ACEIT E-News: All About RISK

Overview:

Issue 4 - April 2005

The April ACEIT E-News focuses on the subject of Risk and how ACEIT can assist you with your Risk Analysis needs. We also highlight other resources, such as White Papers and Conference Papers, that focus on Risk that can be downloaded from the ACEIT website as well as upcoming RI$K training.
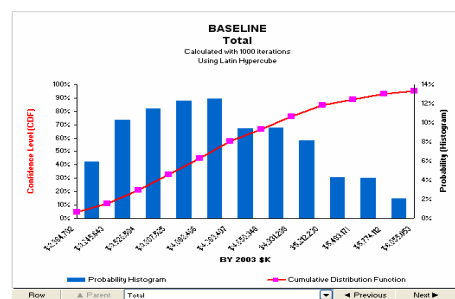
Features in ACE:

RI$K is the risk analysis capability provided inside ACE. With RI$K you can perform cost, schedule, and technical risk and uncertainty analysis. RI$K performs risk calculations with blazing speed, providing a truly interactive capability. Six probability functions may be used to model uncertainty (beta, lognormal, normal, triangular, uniform, and Weibull).

RI$K lets you analyze and calculate the cost uncertainty in your estimate. From within ACE, you can place a probability distribution function (pdf) around a cost row or a technical input row to describe the object's uncertainty. If you regress data in CO$TAT and bring the equation back into ACE, CO$TAT will furnish the prediction interval which defines risk.

Within ACE you can calculate risk results for different confidence levels using the Latin-Hypercube sampling method, which requires less iterations than the Monte Carlo method, thereby greatly speeding up the process. This method reproduces the input distribution with much greater efficiency than Monte Carlo sampling. After performing the risk analysis in ACE, you can select a confidence level and time phase your risk-adjusted cost estimate.

Training Course Highlights:

📖 RI$K (2-Day Course)

This 2nd level training course focuses solely on implementing risk in ACE. It is designed for basic users who need to perform a risk analysis on their estimates. You will explore the natures of risk in an estimate and how to model them.

At the completion of the course you will be able to: apply a risk distribution to equation and input rows in ACE, generate a prediction interval for the basis of your risk settings, view simple risk reports, develop a risk-adjusted estimate, allocate risk results in the estimate, and develop graphical displays of risk simulation results. In addition, you will learn how to use ACE's "Group Strength" feature to properly apply correlation.

> ### UPCOMING RI$K CLASSES
> April 28-29 Washington, DC
> August 25-26 Las Vegas, NV
> September 22-23 Herndon, VA

Download the RI$K Course Overview PDF (118KB)

On-Site and **Mechanics Training** is available, contact our Training Coordinator for more information.

Downloads from ACEIT.com:

🖳 White Papers:
ACE RI$K Allocation Method - Explained PDF (12 KB) This white paper details the mathematical algorithm and ACE calculation process to allocate risk dollars from parent WBS elements to the children WBS elements.

🖳 Conference Papers:

Cost Risk Analysis "Standards" (NASA Cost Symposium 2005) PDF (2.44 MB) This is a presentation made at the April 2005 NASA Cost Symposium identifying an approach to implement for conducting Cost Risk analysis. The paper identifies a simple 6 step process for implementing cost risk analysis and also highlights key areas where standard (organization, office, etc) would improve the process. Additionally the paper details how most of the commercially available tools - Crystal Ball, @Risk, ACE RI$K will produce equivalent results if used similarly.

Cost Risk Analysis "Made Simple" (SCEA 2004 / AIAA 2004) This zip file contains the paper and presentation made at the Sep 04 AIAA conference. The presentation was first delivered at the June SCEA conference (Cost Risk Analysis "For the Masses") and also at the July 04 CASG. The AIAA version captures feedback from the original presentations.

Impact of Correlation on Risk Distributions (SCEA 2003) This zip file contains the ISPA/SCEA 2003 best paper for the risk tract. It introduces a simplified approach to the Laurie Goldberg correlation of random variables and presents several case studies to illustrate the impact of correlating risk distributions in a typical cost model. The zip file also contains the presentation made at the July 2003 SSCAG that contains revisions based upon feedback from the ISPA/SCEA experience.

🖳 How-To Guides:

How-To RI$K PDF (275 KB) This documents outlines the key features in ACE RI$K and how to use these features to implement risk in an ACE estimate. This is a simplified how-to guide for using RI$K in ACE. More detailed information can be found in the ACE User Guide.

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