

DFG GRK 2250 – Mineral-bonded composites for enhanced structural impact safety

Felix Conrad – Doctoral Project C3/II

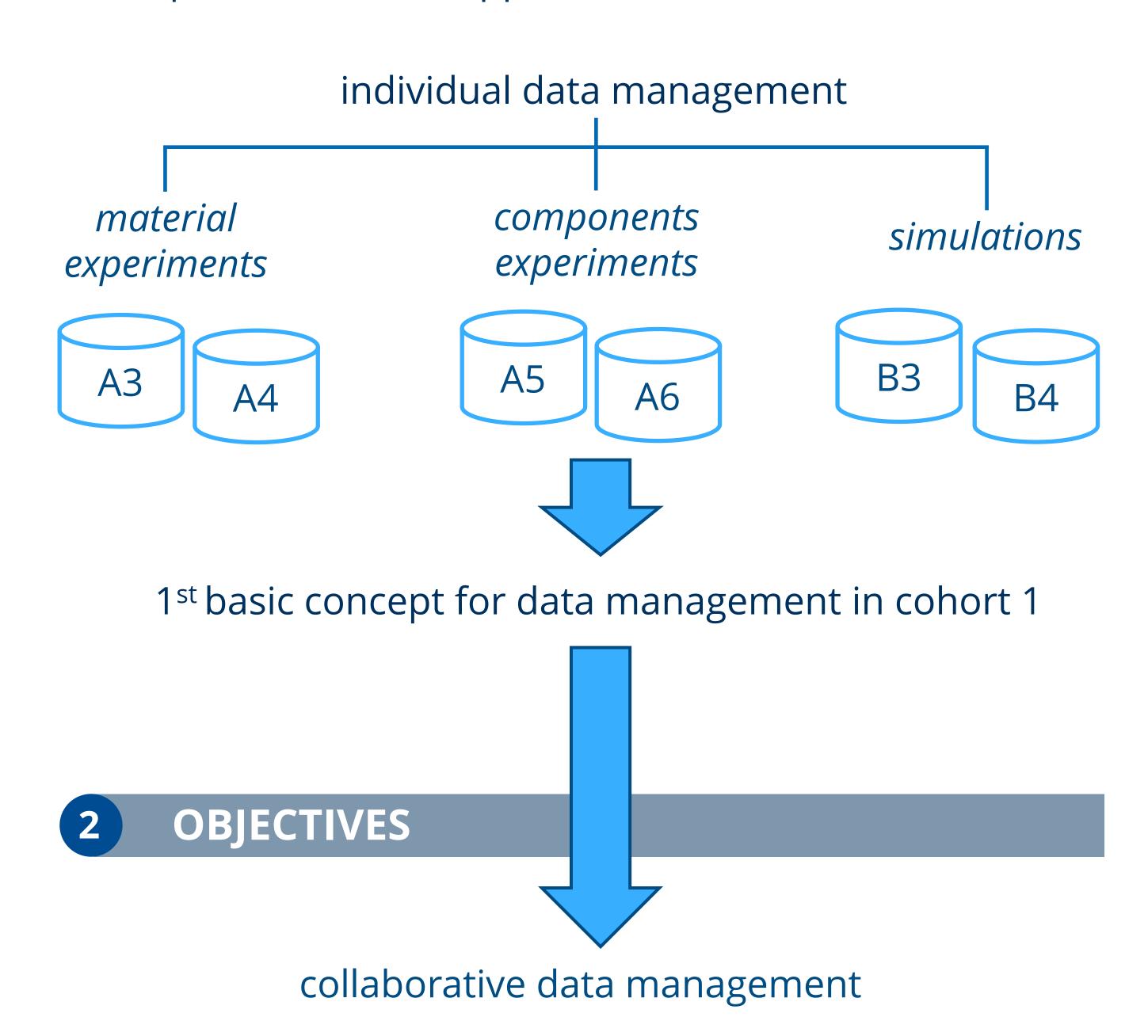
AI METHODS FOR THE SYNERGETIC USE OF THE INVESTIGATION RESULTS OF GRK 2250 FOR THE DESIGN OF IMPACT PROTECTION SYSTEMS



