

# ClearVu Design Space

BeyondAnalytics

## Excerpt from the analysis options of ClearVu Design Space:

- + What tolerances must be adhered to for a stable process?
- + How can parameter limits be identified and specified when commissioning new processes?
- + How can component requirements be defined for selection from an existing catalog?
- + How can requirements be defined across series for a municipal component selection?

## The extensive range of functions includes the following options:

- + Open interface for connection to evaluation and simulation tools, such as Matlab, for evaluating parameter sets
- + Direct linking of models from the ClearVu Intelligence world
- + Integration of ClearVu Intelligence modelling (automated machine learning with hyperparameter optimization) and selection mechanisms
- + Possibility for interactive and iterative improvement of solution spaces, as well as automatic generation of optimal solution spaces
- + Extensive visualization and analysis options for solution spaces
- + Flexible adaptation of all aspects of the visualization

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Solution spaces for  
the design of robust  
parameter limits in  
process design and  
product development



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The approach of optimal solution spaces instead of direct optimization is suitable when the main objective is to comply with a series of boundary conditions. In a process, for example, this can mean that a minimum quality is not undercut or that times are adhered to. Applied to components, this could be load limits or other quality characteristics. An optimal solution space thus offers a robust process window in which all conditions are met and which offers scope for further adjustments.

ClearVu Design Space offers you the option of automatically finding an optimum solution space for your task. The defined limit values are adhered to and the result is clearly visualized.

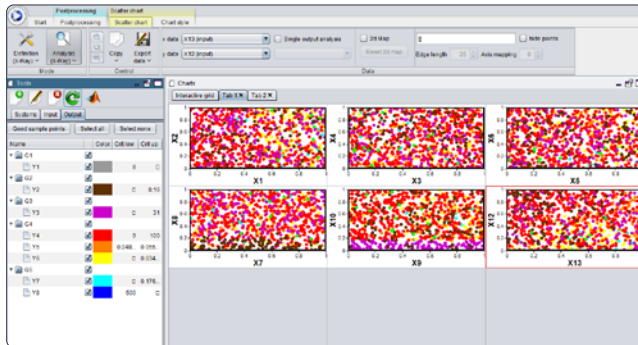


fig. 1: The process starts with mostly invalid designs (red dots). With drag and drop you can move the black lines to narrow down and identify possible solution spaces.

### The most important functions of ClearVu Design Space

Connections to the most common simulation programs simplify communication with ClearVu Design Space for the evaluation of individual designs or entire solution spaces. This makes it possible to find an optimal solution space by using a state-of-the-art optimizer.

In addition, an interactive, manual adjustment is available in which the parameters to be considered and their limit values are defined and the solution space can be narrowed down by the user (fig. 1 and 2). In a scatter chart, different designs are evaluated with regard to two selected parameters. The evaluation is displayed in color (green: OK, otherwise failure with regard to one or more criteria). The aim is to achieve a solution space with only good solutions, which are visualized by green dots.

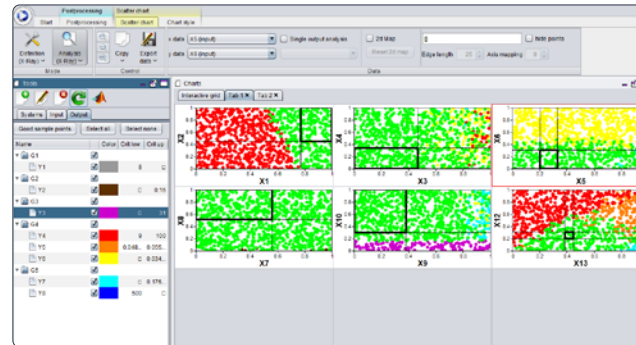


fig. 2: After the solution space has been optimized, the valid solutions (green dots) are clearly recognizable.

### divis intelligent solutions GmbH

We are specialists in optimizing processes and products, implementing predictive maintenance and predictive quality, and achieving significant improvements and savings for our customers. Our company philosophy "Beyond Analytics" is an expression of our unconventional problem-solving approach, in which we apply the latest methods of artificial intelligence and machine learning for our customers. We have successfully implemented numerous applications in the automotive, chemical and consumer goods industries, among others.

#### EXTRACT FROM OUR LIST OF REFERENCES

- BMW Group
- Daimler AG
- 3M Deutschland GmbH
- Johnson & Johnson Deutschland
- Honda Research Institute Europe
- Beiersdorf AG
- Hyundai Motor Company
- IOI Oleo GmbH
- Schüco Polymer Technologies KG
- ThyssenKrupp Industrial Solutions AG
- Chemetall GmbH
- Covestro AG
- Mercedes-Benz AG
- Evonik Technology & Infrastructure GmbH
- DLR - Deutsches Zentrum für Luft- und Raumfahrt

### other software



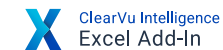
WEB [divis-gmbh.com/cva](http://divis-gmbh.com/cva)

Optimal support for all aspects of data analysis, forecasting, product and process optimization with direct integration into existing workflows and connection to production processes.



WEB [divis-gmbh.com/python](http://divis-gmbh.com/python)

The functionality of ClearVu Intelligence in Python. This means that Automated Machine Learning can be used in Python without any further training - fast, automatic and powerful.



WEB [divis-gmbh.com/excel](http://divis-gmbh.com/excel)

Automated Machine Learning directly in Excel to build forecasting models for your data sets. The resulting predictive model can be used as a cell function for predictions and the model can be analyzed and visualized further.