

EVERSE Project: Tools and Resources for Research Software Quality

European Virtual Institute for Research Software Excellence (EVERSE)



Funded by
the European Union

31.08.2026 | Swiss RSE Day 2026, ETH Zürich | Kenneth Rioja (CERN, kenneth.brian.rioja@cern.ch)

What is Research Software ?

https://everse.software/RSQKit/research_software

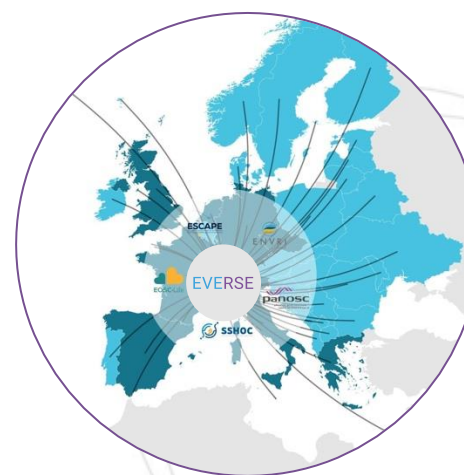
All code and software artefacts that are used, produced, or might be **related to the research process in one or more stages of the research lifecycle** and regardless of the layer of the software stack. (*inclusive description*)

RSE Communities, e.g., <https://rse.swiss/> (CH), <https://society-rse.org/> (UK, 2013), <https://www.software.ac.uk/>, <https://us-rse.org/> (US), <https://de-rse.org/en/index.html> (DE) and more... !

What is EVERSE ? (European Virtual Institute for Research Software Excellence)

<https://everse.software/>

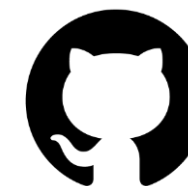
- Funded by Horizon Europe Program
- Create a framework for research software **quality** and code excellence, collaboratively designed by the research communities
- Establish and sustain a virtual institute for best practices in research software engineering



Join



Any individual or organization that agrees with our vision statement is welcome to join the network



Dimensions & Indicators

The Landscape of Software quality indicators

<https://everse.software/indicators/website/indicators.html>

- Which software quality dimensions / categories
- What do these apply to :
 - Best practices
 - Tools
 - Training
 - Assessment Pipelines

Name	Abbreviation	Keywords	Quality Dimension	Description	Source
Software has license	software_has_license	license, metadata, fair	fairness	This check tries to determine if the project has published a license	OpenSSF Scorecard: License Reuse, licensing and legal aspects. RSMD-6.2

Research Software Quality Dimensions

A research software quality dimension represents criteria relevant for assessing software quality (e.g., Documentation, Performance, etc.).

Search in table...		
Name	Description	Source
Compatibility	Degree to which a product, system or component can exchange information with other products, systems or components, and/or perform its required functions while sharing the same common environment and resources.	ISO/IEC 25010 standard
FAIRness	FAIRness refers to the degree to which research software adheres to the FAIR principles: Findable, Accessible, Interoperable, and Reusable. These principles, adapted for research software, aim to enhance the discoverability, accessibility, interoperability, and reusability of software, thereby maximizing its value and impact in scientific research.	
Flexibility	Degree to which a product can be adapted to changes in its requirements, contexts of use or system environment.	
Performance Efficiency	This characteristic represents the degree to which a product performs its functions within specified time and throughput parameters and is efficient in the use of resources (such as CPU, memory, storage, network devices, energy, materials...) under specified conditions.	ISO/IEC 25010 standard
Reliability	Degree to which a system, product or component performs specified functions under specified conditions for a specified period of time.	ISO/IEC 25010 standard
Safety	This characteristic represents the degree to which a product under defined conditions to avoid a state in which human life, health, property, or the environment is endangered.	ISO/IEC 25010 standard
Security	Degree to which a product or system defends against attack patterns by malicious actors and protects information and data so that persons or other products or systems have the degree of data access appropriate to their types and levels of authorization.	ISO/IEC 25010 standard
Sustainability	The capacity of the software to endure. In other words, sustainability means that the software will continue to be available in the future, on new platforms, meeting new needs.	Defining Software Sustainability

