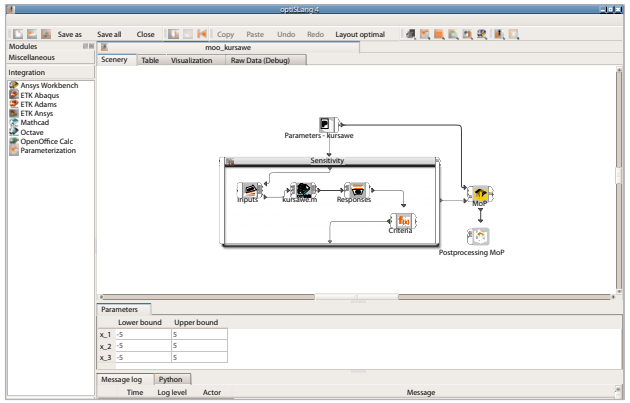
OPTISLANG 4

In the new version we paid particular attention to the simplicity of system integration and process automation for best practice workflows.

optiSLang inside ANSYS Workbench uses our new modular software concept of **optiSLang 4**. Combined with its robust and efficient workflows we supply a milestone in user friendliness.

- comprehensive systems “easy and safe to use”
- minimal effort to set up analysis
- automatic identification of important parameters
- early implementation in virtual prototyping process possible
- targeted, individual definitions of performance limits
- reducing CAE solver runs, “no run too much”- philosophy
- minimization of oversizing by adjusting the safety margins
- fast parametrization
- easy definition of constraints and objectives
- state-of-the-art algorithms with reliable default settings



User interface optiSLang 4

With the new version of optiSLang 4 the user has an efficient tool for easy and safe application of RDO quality methods and processing of simulation results.

DYNARDO GMBH

Your premium software and consultancy company for CAE-based sensitivity studies, multidisciplinary optimization, robustness and reliability analysis as well as RDO.

Other software products:

multiPlas
Serves as an add on library to ANSYS for material modeling and FEM calculations in civil and geo-technical engineering.

ETK (Extraction Tool Kit)
Allows automated extraction and processing of simulation results for optimization and stochastic analysis.

SoS (Statistics on Structure)
A post processing tool to visualize statistical measures onto FE structures for analyzing scatter.

optiPlug
Provides interfacing with ANSYS Workbench.

System requirements:

PC-System from Windows XP SP2, supports 32bit and 64bit Systems
optiPlug from ANSYS Workbench Version 11
optiSLang inside ANSYS Workbench from Version 13

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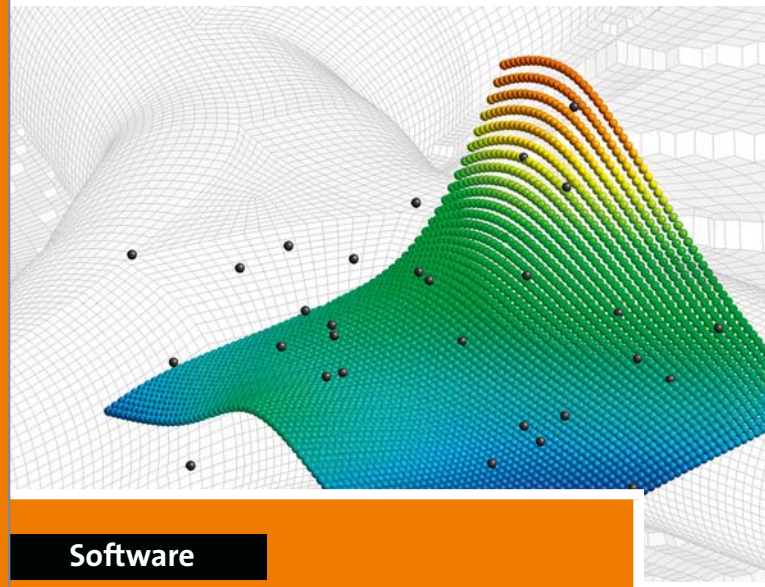
dynamic software & engineering



Software

optiSLang inside ANSYS Workbench

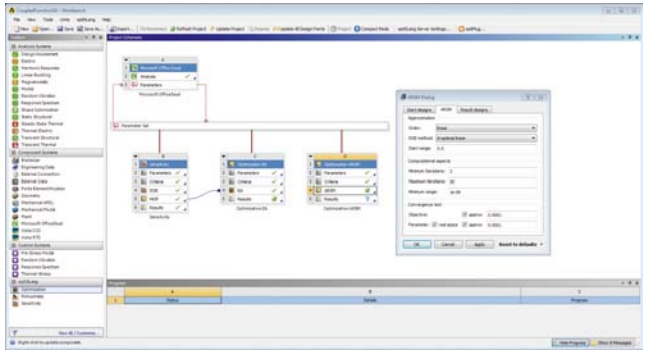
Premium software for sensitivity studies, multidisciplinary optimization, robustness and reliability analysis as well as Robust Design Optimization

optiSLang ANSYS CADFEM

OPTISLANG INSIDE ANSYS

Since ANSYS Workbench Version 13 it has been possible to use the full functionality of optiSLang for applying your Robust Design Optimization (RDO) workflow.

