



Porting Program

Application Form 2022

The LUMI porting program aims to help research groups and companies interested in making their scientific software utilize the new AMD GPU-compute architecture in LUMI to the fullest, in collaboration with experts from LUMI. We are looking for proposals outlining a team porting effort of an existing software. The scope should be limited so that the task can be accomplished in less than one year with a project team of ca 4 people working part-time.

The present document is the template to be filled in order to apply to the call. You will be asked to provide

- an introduction to the software and its use in the scientific field
- a technical description of the software
- a brief project plan/description on how (parts of) the software could be ported to the GPU, and the reason why
- a scientific motivation describing the potential impact of a successful porting project

The completed form should be submitted as a PDF file using the LUMI support forms available here: <https://lumi-supercomputer.eu/user-support/need-help/generic> (please select the "General" category and put "LUMI Porting Program" in the subject). You can use the same form if you want more information about this call.

I. Overview

Project title:

Summary:

II. Principal Investigator

Person responsible for the project

Firstname:

Email:

Lastname:

Position/title:

Organization:

Research group:

III. Main contact

Person to be contacted on matters involving this application

the principal investigator is the main contact person

Firstname:

Email:

Lastname:

IV. About the code

Name of the code:

Website:

License:

Open-source: yes, open source

if the code is open-source, where the source code can be found:

Main programming language:

Number of active developers:

Is the code parallel: yes OpenMP
 MPI
 Other:

Does your code have support for GPU: yes Can your code exploit multiple GPUs:
 no, single GPU
 multiple GPUs on the same node
 multiple GPUs on multiple nodes

Which GPU programming model do you use:

- NVIDIA CUDA
- AMD HIP
- OpenMP Offload
- OpenACC

Other:

If your code uses third-party libraries please list them here:

Description of the software:

Describe your software focusing on the features that make it unique. However, you are free to include any details you deem relevant for this application. If you already have provided a link to a website describing your software in the previous section, you do not need to provide a full description if its present there.

V. Objectives and project plan

Describe the changes and improvements that you believe are necessary in order for your code to be ported to and efficiently exploit LUMI-G and the total amount of work you think is required. State, if possible, for which parts you need help from the LUMI User Support Team/HPE-Cray Center of Excellence. Please also provide a short work plan and if possible, the expected improvement in performance or scaling of a code at the end of the project.

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VI. Impact

Describe the scientific advancements which will be enabled by the completion of the proposed project. For example, if it will allow the scientific community to perform novel and previously untenable simulations and/or if the outcomes of the project are of specific importance to the European HPC community.