EVERSE Objectives

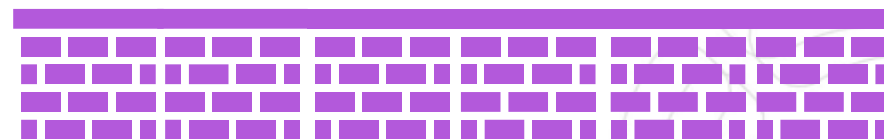
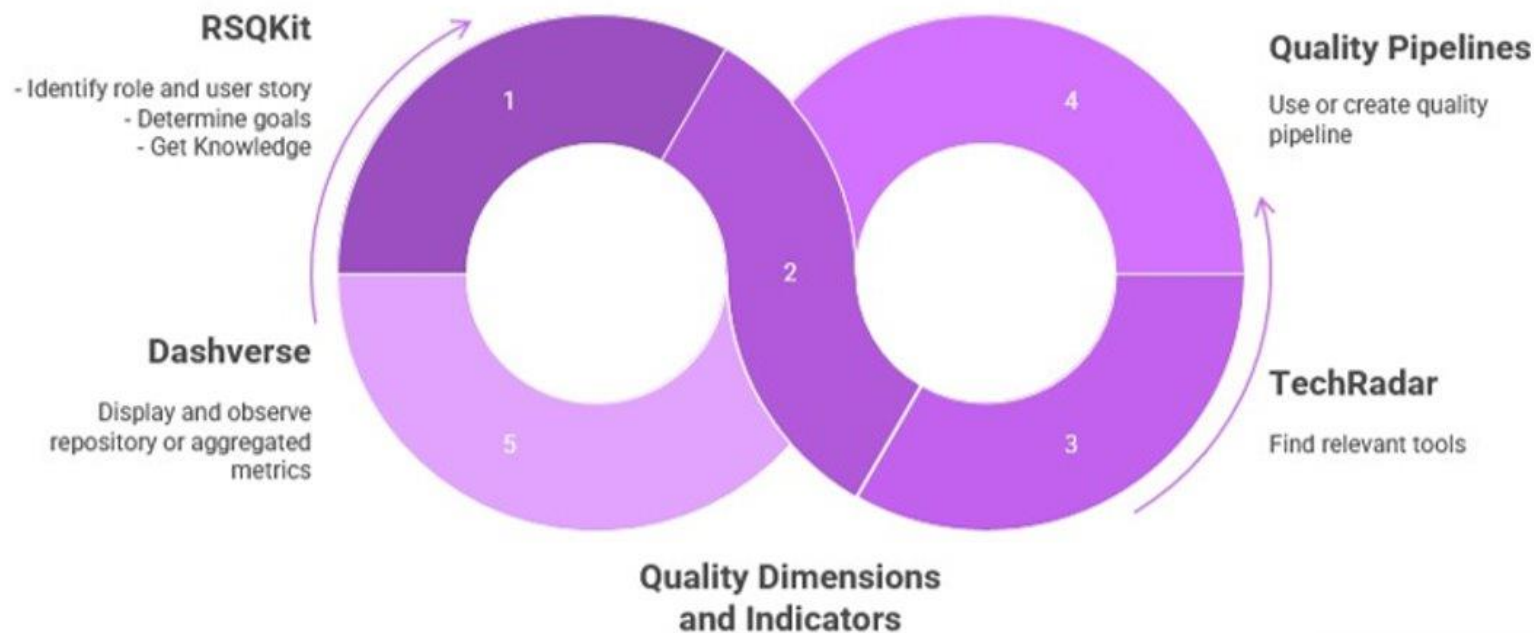
<https://everse.software/about/objectives/>



Reference Model: Not all research software is used in the same way

- Leverage existing tools and resources to support the evaluation, verification and improvement of research software and code quality
 - RSQKit (everse.software/RSQKit/)
 - Quality Dimensions and Indicators (everse.software/indicators/website/indicators.html),
 - TechRadar (everse.software/TechRadar/),
 - Quality Pipelines (github.com/EVERSE-ResearchSoftware/QualityPipelines),
 - DashVERSE (dashverse.cloud/)
- Provide a framework that will ensure appropriate recognition, reward, and career development for researchers and RSEs who implement research software
 - EVERSE Training (everse-training.app.cern.ch/),
 - APICURON (apicuron.org/),
 - BIP! Scholar (bip.imsi.athenarc.gr/scholar)

EVERSE Tools and Resources



Training and Recognition Framework

- Find relevant training
- Get credit for your work (training and software)



(Bajare et al., 2026)

D5.1 Landscape analysis of existing rewards and mechanisms for research software and training activities. Zenodo. <https://doi.org/10.5281/zenodo.14978474>

(Quaglia, 2026)

