Project Controls EXPO
Melbourne, Australia

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Schedule Quality & Project Success: How Technology Can Bridge the Gap

Prescience TECHNOLOGY

About the Speaker

- Chief Operating Officer for Prescience Technology
- 35+ years' experience in Enterprise Project Controls Systems.
- Involved in Enterprise Project Management since the 80s, using systems such as Artemis until the 90s and the Primavera suite of products for the past 15 years.
- Experience in the technical architecture & configuration of project controls products; advanced integration in Oracle Primavera, ERP products, SAP , Ellipse and others.
- Responsible for multiple implementations and upgrades of large-scale, complex, capital programs at an enterprise level

Wayne Wilson
Chief Operating Officer
Prescience Technology

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About the Topic

> A good schedule makes a great project. But what exactly constitutes a 'good' schedule, and how do you benchmark and standardise your project schedules against industry standards?

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About Prescience Technology

Prescience Technology is the leading provider of integrated project controls services and technology solutions in Australia.

Founded in 2005

Australian based with international presence

Strategic partnership with Oracle & Deltek

Award winning tech Consultancy

Capital and operational projects focus

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Project Maturity Framework

S1: THE BASE

Understand your schedule, cost & WAD information for integrated, data-driven analysis.

S2: CRITIQUE

Diagnose & correct schedule, cost & WAD information to ensure quality and relational integrity.

S3: RISK-ADJUST

Integrated schedule & cost uncertainty, discrete risks & mitigation analysis to produce meaningful risk results.

S4: OPTIMISE

Accelerated scenarios are developed and evaluated to meet project and stakeholder objectives.

S5: ALIGN

Confidence in forecasted dates is improved and team buy-in on the critiqued, risk-adjusted and optimised plan is realised.

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The Goal

The end goal of the S1 – S5 schedule maturity model is to generate a schedule that is:

Structurally Sound
Well built using appropriate CPM scheduling techniques.

Realistic
Accounting for known scope as well as unknown potential risks and opportunities.

Optimised
Thoroughly reviewed for potential cost & schedule acceleration candidates.

Validated
Buy-in obtained from the project team, subject matter experts and management team.

Why?

By pursuing five levels of identified maturity, the S1 - S5 methodology helps you to **create a more successful** and **more achievable project plan**.

S1-S2 Schedule Quality

Why Schedule Quality is important

1. The ability to meet schedule dates.
2. A poorly constructed CPM Schedule is nothing more than a colourful picture on a sheet of paper.
3. Enabling a scheduling tool to work properly, we must have a good built, logically driven schedule that the project teams have confidence in.

S1-S2 Schedule Quality

Elements of Schedule Quality Matrix

Missing Logic	Logic Density	Critical
Hard Constraints	Negative Float	Insufficient Detail
Number of Lags	Number of Leads	Merge Hotspot

S3 Risk Adjusted

Risk Definitions:

Risk
An uncertain event or condition that, if it occurs, has a positive (opportunity) or negative (threat) effect on a project's objectives.

Threat
Situation or condition that is unfavourable to project.

Opportunity
Situation or condition that is favourable to the project.

Uncertainty
Lack of knowledge about an event that reduces the confidence in conclusions drawn from the data.

S3 Risk Adjusted

Identify/Quantify potential events causing delay/ cost increase to Project

- Incomplete design
- Inadequate site investigation
- Unrealistic schedule/budget
- Permit requirements
- Weather
- Supplier's/contractor's ability to deliver
- Public relations
- Unforeseen conditions…

S3 Risk Adjusted

What stage do you need to understand your risks?

- Before entering into a Funding gate
- Before/during Engineering Phase
- Before starting Construction – evaluating competing bids for equipment for example
- How Often? As often as it feels necessary to capture/ evaluate/ mitigate/ eliminate risk affecting ultimate project goal – Completing project
  - Some groups review Portfolio quarterly
  - Some review yearly (ex. LRP cycle)
  - Partner review initiated

S3 Risk Adjusted

The Process:

REVIEW

- Review of CPM Schedule for duration and logic integrity (Schedule Quality)

IDENTIFY

- Identify Uncertainty Ranging of activities in schedule (min, most likely and maximum durations)
- Identification of Risk Events with project team (Risk Register)

ANALYSE

- Perform a Risk Analysis

OPTIMISE

- Optimise schedule from the above results (scenario planning)

S4-S5 Optimise/Align

The Process:

SET GOALS

- Setting the Acceleration Goal

DEFINE

Define Acceleration Criteria

- **The Action**: What change should be applied during the acceleration.
- **The Target Set:** Which activity or groups of activities should the rule apply to?
- **The Priority:** When the acceleration simulation is run, emphasis is inherently around activities that fall on or near the critical path.

GENERATE

- **Generate Scenario** one the goal and criteria have been defined, the simulation can be run.

S4-S5 Optimise/Align

- The Benefit and Return on Investment (ROI) of **Goal-Based Acceleration**
- How Does it Differ from a **Monte-Carlo Simulation**?
- When Should **Schedule Acceleration** Be Carried Out?

Case Study

BOMBARDIER TRANSPORTATION

- 70,000+ employees
- Headquartered in Canada
- Multinational manufacturer of planes and trains

Background:

- Large rail modernisation project
- Multiple planners
- Growing number of activities
- Complex logic

Case Study



Requirements:

- **Best Practises** - Implement Scheduling Best Practises and Standards.
- **Targeted Quality Check –** The ability to analyse the quality of each of the sub-projects integrated into the master schedule was key.
- **Internal Customisation –** provide standard checks for schedule quality with an acceptable thresholds that could be amended to meet specific project demands.
- **Clear Communications –** The use of an analyst report highlighted areas of the schedule requiring correction, in a clear and easy-to-understand format. This report should provide an easy means of communicating necessary updates to the project team.

Case Study



Solution: Acumen Fuse

- **Slice and Dice Capability** – Acumen Fuse allows activities to be grouped by a common field or attribute to analyse and compare each segment individually. Drill down into any part of the project to target the weaker parts of the schedule and easily identify necessary improvements.
- **Editable Metrics** – Acumen Fuse metric builder makes creating custom metrics and editing existing metrics, simple. Each metric can be customized (including the thresholds) for use company-wide or project to project.

Case Study



Solution: Acumen Fuse

- **Quick and Efficient Reporting** – Acumen Fuse analyst report is an automatically generated 'to-do list' that allows the scheduler to view problematic activities and make corrections quickly in the native scheduling tool - eliminating time wasted sifting through thousands of activities manually.

