Quality Management Training and Professional Development

2013

Quality needs competence
Dear customers and all those interested, dear friends of the VDA QMC,

Our course of trainings for the established audit standard VDA 6.3 (2010 edition) continues to be very popular. The process auditors of the first generation are now slowly approaching their re-qualification. By recommendation of the responsible task force and the VDA QMC, the VDA quality management committee has decided to proceed in an analogous fashion to the previous VDA 6.x bodies of rules. This means that sufficiently experienced process auditors will simply have to apply for an extension of their qualification with us.

We have signed a cooperation agreement with Beuth Hochschule für Technik Berlin in order to enable the graduates of the 3-semester “Quality Manager” correspondence course to take part in a three-day supplementary training, in which they can broaden their knowledge on automotive-specific processes and attain the VDA quality manager certificate after passing an exam.

Due to the many requests, we are supplementing our program with three basic trainings on functional safety according to ISO 26262. This standard, which is specifically designed for motor vehicles, serves to avoid systematic errors and to safely control failures and breakdowns.

The training „VDA 2 – Production Process and Product Approval (PPF)“ meets the extensive demand for qualification generated by the new structure of the PPF procedure in the 5th edition of VDA Volume 2.

You see: our range is becoming increasingly multi-faceted in order to provide you with the optimum in professional further qualification. We are at your disposal for questions, wishes or suggestions. Just contact us, we are happy to advise you!
Since 1 August 1997, the Quality Management Center (QMC) has been available to German automotive manufacturers and their suppliers. The QMC is part of the Verband der Automobilindustrie e.V. (VDA), with the business unit of Mr. Dr.-Ing. Ulrich Eichhorn, under the direction of Mr. Heinz-Günter Plegnieren.

The tasks and services provided by the QMC are as varied as the issues in automotive quality management we deal with everyday. The spectrum ranges from the development of systems and methods to the design of the future of quality management systems in the automotive industry.

These developments and the orientation of the QMC are controlled by the highest-level committee of German quality activities, the QM Committee, chaired by Mr. Frank Tuch, Volkswagen AG.

The VDA member organizations make up the QM Committee. All automotive manufacturers as well as a large number of automotive suppliers are represented in this committee by their QM Managers; the VDA by a Managing Director.

The QM Committee establishes the quality standards and develops them further. It sees itself as a common platform for developing and implementing harmonized quality strategies and methods with the automotive industry.

The great advantage of VDA QMC (further) qualification is that the subject matter, previously developed in working groups and published in the VDA bodies of rules, is imparted to automotive industry personnel in sector-specific quality management trainings by qualified instructors from the working groups.
# VDA QMC Qualification

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Open Trainings
VDA trainings throughout Germany

We attach utmost importance to customer orientation.

For this reason, you can find us in several locations throughout Germany. Our trainings take place in selected hotels, where friendly personnel will be available on location throughout your training to take care of all your needs. A select and varied lunch menu, ample snack breaks and unlimited drinks are available during training and are included in the price. Furthermore, you will also profit from special rates for rooms in our partner hotels.

Thanks to the cooperation between VDA and Deutsche Bahn you can travel in comfort and safety to your training venue. Your special return ticket costs 99.- € in second class and 159.- € in first class*.

After you have registered for training with us, our E-mail confirmation will be accompanied by the Deutsche Bahn service number and keyword for booking your train journey.

The conference rooms in our selected hotels are modern and well-lit, creating an optimum atmosphere for our trainings. In groups of comfortable size, you will be acquiring knowledge from practice for practice, and can engage actively in group exercises. Our highly qualified instructors mainly have a background in prestigious organizations and impart their well-founded specialist knowledge for the advancement of your quality management – no matter whether you belong to a large or small organization, whether you are a producer or supplier. Furthermore, we school all our instructors in methodical and social competence. To a large extent, the training subject matter has also been developed by our instructors in the VDA QMC working groups.

Your contact for open trainings:
Teresa Müller-Ott
Phone: +49 30 897842-252
seminare@vda-qmc.de

*Advance booking deadline at least 3 days. Tied to a certain train, and sale subject unsold Exchange and refund before 1st day of validity 15 €, excluded after 1st day of validity.

Fully flexible tickets (not tied to a certain train) are available for a surcharge of 30 €.
Inhouse Training
VDA Training directly in your Organization

Of course we can provide all our trainings as customized, affordable in-house trainings in your organization. Our offer is valid worldwide, and also, additionally to the subjects listed in this program, for further individual automotive-specific quality management issues.

In-house trainings are an interesting offer for your organization, especially from an economic viewpoint. With at least six participants, significant savings are possible compared to participation in open trainings.

Your advantages at a glance:

✚ **Optimum time and cost control:** No working hours lost, as there are no additional travel times; no travel or hotel costs for participants.

✚ **Flexible scheduling:** Dates are scheduled to your wishes; rapid and flexible implementation of your in-house training.

✚ **Efficient transfer into practice:** Your specific issues and day-to-day challenges can be taken into account and solutions can be applied directly.

✚ **Individually designed qualification action:** You determine contents and duration of the training in order to meet the needs of your employees.

✚ **Uniform qualification:** A group of employees are qualified to a uniform level of knowledge at the same time.

✚ **Strengthening of internal cooperation:** Improvement of acceptance, communication and team spirit among employees through cross-departmental groups of participants.

Know-how Transfer into Practice
Implementation of automotive-specific standards

We have set ourselves the task of providing you with VDA expert competence as optimally and actively as possible. So it is our primary interest to supplement our service offers with methods and techniques that holistically take your needs as customers into account. In addition to our training services, you can now make use of highly qualified on-site support.

We offer you individual support from practice for practice. Our instructors, competent experts from automotive industry, guide and advise you. Let them support you in implementing the lessons learned. Of course we take your preferences into account in selecting the instructors, in order to guarantee neutrality and necessary prerequisites for an atmosphere of mutual trust.

We are happy to advise you and prepare an individual offer according to your wishes. We will try to take your preferences for any of our instructors into account.

Your contact for inhouse training:
Anne Sczuka
Phone: +49 30 897842-251
inhause@vda-qmc.de
Time is in tight supply nowadays. Flexibility is in demand.

For this reason, there are more and more e-learning services offered on the education market - these are computer-based learning programs that are flexible in time and space and do not require direct contact with an instructor.

For several years now, we also have been offering web-based e-learning, and we are continually extending our portfolio. We make a point of only offering subjects for e-learning that contain basic knowledge one can learn on one’s own. Complex subjects, where the instructor’s practical experience is indispensable for transferring knowledge, will also in future be taught as classroom training. With this so-called “blended learning” we can combine the flexibility of electronic forms of learning with the practical and social aspects of traditional classroom trainings in optimum fashion.

Thus, we started off by turning our training “Quality Management Basics” into an E-learning concept. This basic knowledge is an absolute must for any beginner in quality management, and even experienced quality managers can use this program to refresh their knowledge. With “Maturity Level Assurance for New Parts”, we can offer you a further basic course. Here you learn about the concept for cooperation and communication for joint quality management in the supply chain. This e-learning course is now also available in English.

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Licensed Partners

VDA Trainings in the Worldwide Network

We also carry out our events abroad in cooperation with selected partners. Since last year we have signed on several new prestigious providers, so that licensed VDA trainings are now also conducted in India, Austria and Slovakia.

In this way, we qualify to ISO/TS 16949, VDA 6.3 and other quality issues in many countries.

Our worldwide network of partners is subject to continual review by VDA QMC which guarantees the same high level of quality the VDA QMC offers. Thanks to our partners, we can offer you VDA trainings in the respective national language, with qualified instructors at customary prices in the region you need.

Additionally, our trainings and examinations have been conducted successfully on demand in other regions of the world. In this way, we can operate in countries where so far there are no existing partnerships, such as Tunisia, Turkey, Malaysia, Korea, Denmark and the Benelux countries. Of course, here too, participants receive a VDA QMC certificate of attendance and/or VDA QMC certificate.

Your contact for VDA trainings in the worldwide network:
Raissa Nurislamova
Phone: +49 30 897842-254
nurislamova@vda-qmc.de

We are happy to provide you personally with further information about our cooperation partners and to help you get in touch with the relevant contacts.
Licensed partners

VDA QMC QUALITY MANAGEMENT CENTER (BEIJING) CO., LTD.
Beijing, China
www.vdachina.com.cn

OOO „VDA-QMC RUS”
Moscow, Russia
www.vda-qmc-russland.ru

AIAG – AUTOMOTIVE INDUSTRY ACTION GROUP
Southfield, MI, USA
www.aiag.org

ANFIA SERVICE S.R.L.
Turin, Italy
www.anfia.it

BFK MANAGEMENT CONSULTING
Timisoara, Romania
www.bfk.ro

CENTRAL JAPAN INDUSTRIES ASSOCIATION (CHU SAN REN)
Nagoya, Japan
www.chusanren.or.jp

CZECH SOCIETY FOR QUALITY
Prague, Czech Republic
www.csq.cz

ENCONA (PTY) LTD.
East London, South Africa
www.encona.co.za

ENCONA ENGINEERING & CONSULTING AGENCY
Royal Oak, MI, USA
www.encona-usa.com

EURO-SYMBIOSE
Carquefou, France
www.euro-symbiose.fr

GERMAN AUTOMOTIVE BUSINESS CORPORATION
Miami, FL, USA
www.gab-corporation.com
IQA – INSTITUTO DA QUALIDADE AUTOMOTIVA
São Paulo, Brazil
www.iqa.org.br

LEARN TECH INTERNATIONAL
Graz, Austria
www.li.co.at

OPCO OPERATIONAL CONSULTING
Quinta do Anjo, Portugal
www.operational.pt

QFD ENGINEERING CONSULTING OFFICE LTD.
Budapest, Hungary
www.qfd.hu

SC WERNER SEEGER QUALITÄTSMANAGEMENT ROMANIA S.R.L.
Cisnadioara/Michelsberg, Romania
www.seeger-quality.ro

SERNAUTO – SPANISH ASSOCIATION OF EQUIPMENTS AND COMPONENTS FOR THE AUTOMOTIVE INDUSTRY
Madrid, Spain · www.sernauto.es

SMMT
Birmingham, United Kingdom
www.smmt.co.uk

TEAM PREVENT
Pszczyna, Poland
www.teamprevent.pl

TQM SLOVAKIA S.R.O.
Banská Bystrica, Slovakia
www.sk.tqm.com

TÜV SÜD SOUTH ASIA
Mumbai, India
www.tuv-sud.in

VOLKSWAGEN INSTITUTO
Puebla, Mexico
www.volkswageninstituto.com
VDA QUALITY MANAGER AND INTERNAL AUDITOR  (BASIC QUALIFICATION)

The basic training Quality Manager and Internal Auditor teaches the sector-specific aspects of quality work in the automotive sector, and is designed for beginners in the wide-ranging subject of “Quality Management”. The complete qualification is structured in learning units (modules) and thus enables the teaching of specific knowledge in compact form.

- **Module I:** Quality Management Basics
- **E-Learning:** Quality Management Basics
- **Module II:** Automotive-specific Processes, Methods and Tools
- Examination Day for VDA QM Representative
- **One-week training:** Qualification for VDA QM Representative
- **Module III:** Measuring, Evaluating and Improving
- **Module IV:** Auditor in the Automotive Industry
- Examination Day for VDA Quality Manager and Internal Auditor
- **One-week training:** Further qualification for VDA Quality Manager and Internal Auditor
VDA Quality Manager and Internal Auditor
(Basic Qualification)

All courses in this program build upon each other and, after successfully passing the examination, lead to a qualified degree with certificate.

The separate Modules I to IV conclude with a certificate of participation and qualify for the examination day for VDA Quality Manager and Internal Auditor.

The five modules can also be booked individually or as a compact one-week training.

Qualification Program with Certificate:
VDA Quality Manager and Internal Auditor

Module I*
3 days Fundamentals of Quality Managements

E-Learning: Fundamentals of Quality Managements

Module II
3 days Automotive Specific Processes, Methods and Tools

optional
Examination Day with Certificate:
QM Representative

Module III
3 days Measuring, Evaluating, Improving

Module IV
3 days Auditor in the Automotive Industry

Examination Day with Certificate:
VDA Quality Manager and Internal Auditor

One-week Training
Qualification for VDA QM Representative

One-week Training
Further Qualification for VDA Quality Manager and Internal Auditor

Further specific auditor training

System Auditor
Product Auditor
Process Auditor

ISO/TS VDA 6.1 VDA 6.2 VDA 6.4
VDA 6.5 VDA 6.3 VDA 6.7

Quality managers in automotive industry develop the process and customer-focused QM system in their area of responsibility or with suppliers according to the requirements of the automotive industry. They are able to interpret the automotive standards specifically for their organization and implement them in an efficient management system.

Internal auditors are familiar with QM system and audit basics. This is the basis for the 1st/2nd party Auditor ISO/TS 16949 and VDA 6.x qualification.
Module I: Quality Management Basics

Automotive industry requirements are rising continuously. Customer requirements are becoming more and more specific due to increasing product complexity of the products. In addition to excellent quality, fulfillment of continuously changing customer needs is an important prerequisite to be able to hold one’s own on the market. Optimized customer-specific processes are necessary to achieve this.

OBJECTIVE
In this course you will learn about the structure and further development of management systems in the automotive sector taking customer-specific requirements into consideration. You will learn to optimize the QM system and the continuous workflows in your company in order to contribute to quality-oriented corporate change.

CONTENTS
✚ Introduction to quality management
✚ Process organization and management
✚ Structure and contents of the ISO 9000 and ISO/TS 16949 standards
✚ Introduction to and further development of a management system
✚ Documentation of a management system
✚ Audit process
✚ Internal audits
✚ Product safety and liability

TARGET AUDIENCE
Automotive industry specialists and executives in quality management who would like to assess the internal QM system or that of suppliers (1st/2nd party audits); Project managers and staff members involved in improvement projects.

PREREQUISITES FOR PARTICIPATION
Technical and/or managerial training, experience in the automotive industry

DURATION
3 days

ID 1015: E-learning

DURATION
Duration varies according to your previous knowledge, your speed of learning and the number of completed learning units.

At the end of the course you will receive a VDA certificate of attendance.

The access code is valid for 4 weeks after first log-in and then expires automatically.
Module II: Automotive Specific Processes, Methods and Tools

After having acquired the fundamentals of quality management in “Quality Management Basics”, this course will deal with the customer-specific orientation of the QM system as well as the selection and application of quality and automotive-specific methods and tools.

OBJECTIVE
To achieve a comprehensive overview of a successful method selection. The fields of application of established quality tools will be discussed in order to quickly and systematically find solutions for existing and future problems.

TARGET AUDIENCE
All specialists who would like to further develop their own sphere of action and/or that of their suppliers through the use of automotive specific standards and systematic methods.

CONTENTS
✚ Quality management in practice
✚ Management system assessment
✚ Process management
✚ Quality assurance in the automotive industry – specific requirements – VDA volumes
✚ QM tools and methods
✚ Improvement process

PREREQUISITES FOR PARTICIPATION
Technical and/or managerial training, experience in the automotive industry.

DURATION
3 days

At the end of the course you will receive a VDA certificate of attendance.
Examination Day for QM Representative

**PREREQUISITES FOR PARTICIPATION**
Completion of Modules I to II of the basic training for VDA Quality Manager and Internal Auditor

**QUALIFICATION CERTIFICATE**
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and database entry. For the card we need a digital passport photograph in JPEG format in advance.

**DURATION**
1 day

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**CERTIFICATE ✔**
**IDENTITY CARD ✔**
**DATABASE ENTRY ✔**

The training begins at 9 a.m. on the first day and ends around 5 p.m. on the last day.
The training fee includes the relevant documents for participants, lunch and drinks during training hours.

Fee exclusive of VAT
This offer is specifically for people who want to qualify for QM representative within the shortest possible time. In our selected hotels, the participants can concentrate in peace on the subject over six consecutive days and take the respective exam.

**TARGET AUDIENCE**
Automotive industry specialists and executives in quality management who would like to assess the internal QM system or that of suppliers (1st/2nd party audits); project leaders and staff members involved in improvement projects, as well as all experts who want to further develop their sphere of influence and/or of their suppliers by the implementation of automotive standards and systematic methods.

**CONTENTs**

**Modul I: Quality Management Basics**
Automotive industry requirements are rising continuously. Customer requirements are becoming more and more specific due to increasing product complexity of the products. In addition to excellent quality, the fulfillment of continuously changing customer needs is an important prerequisite to be able to hold one’s own on the market. Optimized customer-specific processes are necessary to achieve this.

**OBJECTIVE**
In this training you will learn about the structure and further development of management systems in the automotive sector taking customer-specific requirements into consideration. You will learn to optimize the QM system and the continuous workflows in your company in order to contribute to quality-oriented corporate change.

**FOCUS AREAS**
- Introduction to quality management
- Process organization and management
- Structure and contents of the ISO 9000family, ISO/TS 16949 standards
- Introduction to and further development of a management system
- Documentation of a management system
- Audit process
- Internal audits
- Product safety and liability
Module II: Automotive Specific Processes, Methods and Tools

After having acquired the fundamentals of quality management in “Quality Management Basics”, this course will deal with the customer-specific orientation of the QM system as well as the selection and application of quality and automotive-specific methods and tools.

OBJECTIVE
To achieve a comprehensive overview of a successful method selection. The fields of application of established quality tools will be discussed in order to quickly and systematically find solutions for existing and future problems.

FOCUS AREAS
- Quality management in practice
- Management system assessment
- Process management
- Quality assurance in the automotive industry – specific requirements – VDA volumes
- QM tools and methods
- Improvement process

Examination day for VDA QM Representative

The examination for VDA QM Representative is divided into two parts: a written exam and an oral exam. After passing the written and oral tests you will receive a VDA certificate, a VDA QM Representative card and VDA QMC database entry. For the card we need a digital passport photograph in JPEG format in advance.

