

# What's New in Windchill<sup>®</sup> Quality Solutions? (formerly Relx 2011)

## NEW FEATURES AND FUNCTIONS IN WINDCHILL QUALITY SOLUTIONS

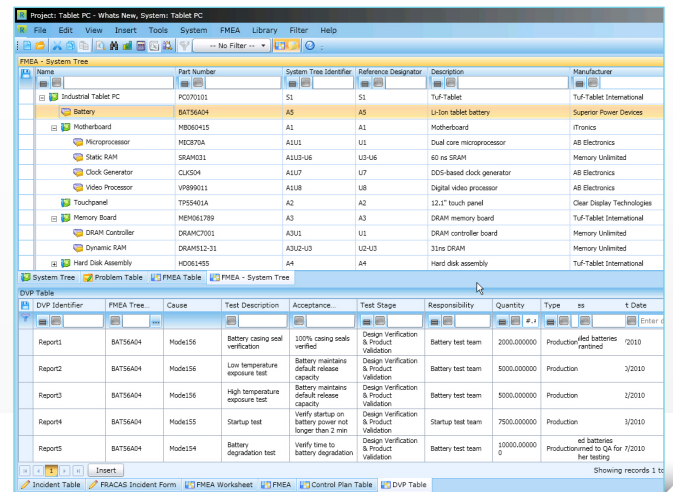
Windchill Quality Solutions, formerly Relx 2011, includes a host of new features to boost productivity, improve integration with the product BOM, and enhance reliability and risk management.

New features in Windchill Quality Solutions extend the broad cross-section of existing capabilities central to Quality Lifecycle Management (QLM). New Windchill FMEA capabilities improve collaboration around quality across the product lifecycle, while integration with the Windchill PDMLink BOM extends Product Lifecycle Management (PLM) to include a QLM solution. Other enhancements include a revamped Web interface that runs on a wider range of Internet browsers and includes a versatile, web-style search tool.

### Key Benefits

QLM manages key dimensions of product quality—including the reliability and safety metrics required for successful product performance—throughout the product lifecycle. Updates found in Windchill Quality Solutions improve QLM through:

- **New Windchill FMEA capabilities** streamline collaboration and communication across quality-related product lifecycle activities, linking together the requirements definition, design, test, and manufacture phases of the product lifecycle
- **Windchill PDMLink integration** enables risk and reliability analysis of any product BOM in Windchill
- **Enhanced enterprise functionality** improves the user experience to better facilitate the adoption of Windchill Quality Solutions across globally widespread organizations
- **New Windchill ALT module** facilitates the analysis of data from accelerated life testing to help uncover design weaknesses more efficiently



Brand-new Silverlight<sup>®</sup> functionality within the web-based FRACAS and FMEA modules provides a more familiar, Windows<sup>®</sup>-like look and feel.

- **Other module enhancements** include updates to Prediction, FRACAS, OpSim, Weibull, and FTA; new FlexNet<sup>®</sup> license management; and six newly supported languages: French, German, Japanese, Korean, Russian, and Simplified Chinese

### Features and Specifications

#### Windchill FMEA P-Diagrams (Parameter Diagrams)

With a complete set of customer requirements and the full scope of the project in place, a p-diagram is used to visually depict the ideal functions of a system, including:

- Noise factors, or elements outside the control of design engineers
- Control factors, or elements design engineers can control
- Inputs through the system, responses by the system, and outputs from the system

In Windchill FMEA, this fully configurable graphical layout is linked to the FMEA worksheet and other FMEA tables through intuitive, out-of-the box configuration capabilities. P-diagrams provide for complete visibility into the effects of system risks and risk control measures on the intended functionality of a system.

#### Windchill FMEA DVP&R (Design Verification Plan & Report)

A DVP&R is a collection of tests and evaluation techniques that may be directly linked to a functional or design FMEA in order to verify whether a product meets its established requirements. It is used to:

- Evaluate whether each system requirement is met by specific product functionality in a way that is measurable and repeatable
- Observe whether risk control measures work as expected to mitigate or eliminate risks to product safety and performance
- Verify that actual system risks match predicted risks, and identify and evaluate any new or unanticipated risks
- Organize test logistics, such as test facilities, personnel, materials, resources, and benchmarks required to pass the test
- Communicate test results back to design engineers to ensure identified weaknesses are addressed with design improvements

#### Windchill FMEA Control Plans

Control plans specify and manage critical-to-quality work instructions identified during the process FMEA. Control plans are used to:

- Provide a structured methodology to implement risk control measures during processes such as product manufacture and use
- Promote collaboration among design, test, and production teams to support product quality
- Communicate feedback on control measures from manufacturing back to design to improve current and future process controls

#### Integration with a Windchill PDMLink Bill-of-Material

Windchill PLM capabilities may now be extended to include QLM. By enabling risk and reliability management through

out the product lifecycle for the most up-to-date version of the Windchill bill-of-material (BOM), Windchill Quality Solutions provide users with improved cross-functional collaboration throughout the organization related to issues of product quality, and maintains a single source of truth for product quality information. Integration with the Windchill PDMLink BOM allows users to:

- Import any view of the Windchill PDMLink BOM
- Populate imported parts with reliability data from Windchill Quality solutions libraries
- Launch Windchill PDMLink part information from within Windchill Quality Solutions to view and edit part data
- Receive notification when the Windchill BOM has been updated
- Sync risk and reliability analyses with the most up-to-date Windchill BOM, choosing whether to sync individual components or the entire BOM structure
- Preserve, archive, or delete BOM changes in Windchill Quality Solutions since last sync
- Highlight changes made to the Windchill Quality Solutions system tree since the sync
- Assign user permissions for create and sync, edit, or read-only access to linked Windchill BOMs
- Support this integration with Windchill PDMLink 8.0 through the current version, across both desktop and web-based Windchill Quality Solutions applications

#### Enhanced Enterprise-Level Capabilities

New enterprise-level functionality in Windchill Quality Solutions supports greater ease-of-use to better facilitate QLM adoption across globally widespread organizations.

#### Updates to the Web Interface in Windchill FRACAS, FMEA

The web-based interface available in the enterprise editions of Windchill FRACAS and Windchill FMEA supports many new improvements, including:

- Microsoft Silverlight technology, enabling:
  - Safari® (Mac®) and Firefox® browser support
  - A web-based interface for Windchill FRACAS and Windchill FMEA that looks and feels even more like its Windows counterpart

- A shorter learning curve for all users, especially those already familiar with the Windows-based FRACAS and FMEA modules
- A web-style search tool, powered by dtSearch®, to find anything in the system
- Improved speed and responsiveness using offline caching
- Audit trail functionality supporting red-lining reports to highlight revision changes
- Redesigned dashboard and log-in interfaces
- Support for undo / redo functionality

#### API Support for Windchill FRACAS and Windchill FMEA

API support at the enterprise level in Windchill Quality Solutions better enables the integration of Windchill FRACAS and Windchill FMEA data with other enterprise-wide business systems. API support allows companies to:

- Provide employee “portlets” in other enterprise tools to allow data entry or lookup in FRACAS and FMEA without opening the software
- Facilitate data transfer and other methods used to integrate Windchill FRACAS and Windchill FMEA with existing enterprise software
- Streamline the enterprise-wide adoption of Windchill Quality Solutions through ease-of-use and improved business system integration

#### New Module Functionality

##### Enabling Accelerated Life Testing with Windchill ALT

The brand-new ALT module enables the analysis of accelerated life testing data to help manufacturers identify and correct weaknesses more efficiently during early product design. Accelerated life testing applies higher stresses than the product would normally experience in the field, and extrapolates test results using powerful mathematical models to determine characteristic product failure behavior under normal operating conditions. This supports companies’ efforts to:

- Analyze the impact of various product stresses, including temperature, humidity, vibration, voltage, etc.
- Streamline product development by shortening test times for highly reliable products

- Identify and resolve component weaknesses earlier in the design process, when changes are not as costly
- Predict the failure behavior of products under normal operating conditions at a given age and stress level

#### Other Module Enhancements

- Throughout the product:
  - Automatically create and save a revision-tracked version of the system file, with audit-trail report red-lining, from within the project navigator
  - Roll up custom calculations from one system level to the next
  - Feature-rich FlexNet license management tool
  - Six newly supported languages: French, German, Japanese, Korean, Russian, Simplified Chinese
  - New subtable support functionality in Windchill FMEA and Windchill FRACAS
- Windchill Prediction supports the FIDES 2009 reliability standard
- Windchill OpSim enables the linking of blocks directly to the part failure data available in NPRD and EPRD libraries, as well as enhanced cut set calculations
- Windchill Weibull supports data sets with competing failure modes; and also supports chi-square values during warranty analysis
- Windchill FTA (Fault Tree Analysis) supports new enhancements to importance measures, and libraries that now store entire fault tree branches, including gates and events

#### For More Information

For more information on Windchill Quality Solutions, please visit: [PTC.com/products/windchill/quality](http://PTC.com/products/windchill/quality)

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