Case Study

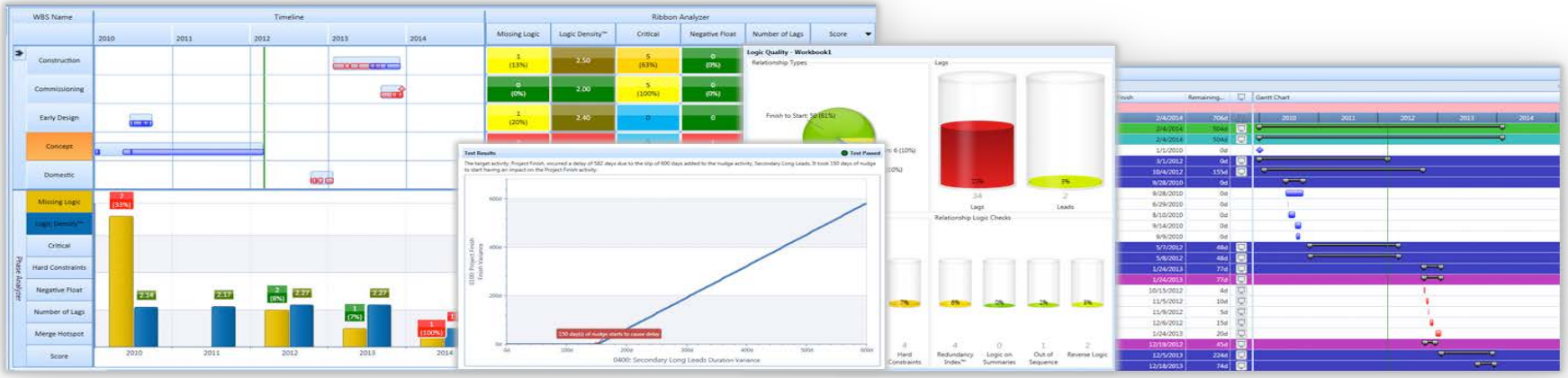


Outcome:

- Bombardier is currently leveraging Acumen Fuse on a high-profile, complex project with over 10,000 activities, involving teams and multiple planners in different countries around the world.
- Acumen Fuse is helping to generate an efficient reporting process and performance tracking method that is providing a clear visual across multiple sub-projects.
- The automated analysis and reporting ensures time-efficient weekly updates and keeps stakeholders in the know.

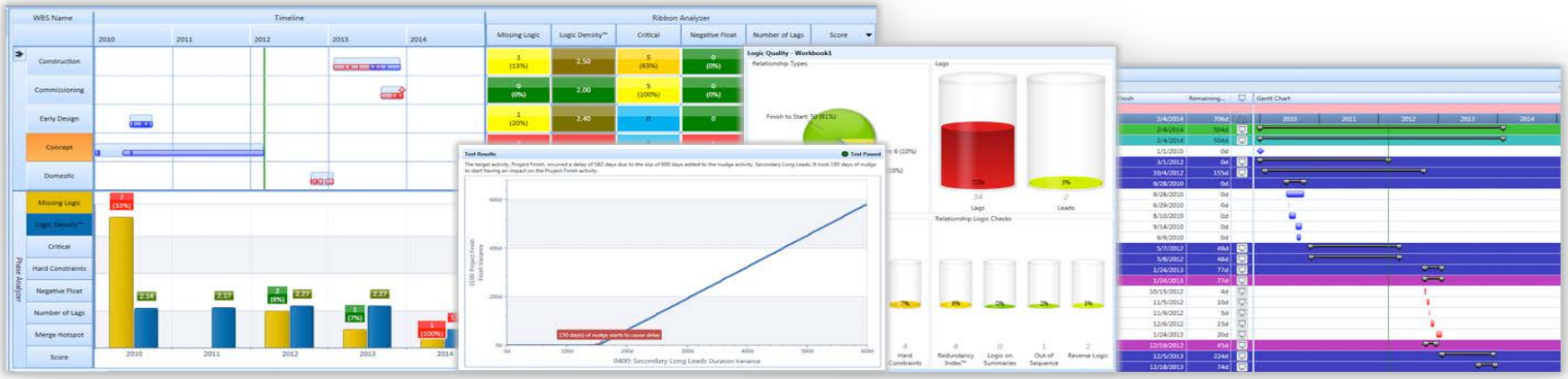
Schedule Diagnostics

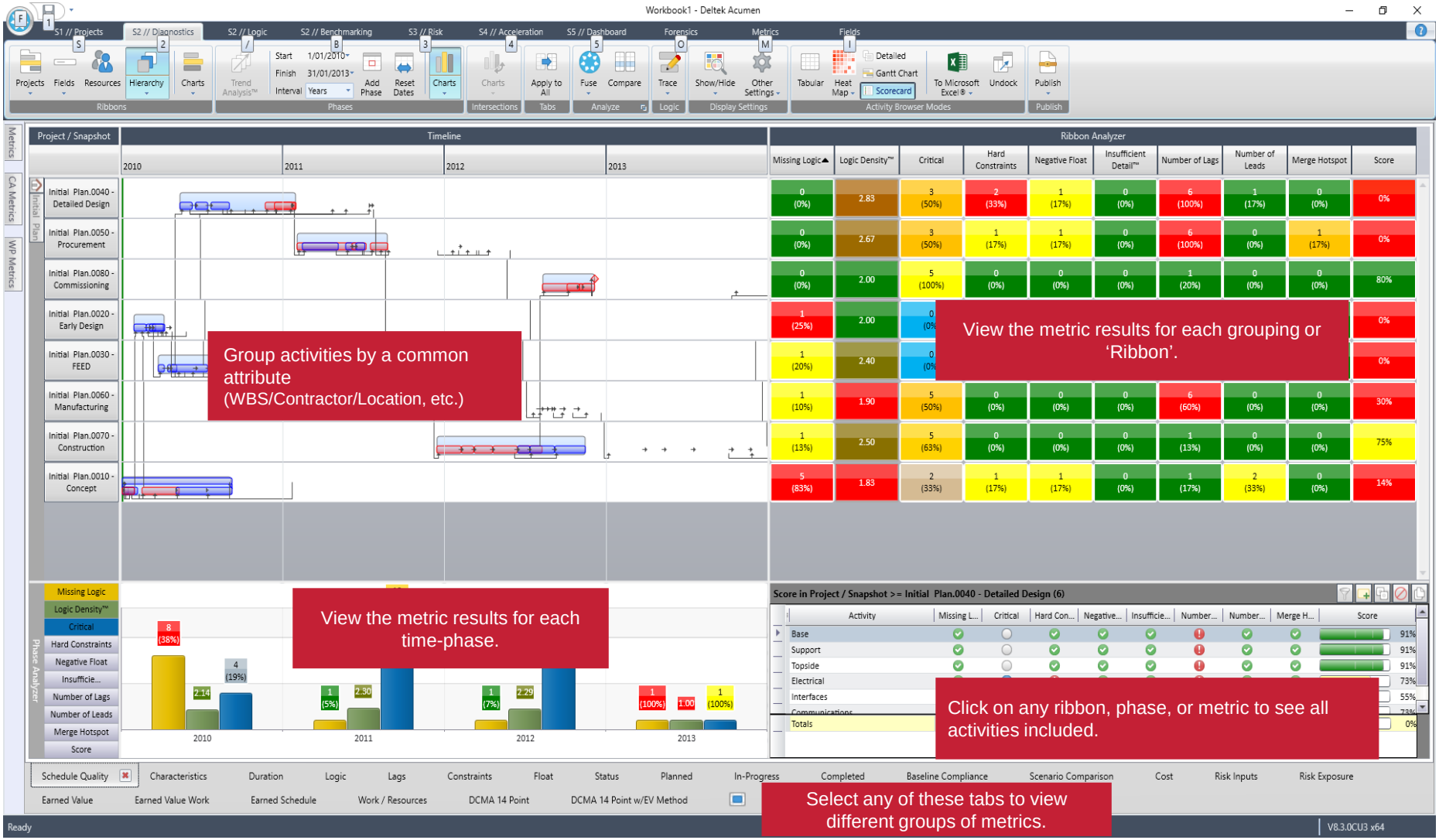
- A sound schedule is the key to project success.
- Deltek Acumen diagnoses and resolves schedule shortcomings for the soundest schedules possible.

