

## ReliaSoft SEP Web portal for ReliaSoft applications

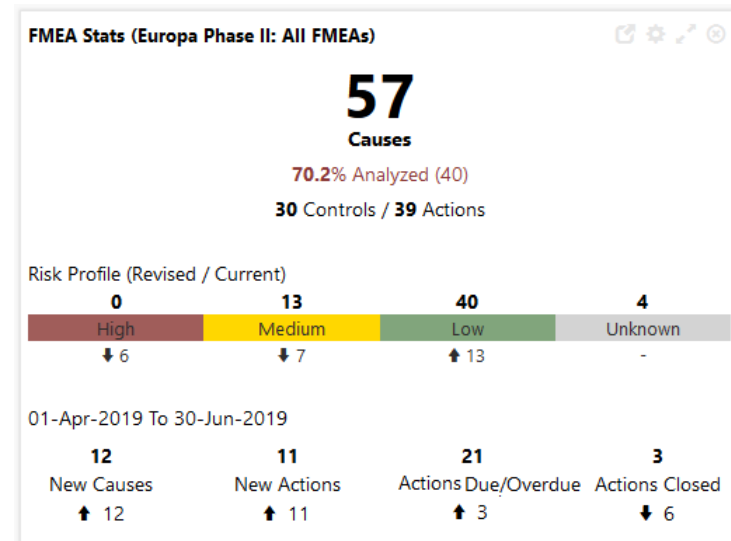
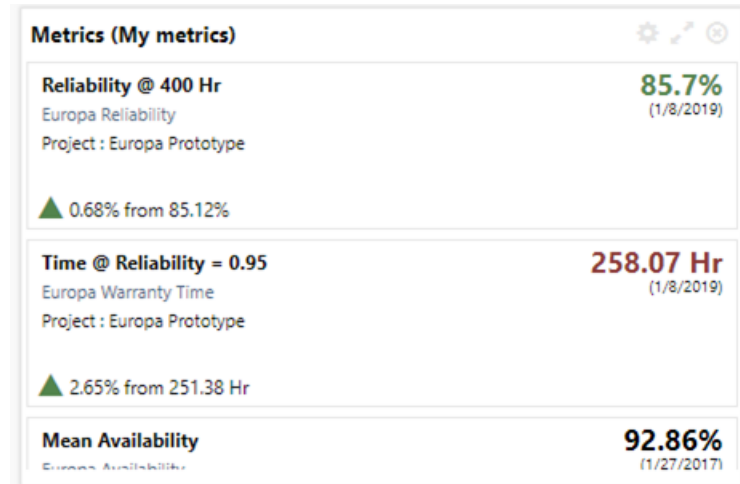
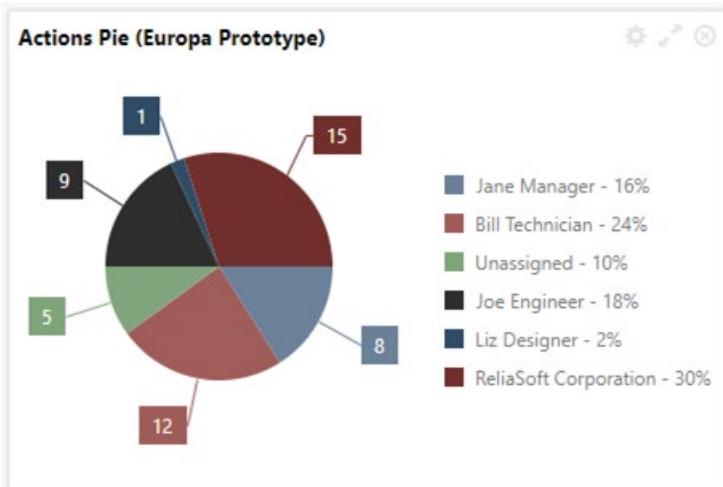
nCode

***ReliaSoft***

***Omnicon***

SEP is a web portal for analyses performed in ReliaSoft applications

- Monitor KPI metrics
- Web access to FMEA stats, queries and data
- View results from Weibull++, BlockSim and other reliability analyses
- Drill-down to full details in desktop apps
- Track and update assigned actions



- **Managers**

- Track KPIs, reports and status of assigned actions
- Monitor progress on FMEAs and sign off on completion
- Monitor results from other reliability analyses



- **Engineers (ReliaSoft Desktop Users)**

- Share your own results and stay up-to-date on analyses performed by others
- Convenient mobile access when you need to present findings or update your assigned actions



- **Entire Organization**

- Access lessons learned from FMEAs
- View results from reliability data analyses and simulations
- Update your assigned actions without having a ReliaSoft desktop application installed



**Properties** Add to My Projects +

**Category** Product Line Jupiter|Project Europa

**Description** This project contains fictional FMEA data for the design of an all-terrain bicycle.

**Remarks** Disclaimer: Example projects are purely for illustrating software features and functionality.

**Project Owner**  
Jane Manager  
E-mail | Portal Message

**Last Updated By**  
Jane Manager  
1/9/2019 3:30:00 PM  
E-mail | Portal Message

**Project Plan** 🔗

**In Progress** **Actual** **Planned**  
Start: 8/2/2016 End: 12/23/2019

Past Due - 36.4 %  
Not Started - 9.1 %  
In Progress - 9.1 %  
Completed - 45.5 %

**Published Analyses**

Weibull++/ALTA  
1 LDA | 2 ALTA | 2 DOE | 1 Reports

BlockSim/RENO  
2 Analytical | 3 Simulation | 1 Reports

RGA  
1 RGA

Lambda Predict  
3 Prediction Folios | 1 Plots

**FMEAs**

XFMEA/RCM++/RBI  
8 FMEAs | 51 Causes | 45 Actions

**Project Metrics** 🔗

**Reliability @ 400 hr** **91.3%**  
Europa Reliability  
Project : Europa Prototype  
(1/9/2019)  
▲ 0.22% from 91.09%

**Mean Life** **6176.02 hr**  
Europa Mean Life  
Project : Europa Prototype  
(1/9/2019)  
▼ 0.14% from 6184.72 hr

**Time @ Reliability = 0.9** **471.68 hr**  
Europa Warranty Time  
Project : Europa Prototype  
(1/9/2019)  
▲ 2.69% from 459.32 hr

