

modeFRONTIER

Multidisciplinary Optimization at Your Fingertips

modeFRONTIER
streamlines the
design process with
powerful workflows,
innovative algorithms
and advanced post
processing tools.

Designing Better Products

Let the most powerful algorithms efficiently drive the design process, embrace multiple requirements and balance opposing objectives.

Understanding Crucial Factors

Pick the best trade-off solution by implementing a rational decision-making process, aided by advanced data analysis tools that provide full insight on design element interactions.

Reducing Development Time

Exploit existing CAD/CAE tools, leverage high quality response surface models to save computational resources and reduce probability of failure by considering reliability and uncertainty.



The engineering toolkit to keep one step ahead

modeFRONTIER is an integration platform for multiobjective and multidisciplinary optimization that provides seamless coupling with third party engineering tools, enables the automation of the design simulation process, and facilitates analytic decision making.

“A best-in-class tool which helps us design trains with best-in-class aerodynamic performance”

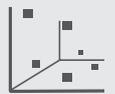
Alexander Orellano,
Head of Aerodynamics
Bombardier Transportation

INTEGRATION & PROCESS AUTOMATION



modeFRONTIER integrates with any parametric CAE software and automates simulation processes. The intuitive user interface enables engineers to define all logical steps of the engineering design process in the form of a graphical workflow.

DESIGN SPACE EXPLORATION



modeFRONTIER offers a number of efficient DOE methods that help engineers fully understand the design problem by identifying the source of variation and create datasets suitable for optimization, response surface training and robustness evaluation.

OPTIMIZATION & RESPONSE SURFACES



Innovative optimization algorithms take trial-and-error out of the equation by identifying accurate and robust solutions for both single and multi-objective problems. RSM-based optimization replaces heavy simulation processes, generating a large number of designs in very little time.

DECISION MAKING



The Multi-Criteria Decision Making (MCDM) tool automatically ranks design alternatives according to designer preferences, resulting in informed and rational decisions when selecting optimal design candidates.

ROBUST DESIGN & RELIABILITY



modeFRONTIER multi-objective robust design optimization (MORDO) increases the reliability and robustness of industrial design by minimizing variations and the probability of failure, and by consolidating product performance under different working conditions despite uncertainties.

ANALYTICS & DATA VISUALIZATION



A complete and comprehensive set of post-processing and analytics tools enable engineers to extract as much information as possible from multi-variate datasets, visualize results in a meaningful way and effectively explore what-if scenarios based on different assumptions.

EXPLORE DESIGN PERFECTION

ESTECO is an independent technology provider that delivers **first-class software solutions** aimed at **perfecting the simulation-driven design process**. With more than 15 years' experience, the company specializes in **customer-focused solutions for numerical optimization**, CAE integration, process automation and simulation data management.



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