7 MadGraph7 Public

Edit Pins

👁 Watch 0

🍴 Fork 2

★ Star 2

🔗 main 6 Branches 3 Tags

🔍 Go to file

Add file

<> Code

theohemel	multichannel improvements	d3942d1 · 2 months ago	🕒 13,673 Commits
📁 .github/workflows	fix test path in madspace action	2 months ago	
📁 Analyses	added wz analysis files	3 years ago	
📁 HELAS	Drop unneeded line from oxxxxx.F	2 years ago	
📁 MadSpin	Merge branch '3_5_13_f2py' into 3.5.13	3 months ago	
📁 PLUGIN	allow PLUGIN modifying (as deep as needed) the madgrap...	10 years ago	
📁 Template	Merge branch '3.x' into 3.6.1_aloha_obj	3 months ago	
📁 aloha	Fix issue with type2def in cpp case	3 months ago	
📁 bin	Merge branch '3.5.13' into 3.6.7	3 months ago	
📁 docs	update documentation	2 months ago	
📁 input	Merge branch '3.6.1_aloha_obj' into madevent7	3 months ago	
📁 madgraph	multichannel improvements	2 months ago	
📁 madspace	Revert "increase version number"	2 months ago	
📁 mg5decay	automatic formating fixing for escape string (with ruff)	2 years ago	
📁 models	allow back syntax with e+ e- u u~ ... (not yet j and p and l+...	3 months ago	
📁 tests	Merge branch '3.x' into 3.6.1_aloha_obj	3 months ago	
📁 vendor	Merge branch '3.5.13' into 3.6.7	3 months ago	
📄 .bzrignore	move back on the handling of dummy_fct (put back as ver...	5 years ago	

About

[🔗 madgraph7.readthedocs.io](#)

- 📖 Readme
- 📄 View license
- 📈 Activity
- 📋 Custom properties
- ★ 2 stars
- 👁 0 watching
- 🍴 2 forks

Report repository

Releases 2

📦 madspace v0.1.2 Latest
on Feb 10

+ 1 release

Deployments 3

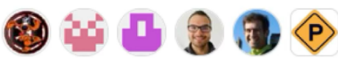
✅ pypi 2 months ago

+ 2 deployments

Packages

No packages published
[Publish your first package](#)

Contributors 6



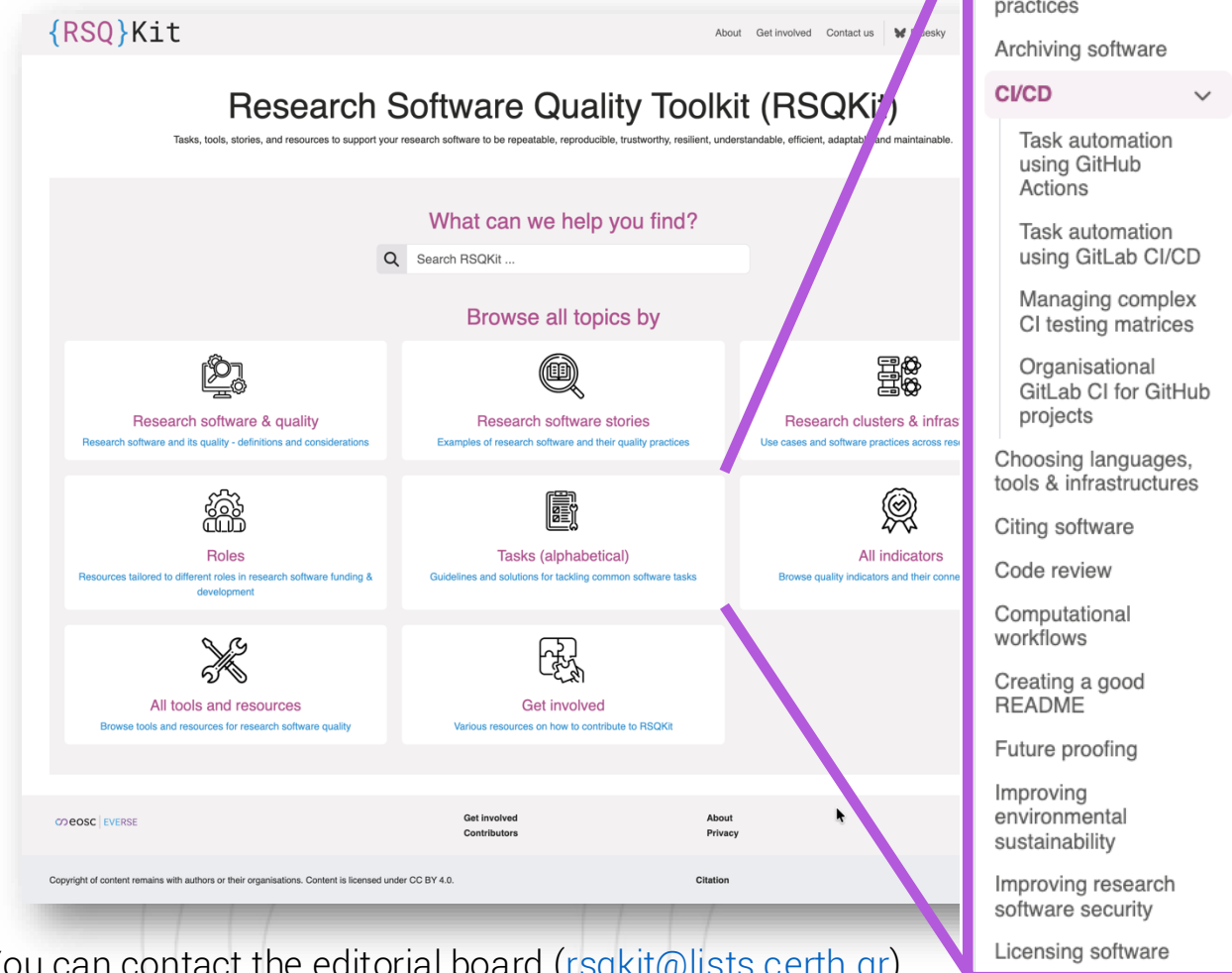
- Is my software FAIR (findable, accessible, interoperable, reusable)?
- Do I apply best practices for research software engineering?
- How could I possibly improve my software engineering skills?



