Technical Evaluation for a Full eCSE Application

Applicants for an **eCSE application** should use this template for requesting a Technical Evaluation (TE) of the main code(s) to be used in the eCSE project.

The eCSE10 call will close at **16:00 on Tuesday 31October 2023**. No applications will be accepted after this time. However, this TE form should be submitted to the ARCHER2 service desk ([support@archer2.ac.uk](mailto:support@archer2.ac.uk)) by **16:00 pm on 10 October 2023.** The completed TE form will be returned to you as a PDF and should be submitted in the ARCHER2 SAFE as part of your application to the eCSE programme.

Please note:

* There is a hard page limit for each section which is shown at the start of each section. Please note that these are designed to give plenty of space and are maximum limits and you do not have to use all the space available.
* The font size should be no smaller than 11pt and the margins should be no smaller than 2.5cm.

Please upload your completed technical evaluation when you fill in your eCSE application online form via the eCSE Funding Calls section within the SAFE <https://safe.epcc.ed.ac.uk/>.

The text highlighted in grey in italics is for guidance and **should be deleted** before submission.

If you have any queries or require assistance regarding your application, please contact the ARCHER2 service desk: [support@archer2.ac.uk](mailto:support@archer2.ac.uk).

# Project Information

## 1. Project Title (as given in on-line SAFE form)

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| *Please use the Project Title you gave when you started the proposal in the SAFE.* |

## 2. PI Name and Institution

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# Proposal Information

## 3. Description of code(s) (max. 1 page)

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| *You should give a short description of the main code(s) that will be developed during your eCSE project, giving links where appropriate, and describe the languages used.*  *For applications planning to utilise ARCHER2 (CPU and GPU components), please include any underlying dependencies (e.g. other software packages, libraries, specific compilers, debugging and profiling tools), indicating for each how hard the dependency is (i.e. optional or strictly necessary) and whether it is already (or will be) available on ARCHER2 or must be installed for the project. If you intend to use any software that requires a licence please indicate how you will provide this.*  *For applications planning to utilise a different platform (only for a project targeting future Exascale systems), please describe the hardware you plan to use and confirm you have been granted appropriate access and resources on the system. If you intend to use any software that require s a licence please indicate how you will provide this.* |

## 4. Complexity of code modifications (max. 1/2 page)

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| *Please describe the extent and complexity of changes you are proposing to make to the codebase, including whether the changes are localised or pervasive.* |

## 5. Scaling evidence for the code(s) (max 2 pages including any diagrams)

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| *Please give quantitative evidence to show that the code achieves good performance for typical use cases. For each use case, the evidence should meet the following requirements:*   * *(Required) Tables of runtime (or performance) against number of CPU or GPU nodes. This should utilise data for the code on ARCHER2 or another HPC system.* * *(Optional) Plots of the runtime or performance against number of CPU or GPU nodes using the data provided in the required tables to aid interpretation of code performance and scaling. The performance axis should be plotted on a linear scale, not a log scale.* * *(Optional) Parallel efficiency against number of CPU or GPU nodes, again using the codes on ARCHER2 or another HPC system. The parallel efficiency axis should be plotted on a linear scale, not a log scale.* * *For software planning to make use of a single CPU or GPU node (or less) only, please supply descriptions of the single node performance, rather than the points above.*  *The above may come from a Tier-1 systems such as ARCHER or ARCHER2, or in the case where a code will be ported from a Tier-2 system to ARCHER2, this evidence may come from Tier-2 systems. Plots/tables should be provided relative to the smallest number of nodes that can feasibly be used. If the project will implement new algorithms for which performance data is not yet available then the performance expected on completion of the project should be given and justified. If you require help in evaluating the performance of your code on a particular problem then please contact the ARCHER2 service desk (support@archer2.ac.uk).* |

## 6. Sustainability, maintenance and validation of codes (max. 1 page)

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| *Please explain how the software will be maintained both during and after the eCSE project and how the underlying source code will be made available. Please comment on any coding standards, testing or validation requirements for the updated software (for example you may need to meet requirements to have modifications accepted by code maintainers outside of your project if applicable).*  *For projects targeting Exascale only, please explain how the changes will enable future Exascale systems.* |

## 7. Availability of codes on completion of project (including licensing model) (max. 1 page)

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| *Please explain how the code will be made available for ARCHER2 users to run and give details of any licensing model used.*  *For projects targeting Exascale only, if you do not plan to make the code available on the ARCHER2 system, please explain how the code will be made available the current HPC community and/or current ARCHER2 users. Please give details on any licencing model used.* |

## Section 2: Technical Assessment (*To be completed by CSE team).*

**Date Received by CSE:** [Enter received date]

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| Is the software presently suitable for running on ARCHER2 or another large scale system in terms of scaling and performance, or is it predicted to be by the end of the project? | Yes/No |
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| If the project plans to use ARCHER2, are there any software requirements or dependencies which might be difficult to meet on ARCHER2? | Yes/No |
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| If the project plans to use a different system to ARCHER2, is the system suitable for the project objectives and do the applicants have appropriate access to the system? | Yes/No |
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| Will the code be available to ARCHER2 users and/or the UK HPC community on completion of the eCSE work and will the licensing model be suitable? | Yes/No |
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| Will the code be maintained after the completion of the eCSE work? | Yes/No |
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| Please provide any other relevant comments here (optional) |
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**Name:** [Enter name]

**Position:** [Enter job title]

**Date:** [Enter date completed]