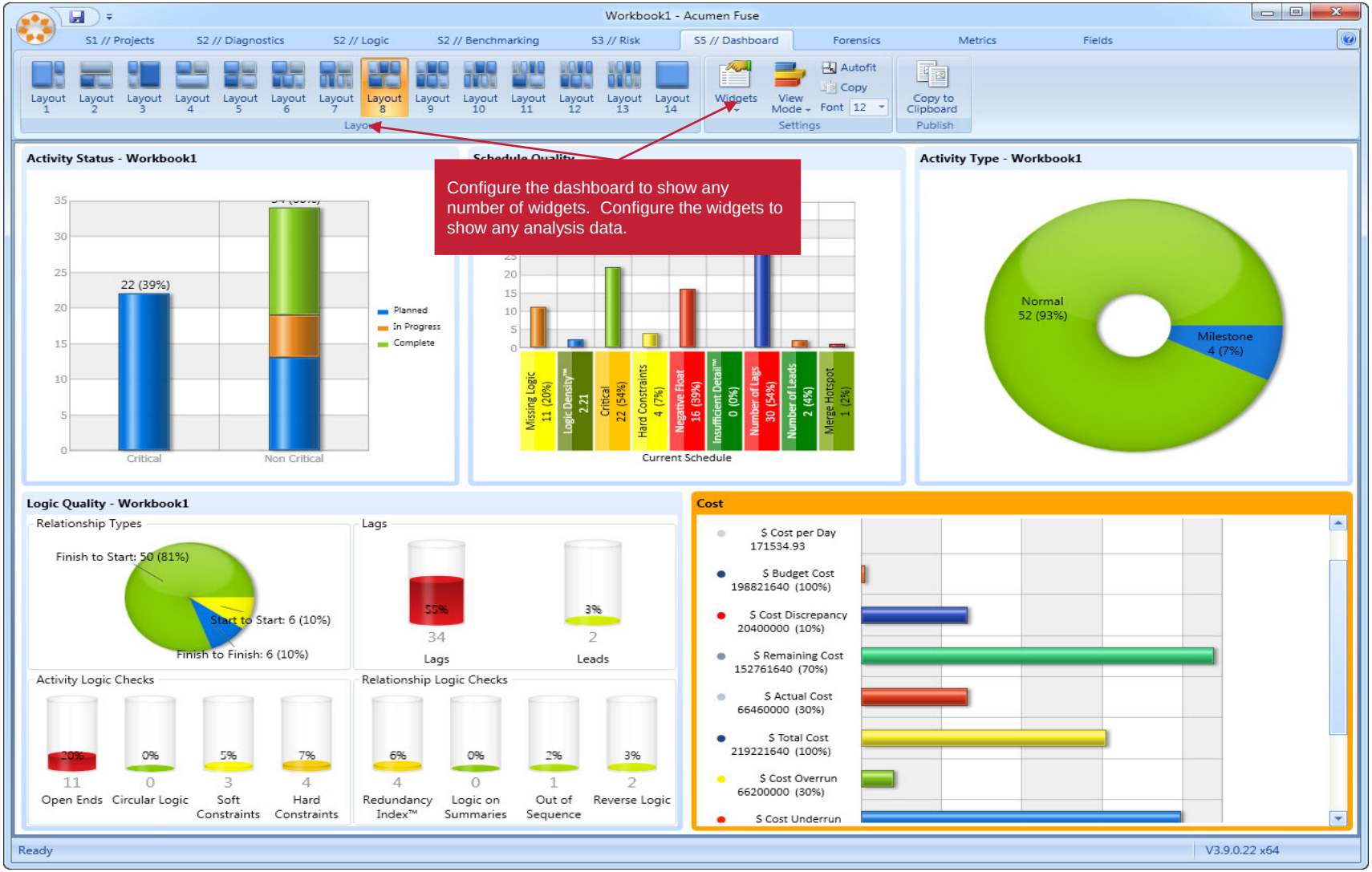


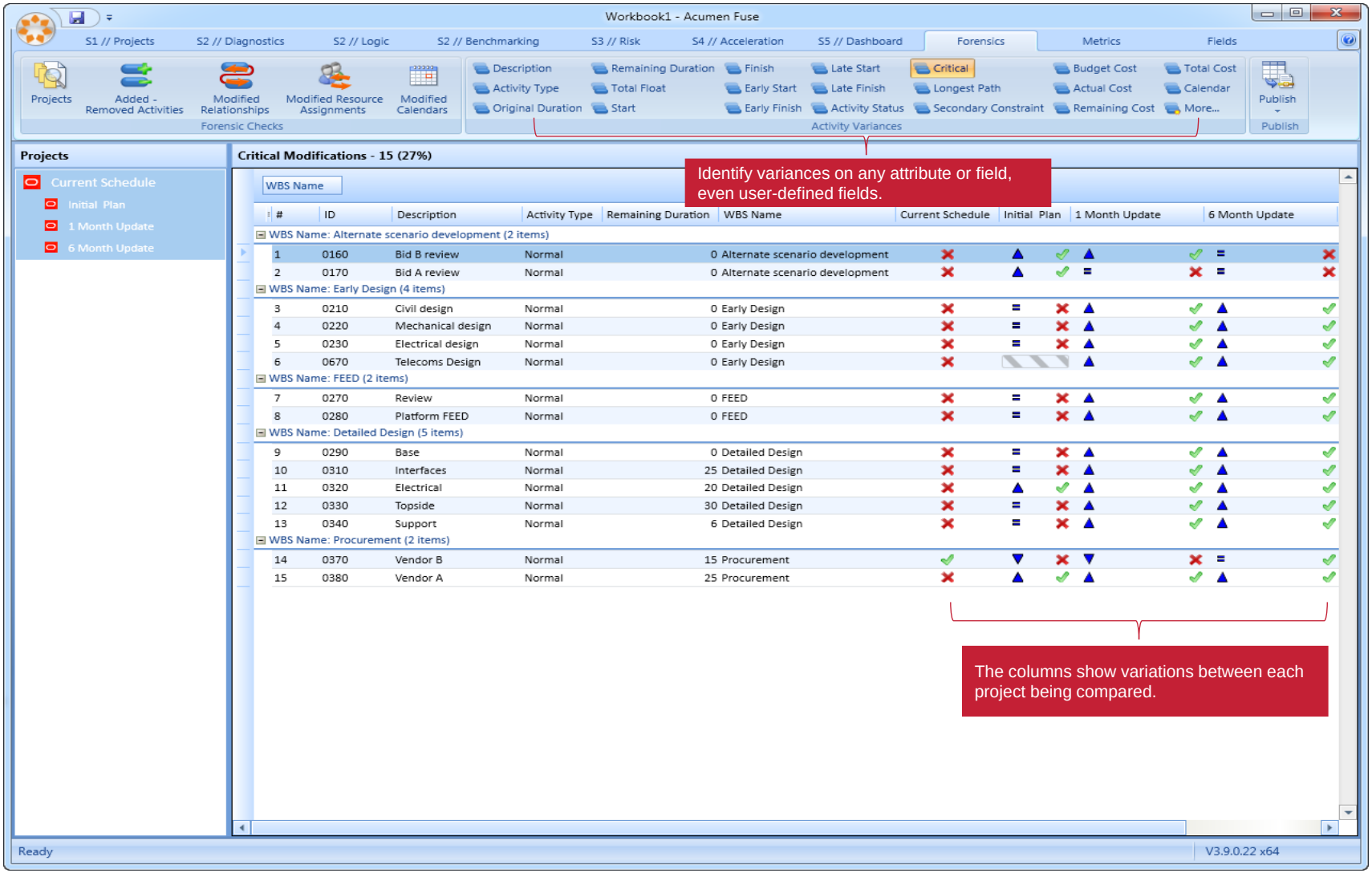
Deltek Acumen Fuse®

- Depth: Advanced analytics and visualization of project data.
- Customization: Customize analytics and reports to meet specific needs.
- Trending: Track performance during execution.
- Unique Features: Logic analysis, Forensics, Benchmarking and more…