Research Software Quality Kit (RSQKit)

<https://eiverse.software/RSQKit/>

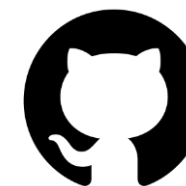
- **Task driven guide** – how to improve your research software quality (RSQ)
- Examples of good practice – Research Software Stories
- Roles involved in research software
- A model for understanding the research software process for different types of research software



You can contact the editorial board (rsqkit@lists.certh.gr)

Any ideas or queries about RSQKit and research software quality are welcome

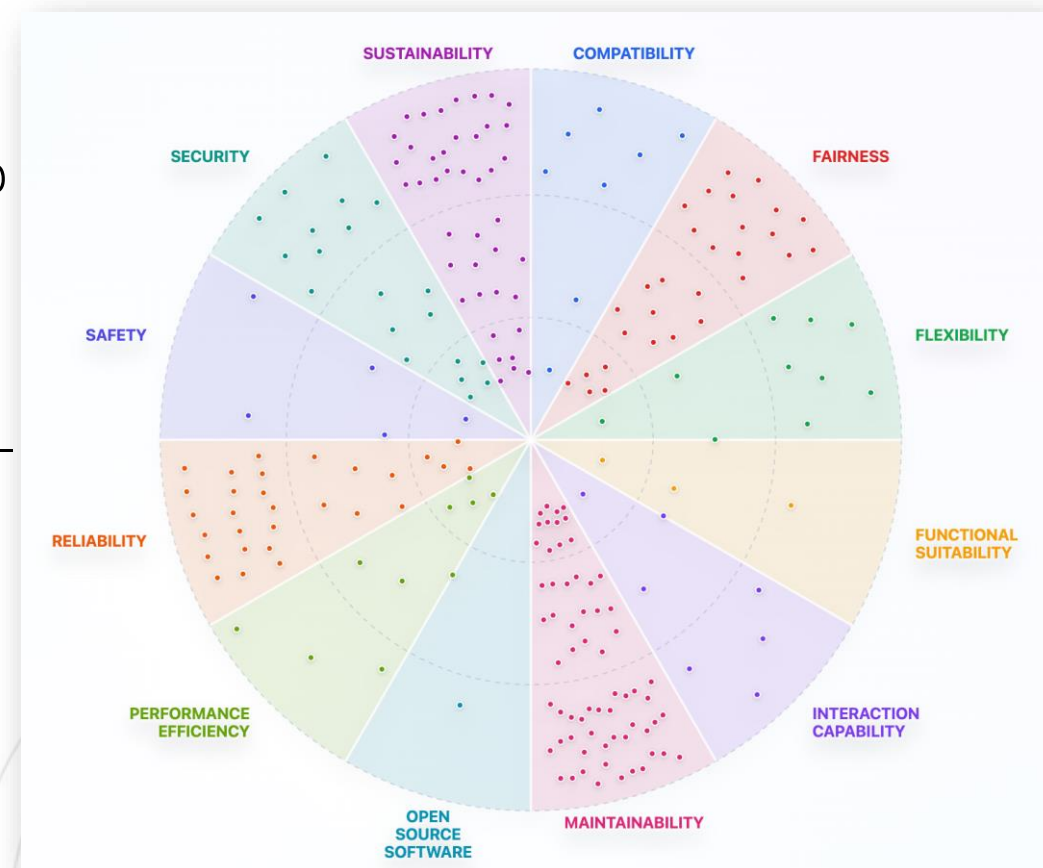
(Bajare et al., 2026)



EVERSE Tech Radar

<https://everse.software/TechRadar/>

- A curated **catalogue of tools and services** that help evaluate, measure, and improve the quality of research software.
- The radar does not aim to cover all existing tools — it highlights tools that have been community-vetted and curated based on established criteria.



