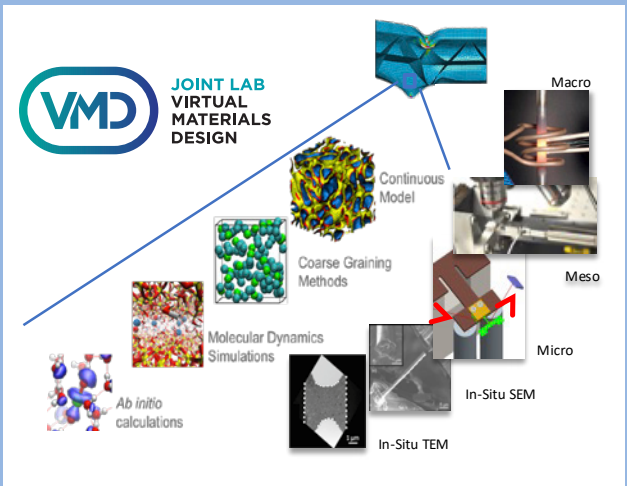
JÜLICH Forschungszentrum | JÜLICH SUPERCOMPUTING CENTRE

JOINT LAB - VIRTUAL MATERIALS DESIGN

SCALABLE AND HIGH-THROUGHPUT COMPUTING



Accelerated Materials Design in

- Quantum Materials
- Nano-Sensors
- Metallic Biomaterials

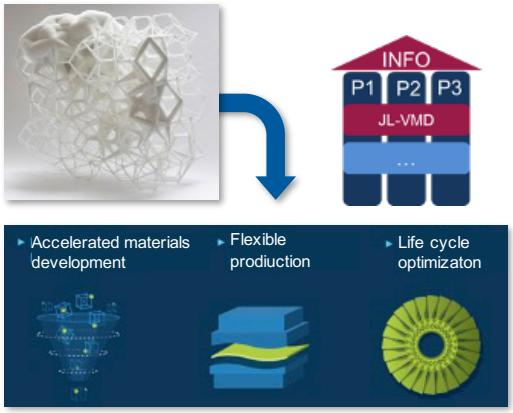
Reserach and Development

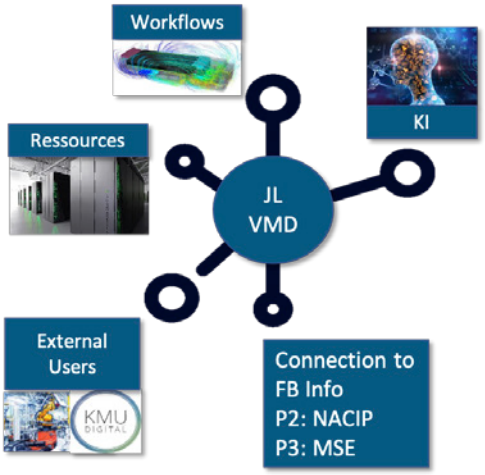
- Workflows
- Scalable Algorithms and Performance
- Multi-Scale Coupling
- Machine Learning Support

The Joint Lab “Virtual Materials Design” has been established in the Helmholtz Research Field “Information” across the Helmholtz Programs “Materials Systems Engineering”, “Natural, Artificial and Cognitive Information Processing” and “Engineering Digital Futures”. The overarching goal is to develop and validate new methods for computational material and process development.

The projects of the virtual materials design platform aim at

- the acceleration of material development by information-guided design and synthesis automation
- the provision of digital twins for materials, components, and devices;
- plus the development of a virtual research environment which makes accessible all cross-scale simulation methods and digital twins developed by the other projects





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