VDA QMC
德国汽车工业协会
质量管理中心中国分公司
CHINA

汽车行业核心工具
Automotive Core Tools

VDA 标准概览

VDA Standards Overview

VDA 标准由德国汽车专家制定，其中大多数是适用于整个供应链（Tier-1 - Tier-n）的强制性标准。为了更好地了解哪个 VDA 标准在产品生命周期中的何时重要，我们在下一页创建了图表说明。

有些标准在签订供应商之前（报价过程中）很重要，有些标准在产品和流程开发（PO-SOP）期间很重要，而其他标准则在 SOP 之后很重要。更多详细信息请见右侧图表。

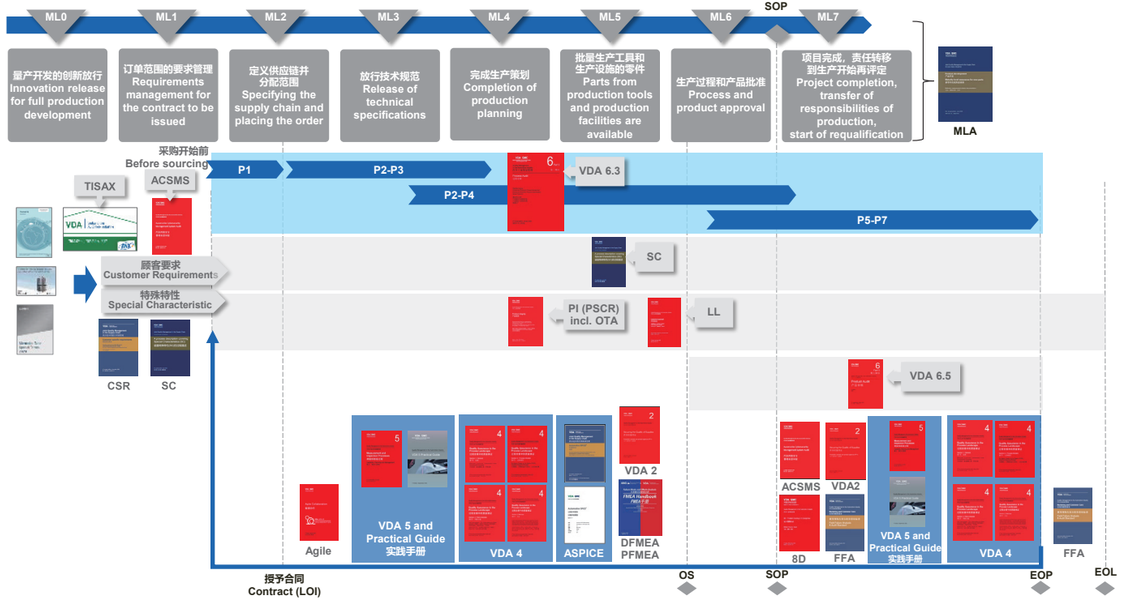
由于行业数字化的重要性，我们所有的 VDA 标准最近都进行了相关更新（例如：软件，网络安全等 ）

VDA Standards are developed by German Automotive experts and most of them are mandatory for the entire supply chain (tier-1 - tier-n). To better understand when, which VDA standard is important during life time, we created the graphic on next page.

Some standards are important before nomination (during quote process) others are important during product and process development (PO-SOP) and others are important after SOP. Please find more details in graphic on the right hand side.

All our VDA Standards have been lately updated due to the importance of digitalization (e.g.: Software, Cybersecurity...)

产品生命周期内的VDA标准 / VDA STANDARDS OVER LIFECYCLE



更多详情，请参考 VDA 标准概览宣传页 / More details, pls see VDA Standards Overview flyer

汽车行业核心工具为何如此重要？
Why Automotive Core Tools are important?

