

## Why to use optiSLang

- Complete software package for CAE-based robustness and reliability analysis
- Identification of significant correlations in high parameter dimensions using coefficients of prognosis (CoP) and meta-models of prognosis (MoP)
- Optimization of nonlinear tasks with many parameters
- First-class algorithms for model updating and parameter identification
- Combination of optimization and robustness analysis to robust design optimization
- Best-in-class algorithms for optimization and stochastic analysis as well as their permanent further development
- Competent support

DYNARDO does not only deliver a tool, we implement a successful process!

[www.dynardo.com](http://www.dynardo.com)

## Our Key Customers



DAIMLER

BMW Group



TRW



## optiSLang Distributors

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CADFEM GmbH  
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### French Switzerland and Benelux

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science + computing ag  
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### Czech Republic and Slovakia

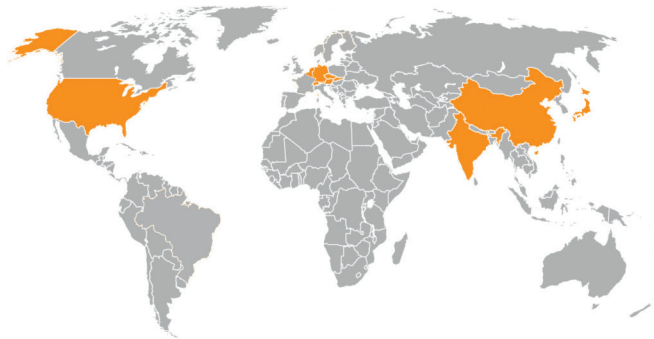
SVS FEM s.r.o.  
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[www.svsfem.cz](http://www.svsfem.cz)

### India

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### China

PERA GLOBAL Holdings Inc.  
Standard Chartered Tower  
201 Century Avenue, Suite 7B-C  
Shanghai, 200120  
[www.peraglobal.com](http://www.peraglobal.com)

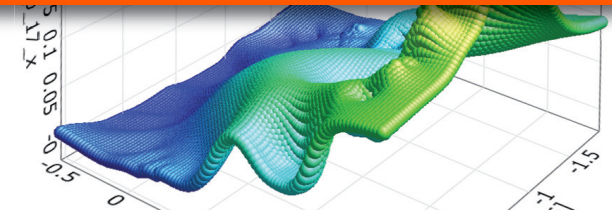


## Worldwide

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# optiSLang

Premium software for sensitivity analysis, multidisciplinary optimization, robustness evaluation, reliability analysis and robust design optimization



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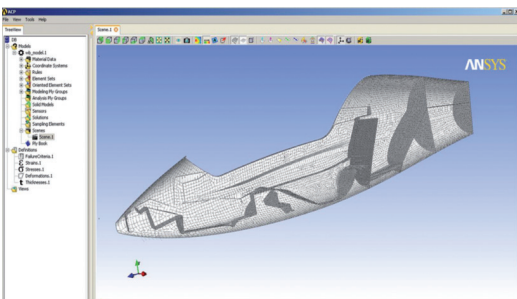
## Virtual Product Development

Due to the worldwide competition, products have to be optimized in early stages of the product development. To fulfil these requirements, CAE-based optimization and stochastic analysis have to be used in virtual product development. Thus, the key to success is the assurance of an optimal product performance following all robustness requirements.

## Possibilities in optiSLang

optiSLang is one of the most efficient software tools for tasks regarding CAE-based sensitivity analysis, optimization, reliability evaluation and robustness evaluation as well as robust design optimization.

