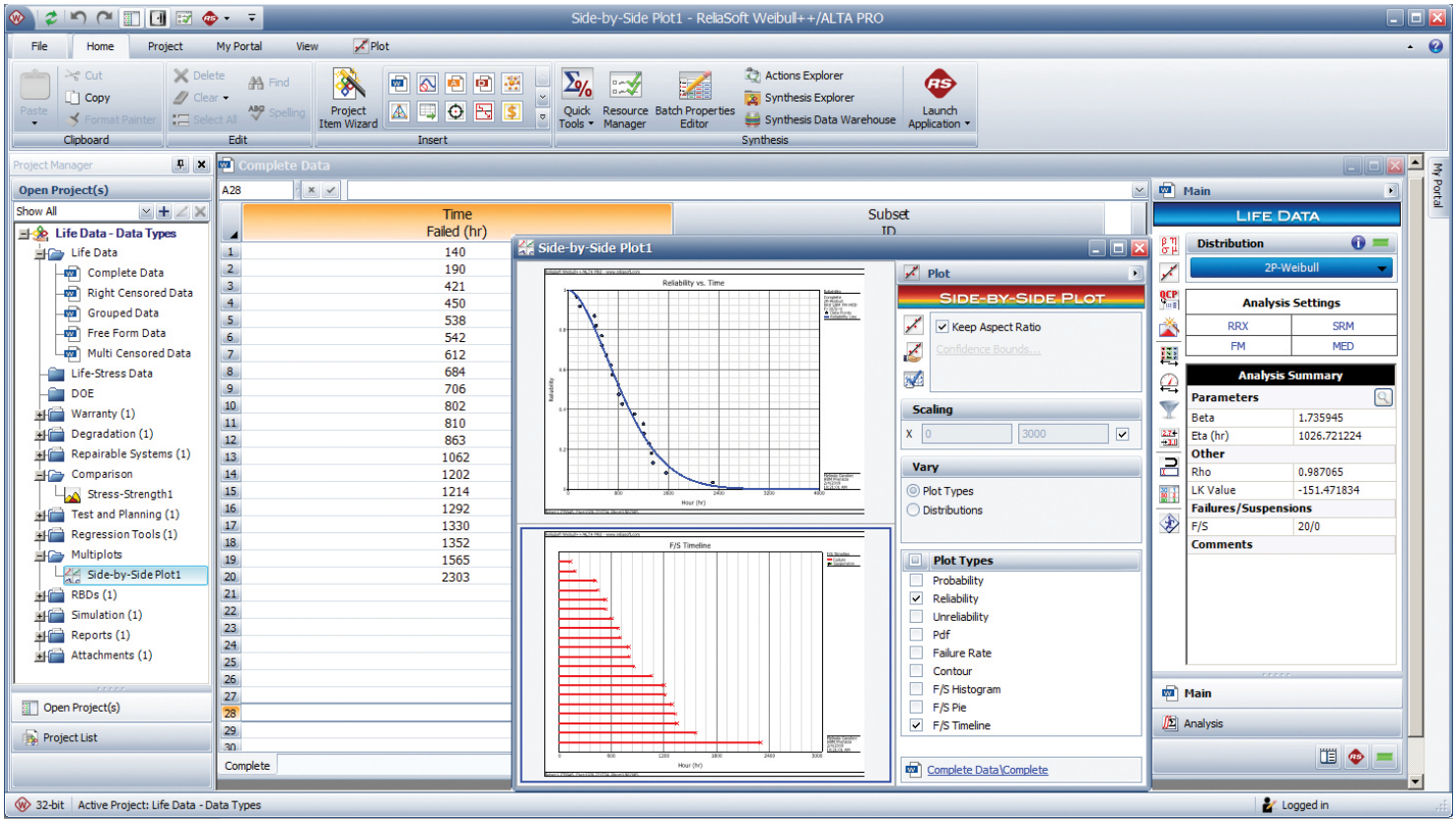
Prenscia HBM

Weibull++

Reliability life data analysis

ReliaSoft Weibull++ is the industry standard in life data analysis (Weibull analysis) for thousands of companies worldwide.

The software provides a complete array of data analysis, plotting and reporting tools for standard life data analysis (LDA) with integrated support for a variety of related analyses such as degradation data analysis, warranty data analysis, non-parametric life data analysis, recurrent event data analysis, reliability test design and experiment design & analysis (DOE).



Benefits

- Compare suppliers or designs based on reliability
- Demonstrate that an item meets specified reliability
- Make predictions about performance during the useful life (or warranty) period
- Use plots and other reports to effectively communicate expected performance to management

Weibull++ software highlights

Data types (individually or in groups)

- Complete (failure time)
- Right censored (suspension time)
- Left censored
- Interval censored
- Free-form

Distributions

(wizard to find best fit for your data)

- Weibull
- Normal and Lognormal
- Exponential
- Gamma and Generalized Gamma
- Logistic and Loglogistic
- Gumbel
- Bayesian-Weibull
- Mixed Weibull
- Competing Failure Modes (CFM)

Analysis types

- Rank Regression on X (RRX)
- Rank Regression on Y (RRY)
- Maximum Likelihood (MLE)
- Non-Linear Rank Regression

Ranking methods

- Kaplan-Meier
- Median Ranks

Confidence bounds methods

- Likelihood ratio
- Fisher Matrix
- Beta Binomial
- Bayesian (BSN)

Calculation and plot types

- Probability
- Reliability vs. Time
- Unreliability vs. Time
- Failure rate vs. Time
- pdf plot
- Contour plot
- Failures/Suspensions histogram
- Failures/Suspensions pie
- Failures/Suspensions timeline

Related analyses

- Warranty analysis
  - Nevada
  - Times-to-failure
  - Dates of failure
  - Usage
  - Times-to-failure and Usage
- Degradation analysis
  - Nondestructive (Linear, Exponential, Power, Logarithmic, Gompertz, Lloyd-Lipow)
  - Destructive (Linear, Logarithmic, Lloyd-Lipow)
- Event log conversion
- Recurrent event data analysis
  - Mean cumulative function
  - General renewal process
- Non-Parametric Life Data Analysis
  - Kaplan-Meier
  - Simple actuarial
  - Standard actuarial
- Design of Experiments (DOE)
  - One Factor designs
  - Factorial designs
  - Response surface method designs
  - Taguchi Robust designs
  - Mixture designs
  - Reliability DOE

Tests of comparison

- Data set life comparison
- Stress-Strength analysis

Data set simulation

- Monte Carlo data
- SimuMatic®

Other utilities

- Reliability test design
- Block diagrams
- Maintenance planning tool
- Non-linear equation root finder & Fit solver
- Quick Parameter Estimator
- Quick Statistical Reference

Advanced plotting tools

- Overlay plots (aka multi-plots)
- Side-by-side plots
- RS Draw® Metafile Graphics Editor
- 3D plots

Customizable reports

- Synthesis workbooks (spreadsheet and word processing modules combined)
- Function wizard

Reliability program integration

- Publish models based on data analyses and create metrics to track and display KPIs
- Extract data from XFRACAS or from an external database
- Export from the event log and maintenance planning tools with BlockSim

Available services

- Detailed user documentation
- Practical example files
- Quick tour guide
- Training for theory + software
- Professional consulting services

For more information visit: www.reliasoft.com/weibull

RS2019-W-PO_0219/EN