Imagine a world without electricity. How would you charge your phone? How would you cook your meals? How would you cool and heat the environment you live in?
- Light helps us find our way in the dark. Light creates an ambience and a setting. Light changes our view of things.

- Data is light. Data is essential. But Data needs structure, data needs value, data needs experts. That’s why the RDA was set up to make sure there is that structure, value and expertise in managing data across the world.
Nowadays digital data is produced at an exponential rate every single day. In 2023 the world produced 120 zettabytes and by 2025 we are expected to reach a rate of 180 zettabytes. To put this into perspective,
if zettabyte were a length then it would be equivalent to 1,300 round trips to the moon and back (769,000 kilometers). multiply that by 180. That’s 235,000 round trips to the moon. Not all digital data produced needs to be stored, accessed, preserved but how do you know what to keep and what to throw away? When you have the answer to that question how do you store, preserve and make findable the data that you keep? How do you add value to that data to discover new ways of addressing societal challenges, for example to understand and slow down climate change?
Without the RDA work on wheat data, farmers in remote areas in Africa would not have access to essential climate and agricultural data to assist them in making accurate and lifesaving crop management decisions. – The Wheat Data Interoperability guidelines generated by the RDA Agricultural Data Interest Group (IGAD) found this solution.
Without the RDA community activities around digital preservation and curation, libraries and librarians around the world would be struggling to create digital archives and replicas of their artefacts. Remember that libraries are gatekeepers of our history and societal memory.
In 2020, 600 RDA community members from RDA worked tirelessly to create the RDA COVID-19 WG Recommendations and Guidelines on Data Sharing: https://doi.org/10.15497/rda00052

Without this RDA community work on COVID-19 data, funders and researchers would have invested months to understand how to format, save and make available their research data outputs so that others could quickly and effectively benefit from their findings to save lives.
The Research Data Alliance is a global community of data experts working on the many complexities of digital data, to give it structure and value. As an open, international, community driven initiative the RDA facilitates the development and delivery of standards to facilitate interoperability of data.
You will all be familiar with the TED talks and TED concept, and probably also know of Chris Anderson, the CEO / Head of TED who recently published a book entitled «Infectious Generosity». In his own words, Generosity is at the heart of being human. It's how we’ve co-operated, innovated and grown as a civilization. It's what makes me into we, net takers into net givers, selfishness into selflessness. Infectious Generosity is the idea that through the power of the internet, small acts of thoughtfulness spread to change lives at a scale never experienced before. The Research Data Alliance is a global community of volunteer, passionate, driven data experts who practice infectious generosity every day of their lives.
About the RDA 🌍

Vision
Researchers and innovators openly share and re-use data across technologies, disciplines, and countries to address the grand challenges of society.

Mission
RDA builds the social and technical bridges that enable open sharing and re-use of data.

Guiding principles
- Openness
- Consensus
- Inclusivity
- Harmonisation
- Community-driven
- Non-profit & technology neutral

RDA produces the adaptors to ensure you can access the electricity you need anywhere in the world.
The heart of the RDA: Community groups

Grass-roots, bottom-up, organic creation to address global challenges

**Working Groups**
- Develop & implement tools, policy, practices & products for data that are adopted & used by projects, organisations, & communities
- Life span: 12-18 months

**Interest Groups**
- Focus on solving a specific data sharing problem and identifying what kind of infrastructure needs to be built
- Life span: As long as group is active

**Communities of Practice**
- Domain/disciplinary focus, coordination and awareness raising role - 'umbrella group'
- Life span: as long as CoP is active (review every 18 months)
- 1 CoP on Agricultural Data

**RECOMMENDATIONS:**
Concrete deliverables - "Running code", tools, standards, etc.

**OUTPUT:**
Best practices, guidelines, emergence of new working groups (WG), etc.

**OUTPUT:**
New WG & IGs, bridge building across the RDA and externally.

Association of Research Libraries (ARL) | SC OSS Webinar
Data needs structure, data needs value, data needs experts. Data needs the RDA. In short, the data world would be a dark place without the RDA.
SUPPORTING RDA: SCOSS FUNDING

The overarching goals of the Research Data Alliance SCOSS funding appeal are to:
1) support the creation of global standards to enable best practice research data management, and
2) build research data management capacity and capability with stakeholders in the Global South.

You can help us to ensure that science and research is truly seamless, equitable and global by pledging to RDA. Organisations supporting RDA
Contact Hilary Hanahoe

To support the RDA, to continue to do fundamental work across the globe, please consider pledging through the SCOSS model to RDA.
All organisations that pledge through SC OSS are invited to join the almost 100 RDA Organisational members. A group of global stakeholders supporting Open Science. This group is a forum for interaction and exchange between institutions where we provide updates to RDA, presentations of the solutions and many benefits for the organisations that support us. See Organisational Membership for full details – https://www.rd-alliance.org/organisational-membership/
We also give visibility to our SC OSS pledgers via the web site - https://www.rd-alliance.org/scoss-funding-for-the-rda/
Please feel free to contact me, Hilary Hanahoe the Secretary General | Research Data Alliance at hilary.hanahoe@rda-foundation.org and I would be very happy to interact with you.
The Source Code Library

By Morane Gruenpeter
(Head of Open Science Operations, @Software Heritage)
What to archive? what is software?

Software as a concept
- project or entity
- the community around the project
- the software idea / algorithms / solutions

Software artifacts
- Executables
  - For multiple environments
- Source code

Not a digital artifact

A very large collection of digital artifacts
Software is a pillar of Open Science

A key pillar: software (source code)

The links in the picture are important!

