Institute for Machine Elements and Systems Engineering

RWTH Aachen University, Germany

Institute

The Institute for Machine Elements and System Engineering researches the fundamental structural and tribological behavior of machine elements and depicts them in experimentally validated model descriptions. These model descriptions are used to analyze and design the function, loss and noise behavior of entire technical systems with a focus on the drive technology for wind turbines and mobile work machines.

The results are computational and design concepts for specific technical solutions, including providing evidence of the required system properties on large test beds. Numerous experiences with such model-based solution ideas through to the conception of configurable products enable the MSE to research and develop methods for model-based systems engineering as a central element of future industrial product development processes.

Academic Staff

Mr. Katzwinkel studied Design and Development at RWTH Aachen University until 2013. His diploma dissertation dealt with the topic of methodical, computer-supported concept development using catalog knowledge.

From October 2013 to August 2017, Mr. Katzwinkel was employed as a research associate at the Institute for General Constructional Techniques of Engineering, ICT for short. His research interests included software-based product innovation and methods of virtual design synthesis.

During this time, RWTH Aachen University repeatedly assigned Mr. Katzwinkel the teaching duties for the obligatory Bachelor subject „Machine Design I" for industrial engineers specializing in Machine Design. He was also active as a lecturer at the German University of Technology in Oman and at RWTH International Academy GmbH.

Since August 2017, Mr. Katzwinkel has headed the Product Lifecycle Management and Virtual Product Development , PLM & VPE for short, department at the Institute for Machine Elements and Systems Engineering, MSE. The focal points of this research department's work lie in a consistent, model-based PLM methodology for the integration of methods, processes and data from the individual life cycle phases within the product development process and beyond.

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