**Workshop Title:**

Managing Process Quality to drive World Class Customer Performance

**Tagline**

Modernizing your approach for today’s critical customers

**Date:**

**Venue:**

**Course Facilitator:**



**Mr. Martin Shaw**

**MD Reliability Solutions**

* Over 34 years of knowledge and experience in reliability and process quality improvement
* Expert in reducing product failure levels at the most expensive end of the Product Cycle
* Extensive consultation and work assignments around USA, Europe, and Asia regions
* Partial list of clients: Astec Power, Philips, Vestel, Acer, LG, Atmel Semiconductors, GE, Hua Wei, Emerson Power, Wolfson Microelectronics, SMART Technology, Etc

**Main Learning Objectives and Benefits**:

* Determining the Importance of Process Mapping to control Process Quality
* Understanding why detailed process measurement is so important
* Using PFMEA to plan the best process
* Applying the appropriate 6 Sigma tools to improve process quality
* Using Process Yield data to predict escape levels to the field and Early Life Reliability
* Making sure you set up the correct and effective Management Reporting
* Identifying why Process Quality controls Early Life Warranty failure levels
* Using Design of Experiments (DOE) to optimise process quality
* Measuring New Product Introduction and ensuring maximum process quality

**Why should you attend?**

If you are truly interested in optimizing Process Quality in a manner that drives results quickly, then you should attend this seminar. The seminar is packed with real life case studies across a range of clients Martin Shaw has worked with in last 20 years as consultant, working mainly in Asia region.

This seminar is NOT simply using theory from standard Quality references and literature like most Quality Improvement seminars, it shows how to use the fundamental steps mixed with quite unique measurement and reporting approaches which enable engineers and management to see clearly where they should be making change for improvement. The seminar also provides proven methodology to predict escape rates from process to customer and how these can be minimized towards Zero defects.

Finally, the attendees will get an insight into process reliability testing and how to set up within a process environment to provide further control of Early Life failures within the customer environment, making the Quality role more fulfilling and meaningful.

***As Deming famously quoted;***

***"It is not enough to do your best; you must know what to do, and then do your best."***

This is a seminar for Quality people who want to make a serious difference to their company’s Quality levels.

**Course Description:**

In today’s complex product manufacturing, the old approach to QC controls simply no longer apply. Using the traditional standards for QC batch controls, etc to AQL target levels simply DO NOT guarantee steady Quality levels.

Processes are so much more complex now that a very detailed continuous measurement approach is required to monitor at component failure level up to full product level. This requires very detailed process mapping and appropriate use of data to drive continual improvement and utilise for predicting expected improvement in customer Early Life failure levels.

Course attendees will learn from a range of case studies used in training material how to set up most efficient forms of process measurement and effective management.

Attendees will be given the Reliability Solutions calculation models used in the training to use in their own laptops during the education and in the group assignments

The course provides a very structured and modern-day approach to process quality optimisation and how to use data to predict customer escape levels.

**Participants will walk away with the ability to:**

* Determine how to set up your process control measurements and used of data
* Introduction into using the most effective 6 sigma tools`
* Using Target setting to drive continual improvement
* Using in process measurements to manage suppliers and remove need for incoming inspection
* Understanding how to use process data for predicting factory escape rates to customer
* Apply DOE to optimise complex parts of the process
* Making OQA less critical and minimising dependence on Quality ‘catching’ all the defects
* Controlling New Product Introduction
* Driving COST REDUCTION through savings
* Reliability Solutions calculation models that can be instantly applied in your own environments

**Who should attend?**

This course is designed for process engineers and managers who will have some responsibility for setting up process quality control methods, supplier quality management, quality assurance, customer quality management

* Product Quality managers, engineers
* Product Quality managers, engineers
* Customer Quality engineers
* Supplier Quality Engineers
* Product Engineers
* And any other Professionals who are involved in managing the process quality

**Agenda**

**Day 1**

**Session 1: Introduction to Process Mapping and Setting Up Process Measurement**

* Making sure measurements are installed in process and How to use the measurement data
* Driving process problems back to earliest point in the process
* Setting up effective process reporting for easy management understanding
* Real Life Case Study of High Volume PCBA manufacture, World Class Consumer Product manufacturer

**Session 2: Scoring the Process to Rate Level of Quality Control, Effective Case Studies**

* Using an organized rating score approach to review process capability
* Benchmarking processes with the scoring approach
* Real Life Case Study of SMART Meter Manufacturer

**Session 3: Understanding the Use of the Appropriate 6 Sigma Tools to Drive Process Improvement**

* Applying the basic and effective 6 sigma tools and selecting those which will make the difference to your organisation

**Session 4: How to Set Up a Continual Improvement Program**

* Target Setting and how to use for continual improvement, Ensuring problem management is effective
* Real Life Case Study of Consumer Electronics maker and application to drive improved Supply Chain Quality

**Session 5: Applying PFMEA Prior to Start of Mass Production**

* Why PFMEA is important, How to use a simplified and effective approach
* Real Life Case Study of Electro Mechanical product

**Day 2**

**Session 6: Managing suppliers with in process measurements**

* Setting up supplier management in an effective manner
* Using Supplier Measurement scoring to manage supply chain with effective audit methods
* How to effectively rate good suppliers and NOT rely on old style supplier audits that have minimal effect

**Session 7: Applying DOE with Fractional Factorial Design to optimize processes**

* Simplifying Design of Experiment approach to define key process parameters that drive process Quality
* Real Life Case Study of Solder Process optimization

