



TECHNICAL TRAININGS

*"Education is not the
learning of facts, but the
training of the mind to
think."*

Albert Einstein

E=mc² consulting
A **TRIGO** COMPANY



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5S and Visual Management

Lean Manufacturing performance Module



Did you know that you cannot build a performant production system without 5S?

5S is the name of a methodology that improve the workplace organization and effectiveness , and this training and workshop is useful and applicable to all departments and employees from organization.

Why do you need this training ?

- You will learn how to improve on-time delivery of services and products;
- You will learn how to improve the quality of the products and reduce waste;
- You will learn how to increase the productivity;
- You will be able to reduce the waste of materials, space and time (preventing waste);
- You will be able to reduce the storage costs and inventory;
- You will live in a healthier environment and will improve the safety of the workplace;

Training content

General remarks

Defining and explaining the Kaizen concept; What is 5S (concept and methodology);
Defining 5S steps (Seiri, Seiton, Seiso, Seiketsu, Shitsuke), 5S practical example (positive and negative);

Mind-set and behavior regarding 5S methodology

Making the employees aware regarding the roles and responsibilities of applying 5S;
When is 5S needed? Where do we have to apply 5S? Which are the 5S objectives?

Case study

Analyzing the workplaces (5S in the office, 5S in production area);

How to implement and practice 5S?

Trainings & awareness; Visual control and identification; Defining roles and responsibilities;
Defining standards; Defining and assuring the necessary resources;

5S evaluation

Defining 5S audits (audits structure and methodology, define participants), defining the reporting methods; defining the system for evaluation and recognition of the employees.

One day Workshop

Participants are divided into teams , and they have to implement 5S in a specific production area, based on learned principles.

Finally, each team presents their results and an implementation plan to support long-term performance.



Lean Startup

Lean Manufacturing

Lean Manufacturing performance Module

Have you ever wondered how could you do more and more with less and less? Less human effort, equipment, time and space?

Lean Manufacturing offer the answer to these questions and this program is dedicated to all who want to eliminate waste from their work, and in the meantime to increase the added value. This course is useful and adapted to all departments and employees within a organization.

Why do you need this training ?

You will learn how to identify and eliminate waste, to classify the processes and maximize the operations that added value.

You will increase the productivity by learning how to use the tact time and the cycle time to balance the operations more efficiently.

You will improve the internal logistic flow using the Supermarket, Kanban and Heijunka concepts.

You will learn how to optimize the value flow between supplier and customer and you will be able to implement successfully the pull flow concept.

Training content

Lean manufacturing principles: Lean approach and Lean benefits; Implementing Lean principles, Key success factors;

7 types of waste: Classifying waste; methods for identifying waste; eliminating waste benefits;

Customer Takt time: Why is it important and how is it calculated; What is the difference between customer Takt time, internal Takt time and cycle time?

Just in Time: Just in Time principles; JIT components (production leveling, small batch production, Pull flow, Kanban, TPM, balancing operations and processes);

One piece flow: What does one piece flow means?; How and where can OPF be implemented?; Which are the OPF benefits? How will OPF impact the stock level?

FIFO and Traceability: What does FIFO represent and which are the FIFO benefits?; Why we need to have a stable traceability system?;

Kanban and Supermarket: Internal logistic flow principles; Kanban and Supermarket systems description;

VSM analysis: What does VSM represent and why do we need it? VSM methodology; VSM benefits; How can we use VSM to create an improvement plan?

Training content – used simulation

Learning game MTa® KanDo Lean

MTa®
KanDo Lean



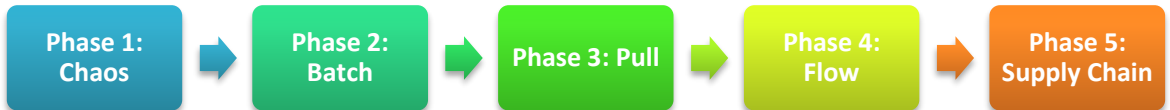
An Experiential Lean Game, Learn about waste, continuous improvement, flow, 5S and more. Get people excited about Lean!

MTa® KanDo Lean is an activity based learning pack, which focuses on customer service through Lean Processing. It is designed so that you, as a facilitator, can help participants:

- Understand how lean processing can improve customer satisfaction, business performance and job satisfaction
- Think through how the principles of lean processing could be introduced into the work place

How is the game structured?

MTa® KanDo Lean is a 5 phase activity. Each phase presents new learning opportunities:



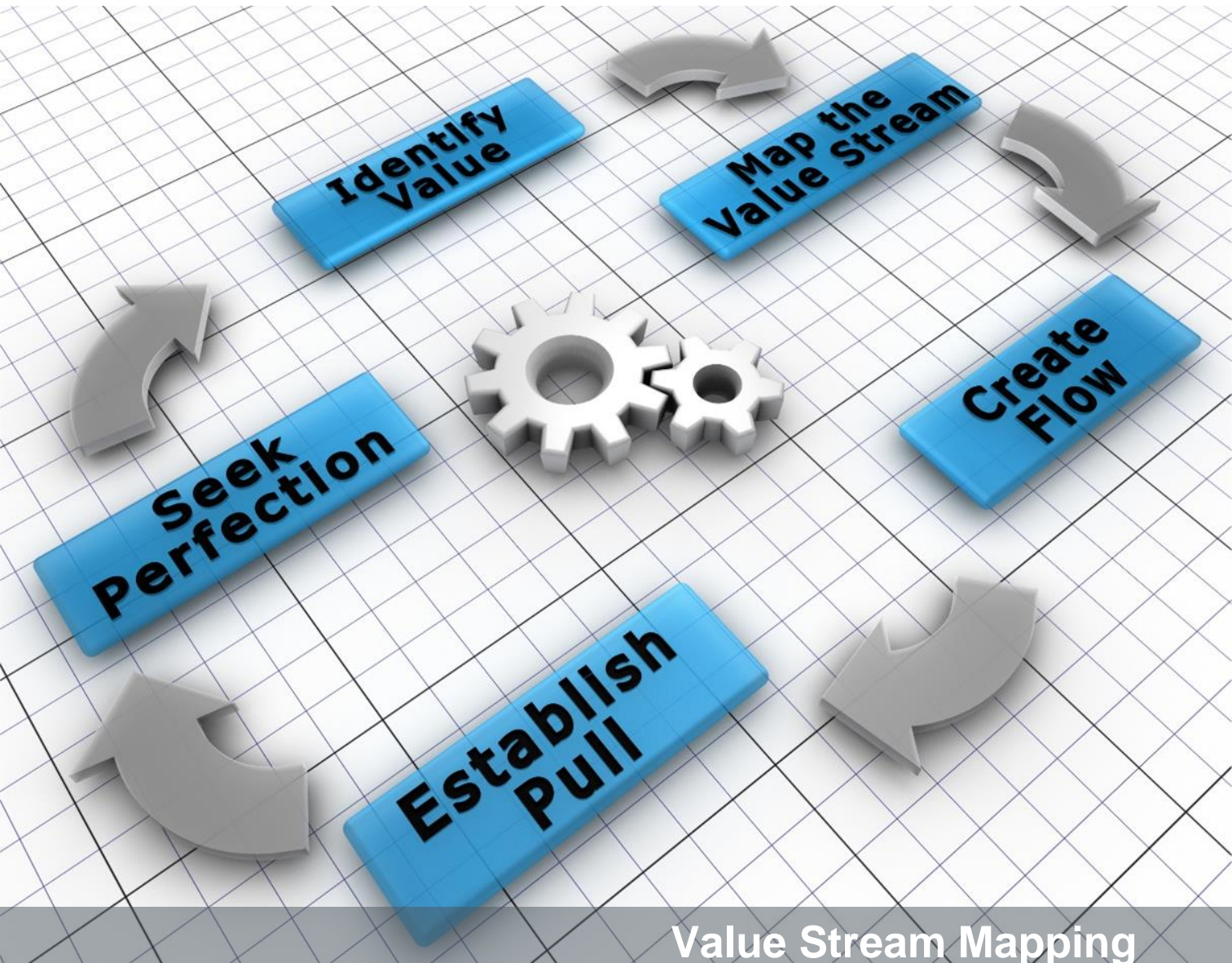
All phases of MTa® KanDo Lean encourage participants to think for themselves and challenge existing ideas, approaches and behaviors. MTa® KanDo Lean ends with a final discussion to consolidate this learning and encourage links to be made in the workplace:

- It helps participants think through how the principles behind lean processing can be used
- It focuses attention on participants work place to see where and how lean processing might be able to help.



“Lean thinking provides a way to do **more and more** with **less and less** - less human effort, less equipment, less time, and less space
- while coming closer and closer to providing customers exactly what they want”

Source: Lean Thinking, James P. Womack, Daniel T. Jones 1996



Value Stream Mapping

Lean Manufacturing performance Module

What practical method could offer us a “big picture” of the entire fabrication chain and show us more clearly how we can improve fast or how we can have a strategy for our long term growth?

The answer is Value Stream Mapping, which is a central method of the Lean Concept. This course and workshop is destined to all employees that work in the production area, engineering, logistic and planning.

Why do you need this training ?

You will be able to see the value and waste flow during the whole process;
You will learn how to analyze all the processes from the perspective of a production system;
Have a better understanding on both: material and information flow of the value stream;
You will learn how to draw the Future State Map according to Lean improvement methods;
You will learn how to prioritize the activities needed in order to achieve the Future State.

Training content

Value Stream Mapping approach

What is Value Stream Mapping; What are the VSM components;

Steps for implement Value Stream Mapping

How to determine the major product; How to draw the current “as it actually is” process;
How to design a LEAN flow as the future state; How to define a plan to get there;

Lean Value Stream Concepts

How the organization could be restructured around the value stream; Why is it important to produce according to customer Takt time; How to develop one-piece flow whenever possible; How to reduce changeover time and run smaller batches;

Lean Value Stream Concepts

How to use a pull system where one-piece flow cannot exist; How to improve production schedules through send it to only one process in the value stream; How to level production volume and production mix at the pacemaker;

Methods for prioritise improvement activities; Clear objectives & key success factors for implement VSM

Practical applications / Workshop.



SMED Training and Workshop

Lean Manufacturing performance Module

Have you ever calculated the waste due to the inefficient model change over within your processes?

SMED is a structured method used for reducing set-up and changeover times and it is designated especially to people from production, engineering and production planning departments.

Why do you need this training ?

You will learn how to reduce long set-up times and how to increase the machine availability;
You will learn how to reduce the lot sizes and associated stock;
You will learn how to implement Pull principle (Kanban) and how to optimize personnel costs (setters);
You will eliminate the bottle necks in the production, increase the capacity and create a flow;
You will be able to make safer changeovers, while promoting the “Lean thinking”;

Training content

Quick changeover approach:

Justify the necessity for SMED ; Objectives: Zero tolerance of waste; Stable production environment; Customer PULL flow; Difference between Level Production vs Batch Production;

Internal vs External Changeover time & Waste in Changeover process

“Last good to first good” approach; “External vs Internal” changeover time; Type of waste;

Stages of improvement Changeover process

- Analyze: How to start analyze the actual changeover process (all set-up elements);
- Separate: Steps for separate internal from external process elements
- Convert: Different way for convert each internal to external changeover process
- Improve: Simplify the location; Eliminate adjustments; Parallel Operations; Mechanical Improvements
- Standardize: Develop changeover procedure; Standardize: Process; Equipment; Visualisation;
- Control: Measure and manage set-up process times; Encourage standardised work.

Steps for organize, conduct and perform SMED workshops

Select and define a SMED responsible/ Select a pilot area: What criteria should meet the pilot area;

Select the team: Who should participate to SMED workshop, What additional resources will be necessary;

Train the team; Conduct the SMED workshops: How to start, what are the team responsibilities during the workshop and implementation process;

Practical application (workshop)

Chose an internal process and apply SMED methodology in order to finding solution to improve the changeover time and to stimulate the participants to familiarize with SMED process

Training content – used simulation SMED Learning game

Based on a simulated machine it can be used to teach Lean manufacturing across a wide range of industries for example, CNC machining, packaging, food, plastics, electronics, printing, etc.. The aim of the training is to demonstrate the principles of SMED and allow the trainees to practice the SMED methodology on this simulation before starting actual implementation on their own equipment.

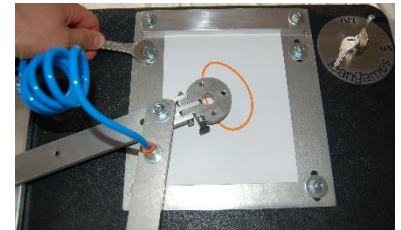
How is the game structured?

The simulation game involves changing product size and color.

The machine simulates mechanical, pneumatic, color and software alterations and also the manufacture of a "first off" with quality inspection.

The objectives is for the trainees to apply the SMED methodology:

- Separating internal and external setup.
- Convert internal to external setup.
- Streamlining all aspects of the set-up operation.
- Develop and test the new procedure.



“The most dangerous kind of waste is the waste we do not recognize”

Source: Shigeo Shingo (Toyota Production System)

Single minute exchange of die is a concept developed by [Shigeo Shingo](#) which seeks to perform all setup/changeover times under ten minutes (single minute).

TPM

Total Productive Maintenance

Lean Manufacturing
performance Module



Keeping
everything
running

How would it be to rely on your equipment without having unexpected downtimes?

TPM offers the right solution considering prevention and autonomous maintenance. Therefore this training is applicable for maintenance, production, engineering but also quality responsible.

Why do you need this training ?