IATF 16949、内部质量管理体系要求以及顾客要求中明确定义了核心工具的使用是必不可少的。此外，必须满足顾客特定要求 (CSR) 中对核心工具的相关要求，以实现更高的顾客满意度。

我们在产品实现过程中面临着很多与产品、过程、系统相关的风险，可能导致开发失效、质量损失、客户不满意，甚至产品安全性及符合性的损失。风险会出现在每一个可能的阶段 / 时期，并以各种可能的形式出现。它们会对质量管理造成巨大的损害。因此，为了在组织及其供应链中及时正确地识别并预防这些风险，在正确的时机以正确的方式使用特定的汽车核心工具可以提供适合的解决方案并以低成本保护流程和产品。

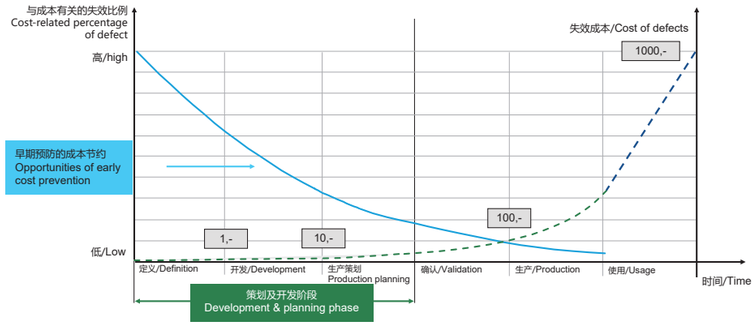
The indispensable use of core tools is clearly required and defined in IATF 16949, internal QMS requirements and customer requirements. In addition, customer specific requirements (CSR) for core tools must be met to achieve higher customer satisfaction.

Then, we are facing with lots of risks related to products, processes, and systems in the process of product realization, which may result in development failure, quality loss, customer dissatisfaction, even loss in product safety and conformity. Risks appear in every possible stage/phase and come in every possible form. They are huge damages for quality management. Thus, in order to identify and prevent these risks in time and correctly in the organization and in its supply chain, specific-used in the right way at the right time automotive core tools can provide corresponding suitable solutions and protect processes and products with low cost.

归功于核心工具在全生产开发过程中的广泛使用，可以更高效率和有效性地在相似情况间引入并转移标准化的解决流程。必须指出的是，不同核心工具间的综合应用可以在组织及其供应链中取得积极成果。

确保相关人员和审核员获取知识和能力的资源支持和监管是组织最高管理层的责任。

失效及影响/Defects and their impact



Thanks to the widely use of core tools in full production development process, standardized solution process can be introduced and transferred between similar situations with more efficiency and effectiveness. It must be point-ed out that the comprehensive and combined application of different core tools can achieve positive results in the organization and in its supply chain.

It is the responsibility of the top management of the organization to ensure that the knowledge and ability acquisition of the relevant personnel and auditors can be fully supported by resources and monitored.

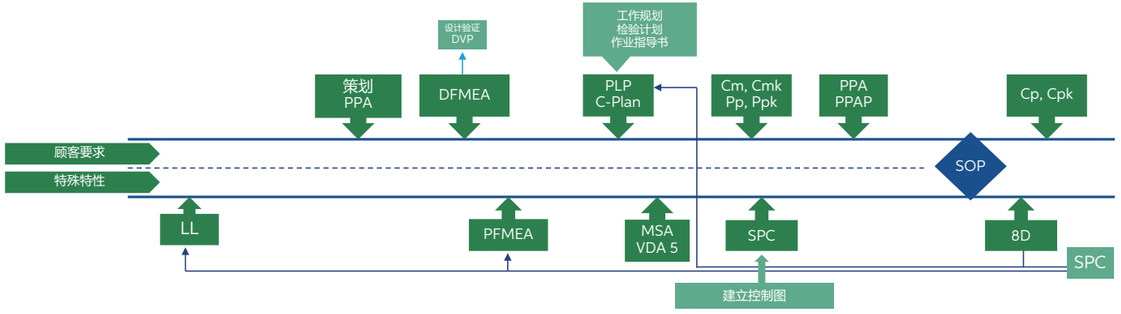
关于汽车行业核心工具

APQP 时间计划

策划	产品设计和开发	过程设计和开发	产品和过程确认	反馈, 评审 和纠正措施

成熟度保障

ML0	ML1	ML2	ML3	ML4	ML5	ML6	ML7
量产开发的创新放行	合同要求的管理	确定供应链并下订单	技术规范放行	完成生产策划	量产工装和设备条件下生产的可用零部件	产品和过程的批准	项目完成。责任交接到生产部门，启动再评定