**Challenge:** Individual analysts are performing a variety of reliability studies, but the latest results and metrics are not accessible to colleagues who don't have the software installed

**Solution:** SMEs use **Weibull++/ALTA, RGA, BlockSim/RENO, Lambda Predict, XFMEA** and **XFRACAS** to perform the analyses

Managers and others use **SEP** to view selected results, reports and dashboards via any web-enabled device

**Value:** Facilitates collaboration between different areas of expertise

Shares reliability analysis results throughout the organization

Properties FMEA Stats FMEA			
Description		RPNi	RPNr
⌵	The bicycle must provide comfortable transportation throughout the life of the bicycle, under all operating conditions defined in the All-Terrain technical specifications.		
	Seating position is not comfortable		
	Grouped Effects		
	User potentially unhappy with bicycle comfort (5,-)		
	Causes		
	Insufficient seat adjustment range	70	30
	Shock system does not adequately protect the rider		
	Grouped Effects		
	Uncomfortably bumpy ride (6,-)		
	Causes		
⌵	Insufficient something that will cause a failure	120	24
	Brake lever clamp feature bottoms out without providing sufficient clamp force to handle bar	84	60
	Selected material does not provide sufficient comfort	216	108
	Articles of clothing get caught in the chain or sprocket		
	Grouped Effects		
⌵	Potential for rider to lose control of bicycle (10,-)		
	Causes		
	Lack of chain guard	420	100
	The bicycle must provide comfortable transportation throughout the life of the bicycle, under all operating conditions defined in the All-Terrain technical specifications.		
⌵	Seating position is not comfortable		
	Grouped Effects		
	User potentially unhappy with bicycle comfort (5,-)		
	Causes		
	Description of a potential cause of failure	175	90

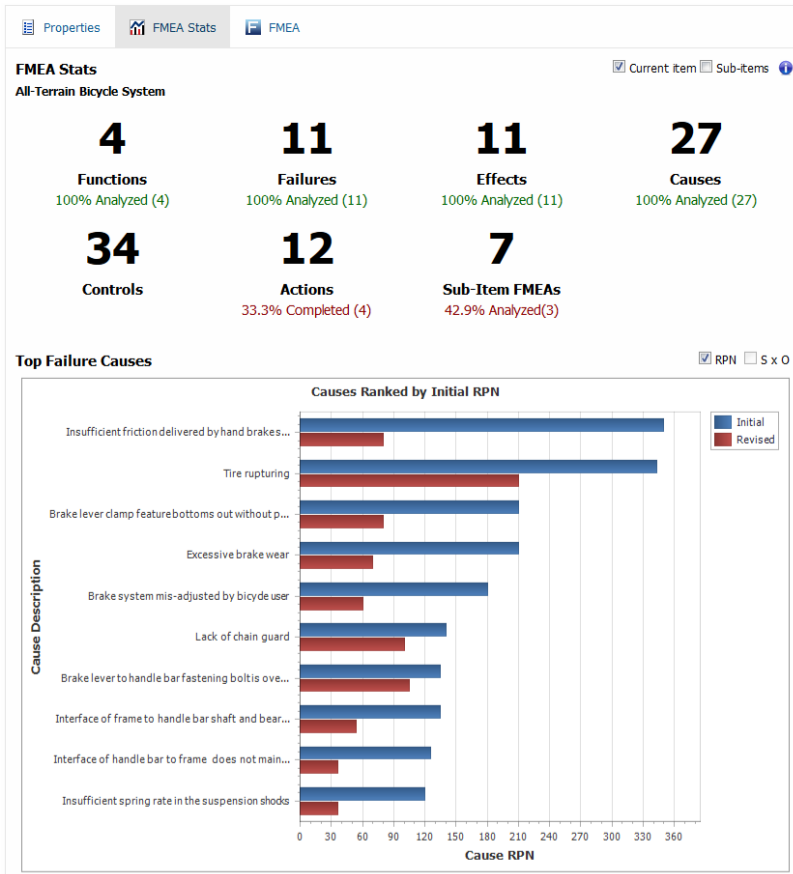
**Challenge:** Your organization makes a significant investment to perform FMEAs, but the valuable lessons learned are not easily accessible to all personnel who need the information

**Solution:** FMEA teams use **XFMEA** to perform the analysis

Managers and others use **SEP** to view and query the most up-to-date analyses

**Value:** More effective knowledge sharing leads to better products and better customer service

Potential cost savings when you implement **XFMEA**, **SEP** and **Aqira** with **Prenscia Access**



**Challenge:** Your organization has multiple teams working on different FMEAs and managers need to stay up-to-date on the potential risks, assigned actions and whether the analyses will be completed on time

**Solution:** FMEA teams use **XFMEA** to perform the analysis

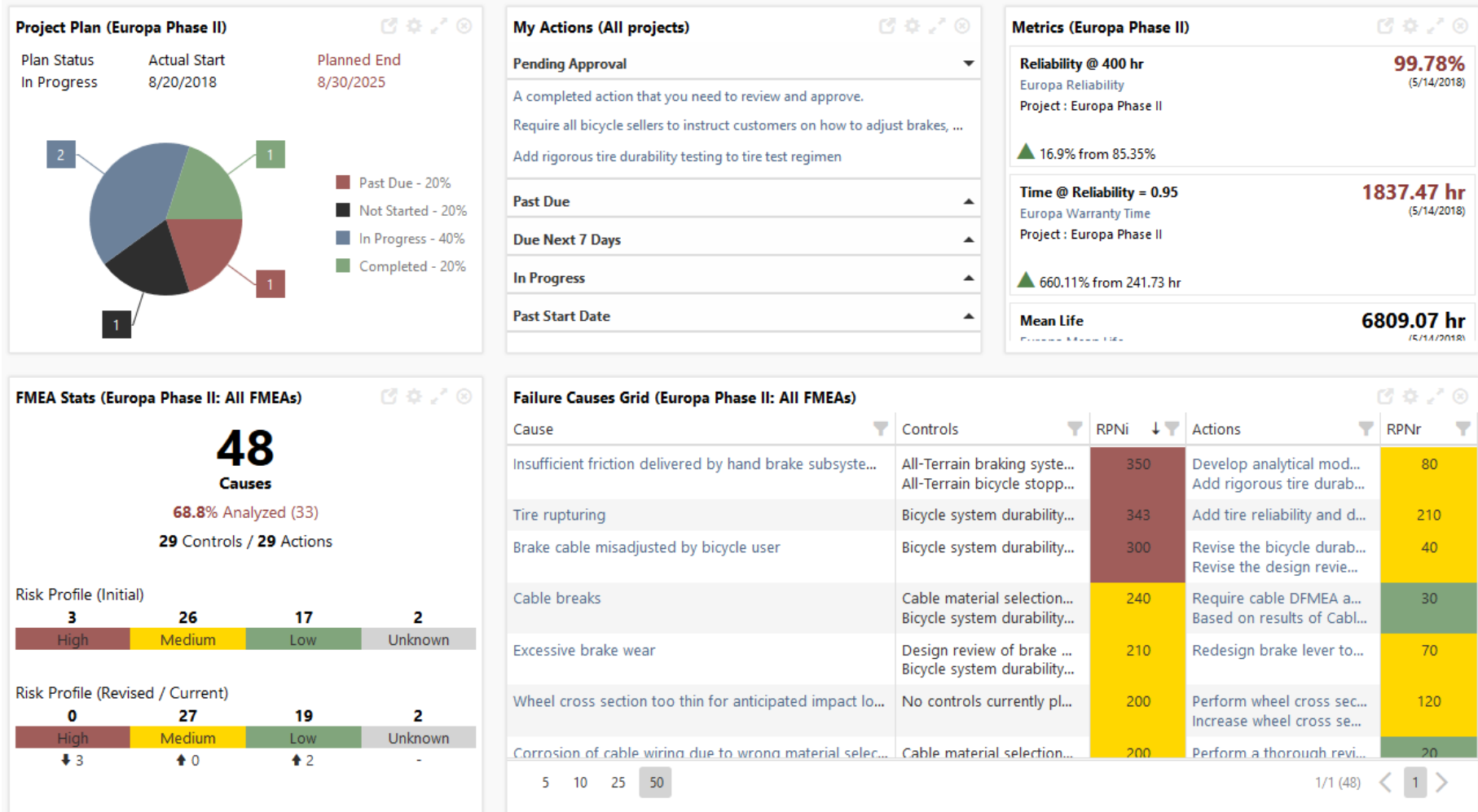
Managers use **SEP** to review summaries and sign off on completed projects via any web-enabled device

**Value:** Convenient tools to monitor progress leads to better program management

Effective management of FMEA activities leads to improved designs and less risk

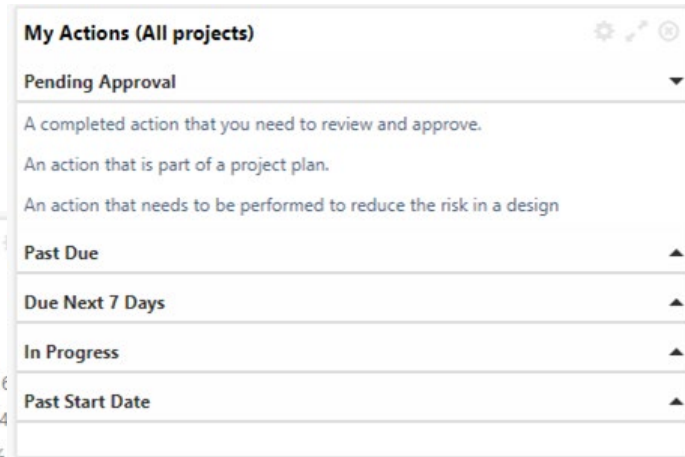
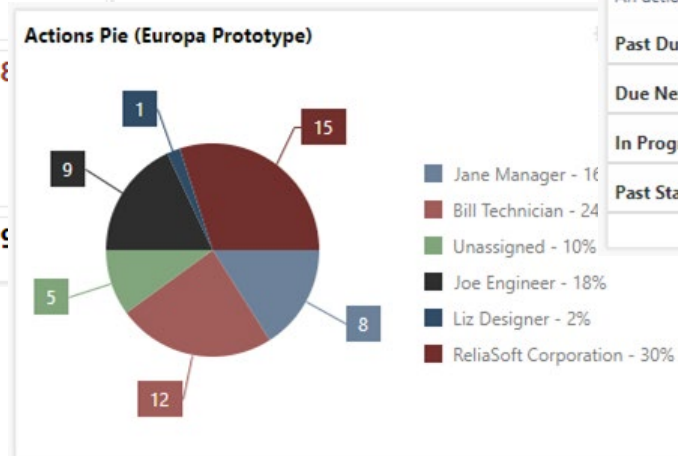
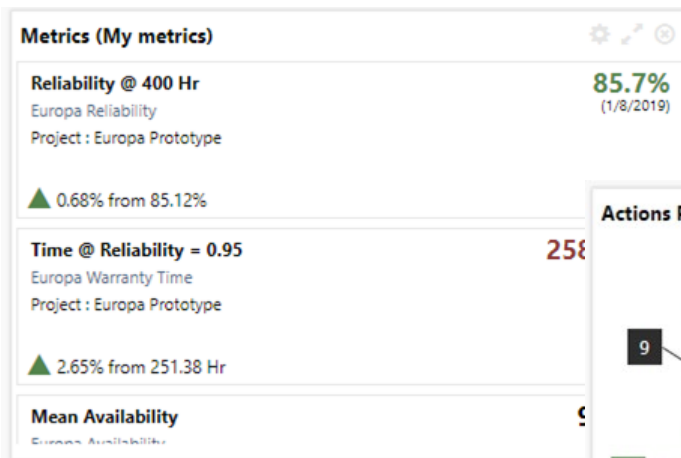
# Web dashboard for reliability analysis

- Personalized home page features a configurable, at-a-glance **web dashboard** for the reliability metrics, FMEAs, actions and reports you're tracking in SEP

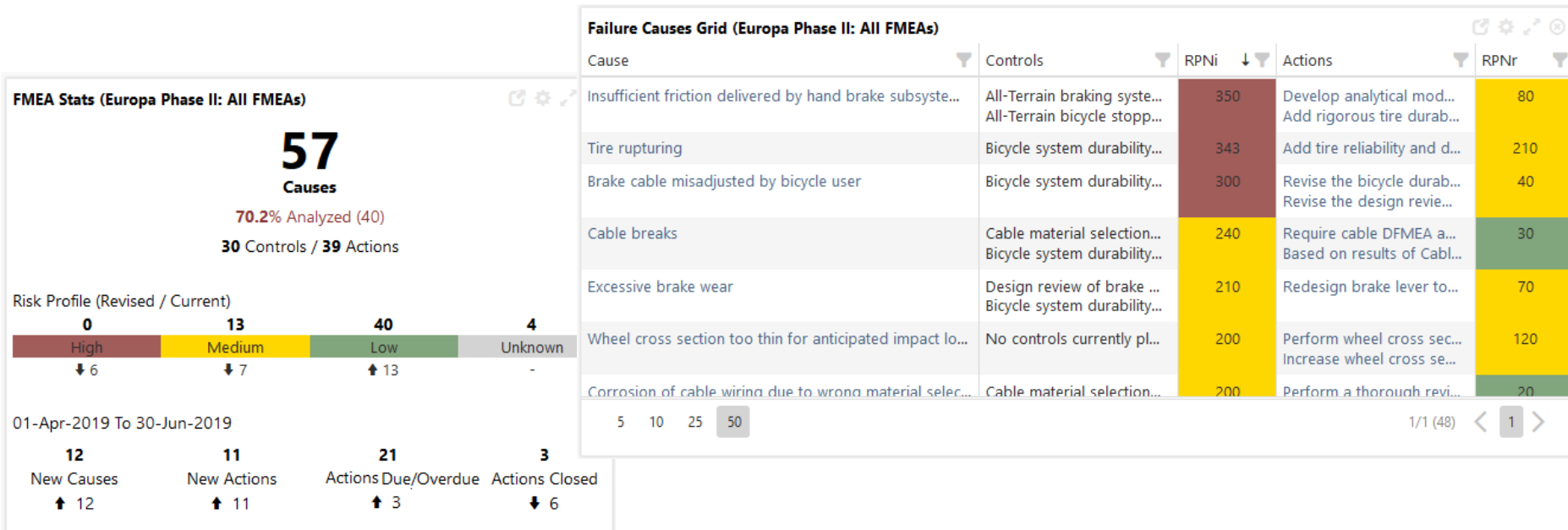




- **Metrics** – track key performance indicators such as Reliability, Mean Life, Warranty Time or Expected Failures
- **Actions Grids and Pie Charts** – track assignments based on completion status, due date or person responsible
- **My Actions** – quick access to the pending actions that are relevant to you
- **FRACAS Incidents and Actions** – monitor unclosed incidents and open actions in XFRACAS where you are the owner



- **Failure Cause Grids** – prioritized list of potential failure causes with the controls and actions that mitigate the risk
- **FMEA Stats and Grids** – at-a-glance metrics for an FMEA or combined from a group FMEAs, such as:
  - Record counts and % analyzed
  - Risk profiles and % reduction in RPN
  - New risks and actions in a specified time period (this quarter, last 30 days, ...)



# Reliability analysis summaries, metrics and reports

- At-a-glance summaries for ReliaSoft analysis projects you have permission to view

Project Summary: Europa Prototype

Change Project

Properties

Category

Product Line Jupiter|Project Europa

Description

This project contains fictional FMEA data for the design of an all-terrain bicycle.

Remarks

Disclaimer: Example projects are purely for illustrating software features and functionality.

Add to My Projects +

Project Owner

Jane Manager

E-mail | Portal Message

Last Updated By

Jane Manager

1/9/2019 4:42:24 PM

E-mail | Portal Message

Project Metrics

Reliability @ 400 hr

Europa Reliability

Project : Europa Prototype

▲ 0.22% from 91.09%

91.3%

(1/9/2019)

Mean Life

Europa Mean Life

Project : Europa Prototype

▼ 0.14% from 6184.72 hr

6176.02 hr

(1/9/2019)

Time @ Reliability = 0.9

Europa Warranty Time

Project : Europa Prototype

▲ 2.69% from 459.32 hr

471.68 hr

(1/9/2019)

Links/Attachments

Add

Word Document Saved in DB.docx (.docx)

Word document that is stored in the database

📎 ✎ ✕

File on Network.pdf (File Link)

Link to file on the network - works only if the link is valid for the user's PC

📎 ✎ ✕

http://www.reliasoft.com (URL)

URL link to website

📎 ✎ ✕

Project Plan

In Progress

Actual

Planned

Start: 8/2/2016

End: 12/23/2019

Past Due - 36.4 %

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In Progress - 9.1 %

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Published Analyses

Weibull+++/ALTA

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RGA

1 RGA

Lambda Predict

3 Prediction Folios | 1 Plots

FMEAs

XFMEA/RCM++/RBI

8 FMEAs | 51 Causes | 47 Actions

Actions

Enter text to search...

	Person Responsible	Action	Start Date	Completion Date
⊕	Status: Past Due			
⊕	Status: Not Started			
⊕	Status: In Progress			
⊕	Status: Completed			

- For reliability analyses performed in **Weibull++**, **ALTA**, **RG**A, **BlockSim**, **RENO** or **Lambda Predict**, analysts can decide which results and metrics to make available via the web

## Published Analyses: Weibull++/ALTA

**Europa Prototype**

- Life Data
  - Europa LDA
    - Data1**
- Life-Stress Data
  - Accelerated Test
    - Data1
- DOE
  - Reliability DOE
- Degradation
  - Degradation Analysis
- Reports
  - Europa LDA Report

Analysis Overview | Plot | Identifiers Open

**LIFE DATA**

**Reliability @ 400 hr** **85.35%**  
Europa Reliability (2/21/2018)  
Project : Europa Prototype  
▲ 0.77% from 84.7%

**Mean Life** **807.18 hr**  
Europa Mean Life (2/21/2018)  
Project : Europa Prototype  
▲ 1.03% from 798.92 hr

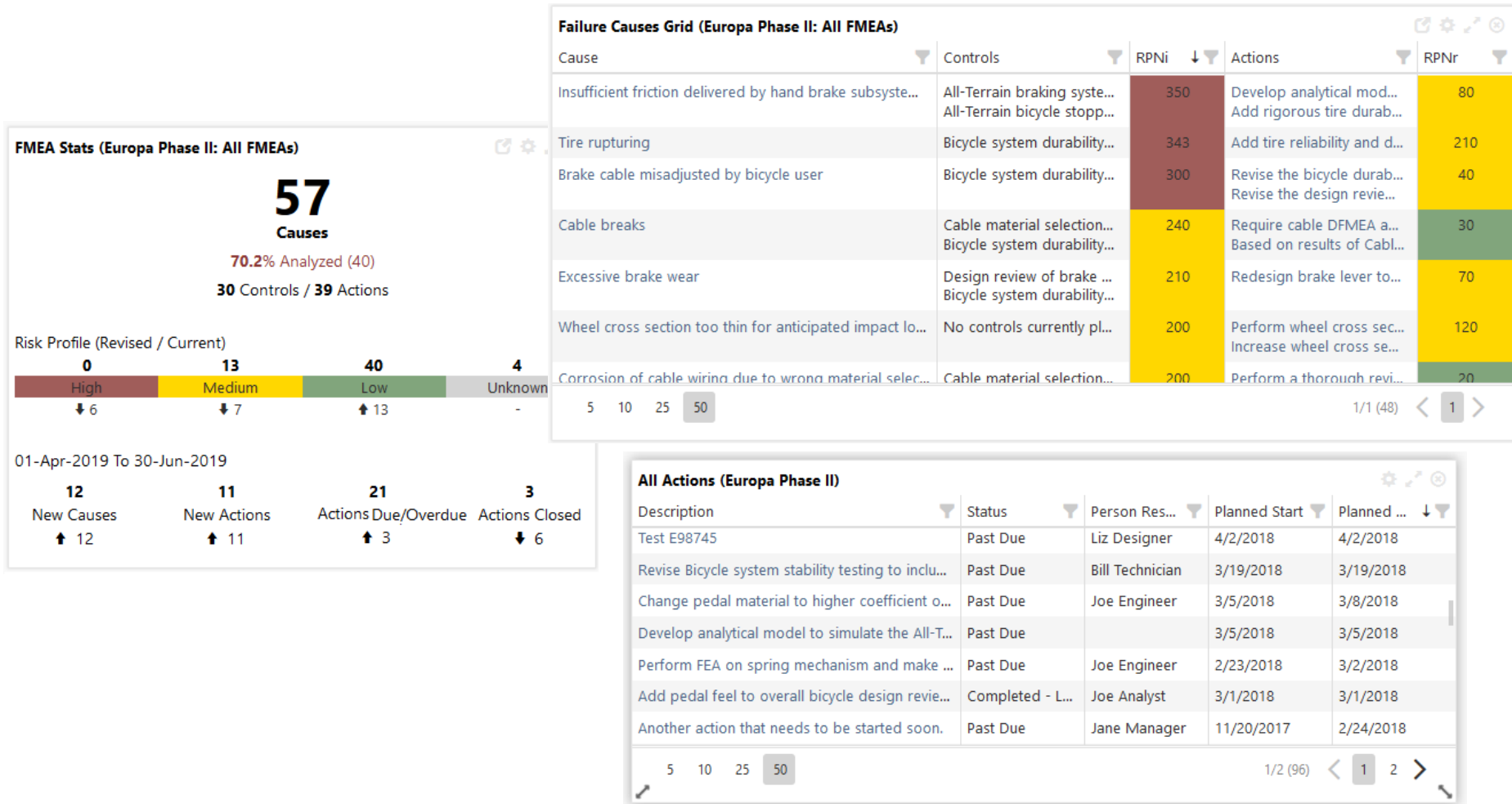
**Time @ Reliability = 0.95** **241.73 hr**  
Europa Warranty Time (2/21/2018)  
Project : Europa Prototype  
▲ 2.88% from 234.96 hr

**Published by:** Jane Manager **Published Date:** 5/11/2018 3:56:56 PM

Quick Results Report	
Report Type	Publish SEP Summary
User Info	
Name	Jane Manager
Company	ReliaSoft
Date	5/11/2018

# Track FMEA progress and share lessons learned

- Configurable dashboard tiles help to monitor potential failure causes identified via FMEAs and track progress on assigned actions that will mitigate the risk



- Convenient web summaries help managers and others track progress for each FMEA
- Key stats and charts at-a-glance:
  - # of functions and failure causes, with % analyzed
  - Top failure causes
  - Assigned actions, with % complete
- Approve change log versions via any web-enabled device

## Frame Subsystem

☐ Lower Front Tube

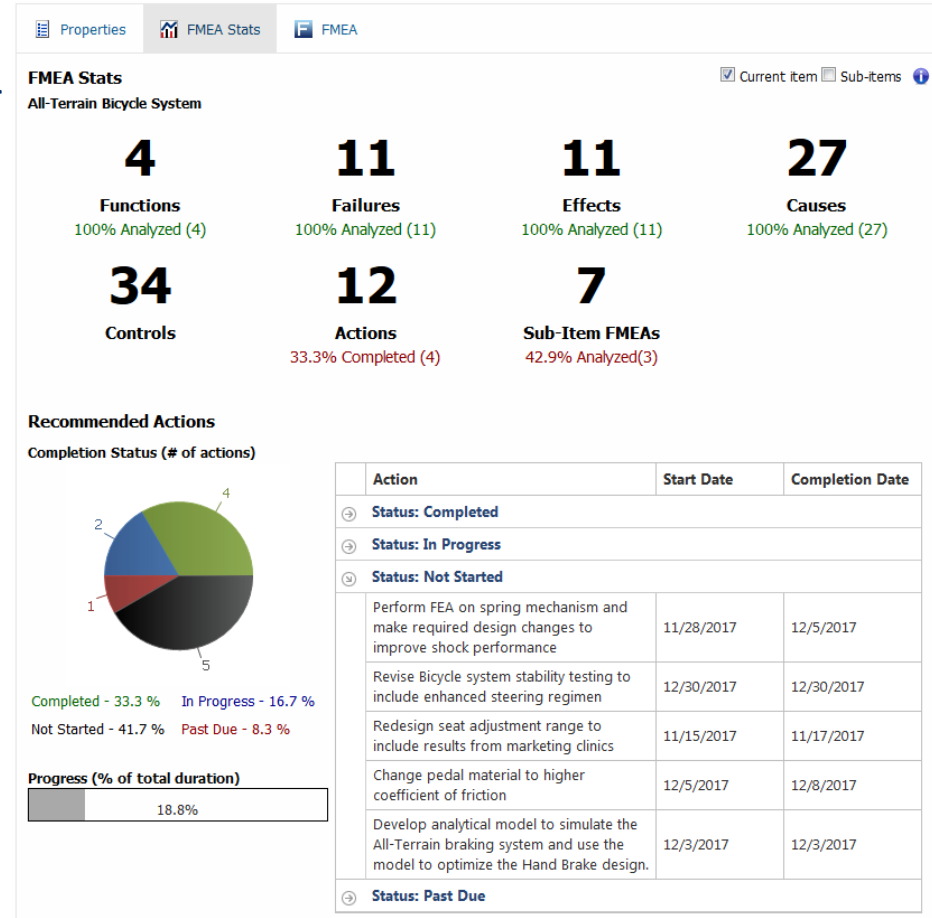
☐ Upper Frame

☐ Lower Rear Tube

Rev1  
Locked

Rev1  
In Progress

Rev1  
Awaiting Review





- Colleagues throughout your organization can view the latest FMEAs without a desktop application installed
- View full properties for all FMEA records

All-Terrain Bicycle System

Frame

Front Wheel

Rear Wheel

Sprocket-Pedal

Chain-Derailleur

Seat

Handle Bar

Hand Brake

Suspension

Version 1  
In Progress

Version 1  
In Progress

Version 1  
Awaiting Review

Version 1  
In Progress

Properties
FMEA Stats
FMEA

Description

RPNi
RPNr

The bicycle must provide comfortable transportation throughout the life of the bicycle, under all operating conditions defined in the All-Terrain technical specifications.

Seating position is not comfortable

Grouped Effects

User potentially unhappy with bicycle comfort (5,-)

Causes

Insufficient seat adjustment range

70
30

Actions

Redesign seat adjustment range to include results from marketing clinics

Controls

Design review of seat system

Shock system does not adequately protect the rider

Grouped Effects

Uncomfortably bumpy ride (6,-)

Causes

Insufficient something that will cause a failure

120
24

Actions

Perform FEA on spring mechanism and make required design changes to improve shock performance

Controls

Bicycle system durability test # 789

Brake lever clamp feature bottoms out without providing sufficient clamp force to handle bar

84
60

Selected material does not provide sufficient comfort

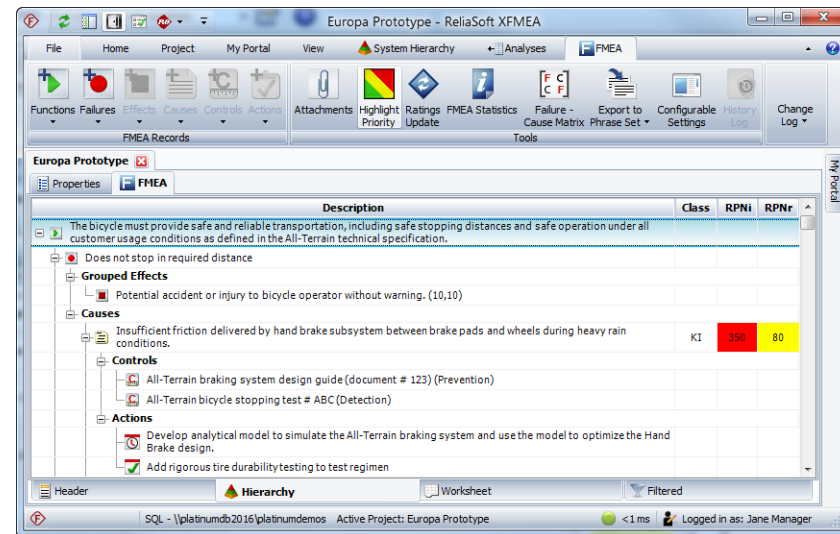
216
108

- SEP makes it easy to open the full analyses in ReliaSoft desktop applications
- If your site is configured for **Remote ReliaSoft**, users can launch the applications on a remote server without having to install and update software on each client computer

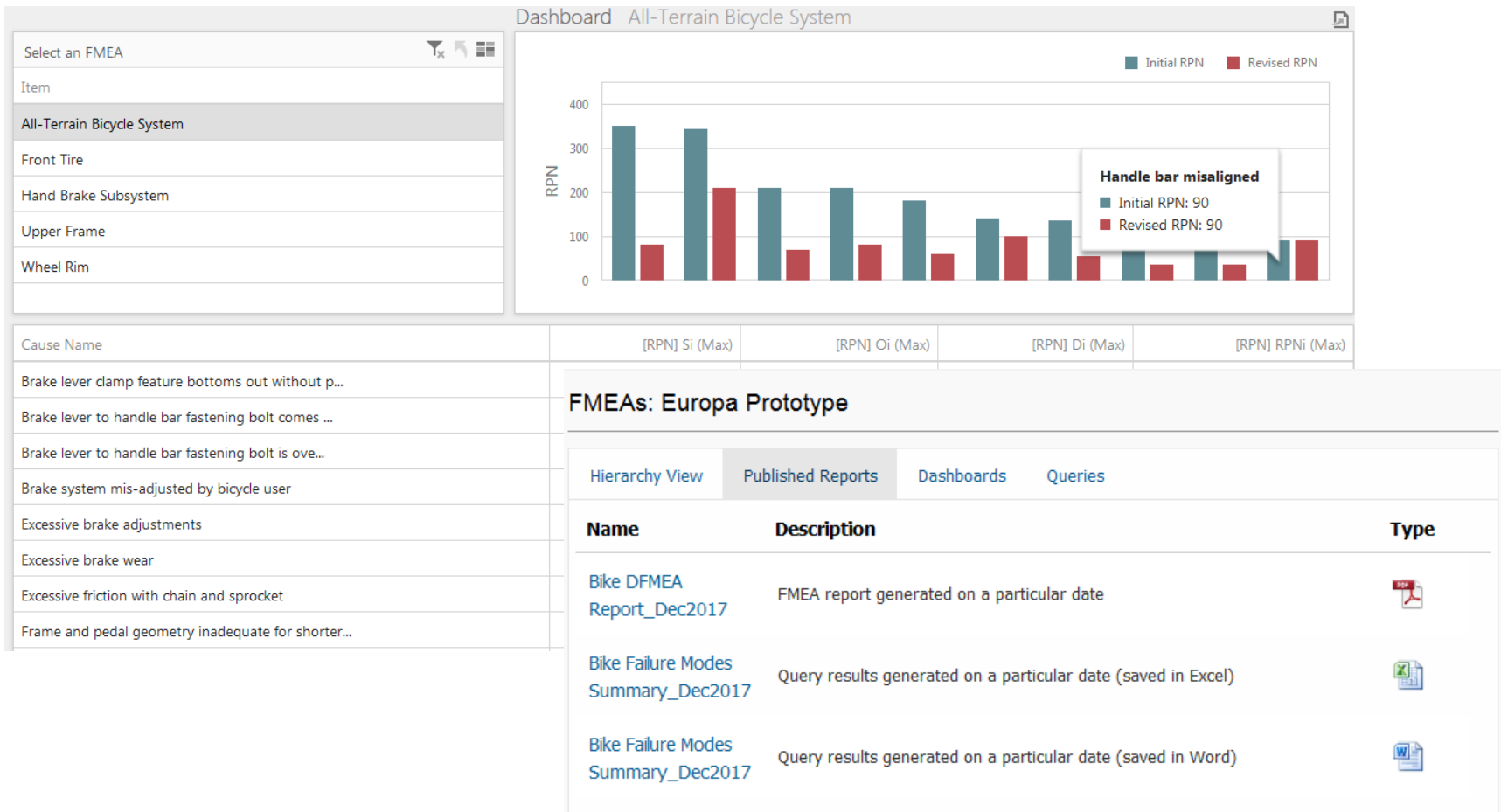
## Remote ReliaSoft – Requirements

- At least one Windows server with Microsoft Remote Desktop Services (RDS)
- Sufficient RDS license seats (purchased from your preferred Microsoft vendor)
- ReliaSoft applications installed on RDS servers – token-based or floating license is recommended
- IT support to set up and maintain RDS servers

Open



- View or download finalized report documents that are saved with the project
- View custom reports created with the desktop app's built-in dashboard tool



- Queries provide enormous flexibility to get customized output based on the latest data from any FMEA, such as:
  - Actions that are incomplete
  - Effects with high severity
  - Failure causes with high risk (and no controls or actions to mitigate)
- Run saved queries via the web for any FMEA or group of FMEAs
- Download results to Excel

The screenshot displays the 'Queries' tab in a web application. On the left, a 'Hierarchy View' shows a tree of bicycle components. The 'All-Terrain Bicycle System' is expanded, showing 'Frame Subsystem' and 'Front Wheel Subsystem'. 'Frame Subsystem' is selected with a checkbox. Below it are 'Lower Front Tube', 'Upper Frame', 'Lower Rear Tube', 'Sprocket Tube', and 'Fork Tube'. 'Front Wheel Subsystem' is also selected with a checkbox. Below it is 'Wheel Hub and Locking Mechanism'. On the right, a section titled 'Select the item(s) you want to query and then select a saved query to run' contains a 'Query Type' dropdown set to 'All' and a 'User' dropdown set to 'All Saved Queries'. Below this are two query cards. The first card is titled 'Failure Cause Summary' and describes a 'Summary of key details for all failure causes in an FMEA'. It was last updated by 'Jane Manager' on '1/9/2019 4:25 PM'. The second card is titled 'Unmitigated Failure Causes' and describes 'High-risk failure causes that do not have an action or control defined'. It was also last updated by 'Jane Manager' on '1/9/2019 4:25 PM'. Both cards have a 'Run' button.

Hierarchy View Published Reports Dashboards **Queries**

☒ Select All

☐ All-Terrain Bicycle System

☒ Frame Subsystem

☐ Lower Front Tube

☐ Upper Frame

☐ Lower Rear Tube

☐ Sprocket Tube

☐ Fork Tube

☒ Front Wheel Subsystem

☐ Wheel Hub and Locking Mechanism

Select the item(s) you want to query and then select a saved query to run

Query Type: All

User: All Saved Queries

**Failure Cause Summary** Run

Summary of key details for all failure causes in an FMEA

Last Updated By Jane Manager 1/9/2019 4:25 PM

**Unmitigated Failure Causes** Run

High-risk failure causes that do not have an action or control defined

Last Updated By Jane Manager 1/9/2019 4:25 PM

- SEP offers a web service that returns all data for a selected FMEA or group of FMEAs
- If you have a specialized reporting need that is not directly supported, you can use SEP as a web data source in an external reporting tool such as Excel or Power BI

The image shows two overlapping screenshots. The background screenshot is the SEP web application interface, specifically the 'Queries & Data' tab. It features a 'Select All' checkbox and a list of FMEA items: 'All-Terrain Bicycle System - New', 'Frame Subsystem', 'Front Wheel Subsystem', 'Rear Wheel Subsystem', and 'Sprocket-Pedal Subsystem'. The 'Front Wheel Subsystem' and 'Rear Wheel Subsystem' are selected. A 'Web Data Source' dialog box is open, displaying the text: 'Copy a link that you can use as a web data source in an external reporting tool - includes all FMEA data for the selected item(s)'. Below this text are 'Xml' and 'Json' buttons.

The foreground screenshot is a Microsoft Excel window. The 'Data' tab is active in the ribbon, showing the 'Get & Transform Data' group with options like 'From Text/CSV', 'From Web', 'From Table/Range', 'Recent Sources', and 'Existing Connections'. The 'From Web' option is selected. A 'From Web' dialog box is open, showing the 'Basic' tab. The 'URL' field contains the text: 'taService/FmeaDataService?projectId=6624&allSelected=true&format=Xml'. The 'OK' and 'Cancel' buttons are at the bottom right of the dialog.

- ReliaSoft desktop applications can send alerts when an action is **created, modified** or **ready to be reviewed**
- If the service is running on the SEP web server, it can trigger additional alerts based on the **action due date**
  - Send an alert \_\_ days before the action is due
  - Then send a reminder every \_\_ days until the action is complete

## Send action alerts based on calendar date

(if service is running)

Service Status (4:33:02 PM)

Running

☒ Alert when action is due in [x] days

21

☒ Remind every [x] days until complete

7

From Address for E-mail Alerts

AlertAdmin@YourCompany.com

### Action

#### Action Description

Communicate this issue to the Process FMEA team so the assembler cannot over torque brake lever to the handle bar during assembly

#### Responsibility

Jane Manager

5

% Utilization  
Please enter a numeric value.

