

Innovative eScience Technologies for 'Big Science' (eTEC-BIG)

Guidelines for Application Full Proposal 2019

GENERAL

Please refer to the Call for Proposals "Innovative eScience Technologies for 'Big Science' (eTEC-BIG)" for the Terms and Conditions of this granting scheme. The call text is available at www.esciencecenter.nl.

The correct Application Form should be used. This form can be downloaded from www.esciencecenter.nl. Proposals must be submitted using the ISAAC submission system: www.isaac.nwo.nl (see below for details).

The full proposal should be written in English. The layout of the proposal should facilitate easy reading. A minimum font size of 10 pts is advised.

REGISTRATION FORM (BASIC DATA)

1. Details of the applicant(s)

Please provide details for all applicants; complete all boxes as requested in the form. You can include as many co-applicants as needed. The principal investigator (PI) is the contact person for correspondence.

In case the PI's primary expertise area is ICT Science (i.e.: not a 'Big Science' area as broadly defined in Section 1.2 of the call text), it is *required to include at least one* co-applicant and team member (see Section 4. 'Composition of the Research Team') from the primary 'Big Science' research area of focus.

2a. Title of the proposal

Please provide a short but specific title for the research for which funding is being requested. The title entered here must be the same as in the project information screen of the ISAAC submission system.

2b. Keywords

Provide up to 6 keywords most representative of the proposed research.

2c. Project duration

Indicate the expected duration of the project in months. Typical projects last 2 years; a duration of up to 3 years is allowed.

2d. Abstract (summary in English)

Provide a summary of the proposal in English, using no more than 250 words.

2e. Classification

Indicate the Technical Research Direction the proposed work *mainly* belongs to. In case your research fits more than one of the named Technical Research Directions, please select the most appropriate one. In case your research does not exactly match one of the options, but you are of the opinion that your project idea still fits well within the aims and scope of the call, please direct your questions to the contact persons mentioned below.

Please use exactly one of the tick boxes to select one of the following Technical Research Directions:

- Scalable Machine Learning & AI
- Processing of Streaming Data
- Large-scale (Distributed) Data Organization, Management & Semantics

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3. Total funding requested

State the amount of cash funding requested, as well as the requested in-kind contribution from both the eScience Center and SURFsara. Any additional local or external contributions (e.g. for local personnel, equipment, etcetera) should not be included in this amount.

4. Composition of the Research Team

List all the team members who will have a substantial and verifiable contribution to the proposed work. Also include the projected eScience Research Engineers and SURFsara Technology & e-Infrastructure Experts. Please use the table in the application form.

5. Key publications

Please list 5 key papers published by members of the research team in the last 5 years. The papers must be relevant to the current proposal.

RESEARCH PROPOSAL (MAX. 3500 WORDS IN TOTAL FOR SECTIONS 6 AND 7)

6. Description of the proposed research (+/- 3000 words)

The layout of the full proposal should facilitate easy reading. **For sections 6 and 7 combined no more than 3500 words may be used**, including text below figures, excluding literature references. The proposal should include:

- a. Science: Background, research questions, approach, and innovation**, incl.:
 - the 'Big Science'-oriented domain problem for which innovative eScience technologies and software will be researched and developed;
 - the specific 'Big Science' oriented use case(s) selected;
 - the technology-oriented approach to tackle the 'Big Science'-oriented domain problem;
 - the associated technology-oriented research questions, if any;
 - the relation of the proposed approach, solution, outcomes, and deliverables with (existing) state-of-the-art technological developments.
- b. eScience: Technologies, methods, and expected impact**, incl.:
 - the key challenges of the selected Technical Research Direction (see 2e above) in relation to the selected 'Big Science' domain and use case(s);
 - the eScience tools and methodologies to be developed, applied (re-used), integrated, or extended;
 - how the developed or applied eScience technologies contribute to the selected 'Big Science' use case(s).
- c. Re-use, sustainability, dissemination, and collaborations**, incl.:
 - how the proposed technological solutions will find use beyond the proposed work itself, after finalization of the project, and preferably also across disciplines;
 - how maintenance and sustainability of project results will be secured and managed;
 - how the project will serve as a stepping stone to building further collaborations, in science, industry, or both;
 - the efforts made to promote the results of the project (publications, demonstrations, workshops, training, etcetera).

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d. Data management

- If data is collected or generated during the research that has potential for re-use, please specify how this data will be stored and shared during and after the project.
- Specify what facilities and expertise are expected to be needed for data storage, and whether these are available to you.

e. Software sustainability

- If software developed during the project is applicable for re-use, please indicate how the software will be licenced and be made available to third parties, and what effort will be needed to ensure re-usability.
- Indicate the size of the community able to re-use the software developed within the project
- Indicate what expertise is needed in order to make the software re-usable, and what contributions you would need from the eScience Center in making the software re-usable.

f. Use of Dutch National e-Infrastructure

Indicate the project's (national) e-Infrastructure needs, in terms of compute hours, data storage capacity, lightpath connectivity, or otherwise. A 'use-or-explain' policy is applied, meaning that:

- projects *without* e-Infrastructure needs are asked to give a brief explanation;
- projects with clear e-Infrastructure needs are expected to select the hardware resources and services as part of the Dutch National e-Infrastructure as first option, and to indicate the expected extent of use (see Appendix D in the Call for Proposals);
- projects with clear e-Infrastructure needs that aim to use international (e.g. PRACE, EUDAT, EGI, XSEDE, etcetera) or commercial (e.g. web, cloud, etcetera) hardware and services instead are required to give a brief explanation (see Appendix D in the Call for Proposals).