A productive, standard introduction of CAE-based RDO in virtual product development places high demands on process automation, parametric models and efficiency as well as operating reliability. optiSLang inside ANSYS Workbench combines multidisciplinary, fully parametric and automated CAE processes with easy and efficient application of RDO methods using a minimum of solver runs.



User interface ANSYS with optiSLang integration

Dynardo decisively improved the functionality of optiSLang also for complex non-linear analysis models with many optimization parameters and stochastic variables, with design failures and solver noise.

We have reached a new level towards reliable results of RDO by implementing quantifiable prognosis capability and automated generation of Metamodels of Optimal Prognosis (MOP). All methods can be easily checked by statistical measures.

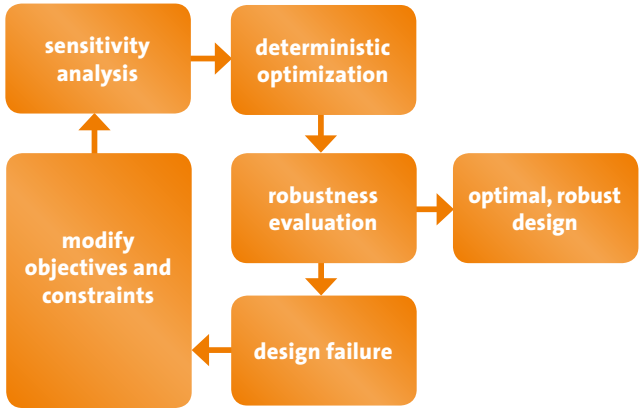
The simple and user friendly implementation in ANSYS Workbench as well as the efficient post processing of results make optiSLang a state-of-the-art tool for RDO in virtual prototyping.

ROBUST DESIGN OPTIMIZATION

RDO using CAE-based optimization and stochastic analysis becomes more and more a key component in virtual product development.

Qualtity methods of RDO are inevitable to meet market requirements of efficient and robust virtual prototyping. The optimization of product design should be combined with secured safety and robustness analysis considering manufacturing tolerances, variations of material properties and scattering environmental conditions. Potential conflicts have to be identified and resolved in terms of optimal and robust design.

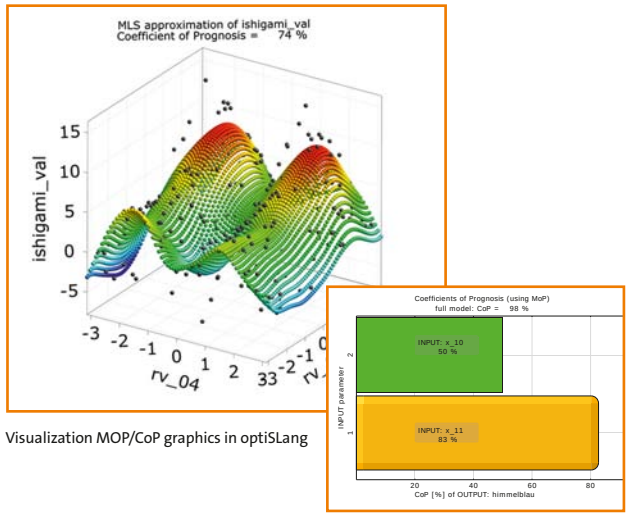
optiSLang allows engineers to quantify significant product characteristics such as failure safety or limit values under random influences during virtual prototyping. In combination with the powerful optiSLang functionality of sensitivity analysis as well as single and multi objective optimization algorithms the user has an easy and safe to use workflow for RDO tasks.



Robust Design Methodology

COP AND MOP

Coefficient of Prognosis (CoP) and Metamodel of Optimal Prognosis (MOP) ensure automatic detection of the most important parameters to achieve best prognosis quality.



Visualization MOP/CoP graphics in optiSLang

Today users have access to very powerful parametric modeling environments. As a consequence the number of optimization parameters rises. Traditional Design of Experiments (DOE) and Response Surface Methodology ask the user to reduce the set of variables, to choose an appropriate DOE and regression function and to test the resulting Response Surface accuracy. Thus, they are not suitable for a larger number of parameters.

With the development of the CoP and the automatic identification of the MOP we provide outstanding algorithms for automatic detection of the most important parameters, best possible metamodel and validation of forecast quality. Together with our Adaptive Response Surface (ARSM) optimizer, the method of choice for optimization problems up to 20 parameters, we provide the user an elaborate and fully automatic procedure to investigate large dimensions of optimization parameters providing the best possible potential of RDO.