

## Statistical Techniques

*'Understand the basics of these Statistical Tools.'*

### Measurement System Analysis (MSA)

- ◆ Course / Delegates' Objectives
- ◆ Measurement System Variability
- ◆ ISO/TS 16949 Requirements
- ◆ Measurement System Error
- ◆ Location error; Bias, Linearity, Stability
- ◆ Spread errors; Repeatability & Reproducibility
- ◆ Gauge R&R Study, Variable & Attribute
- ◆ Analysis of Results – Graphical
- ◆ Auditing

#### FEEDBACK EXAMPLES

*"Gave me the understanding that I wanted."*

*"Good use of practical exercises to demonstrate theory"*

### Statistical Process Control (SPC)

- ◆ Course / Delegates' Objectives
- ◆ Goal of Standards, e.g. ISO/TS 16949:2009
- ◆ Process Control
- ◆ Variation / Distribution
- ◆ Location; 'Setting'
- ◆ Spread; 'Variability'
- ◆ Variables & Attributes
- ◆ Control Charts
- ◆ Process Capability
- ◆ Auditing

#### FEEDBACK EXAMPLES

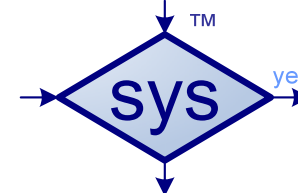
*"Ease with which complicated mathematics was conveyed to everyone."*

*"Showing how to apply SPC in the workplace."*

*'SPC' Ref. article;*

*ICA 'Quality World'. Request a copy on website.*

*"Time to make that business decision"*

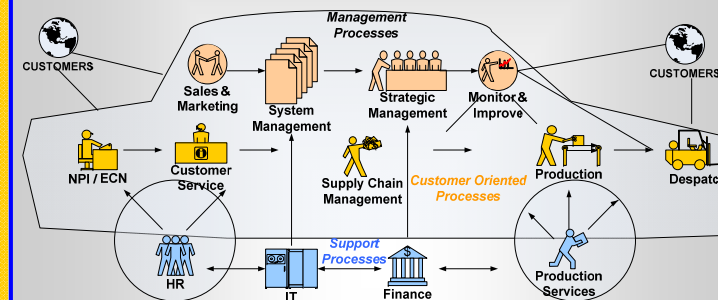


**Systems Yield Success**

## Core Tool Training

**sys** wants to help you improve your business using the Process Approach & obtain third party Approval.

This is done by providing Training, including NPI, see page 2, FMEA, see page 3, & SPC / MSA, see page 4, & Consultancy Support, see separate brochure.



Example 'SYSTEM MAP' Showing 'Sequence & Interaction' of Key Processes

Products are delivered by professionals with competency in:

- ◆ Third party assessment,
- ◆ Group management positions
- ◆ Training & qualifying third party assessors.

We cover standards such as:

- ◆ ISO9001:2008 & ISO/TS 16949:2009

Contact us; [sales@systemsys.co.uk](mailto:sales@systemsys.co.uk) or the web.



Business Link  
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## New Product Introduction e.g. APQP & PPAP



*'Understand these Product Introduction Frameworks'*

- ◆ **Course / Delegates' Objectives**
- ◆ **Quality Planning: Why / Who / How?**
- ◆ **Product Quality Planning Timing Chart**
- ◆ **APQP Phase I**
  - PLAN & DEFINE PROGRAMME**
  - Inputs & Outputs: (Inputs for section II)
- ◆ **APQP Phase II**
  - PRODUCT DESIGN & DEVELOPMENT**
  - Outputs: (Design) FMEA, Design Review
  - Outputs: (APQP Team)
  - Control Plan, Cause & Effect Diagram**
- ◆ **APQP Phase III**
  - PROCESS DESIGN & DEVELOPMENT**
  - Outputs: Measurement system analysis
- ◆ **APQP Phase IV**
  - PRODUCT & PROCESS VALIDATION**
  - Outputs: Variation, Process Capability
- ◆ **Part Approval: PAP**
- ◆ **PPAP AIAG PPAP Manual**
- ◆ **Reporting Requirements;**
  - Submission, Records
- ◆ **APQP Phase V**
  - FEEDBACK, ASSESSMENT, CORRECTIVE ACTION**
  - Outputs: Improved; QCD & APQP Process.
- ◆ **Management Support, 'throughout'**

### FEEDBACK EXAMPLES

*"Good Knowledgeable of the Trainer.  
Lots of Group Participation."*

*"Very hands on and became specific to  
our needs as a company."*



## Failure Mode & Effects Analysis FMEA



*'Get real benefit from this Risk Analysis Tool'*

- ◆ **Course / Delegates' Objectives**
- ◆ **Goal of ISO/TS 16949**
- ◆ **Successful Implementation**
- ◆ **Plan Do Check Act**
- ◆ **Inputs; Measurement Tools (QOS)**
- ◆ **FMEA process; Creation**
- ◆ **When should you create an FMEA?**
- ◆ **Who should be involved?**
- ◆ **Define Scope & Customers**
- ◆ **Preparation; Block Diagram, P Diagram**
- ◆ **DFMEA**
- ◆ **PFMEA**
- ◆ **FMEA Elements (Form, 'options')**
  - Function
  - Failure Mode
  - Effects of Failure
  - Potential Causes
  - Controls
  - Severity, Occurrence, Detection scores
  - Risk Priority Number
  - Actions
- ◆ **Continuous Improvement**
- ◆ **Auditing, Customer Specific Requirements**
- ◆ **Workshop; Creation of Documents**

### FEEDBACK EXAMPLES

*"Hands on dealing with real issues."*

*"Learning how to do FMEAs."*

*FMEA' Ref. article;*

*ICA 'Quality World'. Request a copy on website.*