#### Resources

#### Action Resolution

#### Review/Approval

#### History

### Planned Timeline (1 Day)

#### Planned Start Date

1/15/2019

#### Planned Completion Date

1/15/2019

### Actual Timeline

#### Watch

☒ Alert me on changes to this record (via portal message)

### Links/Attachments

- Utilizing FRACAS data when performing FMEAs saves time and leads to more effective risk assessment
- SEP makes it easy to view field failure reports in XFRACAS
  - Same “observed occurrences” quantities that are available in desktop applications
  - In addition, the website links to all FRACAS records that may be relevant for a part

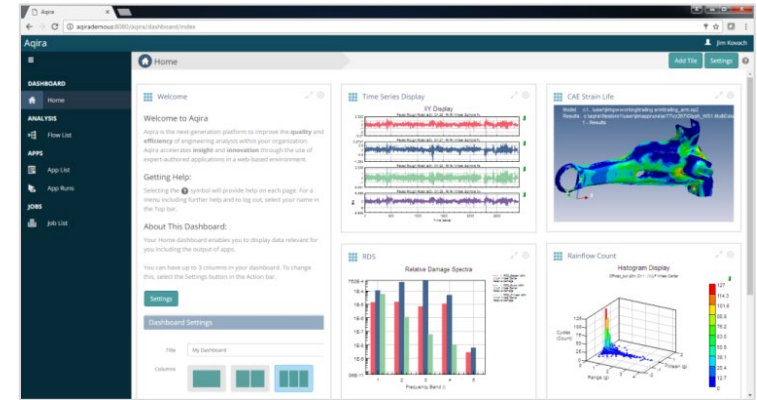
The screenshot displays the XFRACAS web interface. On the left, a tree view shows the hierarchy: Titan System > Assembly A > Assembly B > Assembly C. Assembly A is selected. Below this, a pop-up window titled "All XFRACAS Records for This Item" shows the following data for Assembly A:

- Incidents = 17** (View Report): REL-1, REL-2, REL-3, REL-4, REL-5, REL-9, REL-10, REL-11, REL-25, REL-26, REL-27, REL-28, REL-30, REL-31, REL-43, REL-44, D-I-52
- Problems = 2** (View Report): D-PB-7, D-PB-8
- Failure Analyses = 1** (View Report): D-FA4

On the right, the FMEA Stats tab is active, showing a table of observed occurrences:

Description	Observed Occurrences
Function that Assembly A is designed to perform	
Cracking	Incidents = 2 Problems = 2
Potential effect of the cracking	
Potential cause of the cracking	
Another potential cause of the cracking	
Cavitation	Incidents = 3 Failure Analyses = 1
Potential effect of the cavitation	
Potential cause of the cavitation	
Another potential cause of the cavitation	

- nCode Aqira by HBM Prenscia allows your organization to manage and share nCode fatigue and durability analyses



- Implementing **Aqira**, **SEP** and **XFMEA** together offers cost savings for some FMEA customers



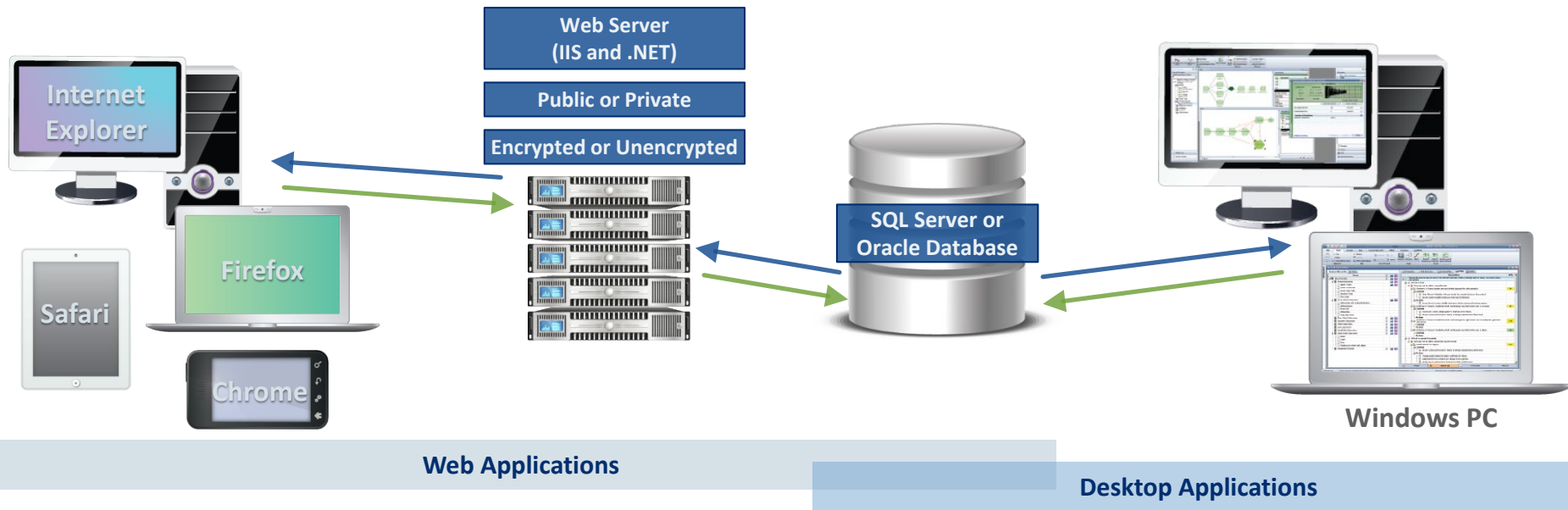
- Aqira users can access SEP without an SEP license seat





- View FMEAs across an organization using a web browser
- Track progress on completing assigned actions
- Access reliability analysis results from any web-enabled device

- A ReliaSoft enterprise repository (on Oracle or SQL Server)
  - Analysis data from any or all of the ReliaSoft applications (XFMEA, Weibull++, XFRACAS, ...)
- A Windows web server with IIS and .NET 4.6
- IT support to:
  - set up and maintain the website
  - maintain the database and enable users to connect



**[www.hbmprenscia.com](http://www.hbmprenscia.com)**

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