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*Janus Juul Rasmussen*

Valcon Design A/S, Denmark

Six Theta® design: Early-stage design methodology for achieving predictable product performance

The six sigma methodology is widely accepted as a strong tool to minimize variation in manufacturing processes and to achieve the intended functionality of a given engineering design. Minimization of variation can also be achieved by using robust design methodologies where focus is on developing engineering designs that are insensitive to geometrical variations, changes in ambient conditions, etc. However, existing robust design methodologies are often not applicable for early-stage engineering design. In this contribution, the Six Theta® Design methodology, which has been developed by the author, will be presented. Six Theta® Design is a set of tools and methods that help engineers design products with a predictable performance, ensuring that the functional performance is as intended. Six Theta® Design can also be used to evaluate and compare design quality based on fully objective, quantifiable criteria. Impact of Six Theta® Design compliant solutions include improved development speed with fewer design iterations, higher innovation height, vastly reduced production costs due to simplified designs with non-strict tolerance demands, and predictable performance of products in the field.

Biography

Janus Juul Rasmussen is the Founder and CEO of the Danish Engineering Consulting firm Valcon Design A/S. He is a Mechanical Engineer and has worked with product design for more than 15 years as an expert within the field of kinematics and moving mechanics. He has developed the Six Theta(r) Design methodology and has a close co-operation with the Robust Design Academy at the Technical University of Denmark.

jjr@valconconsulting.com**Notes:**