



Relax

FMEA

(Failure Mode and Effects Analysis)

Comprehensive Analysis Tool for Design, Process, and Component FMEAs and FMECAs

Relax® FMEA/FMECA was designed to handle your Failure Mode and Effects Analyses (FMEAs) with unsurpassed power and flexibility. The methodology contained within Relax FMEA allows you to quickly and easily analyze the potential failure modes of your system and the resulting effects of those failures. Supporting a variety of formats, Relax FMEA is equally adept at performing process, design, functional, and piece-part level FMEAs. Additionally, Relax FMEA takes FMEA processes to a new level by supporting two fully-featured compatible FMEA versions: a Windows-based application and a zero-client web-based front end. By allowing you to select your FMEA data entry mechanism, Relax FMEA supports a collaborative environment conducive to a successful FMEA process.

Fully compliant. Relax FMEA supports commonly used standards such as the MIL-STD-1629A FMECA standard (Failure Mode, Effects, and Criticality Analysis), the SAE ARP5580 FMEA standard, the SAE J1739 FMEAs, the Automotive Industry Action Group (AIAG) FMEA, Daimler Chrysler, Ford, and GM FMEA methodologies, IEC 60812, and BS 5760. You are also free to create your own completely customized FMEA, or modify one of the supplied templates to suit your needs.

Full FMEA features. The Relax FMEA module supports fault equivalencies to allow grouping of like failure modes and consequences to ensure consistency and efficiency in your FMEA process. Libraries of failure mode data are supplied with Relax FMEA, including RAC FMD-97 and HAZOP (Hazard and Operability). Relax FMEA supports criticality assessment through risk priority numbers (RPN), criticality ranks, risk levels, criticality matrices, and failure mode probability calculations. Additionally, Relax FMEA supports exporting to LSAR compatible formats.

The Relax Architect platform. Relax FMEA includes all the advanced features of Relax Architect's robust, proven framework. A rich user interface is coupled with innovative features such as the invaluable Project Navigator for centralized Project control, the Relax Bar for customized one-click operations, the Task List for quick access to commonly used tasks, and data filtering for ultimate user control of data views. Comprehensive reporting capabilities include easy-to-use Report and Graph Wizards for complete user customization of output reports and graphs. Relax's Import/Export Wizard enables you to transfer your Project data to and from Relax in a variety of popular formats, including Microsoft Excel® and Access®. Additionally, Relax Architect modules are built on a common database, for optimal product integration and data sharing capabilities.

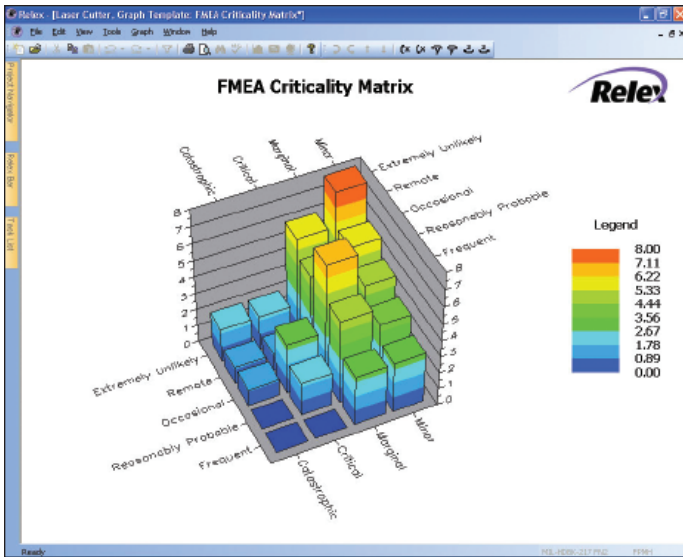
Built for the enterprise. Relax's Enterprise Edition supports the high performance, scalable needs of large user bases. Features such as support for Microsoft SQL Server® and Oracle® databases, permission based security, user and group roles, front end web interfaces, Relax Dashboard for a high-level overview of system metrics, audit trails for tracking data modifications, and customizable data connectors insure that Relax meets the needs of full scale, enterprise-wide teams.

◀ **Web or Windows.** Relax FMEA is available as a Windows-based application or a web-based zero-client user interface front end. Based on your needs, you can select the way you prefer to work and move back and forth as required. The flexibility of Relax FMEA allows for the collaboration so commonly required on large-scale, multi-group FMEA efforts.