- You will learn how to increase the equipment operation rates;
- You will learn how to reduce the manufacturing and maintenance cost;
- You will learn how to identify and solve problems using prevention strategies;
- You will be able to increase the productivity;
- You will be able to decrease the stock level caused by maintenance issues;

Training content

TPM Structure: TPM objectives, Types of maintenance, TPM benefits, Pillars of TPM (5S, Autonomous Maintenance, Focused Improvement, Planned Maintenance, Quality Maintenance, Education & Training, Health & Safety Environment, Office TPM;

TPM implementation Step 1: basic study and determination of current state: how to make a technical evaluation, how to calculate OEE and losses; how to define a TPM Implementation plan;

TPM implementation Step 2: the process of cleaning for machines, organizing measures in order to avoid dirt: how to apply 5S for TPM, defect card concept, TPM audit;

TPM implementation Step 3: equip machines according to TPM requirements: methods for visualizing critical parts of the machines, lubricating concept; how to make inspection and maintenance easy and safe;

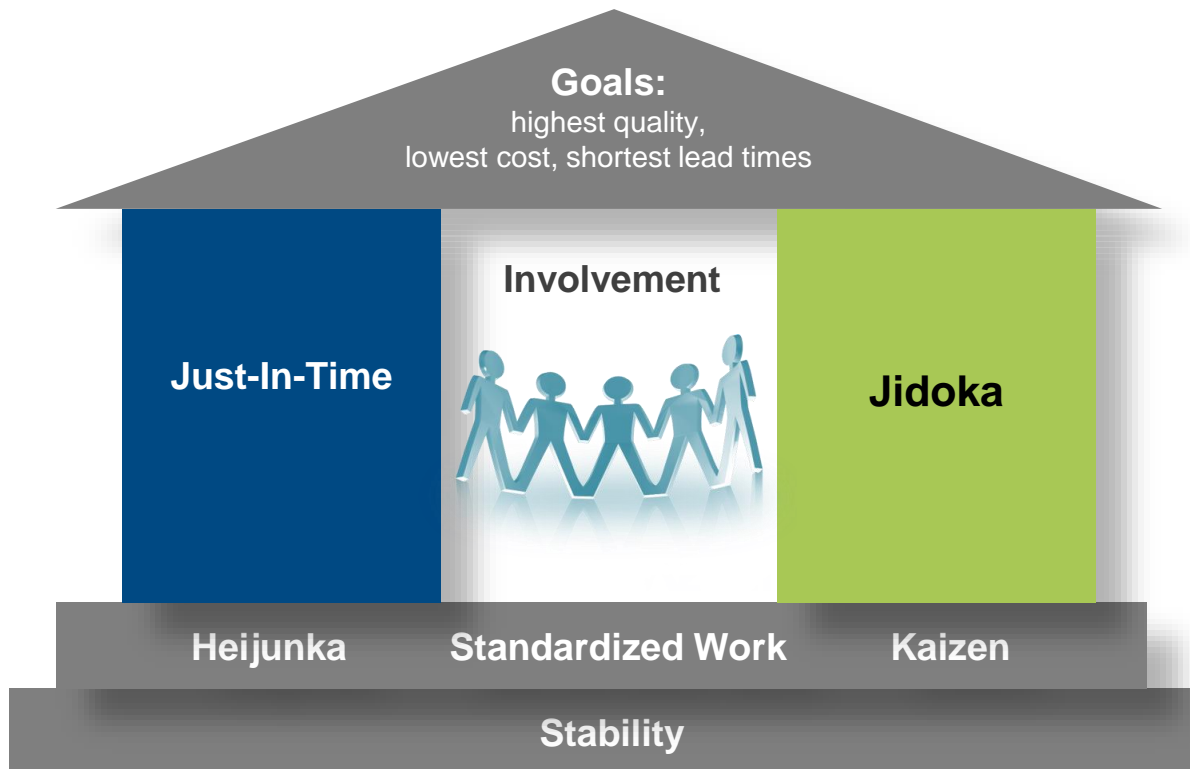
TPM implementation Step 4: defining standards for cleaning, maintenance and inspection: how to create a maintenance plan for TPM relevant activities, TPM checklists;

TPM implementation Step 5: training of autonomous maintenance: how and what kind of TPM knowledge needs to be developed for maintenance staff, supervisors and workers;

TPM implementation Step 6: consolidation, optimization / TPM and maintenance organization;

Jidoka awareness

Lean Manufacturing performance Module



Jidoka is a technique to provide machines and operators with the ability to detect when an abnormal condition has occurred and immediately stop the work.

Jidoka is also known as autonomation, meaning “automation with human intelligence” or “intelligent machines.”

Why do you need this training ?

To understand the key concept and principles of Jidoka

To familiarize with the tools of Jidoka

To define the four steps of a Jidoka process

To acquire knowledge on developing a Jidoka system

Training content

Introduction to Jidoka

Jidoka Background and History, What Is Jidoka?, Jidoka – The Tool of Built-in Quality, Principles of Jidoka, Automation vs. Jidoka, Concept of Jidoka, Benefits of Practicing Jidoka;

Tools of Jidoka

Andon, What is Andon?, Examples of Andon, ; Andon cord concept, examples; Fixed-Position stop, Poke-Yoke, Conditions for Poka-Yoke, Examples of Poka-Yoke, Three Rules of Poka-Yoke, Sensors, Warning Sensors;

Four Steps of Jidoka

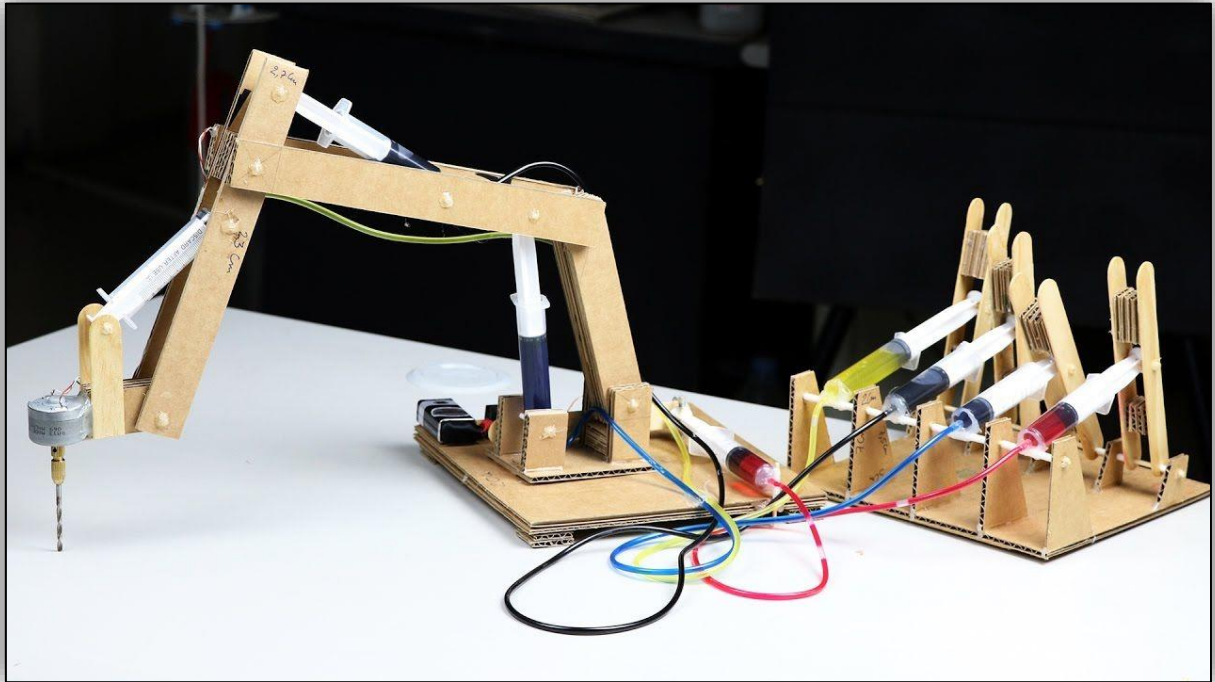
Detect the abnormality, Stop the equipment or line, Fix or correct the immediate condition, Investigate the root cause and install a countermeasure

Developing a Jidoka System

How to Identify Opportunities for Jidoka; Developing a Jidoka System roadmap (Current State, Minimize Manual Labor, Mechanize, Automate, Jidoka, Future State

Cardboard Engineering

Lean Manufacturing performance Module



Cardboard Engineering or Cardboard Modelling represents the best lean process design for the quickest production launch.

Why do you need this training?

It's the most real simulation of a production process, in order to identify the early challenges and improvement potentials.;

To apply Lean concepts early in the development of the process;

To reduce the development costs up to 40%;

To reduce the development time;;

To reduce the inventory stocks;

To empower the multitask team;

It's a fun way to design a manufacturing process;

Training Content

Simulating Introduction:

What is a simulation Cardboard engineering workshop? Lean principals involving in the early stages of the project; People empowerment through layout and tools reviewing; Poka Yoke development; When to do a Simulation Workshop;

Principle and tools:

Part Flow within the cell; Part Orientation and Fixturing; Part Presentation to the operator; Material Flow in and out of the cell; Material Replenishment within the cell; Operator Work & Travel; Operator Ergonomics; Tools and "Point of Use"; Error proofing and "Poka Yoke";

The Team:

Who should participate (team defining), Project owner and the recommended support functions;

Simulation Workshop:

The Production Preparation Process (3P) Workshop targets (1. Processing Methods 2. Line Flow Creation 3. Layout 4. Quality Assurance 5. Shop Drawings 6. Profit); How to Prepare for a Simulation workshop; The 80 – 20 Rule:

Practical Time Studies

Acc. REFA

Process Engineering
Module



Do you know that time studies represent the foundation for planning and controlling and improving your capacity, resources and costs?

This training offers a practical approach about time study methodologies and process time evaluations and is applicable for production engineers, production supervisors, process engineers but also for anyone interested in time studies and work measurement;

Why do you need this training ?

You will learn how to prepare a time study to get real, specific and relevant results;
You will learn in a practical way to measure, to record and to determine the real cycle time of a production process;
You will learn how to use a REFA standardized form for time studies and result validation;
You will learn how to use time data's, for Capacity Planning, Capacity Verification and to improve a production process;

Training content

General remarks: Types of work systems; Process segments; Working procedures; Work Productivity and Performance; Labor distribution; Types of workplaces;

Determining working time: The base time; The lost time (material and personal); Recovery time; Time per piece; Operating time, Adjusting time, Total manufacturing time.

Practical time study: Practical time study methodology, Time measurement rules; Stopwatches, REFA time measurement file, Time measurement points and types of working sequences;

Working time calculation and analysis: Checking the accuracy and integrity of the time study; Individual times calculating; Statistic evaluation; Operator efficiency evaluation; Calculating time per sequence; Finding the time per piece.

Work balancing, Line balancing and capacity calculation: Takt time; Cycle time; Line balancing rate; Work balancing, Capacity calculation; Capacity verification & Run at Rate; Case study (Capacity Analysis report).

50% PRACTICAL EXERCISES AND APPLICATIONS

Ergonomics in the Workplace - Practical Training

Process Engineering Module



Jim Rohn says: Take care of your body. It's the only place you have to live. A good and well-organized working place along with a desirable environment is benefic for our operators, as well as for our companies.

This training offers a practical approach to ergonomics, work-place design methodologies and process improvement and is applicable for production engineers, production supervisors, process engineers but also for anyone interested in ergonomics, anthropometrics and work-place design;

Why do you need this training ?

You will learn how to design or organize a work-place;

You will learn in a practical way to evaluate the existing conditions in the company;

You will learn how to measure the impact of the repetitive tasks on the production operators;

You will learn how to measure the recommended lifting weights in the production activities.

You will learn organize the office area working-places.

Training content

General remarks: Man-Machine-Environment, influential factors, necessary resting time.

Determining the ideal standard for the components at the working-station: Measurement of the actual standard and improvement actions, the impact of this topic in the cycle time.

Repetitive tasks impact: Practical measurements to establish the impact ratio of the repetitive tasks from the risk factors point of view.

Lifting equation for single tasks: Measurement of the characteristic factors to influence the lifting weight limit in the production process and improvement measures.

Games, Case studies, Practical application: 5S Game, 5S Audit chart, Noise tracking report, Information board examples.

50% PRACTICAL EXERCISES AND APPLICATIONS

Core Quality Tools

Core Tools Module



“Quality is not an act, it is a habit”- Aristotle

Automotive Industry Action Group (AIAG) has developed the core tools to be used in conjunction with IATF-16949. Quality Core Tools are the foundation of automotive quality excellence

Why do you need this training ?

You will learn how to improve the quality, reliability and the safety of the products and processes;

You will increase the customer satisfaction;

You will learn how to identify and eliminate the potential errors from the system;

You will be able to minimize the errors when implementing changes, and associated costs;

You will be able to provide products in the right quantity and quality, with minimal costs;

You will be able to build a clear and efficient communication process, to control specifications and relevant information's within your project.

You will be able to solve quicker the problems resulted from documented product history.

Training content APQP

General remarks: Definitions; Benefits; PDCA cycle; Team approach; APQP diagram;

Phase 1: Planning, defining new programs; Input + Output; Customer voice, Preliminary activities;

Phase 2: Product Design and Development; Inputs + outputs; Building a prototype control plan; Defining the specifications;

Phase 3: Process Design and Development; Inputs + outputs, Developing the product / process for pre launch (Packaging, Process Flow Chart, Layout, Pre-Launch Control Plan, Process Instructions, MSA plan and Preliminary Process Capability Study Plan);

Phase 4: Product and Process Validation; Inputs + outputs; Production Trial Run; Production Control Plan; Preliminary Process Capability Study; Production Part Approval; Validation Testing;

Phase 5: Feedback, Assessment and Corrective Actions; Inputs + outputs; Reduced Variation; Customer Satisfaction; Delivery and Service.

Training content FMEA

General remarks Process problems approach (Reactive / Proactive methods);

Applicability;

FMEA construction procedure The main steps; Team approach; Guaranty of the product; Confidentiality; System structure analysis; 7-Step Approach; 5T's Process

Process FMEA Entry elements; Process flow diagrams;

PFMEA Worksheet Process Item System, Subsystem, Part Element or Name of Process; Process Work Element 4M Type; Options for documenting Function and Requirement/Product; New Rating Charts; Action Priority

Process risks Risk matrix (impact – probability); Action Priority

Corrective actions & Improvements FMEA review; Top risks; Selection of risk reduction actions (design change, error proofing device, training, procedures); Recommended Action split into Prevention/Detection; FMEA Report

Training content CP

Control Plan types Definition, Approach, CP utilization; Prototype, Pre-launch, Serial production;

Methodology for creating control plan Process flow; Failure mode analysis; Special characteristics;

Control plan elements Description; CP standard form and the info's that has to be filled in this form;

Control plan utilization Written description of the methods used in order to decrease the process / product variation; Modifications, according to the customer's requests, and internal system;

Corrective actions Monitoring the processes and control methods; Lessons learned.