Form to users experience & feedback <https://forms.gle/1ZLKc4y4AcZHpVkt6>

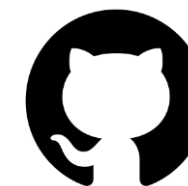
Quality Pipelines / resqui

<https://github.com/EVERSE-ResearchSoftware/QualityPipelines>

- A command line tool to check indicators related to research software quality.
 - Via command line (local)
 - Via GitHub Actions / CI
- You can choose what indicators you want to check
- Output: List of indicators/quality tests for your software/repo (JSON, EVERSE schema)
- Option to publish results on DashVERSE dashboard



Resqui Demo

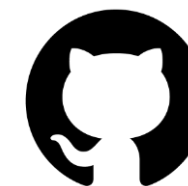


The screenshot shows a GitHub Actions workflow run for the 'run-resqui' action. The workflow is titled 'run-resqui' and shows it succeeded last month in 39s. The main step is 'Run resqui action', which took 34s. The log output shows the following steps:

```
44 Using cached packaging-26.0-py3-none-any.whl (74 kB)
45 Using cached setuptools-80.10.2-py3-none-any.whl (1.1 MB)
46 Building wheels for collected packages: resqui
47 Building wheel for resqui (pyproject.toml): started
48 Building wheel for resqui (pyproject.toml): finished with status 'done'
49 Created wheel for resqui: filename=resqui-0.1.2.dev2+gd564bf8e9-py3-none-any.whl size=26190
sha256=2e5fc9c2a4c03fd8ea14bbe3cd1442db2410c56b25b2e02759dcfb6d6d64be7
50 Stored in directory: /tmp/pip-ephem-wheel-cache-
fmt4d4g6/wheels/6d/c1/75/d04c23491ceab33bfa3845eba0c684412c98a3ae6c843f814
51 Successfully built resqui
52 Installing collected packages: setuptools, packaging, setuptools_scm, resqui
53
54 Successfully installed packaging-26.0 resqui-0.1.2.dev2+gd564bf8e9 setuptools-80.10.2 setuptools_scm-9.2.2
55 ▶ Run if [[ -n "$RESQUI_CONFIG" ]]; then
72 Loading default configuration.
73 GitHub API token ✓
74 Repository URL: https://github.com/ebreitmo/shinyproxy-testing
75 Project name: shinyproxy-testing
76 Author: ebreitmo
77 Email: elena@epcc.ed.ac.uk
78 Version: 4fedcab
79 Branch, tag or commit hash: 4fedcabf68fc7c6c9154ec06971a572d905382c8
80 Checking indicators ...
81 has_license/HowFairIs (1.2s): ✖
82 has_citation/CFFConvert (0.4s): ✖
83 has_ci_tests/OpenSSFscorecard (5.5s): ✖
84 human_code_review_requirement/OpenSSFscorecard (0.0s): ✖
85 has_published_package/OpenSSFscorecard (0.0s): ✓
86 has_no_security_leak/Gitleaks (1.0s): ✓
87 Summary has been written to resqui_summary.json
88 Publishing summary ✓
```

Below the main step, there are three sub-steps:

