



OECD

**Committee for Scientific
and Technological Policy**

Policies concerning Publicly Funded Research Software in the Age of Artificial Intelligence

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NSTF

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About the Organisation for Economic Co-operation and Development (OECD)



Mission

“Better policies for better lives”
Evidence-based international standards for social, economic, and environmental challenges, e.g.

- Improving economic performance, developing responsible AI, combating climate change, enhancing education and tackling international tax evasion.
- A unique forum and knowledge hub for data, analysis, and best practices in public policy,
→ stronger, fairer, and cleaner societies

www.oecd.org/about

History

1948 Organisation for European Economic Co-operation (OEEC), managing aid under the Marshall Plan
1960 Convention on the OECD.

38 Members

Australia	Finland	Latvia	Spain
Austria	France	Lithuania	Sweden
Belgium	Germany	Luxembourg	Switzerland
Canada	Greece	Mexico	Türkiye
Chile	Hungary	Netherlands	United Kingdom
Colombia	Iceland	New Zealand	United States
Costa Rica	Ireland	Norway	
Czechia	Israel	Poland	
Denmark	Italy	Portugal	
Estonia	Japan	Slovak Republic	
	Korea	Slovenia	

The EU also participates in the OECD's work.

8 Accession candidates

Argentina, Brazil, Bulgaria, Croatia, Indonesia, Peru, Romania, Thailand

5 Key Partners

Brazil, China (People's Republic of), India, Indonesia, South Africa

Find out more:

www.oecd.org/en/about/members-partners.html



The Committee for Scientific and Technological Policy

Objective: strengthen co-operation among Members and partners in support of **inclusive and anticipatory STI policies** that help address **global challenges**, whilst fostering **economic competitiveness, security and resilience**

- guidance on the design, implementation, monitoring and assessment of STI policy agendas that enable **transformative socio-economic change**.
- whole-of-government and whole-of-society approach to achieving the **SDGs**, including for **climate, biodiversity** loss, and the sustainable use of the **Ocean**.
- responsible, human-centric and rights-based governance of science and technology that seeks to anticipate the societal, environmental, and economic impacts of **emerging and converging technologies**.
- advancing **diversity, equity, inclusion** and **accessibility** to enable society-at-large to fully participate and succeed in science, technology and innovation.
- promoting **international co-operation**, based on shared values and principles, notably academic and scientific freedom, scientific excellence, openness, transparency, reciprocity, accountability, research ethics, scientific integrity and security.
- **supporting the implementation of open science principles**, policies and practices and strengthen the evidence base for STI policy making and advice and reinforce STI strategic intelligence capabilities in Member and non-Member countries.

Working methods – twice yearly in-person meetings in Paris

- facilitate **international co-operation in STI** to advance knowledge and address global challenges; as well as enhance policy co-ordination among Members and partners;
- act as a platform to **share knowledge, experience**, and **data** to identify and improve STI policy solutions to economic, environmental, and social challenges;
- further develop and support the **implementation of OECD standards** and tools in the area of STI, strengthen **responsible governance** and **statistical capabilities** in STI;
- promote **policy experimentation**, **evaluation mechanisms**, **strategic intelligence** and **foresight systems** to improve the effectiveness, efficiency, and impacts of STI policies;
- strengthen the evidence base for, and conduct comparative analysis of, STI systems, analyse the impacts of STI on **sustainable transformations, economic growth** and **societal well-being**.



OECD legal instruments proceed through analysis, consensus-building, adoption, implementation assistance and monitoring

OECD Recommendation concerning access to Research Data from Public Funding

Analytical work

- Case studies
- Workshops
- Policy gaps

Legal instrument

- Drafting
- Consensus building
- Adoption in OECD Council

Implementation toolkit

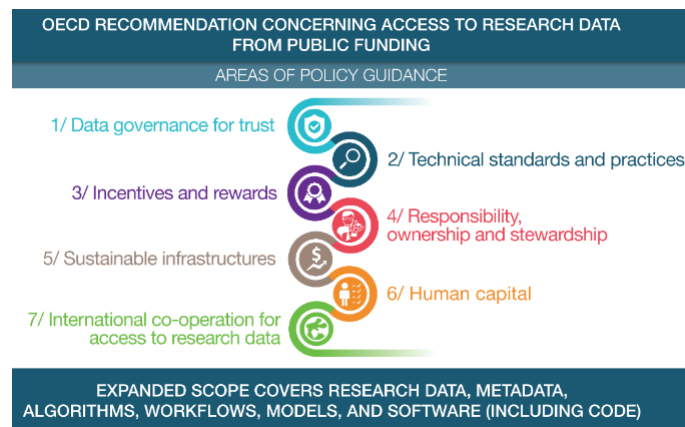
- Implementation options
- Hurdles
- Good practices examples