Training content SPC

General remarks Statistic; Process; Control; Which are the SPC benefits? SPC approach (flow);

Data collection Recording data; Type of charts (Histograms, Graphs, Pictorial graphs, Pie charts);

Process variation Causes of variation; Variation control; Unstable process approach; Process distribution (Normal distribution, Standard deviation).

Process control Control chart; Control limits; Interpreting control charts; Out of control signals; Western Electric rules; AIAG rules.

Process capability What is a capability study?; Capability scope; Typical situations; Interpreting capability indicators (Cp Index, Cpk Index.)

Process improvement Process improvement strategy.

Training content MSA

General remarks about Measuring System Analysis MSA scope and characteristics; MSA components, properties, process; Types of measurements;

Sources of errors in measurement systems Measurement system accuracy and precision; Main source of errors in measurement systems;

Sources of variation in measurement systems Part-to-part variation, measurement system variation; Normal and special cause variation description; Identify source of variation in the measurement system;

Measurement System Analysis Bias factor; Linearity; Stability; Repeatability and Reproducibility;

Gage R&R analysis - Conducting a Variable Gage R & R Study ANOVA method; Average and range method (x & R); Gage acceptability criteria; Key to successful gage studies.

Gage R&R analysis - Conducting an Attribute Gage R & R Study Attribute MSA problems; Conducting an attribute gage R&R; Acceptability guidelines; Sources of variability;

Analyze and solve measurement system problems Applying the 7 steps methodology for analyze and solve MSA problems , PDCA, Lessons learn;

Training content PPAP

General remarks Definitions, Specific terms; PPAP as part of the Quality Management System; Applicability;

Description of quality-oriented process Process block diagram; Critical elements;

PPAP Requirements Documents requested by the customer (Design Records, Engineering Change Documents, Engineering Approval, DFMEA, PFMEA, Process Flow Diagrams, Dimensional Results, Initial Process Studies, MSA, CP, PSW, Master sample, Customer-Specific Requirements);

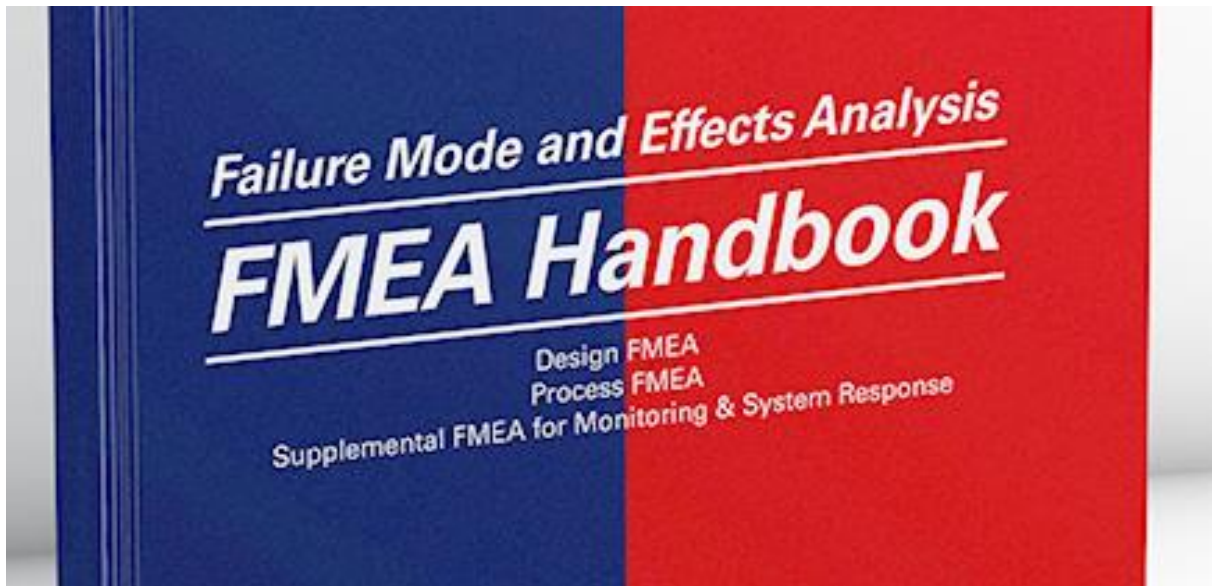
Case study;

Submission Levels: Customer PPAP Status (Full Approval, Interim Approval, Rejected); Parts Submission Warrant - case study;

Special situations When to inform/ not to inform the customer?; When is necessary / not necessary to have PPAP for approval?

FMEA - Failure Mode and Effect Analysis

Implementation FMEA – AIAG & VDA FMEA Handbook, 1st edition 2019



Have you ever noticed that many people spend more time to correct a defect rather than prevent it?

FMEA is a tool that helps us to control the risks that come from the design or from process. This course is dedicated for every person involved in the problem solving process; managers and specialists representing all areas and processes in the company.

Why do you need this training ?

You will learn how to improve the quality, reliability and the safety of the products and processes;

You will increase customer satisfaction;

You will learn how to identify and eliminate the potential errors from the system;

You will succeed to act preventively on problems;

You will be able to minimize the errors when implementing changes, and associated costs;

You will become a catalyzer for team work and idea exchange between function and departments;

Training content

General remarks

Process problems approach (Reactive - experimental method / Proactive - preventive method); What is a FMEA; FMEA applicability; Types of FMEA; Principle Changes **from last edition**; Changes you do not need to make; Transition Strategy;

FMEA construction procedure

The main steps; Team approach; Guaranty of the product; Confidentiality; System structure analysis;

7-Step Approach; 5T's Process

DFMEA

System, Element and Component; Next Higher Level, Focus Element and Next Lower Level; Emphasis on Prevention Controls; Detection ratings expanded, New Rating Charts; Action Priority

PFMEA

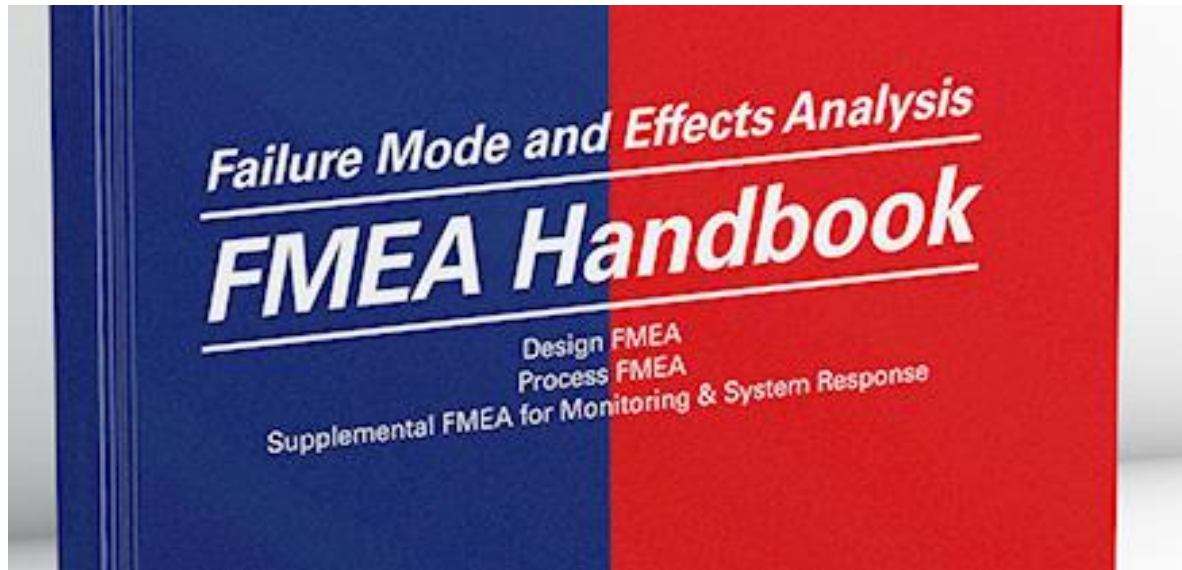
Process Item System, Subsystem, Part Element or Name of Process; Process Work Element 4M Type; Options for documenting Function and Requirement/Product; New Rating Charts; Action Priority

Corective actions & Improvements

FMEA review; Top risks; Selection of risk reduction actions (design change, error proofing device, training, procedures); Recommended Action split into Prevention/Detection; FMEA Report

FMEA - Failure Mode and Effect Analysis

Transition Strategy – AIAG & VDA FMEA Handbook, 1st edition 2019



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Training content

1. Introduction

- Principle Changes
- 7-Step Approach
- 5T's Process
- New Rating Charts
- Action Priority
- Recommended Action split into Prevention/Detection
- FMEA Report
- Changes you do not need to make
- Transition Strategy

2. Design FMEA

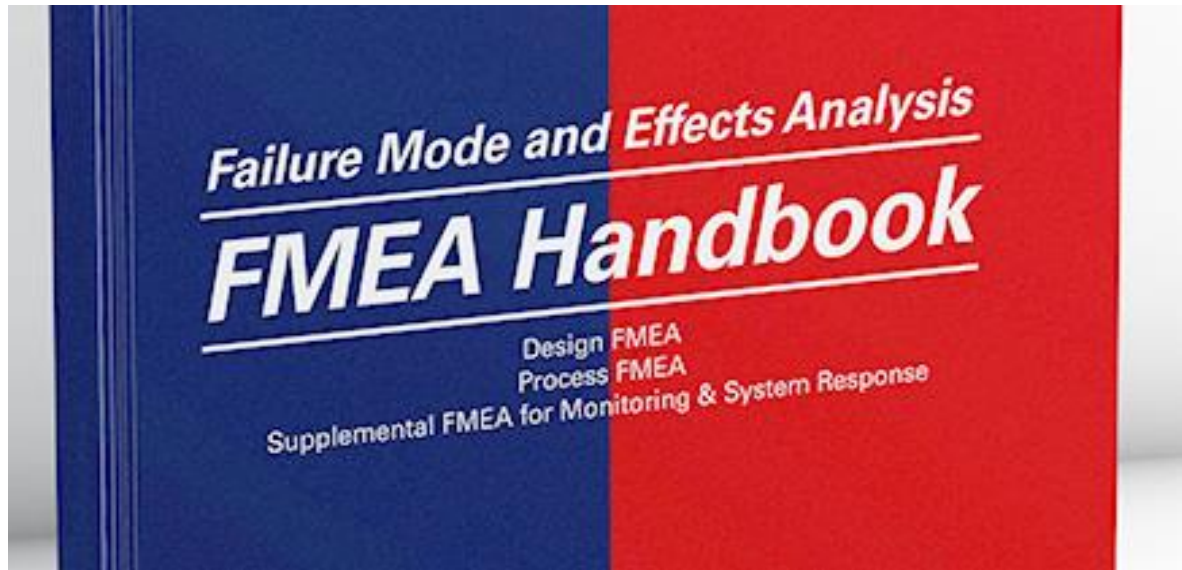
- System, Element and Component
- Next Higher Level, Focus Element and Next Lower Level
- Emphasis on Prevention Controls
- Detection ratings expanded

3. Process FMEA

- Process Item System, Subsystem, Part Element or Name of Process
- Process Work Element 4M Type
- Options for documenting Function and Requirement/Product

FMEA–MSR - Failure Mode and Effect Analysis For Monitoring & System Response

Implementation FMEA – AIAG & VDA FMEA Handbook, 1st edition 2019



Do you think about how the product that you deliver to the end customer performs in real life conditions ? and if the systems installed on it are able to reduce the risk of a hazardous effect appearing ?

FMEA for Monitoring and System Response (FMEA-MSR) purpose is to identify how systems may fail when used by a final customer. This course is dedicated for every person involved in the problem solving process; managers and specialists representing all areas and processes in the company. It should be used to supplement DFMEA.

Why do you need this training ?

You will learn how to improve the quality, reliability and the safety of the products;

You will be able to redact a FMEA-MSR that is supposed to help keep safety and compliance with legal regulations when using products by the final customer;

You will increase customer satisfaction;

You will learn how to identify and eliminate the potential errors from the system;

You will succeed to act preventively on problems;

You will become a catalyzer for team work and idea exchange between function and departments;

Training content

1. Introduction

- Principle Changes
- 7-Step Approach
- 5T's Process
- New Rating Charts
- Action Priority
- FMEA Report
- Transition Strategy
- Introduction to SFMEA and DFMEA

2. Design FMEA – MSR Supplement

- 7 Step Approach
- Structure, Function and Failure analysis
- Failure analysis for failure mode and mitigated failure mode
- Risk analysis
- New Monitoring index related to Fault Handling Time
- Rationale for Severity, Frequency and Monitoring controls
- Action Priority for FMEA-MSR
- Optimization and continuous improvement
- Documentation of FMEA-MSR

RFMEA – Reverse Failure Mode and Effect Analysis

Quality Core Tools Module



“Quality is never an accident. It is always the result of intelligent effort.” John Ruskin

Reverse evaluation of FMEA (RFMEA) is an optional model suggested to demonstrate a reliable side of FMEA using comparison and combination of the recognized and unrecognized interpretations of the S, O, D, and Action Priority

Why do you need this training ?