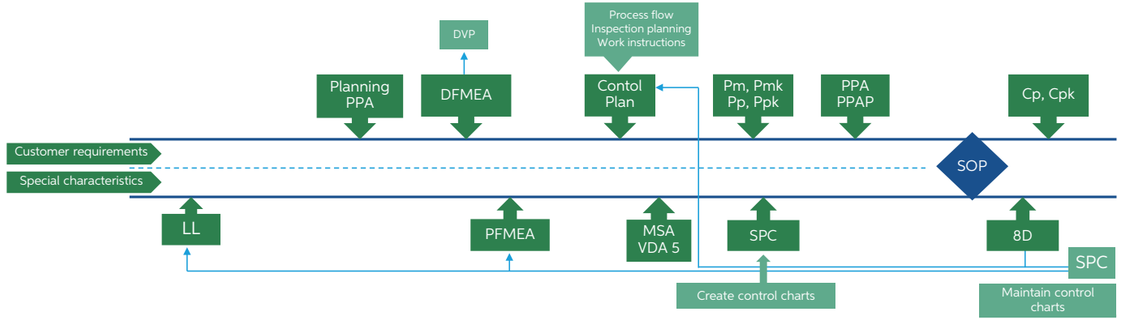
About Automotive Core Tools

APQP timing plan

Planning	Product design and development	Process design and development	Product and process validation	Feedback, assessment and corrective actions

MLA

ML0	ML1	ML2	ML3	ML4	ML6	ML6	ML7
Innovation release for full production development	Requirements management for the contract to be issued	Specifying the supply chain and placing the order	Release of technical specifications	Completion of production planning	Parts from production tools and production facilities are available	Product and process approval	Project completion, transfer of responsibilities to production. Start requalification



关于汽车行业核心工具

目前，中国汽车产业供应链中应用最广泛的核心工具是基于美国汽车工业行动组织（AIAG）的相关标准，这往往是满足美系主机厂提出的围绕核心工具的顾客特定要求的依据。

然而，这样还不够。 对于大多数德系主机厂而言，核心工具相关的 VDA 标准是满足其顾客特定要求的基础，并且是需要优先考虑的。 由于缺乏对 VDA 核心工具的系统化和专业性培训，经常会发现一些组织在实际应用中普遍存在明显的盲点和偏差。

兼顾德系和美系主机厂对汽车核心工具的要求 如：前期质量策划（成熟度保证和产品质量先期规划）、失效模式及影响分析 (FMEA)、测量系统分析 (VDA 5 和 MSA)、生产零件批准流程 (PPAP)、VDA 2 和生产过程和产品批准、统计过程控制 (SPC) 和 8D 方法等在内的工具需要被理解和使用。

因此，作为德国汽车工业协会质量管理中心中国分公司，我们将介绍 VDA 核心工具的要点，包括与 AIAG 核心工具的关系和区别，以帮助您更好地理解和学习。此外，我们还提供了相关练习、最佳实践和指导，以帮助您有效识别在实际使用核心工具过程中、审核过程中和质量管理过程中存在的风险。

About Automotive Core Tools

At present, the most widely used core tools in China automotive industry supply chain are based on the relevant standards of American Automotive Industry Action Group (AIAG), which is often the basis for meeting the CSR of core tools proposed by USA OEMs.

However, there is not enough. For most German OEMs, VDA standards of core tools are the basis for meeting their CSR and come first. Because of lack of systematic and professional training on VDA core tools, it is often found that some organizations generally have obvious blind spots and deviations in the practical application.

Considering both German and American OEMs requirements on automotive core tools, tools such as Advance Quality Planning (maturity level assurance and advance product quality planning), Failure Mode and Effects Analysis (FMEA), Measurement System Analysis (VDA 5 and MSA), Production Part Approval Process (PPAP), VDA 2 and Production Process and Product Approval, Statistical Process Control (SPC) and the 8D method need to be both understood and utilized.