- Unmatched Performance: Complete analysis done in seconds.



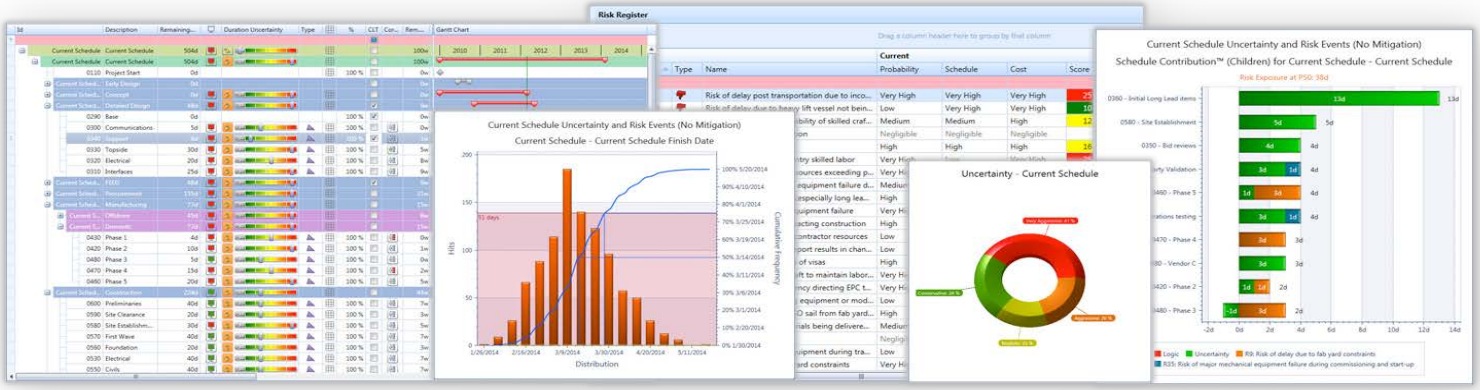






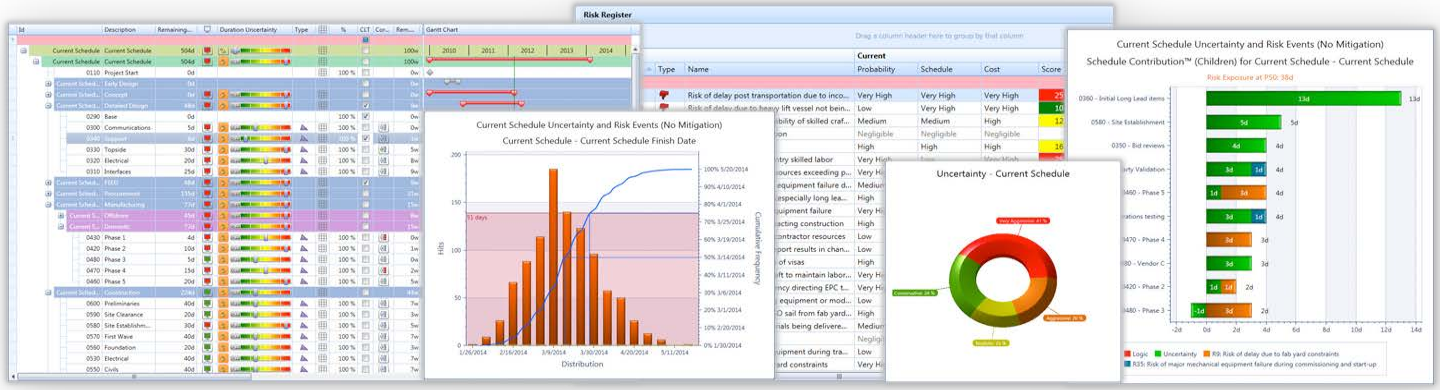
Risk Analysis

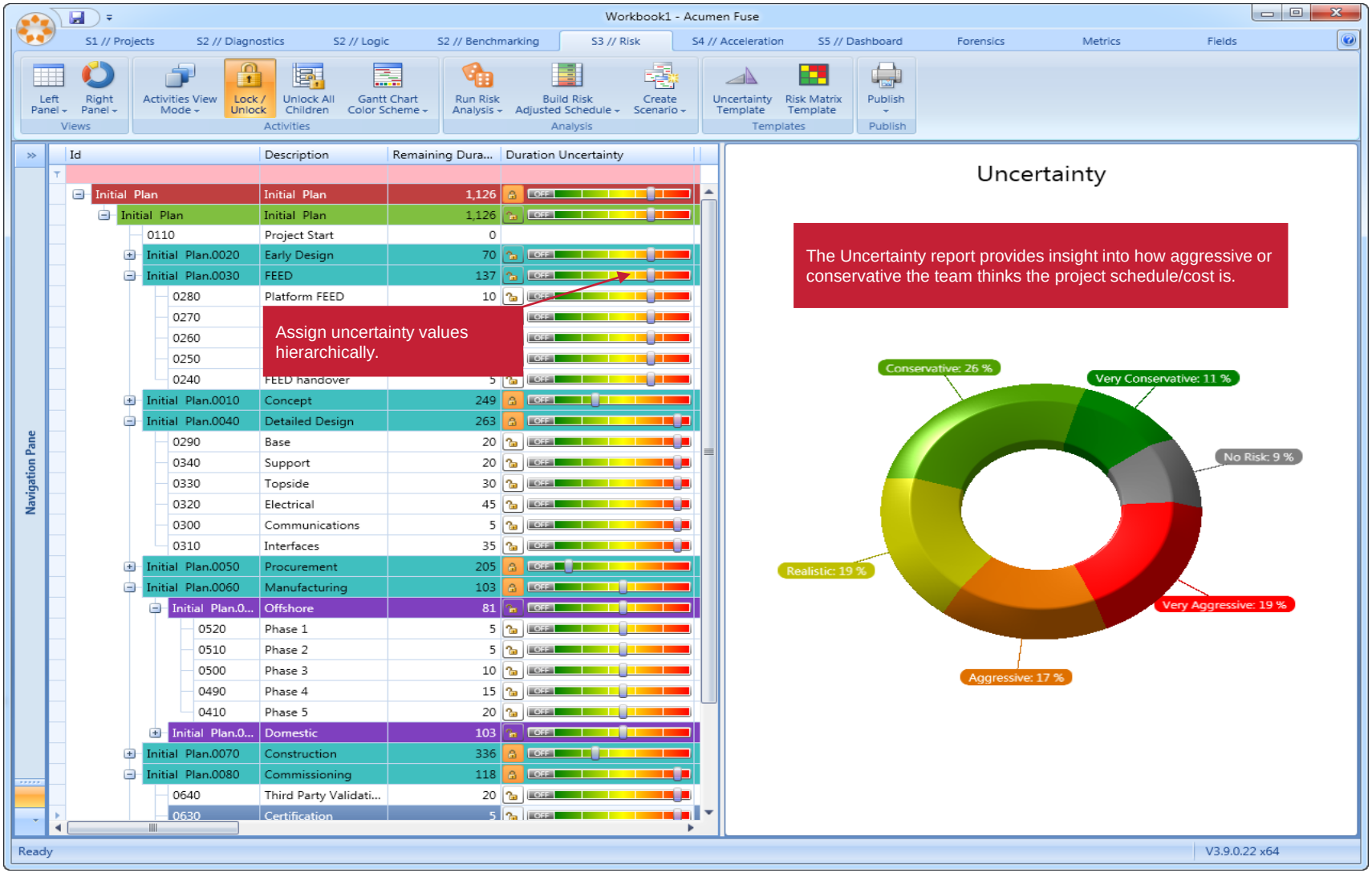
- Accurate forecasting requires consideration of risk.
- Proactively identify and reduce cost and schedule risk exposure with Deltek Acumen.

