

A universal source code archive serving the scholarly ecosystem



Morane Gruenpeter

Head of Open Science operations



Software Heritage

THE GREAT LIBRARY OF SOURCE CODE

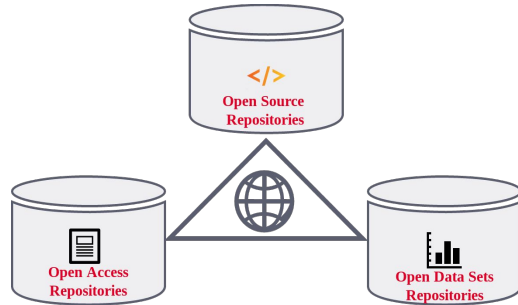
The Inria logo, written in a red, cursive script font.

 eosoc | **FAIR-IMPACT**
Expanding FAIR solutions across EOSC

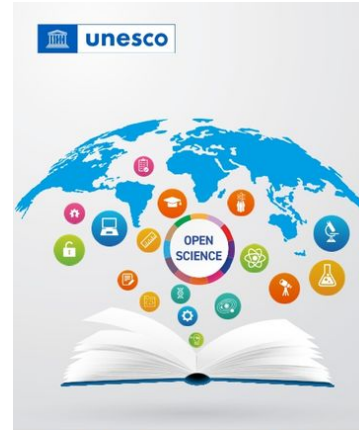
 eosoc | **FAIRCORE4EOSC**
Core Components Supporting a FAIR EOSC

Software on par with research articles and data

A key pillar: software (source code)



← The links in the picture are important!



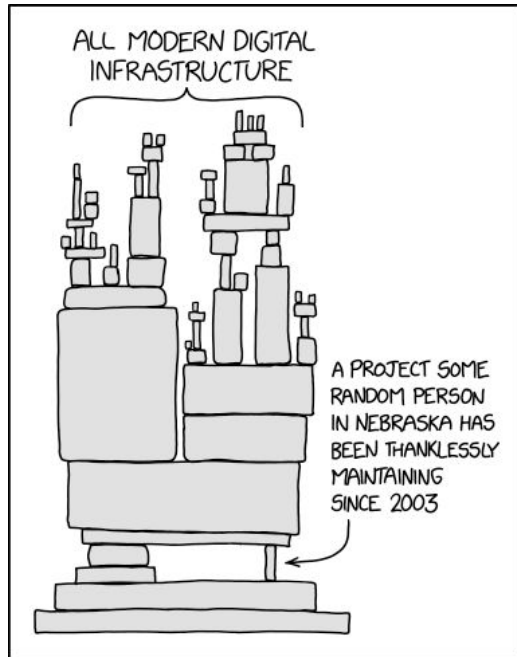
[UNESCO recommendations for Open Science, 2021](#)



French National plan for Open Science, 2021-2022

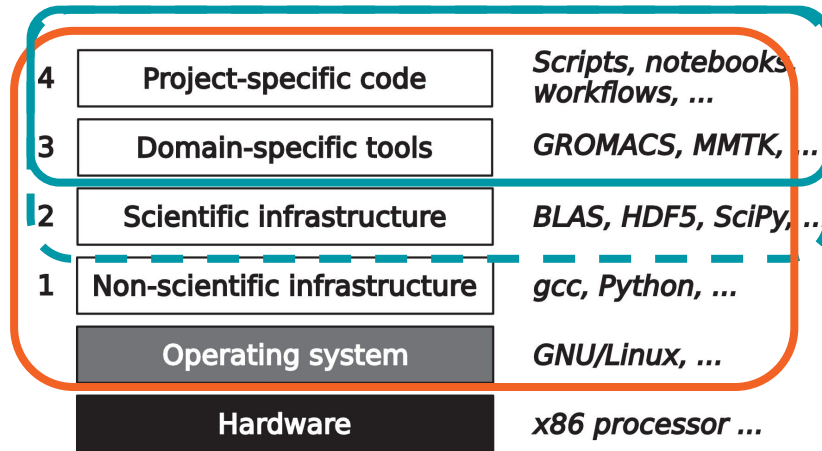
The software stack: More than Research Software

Research Software is a thin layer on top of the global software stack



<https://xkcd.com/2347/>

What's the the Software Collapse?



Konrad Hinsien. Dealing With Software Collapse. Computing in Science and Engineering, 2019, 21 (3), pp.104-108. <10.1109/MCSE.2019.2900945>. <hal-02117588>

Can be preserved in a:

- [Scholarly Infrastructure](#)
- [Universal Source Code Archive](#)

Software is fragile...



We need a universal shared infrastructure to safeguard all software!



Software Heritage

THE GREAT LIBRARY OF SOURCE CODE

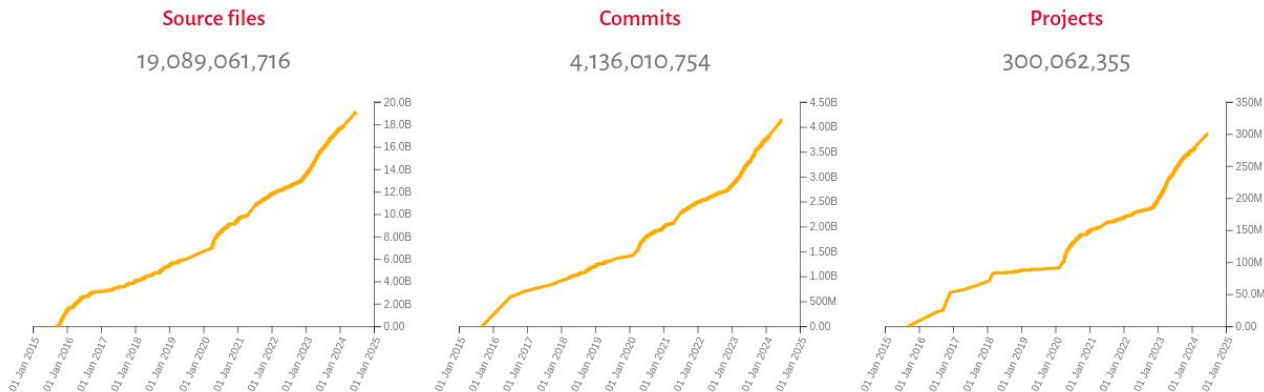
An open infrastructure

to collect, preserve and share *all source code*



Size

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



Snapshot: June 16th 2024

An international and non-profit initiative



built for the long term

Sharing the vision



Donors, members, sponsors



Consortia for ALIG

Konsortium der Schweizer Hochschulbibliotheken
Consortium des bibliothèques universitaires suisses
Consortio delle biblioteche universitarie svizzere
Consortium of Swiss Academic Libraries



Canadian Research Knowledge Network
Réseau canadien de documentation pour la recherche

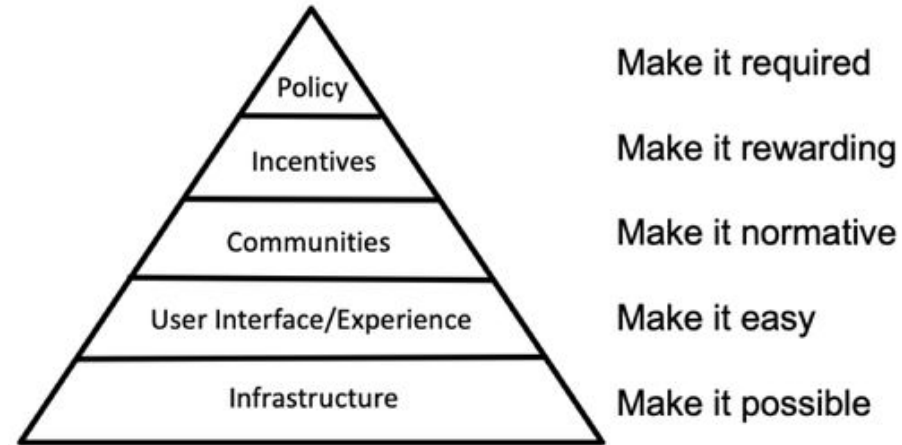
<http://www.softwareheritage.org/support/testimonials>

