



Setting Optimization Forward

Start from the design concept to be one step ahead.

Engineering design in the current challenging environment calls for improvements of product performance with minimization of costs and shorter time to market. Process complexity grows as the whole design team concurs to improve all product performance metrics of interest, and handle opposing objectives, like increasing efficiency and durability while reducing weight and cost.

Efficient companies have successfully embraced multi-objective and multi-disciplinary design optimization techniques to face such challenges and gain competitive advantage. However, organizations that want to exploit their innovation assets and take product development to the next level should intervene in the earliest steps of the design process. Evaluating the feasi-

bility of certain configurations before competitors is becoming the next big challenge to cope with in the manufacturing of complex products.

This advanced design optimization scenario demands a powerful platform that can streamline the whole process into a single environment, and assess and optimize product performance against conflicting targets at the early product concept stage.

ESTECO's state-of-the-art platform, modeFRONTIER, allows individual users, whole departments and even entire geographically-dispersed companies to create a single, integrated environment for all of their modeling and analysis tools. Design of experiments (DOE) techniques are readily available to demonstrate how interconnected factors behave without having

to directly test all possible values, saving simulation time. A complete collection of innovative algorithms allows the software to act as an agent which controls the analysis process, and steers the design of the product towards achieving user-defined criteria. In addition, when it comes to integrate sources of uncertainty (e.g. manufacturing tolerances) in the simulation process, the platform enables the designer to identify a robust set of best possible solutions, while reducing the risk linked to variability. Sophisticated statistical and graphical tools combined with response surfaces, or performance maps, included in the comprehensive post-processing set, make modeFRONTIER an invaluable tool in helping companies achieve optimal designs faster, while manufacturing better-performing products.



For more information visit:

www.esteco.com

ESTECO

ESTECO is a technology provider of numerical optimization and modeling solutions. We are specialized in research and development of engineering software solutions for the optimization and integration of all stages of the design simulation process. Our technology is applied to inspire decision making in several industrial sectors for designing new and perfecting existing products.

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