PREREQUISITES FOR PARTICIPATION
Technical or business management education, automotive experience

DURATION
6 days
Module III: Measuring, Evaluating and Improving

You will improve your knowledge of statistics in order to analyze and evaluate results based on substantiated facts. You will get to know common statistical methods and learn to be able to estimate their application possibilities.

**OBJECTIVE**
Ways in which processes can be oriented and assessed in terms of effectiveness and efficiency will be demonstrated here. Furthermore, this qualification enables you to make decisions on the basis of statistical data.

**TARGET AUDIENCE**
Specialists in all fields, quality specialists and representatives, staff members from improvement teams.

**CONTENTS**
- Statistical methods in the organization
- Fundamentals for the use of statistical methods
- Economic process design and control
- Control of production processes using quality control charts
- Test process suitability
- Analysis of data for improvement

**PREREQUISITES FOR PARTICIPATION**
Technical and/or business management training, experience in the automotive industry.

**NOTE**
Please bring a pocket calculator with statistical functions and a notebook, in order to work on the exercises.

**DURATION**
3 days

At the end of the course you will receive a VDA certificate of attendance.
Module IV: Auditor in the Automotive Industry

In this Module, you will be introduced to the process-oriented procedure for planning and conducting internal and/or supplier audits and the requirements of ISO 19011. You will learn to plan, carry out and assess management systems appropriately using the automotive-specific approach. You will use the PDCA approach for this. You will be taught negotiation techniques and how to motivate audit partners.

OBJECTIVE
With this qualification you will be able to prepare and manage audit programs, to plan and conduct internal and supplier audits, and to assess audit findings. You will learn negotiation techniques that you will be able to use profitably in audits.

TARGET AUDIENCE
Specialists in all fields, quality specialists and representatives, staff members from improvement teams.

CONTENTS
+ Fundamentals of audits
+ Certification and accreditation methods
+ Qualification criteria for auditors (ISO 19011)
+ Negotiation techniques for audits

PREREQUISITES FOR PARTICIPATION
Technical and/or managerial training, personal characteristics according to ISO 19011 (Section 7.2)

DURATION
3 days

At the end of the course you will receive a VDA certificate of attendance.
This one-week training is the optimum supplement for all successful participants of the one-week training „Qualification for VDA QM Representative“. The six training days in our idyllic conference hotels make for concentrated learning and lead to the exam for VDA Quality Manager.

**CONTENTS**

**Module III: Measuring, Evaluating and Improving**
You will improve your knowledge of statistics in order to analyze and evaluate results based on substantiated facts. You will get to know common statistical methods and how to estimate their application possibilities.

Ways in which processes can be oriented and assessed in terms of effectiveness and efficiency will be demonstrated here. Furthermore, this qualification enables you to make decisions on the basis of statistical data.

**FOCUS AREAS**
- Statistical methods in the organization
- Fundamentals for the use of statistical methods
- Economical process design and control
- Control of production processes using quality control charts
- Test process suitability
- Analysis of data for improvement
Module IV:
Auditor in the Automotive Industry
In this Module, you will be introduced to the process-oriented procedure for planning and conducting internal and/or supplier audits and the requirements of ISO 19011. You will learn to plan, conduct and assess management systems appropriately using the automotive-specific approach. You will use the PDCA approach for this. You will be taught negotiation techniques and how to motivate audit partners.

OBJECTIVE
With this qualification you will be able to prepare and manage audit programs, to plan and conduct internal and supplier audits (1st/2nd party), and to assess audit findings. You will learn negotiation techniques that you will be able to use profitably in audits.

FOCUS AREAS
✚ Fundamentals of audits
✚ Certification and accreditation methods
✚ Qualification criteria for auditors (ISO 19011)
✚ Negotiation techniques for audits

Examination day for VDA QM Manager and Internal Auditor
The examination for VDA QM Representative is divided into two parts: a written exam and an oral exam. After passing the written and oral tests you will receive a VDA certificate, an auditor card and VDA QMC database entry. For the card we need a digital passport photograph in JPEG format in advance.

PREREQUISITES FOR PARTICIPATION
Technical or business management education, automotive experience, personal characteristics according to ISO 19011 (clause 7.2). Completion of Module I and II of the basic qualification for VDA Quality Manager and Internal Auditor or one-week training “Qualification for VDA QM Representative”.

NOTE
For the one-week training, please bring a pocket calculator with statistical functions, a notebook and your training documents from Module I and II, as well as the literature provided to you.

DURATION
6 days
Examination Day for VDA Quality Manager and Internal Auditor

PREREQUISITES FOR PARTICIPATION
Completion of Modules I to IV of the basis training to VDA Quality Manager and Internal Auditor.

QUALIFICATION CERTIFICATE
After passing the written and oral tests you will receive a VDA certificate with a registered number as well as a corresponding auditor card and database entry. For the card we need a digital passport photograph in JPEG format in advance.

NOTE
For the exam, please bring a pocket calculator with statistical functions, your training documents and the literature provided to you.

DURATION
1 day
Undeniably, ISO/TS 16949 is the approach accepted worldwide for quality management in the automotive sector, and is required by many manufacturers as evidence of a supplier’s quality capability. The following trainings impart the required knowledge for their tasks to the relevant target groups (executives, quality managers, auditors, etc.)

ISO/TS 16949

- Qualification Training for Prospective 1st /2nd Party ISO/TS 16949 Auditors
- Examination Preparation for Prospective 1st/2nd Party ISO/TS 16949 Auditors – Core Tools and Certification Requirements
- Examination Day for 1st /2nd Party ISO/TS 16949 Auditor
- One-week training: Qualification for 1st /2nd Party ISO/TS 16949 Auditor
- Re-qualification of 1st /2nd Party Auditors of ISO/TS 16949
- Qualification for 3rd Party ISO/TS 16949 auditor
- ISO/TS 16949 Requirements: Workshop for Executives
- Implementation of ISO/TS 16949 in your own Organization: Practical Planning and Procedure
- ISO/TS 16949 Basics
- Development of Customer-specific QM System Requirements on the Basis of ISO/TS 16949
1st/2nd Party Auditor of ISO/TS 16949

I. QUALIFICATION FOR 1ST/2ND/3RD PARTY AUDITORS

ISO/TS 16949

Prerequisites for Training:
Demonstrable knowledge of ISO 9001
At least 3 internal system audits or 6 audit days in the last 2 years
At least 2 years professional experience in the automotive industry

Qualification course (ID 1104)

Examination preparation (ID 1100)
Core Tools and certification requirements

Examination day (ID 1105)

Certificate + Auditor Card + Database Entry

Initial Qualification

Re-Qualification

At least 6 internal system audits in the last 3 years
2 day training
Re-Qualification (ID 1110)

At least 3 internal system audits in the last 3 years
3 day training
Qualification (ID 1104)

< 3 internal system audits in the last 3 years
optional
Examination preparation (ID 1100)
Core Tools and certification requirements

Examination day (ID 1105)

Certificate + Auditor Card + Database Entry
Qualification course for prospective 1st/2nd Party Auditors of ISO/TS 16949 *(Training)*

**TARGET AUDIENCE**
QM employees/representatives or internal/external system auditors with audit experience in the automotive industry and knowledge of ISO 9001.

**CONTENTS**
- Communication of the requirements of ISO/TS 16949 that go beyond ISO 9001 requirements
- Consolidation of the methods that are designated by IATF for process-oriented auditing of ISO/TS 16949
- Communication of contents, methods and procedure with which 3rd party auditors of ISO/TS 16949 are qualified in order to facilitate communication on site.

The alternation between information and group and case study work makes it possible to expand and apply the knowledge in suitable learning steps.

**PREREQUISITES FOR PARTICIPATION**
- Experience preparing and conducting audits is useful
- Knowledge of ISO 9001 required

**SPECIAL FEATURES**
In order to reduce the theoretical load of the course, we will send you the participant documents and IATF literature (ISO/TS 16949 – Technical Specification, Rules and IATF Auditor Guidance) in time for your personal preparation. Please study these documents independently and then bring them along to the qualification course.

**QUALIFICATION CERTIFICATE**
At the end you will receive a VDA certificate of attendance. If you complete this qualification course, you may apply for the VDA examination day for 1st/2nd party auditors of ISO/TS 16949.

**DURATION**
3 days
A noticeable number of examinees answer questions about MSA, SPC, FMEA and the Rules incorrectly. These subjects are only marginally dealt with in the courses. However, they are a prerequisite for the examination. There is also the fact that especially prospective auditors have trouble handling multiple-choice questions.

Furthermore, knowledge about the Core Tools is essential for practical experience in order to enable an effective execution of audits.

For a consolidating introduction as well as exercises in auditing Core Tools of the automotive industry, we recommend attending this preparation course before the exam so that you can practice and consolidate all the acquired knowledge.

**TARGET AUDIENCE**
Prospective ISO/TS 1st/2nd party auditors

**CONTENTS**
- The focus is on topics relevant to the exam in connection with Core Tools and certification requirements.
- The procedures in stage 1 and stage 2 audits according to ISO/TS 16949 certification requirements
- Overview of essential aspects of the use of Core Tools, up-date on the relevant guidelines
- Recognize weak points in the use of automotive-specific methods and evaluate their effects

**PREREQUISITES FOR PARTICIPATION**
- Knowledge of the ISO quality standards
- Knowledge of automotive-specific methods

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
The examination day for the certification of 1st/2nd party auditors of ISO/TS 16949 offers participants a qualification level comparable to 3rd party auditors. This original certificate is issued exclusively by IATF representatives of VDA QMC or one of our accredited licensed partners. The subjects of the examination cover the contents dealt with in the course, ISO/TS 16949 requirements, and in special cases manufacturer-specific requirements.

**TARGET AUDIENCE**
Prospective 1st/2nd party auditors of ISO/TS 16949 that have taken part in the qualification course and existing 1st/2nd party auditors that have taken part in the re-qualification course.

**COURSE PREREQUISITES**
Admission to the examination day takes place after successful assessment of your application.

- Provable knowledge of ISO 9001
- At least 3 internal system audits or 6 audit days in the last 2 years
- At least 2 years professional experience in the automotive industry

Participation in a VDA qualification course for 1st/2nd party auditors of ISO/TS 16949 is also a prerequisite for admission to the examination.

**Please Note!** On your registration please indicate which VDA qualification courses for 1st/2nd party auditors of ISO/TS 16949 you have already completed!

Please also note the overview on page 26.

**QUALIFICATION CERTIFICATE**
After passing the written and oral examinations you will receive a VDA certificate with registered numbering as well as the corresponding auditor card and database entry. For the card we need a digital passport photograph in JPEG format in advance.

**DURATION**
1 day
This one-week training enables you to achieve qualification for 1st/2nd party ISO/TS 16949 auditor within five days. The quiet and relaxed atmosphere of the selected conference hotels creates the best possible ambience for optimum preparation for the examination.

**TARGET AUDIENCE**
QM employees/representatives or internal/external system auditors with audit experience in the automotive industry and knowledge of ISO 9001, who want to achieve qualification for 1st/2nd party Auditor der ISO/TS 16949 within a week.

**CONTENTS**
Qualification training

**FOCUS AREAS:**
✚ Communication of the requirements of ISO/TS 16949 that go beyond ISO 9001 requirements
✚ Consolidation of the methods that are designated by the IATF for process-oriented auditing of ISO/TS 16949
✚ Communication of contents, methods and procedure with which 3rd party auditors of ISO/TS 16949 are qualified in order to facilitate communication on site.

The alternation between information and group and case study work makes it possible to expand and apply the knowledge in suitable learning steps.

**Examination preparation**
A noticeable number of examinees answer questions about MSA, SPC, FMEA and the Rules incorrectly. These subjects are only marginally dealt with in the courses. However, they are a prerequisite for the examination. There is also the fact that especially prospective auditors have trouble handling multiple-choice questions. Furthermore, knowledge about the Core Tools is essential for practical experience in order to enable an effective execution of audits.

For a consolidating introduction as well as exercises in auditing Core Tools of the automotive industry, we recommend attending this preparation course before the exam so that you can practice and consolidate all the acquired knowledge.

**FOCUS AREAS**
✚ Topics relevant to the exam in connection with Core Tools and certification requirements, especially procedures in stage 1 and stage 2 audits
✚ Overview of essential aspects of the use of Core Tools and update on the relevant guidelines
✚ Discussion of weak points in the use of automotive-specific methods and their effects.
Examination Day
The examination day for the certification of 1st/2nd party auditors of ISO/TS 16949 offers participants a qualification level comparable to 3rd party auditors. This original certificate is issued exclusively by IATF representatives of VDA QMC or one of our accredited licensed partners. The subjects of the examination cover the contents dealt with in the course, ISO/TS 16949 requirements, and in special cases manufacturer-specific requirements.

After passing the written and oral examinations you will receive a VDA certificate with registered numbering as well as the corresponding auditor card and database entry. For the card we need a digital passport photograph in JPEG format in advance.

COURSE PREREQUISITES
Admission to the examination day takes place after successful assessment of your application.

✚ Experience preparing and conducting audits is useful
✚ Knowledge of ISO 9001 required
✚ Knowledge of automotive-specific methods
✚ Evidence of ISO 9001 knowledge
✚ At least 3 internal system audits or 6 audit days in the last 2 years
✚ At least 2 years professional experience in the automotive industry

SPECIAL FEATURES
In order to reduce the theoretical load of the course, we will send you the participant documents and IATF literature (ISO/TS 16949 – Technical Specification, Rules and IATF Auditor Guide) in time for your personal preparation. Please study these documents independently and then bring them along to the qualification course.

DURATION
5 days
Auditors face challenges daily in their auditing practice and must be able to react flexibly to changes in certification requirements and company management. Equally, the basic conditions specified by the certification requirements and regulations as well as findings from best practice examples are constantly changing. 1st/2nd party auditors are required to re-qualify every 3 years to maintain the certificate ISO/TS 16949.

The competence of 1st/2nd party auditors is also decisive for the implementation of the special requirements of ISO/TS 16949 and in each case must be adjusted to current status. The competence of the auditors play a decisive role in the orientation and evaluation of one’s own QM system as well as throughout the supply chain.

Re-qualification serves to update the knowledge and skills of the auditors according to current standards. Key aspects are current issues from certification processes, updates on ISO/TS 16949 and the Rules, as well as typical issues that still show potential for improvement in their implementation. Group exercises with following intense discussions consolidate the knowledge on focus areas of ISO/TS 16949 implementation. The dialogue with colleagues from other organizations creates synergy effects.

**TARGET AUDIENCE**
1st/2nd party auditors according to ISO/TS 16949 from the automotive manufacturer and supplier industry. In this way auditors can be sure that they are up-to-date on the latest developments and that they fulfill the prerequisites for re-qualification.

**CONTENTS**
- Updates on ISO/TS 16949 (FAQs, Slides on ISO/TS 16949 and Rules)
- Competence criteria for auditors (ISO 19011 and IATF process approach)
- Process management
- Focus areas for implementing ISO/TS 16949 requirements, such as: Results of process development, monitoring and measurement of products and processes, CIP, correction action etc.
- Overview over current / revised VDA volumes
- Group exercises for exchange of experiences

**PREREQUISITES FOR PARTICIPATION**
VDA certificate for 1st/2nd party auditor ISO/TS 16949 and appropriate proof of conducted audits. Please also note the overview on page 26.

Admission to this course is granted after successful assessment of your application. In individual cases the participation on the examination day may be necessary.
SPECIAL FEATURES
In order to reduce the theoretical load of the course, we will send you the participant documents and IATF literature (ISO/TS 16949 – Technical Specification, Rules and IATF Auditor Guide) in time for your personal preparation. Please study these documents independently and then bring them along to the qualification course.

QUALIFICATION CERTIFICATE
After fulfillment of the prerequisites and successful participation, you will receive a VDA certificate with registered numbering as well as the corresponding auditor card and the database entry. For the card we need a digital passport photograph in JPEG format in advance.

DURATION
2 days
Qualification as 3rd Party ISO/TS 16949 Auditor –
Three-day qualification course with exam on day four

**COURSE PREREQUISITES**
Admission for this course can only be requested by an IATF recognized certification body. For details, see the qualification criteria for ISO/TS 16949 3rd party auditors according to the certification requirements. These recognized certification bodies have additional up-to-date information available.

**CONTENTS**
- Process approach for auditors
- Process identification and interaction
- Process performance and monitoring
- Requirements for stage 1 readiness review
- Overview over requirements for automotive-specific Core Tools FMEA, SPC and MSA
- Customer-specific requirements
- Audit planning
- Requirements for stage 2 audit
- Nonconformity management
- Requirements for surveillance audits
- Requirements for recertification audits

**PREREQUISITES FOR PARTICIPATION**
Admission to the examination day takes place after successful assessment of your application.

Applicants should make sure to send in complete documentation in order to avoid delays in registration. Review of completeness rests with the certification bodies.

**QUALIFICATION CERTIFICATE**
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and IATF database entry. For the card we need a digital passport photograph in JPEG format in advance. This certificate provides evidence of your qualification as 3rd party auditor for ISO/TS 16949 on the basis of the IATF requirements.

**DURATION**
4 days
More than ever, executives are required to delegate responsibility and decision competencies efficiently and nevertheless to be adequately informed about company processes and developments, without at the same time being an expert in every field of work.

**TARGET AUDIENCE**
Executives that are not auditors. Responsible persons from all sectors such as production, development, purchasing etc.

**CONTENTS**
- History of quality
- Basic understanding of processes
- Process improvement
- ISO/TS 1694 objectives
- Basic requirements of ISO/TS 16949
- Important requirements for the ISO/TS 1694 certification process
- General approach for the implementation of ISO/TS 16949

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
1 day

At the end of the course you will receive a VDA certificate of attendance.
Implementation of ISO/TS 16949 in your Organization: Practical Planning and Procedure

Your company is preparing for certification according to ISO/TS 16949 and is dealing with questions of content and strategic procedure. At the same time you want to prepare your employees from operational business practically for the complete certification process and communicate to them how to live by it.

**TARGET AUDIENCE**
Employees of automotive suppliers who are involved in planning and procedure for implementation of ISO/TS 16949 in their own organization.