You will learn how to improve the quality, reliability and the safety of the products and processes;

You will increase customer satisfaction;

You will learn how to identify and eliminate the potential errors from the system;

You will succeed to act preventively on problems;

You will be able to minimize the errors when implementing changes, and associated costs;

Training content

General remarks

Process problems approach (Reactive - experimental method / Proactive - preventive method);

What is a RFMEA; RFMEA applicability;

RFMEA construction procedure

The main steps; Team approach;; Confidentiality; System structure analysis;

RFMEA Worksheet

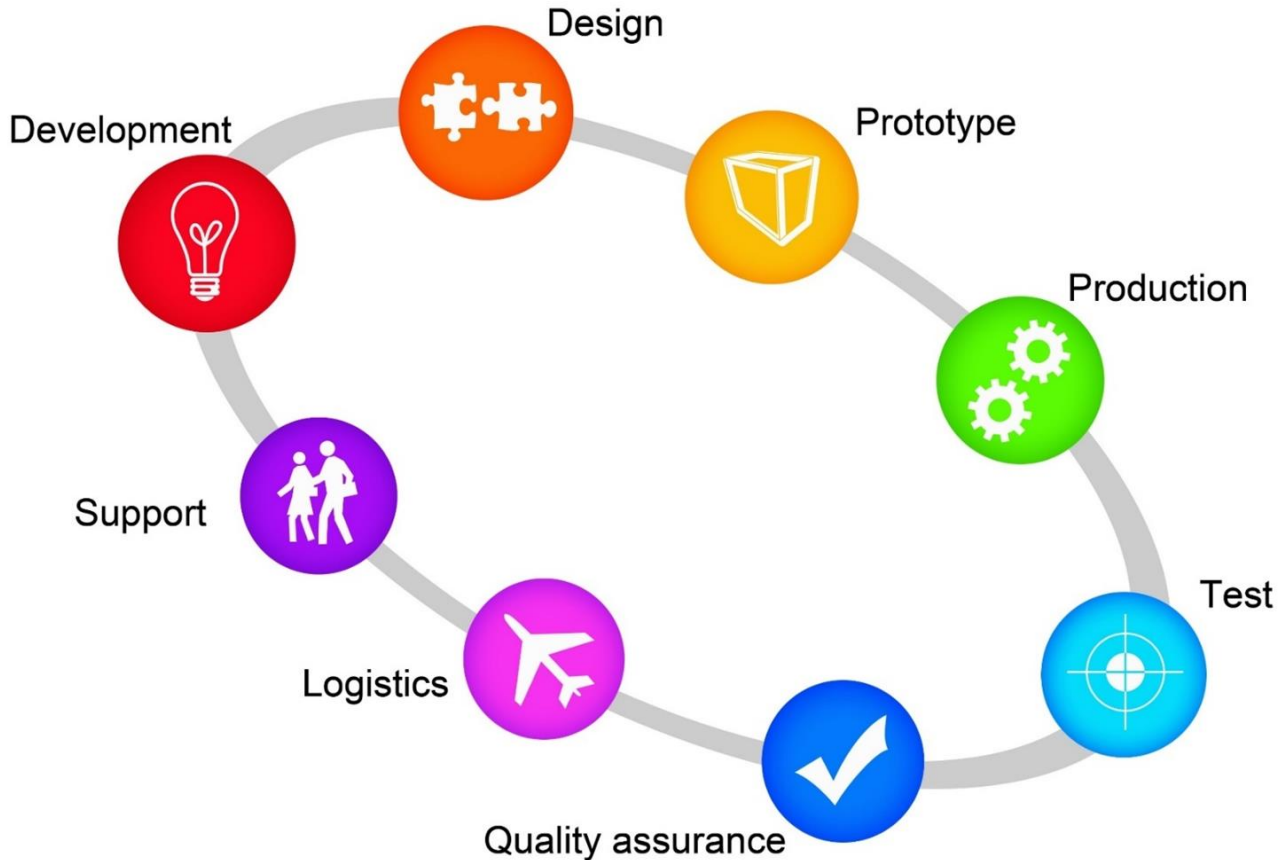
Worksheet presentation (Process function; Failure modes; Detection; Special characteristics); Severity (severity rankings table); Frequency (frequency rankings table); Severity X Frequency interpretation;

Process risks

Risk matrix (impact – probability); Action Priority

Corrective actions & Improvements

RFMEA/FMEA review; Top risks; Selection of risk reduction actions (design change, error proofing device); Action reporting; Action Priority



APQP **Advanced Product Quality Planning**

Henry Ford once said: “Quality means doing it right when no one is looking.”, but for doing this, the product quality must be planned, and APQP is the perfect tool for this.

The course is designed for every person that takes part in launching series manufacturing of products, and especially for those involved in planning, quality assurance and control.

Why do you need this training ?

You will increase the customer satisfaction;

You will know how to ensure the needed resources in order to fulfill the customer demands;

You will know how to prevent the problems that could appear when changes in the project occur;

You will be able to provide products in the right quantity and quality, with minimal costs;

You will be able to increase the effectiveness of the programs through a detailed process plan;

Catalyze teamwork and idea exchange between functions and departments;

Training content

General remarks:

Definitions; Benefits; PDCA cycle; Team approach; APQP diagram;

Phase 1: Planning and defining new programs (projects); Input + Output; Customer voice, Design and Quality of the preliminary activities;

Phase 2: Product Design and Development; Inputs + Outputs; Designing the activities; Building a prototype control plan; Defining the specifications;

Phase 3: Process Design and Development; Inputs + Outputs, Developing the product / process for pre launch (Packaging Standards, Process Flow Chart, Process layout, Pre-Launch Control Plan, Process Instructions, MSA plan and Preliminary Process Capability Study Plan);

Phase 4: Product and Process Validation; Inputs + Outputs; Production Trial Run; Production Control Plan; Preliminary Process Capability Study; Production Part Approval; Production Validation Testing;

Phase 5: Feedback, Assessment and Corrective Actions; Inputs + Outputs; Reduced Variation;
Customer Satisfaction; Delivery and Service.



PPAP - Production Part Approval Process

Quality Core Tools Module

When do you know that customer specifications were correctly understood and the process is capable to produce high quality products?

The answer is when you got the customer approval. PPAP is a process that represents specific customer requirements, in order to get the necessary approvals. The course is dedicated for every person that takes part in the launching of series manufacturing products, especially for those involved in planning, quality assurance and control.

Why do you need this training ?

You will increase the trust of the customer in your production capacity;
 You will be able to eliminate non-value added activities such as receiving inspection;
 You will learn how to provide information about your process in a planned, justified, validated and documented manner;
 You will be able to build a clear and efficient communication process, to control specifications and relevant information's within your project.
 You will be able to solve quicker the problems resulted from documented product history.

Training content

General remarks

Definitions, Specific terms; PPAP as part of the Quality Management System;
 Applicability;

Description of quality-oriented process

Process block diagram; Critical elements;

PPAP Requirements

Documents requested by the customer (Design records, Engineering Change Documents, Engineering Approval, DFMEA, PFMEA, Process Flow Diagrams, Dimensional Results, Initial Process Studies, MSA, CP, PSW, Master sample, Customer-Specific Requirements);

Case Study;

Submission Levels: Customer PPAP Status (Full Approval, Interim Approval, Rejected);
 Parts Submission Warrant - case study;

Special situations

When to inform / not to inform the customer?; When is it necessary / not necessary to have PPAP for approval?

Other Specific PPAP requirements



Control Plan (CP)

Is it enough to just know the risks from our processes? To be truly protected from the risks, it is important to control them also.

Control Plan is a simple and effective tool to control risks.

This training is designed for every person that takes part of launching series manufacturing of products, especially for those involved in planning, quality assurance and control.

Why do you need this training ?

You will be able to understand the role of the control plan and it's importance in the distribution of resources, in order to assure that the requests of the client regarding the product's characteristics are fulfilled.

You will be able to build a control plan that will help you communicate the testing methods of the product and process, the instruments that are used and the reaction plan in case of nok results.

You will be able to understand why Control Plan is also a good instrument for quality planning, quality assurance and quality control which is used as long as the product is manufactured.

Training content

Description of Control Plan types

Definition, Approach, Benefits of Control Plan utilization;
Prototype, Pre-launch, Serial production;

Methodology for creating control plan

Process flow; Failure mode analysis; Special characteristics;

Control plan elements

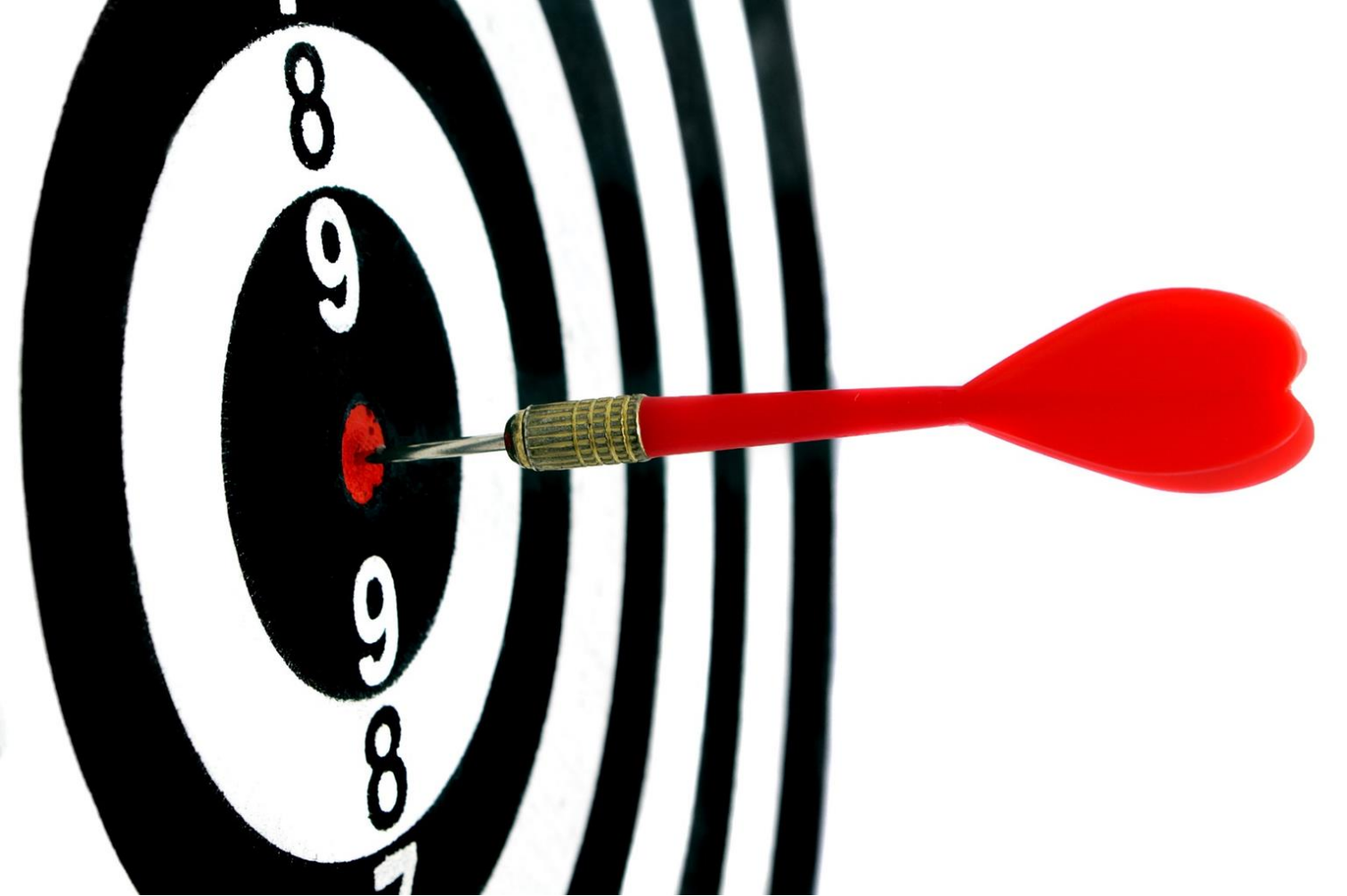
Description of the Control Plan's elements; CP standard form and the information that has to be filled in this form;

Control plan utilization

Written description of the methods used in order to decrease the process / product variation; Modifications, according to customer's requests, and according to the internal system;

Corrective actions

Monitoring the processes and control methods; Lessons learned.



SPC

Statistical Process Control

Quality Core Tools Module

E-mc consulting 
A TRIGO COMPANY

Dr. Deming once said: “Without data, you are just another person with an opinion”. SPC will help you to monitor, control and improve the processes, using data and statistical methods.

The SPC training is applicable for engineers, supervisors, managers, and all employees that use statistical control methods in their activity.

Why do you need this training ?

You will learn how to decrease the scrap rate, rework and customer complains and increase the productivity;

You will learn how to improve the quality and reliability of the product / process and will Increase customer satisfaction;

You will learn how to have smaller production and quality costs; to detect the weak points of the product / process;

You will learn how to increase the efficiency of the control system (using statistical methods);

You will learn how to encourage a preventive mindset (through following process variation);

Training content

General remarks

Statistic; Process (What is a process? How can the process be improved?); Control; Which are the SPC benefits? Which is the SPC approach (flow)?

Data collection

General remarks; Types of data; Recording data; What is important in data collection?; Type of charts (Histograms, Graphs, Pictorial graphs, Pie charts).

Process variation

General remarks; Causes of variation (Common causes of variation, Special causes of variation); Variation control; Unstable process approach; Process distribution (Normal distribution, Standard deviation).

Process control

Control chart; Control limits; Interpreting control charts; Out of control signals; Western Electric rules; AIAG rules.

