

**ReliaSoft®**

**Presents...**

 **Xfmea®**

ReliaSoft



Reliability Office

# DFMEA, PFMEA AND BEYOND...

## EXPERT SUPPORT FOR ALL TYPES OF FMEA AND FMECA

# Xfmea®

Failure Modes and Effects Analysis (FMEA) and Failure Modes, Effects and Criticality Analysis (FMECA) are methodologies designed to identify failure modes for a product or process, to assess the risk associated with those failure modes, to rank the issues in terms of importance and to identify and carry out corrective actions to address the most serious concerns.

The screenshot displays the Xfmea software interface with several key components:

- Actions by Status:** A pie chart showing the distribution of actions: Done (100%), Reviewed and Agreed (100%), and Complete (233333%).
- Automotive DfMEA:** A table listing failure modes and their associated actions.
- Automotive PFMEA:** A table listing process failure modes and their associated actions.
- Automotive FMECA Report:** A detailed report for a specific failure mode, including a table with columns for Risk, Function, Potential Failure Mode, Potential Effects of Failure, Cause, Current Controls, Recommended Actions, and Responsibility & Target Completion Date.
- Occurrence/Severity Matrix:** A scatter plot showing the relationship between Occurrence and Severity ratings.
- DFMEA Database:** A list of selected items and their priority causes.

ReliaSoft's **Xfmea** software facilitates the FMEA/FMECA analysis process and provides flexible data management and reporting capabilities.



# ReliaSoft®



ReliaSoft's **Xfmea** software has been designed with extensive flexibility and customization capability to perform all types of FMEA and FMECA with support for the major industry reporting standards.

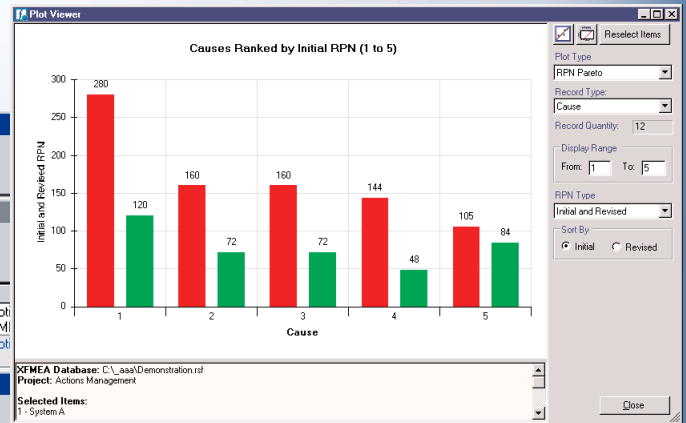
**Xfmea** provides the **data management** and **reporting** so that your FMEA team can concentrate on the **analysis!**

**Expert Support for all types of FMEA/FMECA:**

- Design FMEA
- Process FMEA
- Machinery FMEA
- System FMEA
- Service FMEA
- Quantitative FMECA
- Qualitative FMECA and more...

- Extensive customization options.
- Easy, comprehensive and consistent data entry.
- Support for both RPN and Criticality Analysis risk assessment methodologies.
- Comprehensive management tools for Recommended Actions, including notification e-mails and task completion tracking.
- Automated reporting in a variety of print-ready formats.
- Flexible array of charts and plots for a graphical presentation of analysis results.
- Data storage and management in relational databases with built-in data query capability.
- Support for team effort with password protection, revision tracking and other mechanisms to facilitate cooperation on the analysis.
- Integration with ReliaSoft's suite of reliability software, including Weibull++, ALTA and BlockSim.

And much, much more!



Name	Based on Profile	Description
Automotive DFMEA	J1739 DFMEA	This sample project is based on the sample automoti (DFMEA) published in the SAE J1739 and AIAG FM
Automotive MFMEA	J1739 MFMEA	This sample project is based on the sample automoti (MFMEA) published in the SAE J1739 guidelines.

#	Name	RPNi	RPNr
1	Automobile	910	112
2	Body Closures	910	112
3	Front Door L.H.	910	112

#	Description	RPNi	RPNr
1	Ingress to and egress from vehicle.		
2	Occupant protection from weather, noise and side impact.		
3	Support anchorage for door hardware including mirror, hinges, latch and window regulator.		
4	Provide proper surface for appearance items - paint and soft trim.		
1	Corroded interior lower door panels		
1	Deteriorated life of door leading to: 1) Unsatisfactory appearance due to rust through paint over time. 2) Impaired function of interior door hardware.		
1	Upper edge of protective wax application specified inner door panels is too low.		
2	Insufficient wax thickness specified.		
3	Inappropriate wax formulation specified.		
4	Entrapped air prevents wax from entering corner/edges.		
5	Insufficient room between panels for spray head access.		