**PREREQUISITES FOR PARTICIPATION**
None

**CONTENTS**
- Benefit of defined processes and their influence on an organization’s performance
- Aligning the organization’s processes with the customer
- Turtle method for process analysis
- Apply the „process landscape” method to determine processes
- Process flow chart
- Essential requirements of ISO/TS 16949
- Basics steps in a certification project
- Documentation requirements for a QM system:
  - QM manual
  - Procedure instructions
  - Required processes
- Requirement for defined functions in the QM system:
  - Internal auditors
  - Top management representative
  - Customer representative

**DURATION**
2 days
The ISO/TS 16949 (Quality management systems – Particular requirements for the application of ISO 9001:2008 for automotive production and relevant service part organizations) is the standard for automotive quality management systems accepted worldwide.

Apart from the general and unspecific requirements of ISO 9001 for QM systems, ISO/TS 16949 defines the additional and/or supplementary automotive requirements. ISO/TS 16949 certification is one of the basic preconditions for acceptance among the ranks of automotive suppliers, or the relevant supply chain.

This training provides the basics for sufficient information on applicability, content and implementation of ISO/TS 16949.

**TARGET AUDIENCE**
All interested personnel from the areas sales, purchasing, development, production and logistics

**CONTENTS**
- Overview over relevant automotive bodies of rules
- Structure and content of ISO/TS 16949
- Scope of ISO/TS 16949, definitions and terms
- Customer-specific requirements supplementary to ISO/TS 16949
- Basic requirements for ISO/TS 16949 certification procedure

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
1 day

At the end of the course you will receive a VDA certificate of attendance.
ISO/TS 16949 (Quality Management Systems – Particular requirements for the application of ISO 9001:2008 for automotive production and relevant service part organizations) is the standard for automotive quality management systems accepted worldwide.

The increasing number of documents and non-standard structure of customer requirements related to ISO/TS 16949 confronts the whole supply chain with different and increasingly complex as well as resource-intensive tasks.

This training aims to establish clarity in creating an organization’s own supplementary requirements ISO/TS 16949. The VDA standard „Development of Customer-specific QM System Requirements on the Basis of ISO/TS 16949“ provides the necessary basis. Furthermore, solutions for applicability and interpretation of individual content of the VDA volume are presented.

TARGET AUDIENCE
Quality managers, quality engineers, purchasing personnel with quality-relevant tasks, supplier management personnel and all interested automotive personnel.

CONTENTS
✚ Overview over relevant automotive bodies of rules
✚ Overview over customer-specific requirements in connection with ISO/TS 16949
✚ Structure and contents of the VDA standard
✚ Systematic and procedure to implement the VDA standard
✚ Consolidation of the issues with practical examples and group exercises

PREREQUISITES FOR PARTICIPATION
✚ Familiarity with ISO/TS 16949 basic requirements
✚ Experience and knowledge of handling OEM-specific requirements (especially Volkswagen AG, BMW AG and Daimler AG)
✚ General basic knowledge on content of the VDA volumes is advantageous
✚ Participation in VDA training „ISO/TS 16949 Basics“ is recommended

DURATION
1 day
AUDIT STANDARDS VDA 6.X

Different types of audits are conducted, e. g., product process and system audits, and are indispensable indicators for the implementation of requirements in an organization. This is especially true for internal audits, supplier audits and also for the system audit by certification bodies. The VDA 6 bodies of rules determine the application and implementation of the various types of audits for the different types of application.

In the following there are listed the trainings which impart the necessary knowledge for their tasks to the relevant target groups (executives, quality managers, auditors etc.).

- VDA 6 – Basics for Quality Audits
- VDA 6.1 - Qualification for 1st/2nd/3rd Party Auditor
- VDA 6.2 - Qualification for 1st/2nd/3rd Party Auditor
- VDA 6.3 - Qualification for Process Auditor
- VDA 6.4 - Qualification for 1st/2nd/3rd Party Auditor
- VDA 6.2 - Qualification for Product Auditor
- VDA 6.7 - Qualification for Process Auditor
  Unit Production and Job Shop Production
- Re-Qualification for 2nd/3rd Party Auditors
  VDA 6.1, VDA 6.2 and VDA 6.4
Audit Standards VDA 6.x
VDA 6: Basics for Quality Audits
Certification requirements for VDA 6.1, VDA 6.2 and VDA 6.4

VDA volume 6 is the basis for all system audits according to the VDA bodies of rules VDA 6.1, 6.2 and 6.4. Based on the requirements of ISO 17021 and ISO 19011, especially the advanced requirements for 2nd and 3rd party audits are described. The compliance with these requirements is mandatory for certification bodies.

TARGET AUDIENCE
Veto representatives, certification auditors and staff members of Certification Bodies involved in the certification process, executives, quality representatives and employees of organizations who would like to acquire an overview over certification according to VDA 6.1, 6.2 or 6.4 or are planning certification.

CONTENTS
✚ Introduction to the bodies of rules VDA 6.1, VDA 6.2 and VDA 6.4
✚ Basic knowledge for the application of VDA 6
✚ Contents of VDA Volume 6,
✚ Scope of the bodies of rules,
✚ Certification process incl. calculation of audit days
✚ Nonconformity management
✚ Auditor qualification
✚ Examples to consolidate knowledge

PREREQUISITES FOR PARTICIPATION
Familiarity with VDA 6.x bodies of rules is advantageous.

DURATION
1 day

At the end of the course you will receive a VDA certificate of attendance.
Knowledge about a product and its quality is helpful in certifying or auditing and evaluating a QM system. The interactions between product, process and system can lead to sector-specific adjustment of the QM system. VDA volume 6.1 connects the ISO 9000 family to the requirements of the automotive industry. The further development of the family of standards and of the industry-specific knowledge is concisely described.

CONTENTS
- Six U-elements, the Z1 element “corporate strategy”
- Sixteen P-elements, focus on:
  - Contract review
  - Development of products and processes
  - Procurement
  - Detailed information about every element and the corresponding questions with requirements and commentary.
  - Commentary to DIN EN ISO 9001.
  - Scoring
  - Fulfillment degree and classification
  - Results of presentations and discussion of examples for consolidation of knowledge

TARGET AUDIENCE
Participants from automotive industry, vehicle and component manufacturers responsible for conducting QM system audits in their own organization and of implementing additional international QM requirements and making sure they are effective.

QUALIFICATION CERTIFICATE
For prospective 1st party auditors
- After finishing the complete training course and passing the written test you will receive a qualification certificate.

For prospective 2nd/3rd party auditors
- Prospective 2nd/3rd party auditors have to successfully complete the corresponding exam day. After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and VDA QMC database entry. For this card we need a digital passport photo in JPEG format in advance.

DURATION
3 days
I. QUALIFICATION FOR 1ST/2ND/3RD PARTY AUDITORS

AUDIT STANDARDS VDA 6.X

PREREQUISITES FOR PARTICIPATION
Admission to this course takes place after successful assessment of your registration form.

The exact prerequisites can be found in the current edition of VDA volume 6.

Participation in the “Qualification for 1st/2nd/3rd Party Auditor VDA 6.1” is necessary.

SPECIAL FEATURES
The registration for the examination day can only be completed by the management of an organization (for 2nd party auditors) or by a certification body (for 3rd party auditors).

QUALIFICATION CERTIFICATE
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and VDA QMC database entry. For this card we need a digital passport photo in JPEG format in advance.

DURATION
1 day

CERTIFICATE ✔
AUDITOR CARD ✔
DATABASE ENTRY ✔

Application form 1202 under www.vda-qmc.de see „Aus- und Weiterbildung“/ „Antragsformulare“

VDA 6.1 – Examination Day for 2nd/3rd Party Auditor
VDA 6.2 – Qualification for 1st/2nd/3rd Party Auditor

(Training)

The VDA 6.2 standard builds upon the ISO 9001 and fulfills a requirement similar to ISO/TS 16949 for the service providers of the automotive industry.

TARGET AUDIENCE
Trained auditors of the automotive industry with knowledge of ISO 9001 and experience in the service industry; 1st/2nd/3rd party auditors; QM experts; employees and executives from the entire automotive industry (such as car dealers, parts and sales centers, spare part and accessory dealers, logistics providers, consulting engineers and other service companies)

CONTENTS
✚ Overview over the relevant certification requirements from VDA 6
✚ Structure and architecture of VDA 6.2
✚ Process model and evaluation
✚ Connection to ISO/TS 16949
✚ Possible OEM requirements for service providers
✚ The contents are consolidated with case studies and group work

PREREQUISITES FOR PARTICIPATION
The exact prerequisites can be found in the current VDA volume 6.

QUALIFICATION CERTIFICATE
For prospective 1st party auditors
✚ After finishing the complete training course and passing the written test you will receive a VDA qualification certificate.

For prospective 2nd/3rd party auditors
✚ Prospective 2nd/3rd party auditors have to successfully complete the corresponding exam day. After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and VDA QMC database entry. For this card we need a digital passport photo in JPEG format in advance.

DURATION
3 days
VDA 6.2 – Examination Day for 2nd/3rd party Auditor

PREREQUISITES FOR PARTICIPATION
Admission to this course takes place after successful assessment of your registration form.

The exact prerequisites can be found in the current VDA volume 6.

Participation in the "Qualification for 1st/2nd/3rd Party Auditor VDA 6.2" is necessary.

SPECIAL FEATURES
The registration for the examination day can only be completed by the management of an organization (for 2nd party auditors) or by a certification body (for 3rd party auditors).

QUALIFICATION CERTIFICATE
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and VDA QMC database entry. For this card we need a digital passport photo in JPEG format in advance.

DURATION
1 day
In 2010, the established audit standard VDA 6.3 (1998 edition) was completely revised by the VDA working group 6.3. The new volume takes into account the changes in ISO 9001 and in the current customer-specific automotive requirements. The objectives were reorganization, focusing and adjustment of the process audit to the new requirements. Here it is necessary to analyze business processes in the supply chain, in product development and manufacturing processes so that weaknesses in the workflow processes and their interfaces can be detected and correction action and opportunities for improvement can be determined. At the same time, the previous standard questionnaire serves as the basis for the revision of the former VDA 6.3 (1998 edition).

<table>
<thead>
<tr>
<th>Correlation of questions</th>
<th>incoming order</th>
<th>order placing</th>
<th>SOP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>quotation - process (contact review)</td>
<td>supplier pre-selection analysis of potential</td>
<td>serial production</td>
</tr>
<tr>
<td></td>
<td>P1</td>
<td>P2</td>
<td>P3</td>
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<td></td>
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<td>P6</td>
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<td></td>
<td>P7</td>
<td></td>
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</tbody>
</table>

P1: Analysis of potential  
P2: Project management  
P3: Planning of product and process design and development  
P4: Realization of product and process design and development  
P5: Supplier management  
P6: Process analysis/production  
P7: Customer service, customer satisfaction, service
Renewal of the Qualification for Certified Process Auditor VDA 6.3

TARGET AUDIENCE
Certified Process Auditors 6.3

PREREQUISITE FOR RENEWAL OF QUALIFICATION

+ Renewal applications must be filed before expiration of validity.
+ Evidence of auditor experience*: Evidence of at least five process audits during validity period. These must include at least once auditing the process elements P2-P7. The stated audits must be confirmed by management or the head of quality management.
+ Evidence of further qualification in QM: Evidence of at least one further qualification in quality management. Participation, e.g., in a VDA quality management symposium may be accepted in this case.

* In case the required auditor experience cannot be proven, participation in a VDA 6.3 upgrade qualification (ID 1409) is necessary for renewal of VDA 6.3 qualification.

QUALIFICATION CERTIFICATE
After acceptance of your application, a new VDA certificate with registered numbering and a corresponding auditor card are issued, as well as the VDA QMC database entry.

Application form 1400 under www.vda-qmc.de see „Aus- und Weiterbildung“/ „Antragsformulare“
In the Internet, our forum for the current training courses on VDA 6.3 is open to all participants. After successful registration, you can also download the current versions of the Excel evaluation tool for process audits and potential analysis in English and German, as well as in other languages. With this forum, we want to do justice to the importance of this standard, provide the opportunity to contribute to it and enable requirement and user-adequate further development. You can have discussions with experts and ask questions about application and interpretation.

From your contributions, we will generate SI’s and FAQ’s, and make them available directly on our cover page in the Internet.

After review of your registration (participation in training) you will receive an E-mail with the password.

With this forum we hope to provide you with added value for your trainings, and we wish you lively and valuable discussions.
I. QUALIFICATION FOR 1ST/2ND/3RD PARTY AUDITORS

VDA QUALITY MANAGER AND INTERNAL AUDITOR

VDA 6.3 – Module A –
General Basics for Process Auditors

On the basis of the process approach in ISO 9001 which underlies ISO/TS 16949 and the respective customer requirements, this two-day training teaches you the basics for process auditors according to VDA 6.3.

The introduction to the basics of auditing techniques includes general requirements, methods, principles and risk analysis.

These general basics enable you to understand correlations and apply and implement the necessary sequences correctly.

PREREQUISITES FOR PARTICIPATION
QM basic knowledge Professional experience in automotive industry

CONTENTS
✚ Quality systems, application and benefit for process audits (ISO 9001; ISO/TS 16949)
✚ Risk analysis with Turtle analysis
✚ Communication, ethics and code of conduct
✚ Interview techniques for audits
✚ Audit process, from the audit program to the conclusion of the audit
✚ Planning and conducting a process audit
✚ General handling of evaluation rules and evaluation

These training steps lead you through the basic requirements and enable you to apply a holistic approach in automotive industry.

QUALIFICATION CERTIFICATE
After successful completion of the training (at least 80% attendance) and after passing the test, you will receive a qualification certificate.

DURATION
2 days
VDA 6.3 – Module B I – Process Audit – Serial Production

On the basis of the process approach ISO 9001 underlying ISO 16949 and the respective customer requirements, this 1.5-day training teaches you the application of the VDA 6.3 questionnaire in serial production P5 – P7 on the basis of interpretations and practical examples.

We aim to enable you to apply process audits throughout the production chain, including after-sales, to identify risks and determine potential.

PREREQUISITES FOR PARTICIPATION
Completion of Module A Basic knowledge QM Professional experience in the automotive industry

CONTENTS
✚ Audit preparation
✚ Application of the respective questionnaires
✚ Supplementation of the questionnaire with respective preparation
✚ Evaluation rules and evaluation in serial production
✚ Audit report, documentation and completion

These insights are applied to correction, stabilization and optimization of processes and are developed in the exercises and examples.

QUALIFICATION CERTIFICATE
After successful completion of the training (at least 80% attendance) and after passing the test, you will receive a qualification certificate.

DURATION
1½ days
On the basis of the process approach ISO 9001 underlying ISO 16949 and the respective customer requirements, this three-day training teaches you the application of the VDA 6.3 questionnaire throughout the supply chain P1 – P7 on the basis of interpretations and practical examples.

We aim to enable you to apply process audits throughout the supply chain to identify risks and determine potential.

PREREQUISITES FOR PARTICIPATION
Completion of Module A.; Basic knowledge QM; Professional experience in the automotive industry

CONTENTS
- Audit preparation
- Application of the respective questionnaire P1–P7 including potential analysis
- Supplementation of the questionnaire with respective preparation
- Evaluation rules and evaluation in the product life cycle
- Audit report, documentation and completion

These insights are applied to correction, stabilization and optimization of processes and developed in the exercises and examples. The objective is to ensure a sound evaluation.

QUALIFICATION CERTIFICATE
After successful completion of the training (at least 80% attendance) and after passing the test, you will receive a qualification certificate.

DURATION
3 days
VDA 6.3 – Module C – Examination Day for Certified Process Auditor (*optional*)

**TARGET AUDIENCE**
Process auditors VDA 6.3 in product life cycle

**PREREQUISITES FOR PARTICIPATION**
Admission to this course takes place after successful assessment of your registration form.

Evidence of successful completion of Module A and Module B II or Module D is required for the admission to the examination, or evidence of auditor qualification as well as at least 5 years industrial experience, of which 2 years at least in QM.

**QUALIFICATION CERTIFICATE**
After passing the written and oral exams you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and VDA QMC database entry. For this card we need a digital passport photo in JPEG format in advance.

**DURATION**
1 day
This upgrade training deals with the changes to VDA 6.3 (1998 edition) regarding generic approach, potential analysis evaluation, parts of the audit process, evaluation guideline, knowledge store, as well as changes in the questionnaire P1–P7.

**CONTENTS**

- What’s new in VDA 6.3
- Changes in requirements
- New structure for the VDA 6.3 questions incl. minimum requirements
- Generic approach in the VDA 6.3 process audit
- Classification and grading rules
- VDA 6.3 Potential analysis
- Audit report, documentation and completion

**TARGET AUDIENCE**

Process auditors VDA 6.3 (old)

**PREREQUISITES FOR PARTICIPATION**

Admission to upgrade training takes place after successful assessment of your registration form.

Prerequisite for admission to upgrade training: training certificate VDA 6.3 (old) and confirmation by employer that auditing VDA 6.3 constitutes a significant part of the applicant’s job.

**QUALIFICATION CERTIFICATE**

After completion of the training (at least 80% attendance) and after passing the exam, you will receive a VDA qualification certificate.

**DURATION**

2 days
One-week Training: Module E – Qualification for Process Auditor in the Product Life Cycle with certified examination

This offer is designed for people who want to achieve qualification as a certified process auditor VDA 6.3 within the shortest time possible.

In the pleasant environment of the conference hotel you can acquire the necessary knowledge and take the exam in 5 days.

CONTENTS
VDA 6.3 – Module A – General Basics for Process Auditors
On the basis of the process approach ISO 9001 underlying ISO 16949 and the respective customer requirements, this training teaches you the basics for process auditors VDA 6.3.

The introduction to auditing techniques includes general requirements, methods, principles and risk analysis.

These fundamentals enable you to apply correctly and deploy the correlations and necessary steps.

The following focus areas are included, and are discussed using practical examples:

✚ Quality systems, application and benefit for process audits (ISO 9001; ISO/TS 16949) ISO/TS 16949
✚ Risk analysis with „Turtle“ analysis
✚ Communication, ethics and code of conduct for process auditors
✚ Interview techniques for audits
✚ Audit process from the audit program to the completion of the audit
✚ Planning and conducting a process audit
✚ General handling of evaluation rules and evaluation

These training steps lead you through the basic requirements and enable you to apply a holistic approach in automotive industry.
VDA 6.3 – Module B II – Process Audit – Product Life Cycle

On the basis of the process approach ISO 9001 underlying ISO 16949 and the respective customer requirements, this part of the training teaches you to apply the VDA 6.3 questionnaire throughout the supply chain P1-P7 with the aid of interpretations and practical examples.

We aim to enable you to use the process audit to identify prospective risks and potentials throughout the supply chain. The following focus areas are included, and are discussed using practical examples:

- Audit preparation
- Application of the relevant questionnaire P1-P7 incl. potential analysis
- Supplementing the questionnaire by relevant preparation
- Evaluation rules and evaluation in the product life cycle
- Audit report, documentation and completion

These insights are applied to correction, stabilization and optimization of processes and developed in the exercises and examples. The aim is to ensure robust evaluation.

VDA 6.3 – Module C – Examination Day for Certified Process Auditor

The VDA 6.3 process auditor examination is in two parts: a written and an oral exam. After passing the complete exam, you will receive a VDA certificate, the auditor card and an entry in the VDA QMC database. For this card we need a digital passport photo in JPEG format in advance.

PREREQUISITES FOR PARTICIPATION

Admission to the examination day takes place after successful assessment of your registration form.

Prerequisite for admission to the examination: evidence of auditor qualification as well as at least 5 years industrial experience, of which 2 years in QM.

DURATION

5 days
VDA 6.3 – Module F – Workshop: Exchange of Experiences for Process Auditors

This workshop gives you the opportunity to exchange your experiences from day to day practice and to further develop your application skills.

After successfully completing your qualification as process auditor VDA 6.3, you will in practice now and again be confronted with audit situations in which you may be uncertain about how to handle the suitable evaluation of requirements or other details. This workshop affords the opportunity to discuss such situations with other participants and to determine correct and false solutions together with the team of experts. This helps the participants to feel confident in application and inspires them to further personal development.

The workshop is facilitated by an instructor who has significant practical experience. Determined solutions are documented and published as SI if necessary.

**TARGET AUDIENCE**
Internal/external process auditors

**DURATION**
1 day
I. QUALIFICATION FOR 1ST/2ND/3RD PARTY AUDITORS

AUDIT STANDARDS VDA 6.X

VDA 6.4 – Qualification as 1st/2nd/3rd party Auditor (Training)

VDA volume 6.4 contains the ISO 9001 requirements and is structured in a way to clearly portray the further or concrete automotive requirements.

Process-oriented inspection and analysis of organizations on the basis of the process model of international automotive industry. To analyze business processes so that the weaknesses in the system of workflows, especially at the interfaces, can be identified and improvement potential can be demonstrated.

CONTENTS

✚ Focus on unit production (job shop production) and the VDA 6.4 requirements that go beyond ISO 9001 requirements
✚ Exercises with current QM system requirements for production goods manufacturers
✚ Analyze customer-oriented processes, Octopus model
✚ VDA process model (based on IATF process approach)
✚ Differentiate process characteristics
✚ Subdivide processes
✚ Merge process chains
✚ The Turtle model as a method for risk evaluation
✚ Process-approach evaluation (VDA points scheme, standard processes)
✚ Exchange experiences from practice

TARGET AUDIENCE
Auditors, QM personnel and executives from the production equipment sector who want to qualify as VDA Internal Auditors.

PREREQUISITES FOR PARTICIPATION
ISO 9001 knowledge as well as basic knowledge of FMEA, SPC and MSA required.

SPECIAL FEATURES
This training consists of two connected parts: Significant contents of VDA 6.4 and process approach in analysis, risk assessment and evaluation.

QUALIFICATION CERTIFICATE
After completing this training and passing the written test you will be awarded a VDA qualification certificate “1st Party Auditor”.

DURATION
3 days
PREREQUISITES FOR PARTICIPATION
Admission to the examination day takes place after successful assessment of your registration form. The exact prerequisites can be found in the current edition of VDA volume 6.

Participation in the training „Qualification for 1st/2nd/3rd party Auditor VDA 6.4“ is required.

SPECIAL FEATURES
Registration for the course only by management of your organization (for 2nd party auditors) or by your certification body (for 3rd party auditors).

QUALIFICATION CERTIFICATE
After passing the written and oral exams you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and VDA QMC database entry. For this card we need a digital passport photo in JPEG format in advance.

DURATION
1 day
I. QUALIFICATION FOR 1ST/2ND/3RD PARTY AUDITORS

AUDIT STANDARDS VDA 6.X

VDA 6.5 – Qualification as Product Auditor – Product Audits – Management of Product Audit Programs

Increased customer demands, safety requirements, statutory regulations as well as the increased use of electronic components and software lead to ever more complex products.

End customer expectations can no longer be identified only in specifications. The automotive manufacturers and supply industry are required to identify these product characteristics on their own responsibility and transform them into products. This focus must also be taken into account when conducting product audits.

Meanwhile, product quality is assured by the consistent implementation of the methods for preventive quality planning. Thus, a product audit has not only quality assurance objectives but also plays a role in providing evidence.

In the process chain, the product audit demonstrates the quality level of the internally/externally manufactured products.

This training “Management of Product Audit Programs” shows participants how to conduct product audits efficiently from an efficient and economical point of view.

TARGET AUDIENCE
People who plan and/or conduct product audits in their organization.

CONTENTS
✚ Product audit basics
✚ Audit program structure and product audit sequence
✚ Audit planning
✚ Conducting product audits
✚ Reporting
✚ Corrective action
✚ Qualification requirements for product auditors

PREREQUISITES FOR PARTICIPATION
Knowledge about product audits recommended

DURATION
1 day

After completing the training you will receive a VDA certificate of attendance.
VDA 6.7 – Qualification as Process Auditor for Unit Production and Job Shop Production

Customer requirements can best be fulfilled when process audits are carried out for the sectors of unit production and job shop production.

After successfully completing this seminar you will be able to analyze complex workflows as well as identify weak points and their causes: you will feel comfortable in the monitoring of initiated improvement actions and will be able to evaluate their effectiveness. You will achieve stable processes and reduce failure costs and waste by identifying deficits and improvement potentials (as well as by the reviewing the effect of improvement actions).

**TARGET AUDIENCE**

Process optimizers, auditors

**CONTENTS**

- Significance and area of application of the process audit according to VDA 6.7
- Communication of the interrelationships between system, process and product audits
- Creation of a joint understanding and a coordinated procedure when using this management instrument with production and test equipment suppliers as well as automotive industry

**PREREQUISITES FOR PARTICIPATION**

Specific knowledge of VDA 6.4 as well as of process orientation according to the IATF model is advantageous.

**Important!** All participants are required to bring an appropriate workflow from their own organization (order/project) with them to the seminar. At the beginning the participants will select two different processes in consultation with the instructor. In group work and role play auditing will be exemplarily practiced with these processes.

**QUALIFICATION CERTIFICATE**

After completion of this training and after passing the test, we acknowledge the successful participation with a VDA qualification certificate “Process Auditor VDA 6.7”

**DURATION**

2 days
Re-qualification as 2nd/3rd Party Auditor for VDA 6.1, VDA 6.2 and VDA 6.4

VDA QMC has determined the requirements for management systems in the standards VDA 6.1 „QM System Audit for Part Manufacturer-Series”, VDA 6.2 „QM System Audit Services” and VDA 6.4 „QM System Audit Production Equipment”.

These standards, in connection with VDA 6 „Quality Audit Basics” describe the approach for the certification of QM systems by VDA QMC accredited certification bodies. The condition for awarding certificates is the fulfillment of the requirements defined in the standards. During the audits, it is the qualified auditors' responsibility to evaluate the requirements defined in the standards. The aim of this requalification training is to introduce the current requirements to the auditors and/or refresh their knowledge.

**TARGET AUDIENCE**
2nd and 3rd party Auditors who can provide evidence of valid qualification according to VDA 6.1 or VDA 6.2 or VDA 6.4 and want to apply for renewal.

**CONTENTS**
- Current VDA 6 certification rules
- Up to date information on VDA 6.1, VDA 6.2 and VDA 6.4
- Process approach to audit planning and the application of the Turtle model for process evaluation according to VDA
- Overview over the supplementary VDA volumes (current status and new publications)

**PREREQUISITES FOR PARTICIPATION**
Qualified VDA 6.1, VDA 6.2 or VDA 6.4 Auditor

**DURATION**
1 day

After completing the training you will receive a VDA certificate of attendance.
Quality is not fortuitous, it can be planned. And the associated risks are manageable. Management systems provide specific sectors with practical error prevention experiences and help organizations to create suitable framework conditions in operational and organizational structure, so that errors do not even arise. In the following are listed trainings that provide the relevant target groups (executives, quality managers, auditors etc.) with the necessary knowledge for their tasks.

- Contractual and Product Liability in the Automotive Value Chain
- VDA 1 – Documentation and Archiving
- Error Culture and Leadership (inhouse only)
- Lecture on Error Culture and Leadership (inhouse only)
- Process Management
- Environmental Management Basics according to DIN EN ISO 14001
- Automotive SPICE® NEW
Successful system certification (e.g. VDA 6.1 or ISO/TS 16949) requires an organization to be familiar with the basics of contractual and product liability. Personnel in the organization must be aware of the effects of nonconforming product, as relevant to their tasks. The consequences of product liability for the organization must be basically known to personnel. Contractual and product liability is not only based on continually changing legislation but also on jurisdiction, ignoring which can have grave consequences. Especially within the framework of compliance requirements for the automotive value added chain, personnel must be familiar with the basics of legal business activities.

We want to enable you after this training to successfully implement the basics of contractual and product liability in your field of work.

**TARGET AUDIENCE**
(Prospective) executives and personnel from all areas of the organization (development, planning, production, quality assurance, sales, customer service, management) with technical and commercial training.

**CONTENTS**
- Current legal basis of product liability
- Contractual liability in the automotive value chain
- Penal product liability
- Quality assurance agreements
- Compliance requirements in the value chain
- US product liability basics
- Assessment and avoidance of product liability risks
- Additional information on legal issues and case examples

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
2 days
VDA 1 – Documentation and Archiving

For various reasons (auditing, recalls, product liability, legal and statutory requirements, etc) a company will want to or have to maintain documented evidence that its quality management system works and that only products that conform to all requirements are produced. The requirements for such a system for documentation and archiving are described in VDA volume 1. This VDA volume was comprehensively revised in 2007. This revision was guided by the following objectives:

✚ Paring down of the volume by concentrating on the essentials
✚ Specification and clarification through the use of examples
✚ Avoiding ambiguous words such as could, should, etc.
✚ Instead of using complete legal texts only references to the originals are made
✚ Ensuring internationality by taking international standards into account
✚ Checking of previous terms and definitions
✚ Consideration of IT developments in terms of electronic archiving and signature.

As to the reasons for documentation and archiving, this 3rd edition focuses on documentation and archiving in the case of critical characteristics. In this way, the archiving scope for the conformance to legal requirements is reduced to the necessary and therefore the use of the guidelines is simplified. All of the documents discussed in VDA volume 1 play a primary role in the quality management of a company. For technical documentation please refer to the VDI 4500 guideline.

TARGET AUDIENCE
Internal/external auditors, staff members from QM and IT departments with documentation and archiving responsibilities

CONTENTS
✚ Communication of the essential contents of VDA Volume 1
✚ Reference to relevant parts of the VDI 4500 guideline
✚ State of technology for electronic archiving and signature

PREREQUISITES FOR PARTICIPATION
✚ Recommendation: ISO 9001 Basic Training
✚ Professional experience in the automotive industry

DURATION
1 day

At the end of the course you will receive a VDA certificate of attendance.
Many organizations find themselves in a dilemma. In most organizations, significant effort is put into preventing errors, but on the other hand, the same organizations have more or less large areas devoted to eliminating and overcoming errors. Statistically, they have already reached a very low error level, which can only be maintained or even further reduced with inordinate expenditure of technical effort. Often, apart from a few slumps there are usually a large number of virtually individual errors.

This training shows that, in the end, almost all errors are caused by human failure. Their effects on the organization depend on the prevalent error culture and management’s mindset in shaping this culture.

Starting from different results in experimental psychology (such as, e.g., the paradoxical influence of lower error expectation by stringent prevention on the severity of errors if they do eventually occur), and taking into account one’s own (and also management’s) fallibility, the conscious handling of errors (own errors and the errors of colleagues, employees and superiors) is practiced. The participants should realize that the errors are not the problem, but their consequences. Errors should be seen as an opportunity for improvement. The participants discuss and develop thought patterns, behavior patterns and methods in support of modern error management, the challenge of which is the prevention of repeated errors and the minimization of the consequences of errors.

TARGET AUDIENCE
This training is especially suited for management executives from technical (e.g., design and development, planning, production, logistics, quality management) as well as commercial areas (e.g., purchasing, controlling).

CONTENTS
✚ The customer’s zero-error expectation as the starting point
✚ Why errors are really inevitable and yet what you can do about them
✚ Analysis of the role of error culture and mindset in the organization
✚ Executives and their handling of errors
✚ Error prevention and error management as a sensible supplement
✚ Error management to minimize error consequences, prevention of repetitive errors
✚ Methods and tools for effective error management

PREREQUISITES FOR PARTICIPATION
Management responsibility and willingness, within the framework of this training, to admit the realization of one’s own fallibility as well as interactive teamwork and case studies.

DURATION
1 ½ days
Error Culture and Leadership
An approx 60 minute lecture in your organization

Executives from top management are mostly not able or not prepared to “sacrifice” 1½ or 2 days to an issue they hardly know anything about. The lecture will familiarize the decision makers with the main topics of the training. They will be given an introduction to current error research and the fundamental concepts of error management.

TARGET AUDIENCE
Top executives, top management

CONTENTS
The lecture introduces you to the main content of the training:
✚ Introduction to error research
✚ Fundamental concepts of error management
✚ Culture and mindset of good error management
✚ Tool overview

The following topics will be presented and explained:
✚ The main aspects of culture and mindset of good error (management) culture
✚ Overview of main tools for error management
✚ Dealing with errors, the main (human) causes of errors, the mechanisms of subsequent errors and error cascades

The term error is defined in a broader sense, going beyond “standard definitions” and based on the theory that, in the end, all errors, even technical ones, are induced by human behavior.

CENTRAL MESSAGES:
✚ Everyone makes mistakes, mistakes are unavoidable
✚ The error is not the problem, it is the negative consequences of the error
✚ You can learn to deal with errors in a positive way and to pass this behavior on
✚ The way executives deal with their own mistakes and colleagues’ and employees’ mistakes defines the culture of an organization
✚ A positive way of handling errors reduces the error risk for customers
✚ Good error culture has a positive effect on profitability

These statements are made plausible by analyses and reports from real experiences. At the same time, the decision makers are made aware of the idea that preventive efforts alone are not sufficient. Convincing evidence for this is that despite significant expenditure on error prevention almost every organization still has a high overhead for eliminating errors and solving problems.

DURATION
1 day

A signal lecture for decision makers to encourage them to communicate the issue of error culture and leadership through further inhouse trainings.

Lecture and training have USP character; at the present time there is no comparable training available on the market.
Process management

To sustainably embed and improve the process approach throughout the whole organization provides significant leverage for success in global competition.

Process management is the comprehensive method to achieve process orientation. Consistent process management produces perceptible advantages that have a positive effect on any calculation of success.

The objective of business process management is to utilize the information available in the organization for the organization’s business processes, to align them with the customers and thus generate a significant contribution to achieving business objectives.

Professional design and optimization of processes increases the profitability of an organization. Thus, comprehensive process know-how is a core competence for executives in quality and process management. If you’re quicker, you can beat competition.

In our training „VDA Process Manager“ you learn to analyze processes, evaluate and improve them with measures.

**TARGET AUDIENCE**
People who want to stabilize and improve sequences and processes in their organizations with proven quality management methods.

**CONTENTS**
- Process management basics
- Process organization
- Process types, levels and models
- Process identification
- Structuring processes
- Developing process objectives and measures
- Measuring and controlling processes
- Process interactions
- Process analysis and optimization
- Methods and tools for process improvement

**PREREQUISITES FOR PARTICIPATION**
Knowledge about organizational processes

**QUALIFICATION CERTIFICATE**
At the end you will receive a VDA certificate of attendance.

**DURATION**
2 days
Environmental Management Basics according to DIN EN ISO 14001

More and more automotive manufacturers and suppliers, by way of the general conditions of sale, are required to implement environment and resource conserving production methods. The number of organizations in the automotive supply chain documenting this with certification to DIN EN ISO 14001 is increasing.

Based on this DIN EN ISO 14001, participants receive a general overview over the structure, extent and maintenance of an environmental management system. The main focus is on the PDCA approach (Plan-Do-Check-Act) and the general prerequisites for an environmental input and output data collection. With the aid of examples from automotive industry, solutions and procedures are demonstrated, discussed and practiced in group exercises.

Of course, this environmental training can be conducted inhouse as well. We offer individual trainings geared to your organization, e. g. as qualification for your environmental auditors.

TARGET AUDIENCE
Decision makers in the quality management area, environmental representatives and prospective environmental department personnel

CONTENTS
✚ Objectives and benefits of a certification to DIN EN ISO 14001
✚ What is DIN EN ISO 14001 and what are the differences to EMAS and further environmental management approaches
✚ Structure of the standard DIN EN ISO 14001
✚ Relevant environmental legislation and regulations
✚ Formal prerequisites and procedure of certification and/or validation
✚ Function, requirements and tasks for the environmental representative and/or internal auditor
✚ Integration of environmental management into the organization’s management
✚ Practical implementation and project organization
✚ PDCA approach and the requirement for continuous improvement
✚ Input and output data collection and documentation von environmental effects
✚ Procedure and extent of an environmental audit according to DIN EN ISO 14001
✚ Exercises and case examples from the automotive sector

PREREQUISITES FOR PARTICIPATION
None

METHODOLOGY
The training alternates between lecture, discussion and group exercises.

