

TRAINING PROGRAM



Plexus Management Systems s.r.l.

Sede Operativa:

Via Cassini, 48 – 10129 Torino

Tel.: 011 5681954 – Fax: 011 5088940

Mail: info@plexus-ms.com

Web: www.plexus-ms.com

TRAINING PROGRAM

Code: P1

Title: APQP, CONTROL PLAN AND PPAP

Targets and contents: APQP is the structured method recognized from the main OEM for the management and the planning of the product and process development.

The course, following the new guidelines introduced from the 2nd edition of the **AIAG Reference Manual “APQP – Advanced Product Quality Planning and Control Plan”** issued in July 2008 and the 4th edition of the **AIAG Reference Manual “PPAP- Production Part Approval Process”** explains, through group and individual activities, the operative tools that the APQP multifunctional team is called to apply in order to facilitate the internal and external communication and to assure the control of project targets in terms of costs, timing and goals. Through a practical case study, the participants will learn the macro-steps of the APQP process:

- **Planning and definition program:** the advantages of a correct planning process and of a multidisciplinary approach, the voice of the customer and its requirements, the project targets;
- **Product design and development:** Design FMEA, design verification, design review, engineering definition of the product (drawings, CAD, technical specifications, etc), classification of the characteristics, control plan, feasibility study;
- **Process design and development:** from flow-chart to Process FMEA and control plan. The management of the production process, the evaluation of the process capability (preliminary statistical study, control charts, analysis of data, etc);
- **Product and process validation:** process and product validation, initial sampling submission to the customer according to PPAP manual (requirements and operating applications);
- **Feedback, assessment and corrective action:** control and continuous improvement of the process and the product in order to achieve the final customer satisfaction.
- **New guidelines introduced by the 2nd edition of the AIAG Reference Manual:** the APQP according to the process approach, the links with the Technical Specification ISO/TS 16949:2009 and the Customer Specific Requirements.

Who should attend: Department Managers (Quality, Production, R&D / Engineering, Sales, Purchasing, Logistic)

Lenght: 2 days

Cost: € 560,00 + I.V.A.

Code: P2

Title: FMEA (Failure Mode and Effects Analysis)

Targets and contents: the course, following the new guidelines introduced from the 4th edition of the AIAG Rereference Manual “FMEA - Failure Mode and Effects Analysis” issued in June 2008, will develop in the participants a deep understanding of the FMEA process through group and individual activities. The participants will identify the advantages of the FMEA and the skills necessary in order to manage the FMEA development process through the following steps:

- **Design FMEA and Process FMEA:** definitions and differences, purpose and targets of the two prevention and risk analysis tools;
- **FMEA core tool:** structure and operative instructions, the meaning of severity, occurrence and detection, the corrective actions in front of the higher risks identified;
- **Design FMEA development:** in group, the participants will prepare a Design FMEA starting from a case study, with the goal to apply the basics previously introduced;
- **Process FMEA development:** in group, the participants will prepare a Process FMEA starting from a case study, in order to understand the differences and the likenesses with the Design FMEA;
- **New guidelines introduced by the 4th edition of the AIAG Reference Manual:** new criteria for severity, occurrence and detection rankings in order to achieve a deep project risk analysis. The new DFMEA and PFMEA forms.

Who should attend: Department

Lenght: 1 day

Cost: € 285,00 + I.V.A.

TRAINING PROGRAM

Code: P3

Title: MSA (Measurement System Analysis) - NEW RELEASE 4th EDITION 2010

Targets and contents: the course, following the guidelines introduced from the 4th edition of the **AIAG Rereference Manual “MSA – Measurement Systems Analysis” issued in 2010**, will guide the participants to a deep understanding of MSA, through several group and individual activities.

The participants will develop a better knowledge of the contents and the goals of the measurement systems analysis, through case studies and tools application.