Therefore, as VDA QMC China, we will introduce the key points of VDA core tools, including the relationship and differences compared with AIAG core tools, so as to help you better understand and learn. In addition, we provide relevant exercises, best practices and guidance on how to effectively identify the risks existing in the actual use of core tools, during the audit and the process of quality management.

关于汽车行业核心工具

PPA

生产过程和产品批准。PPA 描述了汽车批量零部件的提交抽样的基本要求。

FMEA

失效模式及影响分析。作为技术风险识别和管理的工具，FMEA（如：DFMEA、PFMEA）一直是汽车行业对主机厂和供应链的基本内外部要求。

VDA 5

测量和检验过程。 VDA 5 解释了如何确定测量和检验过程的适用性，以及如何规划和执行检验过程。

SPC

统计过程控制。SPC 提供了一种对生产过程进行分析和评价的方法，通过及时发现特殊原因的迹象并采取措施消除其影响，使过程保持在受控状态，从而达到质量控制的目的。

MLA

新零件的成熟度保障。MLA 的主要目的是实现供应零件质量的持续改进。

8D

8D 有助于了解发生问题时如何系统地进行（描述和解决问题）、解决问题的过程是如何进行的，以及 8D 报告包含的内容。

About Automotive Core Tools

PPA

Production Process and Product Approval. PPA describes the basic requirements for sampling of serial parts submission for automotive serial parts.

FMEA

Failure Mode and Effect Analysis. As a tool for technical risk identification and management, FMEA (e.g. DFMEA, PFMEA) has always been a basic internal and external requirement for OEMs and supply chains in the automotive industry.

VDA 5

Measurement and Testing Processes. VDA 5 explains how to determine the suitability of measurement and testing processes, and how testing processes are planned and carried out.

SPC

Statistical Process Control. SPC provides a method to analyze and evaluate the production process, in order to maintain the process in a controlled state for achieving the purpose of quality control with the help of timely finding signs of special factors and taking measures to eliminate their effects.

MLA

Maturity Level Assurance for New Parts. MLA aims to attain sustainable improvement of the quality of supplied parts.

8D

8D helps to learn how to proceed systematically when a problem occurs (describing and resolving a problem), how the problem-solving process works, and what an 8D report contains.

汽车行业核心工具培训介绍

汽车行业核心工具 – 用于汽车行业质量管理 (ID 415)

课程内容

成功的项目运行需要了解策划过程和方法，以及理解这些方法之间的关系。您将熟悉质量管理的基础工具，并且学习如何以有效和针对性的方式应用它们。本培训概述了核心工具在汽车和供应行业的现状和应用，旨在改善与客户和供应商的关系，确保过程和产品的高质量，系统地解决问题，避免重复故障。

目标

- 理解汽车行业核心工具的重要性
- 熟悉每种方法和结构
- 了解各种方法的区别以及共同点
- 熟悉各种方法的应用领域，并能在产品开发过程中适当应用它们

目标学员

- 负责产品和过程开发或者生产的员工
- 希望获得质量管理核心工具概述及其相互关联的管理人员，以便他们可以利用这些专业知识来加强他们的组织
- 准过程和体系审核员

费用及培训时长

人民币 8,800 元 / 人 /5 天 (含税)

Training Introduction

Automotive Core Tools (ACT) for Quality Management in the Automotive Industry (ID 415)

Contents

Successful project work requires knowledge of planning processes and methods, along with an understanding of how the methods are related. You will become familiar with the basic tools of quality management and learn how to apply them in an efficient and targeted manner. The training provides an overview of the current status and application of the Core Tools in the automotive and supply industry, with the aim of improving relations with customers and suppliers, ensuring high process and product quality, solving problems that occur systematically, and avoiding the repetition of faults.

Objectives

- You understand the importance of the Automotive Core Tools in the automotive industry.
- You are familiar with the individual methods and their structures.
- You know what differentiates the various methods, and what they have in common.
- You are familiar with the areas of application of various methods and can apply them appropriately in the product development process.

