simulations driven by engineering excellence

Research Meets Practice: Final theses at ITB

More than 25 years of teaching in the field of FEM structural mechanics

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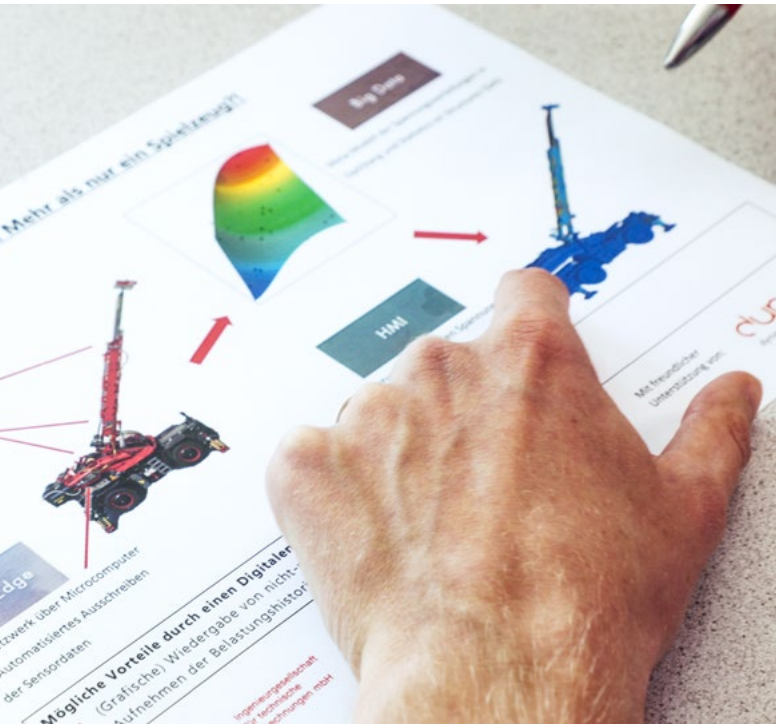

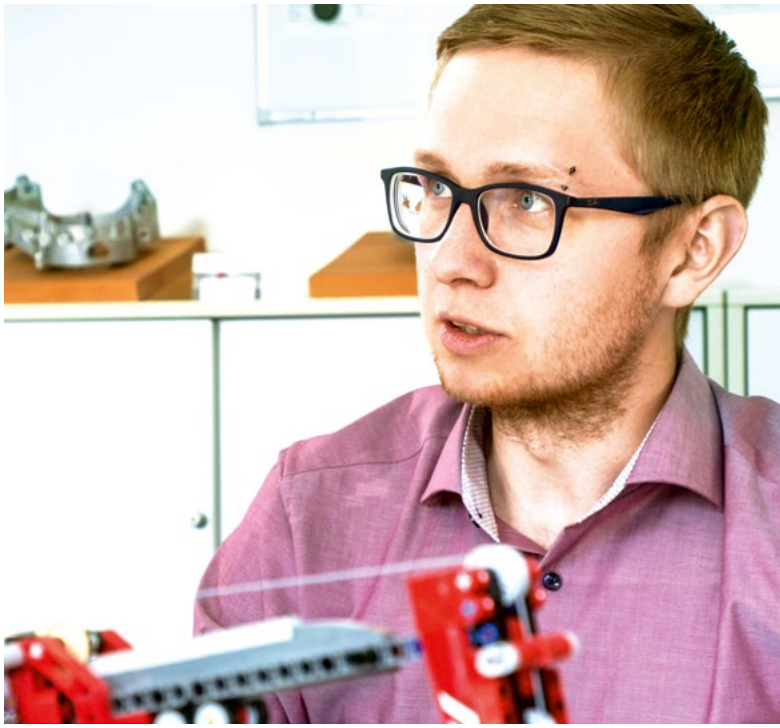

Diploma, Bachelor‘s and Master‘s theses at ITB

We have been combining scientific research with industrial practice for more than 25 years – and offer students the opportunity to write their theses directly in our company. Thanks to our close co-operation with universities, in particular as part of our teaching activities at the Dortmund University of Applied Sciences and Arts, ITB produces practical diploma and master‘s theses on innovative topics in FEM structural mechanics.