Making a culture change



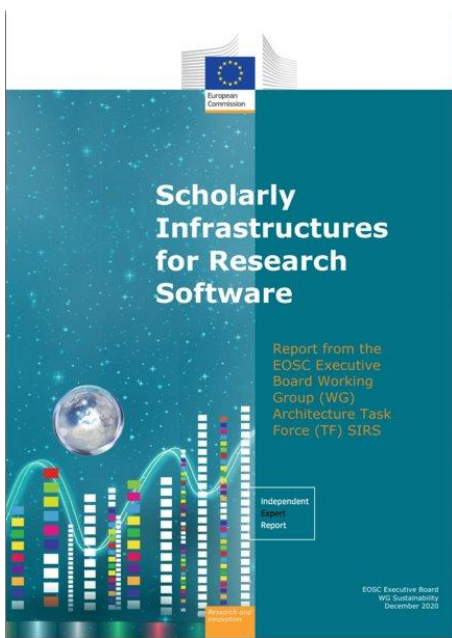
→ Building more than just an archive

- ◆ A mutualized infrastructure
 - ◆ Multiple services, features and tools
 - ◆ Specific Open Science products
 - ◆ Bridges between communities
 - ◆ Advocating for standardization and normalization
- SWHID: [ISO 18670](#) - Draft International Standard (DIS)
 - CodeMeta vocabulary for software
 - BibLaTeX @software type

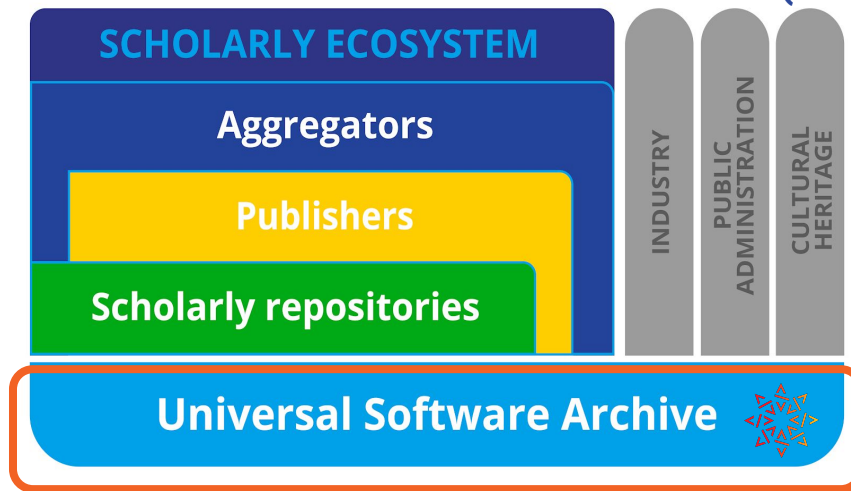


Pyramid from Strategy for [Culture Change](#): Brian Nosek (2019)

Archive, Reference, Describe and Cite software



Scholarly Infrastructures for Research Software (SIRS)



Short term recommendations

- Strengthening interactions between
 - Aggregators, publishers, scholarly repositories, and Software Heritage
- Metadata standards & tools
- Generalizing the use of PIDs (extrinsic & intrinsic) => **SWHID**



SIRS report: European Commission, Directorate-General for Research and Innovation, *Scholarly infrastructures for research software* : report from the EOSC Executive Board Working Group (WG) Architecture Task Force (TF) SIRS, Publications Office, 2020, <https://data.europa.eu/doi/10.2777/28598>

Implementing an interoperable community driven vision



FAIRCORE4EOSC

Core Components Supporting a FAIR EOSC

- The [RSAC components](#) connecting Software Heritage with
 - Scholarly repositories: Zenodo (CERN), DANS Dataverse's instance,
 - Publishers: Dagstuhl, Episciences
 - Aggregators: SwMath, OpenAire & Datacite
- Deploying in 2025 the EOSC mirror of Software Heritage at GRNET