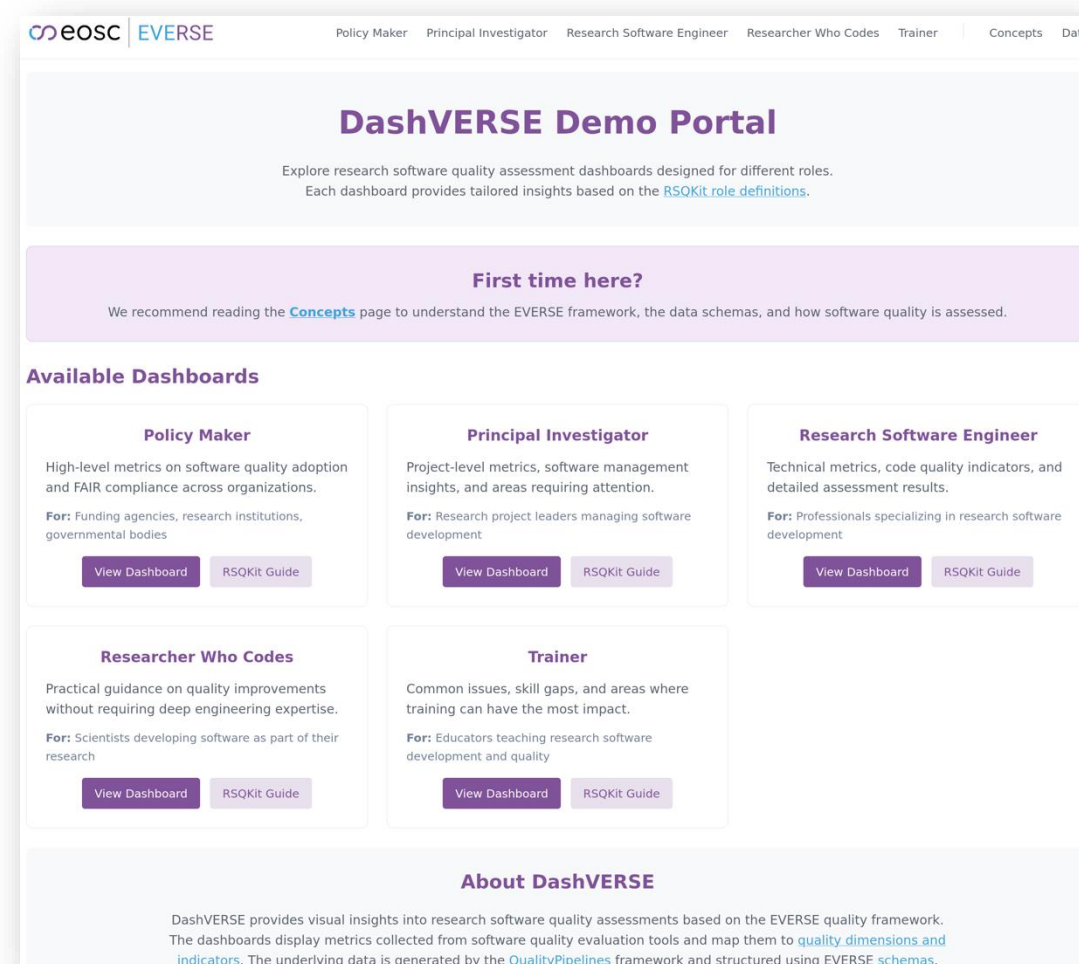
- Post Run resqui action (0s)
- Post Checkout repository (0s)
- Complete job (0s)



DashVERSE: Dashboard for EVERSE

<https://www.dashverse.cloud/>

- Visual analytics platform for research software quality
- Ingests EVERSE Quality Pipelines (resqui) assessment results via REST API
- Five role-based dashboards for different stakeholders
- Tracks software quality trends over time
- Identifies quality deficits to guide targeted improvements
- Open source: Apache Superset, PostgreSQL, Kubernetes



EVERSE Training

eosc-training.app.cern.ch

- A curated **training catalogue** to help early career scientists and engineers learn RSE best practices; and trainers to showcase and advertise their learning resources
- Materials = videos, tutorials, webpages, courses, etc.
- Events = workshops, lectures, talks, schools, etc.
- Trainers = contribution to the catalogue will be credited
- If you know a website offering training resources that can be showcased in EVERSE Training, please contact: kenneth.brian.rioja@cern.ch



EVERSE Training

<https://github.com/ElixirTeSS/tess>



The screenshot shows the EVERSE Training website. At the top, there's a navigation bar with links: Materials, Events, Trainers, About, and Log in. The main content area is divided into four sections:

- Training and events to foster Research Software Quality:** This section includes a sub-header and a brief description: "Browse the catalogue and find local and online courses, events, as well as videos, presentations, tutorials ... All types of resources at all levels for leveraging Research Software Quality." Below this is a search bar labeled "Search EVERSE Training...".
- Upcoming events:** This section features a note: "Note: all times are shown in the timezone in which each event occurs." Below this is a card for the "Gray Scott School 2026" with details: "Date: 22 June - 3 July 2026" and "Timezone: Central European Summer Time".
- Latest materials:** This section displays a card for "SLIDES EVERSE Quality Pipelines and Dashboard demo" with a sub-header "Intermediate" and a list of topics: "better software", "ci cd", "research infra software", "software tool", "good practices", and "research software engineering".
- Featured trainer:** This section features two trainer profiles. The first is Céline Acary-Robert, a scientific computing research engineer at an applied mathematics lab in Grenoble. The second is Daniel Garijo Verdejo, an associate professor at the Artificial Intelligence Department of the Computer Science Faculty of Universidad Politécnica de Madrid.



