Description Classroom Training
Basic Reliability Engineering

We only offer this training in-house. Please contact us.

About the topic:

This two-day seminar provides an overview of the various fields of work and methodological approaches in the field of “Reliability Engineering”. The mathematical fundamentals necessary for further understanding are laid on the first day of the seminar. After that come the first steps in calculating system reliability. The second day of the seminar begins with an exercise and the Weibull analysis of complete data. This is followed by the introduction to reliability test planning. The seminar concludes with a look at the analysis methods for the evaluation of censored data sets.

Target group:

Engineers, technicians, specialists and executive staff from development, testing, design, research, production, quality assurance and management, as well as purchasing and sales and distribution

Training content:

Day 1

- **Introduction**
  Introduction to reliability engineering | Reliability in the product development process

- **Mathematical Description of Reliability**
  Basic concepts of statistics and probability theory | Weibull distribution | Failure probability | Density function | Failure rate | Reliability | Confidence interval | Estimation of distribution parameters | Regression analysis | Maximum likelihood estimation

- **System and Component Reliability**
  Boolean system model | Reliability block diagram | System reliability evaluation and optimization

Day 2

- **Data Analysis I (Complete Data)**
  Median rank method | Weibull probability plot | Weibull analysis | Acceleration factor

- **Reliability Test Planning and Analysis**
  Binomial distribution approach | Success run | Parametric binomial | Accelerated life testing | Step-stress method | Highly Accelerated Life Testing HALT

- **Data Analysis II (Censored Data)**
  Type I and type II censoring | Multiple censoring | Weibull analysis based on censored data | Mixed Weibull | Batch problems | Competing failure modes

Prerequisites:
There are no prerequisites for this topic.

Software requirements:
A calculator is required for this seminar.

Certification:
The training will end in all cases with a certificate of participation.

Training duration:
Training 2 Days

Scope of services:

- Training documents in paper form
- Training documents as pdf document
- Certificate of participation

Training fee:
On request, we will gladly make you a personal offer.

Coaching:
Should you so wish, we can put together a time and content tailored coaching concept for you after completion of the training.