SCHLOSS DAGSTUHL
Leibniz-Zentrum für Informatik



FAIR-IMPACT

Expanding FAIR solutions across EOSC

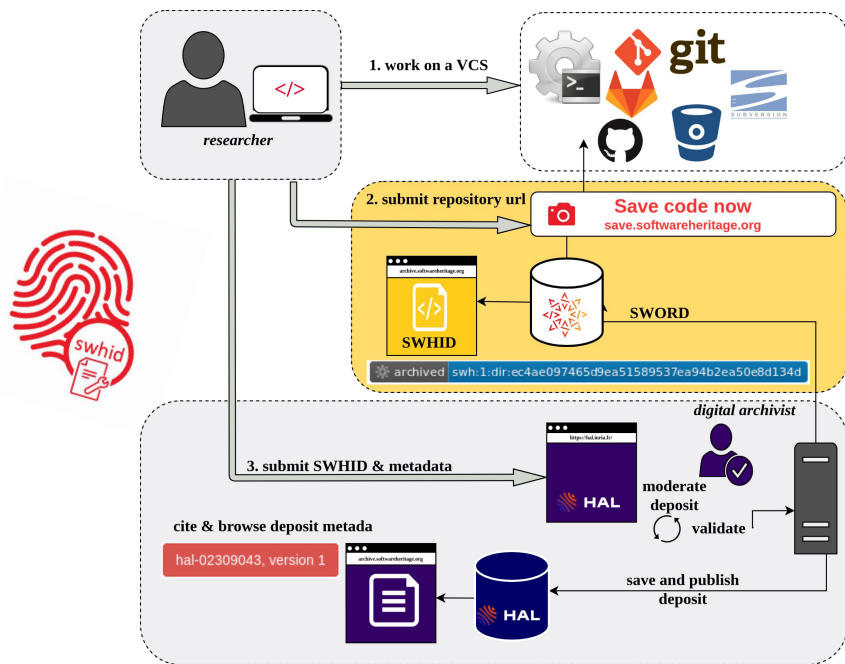
- Maintaining the Research Software MetaData guidelines
 - [RSMD guidelines](#)
- Overseeing the Open Call grantees, who are implementing the RSMD guidelines
- Contributing to the [CodeMeta](#) initiative, towards FAIRer mappings



HAL <> SWH - a French success story



- Collaboration started in 2017 by the CCSD, IES-INRIA & Software Heritage
- A streamlined easy workflow for researchers to get acknowledgement



CCSD
Centre pour la Communication
Scientifique Directe

HAL
science ouverte

**RÉPUBLIQUE
FRANÇAISE**
Liberté
Égalité
Fraternité

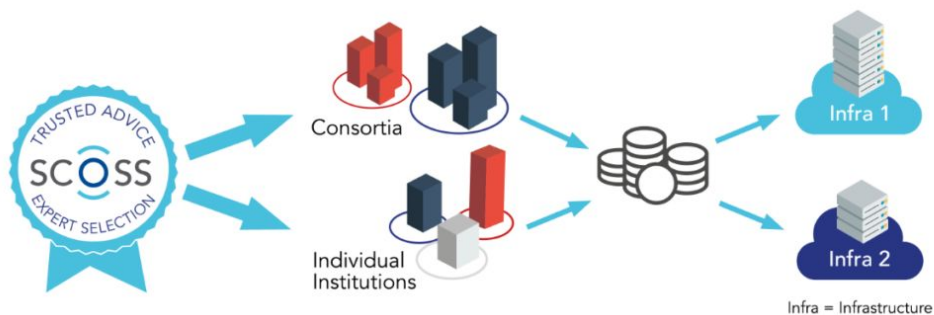
Inria

Software Heritage

Imagine a world without open infrastructures...

→ Software Heritage was selected by **The Global Sustainability Coalition for Open Science Services (SCOSS)** for the 5th pledging round

SCOSS endorses infrastructure for investment



SCOSS blog-post
FUNDING CHALLENGES: IMAGINING A WORLD WITHOUT OPEN INFRASTRUCTURES
[Read the blogpost here.](#)

<https://scoss.org/how-it-works/current-funding-calls/>

Call to action



Software preservation requires a **global** and **coordinated** effort.

*“Policy describes what is required, desired, and incentivised;
infrastructure determines what is possible;
but the community determines how things are done in practice.”*

(Brinkman et al., 2020)

Mutualisation

Sustainability



Curation

Recognition

Open by default

Let's work together

morane@softwareheritage.org

<https://www.softwareheritage.org/>

Cultural Heritage



Industry



Research



Public Administration



Software Heritage



Behind the scenes: the SWH team!