Monitoring

- Survey of implementation
- Assess relevance and need for update
- Report to OECD Council



[Enhanced access to publicly funded data for science technology and innovation](#)



[OECD Recommendation of the Council concerning Access to Research Data from Public Funding](#)



[Access to research data from public funding toolkit](#)

Q1.2 (a) For each of the following provisions under Pillar A, please indicate the current status of transposition and implementation in your country. *

Please choose the appropriate response for each item:

	Transposed and implemented	Transposed, implementation pending	Transposition pending
Open access by default	☐	☐	☐
Limited forms of access	☐	☐	☐
Risk mitigation measures	☐	☐	☐
Stakeholder consultations	☐	☐	☐
Consent for use of personal data	☐	☐	☐
Roles and responsibilities of researchers	☐	☐	☐

Q10.1 Do you consider that the Recommendation continues to provide a useful standard or reference point in domestic policy making? *

Choose one of the following answers
Please choose **only one** of the following:

- ☐ Highly useful
- ☐ Useful
- ☐ Moderately useful
- ☐ Not useful

2017

2018

2019

2020

2021

2022

2023

2024

2025

2026



Access to research software



Methodology: Evidence Based and Collaborative



Desk research



Survey



Case studies



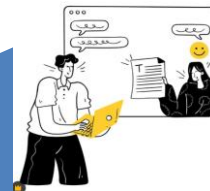
Interviews



Expert workshops



Drafting



Draft review



Analytical report

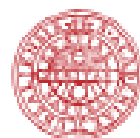
- Partnership with Research Software Alliance (ReSA) and European Virtual Institute for Research Software Excellence (EVERSE)
- 10 detailed case studies
- 100+ bibliographic references
- Active support of a broad network of 29 individual reviewers + broader network of ReSA and EuroHPC Advisory Group
- The workshops mobilized up to 200 participants



Participants in the project



EVERSE



UPPSALA
UNIVERSITET



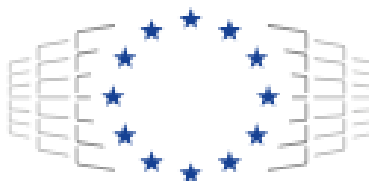
Australian Research Data Commons



Deutsche
Forschungsgemeinschaft



Software Heritage



EuroHPC
Joint Undertaking



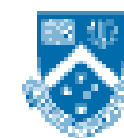
SCIENCE AND
TECHNOLOGY POLICY
INSTITUTE



National Institutes of Health
Turning Discovery Into Health



UK Research
and Innovation



MONASH
University



Digital Research
Alliance of Canada



UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

Office of the Vice Chancellor of Research and Innovation

NCSA | National Center for Supercomputing Applications



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CENTRUM





Analytical framework

Seven-pillar framework for analysing research software policy



Governance

Governance determines who is responsible for research software, who can access it and how it is maintained over time.

1



Intellectual property

Intellectual property frameworks determine how research software is shared, reused, sustained and commercialised.

2



Infrastructure & preservation

Infrastructure includes repositories, computing platforms and digital services.

3



Professional communities

Human resources cover software development, engineering, maintenance, stewardship and preservation.

4



Standards & assessment

Standards, assessment and certification establish shared, agreed rules and processes for sharing research software.

5



Public-private cooperation

Public-private partnerships (PPPs) are ecosystem partnerships in which public and private actors share the risks of, and accountability for, sharing research software.

6



International collaboration

International collaboration encompasses open collaboration, global reuse and shared infrastructures.

7



Two major workshops

Access to research software: Opportunities and challenges

Date
8 September 2025

Time
9:30-16:30 CEST (7:30 UTC)

Location
OECD Conference Centre,
Paris, and online

- 25 speakers
- 120 participants
- Thematic sessions:
 - **1. Governance of access to research software:** Defining responsibilities and reviewing software policy frameworks.
 - **2. Infrastructure issues:** Reducing fragmentation, enhancing interoperability, and ensuring long-term sustainability.
 - **3. Human resources and motivation:** Addressing skills gaps, recognition, and career incentives for research software professionals.
 - **4. Standards and certification:** Aligning assessment and quality frameworks for research software.
 - **5. Public-private partnerships:** Building collaborative models to support and scale open software initiatives.

Policies for research software in the age of artificial intelligence

Hybrid Workshop

Date
6 March 2026

Time
9:00-17:15 CEST

Location
OECD Conference Centre
(Paris) and online

- 200 participants
- Parallel sessions discuss policy gaps per pillar
- **1. Governance of access to research software:** Defining responsibilities and reviewing software policy frameworks.
- **2. Infrastructure:** Stable funding mechanisms beyond project-based grant cycles.
- **3. Human resources:** Recognition, career pathways and credit systems for the research software workforce, including research software engineers (RSEs).
- **4. Standards and assessment:** Development and adoption of technical and procedural standards.
- **5. Public-private partnerships:** How can the private sector support research software in the long term, beyond simple vendor relationships?
- **6. International co-operation:** Cross-border alignment to support interoperability and long-term sustainability.



