

Failure Mode, Effects and Criticality Analysis

What is it?

A Failure Mode, Effects, and Criticality Analysis (FMECA) is a “bottom up” assessment of the design of a system (hardware, software and/ or process) to determine the consequences of a failure on the overall performance or effectiveness of the system. An FMECA can be appropriately tailored and performed at any level, or on any function, of a product/system.

What’s the payoff?

Understanding the consequences of failure is important to safety, maintenance and optimizing reliability. Systematic early identification of the effects of failure (and their criticality) allows design/process corrections before any testing begins. FMECAs also provide valuable information for maintenance manuals and troubleshooting procedures, conserving valuable resources.

How can we help?

- Perform independent FMECAs on your designs and/or processes using various accepted techniques such as SAE or MIL-STD-1629A
- Collect data and build databases of part failure mode/ mechanism characteristics for use in FMECAs
- Develop automated FMECA tools customized for your organization’s use
- Objectively review FMECAs performed by third parties and correct any deficiencies

