virtual vehicle

FIELDS OF ACTIVITY

MATERIALS AND MECHANICAL STRUCTURES

Delivering advanced virtual method development through a multiscale, function-oriented approach. ViF seamlessly integrates processes for innovative, efficient, and high-performance solutions.

OUR KEY EXPERTISE & USP

- **Innovative Materials, Structural Concepts & Digital Twins**: – novel lightweight and high-performance materials, digital twins and data-driven optimization
- **Seamless End-to-End Virtual Development and Validation:** process integration, function-oriented optimization, and virtual validation
- **Advanced Multi-Scale Simulation & Reduced-Order Modeling**
- **Cross-Disciplinary Domain Support**

OUR SKILLS

- Cutting-edge Virtual Method Development: Advanced simulation, validation, and AI-driven optimization.
- Multiscale & Function-Oriented Approaches: Seamless integration of modeling and process understanding.
- Expert Team: Extensive research experience and key domain knowledge.
- State-of-the-Art Tools: Abaqus, Ansys, LS-Dyna, AI-driven optimization, and digital twins.

TASKS, METHODS & TOOLS

- **Advanced Material Application:** Design, prediction, and optimization of new materials using commercial FE solvers.
- **Lightweight Design & Topology Analysis:** Structural optimization for weight reduction and performance enhancement.
- **End-to-End Product Development Solutions:** Seamless integration of multiple disciplines
- **AI Enriched Analysis Chain:** Implementation of artificial intelligence to enhance engineering workflows.

KEY PARTNERS (excerpt)

VW, TU Graz, Audi, SIEMENS, earpa, AVL, AC STYRIA, RONAL, ALT AUSTRIAN ADVANCED LIGHTWEIGHT TECHNOLOGY

OUR OFFER ...

- Validated Tools & Methods: Proven solutions for new materials and production technologies.
- Tailored Development & Design Tools: Custom virtual engineering methods for unique approaches.
- Virtual Validation Services: Advanced validation for new materials and design concepts.
- Cross-Disciplinary Integration: Seamless support across multiple engineering domains.
- Collaborative Ecosystem: Strong industry partnerships with attractive funding opportunities.

... AND YOUR BENEFITS

- Proven Solutions: Minimize risks with validated tools for new materials and production.
- Customized Engineering: Tailored methods for unique project needs.
- Virtual Validation: Faster, cost-effective testing without physical prototypes.
- Cross-Disciplinary Expertise: Integrated support across engineering domains.
- Collaborative Network: Access to industry partners and funding opportunities.

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Find out more: