## Reliability Engineering Solutions

### KNOWLEDGE-BASED

Capturing, developing, sharing and effectively using organizational knowledge are critical to a successful reliability program. ReliaRisk helps achieve organizational goals by setting systems into place for managing company knowledge, which leads to improved efficiency and effectiveness.

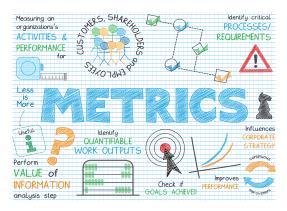
### ACTIVITY BASED MANAGEMENT

ReliaRisk specializes in evaluating customer efforts to improve reliability based strategic and operational decisions in value chain analysis and re-engineering initiatives. By coordinating your reliability activities with your business objectives, we make sure your reliability program delivers to your bottom line.

### BUSINESS CASE DEVELOPMENT

A reliability business case provides a framework for planning and managing reliability activities or organizational activities. ReliaRisk offers a full range of business case services – from improving reliability across an organization to upgrading individual programs and projects. Reliability targets are continually monitored against business case objectives.

# **Program Management**



We will work alongside you to:

- Conduct a reliability gap analysis to evaluate your current state in relation to a world-class organization; aid in making your organization more effective and efficient by reducing warranty or potential product liability when launching a product or operational availability for life-cycle cost optimization
- Determine the reliability and availability of a system, resulting in reduced operating costs and minimized unscheduled downtime
- Assist in the selection and implementation of a Failure Reporting Analysis and Corrective Action System to capture field data, assist with problem resolution and drive improvements in future designs
- Use advanced statistical methods to support management in financial or risk-based decision planning
- Combine all information related to reliability into a single platform so that it can be used during each phase of a product life cycle, from design to field use

ReliaRisk performs gap analyses to rate product and process maturity levels in relation to world-class reliability or maintainability practices. This procedure enables us to evaluate such areas as knowledge-based management, activity-based management, business case development, reliability capability talent management, reliability tools maturity and change management from the perspective of reliability/maintainability engineering.

We use the resultant information to conduct a value chain analysis or re-engineering initiative to improve reliability based strategic and operational decisions within an organization. With our understanding of how business goals align with reliability strategies, we help make your reliability program more effective and efficient, while reducing warranty costs or eliminating potential product liability issues. Our knowledge of Reliability Based Asset Management can help you better optimize operational activities and align operational requirements to business demands.

ReliaRisk empowers your organization to also align the strategic projection and planning of talent (internal or external) with the skills, knowledge and behaviors essential to reach strategic objectives. We do this through reliability strategic roadmaps that aid in developing and implementing activities that achieve long-term reliability goals and objectives. These roadmaps serve as our compass for leading organizations from where they are now to where they would like to be in three to five years.



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# RELIABILITY CAPABILITY TALENT MANAGEMENT

Through talent management, ReliaRisk empowers customers to create high-performance sustainable organizations that meet strategic and operational objectives by developing and executing plans that meet long-term reliability goals.

### RELIABILITY TOOLS & MATURITY MODEL

ReliaRisk can help you establish a roadmap with reliability tools that range from Life Data Analysis, Accelerated Life Testing and Reliability Centered Maintenance to Reliability Product Development and Reliability Based Asset Management. These tools will align your organizational strategic goals with your talent structure.

#### CHANGE MANAGEMENT

With our experience in developing reliability programs from ground zero, ReliaRisk can help you implement an all-new reliability based program that integrates roles and responsibilities for all functions influencing product reliability or operational availability.

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

### Improving Tire Performance in the Airline Industry



Airlines have maintenance personnel, tooling and materials at a limited number of airports. Aircraft can be scheduled for seven to 20 flights before they must be inspected at a maintenance station, where tread depth is inspected and other tire checks are performed at varying intervals. The tread depth inspection is often performed at night in poor lighting conditions, outside where weather conditions can be inclement and with a tool that is prone to measurement variations. The fact that wear patterns can vary throughout the circumference of the tire tread further adds to the difficulty of inspection.

Because tires play such a critical role in flight safety, pilots are charged with checking tire wear prior to each aircraft

flight. If tire wear is detected at a non-maintenance location, a delay in takeoff occurs, driving up costs and reducing customer satisfaction.

ReliaRisk was called to action when a non-maintenance location wanted to eliminate the occurrence of tires worn to a minimum limit – and flight delays. We performed a Life Data Analysis to determine a predictive scheduling alert that signals when tires are reaching their worn-to-limit minimum or not performing to specifications. The Life Data Analysis also enabled us to calculate the cost of tire replacements.

As a result, aircraft tires are continually in fly-ready condition at this location, and flight delays due to tires worn to the minimum limit have been eliminated.

### Service Features and Benefits

- Improve and hone the reliability and design of your system early in the development process by identifying high risk areas and implementing actions to mitigate those risks
- Develop statistically sound reliability demonstration tests while taking into account constraints in available sample size or test time; reduce life cycle costs through effective implementation of a Design for Reliability process
- Reduce life-cycle costs through effective implementation of a Design for Reliability process, enabling you to bring a better value proposition to your customers
- Develop cost-effective maintenance schedules and ensure your customer's demand for high availability will be met
- Leverage and manage knowledge enterprise-wide, allowing issues found in the field to be removed from future designs

### SERVICES AVAILABLE

- Life Data and Warranty Analysis
- Reliability Organizational Development
- Reliability Processes and Procedures
- Failure Mode and Effect Analysis
- Reliability Centered Maintenance
   Reliability Report Asset Management
- Reliability Based Asset Management
- Life-Cycle Cost Analysis
- Prognostic Health Management
- Condition Based Management
- Design of Experiments

From Data to Wisdom!



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