

CRYSTAL BALL IN SIX SIGMA

Successful Six Sigma programs combine a tight focus, the right people, and an investment in the best available software tools. The most effective tools are those that Six Sigma teams can apply quickly and can effectively use to drive profitability.

That's why your Six Sigma team needs Crystal Ball®, a powerful suite of spreadsheet-based simulation, optimization, and forecasting software. Crystal Ball can be used throughout Six Sigma projects to identify, reduce, and control the negative effects of variation.

With the power of Crystal Ball, you can identify key parameters that drive uncertainty or variability, quantify the effects of variation in your process, service or design, predict the probability of satisfying design requirements, and achieve an optimum and robust design.

DESIGN FOR SIX SIGMA (DFSS)

DFSS aims to increase profitability through accelerated improvements in design. With Crystal Ball, DFSS practitioners can understand the effects of variation within their designs. By gaining early visibility into the performance of new processes and products, your engineers can reduce cycle-time and provide you with a key time-to-market advantage.

In most cases, testing on physical models is prohibitively expensive. From aircraft engines to call centers, engineers use "design by analysis" and simulation to improve designs and uncover defects prior to production. Crystal Ball is a critical component in design by analysis because of its powerful simulation engine and integration with existing spreadsheet models.

And because Crystal Ball is easy to apply, your engineering teams can focus their efforts on the design process and not on mastering the design tools.

A VERSATILE UTILITY TOOL

Crystal Ball can be applied to any Microsoft® Excel spreadsheet, so whether you are looking to remove variation from a process (DMAIC), establish new process capability (DMADV), or establish new product capability (DFSS), Crystal Ball is critical to the analysis.

"[Crystal Ball] gave us the knowledge to sharpen our focus in crucial ways. Our resources were applied where we knew there would be rewards. The bottom line: higher quality and lower costs."

– Jonathon Andell, President, Andell Associates

KEY BENEFITS

AVOID THE TRAP OF AVERAGES – get the full picture. Add distributions to your spreadsheets and realistically simulate systems and processes

KNOW WHAT MATTERS – sensitivity analysis helps you identify the key inputs (X's) in your process so you can focus your efforts on the critical drivers of variation

REDUCE DESIGN COSTS – use simulation to gain early insight into the performance of new products and processes prior to implementation

OPTIMIZE – search for and identify robust solutions while accounting for uncertainty and constraints

PERSUADE – interactive charts, graphs and reports let you vividly present and communicate the results of your quality analysis

COLLABORATE – work as a team sharing models and data to get your work done faster

GET RESULTS QUICKLY – start applying Crystal Ball in minutes

HERE ARE THE TOOLS YOU WILL RECEIVE

Crystal Ball simulation - automate "what if" analysis and quantify the effects of variation. Quickly assign ranges of values (probability distributions) to your inputs, automatically calculate ranges of forecasted outputs and their probabilities.

OptQuest® - automatically search for optimal and robust solutions, while accounting for variation and constraints. OptQuest integrates with Crystal Ball simulation to optimize your decisions.

CB Predictor™ - analyze historical data through forecasting and linear regression.

Try It!
Download a **FREE** seven-day trial version of Crystal Ball from our Web site.
www.crystalball.com

DELIVER PROFITABLE BUSINESS RESULTS WITH CRYSTAL BALL

See how you can successfully apply Crystal Ball to address variation or uncertainty across an entire Six Sigma or DFSS project.

DEFINE	<p>Applications: Project selection, value stream assessment, cost estimation, CTQ identification, business case analysis, portfolio analysis</p> <p>Benefits: Account for uncertainty of costs and success in the initial stages of a project. Understand the possible impacts on customer satisfaction and profitability.</p>
MEASURE	<p>Applications: Baseline establishment for process quality, efficiency, and variation, improvement opportunity estimation, gap and risk measurement</p> <p>Benefits: Model the opportunity for improvement and quantify baseline process performance with an awareness of the effects of variation.</p>
ANALYZE	<p>Applications: Tolerance analysis, Design of Experiments, sensitivity analysis, root cause analysis, design capability prediction, linear regression</p> <p>Benefits: Discover and validate the underlying causes of waste and variation. Prioritize opportunities based on contribution to customer satisfaction and profitability.</p>
IMPROVE / DESIGN	<p>Applications: Inventory optimization, resource allocation, gap analysis, reliability analysis, process simulation, capability and performance measurement</p> <p>Benefits: Develop and select optimal solutions for best results and most robust performance. Achieve balance of quality, cost, and time-to-market with design models.</p>
CONTROL / VERIFY	<p>Applications: Response plan analysis, design validation, functional control plan validation</p> <p>Benefits: Document improvement and anticipate and proactively prepare for problems. Use prototype models to establish controls and action plans and ensure that designs meet customer requirements.</p>

CRYSTAL BALL FOR SIX SIGMA TRAINING

This accelerated two-day course focuses on the use of simulation, risk analysis and stochastic optimization within Six Sigma. In addition to learning to navigate Crystal Ball, you will discover when and where the different Crystal Ball analysis tools fit within the Six Sigma, DFSS and Lean Principles processes. The course emphasizes hands-on instruction, real-world case studies and how Crystal Ball models integrate with other software applications within your Six Sigma toolkit. Create a customized onsite course with our trainers or attend a public training course (www.crystalball.com/training).

ABOUT DECISIONEERING, INC.

Since 1986, Decisioneering, Inc. has been providing risk analysis software and solutions to customers worldwide. 85% of the Fortune 500 rely on Crystal Ball to provide decision insights and drive more profitable business results.

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