

bwRSE4HPC - Better Research Software in Baden-Württemberg

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Our Mission

We provide *software development services* for researchers in Baden-Württemberg

- Dreamed of adding a feature, but no funding available?
- Dozens of PhD codes, but no coherent software?
- Going from your laptop to HPC, but don't know where to start?
- Spending ages for your program to finish?

We can help!

Projects from a few weeks up to 6 months are **free of charge** for all researchers based in Baden-Württemberg.

Software Development Areas

Performance Optimizations

- Algorithmic development
- Interfacing optimized libraries
- Generic Optimizations

Usability

- Language bindings
- Improving user interface
- Enabling automation

Enabling HPC

- Adding parallelism, shared and/or distributed memory
- Prototype development

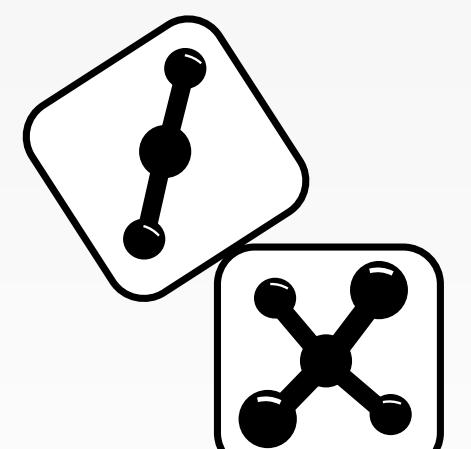
Sustainability

- Build system modernization
- Removing code debt

KIMMDY

Molecular Dynamics

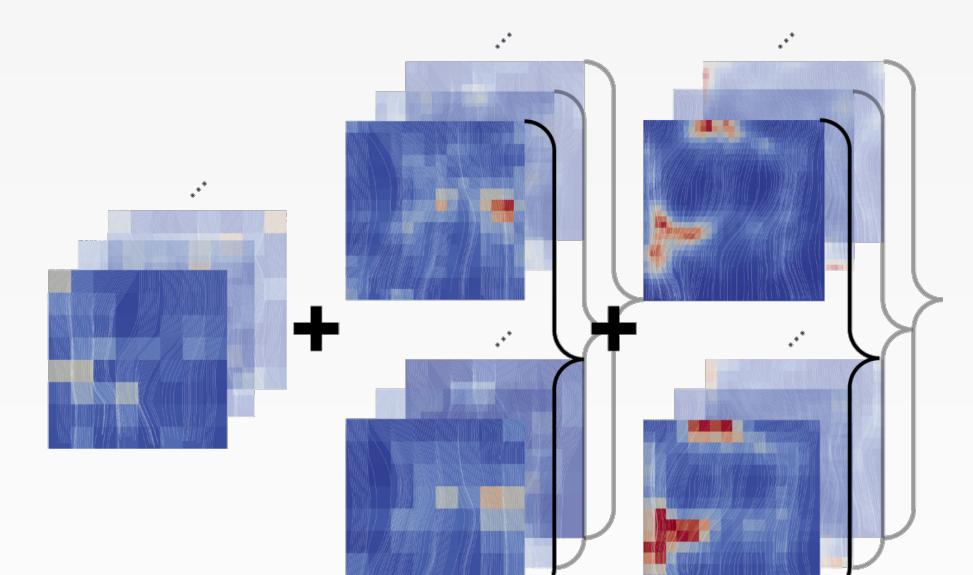
- Simplified package install on HPC systems
- Improved GPU utilisation
- Add integration test coverage



M++ with Ginkgo

Applied Mathematics

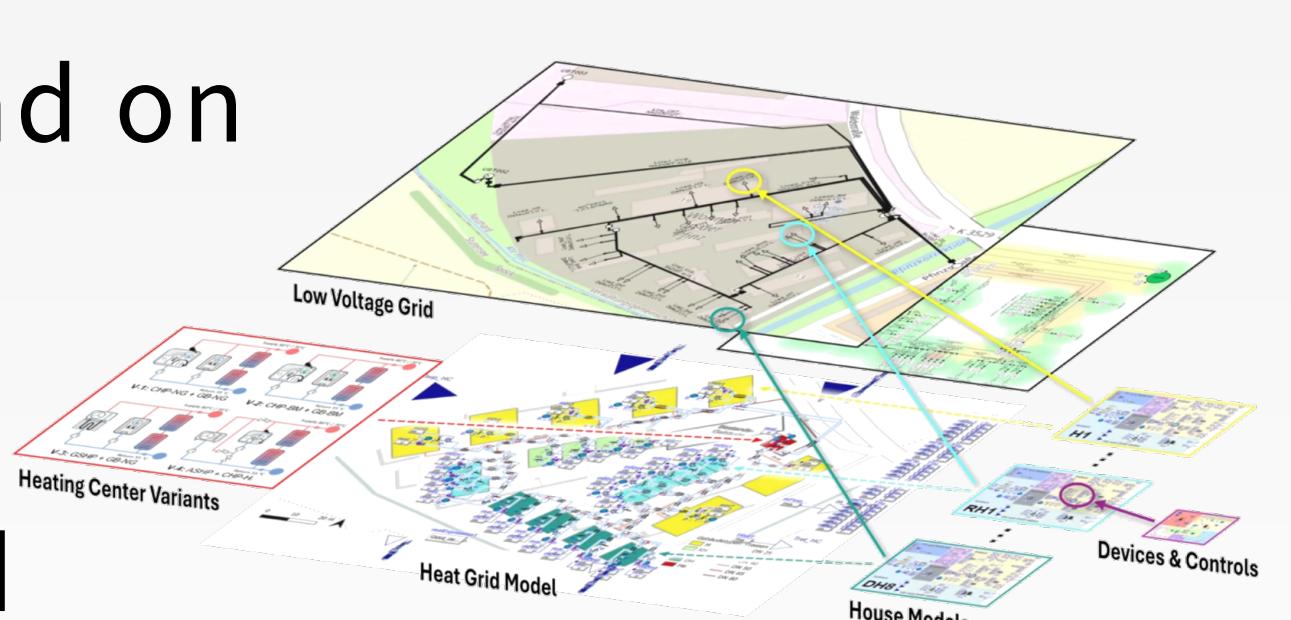
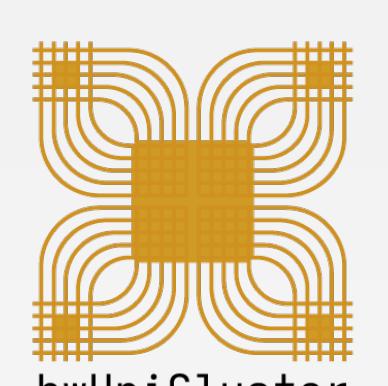
- Wrap Ginkgo into existing linear solver interface
- Run linear solver on single GPU
- MPI parallelize over multiple GPUs



eCoSimHPC

Energy Systems

- Run with current backend on HPC cluster
- Add HPC optimized communication backend
- Scaling benchmarks on an HPC cluster



Get in Touch

More information at

<https://www.bwrse4hpc.de/>

Don't hesitate to contact us directly at support@bwrse4hpc.de