**FMEA Report Generation**

Select Item(s) to include in the report

- 1 Automobile
- 2 Body Closures
- 3 Front Door L.H.

Select Form(s)

- FMEA Report Summary
- Rating Criteria and Classifications
- Project and Analysis Properties
- Items
- FMEA Spreadsheet(s)
- Failures (Summary)
- Failures (Detailed)

Sort By: Severity (Initial)

Sort By: Cause RPN (Initial)

Sort By: Action Number

Sort By: Mode RPN (Initial)

Sort By: Mode RPN (Initial)

Select Output Type

- Microsoft Word Document
- Microsoft Excel Spreadsheet

Generate Report Close Help



**Xfmea** supports the major industry standards for all types of FMEA/FMECA analysis, including Design FMEA (DFMEA), Process FMEA (PFMEA), Machinery FMEA (MFMEA), FMECA and more...

## Default Supported Standards:

**SAE J1739**  
**AIAG FMEA-3**  
**SAE ARP5580**  
**MIL-STD-1629A**

**plus**

FMEA/FMECA also addresses requirements in

**ISO 9000, QS 9000,**  
**ISO/TS 16949,**  
**Six Sigma** and other guidelines.

## Extensive Customization Options

In addition to providing pre-defined profiles for all major industry standard reporting formats, the software includes extensive capabilities to customize the interface and the reports.

- Choose which data fields you want to capture and display.
- Customize the names of specific data fields.
- Set the classifications, categories, priorities and other menu options throughout the software.
- Determine the RPN rating scales and criteria.
- Add your own company logo to report output, create your own re-usable profiles and more...

## Two Complementary Views of the Analysis

**Xfmea** provides two complementary views of the analysis to facilitate data entry. You can edit the analysis in either view and easily switch back and forth depending on your needs.

### Worksheet View

The worksheet view displays the analysis in the traditional tabular format for FMEA reports. You can view the analysis in the familiar structure and edit directly within the worksheet.

### Hierarchical View

The hierarchical view displays the item configurations at-a-glance and allows you to easily manage the functions, failures, effects, causes, controls and actions defined in your analysis.

Two intuitive views of the analysis:  
**Worksheet and Hierarchical.**

The screenshot displays the Xfmea software interface with two main views: Worksheet View and Hierarchical View.

**Worksheet View:** Shows a table with columns: Potential Cause(s)/Mechanism(s) of Failure, Di, Current Design Controls, Control Type, Di, RPNi, Recommended Action(s), Responsibility, and Target Completion Date.

Potential Cause(s)/Mechanism(s) of Failure	Di	Current Design Controls	Control Type	Di	RPNi	Recommended Action(s)	Responsibility	Target Completion Date
Upper edge of protective wax application specified for inner door panels is too low.	6	Vehicle general durability test veh. T-118, T-109, T-301	Detection	7	294	Add laboratory accelerated corrosion testing.	A. Tate Body Engrg	12/9/2002
Insufficient wax thickness specified.	4	Vehicle general durability test veh. T-118, T-109, T-301	Detection	8	196	Add laboratory accelerated corrosion testing. Combine with test for wax upper edge verification.	A. Tate Body Engrg	12/9/2002
Inappropriate wax formulation specified.	2	Physical and Chem. Lab test - Report No. 1265	Detection	2	28	Conduct Design of Experiments (DOE) on wax thickness.	A. Tate Body Engrg	12/9/2002
Entrapped air prevents wax from entering corner/edge access.	5	Design aid investigation with non-functioning spray head.	Detection	8	280	Add team evaluation using production spray equipment and specified wax.	Body Engrg & Assy Ops	12/9/2002
Insufficient room between panels for spray head access.	4	Drawing evaluation of spray head access.	Detection	4	112	Add team evaluation using design aid buck- and spray head.	Body Engrg & Assy Ops	12/9/2002

**Hierarchical View:** Shows a tree structure of the FMEA hierarchy. The selected item is "Corroded interior lower door panels" (ID 1) with RPNi 1204 and RPNr 112. It lists causes such as "Deteriorated life of door leading to: 1) Unsatisfactory appearance due to rust through paint over time and 2) Impaired function of interior door hardware".

**Edit Cause Dialog:** Shows details for the selected cause, including Function (1-Function Group), Failure (1-Corroded interior lower door panels), Effect (1-Deteriorated life of door leading to: 1) Unsatisfactory appearance due to rust through paint over time, 2) Impaired function of interior door hardware), and Initial/Revised Ratings (Sev, Occurrence, Detection, RPN).

