Integrated Data Collection and Analysis Solutions

DESCRIPTION

Effective reliability, maintainability, and supportability data collection and analysis is absolutely essential to accurately identifying problem areas and identifying solutions that offer the greatest impact to the bottom line. Properly executed and integrated, data collection and analysis can eliminate costs associated with inefficient or inaccurate problem identification, allowing engineers and managers to concentrate on those issues having the greatest impact on reliability, maintainability, and supportability. Applied early, it supports requirements definition and design decisions and applied later on, it supports testing and maintenance decisions.

Effectively identifying the needs of a data collection program early is vital to the success and accuracy of the data analysis it later supports. Unfortunately needs are often misidentified or change as the data collection process continues. Solutions must then be identified to bridge the gap between the needs of the data collection program and the existing data. Organizations proficient in collecting data often lack the resources or knowledge to develop an integrated data management system that can support various reliability, maintainability, and supportability analyses. Converting the collected data to common measures and formats is often laborious and many organizations do not have the experience or expertise to effectively accomplish this integration. An integrated data management system increases the value of the data from being a historical record to a forward-thinking utility. An integrated data management program will determine objectives that support:

- Estimation of warranty and support costs
- Evaluation of trade-offs for design alternatives
- Integrated logistics support
- Identification of manufacturing problems
- Accurate life cycle cost analysis
- Estimation of sparing needs

The Alion SRC's experience in collecting, analyzing, and storing data has resulted in extensive databases that contain information on electronic and mechanical parts, products, and systems (i.e., SPIDR, FMD, NPRD, EPRD, and VZAP – visit http://src.alionscience.com for more details). These databases provide SRC with the requisite expertise to support reliability, maintainability, and supportability activities over the entire system life cycle. During design, SRC evaluates trade-offs and identifies potential risks. As a system proceeds through development, SRC defines and verifies requirements and develops procedures to ensure that requirements are achieved. During production, our technical personnel monitor tests, analyze failures to determine root cause, and define and implement failure reporting and corrective action procedures. After system deployment, we verify that performance objectives are being achieved, perform statistical analyses to identify trends, develop models and tools, and identify improvements. Our expertise continues to be applied as end-of-life issues like wearout, part obsolescence, and lifetime extension are analyzed.

SRC develops integrated data management systems (web or PC based) for commercial and military customers to summarize key reliability, maintainability, and supportability metrics. SRC works with the customer to effectively transform their historical database into a tool that supports key decisions throughout a system's life cycle. SRC develops integrated data management systems from a multitude of maintenance management or data collection, analysis, and corrective action systems. Our customized capability provides tailored results to effectively monitor field performance of systems, at the individual or group levels, and all system components.