[Webinar](#)

APICURON

<https://apicuron.org/>

- A platform to credit and acknowledge scientific contributions
- Tracks contributions to research artefacts and activities
- Transparent attribution of roles and activities
- Incentives and engagement through recognizable contribution records
- Connection to persistent identifiers and broader recognition workflows (e.g., ORCID)

APICURON Databases Contributors Docs Help About Login

S3 School

Sustainable Scientific Software School

The S3 School is a one week training program designed to teach good and modern coding practices tailored for scientific software development. Through APICURON, participants and instructors activities are tracked and rewarded with badges and recognition, highlighting their learning progress and contributions.

Database statistics

- 30 Unique Contributors
- 33 Contributions committed
- 14/01/2026 Joined APICURON
- 17/01/2026 Most Recent Contribution

Total Leaderboard

This Leaderboard comprises all contributions recorded by APICURON. From the beginning of the resource. This may include very old contributions.

Ranking	Total Score	Last Contribution Date	Contributor	Generation Contributions	Badges
1	30	17-01-2026	Thomas Vuillaume	3	0
2	20	15-01-2026	Alexander Moreno Briceño	2	0
3	10	16-01-2026	Imad Bourouche	1	0
4	10	16-01-2026	Yohann Jezequel	1	0
5	10	16-01-2026	Mykhailo Levytskyi	1	0
6	10	16-01-2026	Thomas Tomiczek	1	0
7	10	16-01-2026	ebraux	1	0
8	10	16-01-2026	Israt Jahan Tulin	1	0
9	10	16-01-2026	Suhasini Venkatesh	1	0
10	10	16-01-2026	Nicolás Ezequiel Avalos	1	0

Total Contributors: 30

What Contributions can be done on

Teaching
Delivering courses, workshops and training sessions to participants.

Badges

Instructor
Requires completing 1 activity between 14-01-2026 and 21-01-2026 UTC

ORCID Sign in / Register English

Alexander Moreno Briceño
https://orcid.org/0000-0001-8415-2543

Contributions to S3 School

Dataset URI: [APICURON Profile for S3 School](#) [Show less detail](#)

