

Call for proposals to be supported by the High Level Support Team

Deadline for responses: 15th November 2015

The High Level Support Team (HLST) working within Work Package Infrastructure Support Activities provides support to users who perform massively parallel computational work for the European fusion physics programme. This team includes experts in plasma physics with HPC experience, numerical mathematics and computer engineering.

In 2016, the HLST effort is expected to total 8 professional person years (96 professional person months). The HLST is in charge for the following tasks:

- Parallelise codes using e.g. Open MP and/or MPI standards for massively parallel computers;
- Improve the performance of existing parallel codes both at the single node and inter node levels;
- Support the transfer of codes to new multiprocessors architectures;
- Choose and if necessary adapt algorithms and/or mathematical library routines to improve applications for the targeted computer architectures;
- Give feedback to the community based on experience gained from specific project work;
- Provide guidance for young scientists on available training activities in HPC and towards upcoming new computer architectures;
- Provide consultancy to scientists within the Associates working on HPC
- Exploit developments made by the WPCD, especially in the field of standards, graphical user interfaces, common data bases and parallel visualization, for the benefit of the IFERC-CSC users.

In this Call for Proposals we invite your Research Unit staff to propose project(s) aimed at the improvement of existing codes and/or at development of new numerical tools which require support from the HLST. The proposal should detail the scientific objectives of the project, the numerical tools used and the anticipated needs for high-level support and the expected HLST resources (ppm) requirements following the attached “**Template_for_proposals.doc**”.

In particular, the proposal should include relevant information on

- Code application domain(s) in terms of physics
- Current status of the code
- Currently supported architectures
- Typical Use Cases/Problem sizes
- Technical improvement or adaptation work done so far by other institutions

- Requested support activity and /or support need (not necessarily restricted to the above categories)
- Any matching commitments from code owner
- Source code distributions for preliminary needs analysis
- Estimation of the effort (in ppm) of the projects proponents to be given (in parallel to the HLST work) to the execution of the project
- Expected usage of the IFERC Helios architecture

Applications will be selected according to a selection process defined by a panel of experts in computational physics, taking into account the potential impact on the European fusion research programme and the technical soundness of the proposals. In preparation of the JET DT campaign, the applications for support of codes, which will be actively used for the analysis of the JET DT experiments and supporting experiments on other European machines, are strongly encouraged. The selected projects will be allocated to HLST starting from 1st January 2016. The selection will cover the whole of 2016, but, where appropriate, multi-year projects may be proposed and selected.

Proposals should be sent via e-mail to Irina Voitsekhovitch (Irina.Voitsekhovitch@euro-fusion.org) with copy to Susann Wangnett (susann.wangnett@euro-fusion.org) through the GA member no later than **15st November 2015**.