Process capability

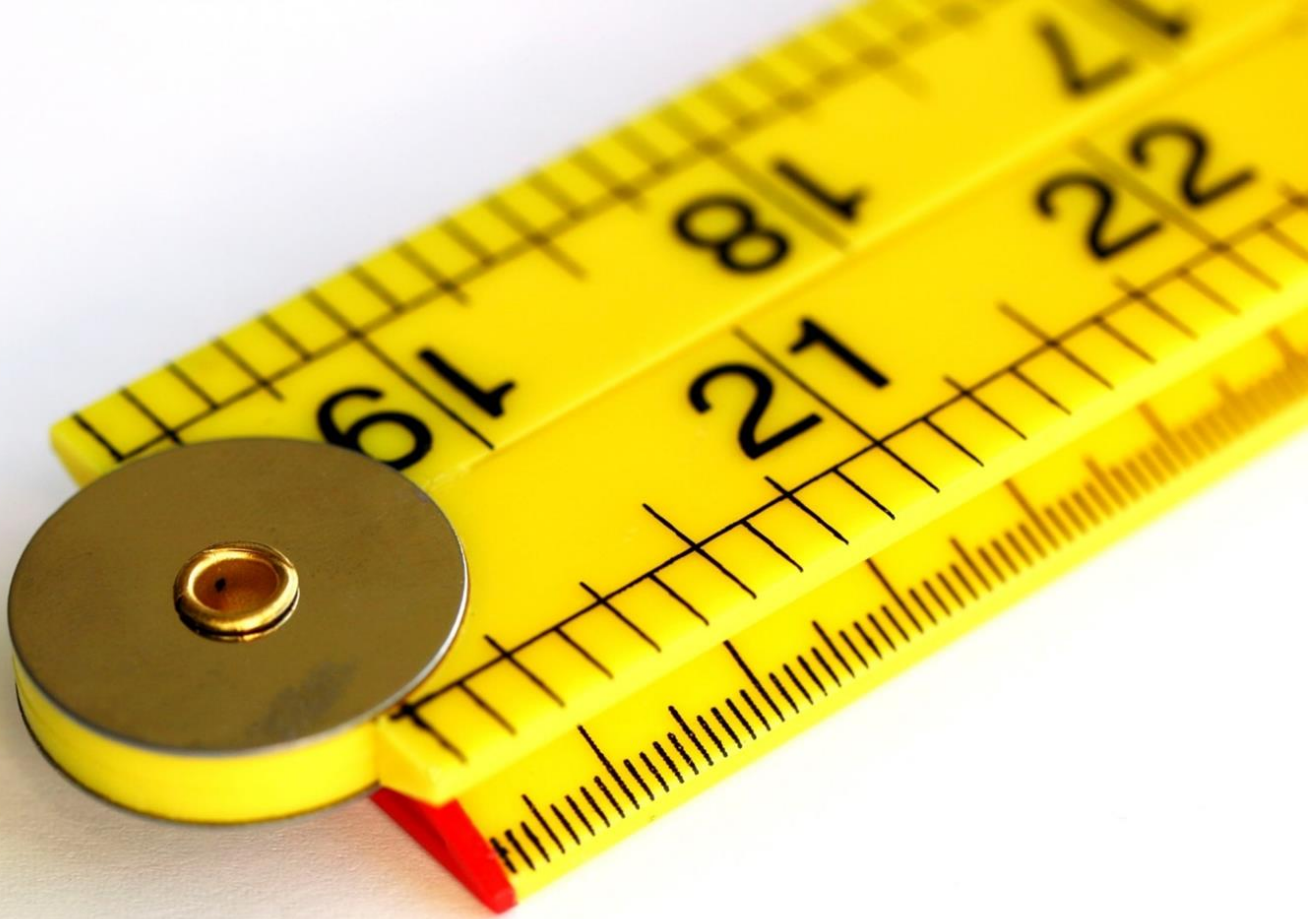
What is a capability study?; Capability scope; When is the capability study not needed?; Typical situations; Interpreting capability indicators (Cp Index,, Cpk Index); Differences between Cpk and Ppk; Capability examples.

Process improvement

Process improvement strategy.

Optional Minitab application

Analysis of the capability of the process



MSA

Measurement System Analysis

Quality Core Tools Module

Did you know that you can not keep under control and improve a product or process without measuring it? MSA helps you to do this, in a simple and effective way.

The course is designed for those involved in planning, quality assurance and control and also for Six Sigma and Continuous Improvement responsible.

Why do you need this training ?

You will have a better understanding about the measuring process and sources of variation that might influence the measurement results;

You will learn how to identify statistical characteristics which define different measurement systems;

You will learn how to correctly use the methodologies for analyzing measurement systems in case of continuous and attributive variables;

You will have a better understanding about the relationship between MSA and other methods (Control Plan, FMEA, SPC ,PPAP);

Training content

General remarks about Measuring System Analysis

What is a measurement system; MSA scope and characteristics; Measurement system components; Measurement systems properties; Measurement process; Types of measurements; Measuring instruments.

Sources of errors in measurement systems

Measurement system accuracy and precision; Main source of errors in measurement systems (human errors, measurement equipment errors).

Sources of variation in measurement systems

Components of overall variation (part-to-part variation, measurement system variation); Normal and special cause variation description; Identify source of variation in the measurement system (Ishikawa diagram); The effect of variation systems.

Gage R&R analysis - Conducting a Variable Gage R & R Study

ANOVA (Analysis of Variance) method; Gage acceptability criteria; Key to successful gage studies.

Gage R&R analysis - Conducting an Attribute Gage R & R Study

Attribute measurement system problems (between operators, between parts); Guidelines for conducting attribute gage R&R; Attribute gage R&R - acceptability guidelines; Sources of variability in attribute gage R&R study.

Optional Minitab application

MSA through Minitab and interpretation for attributive and continuous data.



MiniTab

(MSA & SPC applications)



Statistical Analysis

It provides a simple, effective way to input statistical data, manipulate that data, identify trends and patterns, and then extrapolate answers to the problem at hand.

The course is designed for those involved in process control, quality assurance and control, internal auditing and also for Six Sigma and Continuous Improvement responsible.

Why do you need this training ?

You will have a better understanding about the measuring process and sources of variation that might influence the measurement results;

You will learn sampling techniques and data collection

You will learn how to identify statistical characteristics which define different measurement systems;

You will learn how to analyze measurement systems in case of continuous and attributive variables;

You will learn how to use statistical analysis computer applications which have the advantage of being accurate, reliable, and generally faster than computing statistics and drawing graphs by hand.

Training content

1. Minitab Basics
2. Inputting Data
3. Worksheet Manipulation
4. Creating Graphs
5. Basic Data Analysis
6. Variables Control Charts
7. Attributes Control Charts
8. Process Capability Analysis
9. Measurement Systems Analysis
10. Graph interpretations

Quality Awareness



Aristotel said once: “Quality is not an action, but a habit.”

This course seeks to provide participants with a working knowledge and an in-depth understanding of Quality Management Principles, key concepts, the impact of the Quality System in daily work and understand the process approach.

Why do you need this training ?

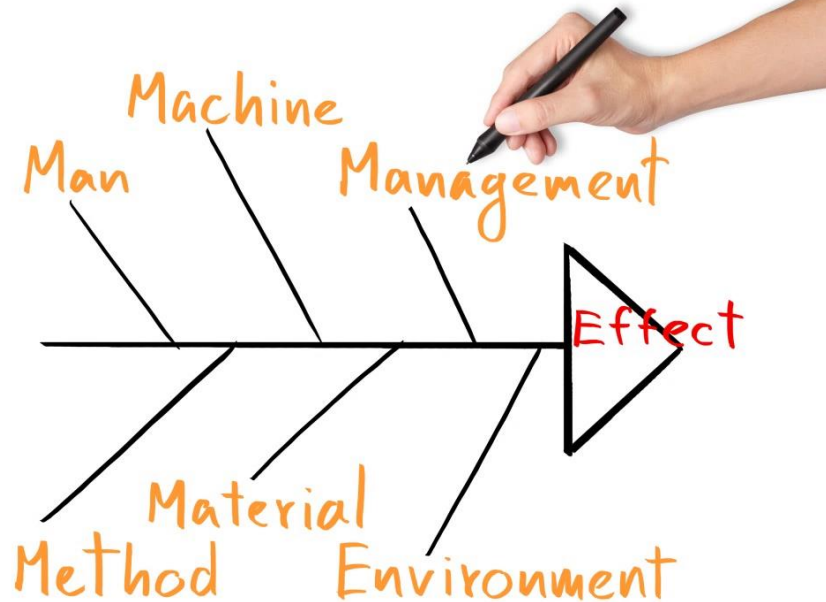
By the end of the training program the participants shall be aware of the following topics:

- Thorough knowledge of the meaning of “Quality”, “Quality Control”, “Quality Assurance” and “TQM”;
- Quality characteristics of both product and service and difference between them;
- What is a system, and how to establish a system;
- Customers awareness (internal customer, external customer);
- SIPOC (Supplier, Input, Process, Output, Customer);
- Internal and external relationship and communication ;
- Quality responsibilities (Attitudes, Responsibility and Initiative);
- Continuous improvement, PDCA approach and Practical Problem-Solving process;

Training content

- Definition and importance of quality
- Quality indicators and Quality cost (COPQ)
- Quality characteristics for products and services
- Poor quality consequences
- Total quality management system TQM
- Quality tools used for quality monitoring and assurance
- Structural problem solving methods

Practical Problem Solving & Decision Making



Albert Einstein said once: “We cannot solve our problems with the same thinking we used when we created them”. The problem solving and Decision making training will help you discover new ways of thinking in order to solve easier the problems.

The Problem solving and Decision making process is universally applicable to everyone (working at any level in organizations) who is searching for the true cause of a problem by organizing and analyzing key factual information and especially for quality, engineering, production and logistics areas.

Why do you need this training ?

You will learn how to distinguish root causes from symptoms;

You will be able to identify the right solution for the right problem;

You will improve your analytical thinking;

You will learn how to improve the abilities to use a common language in a collaborative problem-solving process;

You will be able to apply this concept on the job, in order to obtain effective results for the organization;

Training content

General remarks

Problem solving approach; How to select the team?; What does the real root cause mean? Where to start from, when analyzing a problem? How to collect data? How should the Problem Solving sessions be moderated?

Describe the problem

State the problem (How to define correctly the effect of a problem); Specify the problem (using IS - IS NOT method)

Containment actions

How to keep the containment actions under control? Containment levels (stock control, line containment);

Root Cause analysis

Why made? vs Why shipped? Use Ishikawa (cause-effect) diagram to identify possible causes; Use 5 Why methodology to identify possible causes; Use Brainstorming technique to identify possible causes.

Confirming the True Cause

Determine the most probable cause - Which cause has the fewest, simplest, and most reasonable assumptions? Verify assumptions, observe, experiment or try to fix and monitor; How can we demonstrate the cause-effect relationship? When corrective action is taken, how will the results be checked?

Implementation

Implement the corrective actions - how to validate the right improvement options based on the following criteria: effectiveness, easy to implement, cost; How to follow – up the result methods; How and why to define prevention methods and actions;

Decision-making

The Basic Ingredients of Decision-Making; the Three Kinds of Decisions; The Ingredients of Good Decision-Making; Traps in making decisions; What should you do if you take a Bad Decision?

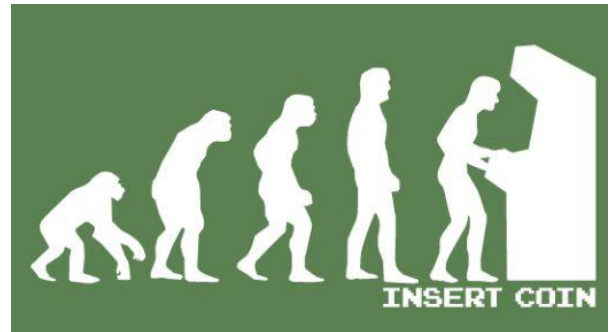
Define the needed decision and develop objectives

What do we need to decide? What short and long term results do we want? What kind of constraints do we have?

Generate alternatives and make decision

Generate and compare alternatives; Assess risks based on probability - impact analysis; Make a decision;

*“NO PROBLEMS means
NO EVOLUTION”*



QRQC - Quick Response Quality Control



Albert Einstein said once: “If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.”

This training will help you discover new ways of thinking in order to solve easier the problems.

QRQC is a problem solving process that is universally applicable to everyone (working at any level in organizations) who is searching the true cause of a problem by organizing and analyzing key factual information and especially for quality, engineering, production and logistics areas.

Why do you need this training ?

You will learn a practical and effective problem solving tool (QRQC);

You will learn how to distinguish root causes from symptoms;

You will be able to identify the right solution for the right problem;

You will improve your analytical thinking;

You will learn how to improve the abilities to use a common language in a collaborative problem-solving process;

You will be able to apply this concept on the job, in order to obtain effective results for the organization;

Training content

General remarks about the problem analysis

The approach used for problem solving, using the QRQC method;

The QRQC objectives;

How do we select the team?

What does the real root cause of a problem represent?

From where do we start when analyzing a problem?

How do we collect data or information?

How should the QRQC sessions be moderated?

QRQC organization and specific rules:

- The frequency of organizing QRQC meeting;
- The roles and responsibilities of the QRQC team;
- The problem categories for which we apply QRQC;
- QRQC Levels: Level 1 (Line lever/Workplace), Level 2 (Area level), Level 3 (Management level)
- The escalation, control and planning process;
- Key steps in QRQC;

Methodology of problem reporting and solving through QRQC;

Describe the problem

State the problem (How to correctly define the effect of a problem);
Specify the problem (using IS - IS NOT method)

Containment actions

How to keep the containment actions under control? Containment levels;

Root Cause analysis

Why made? vs Why shipped? Use Ishikawa (cause-effect) diagram to identify possible causes; Use 5 Why methodology to identify possible causes; Use Brainstorming technique to identify possible causes;

Confirming the True Cause

Determine the most probable cause - Which cause has the fewest, simplest, and most reasonable assumptions? Verify assumptions, observe, experiment or try to fix and monitor; How can we demonstrate the cause-effect relationship?; When corrective action is taken, how will the results be checked?

Implementation

Implement the corrective actions (how to validate the right improvement options based on following criteria: effectiveness, easy to implement, cost; How to follow – up the result methods; How and why to define prevention methods and actions;

Decision-making

The Basic Ingredients of Decision-Making; Three Kinds of Decisions; The Ingredients of Good Decision-Making; Traps in making decisions; What should you do if you take a Bad Decision?

Define the needed decision and develop objectives

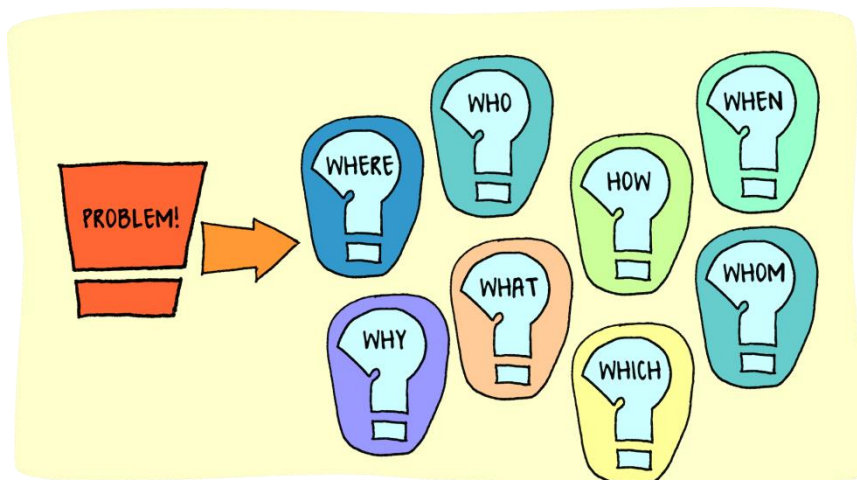
What do we need to decide? What short and long term results do we want? What kind of constraints do we have?

Generate alternatives and make decision

Generate and compare alternatives; Assess risks based on probability - impact analysis; When to make the final decision

“If I had 60 minutes to solve a problem, I’d spend 55 minutes defining it, and 5 minutes solving it.”