The use of the Dutch National e-Infrastructure is not a requirement, nor is it a formal review criterion. However, in all cases in which the Dutch National e-Infrastructure is not used, a justification should be provided.

7. Workplan and Time Table (+/- 500 words)

Provide a detailed workplan (e.g. in work packages) and time table. In particular, specify clearly the role of the eScience Research Engineer(s), the SURFsara Technology & e-Infrastructure Expert(s), and the expected involvement in terms of duration (specify preferred start-date and end-date) and percentage of participation (full-time or part-time).

8. Deliverables

Provide a detailed list of the expected deliverables of the project, e.g. incl. publications, software releases, demonstrators, (video) presentations, etcetera.

9. References

List of references cited in the proposal, with full bibliographic details.

ADMINISTRATIVE DETAILS

10. Requested funding within the total budget

The available budget for a single project is a maximum k€ 170 in cash contribution, a minimum 1.3 PYR in-kind contribution in the form of eScience Research Engineers employed by the eScience Center, and a maximum of 1.0 PYR in-kind contribution in the form of Technology & e-Infrastructure Experts employed by SURFsara.

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Please specify costs for personnel, equipment, software, and travel using the layout as given in the application form. Personnel costs for Postdocs are specified in Table 1 below according to the most recent VSNU agreement. In case more than 1.3 PYR in-kind eScience Center support is requested, the in cash budget for a) + b) is lowered by k€ 10,000 per 0.1 PYR.

Requested equipment and software must be intended for use in the project described in the proposal. Both the relationship with the project and the necessity of the equipment must be justified. Equipment and software with a purchase price of less than €5,000 forms part of the research institute's standard infrastructure and is not eligible for funding. Travel expenses may not exceed a maximum of € 10,000. Travel expenses of eScience Center and SURFsara personnel need not be specified. The necessity of any travel undertaken in connection with the project must be justified.

Table 1

Following the NWO-VSNU-agreement for the period 1 July 2019 – 1 July 2020, for postdocs the standard research personnel fees (excl. bench fees) in € for 1,0 FTE are as follows:

position-->	Postdoc
Duration	
1 year	<i>TBD</i> (was: € 74.553)
2 years	<i>TBD</i> (was: € 150792)

Benchfee

Also following the NWO-VSNU-agreement for the period 1 July 2019 – 1 July 2020, the bench fees for postdocs are *TBD* (was: € 5.000) for each appointed temporary staff member.

Please be informed that the NWO-VSNU agreement will change by July 2019. As a result, the above fees are not yet known at the time of writing; the earlier fees hold for the pre-proposal phase only. In the full proposal phase the most recent agreement applies; the fees are expected to be higher than before.

11. Statements by the applicant

The eScience Center requires applicants to endorse the [General Data Protection Regulation \(GDPR\)](#) (see www.eugdpr.org), the [Code Openness Animal Experiments](#) and the [Biosecurity Code of Conduct](#) (both available at www.knaw.nl) and act according to these. Applicants are asked to also endorse and follow the [Netherlands eScience Center Policy towards Publishing, Licensing, and Intellectual Property](#) (at: www.esciencecenter.nl). For alternative IP agreements, the eScience Center must be contacted before proposal submission.

PROPOSAL SUBMISSION

The full proposal should be submitted as a PDF file via the electronic application system ISAAC before **29 August 2019, 14:00 CET**. More information on the use of ISAAC is available at www.nwo.nl. The proposal must be submitted from the ISAAC account of the principal investigator.

For technical questions about the use of ISAAC, please contact the ISAAC helpdesk. Applicants are requested to read the ISAAC manual before consulting the helpdesk. The ISAAC helpdesk is available from Monday to Friday from 11.00 to 17.00 hours on +31 (0)20 346 7179. You can also send your questions by email to isaac.helpdesk@nwo.nl. You will receive a reply within two working days.

A list of possible referees/non-referees should be added to the ISAAC fact sheet. You can exclude a maximum of 3 referees.

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In accordance with the NWO-VSNU agreement, applicants should inform their local institute of the proposal. A copy of the proposal should be sent to the scientific director or dean of your department or institute. By submitting a proposal, you state that you have informed your local institute and that you and your local institute accept the terms and conditions of this granting scheme.

MORE INFORMATION

For more information, please check www.esciencecenter.nl or contact:

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