FEATURES & BENEFITS

- All industry standard FMEA/FMECA formats supported
- Automatic roll-up and building
- Web-based user interface
- Customizable workflow
- Alert module for notification of critical criteria
- Automatic FMEA modes look-up based on reliability prediction analysis
- Supplied failure mode libraries
- Fault equivalence identification numbers (FINs)
- Criticality matrix
- Risk level
- Criticality rank
- Risk priority number (RPN) calculations

Item/Function	Failure Mode	Failure Rate	Mode %	Mode Failure Rate	Local Effect	Parent Effect	Final Effect	Severity	Occurrence	Cause of Failure
L17	Jammed	30 33			Cannot Move on Axis	Metal is not out	Machine Downline	Marginal	Rare	Contamination
L18	Restricted	70 47			Cannot Properly Move on Axis	Metal is not out correctly	Machine Downline, Loss of Product	Marginal	Reasonably Probable	Contamination
L22	Broken	90 35			Cannot support or move load	Metal is not out	Machine Downline	Critical	Occasional	Defective Piece
L23	Loose	LD 3			Could cause significant damage to the overall system	Metal is not out	Machine Downline	Minor	Extremely Unlikely	Overstressed
L24	Preparative	30 2			Cannot Move on Axis	Metal is not out	Machine Downline	Marginal	Extremely Unlikely	Contamination



Advanced FMEA features. Relax FMEA supports several features to insure that your FMEA analysis can be performed with efficiency and thoroughness. Relax FMEA can optionally *roll-up* failure effects to next level failure modes, and supports *building*, which enables automatic trickle-down of your FMEA data from higher levels to lower system levels. Relax FMEA uniquely supports both piece-part and functional FMEAs within the same Project on the same system, and allows you to define your own FMEA data structure hierarchy to completely customize your FMEA. Customizable *workflow* and *alerts* also provide for process control and automatic notifications. In addition, Relax FMEA provides a number of unique user interface features such as merged cells and cell-based formatting functions. Relax FMEA advanced features enable your FMEA process to be streamlined, efficient, and comprehensive.

◀ **The Relax FMEA advantage.** Relax FMEA's clear advantage is its customization capabilities. Allowing for a user configurable data structure, user defined calculations, and customizable severity and criticality assessment methods, Relax FMEA provides ultimate flexibility. With extensive failure mode libraries, automatic roll-up and building features, Relax FMEA is the choice of analysis professionals.

Technical Highlights

Supported FMEA Types

- Process
- Design
- Functional
- Component
- Automotive
- Piece-part

Supported Standards

- MIL-STD-1629A
- FMD-97
- BS5760
- HAZOP
- SAE ARP5580
- AIAG
- SAE J1739
- Ford
- GM
- Daimler-Chrysler
- IEC 60812

Supported Calculations

- Mode failure rates
- Criticality
- Risk priority number (RPN)
- Risk level
- Percent isolation
- Percent detection
- User-definable

Failure Mode Libraries

- FMD-97
- FMD-91
- MIL-HDBK-338
- NPRD3
- RADC-TR-84-244
- RADC-TR-844 4-A

Data Hierarchy

- Mode Only
- Single effect per mode
- Multiple effects per mode
- Multiple effects per cause
- Multiple causes per effect

Interface Types

- Windows
- Web, zero-client

Specialized Formatting

- Background color
- Text color
- Font style
- Font size
- Marked cell
- Notes

Analysis Outputs

- Standard formats per specifications
- Criticality matrices
- Risk levels
- Failure likelihood rank
- Top (n) failure modes by RPN
- Failure modes and effects summary
- Top (n) failure modes by mode criticality
- Action item list
- Failure mode cause Pareto

Data Linkages

- Event Tree
- Fault Tree
- FMEA
- RBD
- OpSim
- Reliability Prediction

Import/Export Formats

- Microsoft Excel
- Microsoft Access
- Text
- LSAR

Graph Types

- Area
- Bar
- Line
- Pareto
- Pie
- Scatter
- Stacking bar

Report Formats

- Microsoft Word
- Microsoft Excel
- Adobe PDF
- RTF
- HTML

Databases Supported

- Microsoft SQL Server
- Oracle
- Microsoft SQL Server Desktop Engine (MSDE)
- Microsoft Jet Engine (Access compatible)

Enterprise Modules

- Administrator
- Audit trail
- Alerts
- iArchitect
- Dashboard

Available Services

- Software module training
- Theory training
- Professional consulting services
- Web-based RETAIN (online training) sessions
- Expert technical support
- Online customer support center