Frontline Solvers Tools for Excel Comparison Chart (We also have comparison charts available for our Academic products and our SDK products for developers.)

	Limited S	ize Products		Full Sized Products			
	Basic License for Solver Academy	Analytic Solver Upgrade	Analytic Solver Simulation	Analytic Solver Optimization	Analytic Solver Data Mining	Analytic Solver Comprehensive	
		Expanded Size Limits for Optimization	Full Size Limits for Simulation	Full Size Limits for Optimization	Full Size Limits for Data Mining		
	Nearly All Features, Low Size Limits	Basic Size Limits for Simulation. Data Mining	Basic Size Limits for Optimization. Data Mining	Basic Size Limits for Simulation. Data Mining	Basic Size Limits for Optimization. Simulation	Full Size Limits for all Features	
Platform	Windows	Windows	Windows	Windows	Windows	Windows	
Built-in Solver Engine Size Limits							
Evolutionary	Yes	Yes	Yes	Yes	Yes	Yes	
Linear	Yes	Yes	Yes	Yes	Yes	Yes	
Nonlinear	Yes	Yes	Yes	Yes (Upgraded Engir	Yes	Yes (Upgraded Eng	
Interval Global	Yes	Yes	Yes	Yes	Yes	Yes	
SOCP Barrier	Yes	Yes	Yes	Yes	Yes	Yes	
Optimization Problem Types and Sizes							
Solvers LP, MIP, NLP, and NSP problem types	Yes	Yes	Yes	Yes	Yes	Yes	
Special Solvers for QP, QCP, and SOCP problem types	Yes 200 x 100	Yes 2,000 x 8,000	Yes 200 x 100	Yes 8,000 x 8,000	Yes 200 x 100	Yes 8,000 x 8,000	
Linear Variables x Constraints Nonlinear Variables x Constraints	200 x 100 200 x 100	2,000 x 8,000 500 x 250	200 x 100 200 x 100	1,000 x 8,000	200 x 100 200 x 100	1,000 x 8,000 1,000 x 1,000	
Non-Smooth Variables x Constraints	200 x 100	500 X 250	200 x 100	1,000 x 1,000	200 x 100	1,000 x 1,000	
Integer Variables	Up to 200	Up to 1,000 for LP and 500 for NLP/NSP	Up to 200	Up to 2,000 for LP and 1,000 for NLP/NSP	Up to 200	Up to 2,000 for LP and 1,000 for NLP/NS	
Accepts optional plug-in Solver Engines (w/ unlimited Variables x Constraints)	No	No	No	Yes	No	Yes	
Constraints Normal, Integer, Binary, semi-continuous, and AllDifferent Constriants	Yes	Yes	Yes	Yes	Yes	Yes	
Second Order Cone Constraints	Yes	Yes	Yes	Yes	Yes	Yes	
Probabilistic and Chance Constraints Global Optimization	Yes	Yes	Yes	Yes	Yes	Yes	
Non-Smooth Problems (Evolutionary)	Yes	Yes	Yes	Yes	Yes	Yes	
Nonlinear Problems (Multistart)	Yes	Yes	Yes	Yes	Yes	Yes	
Nonlinear Problems (Interval Global)	Yes	Yes	Yes	Yes	Yes	Yes	
Plug-in Solver Engines (Several Approaches)	No	No	No	Yes	No	Yes	
Advanced Stochastic Optimization							
Solve stochasic programming deterministic equivalent model	No	No	No	Yes	No	Yes	
Robust optimization for large scale models with uncertainty	No	No	No	Yes	No	Yes	
Automatic adjustment of chance constraints in robust optimization	No	No	No	Yes	No	Yes	
/aR/CVaR constraints with adjustable tolerances	Yes	Yes	Yes	Yes	Yes	Yes	
Simulation and Simulation Optimization							
Fastest Monte Carlo simulation and simulation optimizations in Excel	Yes	Yes	Yes	Yes	Yes	Yes	
Fastest simulation optimizations in Excel	Yes	Yes	Yes	Yes Yes	Yes	Yes Yes	
State of the art simulation optimization & sensitivity/scenario analysis Simulation Optimization Variables and Constraints	Yes 50 x 25	Yes 50 x 25	Yes Unlimited x Unlimited	Yes 50 x 25	Yes 50 x 25	Unlimited x Unlimited	
Over 60 distributions and over 80 statistics and risk measures built-in	Yes	Yes	Yes	Yes	Yes	Yes	
Full support for fitting distributions	Yes	Yes	Yes	Yes	Yes	Yes	
Ability to correlate uncertain input distributions	Yes	Yes	Yes	Yes	Yes	Yes	
Built-in chance constraints and risk measure objectives	Yes	Yes	Yes	Yes	Yes	Yes	
Full support for recourse decisions under uncertainty	No	No	No	Yes	No	Yes	
Decision Trees							
Easy to use decision trees with rollback values and sensitivity analysis	Yes	Yes	Yes	Yes	Yes	Yes	
