

# Strategic Reliability Engineering

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# Strategic Reliability Engineering

## Overview

Fundamentals of Reliability provides a solid foundation in the methods, analyses, applications, and associated tools of reliability engineering mathematics, ranging from basic data analysis and modelling to advanced methods and concepts. This course will introduce and familiarise attendees with basic statistical concepts such as reliability estimation, data set comparison and basic reliability modelling techniques.

## Course Objectives

- Become familiar with reliability engineering definitions and principles
- Develop an understanding of the statistics behind reliability engineering models, including parameter estimation and confidence intervals
- Understand when and how to use common life distributions, including Weibull, lognormal, normal and exponential
- Introduce different types of life data analyses, and System Reliability Analysis

## Course Content

- Reliability statistical concepts
- Reliability data types
- Reliability metrics
- Weibull and life distribution analysis
- Degradation analysis
- Warranty analysis
- Reliability data comparisons
- Reliability test planning and analysis
- Stress-strength analysis
- Introduction to quantitative accelerated life test analysis
- System reliability analysis with Reliability Block Diagrams (RBDs)



# Strategic Reliability Engineering

## Targeted Audience

The Fundamentals of Reliability course is designed for engineers and technicians who need to understand the concepts of reliability engineering and develop their skills in reliability life data analysis for product and equipment failures.

## Course Methodology

Facilitated by an experienced professional trainer, this training course will be conducted as a highly interactive workshop session. A variety of training methodologies and facilitation techniques will be employed before and during the course, as applicable. These methods are aimed at enhancing individual and group interaction while maximising learning. Some of these methods are:

- Online Pre-post Test
- Colourful Visual Aids
- Gamification
- Self-Assessment Instruments
- Simulations
- Case Studies
- Videos
- Group Exercises & Discussions
- Role-plays
- Indoor & Outdoor games