**Session 8: Understanding the best techniques to apply for effective Problem Solving**

* Selecting the right company approach to streamline Problem Solving
* Measuring and Monitoring the problem solving efficiency within management reporting

**Session 9: Controlling New Product Introduction (NPI) and using a unique scoring matrix to assess readiness for Mass Production**

* Understanding how to score a new product readiness for manufacturing
* Ensuring maximum quality from effective NPI
* Real Life Case studies from SMART Meter manufacturer and High End Power Supply maker

**Session 10: Workshop with attendees who will be given a task of deciding how to set up a new manufacturing process control approach**

* Groups of attendees will be given examples and given two hours to develop their plan (PRT, hand held device, Gas Boiler Igniter)
* Ability to understand how they look at the ‘total picture’ and NOT simply apply standard SPC with end of line testing to attempt to ‘catch’ the escapes!!
* Discuss their output openly with other groups in the class to ensure knowledge transfer of good ideas / strategies

**About your course facilitator:**

Reliability Solutions was formed in 1997 by Martin Shaw, previously of IBM as Quality and Reliability Specialist within PC business unit. Martin Shaw worked as specialist in Product and Commodity Quality / Reliability optimization for the Electronic Product Suppliers to IBM between the years of 1982-1997. During this time, he worked extensively throughout Asia, USA and Europe with wide range of suppliers. Since 1997 he has worked with a wide range of companies Worldwide and provided solutions to ensure RAPID improvement in a dynamic environment. These companies include many Blue-Chip companies: Daewoo Electronics, LiteOn, Astec Power, Philips, TPV, Vestel, Acer, LiteOn Power, LG, Amtran, Fairchild Semiconductors, Atmel Semiconductors, Wolfson Microelectronics, Analog Devices, GE, ULTRA Electronics, Melexis, IDEAL Heating, SKY TV, Hua Wei, Emerson Power, EE Phones, TCL, SMART Technology, Singapore Technology Kinetics, Etc.

He provides a range of 2-3 days Reliability Improvement and Quality Improvement Seminars and Application consultancy to meet the exact needs of any Electronic Manufacturer.

**Education**

* Bachelor of Science in Production and Mechanical Engineering, Strathclyde University Glasgow

**Awards**

* Gold Award for Best Paper at Reliasoft Applied Reliability Symposium in Berlin, March 2010
	+ Achieving World Class Reliability
* Gold Award for Best Paper at Reliasoft Applied Reliability Symposium in Singapore, Oct 2010
	+ Achieving World Class Reliability
* Gold Award for Best Paper at Reliasoft Applied Reliability Symposium, Warsaw, March 2012
	+ Predicting Warranty FRR using Process Yield Data

**Publications**

* CRT Bleed Resistor Reliability
	+ Quality and Reliability Eng International, Apr 86'
* Recognizing the optimum Burn-In period
	+ Quality and Reliability Eng International, May 87'
* Weibull Analysis of Component Failure Data from Accelerated Testing
	+ Reliability Engineering, Sept 89'
* Use of Bayes Theorem and Beta Distribution for Reliability Estimation
	+ Reliability Engineering, Nov 89'

**Conference Presentations**

* Planning Early Life Reliability Testing using the 'Hughes' model
	+ European Symposium of Reliability, Nov 94'
* Power Supply process optimization using Random Vibration
	+ Submitted to European Symposium ofReliability1997
* IBM Interplant Technical Liaison presentations
	+ Austin Texas 1988, Fishkill New York1992, Raleigh N.C 1993
* Gold Award for Best Paper at Reliasoft Applied Reliability Symposium in Berlin, March 2010
	+ Achieving World Class Reliability with LCD TV
* Gold Award for Best Paper at Reliasoft Applied Reliability Symposium in Singapore, Oct 2010
	+ Achieving World Class Reliability with LCD TV
* Gold Award for Best Paper at Reliasoft Applied Reliability Symposium, Warsaw, March 2012
	+ Predicting Warranty FRR using Process Yield Data
* IEEE Conference Paper presentation, San Diego October 2013

**Successful results achieved by current and past clients:**

* TPV China (World No. 1 LCD Monitor / TV maker) – 100% improvement in Warranty Fail levels, 2008-2009
* Vestel Electronics Turkey – 300% improvement in Warranty fail levels, 2008 – 2012
* SMART Technology Canada – 70% Supplier Process Quality Improvement, 2015 to 2016

**Partial list of companies that have benefitted from Mr. Martin’s expertise:**

* Daewoo Electronics
* Astec Power
* Philips
* TPV China
* Vestel Electronics Turkey
* Acer
* LiteOn Power
* LG
* Amtran
* Fairchild Semiconductors
* Atmel Semiconductors
* Wolfson Microelectronics
* Analog Devices
* GE
* ULTRA Electronics
* Melexis
* IDEAL Heating
* SKY TV
* Hua Wei
* Emerson Power
* EE Phones
* TCL
* SMART Technology Canada
* Singapore Technology Kinetics

**Testimonials**

*“Martin, the team was grateful to have you as our consultant. Thank you for your guidance, your professional coaching and sharing of experiences.”*

*“Thanks for creating an awesome learning environment. The team had acquired good knowledge and skill toward improvement in product reliability.”*

*“Mr. Martin is a great speaker, lecturer and teacher. He is also very clear with practical examples.”*