DURATION
2 days

At the end you will receive a VDA certificate of attendance.
ISO 15504 – called SPICE (Software Process Improvement and Capability Determination) – is a widely used and accepted standard. Worldwide and especially in Germany it is applied in the automotive industry.

Automotive SPICE® has been available since 2006, an assessment model compliant with ISO 15504 and adapted to the needs of the automotive industry. Since 2007, Automotive SPICE® has been the benchmark for the development of software-based systems for automotive suppliers and an inherent part of OEM supplier evaluation.

This training conveys a well-founded understanding of Automotive SPICE® based on the standard ISO/IEC 15504.

The training consists of talks, exercises and examples, and offers ample opportunity for discussions and exchange of experiences.

**TARGET AUDIENCE**
Automotive automotive supplier executives, e.g. project managers, coordinators and quality managers from design and development, supplier management and purchasing, who want to obtain insight into SPICE and SPICE assessments.

**CONTENTS**
- ISO/IEC 15504 and Automotive SPICE®
- Assessment of development processes according to Automotive SPICE®
- Process area overview
- Automotive SPICE® assessment model and HIS-Scope
- The assessment process according to VDA QMC blue-gold volume
- Benefit of Automotive SPICE® in system development
- Cross-connections to functional safety according to ISO 26262

**DURATION**
1 day

**NEW**

At the end you will receive a VDA certificate of attendance.
QM METHODS AND TOOLS IN PRACTICE

The quality management methods and tools on offer are almost inexhaustible, which often makes the correct selection decisive. The following trainings can help you, on the one hand, to find the right methods and tools for a specific product realization phase, and on the other hand, to assure practical conveying of knowledge.

✚ Compact Training QM Methods
✚ SPC – Economical Process Design and Process Control with Due Regard to Tolerances (VDA 4)
✚ FTA – Fault Tree Analysis – Model for Structured Examination of Complex Relationships (VDA 4)
✚ FMEA – Failure Mode and Effects Analysis, Product and Process-FMEA according to VDA 4, Special Characteristics
✚ QFD – Quality Function Deployment (VDA 4)
✚ TRIZ/TIPS – Theory of Inventive Problem Solving (VDA 4)
✚ DFMA – Design for Manufacture and Assembly (VDA 4)
✚ DoE –Design of Experiments (VDA 4)
✚ Applied Statistics
✚ VDA 2 – Production Process and Product Approval (PPF)
✚ Problem Solving Techniques 8D and 5 Whys (VDA 4)
✚ Compact Training Core Tools
✚ Automotive Core Tools
✚ VDA 16 – Decorative Surfaces of Attachment and Functional Parts
✚ Qualification for VDA 5 – Test Process Representative
✚ Basic Training Metrology
✚ Qualification for VDA Test Equipment Representative
✚ Test Equipment Monitoring
QM Methods and Tools in Practice

**Application of Methods**

**Target audience:** Decision makers

**Compact Training QM-Methods**
Duration: 1 day | ID 2101
Contents: Methods, selection, benefits, examples

**Target audience:** Project staff

**Compact Training Core Tools**
Duration: 1 day | ID 2706
Contents: APQP, PPAP, FMEA, MSA, SPC, 8D

**Understanding Interrelationships**

**Target audience:** Project planners, persons responsible for and users of the methods

**Automotive Core Tools**
Duration: 2 x 3 days | ID 2707/2708
Examination for “Automotive Core Tools Professional”
Duration: 1 day | ID 2709

<table>
<thead>
<tr>
<th>Concept stage</th>
<th>Product development</th>
<th>Product Validation and Certification</th>
<th>Pilot Production Stage</th>
<th>Series Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>APQP / Maturity Level</td>
<td>Product FMEA</td>
<td>Process FMEA</td>
<td>VDA 5</td>
<td>PPAP / PPF (VDA 2)</td>
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<td>8D-Method</td>
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</tbody>
</table>
## Consolidation of Methods

**Target audience:**
Project planners, persons responsible for and users of the methods, specialists

<table>
<thead>
<tr>
<th>Concept stage</th>
<th>Product Development</th>
<th>Product Validation and Certification</th>
<th>Pilot Production Stage</th>
<th>Series Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIZ / TIPS</td>
<td>Duration: 2 days</td>
<td>ID 2112</td>
<td></td>
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<tr>
<td>QFD</td>
<td>Duration: 2 days</td>
<td>ID 2111</td>
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<tr>
<td>DFMA</td>
<td>Duration: 1 day</td>
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<td>DoE</td>
<td>Duration: 1.5 days</td>
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<td>FMEA</td>
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<td>FTA</td>
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<tr>
<td>VDA 5</td>
<td>Duration: 2 days</td>
<td>ID 4201</td>
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<tr>
<td>VDA 2</td>
<td>Duration: 1.5 days</td>
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<tr>
<td>Applied Statistics - Basic Training</td>
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<tr>
<td>Applied Statistics - Advanced Training</td>
<td>Duration: 2 days</td>
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<td>SPC</td>
<td>Duration: 1.5 days</td>
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<td>8D-Method</td>
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It is essential to support objective and risk-focused handling of tasks in connection with new developments, changes or further developments of products and processes with quality management methods. Furthermore, the application of QM methods is required by laws, standards and regulations and thus constitutes the “state of the art”.

This compact training Quality Management Methods was developed to provide qualification for decision-makers who need information or employees interested in other or further tasks in their professional field.

This compact training includes contents, selection and application of QM methods, risk analyses and approach models that support automotive or supplier tasks. Apart from the proven methods of QFD, DoE and FTA, TRIZ, economical tolerance process, DFMA and SIX SIGMA are discussed. The selection method developed by VDA QMC for the application of QM methods is explained.

Practical and exercise examples help to obtain practical relevance, and the participants are thus prepared for practical application in their present or future field of activity.

A final test helps the participants to assess their qualification status after the training.

**TARGET AUDIENCE**

Decision-makers for the application of methods, responsible project managers, employees participating in decision processes, employees aspiring to qualification for the future.

**CONTENTS**

- Overview over contents of QM methods
- Presentation and explanation of practical examples
- Group exercises
- Selection and evaluation of benefit of the various QM methods
- Final test

**PREREQUISITES FOR PARTICIPATION**

Basic knowledge of statistics is helpful.

**QUALIFICATION CERTIFICATE**

At the end you will receive a VDA certificate of attendance.

**DURATION**

3 days
In this seminar you will learn the correct use of process capability examination and will gain expertise in distribution patterns and therefore also in the basic principles of calculation to determine process capability indicators.

This procedure requires a coordinated tolerance process between developer and production planner and/or finisher. According to specific studies, there is still significant waste of resources and material in our industry, since findings are often not consistently implemented.

TARGET AUDIENCE
Employees from development, production, persons responsible for the application control of quality methods, production process planners and supervisors, product developers and persons in charge of processes, (prospective) executives in automotive and supplier industry.

CONTENTS
✚ Improved cooperation of product and process development
✚ The use of optimized methods for process configuration and monitoring with working examples
✚ The selection and control of significant process characteristics
✚ Determination of the suitable method of process control
✚ By processing projects from your own company you will practice optimizing the fulfillment of quality characteristics required by the quality management system in the product development process.

PREREQUISITES FOR PARTICIPATION
None

DURATION
1 ½ days

At the end you will receive a VDA certificate of attendance.
With the help of Fault Tree Analysis (FTA), the logical links from component or subsystem failures that lead to an undesired effect are identified. All possible failures as well as failure combinations and their causes are identified. Especially critical effects and/or effects combinations can be represented. Reliability variables (e.g. probability of the undesired effect or system availability) can be calculated, objective evaluation criteria for system concepts, and clearly arranged documentation of the failure mechanism can be achieved.

The purpose of the analysis is not only to detect failure causes, but also their functional interactions. FTA can be used preventively as well as for the identification of the cause of existing problems.

TARGET AUDIENCE
Project managers and their employees, (prospective) decision makers, developers of components and systems.

CONTENTS
In structured group work you will learn:
✚ to describe cause-effect relationships by means of FTA,
✚ to identify risks in systems
✚ to deduce the consequences from failures.

PREREQUISITES FOR PARTICIPATION
None

DURATION
1 ½ days
FMEA – Failure Mode and Effects Analysis, Product and Process FMEA (VDA 4), Special Characteristics

Product and process FMEA is a risk analysis that accompanies planning and development and that is integrated into technical departments. FMEA is an instrument for early identification and avoidance of potential failures, especially in new concepts. By means of a systematical approach, potential errors are determined and evaluated during development and planning phases. By determining actions, failures are avoided and/or risks are reduced. It is therefore an important management instrument that supports interdisciplinary teamwork. FMEA also indicates, through experience, calculation, testing and examination, by how much the risk has been reduced or can still be reduced in future. Thus failure mode costs are minimized and cross-divisional teamwork is optimized, so that FMEA is of significant benefit to the organization.

Due to the interaction between the process Special Characteristics with product and process FMEA, this training also deals with the process Special Characteristics and explains the correlations. Processes must be defined and provided evidence of for the identification, definition and further safeguarding of the Special Characteristics. This training teaches the basic requirements and how to deal with them with the aid of examples in different stages of production in the automotive sector.

**TARGET AUDIENCE**
Project managers, project members, executives and employees involved in interdisciplinary work in development, testing, planning, production and quality management.

**CONTENTS**
- Establish objectives of the analysis
- Analyze products and processes in five steps by means of practice examples
- Evaluation and quantification of risks
- Evaluation of analyses
- Transferability to future problems
- Successfully deal with problems interdisciplinarily
- Requirements for identifying Special Characteristics
- Safeguarding Special Characteristics
- Correlation FMEA/Special Characteristics
- Exercises/case examples

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
With this comprehensive planning and communication system, all resources of the organization are coordinated in the preliminary decision phase (concept finding), in order to develop, manufacture and market the products and services that the customer expects. This applies equally to customers as end customers and customers as sub-purchasers in the supply chain.

By means of quality scales with matrix fields, dependencies and relationships, right up to product comparisons, are represented in the “House of Quality”.

Eventually this relationship matrix shows how customer requirements can be implemented in product characteristics, with ranking lists for objectives and practical implementation in the organization.

This approach also effectuates the reduction and avoidance of failures and their failure mode costs that normally occur in the implementation of orders with requirement specifications or market analyses.

**TARGET AUDIENCE**
Personnel responsible for projects and executives from advance development, design, testing, planning, controlling, purchasing, sales and quality management.

**CONTENTS**
- 10 steps of QFD outline
- Determination of the stated and not stated customer requirements.
- Comparison with competition
- Relationship between customer requirements and product characteristics
- Evaluation of identified interrelationships
- The technical difficulties in the implementation in your own circumstances are also evaluated.
- Definition of concrete objectives with target values for product characteristics.
- Advantages of customer focus
- Group work with practical examples

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
TRIZ / TIPS – Theory of Inventive Problem Solving (VDA 4)

With this method, innovative solutions are found and existing systems are optimized. The basic principles for successful application are the goal-oriented definition of tasks and resolving of contradictions.

The identification, amplification and elimination of technical and physical contradictions in technical systems by means of basic innovative principles and standard solutions of inventive tasks lead to astonishing findings and to some extent surprising solution approaches.

In the future, TRIZ will be the method in industry and other branches for improving innovative ability and in this way maintaining productivity of the organization. The early results of using TRIZ fulfill the cross-functional tasks within quality management.

**TARGET AUDIENCE**
Executives, decision makers and persons responsible for projects in advance development, design and planning.

**CONTENTS**
- The starting position is described and first the overall objective is deduced, taking corporate and technological trends into consideration.
- A functional system analysis is carried out applying the evolution laws of technology.
- A problem matrix is created from the objective factors and system parameters, in order to identify inconsistencies.
- By means of problem solving tools and by using known principles and regularities, the participant can recognize solutions.
- The introduction to simple practical examples allows decision making for further consolidation and applications in your own organization.
- The participants are introduced to inventive problem solving approaches in group work.

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
In the early phase of the product development process, all sectors of the organization that are involved in the product are coordinated, so that the requirements of all parties involved in product design are integrated.

The simultaneous engineering team and the application of DFMA as methodical support provide for an optimization of engineering design and manufacturing costs. This includes a decrease in the number of parts and cutting down development time, reduction of assembly expenditures, which lead to an increase in quality. The many changes that used to mount up just before SoP and the ensuing costs are greatly reduced or possibly completely avoided.

TARGET AUDIENCE
Decision makers and project employees in advance development, design, planning, production and quality management.

CONTENTS
In group work the participants learn the systematic approach in the simultaneous engineering team with the objective of optimizing a developed system/module, in order to lower costs and increase quality.

✚ Analysis of the current state by developing a structure diagram with the allocation of indicators
✚ Systematic discussion on the basis of a targeted list of questions
✚ Sorting and prioritization of solution approaches
✚ Comparing the possible alternatives and deciding on an optimized system

PREREQUISITES FOR PARTICIPATION
Basic principles of project management

DURATION
1 day
DoE – Test Methodology Design of Experiments (VDA 4)

Practice-suitable analysis of systems in experimental tests using statistical design. The focus is on the obtainment of knowledge about system behavior with new products or product changes, as well as with production processes with reduced testing expenditure. Despite fewer experimental tests, a meaningful result arises from the statistical test method according to Shainin or Taguchi with the improved parameters. DoE is also a quick and accurate problem solving method for problems in production with machine and procedure-dependent production processes.

If used consistently, the organization will benefit from cost reductions and increases in quality.

TARGET AUDIENCE
Project members and responsible persons from development, testing, planning, production and quality management.

CONTENTS
✚ Group work with practical examples
✚ Exact system descriptions with the determination of interfaces and problem analysis.
✚ Exemplary description of influencing variables with their interactions and of target values.
✚ Reproduction of statistical tests according to the Shainin or Taguchi methods.
✚ Selection of the best solution for the system and/or process.

PREREQUISITES FOR PARTICIPATION
None

NOTE
In order to reproduce the testing calibration and the evaluations, we recommend a PC or programmable calculator.

DURATION
1 ½ days
In this training, you will learn methods for monitoring and evaluating the success of improvement actions. Furthermore, you will broaden your knowledge of statistics enabling you to analyze and assess results. Getting to know current statistical methods allows you to assess their individual field of application. Experienced instructors communicate this know-how in competent fashion and with the aid of numerous practice examples.

**OBJECTIVE**

This training shows you how processes can be geared to effectiveness and efficiency and how to evaluate them. This qualification will provide you with the necessary competence to make decisions based on statistical data.

**TARGET AUDIENCE**

Experts from all areas, project managers, project team members, executives and interdisciplinary personnel in design and development, planning, manufacture and quality management, quality representatives, members of improvement teams

**CONTENTS**

- Types of attributes
- Probability distributions Discrete and continuous distributions
- Identification of statistical measures
- Confidence interval (unilateral/bilateral)
- Range of variation (unilateral/bilateral)
- Graphs: Individual values and pairs of values
- Tolerance considerations

**PREREQUISITES FOR PARTICIPATION**

Technical or business training, automotive experience

**NOTE**

Please bring a pocket calculator with statistical functions and a notebook, in order to work on the exercises.

**DURATION**

2 days

At the end you will receive a VDA certificate of attendance.
Applied Statistics – Advanced Training

In this training, you will learn how to handle acceptance and approval of a machine, a plant or a process with the help of capability measures (e.g. Cm, Cmk, Pp, Ppk, Cp, Cpk, Cg and Cgk). You will also be able to calculate and introduce quality control charts and to evaluate and monitor processes in standard situations with Q-charts.

You will acquire the basic principles of the main statistical tests with simple practical examples and an outline of the various test procedures. One focus of the training will be selecting the adequate statistical method for a practical task and then to solve the task with the provided simple EXCEL spreadsheets. Mathematical-statistical fundamentals are only applied and explained as necessary.

OBJECTIVE
To show how to align and evaluate processes as to effectiveness and efficiency. Furthermore, this qualification provides you with the competence to make decisions based on statistical data.

CONTENTS
✚ Capable production process quality capability tests:
✚ Measurement system analysis
✚ Shortterm or machine capability analysis
✚ Preliminary process capability
✚ Quality control chart
✚ Ongoing process capability
✚ Data evaluation with statistical tests:
✚ One-sample test
✚ Two-sample test
✚ Formulation of hypotheses and test selection
✚ Probability of error
✚ Tests for trends
✚ Tests for normal distribution
✚ Outlier and goodness-of-fit test
✚ Distribution-free sample evaluations
✚ Comparison of variances and means
✚ Comparison of more than two variants
✚ Test for not normally distributed series of measurement values

TARGET AUDIENCE
Experts from all areas, project managers, project team members, executives and interdisciplinary personnel in design and development, planning, manufacture and quality management, quality representatives, members of improvement teams

PREREQUISITES FOR PARTICIPATION
The training „Applied Statistics – Basic Training“ is recommended.

NOTE
Please bring a pocket calculator with statistical functions and a notebook, in order to work on the exercises.

DURATION
2 days

At the end you will receive a VDA certificate of attendance.
I. XXX

At the end you will receive a VDA certificate of attendance.

II. AUTOMOTIVE-SPECIFIC QUALIFICATION

QM METHODS AND TOOLS IN USE

VDA 2 – PPF
(Production Process and Product Approval)

The fifth edition of VDA volume 2 was fundamentally revised in 2011 and adapted to the current automotive demands. Correlations to existing VDA volumes (e.g. Maturity Level Assurance, VDA 6.3) are highlighted and integrated.

The objective of this training is to convey the
+ triggers,
+ requirements,
+ structured implementation in operational and organizational structure,
+ as well as providing evidence for the PPF procedure.

