National centre for innovative software solutions in academic research

Information event
Open eScience Call 2024
Welcome to the information event

Open eScience Call 2024

“Empowering researchers through digitally enhanced research”

https://www.esciencecenter.nl/calls-for-proposals/open-escience-call-oec-2024/
Program

• 10:00 Netherlands eScience Center and OEC call
• 10:45 Q&A session
• 11:30 Break
• 11:45 SURF research infrastructure
• 12:00 Q&A session
• 12:30 END
What is the eScience Center?

“The eScience Center is a research organization the task to ensure that the Netherlands remains at the forefront of international research in applying research software to answer challenging, urgent research questions.

We fulfil this purpose by contributing to a robust national research community in which ultimately all investigators in all disciplines will be able to exploit advanced digital technologies.”

- national centre of expertise
- independent foundation (2012)
- NWO & SURF
- Research Software Engineers (RSEs)
- strategy 2021-2025: two ambitions
What is the objective of the OEC Call?

The proposed research aims to solve a **specific research challenge** in the selected research area.

The proposed research is connected with efforts within the **broader research community** to address the **methodological issue** at hand.

The proposal shows the **technological and/or methodological issue**, shows why current solutions are not suitable and what new/improved research software could lead to.

The proposal considers the **software sustainability** beyond the project.
What can be applied for

- fully **in-kind** (unlike NWO or Horizon Europe) 2,3 PYR per project
- **collaborative** research project
- **working with the eScience Center** page on website
- addressing your **research question** through research software
- funded **workshop** to increase software **community** building
Our Technological expertise

Artificial Intelligence
- Machine learning
- AI image processing
- Natural language processing
- Responsible AI

Analytics
- Big data analytics
- Text analysis
- Image analysis
- Visualization

Data processing
- Databases
- Real-time Data Analysis
- Interoperability and Linked Data

Computing
- Exploiting Hardware Accelerators
- High Performance Computing
- Cloud Computing
- Combining Simulations

Software quality
- Developing Workflow Technologies
- Improving Software Practices
- Advancing Software Sustainability
- Optimization

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Research Software Directory

• Finding software
• Making software accessible
• Quickly judge relevance and usage

All software contributed to by the eScience Center is added to the Research Software Directory

www.research-software.nl
Who can apply?

• Proposals can be submitted only by researchers employed by a Dutch research performing organization. An overview of all eligible organizations is included in the full call document.

• Each proposal is to be formally submitted by a single named researcher (henceforth the ‘Lead Applicant’ or LA).

• The LA must:
  • be in possession of a PhD;
  • hold a contract for at least the duration of the requested project;
  • have demonstrable knowledge and experience (relative to the LA’s academic seniority) in applying digital methodologies to research;
  • ensure a minimal personal commitment to the project work for half a day per week on average for the duration of the project.
Conditions: Open Science

Open Science is central to the eScience Center. This enables verification, reproducibility, and transparency in all phases in the research process and maximizes the chance for adoption, reuse and impact of outputs resulting from the projects.

Default license: Apache2.0

This means code reuse is allowed for any purpose by anyone. No warranty. Exceptions are only possible on request before submission.
Conditions: Open Science

Substantial effort is put into making software sustainable. Preference should be given to extending, improving, and strengthening existing research software supported by existing research communities. Developing new software should only be proposed when no other viable alternatives exist.

Open Access
All research data and academic publications resulting from research awarded under this call for proposals are to be freely publicly accessible, at the earliest possible stage (in open access) under open licenses, at the time of publication.
How to apply

• Submit proposal via ConfTool
• https://www.conftool.org/escience/
• Follow Project Proposition and Full Proposal format
A note on (Generative) AI

For applicants:

• Use of AI for writing the proposal is allowed under conditions indicate which text has been (re-)written by which tools

• Lead applicant stays fully responsible for the proposal This includes plagiarism, biases, factual correctness, references

For reviewers:

• Use of (generative) AI is not allowed.

Full policy on zenodo
Project Proposition (1)

Research area

*Only one research area can be indicated. Indicate the area which fits best and by which experts you would like to be assessed.*

Research Idea

*Research problem, research question and current scientific approach. Realistic use case. Connection to broader research community.*

**eScience and technological challenge**

*Current technology/methodology of choice and limitations. How will working with eScience Center help address Research question. How will this help broader research community.*
Project Proposition (2)

Link with eScience expertise

At least one area must be indicated

Existing Software and data

Please describe existing software and data. The eScience Center expects a basic level of accessibility and quality for the software and data used in the projects it awards and collaborates on. This section needs to align with research idea and eScience and technological challenge.
Full proposal (1)

**Research Team**
At least 0,1 fte commitment from LA. At least one person from another institution. Research team expertise and contribution should match the proposed project.

**Project proposal**
Research Idea, eScience and technological challenges and software sustainability and impact. Refer to SMP where/if possible.

