

Mentoring of HPC projects @LRZ

SuperMUC-NG Status & Results Workshop

We have to deal with an increasing complexity of HPC systems!

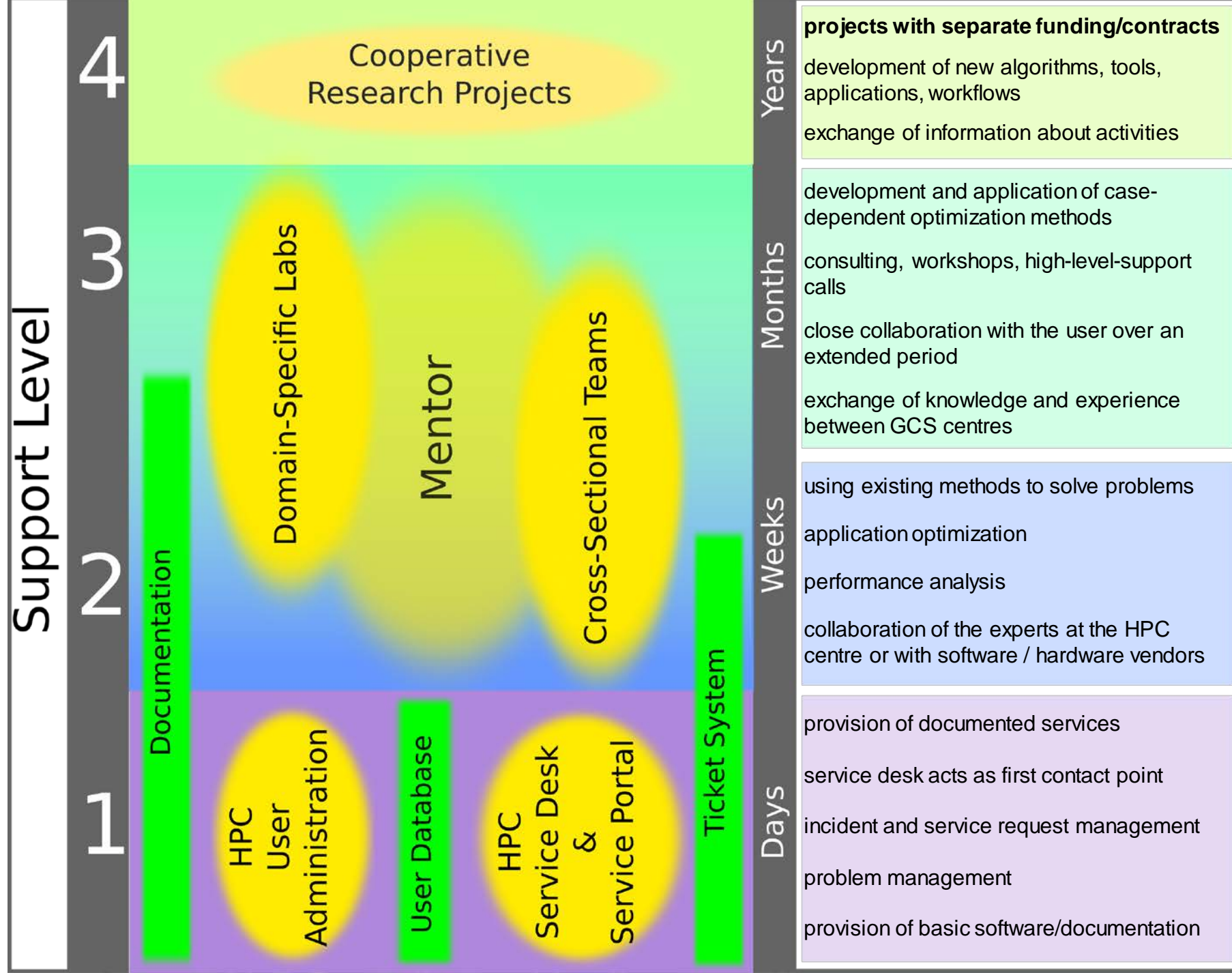
→ increasing challenges for both users and HPC centres

→ increasing investment costs

→ Implementation of new support concept in 2019 at all GCS centres

- Definition of a common support structure at the GCS centres (implementation considers local constraints)
- Introduction of the mentoring concept

Scope: New GCS Support Concept



Mentoring of HPC Projects@LRZ

The Mentor at LRZ

assigned to each large-scale project

acts as a permanent point of contact

detailed understanding of the user's project, its history, the project's associated challenges

assists the user in long-term needs for achieving scientific goals



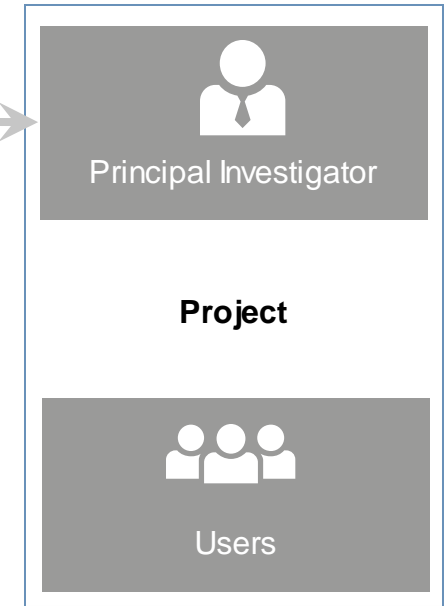
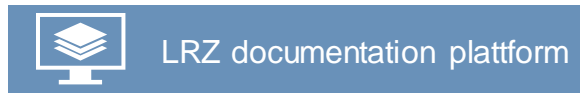
overview of resource consumption

coordinates communication between users and support staff

coordinates the usage of dedicated resources

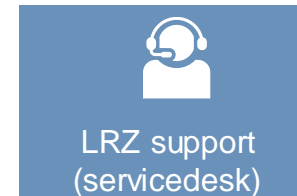
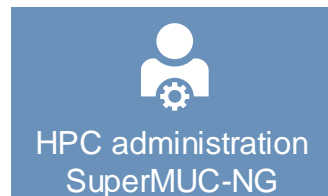
coordinates efforts in software, performance and IO optimization, long-term data management and visualization