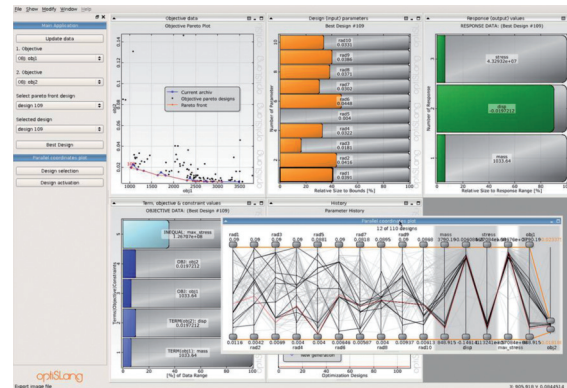
optiSLang is the commercial tool that has completed the necessary functionality of stochastic analysis to run real world industrial applications in CAE-based robust design optimizations.



Optimization of an airplane cockpit

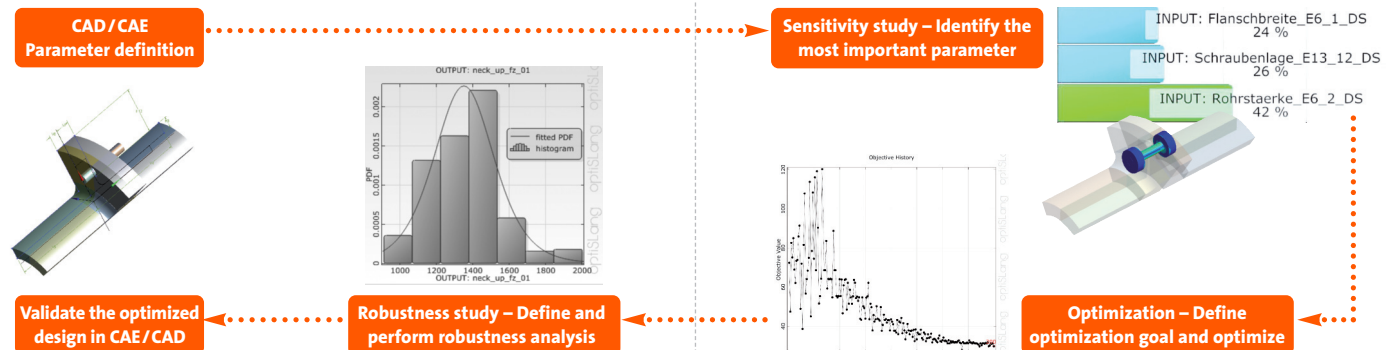
## Functionality of optiSLang

optiSLang allows the user to apply CAE-based stochastic analysis and optimization through predefined workflows. This allows even non-optimization specialists to successfully use multi-disciplinary optimization and stochastic analysis. Existing simulation processes from any user-defined CAE program, pre and post processors can be connected through a graphical editor. We offer interfaces to ANSYS Workbench and other major CAE tools via ETK the extraction tool kit.



Interactive post processing of a stochastic analysis

Important innovations of optiSLang are multi-window interactive post processing flows. Thus, important results can be highlighted and insignificant data can be filtered out. A fast and easy access to the main results is enabled.



Robust design optimization cycle

optiSLang offers very efficient sampling-based sensitivity analysis to identify important parameters, quantify their influences, generate optimal meta-models and verify their prognosis. Gradient-based methods, population-based methods like genetic algorithms, evolutionary strategies or particle swarm strategies and adaptive response surface methods can be used for optimization in optiSLang. In optiSLang, variance or probability-based robustness evaluations of designs can be done. A large range of statistical post proceeding (e. g. variation, correlation, coefficient of importance) is available for robustness analysis. Regarding reliability analysis, optiSLang offers efficient algorithms of stochastic analysis which can be combined with adaptive response surface methods.

Different methods of optimization and stochastic analysis can be combined for tasks of robust design optimization.

## Innovation

Parametric modeling is the key to success for parametric robust design optimization. Regarding parametric model creation, ANSYS Workbench offers excellent possibilities. With the help of optiPlug, optiSLang can import directly all parameters from ANSYS Workbench and thus opens new opportunities for parametric robust design optimization. The vision of an optimization of CAD parameters in a fully automatic CAE process starts to turn into reality.