**Project plan**
Requested in-kind eScience capacity and project duration. Research team. Key publications. Workplan and deliverables.
Full proposal (2)

Existing software and data

Similar to project proposition, update if needed.

Digital infrastructure

Indicate project’s infrastructural needs, like compute services, storage, data transfers, hardware, etc. National infrastructure such as SURF and DANS.

Statements

GDPR. Code Openness Animal Experiments. eScience Center IP rules. eScience Center generative AI policy (and indicate whether you’ve used gen. AI). eScience Center Special Conditions on Granting. Informed the representative from your institution about submission.
Full proposal (3)

Software management plan mandatory

Include SMP as document with submission. Use the provided format.

Support letter optional

Indicate project’s infrastructural needs, like compute services, storage, data transfers, hardware, etc. National infrastructure such as SURF and DANS.
Software management plan

• Mandatory questions for proposal
  • Software description
  • Version control system
  • Open sharing of software
  • Licenses
  • Long term sustainability
  • Resources needed for long-term usability and availability and how are they obtained
  • Other measures taken to promote software’s longevity

• Optional questions
  • Are usually answered during the starting phase of the project together with eScience Center. This usually leads to an update of the SMP
  • Documentation
  • System requirements
  • Enabling software citation
  • Software testing
  • Software packaging and distribution
Steps in procedure

[Flowchart diagram]

1. **Information Event**
   - No additional documents needed/allowed. Use the provided format. Submit via ConfTool.

2. **Project proposal**
   - Eligibility check on ‘who can apply’, meeting conditions and using format correctly

3. **Eligibility check**
   - Assessment by eScience Center experts, focusses mostly on eScience Challenge. Selection (at least a ‘good’ qualification) and if more than two times number of fundable propositions per research area.

4. **Assessment and selection**
   - Selected LA’s are invited to write a full proposal and invited for a consultation meeting with the eScience Center

5. **Consultation meeting**
   - Submit via ConfTool using provided format. Include SMP and optional support letters.

6. **Full proposal**
   - Eligibility check on ‘who can apply’, meeting conditions and using format correctly

7. **Eligibility check**
   - Assessment by external experts committee. Committee advices about ranking per research area. At least very good qualification.

8. **Awarding**
   - eScience Center board decides about awarding.
Current CfP: Timetable

- **1 February 2024**
  - Information event

- **27 February 2024, 14:00 CET**
  - Deadline project proposition

- March 2024
  - Eligibility check, selection and notification

- April-May 2024
  - Consultation sessions

- **30 May 2024, 14:00 CET**
  - Deadline full proposal + software management plan

- June 2024
  - Eligibility check

- September 2024
  - Panel assessment

- Oktober 2024
  - Board decisions

- November 2024
  - Applicants informed of final decision
Contact

- Programme Management, Netherlands eScience Center
- Email: open-calls@esciencecenter.nl
Extra slides

To be deleted when the presentation is finished or can be used for questions
Practical guide to SMPs

• Core requirements for SMPs
• Different levels of management: not all software is created equal!
• NOT another bit of admin: software management leads to better science!

DOI: 10.5281/zenodo.7038281
Software and Data Health checks

Part of the project proposition review

We check the accessibility and quality of existing data and software that the project builds on.

Aims: prevent surprises, delay and disappointment after the project start.
How do we work?

- we **collaborate** with researchers in projects of varying size
- projects are driven by **research challenges** faced by project partners
- we offer **expertise (in-kind)**, not money (in-cash)
- we apply **state-of-the-art solutions** from computer science and digital infrastructure
- our research software, data and knowledge is **reusable & open**
- we encourage **software sustainability**, with all projects investing in **communities**
What are RSEs?

• specialized, high-end researchers (most have a PhD), who have
• a broad orientation + strong affinity with ICT, so that
• they understand both the research question and modern ICT solutions
  • (a) performing research focused on digital technologies and methodologies
  • (b) engineering software
• 50-70 RSEs are members of the eScience Center community
Our Team
eScience Center Digital Skills Skills Programme

Workshops

Open & Reproducible Research Software
- Unix Shell
- Version Control with Git & Collaboration on GitHub
- Introduction to R
- Introduction to Python
- R Packages and Publishing

Domain specific courses
- Genomics
- Ecology
- Geospatial
- Social Sciences
- Introduction to R
- Introduction to Python
- FAIR Data for Climate Science

Skills – advanced level
- Collaboration in Teams with Git & GitHub or GitLab
- Documentation
- Testing
- Modular Code Development
- Reproducible Computational Environments Using Containers

Technologies - advanced level
- Introduction to Deep Learning
- Parallel Programming in Python
- GPU Programming

✓ Hands-on courses, 2-3 days
✓ Based on The Carpentries & CodeRefinery
✓ Overview and course materials: esciencecenter.nl/digital-skills