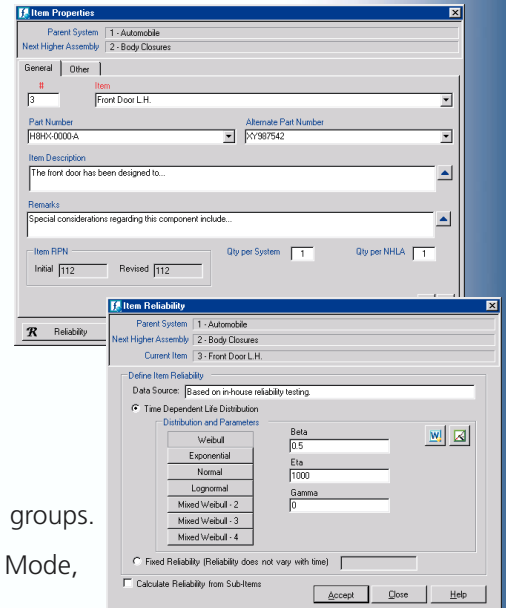


**Xfmea** provides time-saving techniques for easy, comprehensive and consistent data entry and management.

## Comprehensive Properties Definition

Although you can perform an analysis with minimal data entry requirements, the software provides comprehensive data entry options for the records that comprise your FMEA analysis. All data entry windows provide complete spell-checking functionality and can be configured to meet your particular analysis requirements.

- Analysis Properties:** (FMEA header information) Prepared By, Key Date, Core Team, etc.
- Item Properties:** Name, Part Number, Supplier, Reliability, etc.
- Function Properties:** Enter Function Descriptions individually or in groups.
- Failure Properties:** Failure Description, Mission Phase/Operational Mode, Criticality Factors, etc.
- Effect Properties:** Local, Next Level and/or End Effect Descriptions, Severity Rating (initial and revised), etc.
- Cause Properties:** Cause Description, Occurrence and Detection Ratings (initial and revised), Classification, etc.
- Current Controls:** Control Description and Type (e.g. Prevention, Detection).
- Recommended Actions:** Action Description, Person Responsible, Actions Taken, Due and Completion Dates, Estimated and Actual Costs, Status Updates, Review and Approval, etc.



## Multiple data entry shortcuts and extras:

- Copy/Paste
- Import/Export
- Phrase Libraries
- File Links and Attachments
- Weibull++ Integration
- ALTA Integration
- BlockSim Integration

## Phrase Libraries and Ability to Re-Use Existing Analyses

For consistency and to save effort, the software allows you to **re-use descriptions** from any existing analysis or to select phrases from pre-defined **phrase libraries**. **Xfmea** comes equipped with standard phrase libraries and gives you full control to modify existing libraries and create your own.

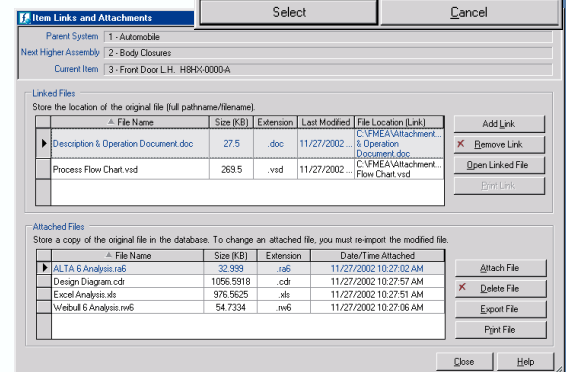
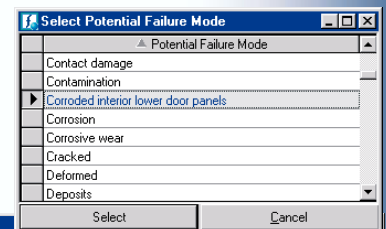
The software's easy **copy/paste** functionality allows you to re-use sections from one analysis in another. In addition, you can easily **import/export** sections among different database files.

## Flexible Capability for Links and Attachments

**Xfmea** provides two useful methods to associate independent files with your analysis, such as process flow charts, design drawings, reliability analysis files and other documents. You can **attach** one or many files to the analysis by storing a copy of the file directly inside the database. To save space in the database or to facilitate easy update of resources on a shared network directory, you can also **link** files to the analysis by storing the file locations.

## Weibull++ and BlockSim Integration

The software is integrated with Weibull++ to allow you to analyze the reliability of the items covered by your FMEA. You can also import/export system configuration and reliability properties between **Xfmea** and BlockSim. *Weibull++ and/or BlockSim must be installed on your computer to use this functionality.*





Automatic RPN calculation and "roll-up" to higher levels of the analysis.

Use pre-defined rating scales for Severity, Occurrence and Detection or create your own custom scales.

Xfmea supports the Risk Priority Number (RPN) ranking method as well as Criticality Analysis.

## Risk Priority Number (RPN)

The software provides automatic RPN calculation for both initial and revised RPNs as well as automatic "roll-up" capability to calculate RPNs for other analysis levels (such as Item or Failure) based on the RPNs for the potential causes of failure.

The software also calculates the percent reduction in RPN from initial to revised ratings, provides reports of issues ranked by RPN and generates a variety of charts and graphs based on ratings and calculated RPNs.

