



BE08 - Integration of Engineering- and Business Processes in Metal Forming

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Duration

20 months

Economic Sector

Automotive Supplier Industry, especially small and medium sized enterprises coping with sheet metal forming.

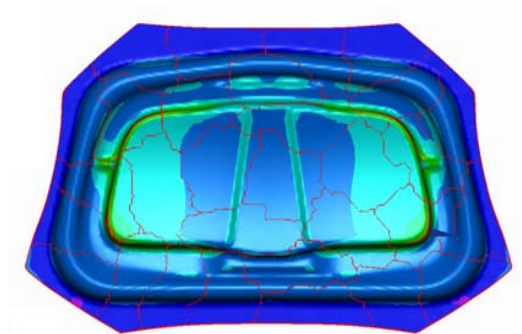
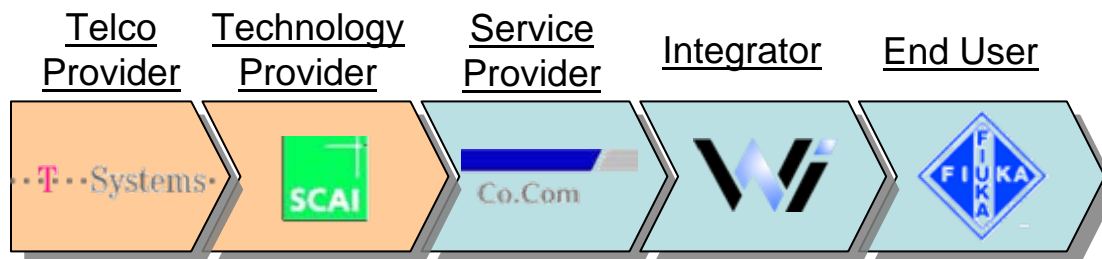
Middleware Baseline

WSRF-Based

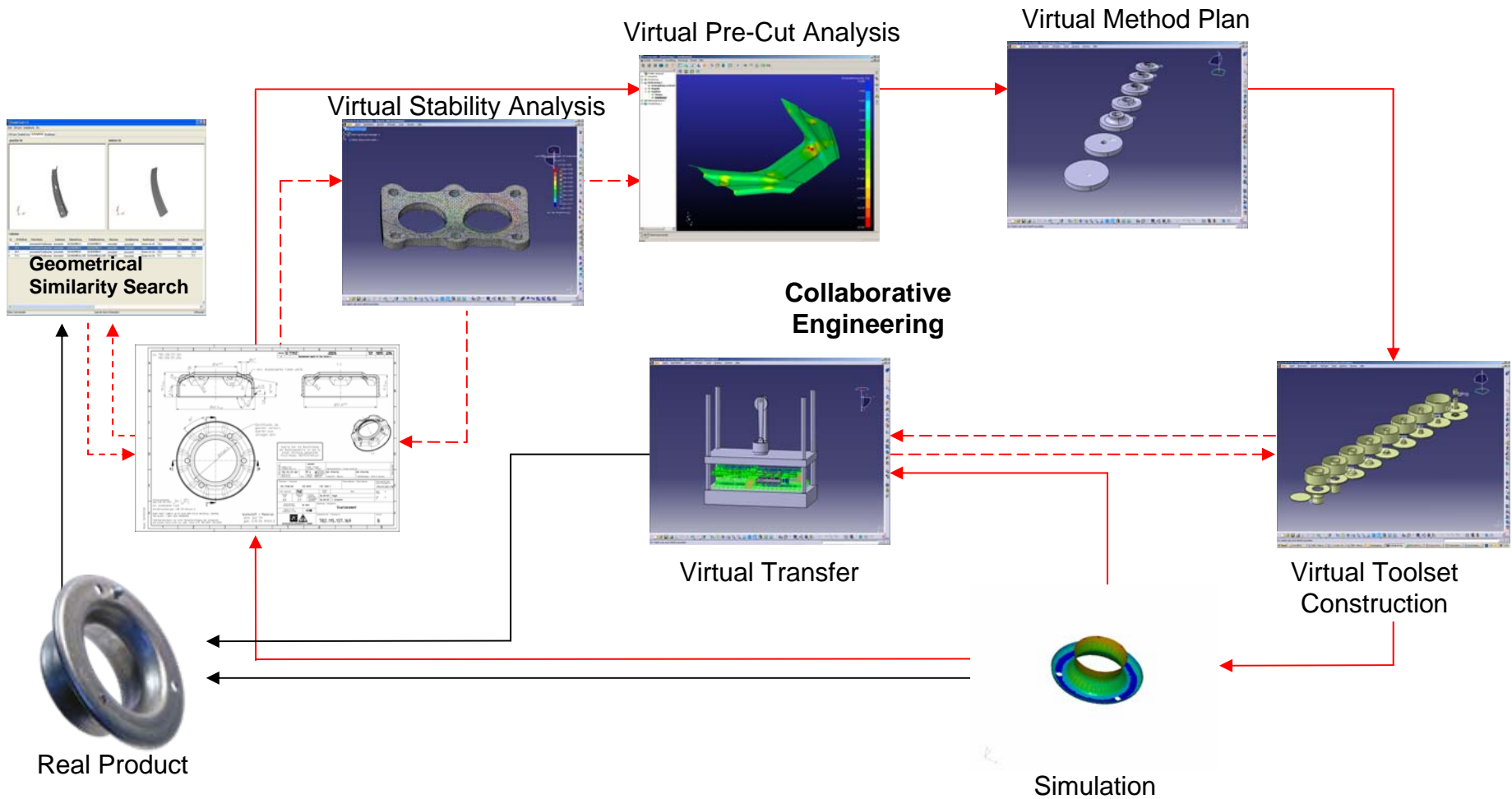
Main Goals

Providing costly virtual prototyping techniques (e.g. numerical simulation and optimization) to SMEs for

- Supporting virtual development
- Decreasing Time to Market
- Lowering total cost of ownership for hard- and software systems



Problem Description



BE08 Main Objectives and Challenges

Main Objectives

- Shortening and easing the bid engineering process by
 - Applying techniques from virtual prototyping
 - Numerical simulations (joint multistage simulations of production process and product)
 - Scalable and efficient distributed optimization algorithms
 - Accessing distributed high performance computing resources and specialized software systems previously unavailable
- Appropriate workflow support for inter-organizational collaboration
- Ensuring ease of use and the highest possible degree of transparency for customers

Challenges

- Service-oriented integration of simulation- and optimization software
 - Most commercial simulation packages are monolithic legacy codes
- Integration of Enterprise-Class business models to ensure the sustainability of the grid
- Gridified simulation result visualization
- Inter-organizational collaborative engineering in a grid environment

BE08 Expected Results & Impact

- **A prototypical grid environment based on accepted standards (e.g. WSRF) for the local SMEs in the automotive supplier business will be set up**
- **End Users will be better positioned in a market under constantly increasing pressure.**
- **Telco providers up to service integrators are able to tighten their business relationship and utilize new distribution channels of their services**
- **The prototype will be turned into a production grid environment along the project partners for a sustainable cooperation**
 - **The local business infrastructure will be strengthened**
 - **Novel ways of inter-organizational cooperation will be opened**



THANK YOU