10 case studies



- French Policy Regarding Access to Research Software



- Australian Policies Regarding Access to Research Software



- Canada's National Research Software Strategy



- Research Software Policies in Germany: Collaboratively creating a national ecosystem for sustainable research software



- Advancing Support for Research Software in the United Kingdom



- Elevating Research Software in Sweden's Open Science Landscape



- Improving Access to Research Software at the U.S. National Institutes of Health



- Open-Source Software Research with the Open-Source Center at ETRI (Korea)



- TU Delft Research Software Policy



- Monash University Business School Academic Promotion Metrics for Open-Source Software



Research software in the age of AI...

- **...is significant:** Research software is increasingly critical for modern science:
 - one-third of scientific outputs involve the creation of new code, rising to 65% in computer science, while
 - 91% of Canadian researchers consider research software critical to their work.
- **...is unique:** Research software requires **dedicated policies beyond generalist “open science”** because it combines **specialised IP and licensing** requirements, **continuous technical maintenance**, and a direct role in **generating scientific results**.
- **...needs to be sustainable:** the **greatest challenge** is not creating software but **sustaining, maintaining and preserving it beyond project lifecycles**.
- **...needs to strike a balance between openness and security:** Research software policy is evolving from **“open by default”** towards **“risk-managed openness”** that balances sharing with security, resilience and sovereignty concerns.
- ...is increasingly being addressed **as a distinct policy object** requiring **dedicated governance, funding, infrastructure** and **workforce** measures.



...and AI is disrupting the scene

- **AI transforms software creation:** AI is accelerating software development, shifting attention from coding to validation and quality assurance.
- **AI makes software a strategic asset:** Scientific breakthroughs increasingly depend on integrated ecosystems of software, data and AI models.
- **AI changes software risk profiles:** AI raises new challenges for trust, accountability, dual-use risks and strategic dependencies
- **AI creates new opportunities:** AI can enhance interoperability, reuse, preservation and discovery across software ecosystems.
- **AI reshapes sustainability:** Lower development costs do not eliminate the need for maintenance, stewardship and quality control.
- **AI increases the importance of provenance:** Trustworthy software requires transparency about origins, dependencies, validation and AI-assisted contributions.
- **AI changes workforce needs:** Demand is shifting from coding towards validation, governance, architecture and oversight skills.
- **Towards AI-ready ecosystems – “Trust infrastructure”:** Future research software ecosystems will require interoperability, provenance and trust infrastructure by design.



Preliminary findings: Governance



Context



- **Governance** determines who is **responsible** for research software, who can **access** it, and how it is **maintained, preserved** and **stewarded** throughout its lifecycle.

Achievements



- Research software increasingly recognised as a **strategic research asset**.
- **National, institutional and community** governance models are emerging.
- **Monitoring** and **coordination mechanisms** are emerging.

Policy gaps



- **Fragmented** responsibilities and **weak coordination**.
- **Limited monitoring** and **evidence** for policymaking.
- Insufficient focus on **sustainability** and **lifecycle planning**.

Possible way forward



- Recognise research software as **critical research infrastructure**.
- Establish national **coordination and accountability** frameworks.
- Strengthen **monitoring, stewardship** and use of **Software Management Plans**.



Preliminary findings: Intellectual property



Intellectual property

Context



- IP determines **ownership, licensing, reuse and commercialisation** of research software.

Achievements



- Growing recognition that research software requires **dedicated IP governance**.
- Expansion of **open-source licensing** and software-sharing policies.
- Emergence of practical **licensing, compliance and rights-management** frameworks.

Policy gaps



- **Fragmented** ownership, licensing and attribution rules **across jurisdictions**.
- **Lack of international frameworks** tailored to research software.
- Uncertainty **around AI-generated code, provenance and copyright**.

Possible way forward



- Move **beyond the open vs. closed** software debate.
- Adopt **risk-based access and licensing** approaches.
- Strengthen **AI provenance, attribution and IP governance**.



Preliminary findings: Infrastructure



Context



- Infrastructure for research software includes **repositories, computing resources, platforms and preservation services** that support software creation, sharing and reuse.

Achievements



- Research software is increasingly **recognised as part of digital research infrastructure (DRI)**.
- **Expansion of repositories**, preservation services and shared platforms.
- **Growing international infrastructures** such as Software Heritage, national DRI programmes and EOSC initiatives.

Policy gaps



- **Maintenance and sustainability lag behind** infrastructure development.
- **Critical digital dependencies** remain poorly understood.
- **Concentration risks and vendor lock-in** threaten resilience.