Xfmea is shipped with an extensive array of pre-defined rating scales for Severity, Occurrence and Detection and also allows you to create and manage your own rating scales.

**Edit Severity Scale**

Value	Description	Criteria
1	None	No discernible effect.
2	Very Minor	Fit and finish/Squeak and rattle item does not conform. Defect noticed by discriminating customers (less than 25%).
3	Minor	Fit and finish/Squeak and rattle item does not conform. Defect noticed by 50% of customers.
4	Very Low	Fit and finish/Squeak and rattle item does not conform. Defect noticed by most customers (greater than 75%).
5	Low	Vehicle/Item operable but Comfort/Convenience item(s) inoperable. Customer somewhat dissatisfied.
6	Moderate	Vehicle/Item operable but Comfort/Convenience item(s) inoperable. Customer dissatisfied.
7	High	Vehicle/Item operable but at a reduced level of performance. Customer very dissatisfied.

**Edit Cause**

Current Item: 3 - Front Door L.H.  
Function: 4 - Provide proper surface for appearance items - paint

Failure: 1 - Corroded interior lower door panels  
Effect: 1 - Deteriorated life of door leading to: 1) Unsatisfactory interior door hardware.

Potential Cause(s)/Mechanism(s) of Failure:  
5 - Insufficient room between panels for spray head access.

Detection Method: [Empty]

**Select Occurrence**

Value	Description	Criteria
1	Remote: Failure is unlikely	<= 0.01 per thousand vehicles/items
2	Low: Relatively few failures	0.1 per thousand vehicles/items
3	Low: Relatively few failures	0.5 per thousand vehicles/items
4	Moderate: Occasional failures	1 per thousand vehicles/items
5	Moderate: Occasional failures	2 per thousand vehicles/items
6	Moderate: Occasional failures	5 per thousand vehicles/items
7	High: Frequent failures	10 per thousand vehicles/items
8	High: Frequent failures	20 per thousand vehicles/items
9	Very High: Persistent failures	50 per thousand vehicles/items
10	Very High: Persistent failures	>= 100 per thousand vehicles/items

Initial Ratings: Sev: 7, Occurrence: 4, Detection: 4, RPN: 112  
Revised Ratings: Sev: 7, Occurrence: 1, Detection: 1, RPN: 7  
% Reduction in RPN: 93.75

Quantitative and Qualitative Criticality Analysis, with automated reports.

## Criticality Analysis based on MIL-STD-1629A

The software's Criticality Analysis utility supports both the Quantitative and Qualitative Criticality Analysis methods described in MIL-STD-1629A and generates a complete set of charts and reports, including Criticality Matrix charts.

For quantitative analyses, the utility automatically calculates Mode Criticalities and Item Criticalities based on your inputs. For items that have been defined with a time-dependent failure distribution, the software also automatically calculates Item Unreliability for the specified operating time.

**Criticality Analysis**

Set the operating time for the analysis and click Calculate to update the criticality values for each mode and for each item. Remember that for each individual item, the sum of the mode ratios of item unreliability must equal 1 (i.e. 100%).

Item	Unreliability	Function	Failure Modes and Causes	Mode Ratio	Prab. of Loss	Mode Criticality	Item Criticality
1000 - Valve XB12953	0.05	Control hydraulic flow to the actuator	Valve remains in "pressure" condition when electrical power is removed. Valve slowly returns to neutral when electrical power is removed. Control of hydraulic pressure is erratic.	0.49	1	0.1	0.0133
2000 - Valve RS98521	0.15	Control hydraulic flow to the actuator	Valve remains in "pressure" condition when electrical power is removed. Valve slowly returns to neutral when electrical power is removed. Control of hydraulic pressure is erratic.	0.27	1	0.1	0.0391
3000 - Valve B155363	0.25	Control hydraulic flow to the actuator	Valve remains in "pressure" condition when electrical power is removed. Valve slowly returns to neutral when electrical power is removed. Control of hydraulic pressure is erratic.	0.35	1	0.1	0.0887

Generate Criticality Reports

Select Forms:  
 FMEA Report Summary  
 Criticality Matrix (MIL-STD Quantitative)  
 Criticality Analysis (Standard)  
 Criticality Analysis (MIL-STD Qualitative)  
 Criticality Ranks  
 Criticality Matrix (MIL-STD Qualitative)  
 Show Columns for Qualitative Analysis

Operating Time: 2000  
Calculate

Select Output Type:  
 Microsoft Word Document  
 Microsoft Excel Spreadsheet  
 Generate Report

