# RISK SIMULATOR

**Monte Carlo simulation**

- **25 probability distributions with easy-to-use interface**
- **Comprehensive statistics and reporting capabilities**
- **Distributional correlations and truncation**
- **Linking capabilities with multidimensional simulation**

**Analytical Tools**

- **Bootstrapping**
- **Comprehensive reports**
- **Data extraction and analysis**
- **Hypothesis testing**
- **Sensitivity analysis**
- **Tornado and spider charts**

**Forecasting**

- **Box-Jenkins ARIMA**
- **Comprehensive reports**
- **Multivariate regression**
- **Nonlinear extrapolation**
- **Time-series forecasting**
- **Stochastic process forecasting**

**Optimization**

- **Continuous optimization**
- **Decision analysis**
- **Integer optimization**
- **Mixed variable optimization**

**Real Options Valuation**

## WHAT IS RISK ANALYSIS?

How do you make critical business decisions? Do you consider the risks of your projects and decisions, or are you more focused on returns? Do you have a hard time trying to understand what risk is, let alone quantifying risk? Well, our Risk Simulator software will help you identify, quantify, and value risk in your projects and decisions.

**RISK SIMULATOR** is a powerful Excel add-in software used for applying simulation, forecasting, statistical analysis, and optimization in your existing Excel spreadsheet models. The software comprises four different modules:

- Monte Carlo Simulation
- Optimization
- Statistical and Analytical Tools
- Time-Series and Cross-Sectional Forecasting

Plus Risk Simulator is integrated with the Real Options Super Lattice Solver software, for solving strategic real options, financial options, and employee stock options.

## MODULE DETAILS

In the Monte Carlo Simulation module, we have:
- 24 statistical distributions
- Complete integration with Excel (dynamic linking)
- Comprehensive simulation and analytical reports
- Correlated simulation with distributional truncation
- Multidimensional simulations
- Simulation profiling

In the Optimization module, we have:
- Continuous optimization
- Decision analysis
- Integer optimization
- Mixed variable optimization

In the Statistical and Analytical Tools module, we have:
- Distributional fitting of existing data
- Hypothesis testing of distributions
- Nonparametric bootstrap simulation
- Sensitivity analysis
- Tornado and spider charts

In the Time-Series and Cross-Sectional Forecasting module, we have:
- Box-Jenkins ARIMA models
- Multiple regression analysis
- Nonlinear extrapolation
- Stochastic process forecasting
- Time-series analysis forecasting

## SUPPORT MATERIALS

- 5 books on risk analysis, simulation, forecasting, optimization, real options, and options valuation written by the software's creator
- Training DVD on risk analysis (simulation, forecasting, optimization, real options, and applied business statistics)
- Live training courses on risk management, simulation, forecasting, optimization, and real options
- Detailed user manual, help file, and an extensive library of example files
- Live project consultants

## FEATURES

- A user-friendly interface
- A comprehensive User Manual, illustrating each module's functionality with case examples and applications
- Short Strategic Business Cases illustrating real-life applications of risk analysis, simulation, forecasting, optimization, and real options, starting with the framing of the problem through to its software solution

## TRAINING AND CONSULTING

Advanced analytical tools such as the Risk Simulator and Real Options SLS software might be easy to use but may get the analyst in trouble if used inappropriately. Sufficient theoretical understanding coupled with pragmatic application experience is vital; therefore, training is critical. The *Risk Analysis* course is a two-day seminar focused on hands-on software training. Topics covered include the basics of risk and uncertainty, using Monte Carlo simulation (pitfalls and due diligence), truncation, correlated simulations, statistics for interpreting the results, distributional fitting, bootstrap simulation, sensitivity analysis, forecasting (time-series and cross-sectional forecasting), extrapolation, stochastic process forecasting, linear optimization (integer and continuous optimization), and many more exciting topics.

Other courses are also offered, including *Real Options for Analysts* for the analysts who want to begin applying real options in their work, but lack the hands-on experience with real options analytics and modeling. This two-day course covers how to set up real options models, apply real options, and solve real options problems using simulation, closed-form mathematics, and binomial lattices. It focuses on detailed case studies and practice valuation models using the SLS software. Also available are other risk analysis courses with an emphasis on customized on-site trainings (simulation, forecasting, optimization, and real options trainings customized to your firm's exact needs based on your business cases). Consulting services are also available, including the framing of risk analysis problems, simulation, forecasting, real options, risk analytics, model building, decision analysis, and software customization.

## EXPERTISE

**Dr. Johnathan Mun** is the software's creator and teaches the **Risk Analysis, Real Options for Analysts, Real Options for Managers,** and other related courses. He has consulted for multiple Fortune 500 firms on risk analysis, valuation, and real options, and has written a number of books on the topic, including *Real Options Analysis: Tools and Techniques, 2nd Edition* (Wiley Finance, 2005); *Real Options Analysis Course: Business Cases* (Wiley Finance, 2003); *Applied Risk Analysis: Moving Beyond Uncertainty in Business* (Wiley, 2003); *Valuing Employee Stock Options Under 2004 FAS 123* (Wiley, 2004); *Modeling Risk: Applying Monte Carlo Simulation, Real Options Analysis, Forecasting and Optimization* (Wiley, 2006); and others. He is the founder and CEO of Real Options Valuation, Inc., and is responsible for the development of analytical software products, consulting, and training services. He was formerly the Vice President of Analytics at Decisioneering, Inc., and was a Consulting Manager in KPMG's Global Financial Strategies practice. Before KPMG, he was the head of financial forecasting for Viking, Inc. (an FDX/FedEx Company). Dr. Mun is also a full professor at the U.S. Naval Postgraduate School and a professor at the University of Applied Sciences and Swiss School of Management (Zurich and Frankfurt), and he has held other adjunct professorships at various universities. He has a Ph.D. in finance and economics, an MBA in business administration, an MS in management science, and a BS in applied sciences. He is certified in Financial Risk Management (FRM), Certified in Financial Consulting (CFC), and Certified in Risk Analysis (CRA). He currently resides in California.