Albert Einstein



Project Management and Microsoft Project



According to a study made by the * Standish Group International , only 16% of the projects elaborated in the world are finished in time, budget and reaching it's initial goal.

This training prepares you to be in those 16%, and is applicable for managers, engineers, technicians, project managers, and anyone who coordinates or is involved in projects.

Why do you need this training ?

You will have a very good control of resource utilization;

You will be able to improve the quality and reliability of the product / process;

You will learn how to manage costs and risks;

You will be able to improve the efficiency of the organization;

You will be able to increase the customer satisfaction through a better understanding of his needs;

Training content

General remarks

What does a Project mean? Managing Projects; Setting objectives; The Project Manager's role; The 9 knowledge areas of Project Management;

The life cycle of a project

General form; Life cycle of today's projects; Continuous improvement;

Initiating, charting and defining a project

The components of the project charter; SMART objectives; Project presumptions; Triple constraint (time – quality – cost); Project stakeholders; Analyze the stakeholders (steps); Communication plan;

Project planning and scheduling

Project plan; Project activities; Allocating responsibilities (responsibility matrix); Time planning;

Execution and control of the projects

Risk management; Change management; Beginning the project; Execution of the project; Control of the project; Helping tools;

Project's closing and Continuous Improvement

Testing and reporting the results, Continuous improvement;



Microsoft Project

Training content

- Introducing and organizing activities and tasks;
- Set-up resources;
- Attributing resources to the tasks;
- Sharing resources;
- Sorting, grouping and filtering the project's information;
- Establishing the project plan;
- Printing the project information;
- Check the status: actual vs. planned;
- Working with multiple projects

We believe that the primary challenge of project management is to achieve **all of the project goals** and objectives while adhering to classic project constraints — usually **scope, quality, time** and **budget**.

Risk Management



Has it ever happened to you to omit even the biggest risks from a project? This can have very serious consequences, isn't it? This training will help you learn new methods to avoid such situations.

The training is dedicated for Managers, engineers, technical advisors and project leaders of international and multinational enterprises, as well as anyone who works with or within projects.

Why do you need this training ?

- You will have a better understanding about the importance of analyzing risks and you will learn how to plan the risk management process;
- You will understand the principles for risk analysis and learn how to set the priority for the identified risks;
- You will learn how to manage risks and learn how to reach a common ground between a conservative and a risky approach;
- You will learn and practice techniques to analyze the risk from a quantitative and qualitative perspective;
- You will learn how to properly monitor risks;

Training content

Introduction

General remarks; Risk definitions; Risk management; Why evaluate risks? Risk-Taking and Error-Protection Styles; Positive and Negative Risks;

Agenda Overview Your approach towards risk

Tough Choices – individual assessment; Conservative vs. Risky approach; Mindset barriers towards risks; Probabilities / Preferences / Propensities;

Risk Management / Managing risks

Planning the risk management process; Identifying risks: Risk sources; Analysis and risk prioritization; The qualitative analysis: The probability / impact matrix; The quantitative analysis: Decisional trees; Monitoring the risks; Creative Risk Taking; Overcoming Mind Traps;

Practical application

- Decision™ - the business game;
- Forest of Time – the business game.



Production Planning

Logistic Management Module

Would you like to use your production capacity at the maximum level and efficiency? If the answer is YES, then our Production planning training can be the answer.

This training is designed for Supply Chain coordinators, production planners, material planners and Supply Chain managers.

Why do you need this training ?

You will learn and clarify your vision regarding the Production Planning concept and it's role in Supply Chain;

You will obtain a detailed description of the planning levels;

You will learn the importance of synchronized planning with the other processes from Supply Chain;

You will learn about the alternatives you have for the classic way for organizing – and you will get familiar with the new models of Supply Chain and the applicability of new techniques;

Training content

Introduction in Supply Chain and understanding acronyms

Modern organizations are a world of acronyms and technical terms. We will reach a minimum of terms and definitions, to make sure that we use a common and clear dictionary.

Capacity planning

What does capacity planning mean,

What are the usual parameters to take into account,

How to synchronize capacity planning with material availability,

What are the small traps that are often met and how to avoid them;

Production programming

We divide and experiment in a practical way this level of production planning,

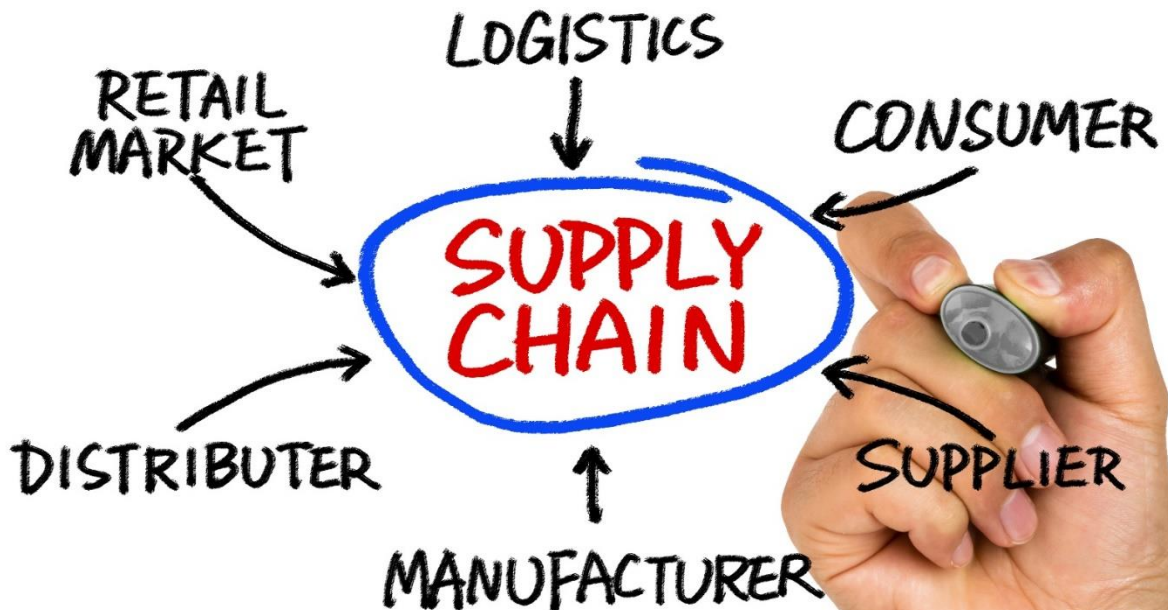
What does production programming means,

What is the effect of urgencies on the production capacity,

Planning models

Supply Chain

Logistic Management Module



Douglas M. Lambert, director of Global Supply Chain Forum said once: “Supply chain management is not only about logistics and acquisitions. Supply chain relates to a network of partners that interact on every level of their organizations.”

We invite you to discover the models of Supply Chain which can increase your performance in a sustainable way.

Target group

This training is designed for Supply Chain coordinators, production planners, material planners and Supply Chain managers.

Why do you need this training ?

You will learn how to take day to day life and business decisions, considering the costs and constraints that the economical environment challenging us;
You will learn which are the roles and disadvantages of stocks;
You will learn about the newest Supply Chain models;
You will learn about the most popular algorithm used by all modern ERP's: MRP

Training content

Supply Chain Overview

Inventory management

Stocks: types, roles, financial impact;
Stock related KPIs;
Classification of stocks;
Economic order quantity: How much and when to order? Bigger stock or quantity discount? Bigger stock or worse service?

Supply Chain models

“Theory of Constraints based”: *Make to Availability; Drum-buffer-rope; Actively synchronized replenishments*

Demand management.

Forecasting principles;

MRP

How it works. What is behind the system. What are the weaknesses to overcome;



Logistic and Warehouse

Logistic Management Module

Shadowing for warehouse team, report and assessment made by an expert with 20 years experience in logistics.

The line between disorder and
order lies in logistics...
Sun Tzu





Freight Cost Optimization

Logistic Management Module

To optimize a process means that you are able to “see” the waste in the process, you understand the root cause of it, you propose a solution, implement it, measure the result and prevent re-occurrence.

Being one of the important cost driver in the logistics process transport cost optimization is a constant process in all the companies,. Still, beside the conventional process of cost optimization (like price negotiation process) there are potential blind spots, sometimes difficult to see. This training will put a spot light on this points, allowing you to find ways to for further improvements.

Why do you need this training ?

The training is approaching the main aspect of the goods transportation and provide an overview about the process as well as approach the process from the different perspective of the actors, purchasing, procurement, planning, customer service, NPI, receiving, shipping clerk allowing them to see the potential improvements.

Training content

Transport: Understand the different transport models and implication, relevant KPI's

Cost of transport: Start with the budget, Freight negotiation and some potential mistakes, local, regional, global transport approach. Understand the total cost on hand.

Freight Optimization: Collaborative model vs competitive model, Milk run, Clustering and HUB's, Linear Cost Model, Synergic Partner, Change management in the transport.

Other optimization: Truck turnaround time, Freight Invoicing process,

Environment Impact: Cost & green

Six Sigma Black Belt

based on IASSC body of knowledge

Lean Six Sigma Module



Why to become a Six Sigma Black Belt?

Black Belts are application experts that work on projects within the business. They are project team Leaders, working full time to solve problems. Black Belts work on projects that are relatively complex and require significant focus to solve, projects that usually have a high financial return to the company.

You need this training in order to:

Identify improvement opportunities; Determine what's important to the customer; Determine what to measure (Y), quantify current performance and set improvement target; Identify and verify the Xs, causes of variation and determine solutions to reduce variation and defects, to quantify their impact, and compare to the goal; to put controls in place to maintain the improved performance level over time.

Main Training content

1.0 Define Phase

1.1 The Basics of Six Sigma ; 1.2 The Fundamentals of Six Sigma;
1.3 Selecting Lean Six Sigma Projects; 1.4 The Lean Enterprise;

2.0 Measure Phase

2.1 Process Definition; 2.2 Six Sigma Statistics;
2.3 Measurement System Analysis; 2.4 Process Capability;

3.0 Analyze Phase

3.1 Patterns of Variation; 3.2 Inferential Statistics; 3.3 Hypothesis Testing;
3.4 Hypothesis Testing with Normal Data; 3.5 Hypothesis Testing with Non-Normal Data;

4.0 Improve Phase

4.1 Simple Linear Regression; 4.2 Multiple Regression Analysis; 4.3 Designed Experiments;
4.4 Full Factorial Experiments; 4.5 Fractional Factorial Experiments;

5.0 Control Phase

5.1 Lean Controls; 5.2 Statistical Process Control (SPC);
5.3 Six Sigma Control Plans;

Six Sigma Green Belt

based on IASSC body of knowledge

Lean Six Sigma Module



Why to become a Six Sigma Green Belt?

Green Belts are practitioners of Six Sigma Methodology and typically work within their functional areas or support larger Black Belt projects. They are capable of solving problems within their local span of control, remain in their current positions, but apply the concepts and principles of Six Sigma within their Job environment.

You need this training in order to:

Identify improvement opportunities; Determine what's important to the customer; Determine what to measure (Y), quantify current performance and set improvement targets; Identify and verify the Xs, causes of variation and determine solutions to reduce variation and defects, to quantify their impact, and compare to the goal; to put controls in place to maintain the improved performance level over time.

Main Training content

1.0 Define Phase

1.1 The Basics of Six Sigma; 1.2 The Fundamentals of Six Sigma;
1.3 Selecting Lean Six Sigma Projects; 1.4 The Lean Enterprise;

2.0 Measure Phase

2.1 Process Definition; 2.2 Six Sigma Statistics;
2.3 Measurement System Analysis; 2.4 Process Capability;

3.0 Analyze Phase

3.1 Patterns of Variation; 3.2 Inferential Statistics; 3.3 Hypothesis Testing;
3.4 Hypothesis Testing with Normal Data; 3.5 Hypothesis Testing with Non-Normal Data;

4.0 Improve Phase

4.1 Simple Linear Regression; 4.2 Multiple Regression Analysis;

5.0 Control Phase

5.1 Lean Controls; 5.2 Statistical Process Control (SPC); 5.3 Six Sigma Control Plans;

Six Sigma Yellow Belt

based on IASSC body of knowledge

Lean Six Sigma Module



Why to become a Six Sigma Yellow Belt?

Yellow Belts participate in process management activities. They fully understand the principles of Six Sigma and are capable of characterizing processes, solving problems associated with their work responsibilities and implementing and maintaining the gains from improvements.

You need this training in order to:

Identify improvement opportunities; Determine what's important to the customer; Determine what to measure (Y), quantify current performance and set improvement target; Identify and verify the Xs, causes of variation and determine solutions to reduce variation and defects, to quantify their impact, and compare to the goal; to put controls in place to maintain the improved performance level over time.

Main Training content

1.0 Define Phase

- 1.1 The Basics of Six Sigma ;
- 1.2 The Fundamentals of Six Sigma;
- 1.3 Selecting Lean Six Sigma Projects;
- 1.4 The Lean Enterprise;

2.0 Measure Phase

- 2.1 Process Definition;
- 2.2 Six Sigma Statistics;
- 2.3 Measurement System Analysis;
- 2.4 Process Capability;

5.0 Control Phase

- 5.1 Lean Controls;
- 5.3 Six Sigma Control Plans;



ISO 9001:2015
IATF 16949 / 2016
ISO 19011:2018

Internal auditor for quality management system

Quality Management Module

Joseph M. Juran once said “Without a standard there is no logical basis for making a decision or taking action.”

IATF 16949:2016 (replaces ISO/TS 16949:2009) is a standard that establishes the requirements for a Quality Management System (QMS), specifically for the automotive sector.

The IATF 16949 standard provides guidance and tools for companies and organizations who want to ensure that their products consistently meet customer requirements and that quality and customer satisfaction are consistently improved

Why do you need this training ?

- The primary focus of the IATF 16949 standard is the development of a Quality Management System that provides for continual improvement, emphasizing defect prevention and the reduction of variation and waste in the supply chain.
- Provide products that meet customer and applicable statutory, regulatory and product safety requirements
- Enhance customer satisfaction through the effective application of the system
- Clearly state objectives and identify new business opportunities
- Put customers first, making sure their needs are consistently met and enhance their satisfaction
- Increase customer loyalty, Expand client list and increase business activities sector.
- Identify and address the risks associated with your organization
- Increase productivity and efficiency, reduce internal costs

Training content

- Standard requirements IATF16949:2016
- Standard ISO 19011:2018 presentation
- Auditing and communication techniques
- Planning and preparation of an internal audit
- Making an internal audit
- Documenting the internal audit



ISO 9001:2015
IATF 16949 / 2016

IATF 16949:2016 standard requirements

Quality Management Module

Joseph M. Juran once said “Without a standard there is no logical basis for making a decision or taking action.”

