

## Why to use optiSLang

- Complete software package for robustness and reliability analysis
- Optimization of nonlinear tasks of robust preadjustments
- Combination of optimization and robustness analysis into robust design optimization
- Identification of significant correlations in high parameter ranges
- Numerous algorithms for optimization and stochastic analysis which are continuously developed
- Competent support

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

## Our Key Customers



## optiSLang Distributors

### France

**Simulation et Technologie**  
37 rue des Acacias  
75017 Paris  
www.simtech.fr

### India

**CADFEM Ltd.**  
Plot Nr. 48  
500011 Hyderabad/  
Old Bowerpally  
www.cadfem-india.com

### USA

**Ozen Engineering Inc.**  
1210 E. Arques Avenue,  
suite: 207/208  
Sunnyvale, CA 94085  
www.ozeninc.com

### Czech Republic/Slovakia

**SVS FEM s.r.o.**  
Skrochova 42  
61500 Brno-Zidenice  
www.svsfem.cz

### China

**CCA Shanghai Ltd.**  
No.777 Zhao Jia Rd., room 918  
200032 Shanghai  
www.cca-es.com

### Brazil/South America

**TTS - Technology, Tools & Services**  
Rua do Rocio 423, 10. andar  
04550-000 Sao Paolo  
www.ttsbr.com.br



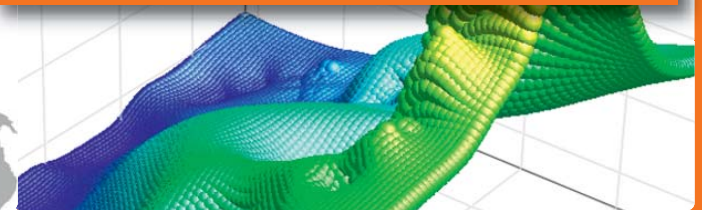
**For more information or distribution into other countries, please contact:**

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# optiSLang

Software platform for sensitivity analysis |  
multidisciplinary optimization | multiobjective  
robustness evaluation | reliability analysis |  
robust design optimization



**dynardo**

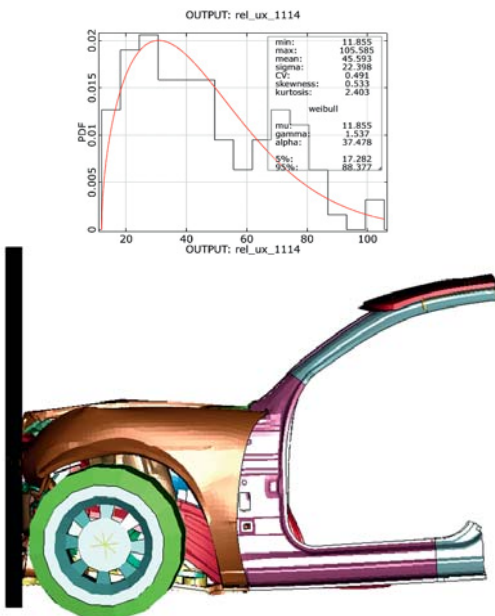
## Virtual Product Development

Because of the worldwide market, products have to be optimized in early stages of the product development. To fulfil these requirements, optimization and stochastic analysis have to be used in virtual product development. Thus, the key to success is the assurance of optimal product features following all sensitivity and robustness requirements.

## Possibilities in optiSLang

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

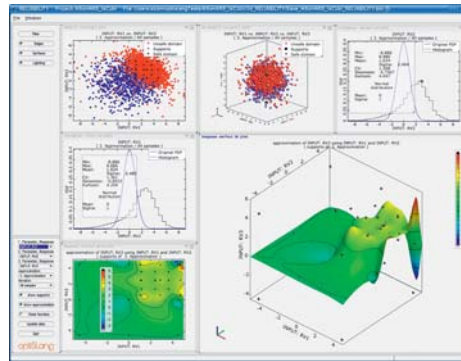
Efficient methods and an informative result visualization secure the successful solving of several problems regarding CAE-based optimization and stochastic analysis.



Robustness analysis of crash simulations

## Functionality of optiSLang

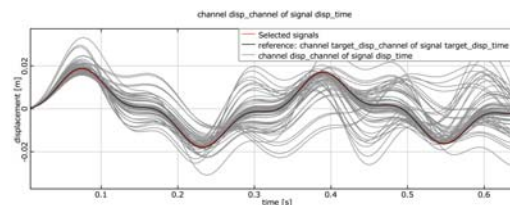
**optiSLang** allows the user to use sensitivity analysis, multi-disciplinary optimization, robustness and reliability analysis through a predefined graphical user interface. Existing simulation processes from any user-defined CAE program, pre and post processors can be connected through a graphical editor and are accessible to a parametric sensitivity study, optimization or stochastic analysis.



### Interactive post processing of a stochastic analysis

An important innovation of **optiSLang** are predefined interactive post processing flows. This allows even “non-optimization-specialists” to use successfully multidisciplinary optimization and stochastic analysis.

Gradient-based methods, genetic algorithms, evolutionary strategies and adaptive response surface methods can be used for optimization in **optiSLang**.



Signal processing of a model validation

For an optimal component construction have to be considered appropriately to avoid undesired scattering of product features. In **optiSLang**, variance or probability-based robustness evaluations of designs can be done. A large range of statistical parameters (e.g. variation, correlation, coefficient of determination and probabilities) is available for robustness analysis. Regarding reliability analysis, **optiSLang** offers efficient algorithms of stochastic analysis (FORM, several sampling methods) which can be combined with adaptive response surface methods.

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

## Innovation

A continuous parameterization of models is the key to success for parametric design optimization. Regarding parametric model creation, ANSYS Workbench offers excellent possibilities. With the help of an ANSYS Workbench plug-in, **optiSLang** can import directly all parameters from ANSYS Workbench and thus opens new opportunities for parametric optimization.

The vision of an optimization of CAD parameters in a fully automatic CAE process starts to turn into reality.



Robust design optimization in the virtual product development of drilling machines