The training course will guide the participants through the following steps:

- Identification of the most common measuring errors
- The measurement process and the sources of variability
- Planning and study of the measurement systems
- Stability
- Bias
- Linearity
- Repeatability
- Reproducibility
- Gage R&R
- Attributes measuring systems
- Organizational applications and variability sources in the measurement systems.

Who should attend: Department Managers, Quality Control Operators, Metrological Lab. Operators

Lenght: 1 day

Cost: € 285,00 + I.V.A.

TRAINING PROGRAM

Code: P4

Title: SPC (Statistical Process Control)

Targets and contents: the course, following the new guidelines introduced from the 2nd edition of the AIAG Rereference Manual “SPC – Statistical Process Control”, will introduce the participants to the understanding and application of the basic statistical concepts for the process control, as required from the Technical Specification ISO/TS 16949:2009.

Through group and individual case studies, a 4 steps path will provide to the participants the theoretical and practical basics for the development and the application of the appropriated statistical tools:

- **The basic concpets of the statistical process control:** terms and definitions, analysis of the causes of variation in the process, process stability and process capability;
- **Variables control charts:** definition, preparation, use and interpretation;
- **Attributes control charts:** definition, preparation, use and interpretation;
- **Analysis of process capability:** key indicators, definition and realization of a process capability study.

Who should attend: Department Managers, Quality Control Operators, Metrological Lab. Operators

Lenght: 1 day

Cost: € 285,00 + I.V.A.

TRAINING PROGRAM

Code: P5

Title: Overview ISO 9001:2008

Targets and contents: the course will develop in the participants a deep understanding of the Standard UNI EN ISO 9001:2008, through group and individual activities, with the goal to provide a clear overview of the targets and the benefits of the Standard.

The training program is developed introducing the participants to the process approach and to the quality management system requirements required from the Standard through the following steps:

- **Standard UNI EN ISO 9001:2008:** aim and purpose, receiver, organization, contents and requirements;
- **Process approach:** process definition, process classification, process requirements, benefits from the implementation of the process approach in the company, operative tools;
- **Quality Management System principles:** from the definition of the principles to the application of the requirements according to the process approach;
- **Guidelines:** practical indications for the preparation of documentation (manual and procedures) or for its update.

Who should attend: Directors, Department Managers

Lenght: 2 days

Cost: € 560,00 + I.V.A.

TRAINING PROGRAM

Code: P6

Title: ISO 9001:2008 – Internal Auditor (4 days)

Targets and contents: the course is designed to provide the participants with a rigorous management process of internal audits.

The course combines individual and group activities, case studies and role plays. Training goals are to achieve the knowledge and the skills for planning and leading the audit activities and collecting the objective findings. The course is developed through the following steps:

- Introduction to the ISO 9001:2008: history, scope and goal of the Standard, application, requirements;
- Understanding and application of the Standard: requirements, process approach, data analysis, process mapping, continuous improvement;
- Planning of the internal audit according to the Process Approach: targets and goals, tools, working procedures, critical elements;
- Performing an internal audit: case studies, role plays, reporting documents, classification of the findings, corrective actions requests;
- Standard requirements analysis – what should an auditor look for?
- Audit simulation;
- Written exams.

After passing the examination, a Plexus Certificate will be issued.

Who should attend: Quality Assurance Managers, Process Owners, Department Managers

Lenght: 4 days

Cost: € 1.032,00 + I.V.A.

TRAINING PROGRAM

Code: P7

Title: ISO 9001:2008 – Internal Auditor (2 days)

Targets and contents: the course is designed to provide the participants with a rigorous management process of internal audits.

The course combines individual and group activities, case studies and role plays. Training goals are to achieve the knowledge and the skills for planning and leading the audit activities and collecting the objective findings. The course is developed through the following steps:

- Introduction to the ISO 9001:2008: history, scope and goal of the Standard, application, requirements;
- Understanding and application of the Standard: requirements, process approach, data analysis, process mapping, continuous improvement;
- Planning of the internal audit according to the Process Approach: targets and goals, tools, working procedures, critical elements;
- Performing an internal audit: case studies, role plays, reporting documents, classification of the findings, corrective actions requests.