PREREQUISITES FOR PARTICIPATION
+ Working knowledge of ISO/TS 16949 basic requirements
+ Experience and knowledge in dealing with customer-specific requirements for sampling processes (e.g. Volkswagen AG, BMW AG and Daimler AG)
+ General basic knowledge of the VDA volumes is advantageous
+ Participation in VDA training „Maturity Level Assurance“ is recommended

TARGET AUDIENCE
Quality managers, quality engineers, purchasing/development/logistics/production personnel with quality relevant tasks, as well as all interested automotive personnel

CONTENTS
+ Overview and relation to important legal/statutory regulations (e.g. BGB, HGB, ProdHaftG, GPSG, KBA, IMDS, REACH)
+ Structure of the fifth edition of VDA volume 2
+ Contents with changes since the fourth edition
+ Focus areas:
  + Basic sequence of PPF and sampling
  + Planning and coordination of PPF procedure incl. chronological integration into product engineering process
  + Trigger matrix
  + Sampling levels
  + Process validation
  + Dealing with small-scale series
  + Explanation of the necessary organization-specific need for regulation
  + Practical example sampling process

DURATION
1 ½ days

At the end you will receive a VDA certificate of attendance.
Often problem solving is only understood to mean writing 8D reports. This training communicates the specific techniques of the 8D method and additionally demonstrates supporting analytical techniques for problem processing.

The participants will be trained to handle the evaluation of existing data and to describe still missing information in such a way that other team members can procure it for further processing.

**TARGET AUDIENCE**
This course appeals especially to an organization’s employees from sales, development, customer service and claims processing, production, purchasing, logistics, as well as internal and external quality assurance who in the foreseeable future will be put in charge of a problem solving team.

**CONTENTS**
- History, development and relevance of the 8D method
- Outline of procedure for the 8D method
- Problem awareness
- Exact description of problem
- Deduction of interim containment action
- Connection between root cause and corrective action
- Use of simple analytical methods
- Actual state/not-actual-state analysis
- Confirmation that the identified cause actually triggers the problem
- Determine corrective action
- Recognition of problem solving team and their effect on error culture in organizations
- Successfully integrate 8D method into organizations

**PREREQUISITES FOR PARTICIPATION**
Preferably first experiences with problem processing in your own organization.

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
Problem Solving Methods 8D and 5 Whys - User Seminar (in-house only)

For many, the path from case study to concrete application proves a great challenge, sometimes overly demanding. This seminar was developed in order to accompany this step in an organization.

Therefore, as well as the case study, the participants also immediately deal with a problem from their own area of work. Parallel to the presentation of the 8D method steps, examples from your own organization are analyzed and prepared for a solution. Often, a solution can already be worked out in the course of the seminar.

With the case study, the seminar deals with all steps of the 8D method and 5 Whys. This cannot apply to all selected problem cases for the practical examples.

Four groups are formed with one topic each and with at most five participants.

TARGET AUDIENCE
This course is especially interesting for employees from sales, development, customer service and claims processing, production, purchasing, logistics as well as internal and external quality assurance who need a solution to current problems.

CONTENTS
✚ History, development and relevance of 8D method
✚ Outline of procedure for 8D method
✚ Problem awareness
✚ Exact description of problem
✚ Deduction of interim containment action
✚ Connection between root cause and corrective action
✚ Use of simple analytical methods
✚ Actual state / not-actual-state analysis
✚ Confirmation that the identified cause actually triggers the problem
✚ Determine corrective action
✚ Recognition of problem solving team and their effect on error culture in organizations
✚ Successfully integrate 8D method into organizations

PREREQUISITES FOR PARTICIPATION
Preferably some experience with problem processing in your own organization.

At the end you will receive a VDA certificate of attendance.
5-Day Schedule

1st and 2nd seminar day

- all 4 groups, Basic course for the 8D methods: steps Do to D2
- Case studies, problems of the day, 2 days
- Definition of tasks according to action plan, Timeframe: 2 to 4 weeks

3rd seminar day

- 2 groups in the morning, 2 groups in the afternoon
- Basic course for the 8D methods: steps D3 to D4
- Case studies, problems of the day, 2 x 0,5 day
- Definition of tasks according to action plan, Timeframe: 2 to 4 weeks

4th seminar day

- 2 groups in the morning, 2 groups in the afternoon
- Basic course for the 8D methods: steps D5 to D6
- Case studies, problems of the day, 2 x 0,5 day
- Definition of tasks according to action plan, Timeframe: 2 to 4 weeks

5th seminar day

- 2 groups in the morning, 2 groups in the afternoon
- Basic course for the 8D methods: steps D7 to D8
- Case studies, problems of the day, 2 x 0,5 day
- Definition of tasks according to action plan, Timeframe: 2 to 4 weeks
Professional planning prior to serial production is essential in order to ensure problem-free delivery to customers in the automotive supply chain. To this purpose, automotive industry has established the Automotive Core Tools as planning instruments:

**APQP – Advanced Product Quality Planning**
Project management for new processes and products. APQP or project planning as well as assurance of maturity create the framework for the application of further Core Tools.

**FMEA – Failure Mode and Effects Analysis**
Management of process and design risks for the systematic analysis of construction weaknesses and potential production failures.

**MSA – Measurement Systems Analysis**
Measurement systems analysis and inspection process suitability according to VDA 5 to ensure that measurement systems are suitable for their respective application.

**PPAP – Production Part Approval Process** – or PPF – production process and product approval according to VDA 2 approval procedure and initial sampling to provide evidence that products and processes fulfill all requirements at SOP.

**SPC – Statistical Process Control**
Control and assurance of ppm quality for products and processes during serial production.

**8D-Method – Problem solving method**
Systematic problem solving for structured processing of acute problems and prevention of reoccurrence.

**Control Plan**
+ Prototype control plan contains all operational steps for prototype manufacture and the respective inspection characteristics with specifications and inspection specifications
+ Pre-launch control plan contains all operational steps in the serial process and the respective inspection characteristics with specifications and inspection specifications for pre-launch production
+ Series control plan contains all operational steps in the serial process and the respective inspection characteristics with specifications and inspection specifications for series production
Compact Training Core Tools

This training provides decision-makers, who need information, and employees, who are interested in further or different tasks in their professional field, with an opportunity to get to know the essential issues and fields of application, as well as customer requirements.

Methods and approach models are presented, discussed and explained using practical examples. Exercises create practical relevance for the participants and prepare them for applying the tools in practice in their present or future field of activity. The final test enables the participants to assess their qualification status after the training.

**TARGET AUDIENCE**
Responsible project managers and all members of project teams, employees aspiring to qualification for the future.

**CONTENTS**
- Overview over contents of the „Core Tools“ (APQP, PPAP/PPF, FMEA, SPC, MSA and Control Plan)
- Presentation and explanation of application in practice
- Group exercises
- Final test

**PREREQUISITES FOR PARTICIPATION**
None

**QUALIFICATION CERTIFICATE**
After passing the test you will receive a VDA certificate of attendance.

**DURATION**
1 day
Automotive Core Tools – Module I

Successful project work requires knowledge about planning processes and methods as well as an understanding of the interrelation between the methods. This training shows how the issues in individual phases of automotive projects are designed, how specific deployment of methods supports the achievement of planned results and how the methods are deployed correctly and efficiently.

The theoretically and methodically correct approach is presented. Exercises help to work out and discuss important points to consider in practical implementation.

The first part of the Core Tool training deals with the statistical methods applied to process design and development, the transition to series production and series production itself, in order to assure capability of test and inspection systems and production processes.

TARGET AUDIENCE
All personnel in project teams for product and process design and development, especially from the areas planning, preproduction, test and inspection planning and quality management, as well as production personnel.

CONTENTS
- Measurement system analysis MSA
- Test equipment capability cg and cgk
- VDA 5 - Test equipment and test process suitability
- Process capability pp and ppk resp. cp and cpk
- Capability determination in different distribution models and process types
- Control charts / SPC
- Application of various Shewhart and approval QC’s according to process type
- Practical exercises for the various methods

PREREQUISITES FOR PARTICIPATION
Basic knowledge on quality management and planning in the automotive sector.

Module I can be booked independently of Module II. The participation in both Modules is necessary in order to sit the exam and for the Core Tools Professional certificate.

NOTE
Please bring a notebook and a triangle to the training for use in the exercises.

DURATION
3 days

At the end you will receive a VDA certificate of attendance.
Automotive Core Tools – *Module II*

The second part of the two-part training deals with project management in the concept phase and product and process design and development. The activities in the various project phases are presented as well as the methods for ensuring product quality.

**TARGET AUDIENCE**
All personnel in project teams for product and process design and development, especially from the areas planning, preproduction, test and inspection planning and quality management.

**CONTENTS**
- APQP/maturity level
- System analysis
- Product FMEA
- Prototypes control plan
- Design verification plan & report
- Process FMEA
- Control plan
- PPF (VDA 2) and PPAP
- 8D method
- Practical exercises for the various methods

**PREREQUISITES FOR PARTICIPATION**
Basic knowledge of quality management and planning in the automotive sector.

Module I can be booked independently of Module II. The participation in both Modules is necessary in order to sit the exam and for the Core Tools Professional certificate.

**DURATION**
3 days

At the end you will receive a VDA certificate of attendance.
Examination Day for Certified Automotive Core Tools Professional *(optional)*

**TARGET AUDIENCE**
Project team members for product and process improvement, mainly from the areas planning, production scheduling, test equipment planning and quality management, as well as personnel in charge in production.

**PREREQUISITES FOR PARTICIPATION**
Completion of Modules I and II of automotive Core Tools

**QUALIFICATION CERTIFICATE**
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding Automotive Core Tools Professional ID card and database entry. For the card we need a digital passport photograph in JPEG format in advance.

**DURATION**
1 day
Surfaces dependent on their look and feel play a decisive role in the product engineering process (PEP) and throughout the supply chain. If surface specifications are determined too late right into series production, the consequences can occasionally be significant expenditures such as selection, scale determination and processing of complaints, and thus cause increased quality costs.

The objective of the training is to show participants an approach for determining specifications of different look-and-feel characteristics of decorative surfaces. Framework conditions such as tests, test workplace design are taken into consideration to avoid process disturbances throughout the supply chain.

Early definition/determination of the surface specifications in the product development process during feasibility/manufacturability analysis helps to minimize error costs and optimize cross-departmental cooperation throughout the whole process chain.

This training conveys the basic approach and the implementation of surface specifications using examples from various products/parts.

**TARGET AUDIENCE**
Project managers, project staff, executives and interdisciplinary personnel from development, planning, manufacture and quality management

**CONTENTS**
- Point of departure
- Determining objectives of specifications
- Analysis of products and processes using examples
- Assessment and quantification of look-and-feel surfaces
- Evaluation conditions
- Lighting conditions
- Viewing distance
- Viewing time
- Definition of target agreements
- Handling and determining tolerance samples
- Exercises/case examples and creation of a surface specification

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
1 day
VDA 5 – Test Process Suitability

VDA Volume 5 with the German title „Prüfprozeßeignung” (test process suitability) is available in a 2nd revised 2010 edition. It is the first document to show how the requirements in the international standards and company guidelines can be met. Additionally, it explains how the methods proven in practice for determining test equipment capability and measurement uncertainty can be combined without great mathematical effort. VDA volume 5 now encompasses MSA methods as well as determination of measurement uncertainty according to GUM, just as in the 1st edition.

The goal of the training is to enable the participants to identify and calculate influences on test process suitability; design engineers must be aware of the consequences of their defined tolerances.

The focus is on the approach to determining the suitability of measurement systems, suitability of measurement and test processes, extended measurement uncertainty and conformity evaluation, as well as tips on standard measurement systems, MPE or error limits, assessment and approval of measurement equipment, including multiple setting devices, long-term evaluation, temperature effects and influences by the tested object, e. g. shape deviations, several solutions for attribute measurement systems and proposals for validating measurement software.

TARGET AUDIENCE
Personnel responsible for planning, selection, purchasing, acceptance and monitoring, as well as calibration of measurement and test equipment or machines and facilities, personnel from organizations that manufacture test equipment or personnel concerned with product design and definition of tolerances.

CONTENTS
✚ Relation between test process suitability and process capability
✚ Development and requirements of the standards, company guidelines
✚ Basics of test equipment capability tests according to MSA
✚ Content of VDA volume 5 test process suitability
✚ Evidence of measurement system and test process suitability
✚ Consideration of extended measurement uncertainty near the specification limits
✚ Decision rules for approval / rejection according to DIN EN ISO 14253 T1
✚ Evidence of suitability in testing attribute characteristics
✚ Validation of measurement software
✚ Practical exercises with practical measurements

PREREQUISITES FOR PARTICIPATION
Basic knowledge of measurement techniques and measurement system analysis procedures

DURATION
2 days

At the end you will receive a VDA certificate of attendance.

After completing this training, you can sit an exam for “VDA 5 – Test Process Representative”.

II. AUTOMOTIVE-SPECIFIC QUALIFICATION
QM METHODS AND TOOLS IN USE
Examination Day for VDA 5 – Test Process Representative

On the day of the exam, a short overview lecture reviews the main contents of the training “VDA 5 - test process suitability”. Immediately afterwards, the participant sits the “VDA 5 – Test Process Representative” exam.

During the exam, the participant must answer 40 multiple choice questions and prove the suitability of a measurement system and a measurement and test process in one, resp. two, case examples.

PREREQUISITES FOR PARTICIPATION
Completion of training VDA 5 – Test Process Suitability

QUALIFICATION CERTIFICATE
After passing the written and oral exam you will receive a VDA certificate with a registered number, as well as the Test Process Representative card. For the card we need a digital passport photograph in JPEG format in advance.

DURATION
1 day
The training “VDA 5 – Test Process Suitability” supplements the theoretical basics with some examples. This training day serves to consolidate the lessons learned so far in practice, in order to gain confidence for everyday use. Our aim is for theory to be well-aligned with practice and vice versa. This will afford you the maximum benefit.

With the help of selected examples, the objective of this training is to enable the participants to identify factors influencing test process suitability, and to compute them very easily with the software tool „solara“ by Q-DAS. The focus is on a variety of practical exercises, in order to learn the approach to assess the suitability of measuring systems, suitability of measuring processes, extended measurement uncertainty and conformity assessment in practice.

Furthermore, important details are presented on handling standard measurement systems, MPE or error limits, evaluation and approval of measurement equipment, including multiple setting devices, long-term evaluation, temperature effects and influences by the tested object, and several solutions for attribute measurement systems. A wide range of the usual test equipment is provided, from limit gauges with specifically manufactured test objects, standard measuring equipment, special devices, manual snap gauges, drilling measurement stands etc. with accessories, high-precision inductive and incremental measuring sensors and display units to a laser micrometer with scanning function.

TARGET AUDIENCE
✚ Personnel charged with planning, selection, purchasing, incoming testing and monitoring, as well as calibration of measuring and test equipment, and/or conducting test process suitability
✚ Personnel from organizations manufacturing measuring equipment and devices
✚ Personnel dealing with product design and tolerance determination
CONTENTS

✚ Short introduction to the software tool „solara“ by Q-DAS
✚ Summary of basics of test equipment suitability and determination of test process suitability according to VDA volume 5 – 2010
✚ Examples for evidence of attributes with plug gauges for H7 and H9 in comparison (signal detection theory) and Bowker test case example
✚ Examples for height measurement with standard test equipment (outside micrometer, dial gauge, inductive measuring sensors), influences of MPE, stand, standard setting, calibration uncertainty, linearity, repeatability, user etc.
✚ Examples for diameter measurement (standard test equipment, outside micrometer, manual snap gauge, incremental measuring sensors, laser micrometer), influences of MPE, standard setting, calibration, linearity, temperature etc.
✚ Assessment of manufacturing accuracy and calibration uncertainty of standards and transfer of this accuracy to the measuring system
✚ Identification of shape deviations and temperature influence of test objects
✚ Identify and implement improvement actions
✚ Learn to interpret manufacturer information correctly and to research missing information

PREREQUISITES FOR PARTICIPATION

Knowledge about procedures for measurement system analysis, knowledge about VDA – Test Process Suitability

NOTE

Please bring a notebook computer to work on the exercises.

DURATION

1 day
Qualification as VDA Test Equipment Representative

The series of training for VDA Test Equipment Representative now also includes a comprehensive training for an efficient measurement management system according to the new standard 10012-2004. The trainings are suitable for newcomers and experienced personnel for these tasks who want to update their knowledge.

The series of trainings is divided into modules and takes individual experience and knowledge into account. Participants with well-founded knowledge, e.g., in metrology will not need to take part in the training “Metrology for Newcomers”. Nevertheless, after successfully passing the exam participants will receive a certificate.

Qualification matrix VDA Test Equipment Representative

<table>
<thead>
<tr>
<th>ID</th>
<th>Course Title</th>
<th>Duration</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4201</td>
<td>VDA 5 Test Process Suitability</td>
<td>2 days</td>
<td>(see page 94)</td>
</tr>
<tr>
<td>4501</td>
<td>Metrology for Newcomers</td>
<td>2 days</td>
<td>(see page 99)</td>
</tr>
<tr>
<td>4203</td>
<td>VDA-Test Equipment Monitoring</td>
<td>1 day</td>
<td>(see page 100)</td>
</tr>
<tr>
<td>4204</td>
<td>Examination preparation day for prospective</td>
<td></td>
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<tr>
<td></td>
<td>VDA Test Equipment Representatives, 1 day</td>
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<tr>
<td></td>
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<td></td>
<td>(see page 101)</td>
</tr>
<tr>
<td>4205</td>
<td>Examination day for VDA Test Equipment Representative, 1 day</td>
<td></td>
<td>(see page 101)</td>
</tr>
</tbody>
</table>

Certificate + Database entry
Basic training: Metrology for Newcomers

The participants get to know the basics of measuring techniques, they are able to conduct measurements and interpret the results. They have measurement-relevant knowledge of the standards and are able to define the required prerequisites from the point of view of measuring techniques. They are able to write measurement reports, identify deviations and implement corrections if necessary. Furthermore, they are familiar with the objectives of geometric dimensioning and tolerancing, as well as with the causes of dimensional and tolerancing deviations. They are familiar with the principles of tolerancing and the individual definitions of geometric dimensioning and tolerancing. They are familiar with the objectives and benefits of test and inspection equipment control, can conduct test and inspection control and make test and inspection decisions.