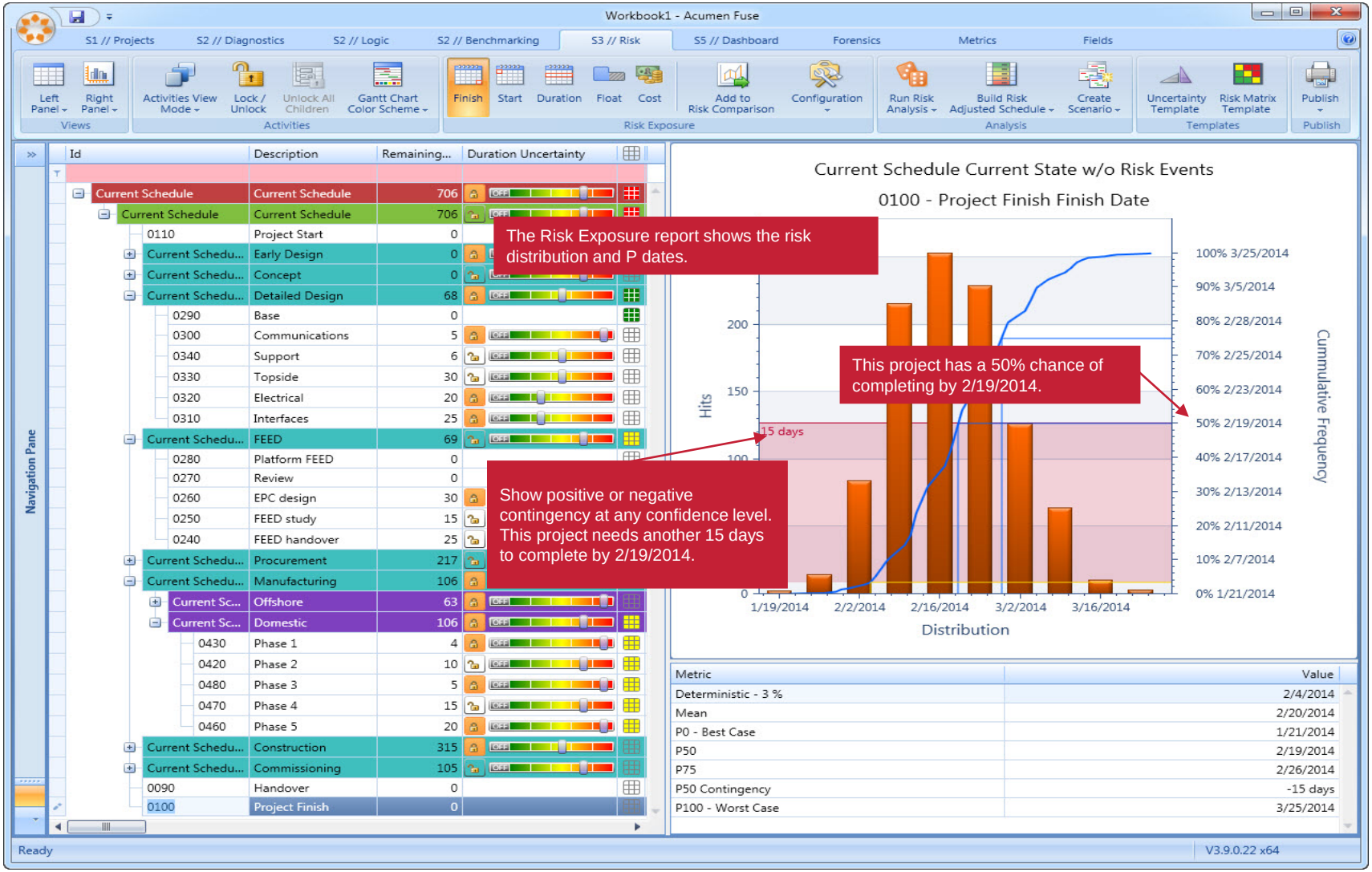


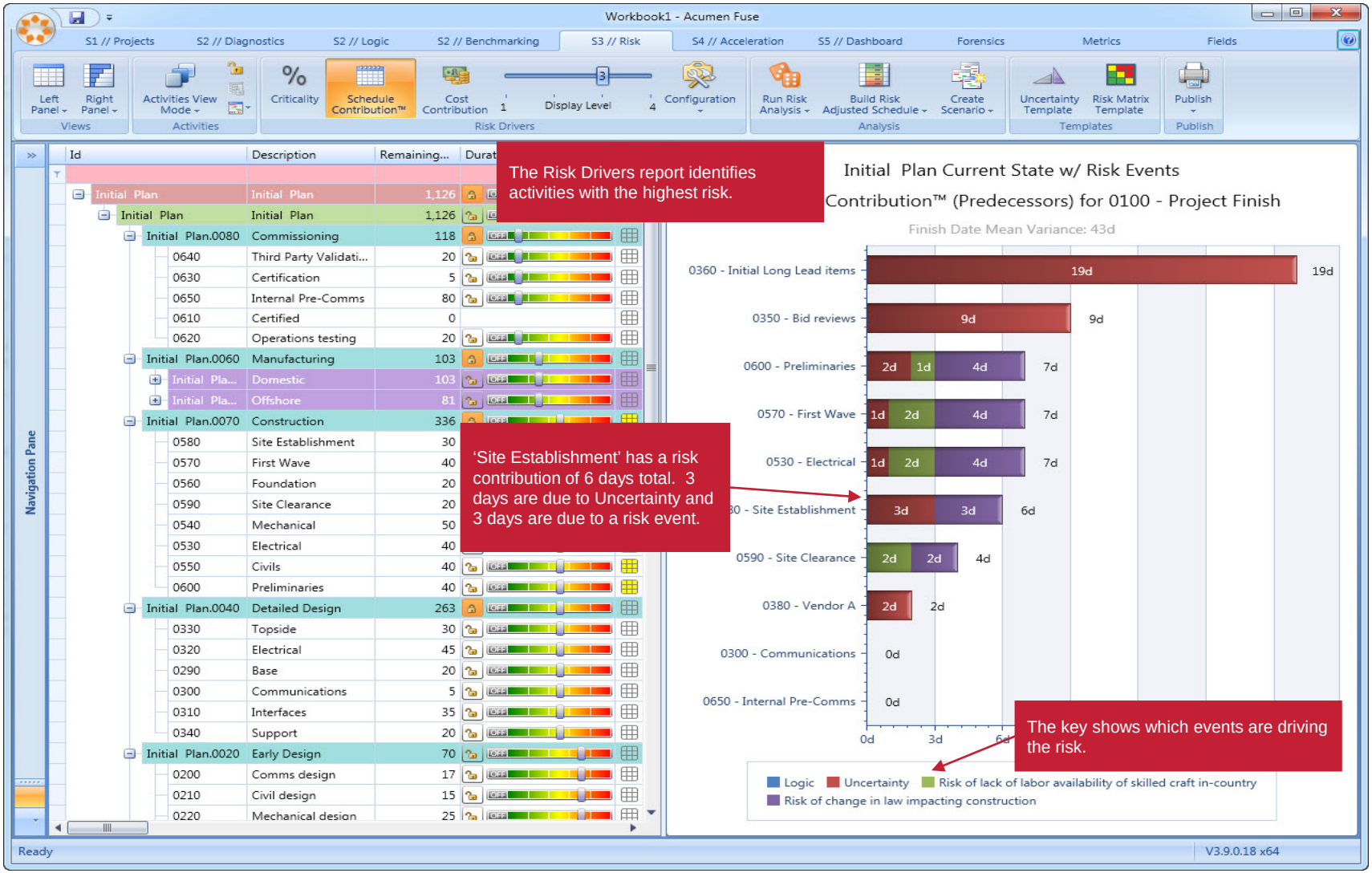
Deltek Acumen Risk™

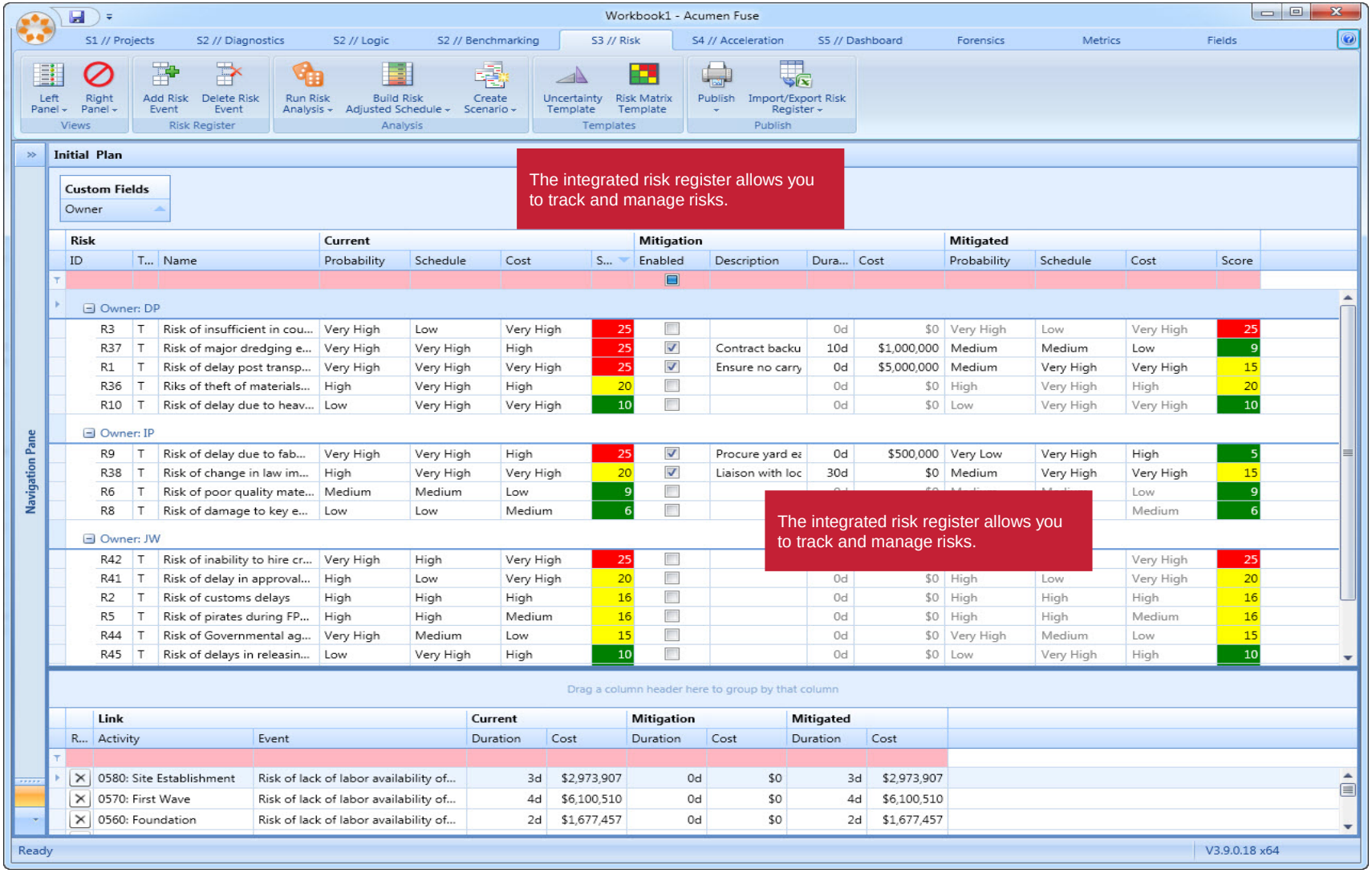
- Straightforward analysis eliminates the statistical and logical complexities of building risk models
- User-friendly reports provide insight into key risk drivers and high-risk areas of the schedule allowing for targeted mitigation efforts
