

INFORMATION ANALYZES

Crystal Ball Services

Comprehensive Risk Analysis Training and Consulting

From extensive training on Oracle's Crystal Ball software to risk analysis education and consulting, Crystal Ball Services offers you the tools, services, and solutions you need to make better decisions. Whether you're developing a new product, securing a new vendor, scheduling shipments, improving process time, or reducing production costs, every decision you make rests upon one or more uncertain factors that can dramatically affect your results. When facing complex business choices, the key is to identify and effectively control the uncertainties that have the greatest impact on your success. Crystal Ball Services can help.

Journey from Data to Decisions with the Right Team

Key Benefits of Crystal Ball Services

Whether you need software training or a team of experts to evaluate the risks behind a strategic business decision, Crystal Ball Services can deliver the benefits you require.

- **Get More Immediate Results.**
Pressing deadline? Find the answers quickly by hiring an expert to help analyze your business risk problems.
- **Support Key Business Decisions.**
Produce accurate, clear, and defensible risk analyses.
- **Focus on What's Important.**
Make the analysis and application of results your focus, not the intricacies of model building.
- **Understand and Communicate.**
Learn how to convincingly present and communicate analysis results to your decision-making team.
- **Enhance Your Investment.**
Own ready-to-run models and templates that can be applied and expanded for future projects.

You might already rely on methods that reduce the impact of uncertainty, such as researching industry trends, collecting data, creating computer models, and conferring with subject matter experts. You might even apply basic risk analysis techniques. But the next big step—creating and maintaining in-house expertise—takes time and resources that you might not have. On one project, for example, you might need to train your team on Crystal Ball software and risk analysis thinking. On another project, you might need to develop a risk strategy, evaluate complex data, or defend a risk-based decision in court.

As you increase the number and complexity of your projects, your organization must continue to successfully allocate its risk resources. Do you have the flexibility to call on the experts you need and the assurance that the people you hire will possess the highest level of risk analysis expertise?

Crystal Ball Services gives you the highest levels of flexibility and assurance. This partnership between Oracle and Vose Consulting—both long-established experts in their respective fields—provides comprehensive Crystal Ball software training and risk analysis consulting services to organizations across a wide range of industries.

Crystal Ball Services can provide your company with the people and professional services you need to identify, quantify, and manage your risks and opportunities. Oracle's in-house experts, together with skilled consultants from Vose Consulting, run the gamut from talented programmers, model builders, and software trainers to statistical experts and seasoned risk analysis professionals.

From short- to long-term engagements, training classes to consulting, Crystal Ball Services' risk analysis experts can provide custom services that give you the insight you need to improve the quality of your critical business decisions.

What Differentiates Us from Everyone Else?

Our combined expertise of software knowledge and risk assessment experience really sets Crystal Ball Services apart. You get a comprehensive risk analysis solution that can include training, Visual Basic for Applications (VBA) programming, problem solving, model building, a customized application, software, consulting, or any combination thereof. If you need Crystal Ball software training, you get it from the makers of Crystal Ball software. If you need risk analysis services, you get them from experts in your industry and application. As part of our approach, in any consulting engagement, we provide our customers with the opportunity to understand what we do, learn our tools and techniques, and develop the ability to apply them to future projects.

Consulting Services

Whatever your risk analysis needs, you can trust Crystal Ball Services to provide you with the people and services you need to successfully complete your project.

We offer consulting services for the full range of risk analysis techniques. From simulation, optimization, advanced statistical analysis, and exact probability calculations to strategic thinking, training, expert elicitation, and results communication, Crystal Ball Services has the expertise on hand.

Take a look at our capabilities and what we can deliver:

- **Crystal Ball modeling.** Develop, customize, and apply Crystal Ball to Microsoft Excel models to evaluate uncertain outcomes.
- **Model-building and simulation.** Provide comprehensive support during the model-building and simulation process.
- **Crystal Ball best practices.** Review existing models to ensure that Crystal Ball is used properly and to its full extent.
- **Reporting.** Perform simulations and risk analysis on Crystal Ball models and create reports detailing the results; customize reports according to your requirements, with ease of presentation to management as a priority.
- **C++ and VBA programming.** Write code for advanced probability calculations and simulation routines; create VBA programs to automate the use of Crystal Ball.
- **Qualitative and quantitative risk analysis.** Supply probabilistic modeling expertise for the risk assessment of complex risk problems.
- **Effective use of data.** Provide advanced statistical expertise and the value of information analysis; support eliciting and modeling expert opinions.
- **Risk management.** Help develop a risk policy, introduce risk management practices into your organization, advise on risk communication, and identify and prioritize risks.
- **Auditing of risk assessments.** Find errors, inaccuracies, and missed opportunities.
- **Expert witness services.** Provide advice on risk issues for court hearings, critique and write testimonies, and appear as an expert witness in court.

