

Reliability Engineering Solutions

Data Analysis



We are ready to help you:

- Develop and implement a Failure Reporting and Correction Action System to capture field data, assist with problem resolution and drive improvements in future designs
- Quickly discover design and process flaws before manufacturing release, while evaluating and improving design margins to reduce development time and cost
- Develop product knowledge based on system utilization, generating better designs over time
- Accurately estimate system availability and maintenance schedules from field and test data to reduce field failures and system downtimes
- Forecast system and component failures and returns to reduce costs through better warranty modeling and spare part inventory management
- Achieve system reliability, safety and availability in a timely manner, especially in markets in which competition is fierce and room for error is nonexistent

Manage your need to measure. That's a well-known management principle that emphasizes the importance of selecting the best tools and methodology for collecting and evaluating data in a timely matter. Managing a product reliability or maintainability program is no different.

After investing time and resources to obtain product quality and reliability data, it is essential to perform an effective analysis to derive useful information from the data. The better the analysis, the better organizations are in placing resources on those areas that bring higher return. Organizations around the world are turning to ReliaRisk to conduct thorough data analysis that is presented in an easy-to-understand format.

ReliaRisk understands the principles of performance evaluation and prediction to improve product/system safety, reliability and maintainability. This Body of Knowledge and applied technologies include numerical prediction methods, failure mechanisms, field failure analysis and much more. Our understanding of numerical modeling limitations and how they relate to physical failure modes enables ReliaRisk engineers to determine the best approach for your data analysis needs. And our ability to develop and understand failure analysis ensures performance improvement over the entire product life cycle.

PRODUCT PORTFOLIO

ReliaRisk helps perform analysis at the system level, enabling you to better characterize system and component performance, particularly in an application environment.

COST ANALYSIS

ReliaRisk informs customers of potential operational and warranty costs for systems in the field. Our experience in Life Data Analysis and understanding of how technologies fail enable us to analyze field performance, which is much more accurate than statistical analysis.

RELIABILITY BASED MARKET PERFORMANCE

Understanding how your products are used by customers allows you to better design for specific applications and better price repair or service contracts. ReliaRisk's understanding of Life Data Analysis will result in your product being the best value proposition for your customers.

Reliability Engineering Solutions

PRODUCT WARRANTY ANALYSIS

Bringing a product to market can mean high financial or liability risk. With ReliaRisk performing timely warranty analysis, your organization will better understand field issues and be proactive in improving product performance.

FAILURE RATE ANALYSIS

With ReliaRisk's understand of failure mechanisms in numerous industries and technologies, we help our customers select the best analysis for measuring accurate field performance. We do this by taking a close look at temperatures, rotating pressures, corrosion and other factors that can impact product performance.

ANALYSIS SELECTION

We have vast experience in such analyses as Reliability Growth Analysis, Reliability Block Diagrams and Failure Tree Analysis, enabling us to determine the study that is just right for investigating your system's field performance.

For more information on our products and services, please visit us at www.reliariskllc.com.

Integrating Physics of Failure with Data Analysis



When selecting a probability distribution function, it is important to consider how data fits a given distribution, as well as the physics of failure associated with failure modes found during testing or operation. It's also important to look at the context in how data is collected and how failures occur. Reliability analysis needs to replicate the environment, as well as the duty cycle associated with field operation of a component after a year of use.

ReliaRisk helps you achieve a close representation of field data behavior by simulating early failure mechanisms with actual component wear-out and analyzing the current functionality of components compared to failure life projections.

We help our customers understand infant mortality and wear-out-related behaviors by using analytical methodologies. This approach helps organizations better schedule preventative and corrective strategies with a reduction in operational delays.

Service Features and Benefits

- Quickly discover design and process flaws before release to manufacturing, while evaluating and improving design margins to reduce development time and cost
- Accurately estimate system availabilities and maintenance schedules from field and test data to reduce field failures and system downtimes
- Forecast system and component failures and returns to reduce costs through better warranty modeling and spare part inventory management; aid in developing and implementing a Failure Reporting Analysis and Corrective Action System to capture field data, assist with problem resolution and drive improvements in future designs
- Achieve a reputation for high system reliability, safety and availability, particularly in industries in which competition is high and room for error is nonexistent

SERVICES AVAILABLE

- Life Data and Warranty Analysis
- Reliability Based Asset Management
- Life Cycle Cost Analysis
- Prognostic Health Management
- Condition Based Management
- Design of Experiments
- Reliability Block Diagram
- Failure Tree Analysis
- Reliability Growth Analysis

From Data to Wisdom!



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