**Microsoft Excel - Criticality Analysis Report.xls**

ITEMS	OPERATING TIME	ITEM UNRELIABILITY	FUNCTIONS	FAILURES AND CAUSES	MODE RATIO OF UNRELIABILITY	PROBABILITY OF LOSS	MODE CRITICALITY	ITEM CRITICALITY
1000 - Valve XB12953	2000	0.05	Control hydraulic flow to the actuator	Valve remains in "pressure" condition when electrical power is removed. Valve slowly returns to neutral when electrical power is removed. Control of hydraulic pressure is erratic.	0.49	0.1	0.0025	0.0133
2000 - Valve RS98521	2000	0.15	Control hydraulic flow to the actuator	Valve remains in "pressure" condition when electrical power is removed. Valve slowly returns to neutral when electrical power is removed. Control of hydraulic pressure is erratic.	0.27	0.1	0.0041	0.0391
3000 - Valve B155363	2000	0.25	Control hydraulic flow to the actuator	Valve remains in "pressure" condition when electrical power is removed. Valve slowly returns to neutral when electrical power is removed. Control of hydraulic pressure is erratic.	0.35	0.1	0.0087	0.09



## Close the Loop on Corrective Actions and Current Controls

**Xfmea** allows you to fully define and manage the current controls and recommended actions identified during the analysis.

- Fully define the recommended action** including Action Description, Person Responsible, Due and Completion Dates, Actions Taken, Estimated and Actual Costs.
- Organize actions by **category** and/or **priority**.
- Update the analysis with **periodic status reports** on actions that are not yet complete.
- Send **automated notification e-mails** with the details of assigned actions.
- Support **review and approval** activities for completed actions.
- Track task completion through detailed reports and charts for assigned tasks, sorted by Due Date, Responsibility, Completion Status, etc.

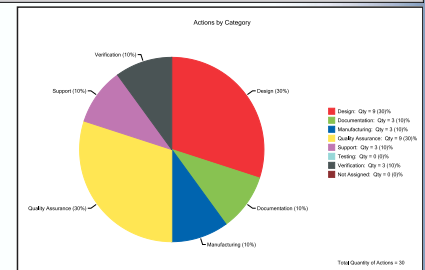
**Actions management utilities include automated e-mail notifications for recommended actions.**

The software also provides management options for **current controls** including the ability to organize controls by type (e.g. Prevention, Detection) and to generate detailed control reports and charts.

## Support for Team Effort

The software has been designed to allow **multiple users to work cooperatively** on the analysis and provides simple techniques to share portions of an analysis with other users, including:

- In a networked environment, **assign permissions** to allow more than one authorized user to access the same database.
- Seamlessly share portions of an analysis with another user via the software's **import/export** functionality.
- Easily **distribute analysis reports**, generated in Microsoft Word and/or Microsoft Excel, with the ability to convert to PDF and/or HTML formats.



## Revision Tracking

In addition to restricting database access to authorized users via **password protection**, **Xfmea** provides several levels of revision tracking functionality to protect the integrity of your analysis.

The **last update user** and **date/time stamp** is clearly displayed for each record. The software also maintains a **database login history**, with the user and date/time for every login to the database.

If desired, the application also stores a complete **audit trail** of every creation, modification and deletion to records in the analysis. Finally, you can create **baseline versions of the database** with the ability to "roll back" to previous versions if necessary.

Date/Time	Username	First Name	Last Name	Company	Phone	E-mail
12/5/2002 2:04:10 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:38:26 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:47:34 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:48:56 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:50:47 PM	test	Xfmea	User	ReliaSoft Corporation	520-886-0410	Sales@ReliaSoft.com
12/5/2002 2:51:06 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:51:14 PM	test	Xfmea	User	ReliaSoft Corporation	520-886-0410	Sales@ReliaSoft.com
12/5/2002 2:51:21 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:51:28 PM	test	Xfmea	User	ReliaSoft Corporation	520-886-0410	Sales@ReliaSoft.com
12/5/2002 2:53:20 PM	supplier	Supplier	Supplier	RS Supplies	520-886-0410	Support@ReliaSoft.com
12/5/2002 2:53:33 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com
12/5/2002 2:53:39 PM	test	Xfmea	User	ReliaSoft Corporation	520-886-0410	Sales@ReliaSoft.com
12/5/2002 2:53:59 PM	supplier	Supplier	Supplier	RS Supplies	520-886-0410	Support@ReliaSoft.com
12/5/2002 2:54:06 PM	supplier	Supplier	Supplier	RS Supplies	520-886-0410	Support@ReliaSoft.com
12/5/2002 2:54:11 PM	supplier	Supplier	Supplier	RS Supplies	520-886-0410	Support@ReliaSoft.com
12/5/2002 2:54:24 PM	username	User	Name	ReliaSoft	520-886-0410	ReliaSoft@ReliaSoft.com



# EXTENSIVE AUTOMATED REPORTING CAPABILITIES...



## Automatic Report Generation in Microsoft Word or Excel

**Xfmea** provides a complete set of reports for your analysis. Reports can be generated in Microsoft **Word** and/or **Excel**, which provides maximum flexibility for customization and the ability to create **HTML** and **PDF** versions of the reports, as desired.