Possible way forward



- Develop **infrastructure observatories and roadmaps**.
- **Prioritise** stewardship of **critical software assets**.
- Strengthen **resilience** through **preservation, redundancy and dependency mapping**.



Preliminary findings: Human resources



Professional
communities

Context



- Human resources comprise **researchers, Research Software Engineers (RSEs), and software stewards** who develop, maintain and preserve research software.

Achievements



- Growing recognition and **professionalisation** of **Research Software Engineers (RSEs)**.
- Expansion of **training, skills-development** and **community programmes**.
- Emerging **recognition** of software contributions in **careers** and assessment.

Policy gaps



- Fragmented** responsibilities and **weak coordination**.
- Limited monitoring** and **evidence** for policymaking.
- Insufficient focus on **sustainability** and **lifecycle planning**.

Possible way forward



- Strengthen **RSE career pathways** and **retention**.
- Software contributions to be **recognised** for funding considerations, assessment and promotion systems.
- Expand **training, mentoring** and **communities of practice**.



Preliminary findings: Standards



Standards & assessment

Context



- Standards provide **shared rules** for making research software discoverable, reusable, trustworthy and preservable; **certification** verifies **compliance with defined criteria**.

Achievements



- Emergence of **key frameworks** such as FAIR4RS, FORCE11 Software Citation Principles and CodeMeta.
- Growing ecosystem of **identifiers, metadata** and **provenance** standards (e.g. SWHIDs, SBOMs, OpenChain).
- Increasing integration of standards into national policies, infrastructures and institutional practices.

Policy gaps



- Adoption remains uneven** across disciplines, institutions and countries.
- Limited incentives**, training and assessment mechanisms for **implementation**.
- Lack of mature certification and quality-assurance** frameworks, especially for **AI-generated software**.

Possible way forward



- Focus on **implementing** existing standards rather than creating new ones.
- Promote **interoperability** across standards, repositories and infrastructures.
- Extend standards, assessment and provenance frameworks to **AI-enabled research**.



Preliminary findings: Public-private cooperation



Public-private
cooperation

Context



- PPPs combine **public, private and community resources** to support research software **infrastructure, sustainability and stewardship**.

Achievements



- Emergence of **innovative partnership models** for software ecosystems and infrastructure.
- Successful **digital commons initiatives** such as Software Heritage.
- **Large-scale infrastructure partnerships** supporting compute and AI capacity (e.g. EuroHPC).

Policy gaps



- Overall, **classical supplier relationships** dominate the relationship between public and private sectors.
- **Vendor lock-in** is a real challenge
- **Lack of PPP models which leverage private investment and achieve risk sharing between public and private**

Possible way forward



- Develop **foresight** and **experimentation** on **sustainable partnership models** for research software ecosystems.
- Explore the conditions under which **more structured long-term partnership arrangements** may emerge.
- **Require continuity and exit planning for critical partnership arrangements.**



Preliminary findings: International collaboration



International
collaboration

Context



- **International cooperation** aligns policies, infrastructures, standards, skills and funding **across globally distributed research software ecosystems.**

Achievements



- Growth of **international coordination** through Research Software Alliance (ReSA) and the Amsterdam Declaration on Funding Research Software Sustainability (ADORE).
- Development of **shared international infrastructures** such as Software Heritage and EOSC.
- Emergence of **common standards** and frameworks (e.g. FAIR4RS, CodeMeta, SWHIDs).

Policy gaps



- **Funding and governance across borders** remains **below potential**
- **Growing tensions** between **openness, research security and digital sovereignty.**
- **Interoperability of standards and HR policies** could be improved.

Possible way forward



- Promote **trusted, risk-based international collaboration.**
- Strengthen **international infrastructures and shared digital commons.**
- Improve **international funding, interoperability and capacity-building.**



Final reflections

- The most important conclusion of this report may be that **research software is no longer a niche** concern relevant only to computational disciplines.
- It has become a **foundational element of contemporary research systems** and an increasingly important determinant of scientific capability, innovation capacity and economic competitiveness.
- The project has mobilised a remarkably broad coalition of researchers, Research Software Engineers, infrastructure providers, policymakers, funders and international organisations.
- The message emerging from these discussions has been strikingly consistent: **awareness** has increased, communities have organised, **standards** have matured and **examples of good practice** now exist.
- What remains is to translate this growing consensus into **coherent and durable policy action**.
- The evidence presented in this report suggests that the **central policy question is now how research systems can best govern, sustain and steward software as a critical component** of science in the age of artificial intelligence.
- The challenge for policymakers is **no longer whether to act**, but **how quickly and how effectively** they can do so.



Thank you!

Contact

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Web resources

[Access to research data from
public funding toolkit](#)



[Access to research software:
Opportunities and challenges](#)



[Policies for research software in
the age of artificial intelligence](#)

