

## AIAG-VDA Product FMEA Overview



Course Duration: 3 Days - 8 Hours/day

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## Seminar Content

Omnex is not presently a VDA licensee. If the VDA auditor “card” is required by a customer for their suppliers’ auditors, attendees should confirm with a licensed provider if they can take the official exam after this course.

Join Omnex for this important industry approach integrating AIAG and VDA FMEAs. Omnex’s FMEA experts, many of whom are writers of the FMEA standards, have worked extensively with both AIAG and VDA FMEAs formats. They will show you how to manage your existing AIAG or VDA FMEAs and the steps to transition to the AIAG-VDA FMEA approach.

Omnex will share best-in-class practices to get the most of the AIAG-VDA PFMEA including managing requirements, integrating PPMs and Warranty History, and creating a product and process architecture for managing FMEAs. Get the greatest savings by employing Process Reuse and also linking PPM and Warranty History with AIAG-VDA PFMEA.

This 2 day (open enrollment) or 3 day seminar addresses all of the elements of the Design Failure Mode Effects Analysis (DFMEA) and Design Verification Planning process and defines it as a process within your organization. This class was designed as a “how to” for practitioners and facilitators. This training offers an optional certification exam in addition to an optional one or two days of the workshop to develop your own product using AIAG-VDA DFMEA (onsite training only).

The training uses a hands-on approach to understanding and using the seven steps of the AIAG-VDA FMEA process that has been modified and improved by Omnex and to understand how it is managed as a process. This course is intended to be a dynamic, **hands-on offering** with approximately half the class time spent in workshops.

The approaches discussed and employed in this course are consistent with the intent and guidelines in the AIAG-VDA FMEA Handbook (1st edition, 2019) issued by AIAG and VDA, APQP Second Edition, and IATF 16949:2016.

## Learning Objectives

- Provide a hands-on approach to the DFMEA process and its relationship to program deliverables and status reporting to provide the competencies needed to introduce new products and processes smoothly
- Apply the Omnex-modified DFMEA process (based on the AIAG-VDA Seven Step Approach) to develop SFMEA and DFMEA
- Detail best in class methods of AIAG-VDA Design FMEA implementations.
- Explain how to incorporate single and multipoint FMEAs into the same FMEA (Omnex-developed method)
- Build an FMEA that links with FTA and FMEDA (Omnex-developed method)

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## OMNEX INC

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- ✦ Create a Boundary/Block Diagram, P Diagram, and Interface Diagram
  - ✦ Explain the use of an inter-relationship matrix to identify relationships between functions and design elements
  - ✦ Link DFMEA with DVPR and use Prevention Checklists
  - ✦ Link SFMEA, DFMEA, Process Flow, PFMEA, and Control Plans
  - ✦ Learn how to link DFMEA to failure and warranty history and Cost of Poor Quality (COPQ)
  - ✦ Utilize Severity, Occurrence and Detection indices and the Action Priority Matrix evaluations to promote Continuous Improvement
  - ✦ Use of AIAG-VDA DFMEA Checklist to evaluate DFMEAs completed and to provide consistency when DFMEA is applied.
  - ✦ Hands on “use of AIAG-VDA FMEA software” and understand role of software in AIAG-VDA FMEA
  - ✦ Implementation of the AIAG-VDA and other Supply Chain Standards
- ## Seminar Outline
- ✦ Course Overview and Introductions
  - ✦ Setting the Stage: APQP Overview
  - ✦ Introduction to Failure Mode and Effects Analysis (FMEA)
  - ✦ What is an FMEA? (Purpose and Benefits)
  - ✦ Maintaining FMEAs
  - ✦ Types of FMEAs
  - ✦ Developing an FMEA
  - ✦ The Omnex Seven Step Approach
  - ✦ Process FMEA Prerequisites
  - ✦ Step 1: Scope of the Analysis
  - ✦ Process Flow Diagram
  - ✦ **Breakout Exercise: Process Flow Diagram**
  - ✦ Step 2: Structure Analysis
  - ✦ **Breakout Exercise: Structure Analysis**
  - ✦ Step 3: Function Analysis
  - ✦ **Breakout Exercise: Function Analysis**
  - ✦ Developing the Process FMEA
  - ✦ Process Failure Modes
  - ✦ Step 4: Failure Analysis
  - ✦ **Breakout Exercise: Failure Modes**
  - ✦ Step 5: Risk Analysis
  - ✦ Process Controls
  - ✦ **Breakout Exercise: Failure Net**
  - ✦ Indices and Action Plans
  - ✦ **Breakout Exercise: Process Controls**
  - ✦ **Breakout Exercise: Indices and Action Plans**
  - ✦ Step 6: Optimization
  - ✦ Step 7: Results Documentation
  - ✦ Control Plan
  - ✦ What is a Control Plan?
  - ✦ IATF 16949 Requirements

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- Control Plan Fields
- Breakout Exercise: Control Plan
- Implications of the AIAG-VDA FMEA
- [OPTIONAL / SELF-STUDY]
- What has changed in the AIAG-VDA FMEA vs the 4th Edition?
- Use of AIAG-VDA PFMEA Checklists to evaluate PFMEAs completed
- Changes to the organization and Supply Chain - what are Supply Chain Standards and why they are important?
- Requirements Management for AIAG-VDA FMEA
- Software needs with AIAG-VDA FMEA - AIAG 4th Edition is 2-Dimensional and AIAG-VDA FMEA is 3-Dimensional
- Reuse of Information and Products/Process Families and Continual Improvement
- Linkages of SFMEA, DFMEA, and PFMEA including PPAP
- Change Management and FMEA Updates PPM Defect history, Cost of Poor Quality and FMEA linkages
- Getting Started Checklist and Action Plan Summary
- Certification Exam for AIAG-VDA PFMEA - Optional

**Note 1: Breakouts will be conducted using AIAG-VDA FMEA Software**

**Note 2: Omnex can offer training in IQFMEA, Plato or AQuA Pro for onsite training**

**Note 3: You can add two additional days for Facilitator Training (onsite training only)**

**Note 4: You can add one or two days to develop a PFMEA using your own product. It will be best if you have a 4th Edition PFMEA and Control Plan for comparison purposes. This training can include your component suppliers.**

## Who Should Attend

Those who have direct responsibility for introducing new manufacturing processes and systems would benefit from this seminar. This includes: program/product managers, quality managers, design engineers, manufacturing engineers, APQP team members and others who have direct responsibility for new process development and improvement.

Those directly responsible for PFMEA creation or facilitation should attend this course to upgrade their skills to the AIAG-VDA PFMEA 1st Edition.

## Pre-Requisite

No prior knowledge is necessary. However, a mix of students with knowledge of product design & development and/or manufacturing and basic Quality Assurance concepts is preferred.

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