IATF 16949:2016 (replaces ISO/TS 16949:2009) is a standard that establishes the requirements for a Quality Management System (QMS), specifically for the automotive sector.

The IATF 16949 standard provides guidance and tools for companies and organizations who want to ensure that their products consistently meet customer requirements and that quality and customer satisfaction are consistently improved

Why do you need this training ?

- The primary focus of the IATF 16949 standard is the development of a Quality Management System that provides for continual improvement, emphasizing defect prevention and the reduction of variation and waste in the supply chain.
- Provide products that meet customer and applicable statutory, regulatory and product safety requirements
- Enhance customer satisfaction through the effective application of the system
- Clearly state objectives and identify new business opportunities
- Put customers first, making sure their needs are consistently met and enhance their satisfaction
- Increase customer loyalty, Expand client list and increase business activities sector.
- Identify and address the risks associated with your organization
- Increase productivity and efficiency, reduce internal costs

Training content

- Quality managements system introduction
- Standard requirements IATF16949:2016 & ISO 9001:2015
 - Context of organization
 - Leadership
 - Risk based thinking process approach
 - Planning
 - Support
 - Operation
 - Performance evaluation
 - Improvement



Guidelines for auditing management systems ISO 19011:2018

Quality Management Module

“If you can’t explain it simply, you don’t understand it well enough.” ~Albert Einstein.”

This document provides guidance on auditing management systems, including the principles of auditing, managing an audit program and conducting management system audits, as well as guidance on the evaluation of competence of individuals involved in the audit process. These activities include the individual(s) managing the audit program, auditors and audit teams.

It is applicable to all organizations that need to plan and conduct internal or external audits of management systems or manage an audit program.

The application of this document to other types of audits is possible, provided that special consideration is given to the specific competence needed.

Why do you need this training ?

ISO 19011 offers guidance on every step of auditing a management system or an audit program, including:

Establishing audit program objectives

Determining and evaluating audit program risks and opportunities

Initiating, preparing for, and conducting an audit

Preparing and distributing an audit report

Completing an audit and conducting audit follow-up

Determining auditor competence

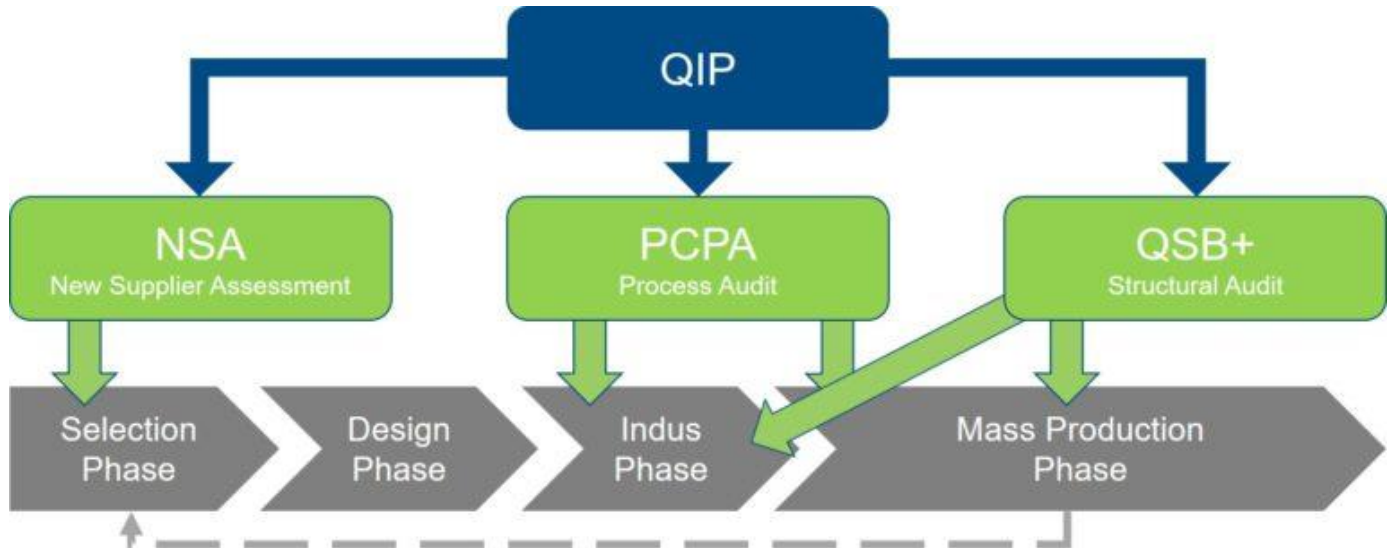
To provide elements for interpretation of regulations and audit plan set-up;

To plan and manage evaluation and monitoring visits;

To improve communication techniques in the audit phase.

Training content

- ISO 19011:2018 presentation
- Types of audit
- Auditor - Requirements and Competencies
- Auditing and communication techniques
- Planning and preparation of an internal audit
- Making an internal audit
- Documenting the internal audit



Understand the requirements of PSA QIPV3 (QUALITY & INDUSTRIAL PERFORMANCE)

Quality Management Module

In 2015, the French manufacturer PSA has performed the evolution of its system for evaluating the industrial performance of its suppliers through the QIPV3 standard. This system includes 3 audits questionnaire, audits which will be carried out during the various phases of collaboration with PSA.

Teaching objectives:

- Know the content of the QIPV3 process (phases and milestones)
- Understand the different phases of evaluation by audit (NSA, PCPA, QSB+)
- Understand the requirements of the QIPV3 reference.
- Know how to identify deviations from requirements.
- Create your action plan to implement the new requirements.

Content – Program

DAY 1

- Training objectives, detailed program and organization rules
- The QIP V3 framework and the PSA expectations
- The 3 phases of QIPV3
- The evaluation process and the impact on the bidlist
- The QSB+ format and scoring rules
- Audit schedule.
- Review of QSB+ requirements (Chapter 1 to 4)
- Analysis of the risks and the situation of the company relative to the chapters reviewed during the day. Simulation of the quotation.

DAY 2

- Review of QSB+ requirements (Chapter 5 to 9)
- Analysis of the risks and the situation of the company in relation to the chapters reviewed during the day. Simulation of the quotation.

DAY 3

- Review of QSB+ requirements (Chapter 10 to 13)
- Analysis of the risks and the situation of the company in relation to the chapters reviewed during the day. Simulation of the quotation.
- Analysis of the self-assessment.
- Assessment of the training
- Control of knowledge

Prerequisites:

This training is intended at least for the functions of Quality Manager, Production Manager, Logistics Manager, Maintenance Manager, Development Quality Manager and Industrialization Manager.

Prerequisites: This training is accessible to people who have a good knowledge of the requirements of the ISO TS 16949/ IATF or the requirements of the automotive standards.

This training is not certifying or qualifying.

Training pedagogy:

The content of the teaching material was entirely developed on the base of the PSA QIPV3 documentation available on the PSA B2B portal.

A participative and collaborative pedagogy:

- Collaborative on the basis of exchanges, thanks to team activities that introduce each of the sequences of the training;
- Participative through Scenario: Confronting the theory of requirements by reviewing the company's operational system.

A pedagogy taking in account your business context, to build, all along the training, your improvement personal plan.

You will receive a participant training material containing the theoretical principles outlined during the training and the exercise materials.

Method of evaluation

At the end of the training, a knowledge test is conducted in MCQ (30 minutes).
The trainees receive a certificate of attendance.

Duration

- 3 days



PSA Specific Requirements

Quality Management Module

A training introducing the PSA specific requirements described in the SQM (Supplier Quality Manual) and in the CSRs (Customer Specific Requirements) of PSA, to join the PSA panel or to improve collaboration with PSA, to gain a complete understanding of PSA's expectations and implementable tactics.

This training is designed for those who have a role in the implementation of PSA Specific requirements, such as Internal auditors and second party auditors, Project, Methods, Production, Quality and Supply chain PSA interlocutors/engineers, Project managers and Account Managers.

Teaching objectives:

- Have an overview of the PSA's documentation and applications.
- Identify applicable requirements in the life phases of the collaboration with PSA.
- Clarify the link between PSA's CSRs, SQM and IATF requirements.
- Translate all requirements in practical terms to cooperate with PSA.
- Evaluate current practices, draw improvement and optimization opportunities.

Training and workshop content:

PSA Specific Requirements – Introduction

- CSR – Customer Specific Requirements; SQM – Supplier Quality Manual
- B2B portal; Main PSA applications; PSA Supplier Relationships; Document Management

Requirements to sign a contract with PSA

- Conditions required by PSA; Focus on QIP / NSA ;

Requirements related to CORE TOOLS

- Introduction to PSA APQP & PPAP / PLM application; FMEA ; MSA & SPC;

Requirements related to part and process development

- Introduction to CTF / CSE / CS / PCP;
- Tooling ; Industrial Capacity ; Process Assessment;

Requirements related to Mass production

- Reverse FMEA; Layer Process Audits ; Control Plan; Logistic Requirements : MMOG / LE & MLP; Traceability; Requirements for reworked & repaired products;
- Tier N suppliers management; Production scheduling

Requirements related to Performance

- Intro to GP5+ ; SQD Bidlist; GP12 - Quality Wall in Development Phase; CS1 / CS2;

Requirements related to Modifications

- BTAB & Change management

With practical exercises, mini browsing sessions on the B2B portal, and reinforcement workshops, trainees will understand when and how to fulfil specific requirements.

Requirements are analyzed in a logical and progressive way to extract key elements from the SQM (Supplier Quality Manual) and in the CSRs (Customer Specific Requirements) of PSA.



Internal auditor for Environmental Management Systems ISO 14001:2015

Quality Management Module

ISO 14001: 2015 is an international standard that sets the requirements for an Environmental Management System. The implementation of the requirements of the environmental standard helps to increase the environmental performance, the fulfillment of the compliance obligations and the fulfillment of the environmental objectives of the organization.

This international standard is applicable to any organization, regardless of its size, type and nature and applies to the environmental aspects of its activities, products and services that the organization determines and can control or influence by paying attention to the life cycle forecast.

It is also applicable to all persons working in the field or interested in environmental management, internal or external auditors for environmental management systems, process owners, persons in charge of evaluating the environmental management system, personnel involved in quality field.

Why do you need this training ?

ISO 14001 provides a framework for:

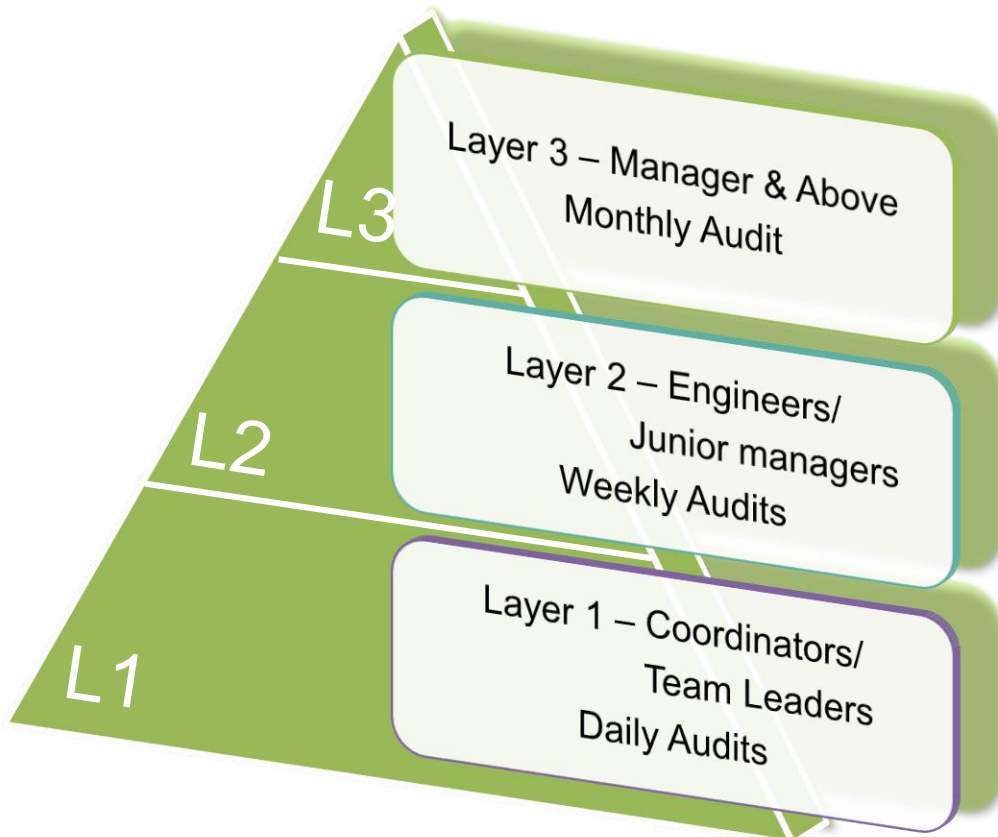
- Protecting the environment by preventing or minimizing harmful impacts on the environment;
- Minimizing the potential harmful effects of environmental conditions on organization;
- Support the organization in fulfilling the compliance obligations;
- Improvement of environmental performance;
- Obtaining financial and operational benefits that can result from the implementation of environment-based alternatives that strengthen the organization's market position;
- Obtaining information on the basic concepts of an environmental management system, the benefits and benefits of designing and implementing an environmental management system, preparing and conducting an internal environmental audit, monitoring and reporting on the functioning of an environmental management system.

Training content

- Basic concepts regarding the Environmental Management System.
- The requirements of the environmental management system according to ISO 14001: 2015 - analysis and interpretation
- Audit of the Environmental Management System according to SR EN ISO 19011: 2018
- Competence and evaluation of auditors;
- Case studies.

LPA - Layered process audit

Quality Management Module



Layered Process Audits (LPA) is a quality tool developed for manufacturing management. The LPA training and workshop is applicable for any level in organization like Team Leaders, Engineers, Managers and above. It's an ongoing chain of simple verification checks, which through observation, evaluation and conversations on the line, assure that key work steps are being performed properly.

