



PRESENTS IN ASSOCIATION
WITH



Workshop on

Design For Reliability

Jan 30th - 31st, 2012 - Bangalore
Feb 3rd - 4th, 2012 - Pune



Course Objective:

In this seminar, we will teach you the proper techniques to achieving Design for Reliability (DfR). We will take you through the four key phases of the product life cycle and how to integrate reliability within each phase:

Step 1. Concept Phase

In the Concept Phase, you will learn how to assess your reliability program and how to benchmark against competitors in order to properly set the goal. You will also learn how to set metrics so that you can measure where you are against your goal at various stages in the product development process. Then you will learn how to write a Reliability Program Plan that encompasses your goals as well as all of the reliability activities that you will use to achieve your goals.

Step 2. Design Phase

In the Design Phase, you will learn the best design analysis techniques to both improve and measure your product reliability while it is still being designed. These techniques include Reliability Predictions, FMEAs, Thermal Analysis, and Design of Experiments.

Step 3. Prototype Phase

In the Prototype Phase, you will learn the best testing techniques to both discover any residual product weaknesses and to demonstrate your product reliability before it is released to production. These techniques include HALT, Accelerated Life Testing, and Reliability Demonstration Testing.

Step 4. Manufacturing Phase

In the Manufacturing Phase, you will learn the best manufacturing reliability techniques to screen products for defects before shipping to customers and how to measure product performance in the field and feed it back into the product development process to improve the process for future iterations of the product.

Course Outline:

Reliability is no longer a separate activity performed by a distinct group within the organization. Product reliability goals, concerns and activities are integrated into nearly every function and process of an organization. Each organization must factor reliability into every decision in order to ensure produce a successful product. The old Test-Analyze-and-Fix philosophies no longer have a place in today's design process due to continuous cost reduction pressures and reduced design cycles.



Meet our Partner, Author & Expert Coach

Biography: Mike is founder and managing partner at Ops A La Carte, a Professional Consulting Company that has an intense focus on helping customers with end-to-end reliability. Mike has over 25 years of experience in reliability engineering, reliability management and reliability training. He is an experienced leader in reliability improvement through analysis and testing. Through Ops A La Carte, Mike has had extensive experience as a consultant to high-tech companies, and has consulted for over 500 companies in over 100 different industries in most of the United States and 15 countries around the world. A few of the main industries are telecommunications, networking, medical, semiconductor equipment, consumer electronics, power, energy, and defense electronics. Mike is an expert in accelerated reliability techniques and owns HALT and HASS Labs, one of the oldest and most experienced reliability labs in the world. Mike has recently completed his first book on reliability entitled "How Reliable Is Your Product: 50 Ways to Improve Product Reliability". The book was published December, 2010. Mike has authored and published 25 papers on reliability techniques and has presented these around the world including Canada, China, Germany, Japan, Korea, Singapore, Taiwan, and the USA. He has also developed and currently teaches over 30 courses on reliability techniques. Mike has a BS degree in Electrical and Computer Engineering from the University of Colorado at Boulder, and is a Certified Reliability Engineer (CRE) through American Society for Quality (ASQ). Mike is a member of ASQ, IEEE, Stanford PRN, PRG, SME, ASME, PATCA, and IEEE Consulting Society. Mike is currently the IEEE Reliability Society Santa Clara Valley Chapter Chair.

Course Content

DAY 1

8:30-9:00am	Introduction
9:00-10:00am	DFR Overview
10:00-12:00pm	Planning for Reliability – Assessments, Goals, Plans (Ch 5-12)
12:00-1:00pm	Modeling and Prediction (Ch 21)
1:00-2:00pm	Lunch
2:00-2:30pm	Derating/Uprating/Thermal Analysis (Ch 22/23)
2:30-3:30pm	Failure Modes and Effects Analysis (FMEA) (Ch 16)
3:30-4:30pm	Design of Experiments (Ch 25)
4:30-5:00pm	Design of Experiments Workshop

DAY 2

9:00-9:30am	Warranty Analysis (Ch 29/47)
9:30-10:00am	Mechanical Reliability (Ch 26/30)
10:00-10:30am	How to Design a Better Reliability Test Plan (Ch 32)
10:30-11:30am	Highly Accelerated Life Test (HALT) (Ch 34)
11:30-12:00pm	Accelerated Life Test (ALT) (Ch 36)
12:00-1:00pm	When to Use HALT vs. ALT (Ch 37)
1:00-2:00pm	Lunch
2:00-2:30pm	Reliability Demonstration Test (RDT) (Ch 35)
2:30-3:00pm	When to Use HALT vs. RDT – the HALT Calculator (Ch 38)
3:00-4:00pm	Highly Accelerated Stress Screen (HASS) (Ch 43)
4:00-4:30pm	Field Data Analysis (Ch 48)
4:30-5:00pm	Wrap-Up/Quiz