- Powerful Monte-Carlo engine ensures the up most accuracy and unrivaled analysis performance.





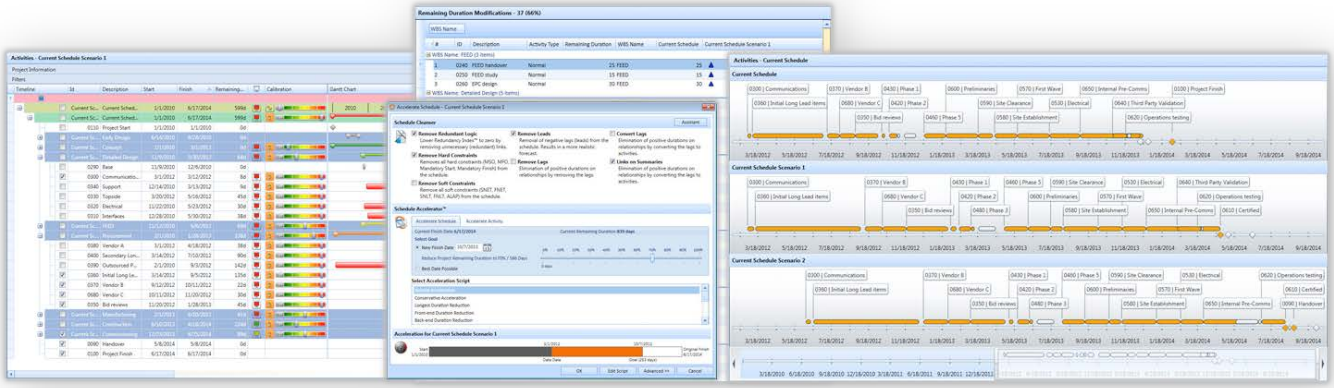






Optimization

- Delays are all-too prevalent in project management.
- Hypothesize acceleration opportunities or threats of delay and immediately view the impact on key milestones with Deltek Acumen.