TARGET AUDIENCE
All employees from production, quality management and equipment manufacture etc. as well as designers and planners.

CONTENTS
✚ Metrology basics
✚ General tolerances
✚ Measurement deviations (5 M’s)
✚ Geometric characteristics of work pieces
✚ Objectives of geometric dimensioning and tolerancing
✚ Origin of dimensioning and tolerancing deviations
✚ Principles of tolerancing
✚ Drawing input: reference element, tolerated element
✚ Definition of geometric tolerances
✚ Definition of dimensioning tolerances
✚ Classification of test and inspection equipment
✚ Handling of test and inspection equipment
✚ Test and inspection equipment cycle
✚ Practical exercises

PREREQUISITES FOR PARTICIPATION
None

DURATION
2 days

At the end you will receive a VDA certificate of attendance.
The quality of manufactured products or services is monitored and controlled with test equipment. Thus, it is obvious that test processes also play a decisive role alongside the manufacturing processes. Stable and consistently high quality can only be assured with suitable and reliable test equipment.

As all test equipment is subject to more or less uncertainty and deviation and can be damaged during use, it must be controlled according to the new standard 10012 test equipment management system and monitored at defined intervals.

The goal of the training is to enable the participants to apply the requirements of the standards and guidelines in practice.

The training introduces you to the „functional area metrology“, and examples give you an insight into efficient test equipment management. You will learn about the areas of responsibility and tasks this function comprises and which capabilities are expected. With the aid of practical examples for capability analyses, the participants can deepen their acquired knowledge.

You will acquire valuable information on the basis of the VDI and DKD guidelines for planning and conducting calibrations.

**CONTENTS**
- Terms and definitions
- Development and requirements of the standards
- Metrology basics (test and supplementary equipment, requirements, selection, and use of test equipment, influencing factors, statutory measurement and calibration system, SI system, hierarchy of reference standards, calibration bodies, PTB, DAkkS, WECC, traceability, calibration certificate, MPE)
- Legal requirements from product liability
- Functional area metrology and test equipment management according to ISO 10012
- Position in the organization and tasks, job profile
- Handling test equipment (identification, monitoring use, calibration, service and maintenance, scrapping)
- Evidence of suitability of test equipment under real conditions with practical examples for the capability analyses
- Structure of test instructions
- Determination of qualification intervals, examples for dynamization
- Test equipment monitoring software validation
- Calibration – internal or external? - Selection criteria for external services
- Audit questions

**TARGET AUDIENCE**
- Personnel responsible for planning, selection, purchasing, acceptance and monitoring of measurement and test equipment, resp. machines and facilities.
- Personnel from organizations manufacturing measurements equipment.
- Personnel from calibration laboratories

**PREREQUISITES FOR PARTICIPATION**
Basic metrological knowledge and basic knowledge about measurement system analysis procedures

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
Examination Preparation for Prospective VDA Test Equipment Representatives

The exam preparation day includes the main subjects from the trainings ID 4501 “Metrology for Newcomers”; ID 4201 “VDA 5 Test Process Suitability” and the training ID 4203 „VDA Test Equipment Monitoring“. This training is optional and not a prerequisite for sitting the exam for VDA Test Equipment Representative. It does not replace the trainings mentioned above and is only designed as a refresher course to help understand the contents.

PREREQUISITES FOR PARTICIPATION
None

DURATION
2 days

Examination day
VDA Test Equipment Representative

PREREQUISITES FOR PARTICIPATION
Completion of ID 4501 „Metrology for Newcomers“, ID 4201 „VDA 5 - Test Process Suitability“, and ID 4203 „VDA Test Equipment Monitoring“

QUALIFICATION CERTIFICATE
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding database entry.

DURATION
2 days
Customer expectations towards automotive industry are not only becoming increasingly demanding in the technical design, but also more diverse due to the innovation-driven changes in energy transition. As this development has a great dynamic effect, product life cycles are getting shorter and shorter. In order to do justice to these requirements in product engineering, successful and innovative organizations proceed to implement new development methods. The DFSS (Design for Six Sigma) concept is at the cutting edge here.

DFSS is a procedural model derived from Six Sigma philosophy. Classic Six Sigma is reactive in problem solving, and the manufacturing process is at the forefront of the range of application. Processes are designed so that, with the aid of statistical rules, there are no more faulty parts. VDA DFSS automotive is also rooted in zero-error philosophy, but it begins right at the start of the product engineering process, looks for error causes within development activities, and thus relies on preventive problem treatment. A further characteristic of VDA DFSS automotive is the “robustness” of the developed products.

The qualification concept for VDA DFSS Green Belt automotive and Black Belt automotive for the implementation of DFSS in organizations is modular and enables intensive training with simultaneous application for a project in the organization. This qualification is also available in one-week trainings with the same contents. All in all, there are two coaching days between the modules, in order to give the participants the opportunity to ask questions that have arisen in applying the methods, or to search for solutions for problems arising from projects together with the instructor.

VDA DFSS – Design for Six Sigma, Green Belt automotive und Black Belt automotive

Customer expectations towards automotive industry are not only becoming increasingly demanding in the technical design, but also more diverse due to the innovation-driven changes in energy transition. As this development has a great dynamic effect, product life cycles are getting shorter and shorter. In order to do justice to these requirements in product engineering, successful and innovative organizations proceed to implement new development methods. The DFSS (Design for Six Sigma) concept is at the cutting edge here.

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For personnel involved in design and development, the qualification as VDA DFSS Green Belt automotive is a significant foundation for the successful fulfillment of their tasks.

VDA DFSS Green Belt automotive supports development work with a targeted, consistent and coordinated use of methods and tools. The application of these methods is guided by the phase model IDOV: Identify, Design, Optimize and Verify.

As project manager, the VDA DFSS Green Belt automotive manages small projects or sub-projects, or supports the project manager or the VDA DFSS Black Belt automotive in their methodical work. Beyond this, VDA DFSS Green Belt automotive is an opportunity for any developer to achieve the objectives of their development work under their own responsibility, confident in their methods and consistently.

The VDA DFSS Green Belt automotive qualification is the prerequisite for the VDA DFSS Black Belt automotive qualification.

**TARGET AUDIENCE**
Developers, project team members, project managers, specialists from development and related areas, and from quality management.

**CONTENTS**
- VDA DFSS automotive basics
- Identification and selection of projects, project management
- Identification of customer requirements – QFD
- Identification of functional requirements - QFD
- Design Score Card
- Development of concepts and creativity techniques
- Evaluation and selection of concepts
- Identification of functional correlations
- Risk evaluations FMEA / DRBFM
- Prioritization and definition of critical parameters – QFD
- Basics of distribution models
- Analysis methods
- Measurement system analysis
- DoE (Design of Experiments), full factorial, incl. testing plans
- Tolerancing design
- Loss functions
- Reliability concepts
- Process capability analyses, control chart monitoring
- Control plan

**PREREQUISITES FOR PARTICIPATION**
Technical university or college degree or evidence of basics in statistics, at least two years professional experience in development or related areas, in automotive quality management, project proposal from own or commissioned organization.

For participants with Six Sigma Green Belt qualification the duration of the training is shortened.
NOTE
The tool minitab is used for mathematical and statistical calculations. Computers with minitab will be supplied on site by VDA QMC during the training.

QUALIFICATION CERTIFICATE
Successful evaluation of the tests after each module, or for the one-week training after each part of the training (corresponds to the resp. module), as well as passing the written exam on the second coaching day, or for the one-week training on the last day of the second week.

After completing the training with successful tests and after passing the written exam, you will receive a VDA qualification certificate.

FINAL PRESENTATION FOR CERTIFICATION AS VDA DFSS GREEN BELT AUTOMOTIVE
For the certification as VDA DFSS Green Belt automotive, the implementation of a project/subproject from one’s own or from a commissioned organization is necessary. This project is presented in a final presentation; the final project report, which must be handed in beforehand, must have achieved successful evaluation.

After successful final presentation and after passing the oral exam, you will receive a VDA certificate with a registered number and the respective VDA DFSS Green Belt automotive card, and the requisite entry in the VDA QMC database. For the card we need a digital passport photograph in JPEG format in advance.

DURATION
5 modules of 2 days each within 6 months
or
2 blocks of one week each within two months

After Module III and Module V, there is a coaching day, for the one-week trainings a coaching day between the first and second week.

The final presentations for certification and the oral exam take place about two months after the end of the training.

The project status report must be sent to VDA QMC four weeks before the final presentation at least.
The qualification for VDA DFSS Black Belt automotive enables the participants to independently manage their own projects in development. They are supported by DFSS Green Belt(s). They manage the projects themselves or coach the project manager to use methods and tools in a targeted, consistent and coordinated way.

**TARGET AUDIENCE**
Developers, project team members, project managers specialists from development and related areas, as well as from quality management who have completed VDA DFSS Green Belt automotive.

**CONTENTS**
- Fundamentals of VDA DFSS automotive
- Project management
- Identification of customer requirements – QFD
- Determine functional requirements – QFD
- Concept development
- Evaluation and selection of concepts
- Identification of functional connections, parameter diagram
- Risk evaluations FMEA/DRBFM
- Prioritization and definition of critical parameters – QFD
- Analytical methods, measurement system analysis
- DoE (Design of Experiments), fractional factorial, test plans
- Taguchi experimental plans
- Tolerance processes
- TRIZ – theory of inventive problem solving
- Creativity techniques
- Presentation techniques
- Handling conflicts
- Change management basics
PREREQUISITES FOR PARTICIPATION
At least two years professional experience in development or related areas or in automotive quality management with VDA DFSS Green Belt automotive qualification, project proposal from own or commissioned organization

For participants with Six Sigma Black Belt qualification the duration of the training is shortened.

NOTE
The tool minitab is used for the mathematical statistical calculations. Computers with minitab will be provided on-site by VDA QMC during the training.

QUALIFICATION CERTIFICATE
Successful evaluation of the tests after each module, or for the one-week training after each part of the training (corresponds to the resp. module), as well as passing the written exam after Module IV, or for the one-week training on the last day of the second week.

After completing the training with successful tests and after passing the written exam, you will receive a VDA qualification certificate.

FINAL PRESENTATION FOR CERTIFICATION AS VDA DFSS BLACK BELT AUTOMOTIVE
For the certification as VDA DFSS Black Belt automotive, the implementation of a project from one’s own or from a commissioned organization is necessary. This project is presented in a final presentation; the final project report which must be handed in beforehand, must have achieved successful evaluation.

After successful final presentation and after passing the oral exam, you will receive a VDA certificate with a registered number and the respective VDA DFSS Black Belt automotive card, and the requisite entry in the VDA QMC database. For the card we need a digital passport photograph in JPEG format in advance.

DURATION
4 modules of 2 days each within five months
or
2 units of 4 days each within two months

Training venue for all modules, coaching days and exams is Seehotel Zeuthen.

After module II, there is a coaching day, for the one-week trainings a coaching day between the first and second week.

The final presentations for certification and the oral exam take place about two months after the end of the training.

The project status report must be sent to VDA QMC four weeks before the final presentation at least.
Practically every automotive organization depends on the performance of their suppliers. For this reason, frictionless cooperation is in both parties’ interests.

The trainings listed in the following communicate clear, practical knowledge on the important issues of quality management in the automotive supply chain, and with high benefit for the various target groups.

- Maturity Level Assurance for New Parts
- VDA Standard Guideline Component Requirements Specification
- VDA Standard Field Failure Analysis
- Safeguarding of the Robust Production Process

JOINT QUALITY MANAGEMENT IN THE SUPPLY CHAIN
Joint Quality Management in the Supply Chain
Maturity Level Assurance: Project Manager Training

The objective of the standard is the sustainable improvement of start-up, delivery and field quality of all supplier parts, components and systems through process-accompanying assurance of product maturity at the start of production.

This system for maturity level assurance describes a standard concept for cooperation and communication in complex product development projects with many parties involved in the supply chain. To this purpose, it provides a standard set of measured values and criteria with the corresponding methodology. Since planned comprehensive use of the standard in the automotive and supplier industries requires knowledge and competence in different functions of the organization, a correspondingly broad scope and two-day training was designed.

**TARGET AUDIENCE**
Product managers, project managers in product development, project planners, responsible and spokespersons of cross-functional and cross-organizational development teams, persons responsible for components, the supplier’s customer team and project leaders, key account managers.

**CONTENTS**
The training imparts knowledge about maturity level methods (evaluation, contents, control and report systematics) that are necessary for participants in maturity level regulatory processes in the product development process.

Furthermore, the measured values and criteria are worked out in detail in workshop mode. Finally, the contents are applied in practice during a group exercise at an “interdisciplinary round table”.

- Initial situation and history
- Methods and basic principles of maturity level assurance
- Positive and negative examples from organizations
- Typical conflict of interest
- Role of the participants at the round table
- Chances of cooperation
- Group exercises

**PREREQUISITES FOR PARTICIPATION**
Experience from work in development projects for parts/components, basic principles of project management.

**DURATION**
2 days

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**ID 2703: E-Learning**

**DURATION**
Depends on your previous knowledge, speed of learning and number of completed learning units.
A joint standard for maturity level assurance for new parts throughout the supply chain was developed in the VDA QMC by experienced experts from organizations of the automotive and supplier industries.

The objective of the standard is the sustainable improvement of start-up, delivery and field quality of all supplier parts, components and systems through process-accompanying assurance of product maturity for the start of production.

This system for maturity level assurance describes a standard concept for cooperation and communication in complex product development projects with many parties involved in the supply chain. To this end, it provides a standard set of measured values and criteria with the corresponding methodology.

TARGET AUDIENCE
(Prospective) executives and decision makers of the automotive manufacturer and supplier industry.

OBJECTIVES OF THE WORKSHOP
Learn about the advantages of maturity level assurance and recommend them to selected employees.

CONTENTS
The training communicates a rough overview of the maturity level method and the significance of maturity level. Also, it demonstrates the effects on the organization when implementing and using the method.

✚ Method and principles of maturity level assurance
✚ Short outline of maturity level RF0-RF7
✚ Effects on contractual arrangement in the supply chain and on the QM system

PREREQUISITES FOR PARTICIPATION
None

DURATION
½ day

At the end of the course you will receive a VDA certificate of attendance.
Today, automotive manufacturers are more and more involving suppliers in the early phases of vehicle development as system and/or module suppliers in order to profit from their know-how and innovative potential. In the course of this, component requirement specifications are becoming more important.

Today, automotive manufacturers have assumed the role of system integrators and commission suppliers with the development of components and systems. It is then the task of the OEM to specify the requirements for the components sufficiently, to integrate the delivered components and modules into a complete system, and to safeguard the function of the complete system in the vehicle.

The more complex the components in the vehicle become, the more multifaceted the requirements for the components and their descriptions are. The quality of the description of the requirements for a product in the component requirement specification is a fundamental prerequisite for the effective development of safe products and processes. New challenges for OEM’s and suppliers arise against this background.

The goal of the VDA component requirement specification guideline is to obtain the clearest and most complete requirements profile for the product and therefore also its production process through a systematic review of all requirements for a product.
The objective of this training is to provide the participants with an outline of the requirements and possibilities of the standards.

**TARGET AUDIENCE**
This training is for executives, decision makers, customer managers and project managers, as well as for personnel responsible for “field failure analysis” and warranty with automotive manufacturers and suppliers.

**CONTENTS**
- Concept of the field failure analysis process
- Introduction to the core issues:
  - Findings
  - NTF process
  - Planning of the field failure analysis process
  - Measures and CIP
  - Reporting

**PREREQUISITES FOR PARTICIPATION**
None

**DURATION**
1 day

At the end you will receive a VDA certificate of attendance.
The objective of the training is to acquaint the participants with the contents of this standard and to enable them to implement it in their own organization.

**TARGET AUDIENCE**
Employees from design and development, production, warranty, quality assurance and sales in automotive and supplier industry that implement and further develop field failure analysis.

**CONTENTS**
- Sequence of field failure analysis
- Concept and findings
- Inspection plan and problem analysis
- NTF process
- Guideline NTF process
- Measures and CIP
- Sample strategy and logistics
- Data exchange and reporting
- Embedding in one’s own organization
- Group exercises

**PREREQUISITES FOR PARTICIPATION**
None

**NOTE**
The team of instructors usually consists of a representative from automotive and supplier industry respectively.

**DURATION**
2 days

At the end you will receive a VDA certificate of attendance.
Auditor Field Failure Analysis

You will get to know the audit catalog in detail, and will be able to use it to conduct internal and external field failure audits, as well as evaluate the results.

TARGET AUDIENCE
Quality experts, quality representatives, internal auditors, field failure processing staff

CONTENTS
✚ Application of the catalog
✚ Requirements for auditors
✚ Evaluation scheme
✚ Contents of the catalog pertaining to process steps
✚ Planning field failure analysis
✚ Diagnosis (standard and stress test)
✚ NTF process
✚ Problem analysis

PREREQUISITES FOR PARTICIPATION
✚ Participation in training ID 1402 „Module A – General Basics for Process Auditors VDA 6.3“ or qualification as internal auditor or process auditor VDA 6.3
✚ Participation in training ID 2731 VDA Standard „Field Failure Analysis – for Users“

QUALIFICATION CERTIFICATE
After passing the written test you will receive a VDA qualification certificate.

DURATION
1 day
Robust Production Process Assurance

The VDA standard Robust Production Processes focuses in particular on the set of problems that begin with SoP (Start of Production). The objective is to safeguard production processes and implement a Robust Production Process by establishing minimum requirements throughout the supply chain.