Source code is fragile, it can disappear…

Software has multiple facets:
- a tool
- a research outcome or result
- the object of research

Three pillars of Open Science
Software Heritage CC-By 4.0 2019
Software is increasingly recognized as a research output.

**Paris Call on Software Source Code, 2019**

40 international experts call to “promote software development as a valuable research activity, and research software as a key enabler for Open Science/Open Research [...]”

“Open Scientific knowledge [includes] open source software: source code must be included in the software release and made available on openly accessible repositories”.

Open Source in UNESCO recommendations for Open Science, November 2021
Research libraries have a pivotal role
Software preservation requires a global and coordinated effort.

The long road ahead:
- availability,
- findability,
- traceability,
- reproducibility
Have you met software archival requests in your library or organization? (please share in the chat)
A special guest deserves a special library:

*Meet Software Heritage, the Alexandria library of software source code*
An international and non-profit initiative launched in 2016 built for the long term

Sharing the vision

Donors, members, sponsors

http://www.softwareheritage.org/support/testimonials
Are you familiar with Software Heritage?

Size

As of today the archive already contains and keeps safe for you the following amount of objects:

- **Source files**: 19,089,061,716
- **Commits**: 4,136,010,754
- **Projects**: 300,062,355

Snapshot: June 16th 2024
An Open infrastructure to collect, preserve and share all source code

DEPOSIT to submit software source archives and its associated metadata

CRAWLING

SAVE CODE NOW SERVICE
At any time, for free:
- For a project
- For a forge

And also …

Rescue operations 🔥
Serving the scholarly ecosystem

Creating connections and mutualizing efforts

SCHOLARLY ECOSYSTEM

- Aggregators
- Publishers
- Scholarly repositories

Universal Software Archive

Software Heritage
THE GREAT LIBRARY OF SOURCE CODE


Software Heritage archive | ARL | Gruenpeter M. | 17/06/2024 | CC-BY 4.0 | #11/16
Joining the SCOSS Family

➔ Selected by The Global Sustainability Coalition for Open Science Services (SCOSS) for the 5th pledging round with RDA

◆ Establishing a new membership agreement through the Archives and Libraries Interest Group (ALIG)

Software Heritage is an open non-profit infrastructure for archiving, referencing and sharing software source code, launched by Inria in 2016, in partnership with UNESCO.

Archiving over 260 million software projects already, it is built according to the UNESCO recommendations for Open Science: open, multi-stakeholder, non-profit, using exclusively open source components. It serves as a cornerstone for Open Science.

It simplifies the deposit of research software and associated metadata, amplifying the visibility and impact of scholarly outputs. Researchers take advantage of Software Heritage’s vast collection of software projects, that enables citation, referencing and sharing of software artefacts, improving reproducibility and traceability of research. Libraries benefit from Software Heritage’s robust infrastructure, which offers long-term archival and unique identification of software, removing the need for custom and in-house archival solutions.

By supporting Software Heritage, you’re supporting unfettered access, reference and citation of software produced by academic research, reinforcing the principles of open science.

The SCOSS Board considers Software Heritage to be an essential open science infrastructure because it provides continued access to the software and code outputs produced by researchers globally.

WHY
HAS IT BEEN DEEMED
AN ESSENTIAL INFRASTRUCTURE?

Shoulder:

SCROSS FUNDING
TARGET

€ 900,000
The Archives and Libraries Interest Group (ALIG)

★ Supporter benefits include:
  ○ Acknowledgement of individual / consortium pledge
  ○ Membership in the ALIG: access to a dedicated information and consultation channel through discussions in the Interest Group
  ○ Assistance in software archival dilemmas

★ Sponsorship levels
  ○ Sponsors status depending on contribution level
  ○ See program
What are the needs in your organization or community when it comes to software?
Behind the scenes: a dedicated and engaged team!
Thank you for your attention

alig@softwareheritage.org

https://www.softwareheritage.org/

Time for your questions…
Links to be shared with your users:


🏷 Describe a software (intrinsic metadata made easy): https://codemeta.github.io/codemeta-generator/

❓ The FAQ: https://www.softwareheritage.org/faq/


🎯 "Open Science tutorial: source code deposit" (how to build services upon SWH): https://youtube.com/playlist?list=PLD2VqrZz2-u3bOWtoCoB1h5Flt6iYXsq3

👋 “Book” a SWH ambassador: https://www.softwareheritage.org/ambassadors/
Let’s keep in touch

https://twitter.com/SWHeritage
https://twitter.com/rdicosmo
https://twitter.com/moraneottilia
https://www.linkedin.com/company/swheritage/
https://sympa.inria.fr/sympa/info/swh-science
https://www.softwareheritage.org/newsletter/
https://www.softwareheritage.org/blog
Implementing new services at the library:
the SWH documentation treasure island

The Web API: https://archive.softwareheritage.org/api/
API terms of use: https://www.softwareheritage.org/legal/api-terms-of-use/
API endpoints: https://archive.softwareheritage.org/api/1/
The technical roadmap: https://docs.softwareheritage.org/devel/roadmap/roadmap-2023.html#roadmap-current
SWH legacy software services: https://www.softwareheritage.org/swhap/
Sources


Sources


https://doi.org/10.5281/zenodo.4623713


https://scholarlykitchen.sspnet.org/2020/02/18/reforming-research-assessment-a-tough-nut-to-crack/