By closely linking experience reports and practical examples from industry with the latest scientific findings, we are able to offer students the ideal conditions for a successful entry into the world of work.

Year	Author	Title
2024	Heinen, Tobias	CFD-based investigation of pressure loss in perforated plates
2024	Potthast, Svenja	Analysis and Optimisation of light guides for homogeneous illuminance – light simulation using LightTools
2023	Mayer-Ullmann, B.	Design and evaluation of light simulation models based on photometric measurements to determine the optical properties of control panels with disappearing effect
2023	Mahendrarajah, M.	Development of a calculation method for the transient analysis of a cable carriage under dynamic load
2022	Nalbant, M.	Parameterization and optimisation of a light guide geometry with optical structural elements to increase the optical quality
2022	Mayland, R.	Development of a calculation method for the transient analysis of the braking process of an elevator
2022	Mayer-Ullmann, B.	Optimisation of selected components of a passenger lift on the basis of FEM for further development of a customer-specific product range
2021	Ben Othmane, H.	Induction Heating Process using the ANSYS® Maxwell and ANSYS® Mechanical Software and results verification using experimental test data
2020	Mahendrarajah, M.	Implementation and development of a workflow for the automated verification and documentation of the simulation software ANSYS® Workbench by analytically de-scribable mechanical models
2020	Deutz, Sabrina	Investigation of Metamodel-based Approaches for the Determination of the Mechanical Characteristics of Thermally Loaded Components of Turbine Housings
2020	Paquée, P.	Generating a Digital Twin Based on Sensor Technology, Simulations and Meta-Modelling in ANSYS, optiSLang and Statistics-on-Structures
2019	Hau, A.	Application of the Separating Morphing Adaptive and Remeshing Technology (SMART) for Fracture Mechanic Strength Assessment for Static and Cyclic Loading
2019	Erens, C.	Application of Optimisation Methods to a Rigging Sling Considering Mechanical and Manufacturing Constraints
2016	Schulze Spüntrup, H.	Development of a Workflow for Robustness Evaluation of Design Life Values of Gas Turbine Casings Based on a Random Field Model Extracted from Geometry Variations
2014	Schulze Spüntrup, H.	"Analysis of the Crack Tip Behaviour on Casing Components of Turbines under Predominantly Thermal Loading using the Finite Element Method (Bachelor-Thesis)"
2012	Gabriel, Ph.	Determination and Evaluation of the Local Stress State of Bolted Connections
2011	Krajewski, F.	Simulation of the Forming Process by Example of an Anchor Bolt
2011	Pietsch, Chr.	Explicit Simulation of the Dynamic Behaviour of an Elastomeric Washer Bellow using LS-Dyna
2009	Ternes, V.	Structure Mechanical Optimisation of a Flywheel for an Automatic Clutch
2006	Weichold, T.	Simulation of Roll Forming by explicit Finite Elements
2005	Enns, A.	Simulation of the Dynamic Behaviour of a Crash-Box

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Through virtual simulations and precise calculations of physical and technical requirements, we drive our customers‘ innovations forward. We translate the results of our work into practice-orientated solutions, that enable our customers to achieve excellence in engineering technology.

Dr. Frank Brehmer,
Managing Director ITB

Our services

- Component Strength Analysis
- CAD Design
- Component Verification
- Electrothermal Simulation
- Flow Simulation
- Light Simulation

Are you planning your next project and want more safety from our expertise? Then get in touch with us:

Phone: +49 (0) 231 / 94 53 65-0
Email: info@itb-fem.de
www.itb-fem.de