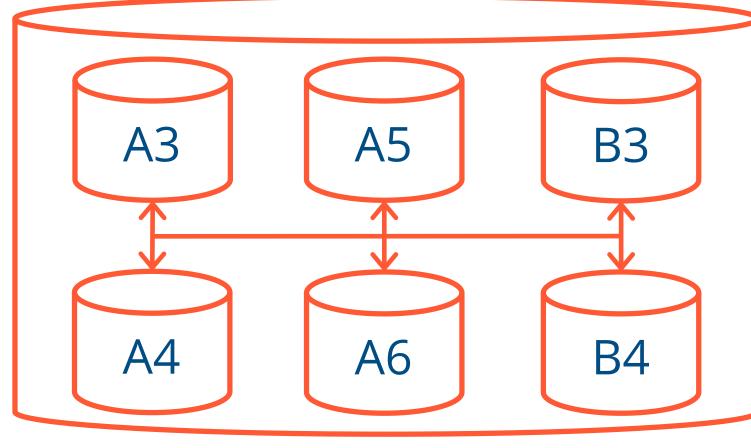


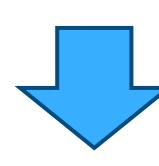
STATE OF THE ART

- Heterogeneous data storage
- Data of the test series have problem-specific content
- Requirement for Al application is deficient









Al based knowledge creation: generalizing model from the individual projects and their research data



Development of a demonstrator on the basis of the created generalizing model



Evaluation of the demonstrator and the created model

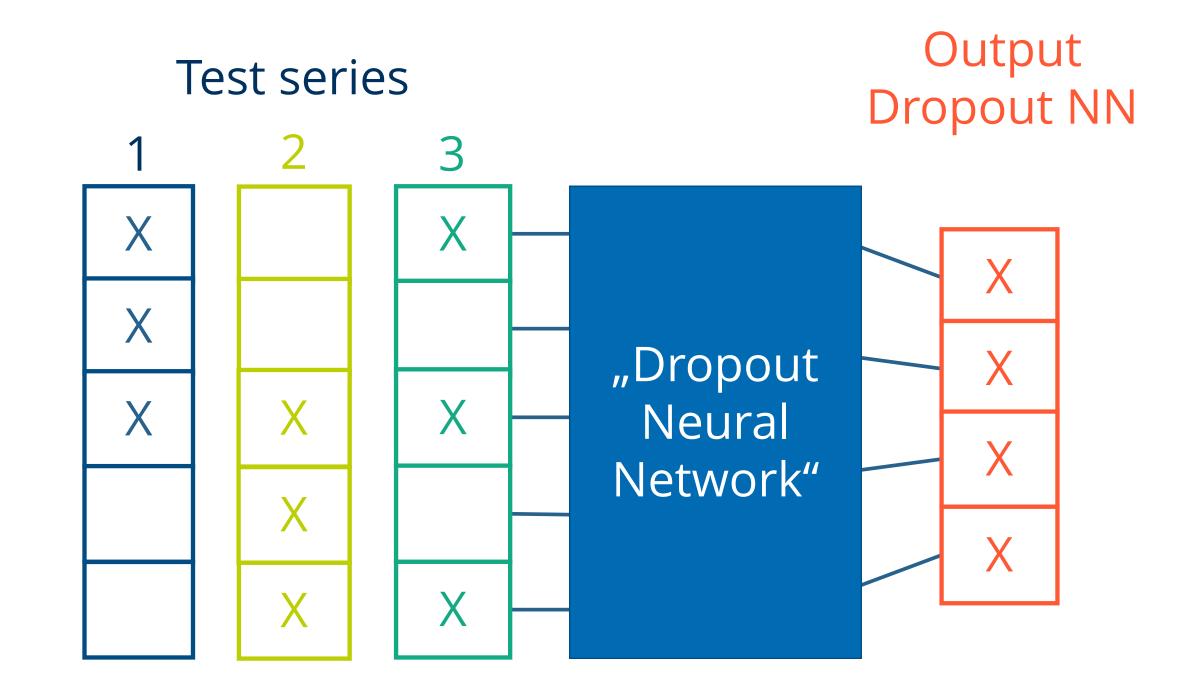
Solutions:

- Uniform and systematic data-storage
- Problem specific content is connected
- Requirement for Al application is fulfilled
- + overarching knowledge creation

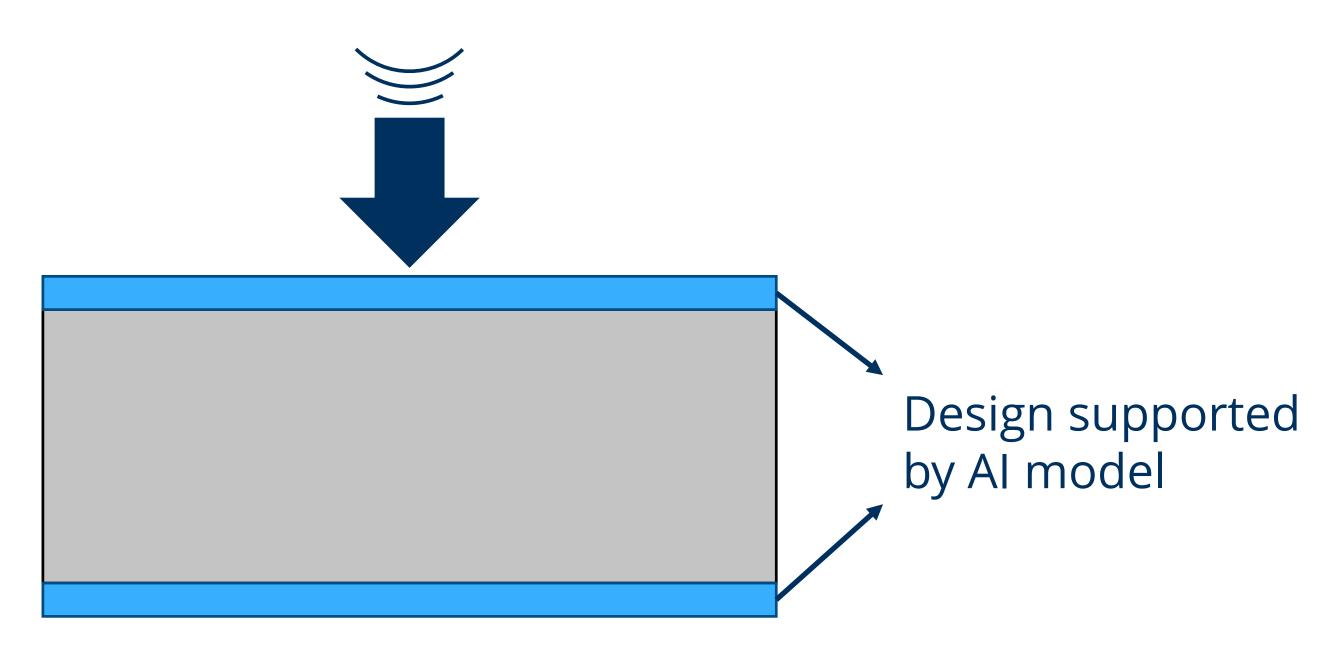
3 CONCEPTS

- Method for meta data and research data management
- Pipeline for creating an algorithm
- Optimized demonstrator
- Prediction of the properties of an adapted component

Potential Al-Algorithm for combining the single projects and their experiments in an generalizing model:



Potential demonstrator for the evaluation of the model



PLANNED COLLABORATIONS

Established collaborations in the initial project phase