Target Audience

- Employees in product and process development or in production,
- Managers wishing to obtain an overview of the Core Tools for quality management and how they are interrelated, so they can use this expertise to strengthen their organization,
- Prospective process and system auditors.

Cost & Durations

RMB 8,8000/person/5 Days (incl.VAT)

汽车行业核心工具培训介绍

汽车行业核心工具 – 针对过程及体系审核员的培训 (ID 417)

课程内容

为保证公司和整个供应链中审核活动的高质量，审核员须在相关工具方面具备相应的能力。审核过程中的有效方法是成功的重要因素。该培训将使您有机会提升在汽车行业核心工具领域内执行典型审核情况的技能。

目标

- 熟悉与德国汽车行业相关的各个核心工具 (RGA/APQP, VDA 2/PPAP, FMEA, VDA 5/MSA, Cmk/PpK/CpK/SPC 以及 8D) 并能够相应地使用它们
- 能够以质量方法有效且技术上正确的方式处理典型的审核情况。
- 知晓如何相应地处理审核情况。
- 能够以技术上正确的方式评估相关方法的应用。
- 能够根据具体情况正确评估典型情况。

目标学员

- 准 VDA 6.3 过程审核员
- 准 IATF 体系审核员
- 需要申请资质延期的 VDA 6.3 过程审核员

费用及培训时长

人民币 5,000 元 / 人 /2 天 (含税)

Training Introduction

Automotive Core Tools –Training for Process and System Auditors (ID 417)

Contents

In order to ensure a high initial quality of audit activities in the companies and the entire supply chain, appropriate competence in the use of the respective methods is required. The efficient approach during the audits is an important success factor. This training will give you the opportunity to develop your skills in performing typical audit situations within the area of Automotive Core Tools.

Objectives

- You will be familiar with the individual core tools that are relevant for the German automotive industry (RGA/APQP, VDA 2 /PPAP, FMEA, VDA 5/MSA, Cmk/PpK/CpK/SPC and 8D) and be able to use them accordingly.
- You will be able to handle typical audit situations in the context of quality methods efficiently and in a technically correct manner.
- You will know how to approach audit situations accordingly.
- You will be able to evaluate the application of the respective methods in a technically correct manner.
- You will be able to correctly evaluate typical situations on a case-specific basis.

Target Audience

- Prospective VDA 6.3 process auditors
- Prospective IATF system auditors
- VDA 6.3 process auditors who would like to apply for an extension

Cost & Durations

RMB 5,000/person/2 Days (incl.VAT)

VDA QMC

德国汽车工业协会
质量管理中心中国分公司
CHINA

北京办公室 / BEIJING OFFICE

北京市朝阳区东方东路 19 号
DRC 亮马桥外交办公大楼 1 座 5 层 0505P
DRC Liangmaqiao Diplomatic Office
Building, Tower 1, 5F, Unit 0505P, No.19
Dongfangdonglu, Chaoyang District, Beijing
联系电话 / Tel.: +86-10-65900067
联系邮箱 / Email: bj@vdachina.com.cn

上海办公室 / SHANGHAI OFFICE

上海市长宁区金钟路 968 号
天会商务广场 7 号楼 1109 室
HQ Sky Bridge, Building 7, Room 1109
No. 968 Jinzhong Road
Changning District, Shanghai
联系电话 / Tel.: +86-21-62565183
联系邮箱 / Email: sh@vdachina.com.cn

沈阳办公室 / SHENYANG OFFICE

辽宁省沈阳市大东区滂江街 22 号
长峰中心 3702 室
Changfeng Center, Room 3702
No. 22, Pangjiang street
Dadong District, Shenyang, Liaoning
联系邮箱 / Email:
shenyang@vdachina.com.cn

www.vdachina.com.cn
与我们一起驶向未来！ DRIVE WITH US INTO YOUR FUTURE!

扫一扫关注我们 / Scan to follow us

2023 年 6 月版 / Version: Jun. 2023