PROGRAM SCHEDULE

08.30am	: Registration & Introduction
09.00am	: Course Commence
10.30am to 10.45am	: Tea Break
01.00pm to 02.00pm	: Lunch
03.30pm to 03.45pm	: Tea Break
05.00pm	: Course ends

BE ANALYTIC: Join with us to make your organization's vision come true by delivering most **reliable and safe** products to your customers at competitive price. We have flexible billing models for engineering outsourcing services and consulting services. Our proactive methods help customers to get Consistent and Reliable services in the fields of Aerospace, Automobile, Rail, Medical Science, Oil & Gas, Nuclear, HVAC, Industrial, Marine and Power Generation Industries, because we know "Our Customers Having Customers". We wish to share our client's success by rendering our worthy services.

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KNOW MORE ABOUT THE EVENT ORGANIZERS



BE Analytic is a leading Engineering services provider in the fields of Aerospace, Automobile, Medical Science, Oil & Gas, Nuclear, HVAC, Industrial Products, Marine and Power Generation Industries. It is initiated by a group of eminent scientists and experienced engineers in Bangalore, India. BE Analytic believes in complete focus on Product Design & Development and Engineering Services, our proactive methods help customers to get consistent and Reliable services, because we know "Our Customers having Customers".



Ops A La Carte is a Professional Reliability Engineering firm focused on providing you confidence in reliability throughout your product life cycle. We offer a flexible method of engagement from end-to-end reliability solutions to solving specific problems to providing individual targeted reliability services. We do this through reliability assessment, consultation, testing, and training. We have our own Reliability Lab called HALT and HASS Labs where we have successfully helped customers improve the reliability on over 500 different products.

SAM SAM Technologies

SAM Technologies was formed in the year 2000, with an objective of providing effective, efficient sales & services of environmental simulation chambers, vibration measurement & analysis equipment in the marketplace. The company comprises of people with decades of experience in this field. Having undergone technical training at major equipment manufacturers abroad; addressed many critical customer issues on field; our personnel have the right mix of experience, expertise and attitude to take up challenging and unresolved jobs. SAM Tech can support you with consulting activities like selection of suitable equipment, setting up the facility, supply and maintain those in line with your requirements.



AeSI Alumni Association

AeSI Alumni Association (AeSIAA) is the official Society of AeSI graduates. AeSIAA is an independent, non-profit registered body under Karnataka society's registration act. The primary objective of the Alumni Association is to provide an ideal platform for social/professional networking of alumnus as well as networking of students with alumni. AeSIAA intends to promote exchange of technical information, not only among its members but also among the engineering community by organizing regularly technical symposiums/lectures on topical subjects as well as in emerging areas with a futuristic vision.



THE AERONAUTICAL SOCIETY OF INDIA Promoting Excellence in Aeronautical and Aerospace Profession

AeSI was founded on December 27, 1948, To promote the advancement and dissemination of knowledge of Aeronautical and Aerospace Sciences / Technologies. To strive for the elevation of Aeronautical and Aerospace profession. Over the years, the Society has grown into a major professional body in the field of aeronautics, aviation & aerospace. The Society has 16 branches at all the important centers of aviation in the country.

Registration Form For **Design for Reliability** Workshop

Bangalore- Jan 30th & 31st, 2012
Pune- 3rd & 4th, 2012

(Please Fill in Block Letters)

Prof./Dr./Mr./Ms.....

Designation.....

Organisation.....

Mailing Address.....

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City/Town:

Tel:

State:

E-mail:

Fax:

Preferred Venue: Bangalore OR Pune

Registration Fee

Industry / R&D Labs - **Rs.12000/-**

AeSI Members / Academia - **Rs. 10000/-**

(To avail discounts on bulk booking, please contact the below address)

*Registration Fee inclusive of Course Material, Lunch and Tea

Contact:

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*Registration fee is payable as a online transfer/ cheque /DD in favour of 'BE Analytic Solutions LLP' payable at Bangalore and send to below address.

Bank Details

BANK : IDBI BANK, Branch: Indira Nagar, Bangalore

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