By means of a Robust Production Process throughout the supply chain of the OEM’s and suppliers, product quality (fault-free products according to specification, delivery to schedule, optimized delivery quality and therefore improved field quality) is improved and safeguarded so that the competitive ability of German automotive manufacturers can be sustainably strengthened. Economically, this should also entail a considerable reduction of testing, failure and field costs.

The VDA Volume Robust Production Processes provides assistance for:

- How to implement Robust Production Processes?
- How to evaluate or measure Robust Production Processes?
- How to handle influencing variables and faults?
- How to improve existing production processes?

The model is roughly divided into three parts:

- The prerequisites
- A checkpoint before start of production for a status inspection and
- the four control loops: Management control loop, supplier control loop, production control loop, and customer control loop
Robust Production Process Assurance

Continued from page 115

The prerequisites for a “Robust Production Process” must be planned and implemented to an essential degree in the product development process. Therefore, this volume is very closely interlocked with “Maturity Level Assurance”.

As well as fault and supplier management, recommendations for controlling and management are given. For the clear recording and representation of key figures and indicators, cockpits with traffic light display are recommended. Various checklists and supplementary, tested practical examples on the individual topics can be found in the annex.

The training will communicate the described contents of the new VDA standard “Robust Production Processes” to users and enable them to implement and use them. The application of the described methods and checklists will be communicated in group work using practical examples.

TARGET AUDIENCE
Employees from quality assurance, production planners, production managers, purchasers.

PREREQUISITES FOR PARTICIPATION
✚ Basic principles of quality management (ISO/TS 16949)
✚ Employees of the above listed target audiences with knowledge of company-specific production processes
✚ Familiarity with the “Robust Production Processes” volume

OBJECTIVES
✚ Knowledge of the VDA standards
✚ Competence to implement and use the standards

DURATION
Training for users (ID 2801): 1 day
Training for executives (ID 2802): ½ day
THE VDA QMC qualification program offers trainings in cooperation with the Zentralverband der Elektrotechnik- und Elektronikindustrie (ZVEI), Fraunhofer Institut and Beuth Hochschule für Technik Berlin.

QUALIFICATION PROGRAMS IN COOPERATION

+ ZVEI - Zentralverband Elektrotechnik- und Elektronikindustrie e.V.
+ Fraunhofer Institut
+ Beuth Hochschule für Technik Berlin
Robustness Validation:
Up-to-date Test and Approval Procedure
for Electronic Components

Ensuring single-digit ppm ratios is a challenge to all participants in the value chain. The formal test sequences of the past are not very suitable, as they are based on an acceptable quality level in the percent range. For optimum test and approval results we need a knowledge-based “fit for application” instead of the previous “fit for standard”.

Apart from being cost and time-saving, this procedure, called “robustness validation”, pursues a zero-defect strategy. In this context, relative evaluations based on end-of-life tests, limits of function and observation of previous field experiences have turned out to be especially rewarding.

The central point of this application, which can only be formalized to a certain extent, is personal expertise.

“Robustness validation” contrasts the real capabilities of components with their prospective conditions of use. It helps to highlight the physical limits of electronic components, e.g. semiconductor products, under realistic conditions of use and thus forms the basis of a risk management. The knowledge-based qualification approach avoids tests without insightful results and encourages concentrating on relevant risks and error mechanisms.

The results are increased reliability of electronic automotive control systems and reduced warranty costs.
TARGET AUDIENCE
OEM experts and first tier suppliers from quality, supplier relations and development who need to understand and evaluate the results of a robustness validation, developers, quality and design engineers at switch level, semiconductor specialists who need to conduct, apply and implement Robustness Validation

CONTENTS
This training imparts in-depth knowledge about the robustness validation concept and its procedures. Specifically, the requirements and the format of mission profiles, the application of robustness validation - knowledge matrix, design for reliability. To round things off, the documentation of RV reports and the PPAP are looked into, and the interpretation of the results is explained. Discussion of the participants’ practical examples enables direct evaluation of the benefit of this up-to-date approval procedure.

✚ Planning and monitoring of RV projects
✚ Assessment of results and correct application of an RV
✚ Monitor and review RV reporting
✚ Basis of the Robustness Validation concept and its procedures with the example of semiconductor components
✚ Influence of Robustness Validation on component approval
✚ Documentation, planning and monitoring of Robustness Validation projects including interpretation of results
✚ Approval of electronic components after Robustness Validation
✚ Practical examples
✚ Creation of a comprehensive Robustness Validation qualification plan with the example of semiconductor components, translation and creation of a mission profile for the next step of the value-added chain, risk assessment
✚ Feedback of information acquired from the Robustness Validation process for the purpose of product improvement, monitoring plan
✚ Supplier and technology assessment and approval
✚ Integration of Robustness Validation into development process of the semiconductor manufacturer and first tier supplier (e. g. reference to APQP)
✚ Specifications (mission profiles) and quality requirements

PREREQUISITES FOR PARTICIPATION
Basic knowledge about the approval of electronic components

DURATION
2 days
Up-to-date Test and Approval Procedure for Electrical Control Units (ECU) and Electrical Electronic Modules (EEM)

**TARGET AUDIENCE**
OEM experts and first tier suppliers from quality, supplier relations and development who need to understand and evaluate the results of a robustness validation, developers, quality and design engineers at switch and control unit level, who need to conduct, apply and implement Robustness Validation

**CONTENTS**
This training teaches participants to create an application-related specification and to deduce the respective mission profile. Based on these real quality requirements and a risk assessment, meaningful supplier and technology assessments are possible. Product improvements and cost reduction through feedback of acquired information from the RV process are demonstrated. Setting up a monitoring plan to assure the defined quality level rounds off the training.

- Planning and monitoring of Robustness Validation projects
- Assessment of results and correct application of an Robustness Validation
- Monitoring and reviewing RV reporting
- Writing mission profiles: requirements and content
- Knowledge matrix – significance and application
- Creation of a comprehensive qualification plan with the example of a door module
- Introduction and motivation for possibilities and sustainability of intelligent testing, technology-specific tests in start-up and production phase, creation of a testing plan and safeguarding robustness during production phase
- Robust production process and its evaluation – definition of a robust EEM production process, examination of interactions with Component Process Interaction Matrix (CPI Matrix)
- Robustness Indicator Figure (RIF) – significance and necessity of a robustness measure, interpretation and application of a RIF diagram
- Practical examples

**PREREQUISITES FOR PARTICIPATION**
Basic knowledge about the approval of electronic components

**DURATION**
2 days
I. STANDARDIZED CLEANLINESS INSPECTION
Technical cleanliness of components and assembly groups is an important functional characteristic in the manufacture of modern vehicles.

VDA Volume 19 “Inspection of Technical Cleanliness – Particulate Contamination of Functionally Relevant Automotive Components” is the first comprehensive standard publication to deal with the approach and procedures to characterize cleanliness of products in the automotive quality chain. This volume was officially introduced by the VDA QMC in January 2005.

OBJECTIVE
This training enables the participant to independently design cleanliness analyses according to VDA 19, conduct them with up-to-date equipment and document them in the required manner. Furthermore, the background to the technical necessity of cleanliness inspections and cleanly behavior is explained.

The compatibility between VDA 19 and ISO 16232 (Part1-10) „Road vehicles – Cleanliness of components of fluid circuits“ also enables participants to conduct cleanliness analyses according to the international standard.

TARGET AUDIENCE
This training aims to qualify automotive, supplier or service personnel who conduct cleanliness inspections. The imparted knowledge and the related practical skills also constitute valuable tools for anyone confronted with the quality factor technical cleanliness in their daily work, such as construction, quality assurance, technical purchasing and sales personnel. Due to the similar cleanliness requirements in the sectors aerospace, hydraulics and precision engineering, this training is also suitable for personnel from these backgrounds.
CONTENT OF 1-DAY TRAINING

Theoretical basis
✚ Background on quality factor technical cleanliness in automotive construction
✚ Extraction procedures for particle contaminations in components
✚ Analytical procedures for the evaluation and quantification of practical contaminations
✚ Cleanliness inspection according to VDA volume 19 – abatement measurements, blind values, routine inspections
✚ Examples for cleanliness inspections

NUMBER OF PARTICIPANTS
The number of participants is limited to eight.

QUALIFICATION CERTIFICATE
After completing the training you will receive a certificate of attendance from the Fraunhofer Institut.

EXAMINATION DAY: (OPTIONAL)

Practical part
The practical part consists of a case example the participants have to work out and present individually, and of practical exercises in a cleanliness lab:
✚ Establishing an inspection procedure to determine technical cleanliness, in conformity with regulations
✚ Cleanly behavior, determination of blind values
✚ Conducting various extraction procedures (spray, rinse, shake, ultrasound) in the cleanliness lab
✚ Selection and handling of analytical filters
✚ Conducting various analyses (gravimetrical, microscopical)
✚ Evaluation and documentation von cleanliness analyses and their results

Theoretical part
Written exam (multiple choice) with 30 questions

QUALIFICATION CERTIFICATE
After completing the 1-day training and successfully passing the exam The Fraunhofer Institut and the VDA QMC will issue you with a certificate and a card which shows you as “Inspector for Technical Cleanliness”.

Dates and prices as well as applications under:
www.technische-sauberkeit.de
In order to ensure the technical functioning of modern vehicles, the cleanliness of the assembled systems and fluid circuits is of increasing importance. Recent experience has shown that in order to ensure cleanliness quality the cleanliness of the individual parts is stringently required but not sufficient on its own.

After cleaning the individual parts, many influencing variables and processes can cause re-contamination of parts or assembly groups with functionally critical particles. The identification and assessment of this interference with cleanliness quality and the selection of efficient and cost-effective prevention and counteraction constitutes a considerable challenge entailing great responsibility.

The VDA Volume 19.2 Technical cleanliness in assembly - Environment, Logistics, Personnel and Assembly Equipment, edited by VDA QMC in 2010, is the first comprehensive guideline for the structured planning and optimization of cleanliness-oriented assembly and the related areas.

**OBJECTIVE**
The training qualifies the participant to determine and evaluate action to prevent re-contamination, based on the cleanliness specification of parts and systems. Based on the structure of the guideline, this training divides the extensive cleanliness planning and optimization process into compact and manageable individual parts. The separate but overarching treatment of the influences of environment, logistics, personnel and assembly equipment as well as methods for measuring cleanliness influences enables the participant to address technical cleanliness in assembly independently and systematically, and also to identify untargeted or excessive cleanliness action and thus to avoid misinvestment.

**TARGET AUDIENCE**
This training aims to qualify automotive or supplier personnel dealing with planning and optimizing production as to technical cleanliness, especially assembly planners and process owners of existing assemblies, logistics experts or facility managers. Furthermore, it is aimed at constructors and developers, quality representatives or others who deal with the issue of technical cleanliness in the customer-supplier relationship. Due to the similar issues in cleanliness this training is also suitable for the aerospace, hydraulics and precision engineering sectors.
CONTENTS OF THE 1-DAY TRAINING

Theoretical basics
✚ Methodology and approach for improving technical cleanliness of products
✚ Design of the manufacturing environment and personnel activities
✚ Logistics: Packaging, transport, storage and double door concepts from the viewpoint of cleanliness
✚ Cleanliness-oriented assembly equipment: Workplaces and facilities, joining processes, assembly strategies
✚ Techniques and procedures for measuring cleanliness influences

NUMBER OF PARTICIPANTS
The number of participants is limited to twelve.

QUALIFICATION CERTIFICATE
At the end you will receive a certificate of attendance from the Fraunhofer Institut.

EXAMINATION DAY (OPTIONAL)

Practical part
The practical part is divided into a planning exercise, which is completed and presented independently by the participants, as well as practical exercises in the technical department of the Fraunhofer Institut:
✚ Differences between clean room classifications
✚ Cleanliness-appropriate behaviour and suitable work clothing
✚ Evaluation and selection of different packaging variants
✚ Design of locks and doors
✚ Optimization and evaluation of assembly processes, workplaces and facilities
✚ Measurement of particles from the environment, in facilities or in processes

Theoretical part
Written Exam (multiple choice) with 30 questions

QUALIFICATION CERTIFICATE
After completing the 1-day training and passing the exam, you will receive a certificate as well as a „Planner for Technical Cleanliness“ card from VDA QMC and Fraunhofer Institut.
For more than 25 years now, the correspondence institute of the Beuth Hochschule für Technik Berlin has offered scientific and professional further education. Professional experts and executives have the opportunity to achieve further education or a master’s degree in an extra-occupational correspondence or online course, making them independent of time and place in their studies.

The focus is on interdisciplinary technical qualification. Close cooperation with relevant industry sectors guarantees practical relevance, and together with the college departments, up-to-date knowledge is imparted on a high level.

For many years now, Beuth Hochschule für Technik Berlin has been providing a correspondence course on quality management methods, focusing on the structure, maintenance and optimization of the quality management system as well as the improvement of the level of quality and including cost aspects.

Supplemental training for the correspondence course „Quality Management Representative“ of Beuth Hochschule für Technik Berlin:

VDA Quality Manager and Internal Auditor

GENERAL
Based on the professional further education for quality manager by Beuth Hochschule für Technik Berlin, you will increase your knowledge of automotive procedures and receive qualification as VDA Quality Manager and Internal Auditor.

OBJECTIVE
In this course, you will learn typical procedures and methods in automotive industry, as well as the QM system requirements according to the automotive standard ISO/TS 16949.

TARGET AUDIENCE
Graduates of the course “Quality Management Representative“ of the Beuth Hochschule für Technik Berlin.

ADMISSION REQUIREMENT:
Completion of the 1-semester correspondence course “Quality Management Representative“ of the Beuth Hochschule für Technik Berlin or individual case assessment.
CONTENTS
✚ Automotive-specific requirements for quality management
✚ Process and customer focus
✚ ISO/TS 16949-specific requirements
✚ Quality assurance of supplies
  ✚ Production process and product approval (PPF)
  ✚ Process/product maturity levels
  ✚ Robust production processes
  ✚ Systematic problem solving methods

EXAMINATION DAY FOR VDA QUALITY MANAGER AND INTERNAL AUDITOR
After passing the written and oral tests you will receive a VDA certificate with registered numbering as well as a corresponding auditor card and database entry.

DURATION
Training: 3 days
Exam: 1 day

At the end you will receive a certificate of attendance.
Of course, we would like to provide you with additional information about our trainings.

In the following, you can find out about our publications, some of our VDA instructors and all about registration formalities.

- List of publications
- Acknowledgements and publication information
- Terms of registration and payment
- Registration form
## List of Publications

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For current prices and editions, please go to our web shop [www.vda-qmc.de](http://www.vda-qmc.de)
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VDA QMC would like to thank the following organizations for their longstanding support in our strategy group:

Thank you

Publishing information

Verband der Automobilindustrie e.V. (VDA)
Qualitäts-Management-Center (QMC)
Behrenstraße 35, 10117 Berlin
Concept / Design: freiwerk B, Berlin
Photographs: Joachim Wagner, Berlin
Terms of registration and payment
(valid until the end of 2013)

GENERAL DETAILS
Please only use our registration forms and fill these out completely and legibly. We need your correct information to issue the VDA QMC certificates and if applicable a digital photo for the auditor card.

For some trainings there are special prerequisites concerning professional qualifications and experience. If required prerequisites are not fulfilled, the VDA QMC reserves the right to decline the registration to a training.

You can direct your application to us in three different ways:
✚ Fax us the registration form at:
  +49 30 897842-605
✚ Book our trainings online: on our homepage at www.vda-qmc.de you will find our training offer that leads you to the online booking.
✚ Send your registration via e-mail: seminare@vda-qmc.de or by post to:
  VDA QMC – Aus- und Weiterbildung
  Behrenstraße 35
  D-10117 Berlin

TERMS OF PAYMENT
The following terms of payment apply independent of the method of payment:

immediately after receipt of your registration you will receive a confirmation of receipt from us. Normally the invoice will be sent to you directly after the event and is due without deduction.

CANCELATION/REBOOKING
Please send us your cancellations/rebookings in writing by post or fax (for address and fax number see above). The following fee table applies for cancellations of all events:

6 weeks before the start of the event: free
From 4 to 6 weeks before the start of the event: 25% of the fee
From 2 to 4 weeks before the start of the event: 50% of the fee
Less than 2 weeks before the start of the event: 100% of the fee

The cancellation fees naturally do not apply when a replacement participant is provided.

With multiple part events the first event day of the first event block is always considered for the calculation of the cancellation fee, irrespective of the cancelled event part.

Literature for training preparation that has already been delivered will be invoiced at the regular sales price if you do not participate in the seminar and if this literature is not sent back to us in new condition at the latest on the day of the cancellation.

CANCELATION OF THE EVENT
If an event is fully booked or cannot take place due to an act of God (e.g. the instructor falls ill on short notice) we will inform you immediately. If the number of registered participants is too low, we reserve the right to cancel the event up to seven days before it begins. In either case we will try to offer you a new event date.
# Registration form

VDA QMC events

Trainings, examination preparation days and qualification - not 3rd Party exams according to ISO/TS 16949 and VDA 6.x !

## Dates of event

<table>
<thead>
<tr>
<th>Title of event:</th>
<th>Event number: ID</th>
<th>Date:</th>
<th>Venue:</th>
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</table>

## Participant data

Private address

- Mrs/ Ms
- Mr
- Date of birth:

- Last name:
- First name:
- Street:
- Postal code:
- City:
- Phone:
- E-mail:

Invoice to

- Company address
- Private address
- Other

## Company data

Company address

- Company name:
- Street:
- P.O. Box:
- Postal code:
- City:
- Country:
- Department:
- Contact person:
- Phone:
- Mobile phone:
- Fax:
- E-mail:

Address for invoice – neither private nor company address

- Supplier number:
- Company:
- Street:
- P.O. Box:
- Postal code:
- City:
- Country:
- Orderer:
- Department:
- Order no./job no.:

Place/date: __________________________ Signature: __________________________

With your signature you accept the registration and payment terms as well as the examination terms of VDA QMC. We would like to point out that all personal data is only used for internal VDA QMC purposes and will not be passed on to third parties.

Please print in a legible hand and send via fax to: +49 30 897842-605