Industry-Specific Consulting Expertise

Our consultants have deep experience working across the following industries:

- Agriculture
- Energy/Utilities
- Engineering/Construction
- Finance/Business
- Government
- Healthcare
- Logistics/Transportation
- Manufacturing
- Mining
- Oil and Gas
- Pharmaceutical
- Venture Capital

Crystal Ball Software Training

Application-Specific Consulting Expertise

Our consultants have experience applying the following risk analysis methods:

- Cost Estimation
- Design for Six Sigma
- Financial Analysis
- Operations Research
- Optimization
- Project Management
- Real Options
- Six Sigma/Quality
- Statistical Analysis
- Strategic Analysis
- Supply Chain

Crystal Ball Services offers a wide range of regional and onsite training classes to jump-start your use of Crystal Ball risk analysis software. Learn from our experienced instructors how to get the most out of Crystal Ball and the best practices for spreadsheet modeling. Our classes—tailored for different industries, applications, and customers—are conducted frequently across North and South America, Europe, Africa, and Asia.

Software Classes

Here is a list of one-day classes we regularly provide to our customers:

- **Introduction to Crystal Ball.** Learn the basics of Monte Carlo simulation, how to develop Crystal Ball spreadsheet models, and how to analyze and present results.
- **Advanced Crystal Ball.** This class picks up where Introduction to Crystal Ball ends. Learn how to use your own historical data to build accurate predictive models and how to search for an optimal solution.
- **Crystal Ball Applications for Six Sigma.** Learn how simulation, risk analysis, stochastic optimization, and Crystal Ball analysis tools fit within the Six Sigma, Design for Six Sigma, and Lean processes.
- **Advanced Crystal Ball for Oil and Gas.** Learn how to model uncertainty and risk, identify key drivers, evaluate individual prospects, and combine them into a working portfolio optimized on your key business indicators.
- **Introduction to Real Options.** Get hands-on experience with real options analytics and modeling, so you can frame your company's strategic flexibility in a real options context.
- **Spreadsheet Modeling Techniques for Business: Best Practices.** Learn how to design and structure your spreadsheet models to facilitate realistic simulation, avoid problems, and create strong yet flexible models.

Visit www.crystalball.com/training to find the latest information about upcoming classes, class curricula, and registration instructions.

Multimedia Training

We recognize that classes don't always meet the schedules or match the learning styles of some of our customers. Toward that end, Crystal Ball Services also offers self-paced multimedia training options.

- **Risk Analysis Using Crystal Ball.** If you want to learn to use Crystal Ball risk analysis software at your own pace, our self-directed training CD, *Risk Analysis Using Crystal Ball*, is packed with examples, exercises, and quizzes. The material covers a variety of industries and applications and demonstrates Crystal Ball software concepts and features.
- **ModelAssist Advanced for Crystal Ball.** Do you need a comprehensive risk analysis reference package? ModelAssist Advanced for Crystal Ball will answer all your questions and guide you through proven methods so you can produce accurate, clear, and defensible models and risk analyses.

Onsite Training

Sometimes the best approach is for your entire team to train together. That's why Crystal Ball Services offers customized onsite training for your organization's specific risk analysis and modeling needs. Custom training can be any mix of our traditional class agendas and can also include your own models.

With onsite training, your team learns the software together, fostering collaboration and standardization of risk analysis best practices. No time is lost to travel because the class is conveniently located at your office or designated site, and your whole group gets access to our expert trainer. In addition, because the training is exclusive to your group, you can use your own models and data while still protecting your intellectual property.

Select Customers of Crystal Ball Services

Join the ranks of leading companies using Crystal Ball Services to analyze risk and improve decisions.