Description
Completed 2 Activities that contribute to S3 School

Added
2026-03-31

Last modified
2026-03-31

Source: ✓ APICURON

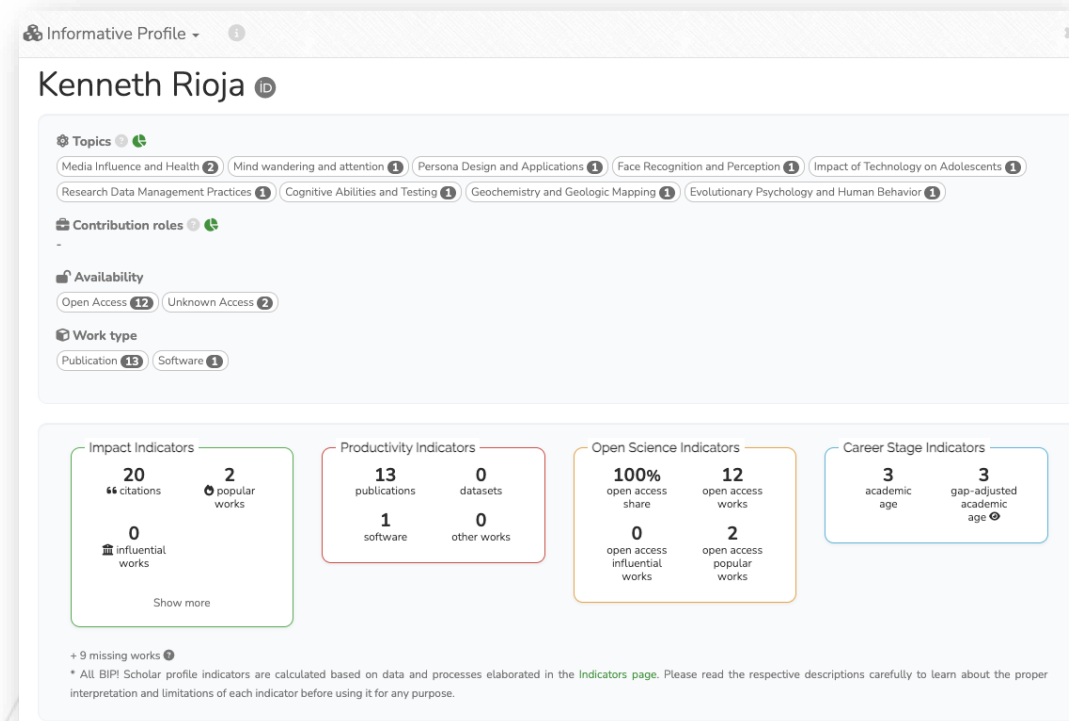
BIP! Scholar

<https://bip.imsi.athenarc.gr/scholar>

- Showcasing broader scholarly contribution
- It helps present diverse scholarly contributions beyond papers alone
- Support richer researcher profiles
- Connect contributions, metadata and indicators in a more transparent way
- Easy reuse of recognized activities in CVs and assessments



[Webinar](#)





Be part of EVERSE!

Contact: contact@everse.software

Website: <https://www.everse.software/>

BlueSky: <https://bsky.app/profile/eosc-everse.bsky.social>

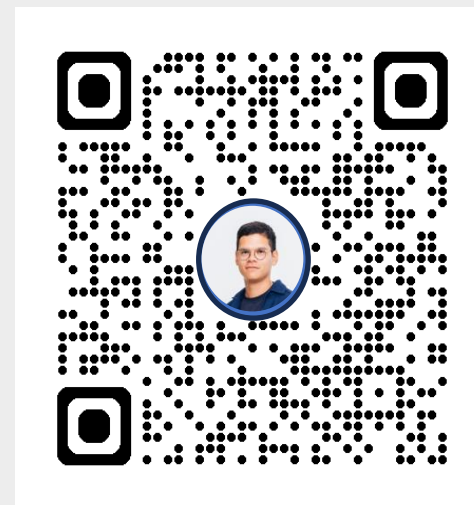
LinkedIn: <https://www.linkedin.com/company/eosc-everse/>

FOSSTodon: https://fosstodon.org/@eosc_everse

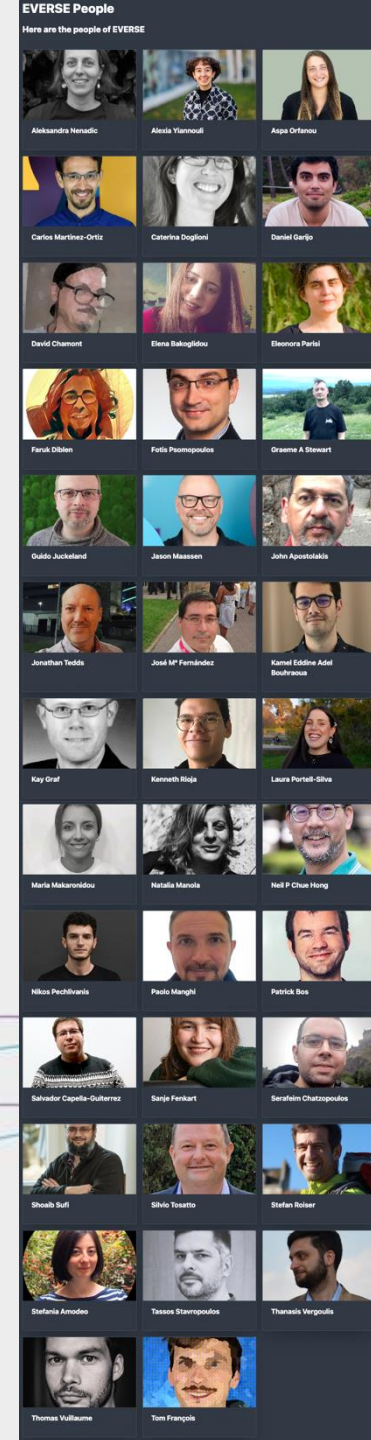


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Bajare, S., Breitmoser, E., Diblen, F., & Gál, T. (2026,). EVERSE: Tools and services for software quality and FAIRness. deRSE26 - 6th conference for Research Software Engineering in Germany (deRSE26), Stuttgart, Germany. Zenodo. <https://doi.org/10.5281/zenodo.18864327>

Quaglia, F. (2026). EVERSE Webinar: a Credit and Recognition Framework for RSEs and Trainers. Introduction and Overview. Indico. <https://indico.cern.ch/event/1663496/>

Rioja, K. (2026). EVERSE Training – A training catalogue for Research Software Engineering curated by EVERSE. Zenodo. <https://doi.org/10.5281/zenodo.18695269>

Roiser, S. (2026). The European Virtual Institute for Research Software Excellence, CHEP 2026, Bangkok, Thailand. Indico. <https://indico.cern.ch/event/1471803/contributions/6966818/>



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