An attendance certificate will be released to the participants at the end of the course.

Who should attend: Department Managers

Lenght: 2 days

Cost: €560 + I.V.A.

Code: P8

Title: ISO/TS 16949:2009 Overview

Targets and contents: the course will develop in the participants a deep understanding of the contents of the Technical Specification ISO/TS 16949:2009 and its innovative elements related to the previous automotive certification schemes.

Through group and individual activities, the course will emphasize the process approach in the automotive industry, providing basic concepts, tools and goals of the ISO/TS 16949:2009 quality management system model.

The course is developed through the following steps:

- **Introduction to the Technical Specification ISO/TS 16949:2009:** history, application, scope and goal of the Standard in the automotive scenario. The added value of the new certification scheme related to the previous models.
- **Process approach:** from the definition of process to its classification and identification. The automotive model for process mapping, the octopus diagram and the turtle diagram, the definition of process requirements, the input-output relationship and the functional analysis.
- **The benefits:** from the “clause-based” conformity to the management of the business activities with the goals of added value, continuous improvement and customer satisfaction. The change from the application of the procedures to the "ownership" of the processes.
- **The key elements:** the requirements, the changes compared to the previous automotive standards, the customer focus, the critical elements, the impact of the Technical Standard on the company's organization.

Who should attend: Directors, Department Managers

Lenght: 2 days

Cost: € 560,00 + I.V.A.

Code: P9

Titolo: ISO/TS 16949:2009 – Internal Auditor

Targets and contents: the course, **world-wide recognized through the agreement between Plexus and AIAG (Automotive Industry Action Group)**, is designed in order to provide the participants with a rigorous management process of internal audits. The course combines individual and group activities, case studies and role plays. Training goals are to achieve the knowledge and the skills for planning and leading the audit activities and collecting the objective findings.

The course is developed through the following steps:

- **Introduction to the ISO/TS 16949:2009:** history, contents and targets of the Technical Specification in the automotive scenario. The value-added of the new certification system compared to the previous models;
- **Understanding and application of the Technical Specification:** requirements, process approach, data analysis, continuous improvement, customer satisfaction;
- **Analysis and mapping of the organization process:** the octopus model and turtle model. Characterization of a process: input / output relationship, process customers, requirements, infrastructures and resources, support documents, indicators and performance monitoring;
- **Planning of the internal audit according to the Process Approach:** targets and goals, tools, working procedures, critical elements;
- **Performing an Internal audit:** case studies, role plays, reporting documents, classification of the findings, corrective actions requests.

During the course , the participants will be evaluated through individual and group activities, a role play and a written examination.

After passing the examination, a world-wide recognized AIAG Certificate will be issued.

Who should attend: Quality Assurance Managers, Process Owners, Department Managers

Lenght: 4 days

Cost: € 1.032,00 + I.V.A.

TRAINING PROGRAM

Code: P10

Title: Process approach and performance measuring system

Targets and contents: the course will develop the process approach, as required by the Standard ISO 9001:2008, providing goals, basic concepts and operative tools through the following steps:

- **The process approach:** from the definition of process to its classification and identification. The automotive model for process mapping, the octopus diagram and the turtle diagram, the definition of process requirements, the input-output relationship and the functional analysis.
- **The changes introduced from the process approach and the related benefits:** from the “clause-based” conformity to the management of the business activities with the goals of added value, continuous improvement and customer satisfaction. The change from the application of the procedures to the "ownership" of the processes.
- **The process mapping:** methodology and tools, characterization of the processes, the connection between processes. The key-indicators for measuring the process performances, monitoring the results compared to the target, for improving.
- **The key elements:** the requirements, the changes compared to the previous standards, the customer focus, the critical elements, the impact on the company’s organization.

Who should attend: Department Managers

Length: 1 day

Cost: € 285,00 + I.V.A.