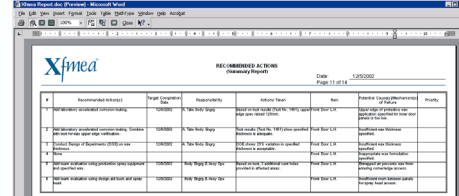
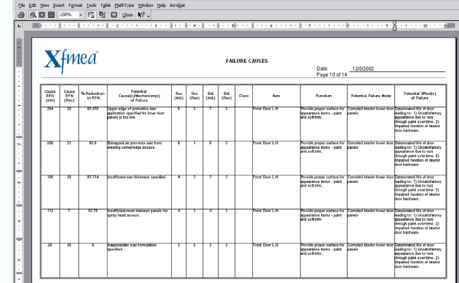
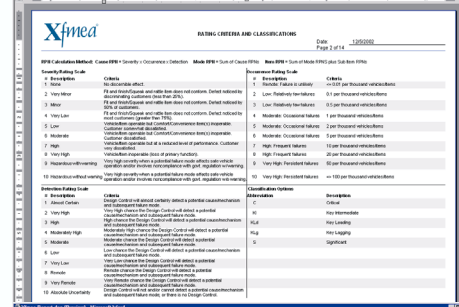
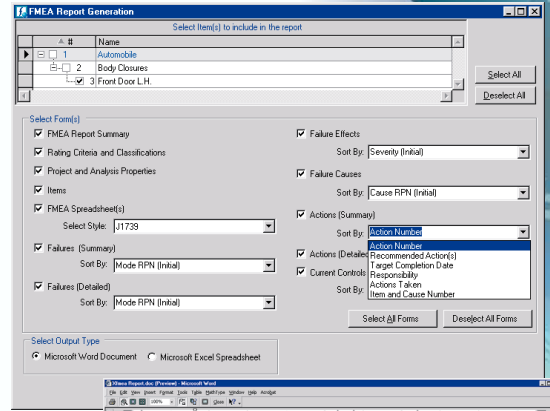
The available report forms go way beyond the standard FMEA spreadsheet to provide a complete range of ways to view and present your data.

- Rating Criteria and Classifications:** Presents RPN rating criteria and classification categories.
- Project and Analysis:** Properties summary for the given project and analysis.
- Item Properties:** Full properties details for the items included in the analysis.
- FMEA Spreadsheet:** Choose an industry-standard format (such as J1739, AIAG, MIL-STD-1629A) or use ReliaSoft's flexible standard template.
- Failures:** Sort failures by description, RPN, etc.
- Effects:** Sort effects by description, RPN, severity, etc.
- Causes:** Sort causes by description, RPN, occurrence, detection, classification, etc.
- Controls:** Sort controls by description, type, etc.
- Recommended Actions:** Sort actions by description, due date, completion date, item responsible, etc.

Automated reports for Quantitative and/or Qualitative Criticality Analyses include the **Criticality Spreadsheet** (in MIL-STD-1629A or standard format), the **Criticality Matrix** and **Failure Modes Ranked by Criticality**.

Generate reports in Microsoft Word and/or Excel. Easily convert to PDF and/or HTML.

- Standard reports include:
- FMEA Spreadsheets
  - Failures Summaries
  - Effects Summaries
  - Causes Summaries
  - Current Controls
  - Recommended Actions
  - Item Properties
  - Criticality Spreadsheets
  - Criticality Ranks
  - Criticality Matrices



ITEMS	OPERATING TIME	ITEM UNRELIABILITY	FUNCTIONS	FAILURES AND CAUSES	MODE RATIO OF UNRELIABILITY	PROBABILITY OF LOSS	MODE CRITICALITY
1000 - Valve RB12952	2000	0.05	Control hydraulic flow to the actuator	Value remains in "pressurize" condition when electrical power is removed. Value slowly returns to normal when electrical power is removed. Control of hydraulic pressure is erratic. Value jams closed.	0.43 0.1 0.1 0.025	0.1 0.1 0.005 0.0025	0.0025 0.005 0.0025 0.004
2000 - Valve RB582E1	2000	0.05	Control hydraulic flow to the actuator	Value remains in "pressurize" condition when electrical power is removed. Value slowly returns to normal when electrical power is removed. Control of hydraulic pressure is erratic.	0.33 0.1 0.005	0.1 0.005 0.005	0.005 0.005 0.005
3000 - Valve RB553B	2000	0.05	Control hydraulic flow to the actuator	Value remains in "pressurize" condition when electrical power is removed. Value slowly returns to normal when electrical power is removed. Control of hydraulic pressure is erratic. Provide proper surface for appearance Items: Part and Sort Trim	0.35 0.1 0.005 0.5	0.1 0.005 0.005 0.025	0.005 0.005 0.005 0.025