Support for simulation with probability distributions in the tree	Yes	Yes	Yes	Yes	Yes	Yes	
Support for optimization of values in the tree Ease of Use and Guidance	Yes	Yes	Yes	Yes	Yes	Yes	
Context sensitive help and included example moels	¥	Ver		Yes	N	N	
Context sensitive neip and included example moeis Comprehensive charting, reporting, and sensitivity/scenario analysis	Yes	Yes	Yes	Yes	Yes	Yes	
Constraint wizard for easily specifying needed constraints	Yes	Yes	Yes	Yes	Yes	Yes	
Distribution wizard to help you select the right probability distribution	Yes	Yes	Yes	Yes	Yes	Yes	
Built-in Guided Mode assistance	Yes	Yes	Yes	Yes	Yes	Yes	
Automatic diagnoss of model type and selection of best engine	Yes	Yes	Yes	Yes	Yes	Yes	
Solution Speed and Accuracy							
Directly access all available processor cores	Yes	Yes	Yes	Yes	Yes	Yes	
Find linear, nonlinear, non-smooth formulas	Yes	Yes	Yes	Yes	Yes	Yes	
Determine whether model is convex	Yes	Yes	Yes	Yes	Yes	Yes	
Determine if and how objective and constraints depend on uncertainty to enable stochastic transformation	Ne	No	No	Yes	No	Yes	
Use vectorized calculations to speed Monte Carlo trials	Yes	Yes	Yes	Yes	Yes	Yes	
"Linearize" IF, MIN, MAX, ABS, logical formulas for faster solution times and probably			100	100		100	
optimal solutions	Yes	Yes	Yes	Yes	Yes	Yes	
Psi Interpreter for fastest, most accurate, optimization solves	Yes	Yes	Yes	Yes	Yes	Yes	
Psi Interperter for fastest, most accurate, simulations	Yes	Yes	Yes	Yes	Yes	Yes	
Use Stochastic Programming for Recourse constraints	No	No	No	Yes	No	Yes	
Use Robust Optimization for Chance constraints	No	No	No	Yes	No	Yes	
Speed (approximate vs. the basic Excel Solver) Problem Setup	2-100X	2-100X	2-100X	2-100X	2-100X	2-100X	
Problem Setup	2-100X 40X	2-100X 40X	2-100X 40X	2-100X 40x	2-100X 40X	2-100X 40X	
Inear Problems Nonlinear Problems	40X 7-15X	40X 7-15X	40X 7-15X	40x 7-15x	40X 7-15X	40X 7-15X	
Vininger Problems	10-200X	10-200X	10-200X	10-200x	10-200X	10-200X	
Non-Smooth Problems	1-10X	1-10X	1-10X	1-10x	1-10X	1-10X	
Plug-in Solver Engines				10-1000x		10-1000x	
Solver Reports							
Answer Report	Yes	Yes	Yes	Yes	Yes	Yes	
Solutions Report	Yes	Yes	Yes	Yes	Yes	Yes	
Population Report	Yes	Yes	Yes	Yes	Yes	Yes	
imits Report	Yes	Yes	Yes	Yes	Yes	Yes	
inearity Report	Yes	Yes	Yes	Yes	Yes	Yes	
easibility Report	Yes	Yes	Yes	Yes	Yes	Yes	
Sensitivity Report	Yes Yes	Yes	Yes Yes	Yes	Yes	Yes Yes	
Simulation Report Simulation Parameter Sensitivity Report	Yes	Yes	Yes	Yes	Yes	Yes	
Incertianty Report	Yes	Yes	Yes	Yes	Yes	Yes	
Scaling Report	Yes	Yes	Yes	Yes	Yes	Yes	
Structure/Convexity Report	Yes	Yes	Yes	Yes	Yes	Yes	
	Yes	Yes	Yes	Yes	Yes	Yes	
Fransformation Report				-			
Transformation Report Charting Capabilities							
Transformation Report Charting Capabilities Comprehensive chart customization including type (line, area, bar), headings, axis, and							
Transformation Report Charting Capabilities Comprehensive chart customization including type (line, area, bar), headings, axis, and legend labels, cutoffs, and markers	Yes	Yes	Yes	Yes	Yes	Yes	
Transformation Report Charting Capabilities Comprehensive chart customization including type (line, area, bar), headings, axis, and legend labels, cutoffs, and markers sensitivity charting including Tomado and Parameter Analysis	Yes Yes	Yes Yes	Yes	Yes	Yes	Yes	
Transformation Report Transformation Report Charting Capabilities Comprehensive chart customization including type (line, area, bar), headings, axis, and Comprehensive chart and transformation and the second second second second legend labels, cutoffs, and markers Sensitivity charting including Tomado and Parameter Analysis Multiple Cymication charting including Overlag Trend, Box Whisker, Parameter Analysis Multiple Simulation charting including Overlag Trend, Box Whisker, Parameter Analysis	Yes	Yes					