TRAINING PROGRAM

Code: P11

Title: Continuous improvement – The 5S

Targets and contents: The process of continuous improvement in the business performances, in order to eliminate wastes and to achieve the required level of customer satisfaction, finds its bases in the “5S” activities. The acronym “5S” comes from 5 Japanese words: SEIRI, SEITON, SEISO, SEIKETSU, SHITSUKE.

In Japanese, all these words mean “to put in order” and indicate a logical path that provides a method and an effective tool for the management of the continuous improvement process, as required and emphasized from the Standard UNI EN ISO 9001:2008 and from the Technical Specification ISO/TS 16949:2009.

Who should attend: Department Managers

Lenght: 1 day

Cost: € 285,00 + I.V.A.

Code: P12

Title: Measuring Laboratory and equipment management

Targets and contents: The course will provide the participants with a deep understanding of the Standard ISO 17025 and MSA (“Measurement Systems Analysis), in order to manage the measuring devices and the laboratory activities.

The participants will develop the knowledge of the methods of analysis of the measurement devices and systems, approaching the operative tools through several case studies.

The course is developed through the following steps:

- The management of the measurement equipment
- Methods of calibration and their validation
- The metrological chain in the calibration activity
- Uncertainty of the measuring equipment
- Categories of the most common measuring errors
- Planning and study of the measuring systems
- Overview of the organizational applications. Identification of the most common sources of variation of the measuring system

Who should attend: Quality Assurance Managers, Metrological Lab. Operators

Length: 2 days

Cost: € 560,00 + I.V.A.

Code: P13

Title: Lean Manufacturing

Targets and contents: The most advanced models of Total Quality are often integrated with specific requirements of the customer, aimed at leading every company to the excellence and to the continuous improvement.

The efficiency in the management of the resources is one of the key factors to achieve the success in the industrial, automotive scenario.

The course will provide a set of tools to develop a “lean manufacturing company”:

- Overall Equipment Effectiveness (OEE);
- First Time Through (FTT);
- Dock to dock (DTD);
- Process flow analysis;
- 5S campaign;
- Standardization of the work stations.

Every indicator takes into account a set of activities in order to achieve the targets, following a “Plan – Do – Check – Act” approach.

The same approach will be followed in the training course, through the following steps:

- Plan: understanding the Lean Manufacturing indicators, planning ways and timing for implementation with the support of several case studies.
- Do: implementing the planned actions, with the collaboration of the Plexus coaches.
- Check: measuring the results with the support of the “Handbook of Lean Manufacturing”, comparing them with the target previously defined, highlighting the weaknesses, identifying the priorities for the “bottle neck” removal.
- Act: implementing the improvement actions previously defined, in order to eliminate inefficiencies and wastes.

Who should attend: Production Managers, Quality Assurance Managers

Lenght: 2 days

Cost: € 560,00 + I.V.A.

Code: P14

Title: Problem Solving

Targets and contents: The management of the improvement activities involves all the departments of a company, requires appropriate tools and must be monitored with specific indicators.

After the definition of the steps of the “Plan-Do-Check-Act” cycle, the course will provide an overview of the Problem Solving process and its operative tools.

- **The continuous improvement**
 - The basic concepts of the improvement process
 - The reasons for improving
 - Breakthrough and continuous improvement
 - The improvement process organization
 - The continuous improvement mindset
 - The PDCA method: the improvement process
 - Managing the improvement projects: the *Six Sigma* approach

- **The Problem Solving tools**
 - Flow chart: the organization of an improvement project
 - Tools for collecting data
 - Data analysis
 - 5 Why
 - Brain-storming
 - Pareto diagram
 - Cause / Effect diagram
 - Data variability: the concept of system
 - Statistical tools of Problem Solving (briefly)
 - Application of the PDCA method to the development of an improvement plan
 - Monitoring the improvement process

Who should attend: Department Managers

Lenght: 2 days

Cost: € 560,00 + I.V.A.

