (2020-2024)

The table shows the rankings of Indonesia over the past four years. Data availability and changes to the GII model framework influence year-on-year comparisons of the GII rankings. The statistical confidence interval for the ranking of Indonesia in the GII 2024 is between ranks 53 and 63.

Year	GII Position	Innovation Inputs	Innovation Outputs
2020	85th	91st	76th
2021	87th	87th	84th
2022	75th	72nd	74th
2023	61st	64th	63rd
2024	54th	54th	67th

Indonesia has advanced most of all nations over the last decade alongside China and India. “Performing above expectations on innovation relative to their level of economic development.”

Indonesia excels in University-Industry R&D collaboration measure, where it has **risen rapidly from 38th to 5th** in the world over the past decade.

International patent filings

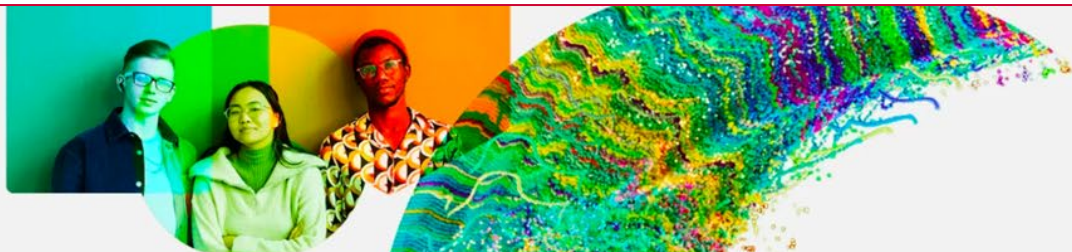
▲ 1,555.6%

2022 - 2023

▲ 25.8%

2013 - 2023

In the important **Intangible Asset Intensity** measure, Indonesia is now **13th in the world**, up from 19th in 2023 reflecting the **rapid increase in patents** and the **creation of proprietary technology**.



Open Access is just one part of a fully open future.

Open infrastructure built by global communities and scholar-led.

Enabling participation in the creation of scientific knowledge that can be accessed, read, and applied by all citizens without enclosure, risk of capture, or prevented by the paywalls of commercial publishing platforms.

The Open Future: Key Takeaways

**OPEN SCIENCE:
JUST
SCIENCE
DONE RIGHT**

Global Impact

Open infrastructure enables diverse, multilingual scholarly publishing worldwide.

Innovation Driver

Open access significantly contributes to technological and societal advancements.

Policy Matters

Strategic policies can foster a thriving open science ecosystem.



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SFU PKP PUBLIC KNOWLEDGE PROJECT



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Munin
Conference
on Scholarly Publishing





INTANGIBLE ASSET INTENSITY

Intangible assets include patents and proprietary technology, and provides a measure of an economy's shift toward knowledge-based industries where intangible assets, rather than physical capital, are the key value drivers.

It is an indicator of how well science and knowledge provide a scaffold for technological innovation within a country or region. Where knowledge has taken on the materiality of capital and commodities in the global marketplace.



“As things currently stand, grossly inaccurate misinformation, disinformation, and malinformation are freely available online. But credible, authoritative and peer-reviewed scientific advances are guarded by paywalls.”

Csaba Körösi, UN PGA, 2023

Capture and Enclosure by Commercial Interests

Control of the means to access and produce knowledge has **accelerated** as the scholarly publishing industrial complex has successfully strengthened the **barriers to participation** in the creation and **dissemination of knowledge**.

Open Access, as a business model and publishing commodity is **gifted** as a philanthropic activity from the West to developing nations and **does not build the local capacity** to undertake and share that research which is critical to that country or region.