Mentoring of HPC Projects@LRZ Implementation at LRZ

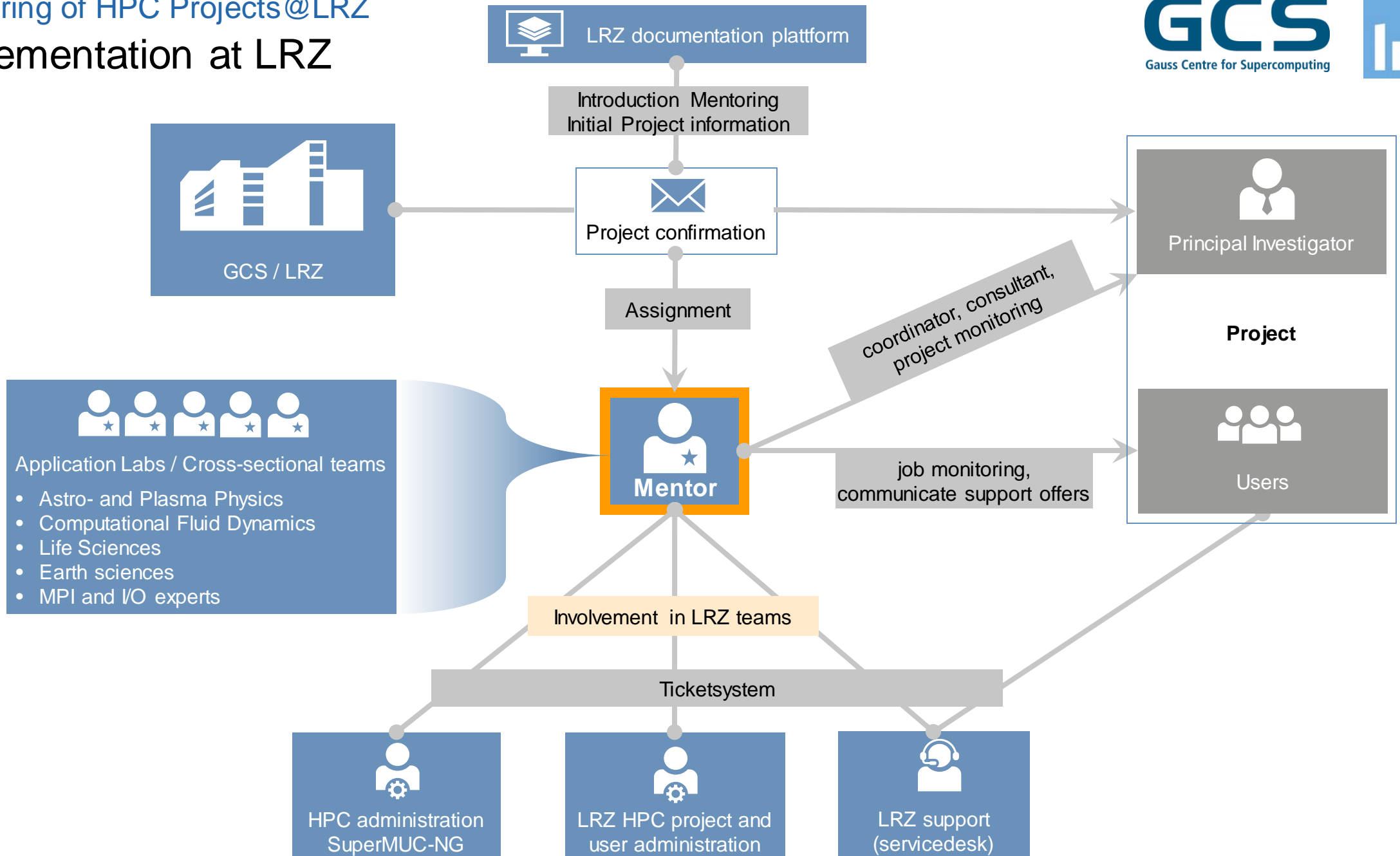


Application Labs / Cross-sectional teams

- Astro- and Plasma Physics
- Computational Fluid Dynamics
- Life Sciences
- Earth sciences
- MPI and I/O experts



Mentoring of HPC Projects@LRZ Implementation at LRZ



Mentoring of HPC Projects@LRZ

Mutual Benefit



- Mentor is the user's representative towards the centre and vice versa
- Mentor is an extension of the existing support structure, not a replacement
- Mentor identifies recurring problems and initiates necessary actions
- The user profits from a more efficient and personalized support structure
- The LRZ benefits from a more efficient use of valuable HPC resources



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- Managing/supporting the optimization of job workflows
 - from project monitoring (we are not Big Brother) to problem identification to solution
 - project's work plan back on schedule and happy users
- Technical and administrative support for data post-processing, e. g. visualization cases in astrophysics:
 - visualizing the world's largest turbulence simulation
- Communication of collaboration activities

Thank you!