Why to implement LPA?

LPA improves overall Quality and Customer satisfaction through early detection of problems and focus on prevention strategy;

LPA provides opportunities for continuous improvement activities;

LPA help to reduce scrap, rework and eliminate waste;

LPA contribute to prevent process errors and operator mistakes;

LPA improves communication between different level and departments in the plant;

LPA reduce improve FTC (First time correct) indicator and reduce customer rejects;

Training and workshop content:

Introduction to LPA

What is LPA; LPA Principles, Why we need LPA?; Typical LPA road map;

LPA Team:

Who should participate, team members roles and responsibilities, train auditors;

LPA Check Sheet questions and format:

Present and review LPA check sheet Level 1, LPA check sheet Level 2 & 3;

LPA schedule and frequency:

How to define schedule and frequency for audit, based on defined areas and teams;

Execute the audits:

LPA execution methodology;

LPA reports and review :

Audit completion, Findings and Top issues; Management review, results evaluation and reporting;

Practical workshop:

Evaluate the actual procedure and status of audits in the Plant.

Run the actual LPA in production in order to find strengths and weak points which can be improved.

Map the actual Layered Process Audit and create a future Improved LPA based on participants observations and consultant feedback.

Standardize the improved LPA procedure and run it in few areas.

Present the results to the Management and define a sustainability plan.

Constantin Pătășanu

Trainer and consultant

Professional experience description



Bachelor in Engineering

Politehnica University of Timișoara, Faculty of Mechanics - graduate in Industrial Robots

Constantin is an energetic, positive, highly organized person who's always open to new ideas. His professional experience consists of over 12 years in automotive field, for multinational companies and 12 years in training and consulting.

He worked more than 4 years for Takata Petri Steering Wheels as Project Coordinator for General Motors, Ford and Mercedes. In 2009 he started working as Continuous Improvement Manager for Johnson Controls Company (Plant for metallic seats structure for cars and mechanisms), where in June 2014 he became Senior Continuous Improvement Manager for Europe.

Since 2007, Constantin started working as Senior Trainer and Consultant for EMC Consulting, where he delivers technical consultancy and trainings to all EMC customers. During his career, he has worked with over 4000 participants in different training and consultancy sessions and he delivered over than 7000 training and consultancy hours;

Constantin is certified by IASSC as Lean Six Sigma Black Belt, Certified ISO 9001:2015, IATF 16949:2016, VDA 6.3 Qualification for Process Auditor, internal auditor according ISO 19011, Lean Manufacturing, Kepner Tregoe (KT), REFA, APIS - IQRM FMEA .

He is certified by CNFPA as a Trainer and Project Manager, by EANLP as Master NLP, and by Human Synergistics in utilizing personal and team development instruments (LSI, LI & GSI).

Radu Tritean

Trainer and consultant

Professional experience description



Bachelor in Engineering

Politehnica University of Timișoara, Faculty of Mechanics - graduate in Electromechanics

Radu is an extremely ambitious person, focused on performance and excellence.

With over 10 years in the Automotive industry in the Quality Department, he worked for multinational companies such as: Continental, Key Safety Systems and Adient..

For over 8 years, Radu was the quality customer interface for major OEM's like VW, Audi, Jaguar, etc. solving the customer claims and preventing the reoccurrence of the problems.

Radu is certified as an internal/external auditor by VDA 6.3, IATF 16949:2016, internal auditor according ISO 9001:2015, APQP(Advance Product Quality Planning), MSA (Measurement Systems Analysis); Team Problem Solving; CP(Control Plan); PPAP (Production Part Approval Process); FMEA (Failure Mode and Effect Analysis); SPC (Statistical Process Control);

Radu is also certified by PSA Groupe (Peugeot Citroen) as NSA (New Supplier Assessment) auditor

Radu joined initially EMC Consulting in march 2017, but starting with 2018, he decided to be a permanent part of EMC Team. He is going to be fully dedicated for technical courses, consulting and audits.

Florentina Sabău

Trainer and consultant

Professional experience description



Bachelor in Engineering, Politehnica University of Timisoara, Faculty of Chemical and Environmental Engineering, graduate in Biotechnical Engineering Systems with a master degree in Optimizing the Development of Sanitary Engineering Systems and Environmental Protection in Hydrotehnics field.

Florentina is a determined person with a proactive attitude focused on excellence.

With more than 9 years in automotive field, working in different multinational companies, Florentina has develop and improve her skills in Quality Management Systems, Continuous Improvement disciplines and Environmental Protection fields.

Working for a period of time as a Black Belt Continuous Improvement Specialist, she has implemented various projects to improve process performance in all major LEAN disciplines: Process Flow Mapping (VSM, 5S / Visual Management, TPM, QCO-SMED, Standard Work, Process Problem Solving, In Time, Kaizen / Continuous Improvement), becoming an internal consultant for all departments. She organized and moderated workshops (VSM, 5S, SMED, TPM) to achieve improvement target.

Then, throughout his career as a Representative of the Quality Management System, she helped to implement and develop quality management systems, leading to the successful certification of companies on the new IATF 16949 standard.

Florentina is certified auditor by VDA 6.3, IATF 16949:2016 Automotive quality management system internal auditor , ISO 9001:2015 Quality management sistem internal auditor including ISO 19011:2018 , ISO 14001:2015 Environmental management systems internal auditor, ISO 45001:2018 Occupational Health And Safety management system internal auditor , Energy management systems specialist and internal auditor according ISO 50001:2011. She is certified by Renault Consulting France as Lean Six Sigma Green Belt, certified in Lean Manufacturing and Kepner Tregoe, and by CNFPA as a Trainer and Project Manager.

In 2017 she became part of the EMC Consulting team as a trainer and consultant, where she currently delivers full-time technical consultancy to EMC customers.

Adelin
Vargas
Trainer and consultant



Professional experience description

Graduate of the Polytechnic University of Timisoara, Electrotechnics Department, specializing in Electric Machines and Motors.

A dynamic, ambitious and optimistic person oriented towards continuous development with a special attention to detail and an analytical thinking.

Having over 10 years of professional experience in the automotive and medical industry with several multinational companies TRW, Continental, Adient and Flextronics.

Leadership skills developed by occupying different positions: Team Leader (for more than 30 people) and project coordinator for various projects for the installation of new production equipment.

Experience in quality field acquired as process quality technician, quality engineer, quality management system responsible and Customer Quality Manager. Directly involved in the implementation and monitoring of new projects as well as related documentation: APQP, PFC, PFMEA, Control Plan, SPC, MSA, PPAP. Responsible for factory-level implementation of Layered Process Audit and QDA software for process monitoring and real-time capability studies. Keeping in touch with the customer and making reports based on various Methodology Problem Solving (Method 8D, Fishbone Diagram, 5Why).

Participation in the preparation and support of internal and client audits according to ISO / TS 16949: 2009, successful transition to the new IATF 16949: 2016 quality standard.

To this is added the process engineer experience and a direct collaboration with the continuous improvement department for: Process Flow Mapping, VSM, 5S / Visual Management, TPM, Standard Work, Process Problem Solving, Gemba Walk.

Six Sigma Green Belt Certification achieved through internal improvement projects within Flextronics.

Experienced in the provision of training acquired through both the training programs supported within the companies where he worked and the 2018 collaboration with an external training and consulting company.

Mihail Mate

Trainer and consultant

Professional experience description



Economist, University of West Timisoara,
Faculty of Economical Studies, graduated in the Management field

Mihail is an analytic person with a passion for systems and flows, especially in the Supply Chain area.

He joined his first multinational company in 2001 as a Sourcing coordinator for a textile manufacturer, then he became a Planning Manager within the same company after about one year from joining. In 2006, Mihail joined the automotive field as a Logistics Manager in Arad, then, from 2007 onwards, he continued as a Supply Chain Manager for a cardboard manufacturer in Timisoara for about 5 years.

During this time, he lead an SAP implementation, he took over the new product introduction tasks and people, and also the back-office support of the external sales department.

As the company witnessed the installation of a corrugator machine, he participated to the flow redesign and the implementation of a specific system for the corrugated packaging business, CBS. Mihail went on with a similar Supply Chain position back in the automotive field for about one year, and after that he joined an industrial refrigerator producer in the Ice Cold Merchandising field for about two years.

Since 2007, Mihail started the cooperation with a training and consulting company in Arad, and delivered Supply Chain related trainings to teams of multinationals like Autoliv, Celestica, Mahle, Elcoteq, Frigoglass, Astra, Yazaki, Elektrokontakt, Cummins, Hella, KSS, Systronics, Panduit, etc.

Starting with 2016, Mihail became a freelancer and dedicated himself entirely to the training and consulting activity. He started his new carrier by leading a project on the implementation of the APO SAP module in an automotive plant in a project with a duration of more than half a year.

Now, Mihail is part of the EMC Consulting team, as a trainer and consultant in his field of expertise.

Bogdan Bălan

Trainer and consultant

Professional experience description



Management Bachelor, Arad University Marketing and management faculty, REFA graduate.

Bogdan is an optimistic person, focused on process improvement, capacity increasing, waste reduction through time study/line balancing activities and work-place design.

During the over 15 years of continuous activity in the automotive industry, Bogdan worked for multinational companies as: Takata, Key Safety Systems, Everel and Several Consulting and training projects.

For more than 15 years, Bogdan had the main focus on production performances increasing in various processes, such as: steering wheels production, airbags production, seatbelts production, wire harness production, injection, die casting, leather wrapping and has conducted many improvements and cost reduction projects and workshops.

Bogdan is certified in: REFA Working Systems and Process Data Management, Communication and Conflict Management Skills, Kaizen Coordinator, Time Management, Leadership, QRQC, VSM, TPM, Kanban, 8D.

Bogdan started his career as trainer and consultant in 2016 and he joined EMC Consulting in April 2018, fully dedicated to technical consulting activities.

Alin Mitroi

Consultant

Professional experience description



Masters Degree in Artificial Intelligence Robotic Systems, “Politehnica” University of Timisoara, Faculty of Mechanics. (2009 – 2011)

Bachelors Degree in Mechatronics and Robotics, “Politehnica” University of Timisoara, Faculty of Mechanics, graduate in Mechatronic Systems. (2005 – 2009)

Alin is a determined person with an open attitude and very high customer focus.

Alin has started working in the automotive field 9 years ago, early during his Masters studies. He started from ground-up occupying different positions in the quality departments of several multinational companies.

In 2013 he became Quality Manager for a small German company in the lighting industry and held the position for 1 and a half years.

Since then he is working at Trigo Industry Services where he firstly occupied the position of Site Manager (coordinating 100+ people), afterwards occupying the position of TREQ Coordinator for Romania where he performed Quality Management Consultancy activities.

During his career Alin has been the quality customer interface for clients like Ford, Fiat, Osram, Philips, etc., solving customer claims, developing action plans for different escalation systems and levels.

As Quality Manager he was responsible for the recertification of the company with ISO 9001:2008 and for developing the complete Process Quality Assurance Strategy of a new LED light bulb project

During his 9 years experience he had active roles in developing APQP, PFC, PFMEA, Control Plan, SPC, MSA, PPAP, QRQC and Problem Solving (8D Method, Fishbone Diagram, 5 Why). He also performed ISO/TS 16949:2009 internal audits according to ISO 19011:2011 Auditing Standard, 5S Internal Audits and Layered Process Audits.

During his time in Trigo he performed CSL2 and CSL3 activities for multiple OEMs and NBH Exit Activities.

He is certified as a Six Sigma Green Belt and ISO/TS 16949:2009 Internal Auditor.

Radu Homorogan

**Trainer and consultant
HMG Development**



Professional experience description

Based on his more than 7 years experience in Automotive industry in different companies (Key safety Systems, Hella and Mahle), on different position (SQA Team Leader or Supplier Quality Global function) experience and certifications, Radu covers the field of quality training (Core Tools, IATF 16949, ISO 19011, 8D Problem Solving, VDA 6.3, VDA 6.5, CSR's) but also consulting projects such as implementing / improving the quality management system.

Process Auditor VDA 6.3 certification, IATF 16949, Core Tools and problem-solving techniques allowed him to participate successfully at development programs for supplier in automotive industry.

John Maxwell International Certification as a trainer & speaker, brings with it a necessary component of the training - the transfer of knowledge to the participants in the courses, which is very important also in the consulting projects.

With a Bachelor in Tourism Economy Trade and Services at University of Arad, Radu is a very optimistic and open minded person, always ready for new challenges.

Certification in personal development creates the opportunity for different approach for the same challenges.

Ionela Mârzu

Office Manager



Professional experience description

Graduate of the Faculty of Agro-Food Products Engineering, having specialized in Control and Expertise of Agro-Food Products, followed by a master degree in the same field.

Due to her open mindset she understood the importance of personal development in which she has invested herself from an early age.

Her characteristic perseverance, bundled with passion for the field she studied, led her to participate in numerous innovation competitions..

In 2014 she was the winner of a scholarship grant in one of the largest spice producing companies in Romania. During the same year, she was part of a research team that had as goal the registration of a functional product at the State Office for Inventions and Trademarks.

Her desire of pushing her limits even further guided her steps towards a new field of activity in 2015. She worked for 2 years in the Supply Department of an IT company.

Her organizational, entrepreneurial spirit, as well as her attention to details, had led Ionela towards a new challenge. In June 2018 she became a member of the EMC Consulting team.

Our Trainers Certifications



AUTORITATEA
NAȚIONALĂ
PENTRU
CALIFICĂRI



Certificate No: 4301
ISO 9001 :2015

Quality trainers' certifications:

- IATF 16949:2016
- ISO 9001:2015
- ISO 19011:2018
- VDA 6.3
- APIS – IQ-RM FMEA
- PSA: NSA and QSB

Project Management trainers' certifications:

- PMP – Project Management Professional
- ANC – Project Management

Lean Six Sigma trainers' certifications:

- IASSC Black Belt

Problem Solving trainers' certifications:

- KT – Kepner Tregoe

Engineering trainers' certifications:

- REFA (time studies & ergonomics)

Supply Chain trainers' certifications:

- CDDR (Certified Demand Driven Planner)

Soft skills trainers' certifications:

- Human Synergistics
- European NLP
- ANC – Train the Trainers

Our Company Certifications

- ISO 9001
- ANC

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