ReliaSoft’s DOE++ software facilitates traditional Design of Experiments (DOE) techniques for studying the factors that may affect a product or process in order to identify significant factors and optimize designs.

The software also expands upon standard methods to provide the proper analysis treatment for interval and right censored data. This offers a major breakthrough for reliability-related analyses!

DOE++ is part of the Synthesis Platform®.
Design Types

- One Factor Designs
- Factorial Designs
  - Two Level Full Factorial
  - Two Level Fractional Factorial
  - Plackett-Burman
  - General Full Factorial
  - Taguchi Orthogonal Array
- Response Surface Method Designs
  - Central Composite
  - Box-Behnken
- Taguchi Robust Designs
- Mixture Designs
- Reliability DOE Designs
  (with any of the above design types)

Design Modification

- Include/Exclude Effects & Responses
- Add/Modify/Delete Factors & Responses
- Add, Remove or Re-order Runs
- Add Replicates
- Fold the Design
- Add Center Points
- Change Design Type
- Alter Reliability Data Type
- Create Custom Optimal Design
- Up to 50 Measurements for Each Test Run

Design Evaluation

- Detection Power
- Orthogonality
- Alias Structure

Related Analyses

- Variability Analysis
- Optimization
- Free Form Analysis and Multiple Linear Regression (for data not in an established design type)

Calculated Results

(depending on the design type)

- Analysis of Variance (ANOVA)
- Fit Metrics to Assess Model Validity
- Factor Level Output and Comparisons
- Contribution of Factor/Interaction to Response Variation
- Variance/Covariance Matrix
- Alias Structures for Factorial Designs
- Regression Model Diagnostics

Plots

(depending on the design type)

- Level Plots
  - Response vs. Level
  - Level Mean
  - Life Characteristic
  - Box Plot
  - Mean pdfs
  - Comparison Chart
- Effect Plots
  - Effect Probability
  - Pareto Chart
  - Main Effects and Interactions
  - Term Effect
  - Cube, Scatter and Contour
- Residual Plots
- Diagnostic Plots
  - Leverage
  - Cook’s Distance
  - Box-Cox Transformation

Advanced Plotting Tools

- Overlay Plots and Side-by-Side Plots
- 3-D Surface Plots
- RS Draw® Metafile Graphics Editor

Measurement Systems Analysis

- Bias & Linearity Study
- Reproducibility & repeatability Study
- Gage Agreement Study

Software Highlights - ReliaSoft's DOE++

Import Types

- Microsoft Excel® Files
- Text Files (*.txt, *.csv, *.prn, *.smc)
- DOE++ Version 1 Files

Centralized Data Storage

- Standard Repository
- Microsoft SQL Server®
- Oracle®
- Simultaneous Access by Multiple Users
- Shared Analysis Settings and Data
- Flexible User Access Levels

Integration

Integration with all other Synthesis Platform applications.

Multiple Languages Supported

For details, please visit: http://www.ReliaSoft.com/languages

Available Services

- Detailed User Documentation
- Practical Example Files
- Theoretical eTextbook
- Step-by-Step Example Guide
- Training for Theory + Software
- Professional Consulting Services

Real Power for Real Applications

Some of the benefits of using the DOE software to design experiments that are effective for studying the factors that may affect a product or process and analyze the results of such experiments include:

- Identify the significant factors that affect a product or process.
- Evaluate ways to improve and optimize the design.
- Go beyond traditional Design of Experiment techniques in order to apply the proper analysis treatment for product lifetime data—the response information that is often of interest to reliability engineers.


- Major upgrades to the Synthesis Platform®, such as an integrated Project Planner with expanded actions tracking, automated watches and alerts, easier to find and filter analyses, batch properties editor for managing resources, better integration with Active Directory® for user account management, and the option to implement a Synthesis Enterprise Portal website.
- New Mixture Designs folio, alpha-based factor levels in Central Composite Designs, the option to ignore specific results, repeated measurements for test runs and the ability to choose the shape parameter for reliability-DOE.
- New and improved optimization plots and 3D plots, interactive plot zoom, the ability to open multiple projects simultaneously and new Synthesis Workbooks for custom reports.