



MATLAB for HPC at Jülich Supercomputing Center

6th November 2023 Jülich Supercomputing Centre (JSC) - Germany



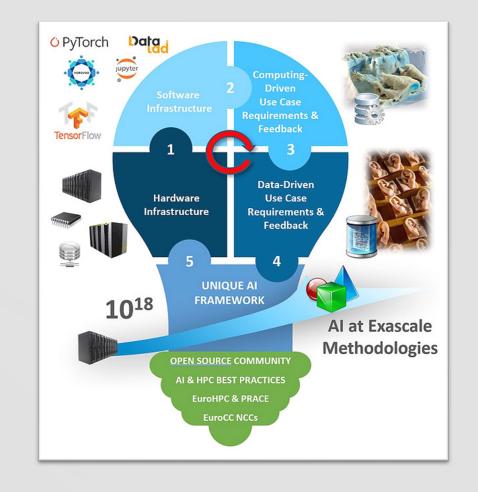
COE RAISE



The European Center of Excellence in Exascale Computing "Research on AI- and Simulation-Based Engineering at Exascale" (CoE RAISE)

- Development of AI methods towards Exascale
- Connect
 - hardware infrastructure,
 - software infrastructure,
 - compute-driven use cases,
 - and data-driven use cases

to create <u>Unique AI framework</u> for academia and industry









National Competence Centre (NCC) Germany

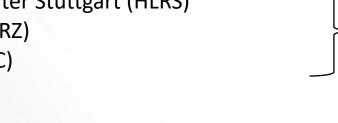
EuroCC@GCS: The NCC Germany





The NCC Germany consists of

- three HPC-centers
 - High Performance Computing Center Stuttgart (HLRS)
 - Leibniz Supercomputing Centre (LRZ)
 - Jülich Supercomputing Centre (JSC)
- and the company SICOS BW





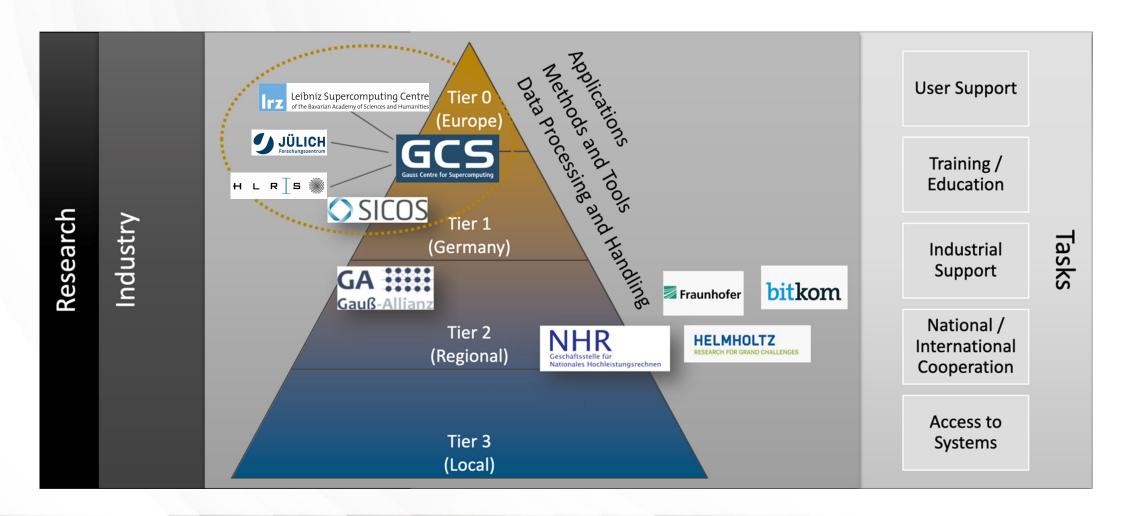




EuroCC@GCS: The NCC Germany







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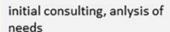
HPC

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am interested







Which solution is suitable?

Non-binding, independent

NCC contact



ssh, web-based portals interactive work on loginnodes (mostly command line/Linux)

Login HPC system







How to manage data transfer? E.g.: scp, web-based portals

Which storage system is used? z. B. home (documents, software), parallel Filesystems (HPC jobs)

Data management







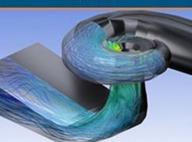


Postprocessing of data in other workflows on HPC or cloud systems

Visualisation

Post-Processing

Result



How do I get access to HPC?

How do I use the HPC system?

Supply



Project creation

Computing time

Partners get commissioned with HPC tasks

Project starts



Project setup, e.g. User accounts, allocation of disc space

Environment





Which software is there?
Which software is necessary?

Own software in use?

Job management







Computing jobs mostly not interactive, but workflow submitted as batchjob (jobscript)

Workload-Manager (Scheduler) administers HPC ressources and queues jobs



Agenda

Rotunde, Bd. 16.4:

- 09:00 09:20 Welcome & Introduction (L. Cifuentes and J. Göbbert)
- 09:20 09:30 Teaser MATLAB Use Case (Prof. A. Kleefeld)
- 09:30 10:30 MATLAB for HPC Part 1 (R. Norris)
- 10:30 10:45 Coffee break
- 10:45 12:30 MATLAB for HPC Part 2 (R. Norris)
- 12:30 13:30 Lunch & Connect to MathWorks (discussion at the Casino)
- 13:30 15:00 Open End (back at the Rotunde)









