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LUMI supercomputer for European researchers

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LUMI supercomputer, which is currently #3 on the Top500 list and the most powerful system in Europa, started full production earlier this year. LUMI is jointly funded by EuroHPC JU and a consortium of ten countries led by CSC in Finland.

In this presentation we first discuss the architecture of LUMI from the user's point of view. More precisely, we introduce the various partitions that make LUMI exceptionally versatile and suitable for a wide array of applications and workflows.

To fully harness the computing power of the system, programmers must be able to utilize the AMD MI250X GPUs of the system. Accordingly, we present the available GPU programming models and paradigms together with the performance analysis tools. We will provide information on the particular strategies to apply based on the initial situation of the application the user wants to be ported and deployed on LUMI; e.g. in terms of existing code-base, programming language, problem size, etc..

Finally, we discuss the access and support model: There are various modes and call for access available from both EuroHPC and the consortium countries. The support is handled by the distributed LUMI User Support Team to which all the consortium countries contribute. The consortium also runs a comprehensive training programme.