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	Basic License for Solver Academy	Analytic Solver Upgrade	Analytic Solver Simulation	Analytic Solver Optimization	Analytic Solver Data Mining	Analytic Solver Comprehensive
Multiple Simulation Results charting including Overlay, Trend, and Box Whisker	Yes	Yes	Yes	Yes	Yes	Yes
Uncertain Functions charts including Frequency, Cumulative, Reverse Cumulative,						
Sensitivity, and Scatter Plots	Yes	Yes	Yes	Yes	Yes	Yes
DataMining Capabilities						
Partitioning	Original Data: 65,000 Records Output: 50 Variables	Original Data: Unlimited Records Output: Unlimited Variables	Original Data: Unlimited Records Output: Unlimited Variables			
Sample from Worksheet	Original Data: 65,000 Records Output: 50 Variables (Stratified: 30)	Original Data: 65,000 Records Output: 50 Variables (Stratified: 30)	Original Data: 65,000 Records Output: 50 Variables (Stratified: 30)	Original Data: 65,000 Records Output: 50 Variables (Stratified: 30)	Original Data: Unlimited Records Output: Unlimited Variables	Original Data: Unlimited Records Output: Unlimited Variables
Sample from Database	Original Data: 1,000,000 Records Output: 50 Variables (Stratified: 30)	Original Data: 1,000,000 Records Output: 50 Variables (Stratified: 30)	Original Data: 1,000,000 Records Output: 50 Variables (Stratified: 30)	Original Data: 1,000,000 Records Output: 50 Variables (Stratified: 30)	Original Data: Unlimited Records Output: Unlimited Variables	Original Data: Unlimited Records Output: Unlimited Variables
Text Mining	100 Documents, 5,000 Characters, 50 Terms, 1 Text Variable	100 Documents, 5,000 Characters, 50 Terms, 1 Text Variable	100 Documents, 5,000 Characters, 50 Terms, 1 Text Variable	100 Documents, 5,000 Characters, 50 Terms, 1 Text Variable	Unlimited Documents, Unlimited Characters, Unlimited Terms, Unlimited Text Variables	Unlimited Documents, Unlimited Characters, Unlimited Terms, Unlimited Text Variables
Feature Selection	10,000 Records, 50 Variables, 30 Distinct Classes	Unlimited Records, Unlimited Variables, Unlimited Distinct Classes	Unlimited Records, Unlimited Variables, Unlimited Distinct Classes			
Handling Missing Values (#Rows x #Missing Values to be treated at one time)	65,000 Records, 50 Variables	Unlimited Records, Unlimited Variables	Unlimited Records, Unlimited Variables			
Bin Continuous Data (#Rows x #Columns in ouput)	65,000 Records, 50 Variables	Unlimited Records, Unlimited Variables	Unlimited Records, Unlimited Variables			
Transform Categorical Data (#Rows x #Columns)	65,000 Records, 50 Variables, 30 Distinct Values	Unlimited Records, Unlimited Variables, Unlimited Distinct Values	Unlimited Records, Unlimited Variables, Unlimited Distinct Values			
Time Series (#Rows)	1,000 Rows	1,000 Rows	1,000 Rows	1,000 Rows	Unlimited Rows	Unlimited Rows
Classification and Prediction (#Rows)	Training: 10,000 Training + Validation: 65,000 Scoring 10,000	Training: Unlimited Records Training + Validation: Unlimited Scoring Unlimited	Training: Unlimited Records Training + Validation: Unlimited Scoring Unlimited			
Affinity - Association Rules (#Transactions)	65,000	65,000	65,000	Transactions: 65000, #Distinct Items: 100	Transactions: Unlimited #Distinct Items: 5,000	Transactions: Unlimited #Distinct Items: 5,000
Data Exploration & Reduction (#Rows x # Columns)	65,000 x 50	65,000 x 50	65,000 x 50	Unlimited x Unlimited	Unlimited x Unlimited	Unlimited x Unlimited
# Clusters displayed in Dendogram	10	10	10	10	Unlimited	Unlimited
Charts (#Rows x #Columns)	65,000 x 50	65,000 x 50	65,000 x 50	65,000 x 50	Unlimited x Unlimited	Unlimited x Unlimited