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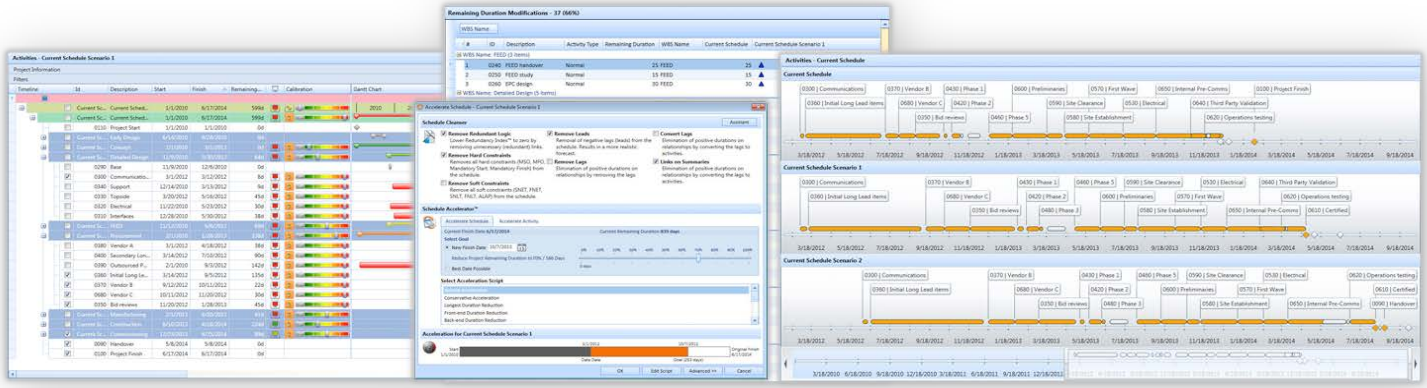
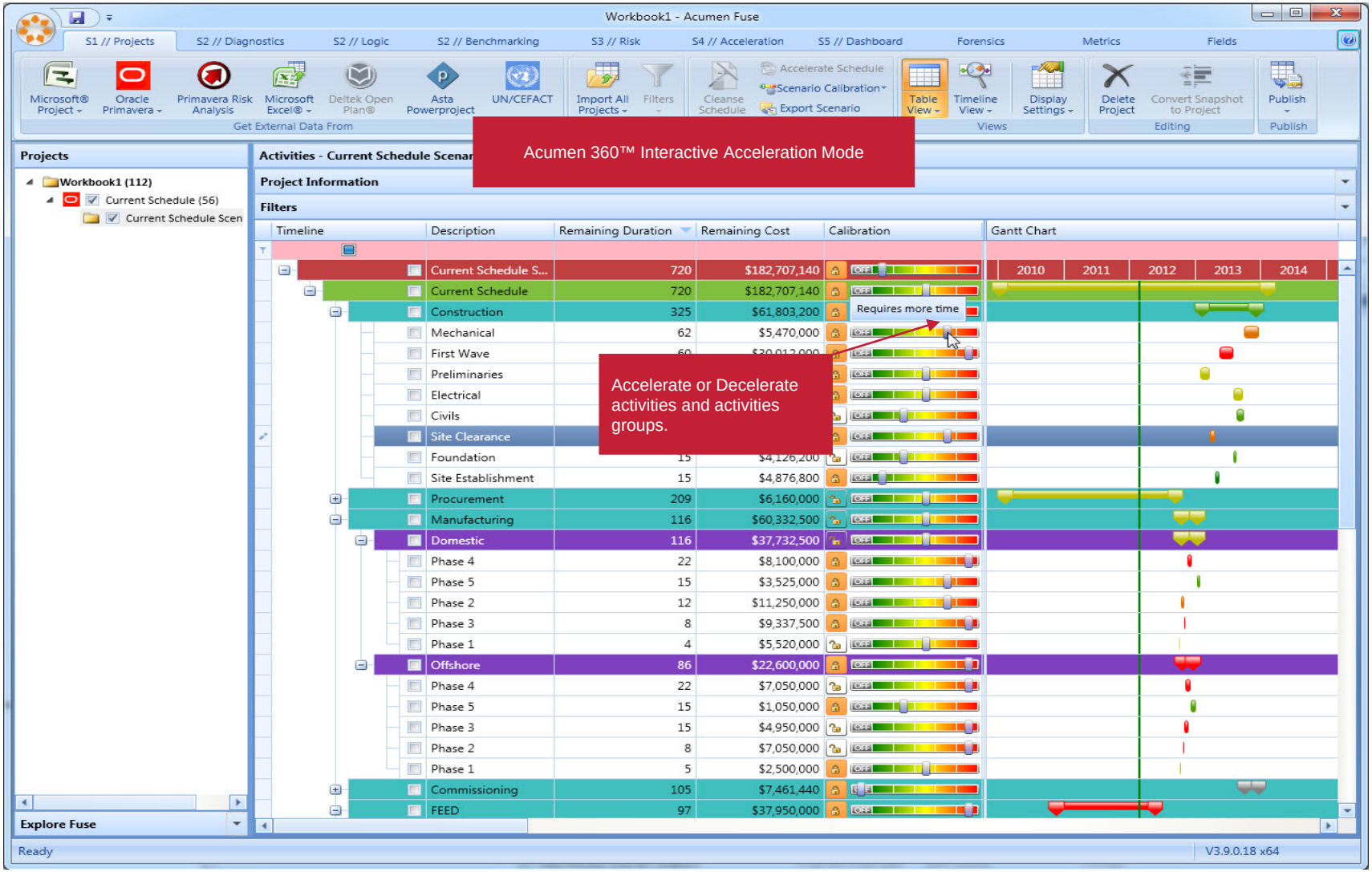
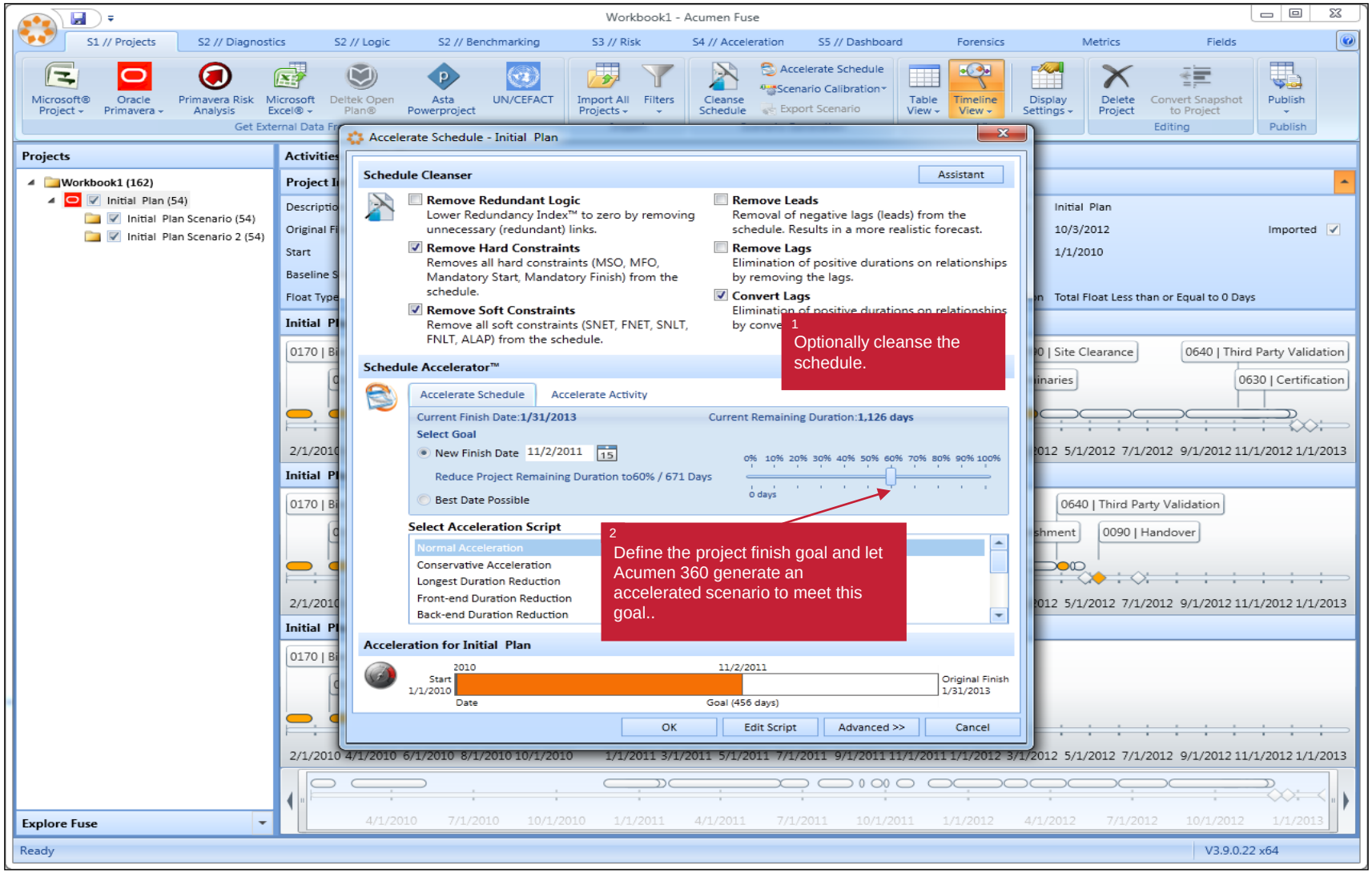
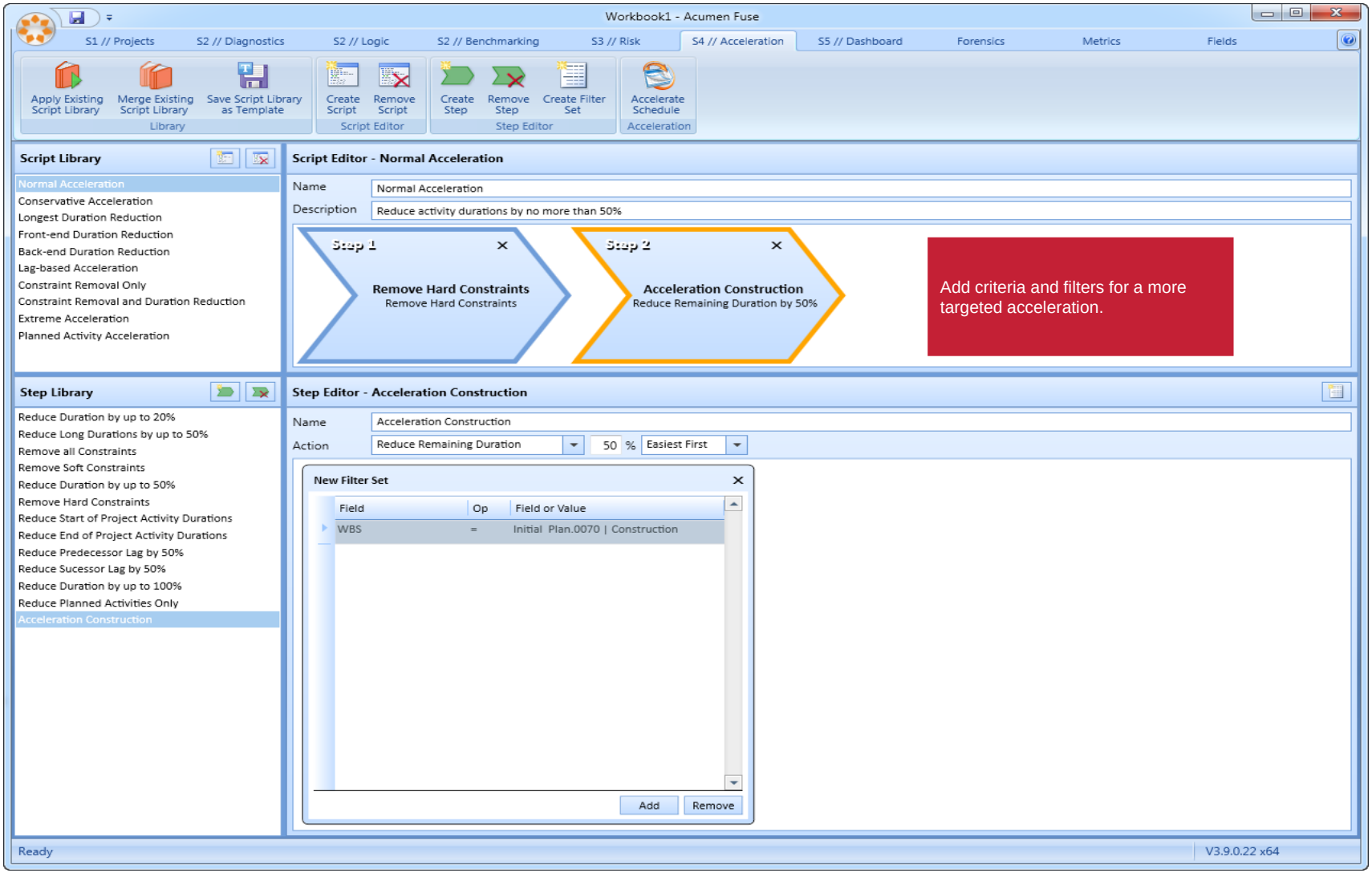
Deltek Acumen 360™

- Meet contractually driven finish requirements
- Recover from slips and delays incurred during project execution
- Identify the earliest possible finish date for your project
- Automatically create ready-to-use scenarios
- Maintain control to ensure realism









Thank You