Item	Potential Failure Mode	Potential Effects of Failure	Severity	Occurrence	Current Design Controls	RPN	Recommended Actions	Responsibility & Target Completion Date	Actions Taken
1110 - Front Door L.H.	Controlled interior lower door panels	Uncontrolled interior lower door panels	7	1	Upper edge of protective vinyl application specified for inner door panels is too low	7	294	Add laboratory accelerated corrosion testing A. Tate Body Engr - 10/31/2002	Based on test results (Test No. 1481) upper edge spec is adequate 7   2   2   28
Occupant protection from weather, noise and side-impact	Support anchorage for door hardware including RPN or hinges, latch and window regulator	Insufficient w/wk thickness specified	4	1	Vehicle general durability testing - as above - Detection	196	Add laboratory accelerated corrosion testing Conduct Design of Experiments (DOE) on w/wk thickness	A. Tate Body Engr - 10/31/2002	Test results (Test No. 1481) show specified thickness is adequate DOE shows 25% variation in specified thickness is acceptable
Provide proper surface for appearance Items: Part and Sort Trim	Inappropriate w/wk formulation specified	Entrapped air prevents w/wk from entering corner-edge access	2	2	28	8	280	7   1   3   21	
									7   1   1   7
Provide proper surface for appearance Items: Part and Sort Trim	Insufficient room between panels for spray head access		4	4	112	7	7   1   1   7		
								7   1   1   7	





## Plots and Charts for Graphical Presentation

In addition to the detailed print-ready reporting options, **Xfmea** provides a complete array of plots and charts for graphical presentation of your analysis. Available charts include **pareto (bar) charts** and **pie charts** as well as the **Occurrence/Severity Matrix**. You can view records by RPN, % reduction in RPN, severity, occurrence and/or detection rating. You can also display Actions by completion status, category, priority and/or cost and Controls by type.

The software's Plot Viewer provides flexible options for you to view and manage charts for your analyses, including the ability to:

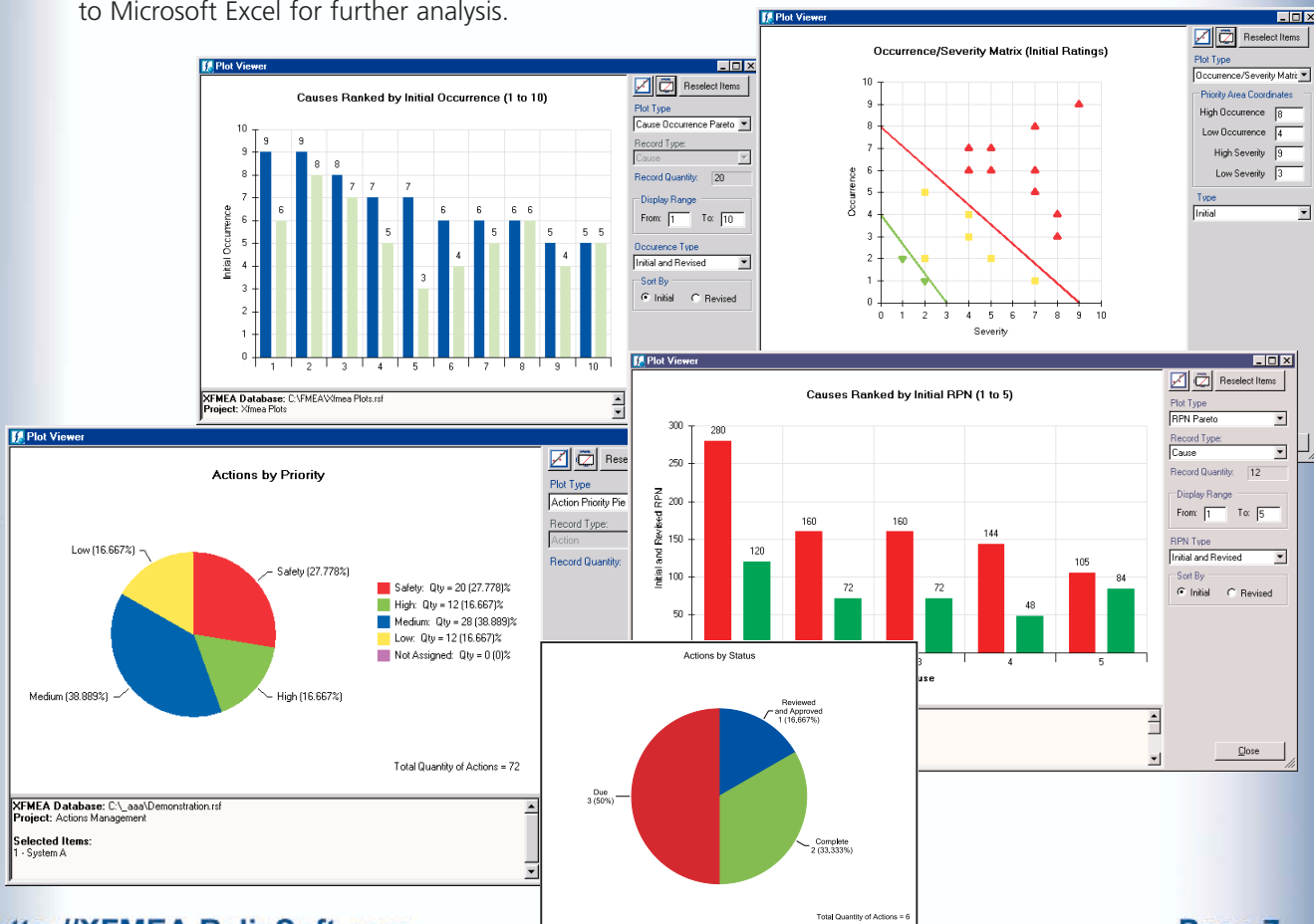
- ❑ Select the data range and other user settings to determine the exact chart configuration to meet your specific needs.
- ❑ Use the Chart Designer to fully customize the appearance of the plot. You can change the colors, fonts, titles and other chart properties to meet your specific display preferences.
- ❑ Copy chart graphics as metafile graphics (\*.wmf) that can be pasted into other document files, such as Microsoft Word, PowerPoint, etc.