TRAINING PROGRAM

Code: P15

Title: Management of the maintenance process

Targets and contents: The course will provide the line guides for the management of the maintenance process: preventive maintenance, extraordinary maintenance, data analysis using advanced preventive and predictive techniques (FMECA).

The management of the maintenance process *using a set of key indicators*.

The course is developed through the following steps:

- Organization of the maintenance service
- Maintenance instructions
- Maintenance management guidelines
- Productive maintenance
- Spare parts management
- Advanced preventive techniques (FMECA)
- Electronic supports
- Evaluation tools – quality of the maintenance service

Who should attend: Maintenance Managers

Lenght: 2 days

Cost: € 560,00 + I.V.A.

TRAINING PROGRAM

Code: P16

Title: Implementing the 8D process

Targets and contents: “8D” is the name of the " Team oriented problem solving" technique defined by Ford and applied in the automotive supply-chain all over the world.

It summarizes the results of the problem solving process in 8 steps (8D), until the verification of the effectiveness of the corrective actions implemented. According to the different customers, some formal details could change, but the basic concepts remain the same.

The 8D technique is widely used in the automotive industry for the management of the customer claims or of the internal issues, with the aim to identify the root causes of the non-conformities and the necessary corrective actions. The 8D methodology could be synthetized in the following steps:

- D1 – Build the team
- D2 – Describe the problem
- D3 – Containment actions
- D4 – Root cause analysis
- D5 – Permanent corrective actions identification
- D6 - Permanent corrective actions validation
- D7 – Preventive actions
- D8 – Congratulations to the group

Who should attend: Department Managers

Lenght: 1 day

Cost: € 285,00 + I.V.A.

Code: P17

Title: Six Sigma Overview

Targets and contents: The management of the improvement process involves all the business activities within the company: it requires appropriate tools and must be monitored using key indicators. The Six Sigma was born in the manufacturing industry in order to improve the production processes around the end of 80s'. During the second half of 90s', the Six Sigma has become a methodology for the improvement of the process within all the american business world. The methodology is frequently divided into 5 steps: Plan, Measure, Analyze, Improve and Control (DMAIC).

The Six Sigma is, therefore a philosophical approach, focused on the elimination of the errors, the reduction of wastes and reworking, applied from the biggest manufacturing groups.

In a scenario of the improvement projects focused on the "attack" (i.e., increasing volumes and productivity), the Six Sigma is focused on the "defence" (i.e., making many of the things that already are made, but making them better or with less wastes).

The course will develop in the participants a deep understanding of the basic concepts of the improvement process through the following steps:

- ◆ Management concepts of the improvement process
- ◆ The 6 σ approach
- ◆ The 'drivers' for implementing
- ◆ DMAIC/DMADV/IDOV
- ◆ Processes management
- ◆ Projects management
- ◆ Communication
- ◆ Change management

Who should attend: Department Managers

Length: 1 day

Cost: € 285,00 + I.V.A.

Code: P19

Title: LPA - Layered Process Audits

Targets and contents: Among the most recent tools regarding the measurement and improvement of the company processes, the Layered Process Audits (LPA) plays a leading role, thanks to its simplicity and efficacy.

Through this training class, which is strongly oriented toward the most practical and functional features, the participants will be driven to the comprehension of the LPA targets and contents, to the knowledge of the operative tools and their application, to the planning of the best implementation strategy in the company's organization.

A practical case study will allow the participants to deeply know the LPA methodology and its real benefits.

The course is developed through the following steps:

- ♦ Introduction to the LPA
- ♦ Targets and benefits of the LPA: what is and what is not LPA
- ♦ Planning of the LPA: audit frequency and levels in the organization
- ♦ Preparation of the LPA: structure and operative tools
- ♦ Performance of the LPA: risks and problems, findings
- ♦ Management of non-conformities: reactivity, treatment and improvement
- ♦ Application chances of the tool to one's own company organization

Who should attend: All Organizations departments personnel

Length : 1 day

Cost : € 285,00/participant + I.V.A.