- ABN AMRO
- Aon Capital Markets
- AstraZeneca
- British Nuclear Fuels
- Boots
- Cairn Energy
- Citibank
- El Paso Corporation
- Exponent
- General Mills
- HP
- Interlink Development
- KPMG
- Network Rail
- Ove Arup
- Palamon Capital Partners
- Pfizer
- Procter and Gamble
- Teikoku Pharma USA
- Unilever

Customer Successes with Crystal Ball Services

“We were very impressed by the quality and speed of the services we received from Crystal Ball experts. They resolved our issue in less than 48 hours and used Monte Carlo simulations to explore the most likely outcomes for a complex decision.”

John Collis
Partner
Partners Capital

“Vose Consulting provides excellent risk advice, which is both theoretically sound and practically applicable.”

Matthew Tattersall
Strategic Analysis Group
Network Rail

Partners Capital

Partners Capital, an international investment advisory firm based in Boston and London, provides its clients with independent investment advice and access to investments that aim to deliver risk-adjusted, long-term investment returns superior to those of traditional portfolios.

Partners Capital called upon Crystal Ball Services for a project involving a complex stress-testing analysis of the investment allocation in a portfolio for an educational endowment. The objective was to determine the likelihood of negative outcomes given an investment in multiple asset classes, each with its own historical performance, volatilities, and cross-correlations. The project had to be completed as quickly as possible.

Crystal Ball experts developed the model, used Partners Capital’s existing historical data to define the input assumptions, ran the simulations, and presented reports. The analysis was completed within two days.

Network Rail

For the past decade, industrial giants and European governments have strived to attain rail interoperability, so that trains can cross borders without stopping. Today, each country still has its own rail “language” for managing the movement of the trains on its network. To redress these incompatibilities, the European Rail Traffic Management System project has been set up to create unique signaling standards throughout Europe.

Network Rail runs, maintains, and develops Britain’s railroad tracks, signaling system, rail bridges, tunnels, level crossings, viaducts, and key train stations. Vose Consulting is helping Network Rail to assess the risks of implementing the European signaling system in the U.K.

U.S. Food and Drug Administration

Given concerns about the risk to human health from using antibiotics in animals, the U.S. Food and Drug Administration (FDA) was faced with the question of whether to continue to allow use of fluoroquinolones in poultry.

Vose Consulting led a team of scientists at the U.S. FDA that developed an appropriate risk analysis rationale and performed a quantitative risk analysis. Based on the work, the U.S.

FDA decided to withdraw the drug. The decision was appealed by the drug sponsor, and the risk analysis was aggressively critiqued.

Vose Consulting played a key role in responding to the technical challenges to the risk analysis in the ensuing legal dispute and drew up a strategy for the U.S. FDA legal counsel to counter the drug sponsor's opposing risk analyst. In a very technical case, the judge concluded that the U.S. FDA's risk analysis was accurate. The U.S. FDA has now issued a precedent-setting final decision to withdraw the drug.

Learn from the Experts in Risk Analysis

Crystal Ball Services provides customers worldwide with the tools, solutions, and services they need to make better-informed decisions.

Since 1986, Crystal Ball software has been recognized for its award-winning simulation, forecasting, and optimization capabilities. More than 85 percent of Fortune 500 companies and more than 800 academic institutions throughout the world have implemented Crystal Ball to manage risk, reduce variation and uncertainty, and make optimal decisions. Oracle has pioneered the use of simulation and optimization in everyday decisions and is dedicated to developing the tools, services, and training that individuals and companies need to better calculate, communicate, and diminish their business risks.

Since 1988, Vose Consulting, an internationally recognized risk analysis consulting firm, has helped industry and government make better decisions in the face of risk and uncertainty through the highest quality risk analysis methods. With offices in the United States and Europe, Vose Consulting also provides specialized risk analysis training courses worldwide and is the developer of ModelAssist for Crystal Ball, a risk analysis training and reference tool.

Together, Oracle and Vose Consulting provide comprehensive risk analysis training and consulting services built around Crystal Ball software to organizations worldwide.

"Vose Consulting's unique value in the very broad field of biostatistics and risk assessment is their ability to explain highly technical concepts so that nonscientists can not only understand the issues but engage in interpretative discussions. The FDA honored David Vose with the Commissioner's Special Citation award, the highest award given to persons outside the FDA."

Admiral Linda Tollefson, DVM, MPH
Deputy Director
U.S. Food and Drug Administration

CONTACT US

For more information on Oracle's Crystal Ball software and Crystal Ball Services, please visit www.crystalball.com or call **+1.800.289.2550** to speak to an Oracle representative.

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