### Graphical Plots and Charts:

- RPN Pareto Charts
- Effect Severity Pareto
- Effect Severity Pie
- Cause Occurrence and Detection Paretos
- Cause Occurrence and Detection Pies
- Action Costs Pareto
- Action Status, Category and Priority Pie
- Control Type Pie

## Custom Query Capability

All analysis information is stored in relational databases so that **Xfmea** can provide the flexibility to support **ad hoc custom queries**. You can search for Items, Functions, Failures, Effects, Causes, Controls and Actions based on any of the record properties. For example, you can search for all items with the term "bearing" in the item description or search for any failure cause with an RPN between 200 and 400. All query output can be printed and/or exported to Microsoft Excel for further analysis.





# FREQUENTLY ASKED QUESTIONS...

Detailed user documentation in printed manuals and on-line help files.

## Detailed User Documentation

**Xfmea** comes with complete and detailed printed product documentation and on-line help files, as well as a multitude of example files and guides designed to get you up and running the minute the application is installed.



## Total Customer Support

ReliaSoft is totally committed to providing you immediate support to answer any questions you might have and/or to assist you with any problems that may arise. Support options include free telephone, fax and e-mail support as well as free minor version product updates.

## Minimum System Requirements

Windows 2000, NT and XP; Microsoft Office 97 or higher (Excel and Word) for automated report generation. Pentium class processor with 32MB RAM (64MB or more is recommended), SVGA display and at least 60MB of hard disk space.

## How much does Xfmea cost and how do I order it?

Our enclosed *Price List and Order Form* details ReliaSoft's pricing structure and provides ordering information. This information is also available at <http://Xfmea.Reliasoft.com>.

Free comprehensive technical support.

## How quickly can I get the software?

ReliaSoft ships via 2-day Federal Express on the same day that we get your order or, if requested, you can have it on your desk by the next business day.

Training seminars combine theory and application.

## Can I get training in the use of the software, FMEA/FMECA analysis and other reliability engineering topics?

ReliaSoft's training seminars provide instruction in reliability engineering principles and theory as well as the ReliaSoft software tools designed to put that theory into practice. Courses on **Xfmea** and FMEA/FMECA analysis are available. For complete details, see <http://Seminars.Reliasoft.com>.






## Is Xfmea better than the package I am using now?

We will answer this question with an unequivocal **ABSOLUTELY**. We invite you to try **Xfmea** and compare it with any other package on the market. If you do not agree that the software is years ahead of any other competitor, just return the package within 30 days for a full refund.

Try a free demonstration copy of the software and decide for yourself!

## What other reliability software is available from ReliaSoft?

ReliaSoft's reliability analysis software products have become the industry standard for complete reliability analysis and are used worldwide by most manufacturers with an active quality/reliability engineering program. Complete product details are available at <http://www.Reliasoft.com>.

-  **Weibull++** for life data analysis
-  **ALTA** for quantitative accelerated life testing (QALT) data analysis
-  **BlockSim** for system reliability, maintainability and availability analysis
-  **MPC 3** for MSG-3 aircraft systems and powerplant analysis
-  **RGA++** for reliability growth analysis

# ReliaSoft®

# Xfmea®



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Reliability Office



EXPERT SUPPORT FOR ALL TYPES OF FMEA AND FMECA

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