VDA QMC: Quality Management Center of the German Automotive Industry Association – Driving Excellence in the Automotive Supply Chain

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Abstract

The automobile was born in Germany – and this equally refers to the passenger car, the truck, and the bus. And it is here that it is being reinvented over and over again, with passion and with the art of engineering. This constant invention includes annual billions euros spent on R&D, resulting in a lot of patents each year. In the "Land of Ideas", it is the automotive sector that employs the most engineers. Making mobility even safer, more efficient, more comfortable, and better for the environment. The mobility requirements of the future are as varied as people themselves. Major trends include urbanization, rising mobility in the rapidly growing market economies, further increases in the flow of goods, networking between modes of transport, and new types of utilization – plus the need to make mobility sustainable. The quality heads of German OEMs and suppliers who constituted the Quality Management Commission (QMA) and the Quality Management Center (QMC) at the German Automotive Industry Association (VDA) delegated the best experts to develop quality methods from benchmark practice. Today has the VDA more than 600 corporate members, manufacturers and suppliers. The VDA Quality Management Center is a profit and loss reporting cost center within the VDA.

Key words

Automotive Industry; VDA, VDA QMC; quality standards, quality methods

Introduction

The history of the VDA started 1901, when the Association of German-Motor-Vehicle Entrepreneurs was founded. The current name VDA was decided in 1946. The VDA combines the strengths of the automotive industry and consolidates the manufacturers of passenger cars, trucks, vans and buses, the suppliers of parts and accessories, as well as the makers of trailers and bodies. We in the VDA unite the strengths of the industry and lend it a powerful voice, so that together we can meet the mobility requirements of tomorrow. This high degree of networking reflects the strength of the German automotive industry – a model that sets the standard for other automotive nations. Decisive contributions to changes were initiated by the quality heads of German OEMs and suppliers who constituted the Quality Management Commission (QMA) and the Quality Management Center (QMC) at the German Automotive Industry Association (VDA). The QMA delegated the best experts to develop quality methods from benchmark practice. This presentation is giving some high lights on the

success factors with which the QMA and QMC contributed to the sustainable success and excellent performance of the German automotive OEMs and their suppliers.

figure 1 VDA QMC Berlin

The VDA has today more than 600 corporate members, manufacturers and suppliers. They are organized in three Business Divisions. The VDA Quality Management Center belongs to the Business Division A. The Quality Management Center is a profit and loss reporting cost center within the VDA.

The oversight and steering committee of the Quality Management Center is the **Quality Management Council (QMA)**. The members of the Quality Management Council are the executive quality leaders of manufacturers and automotive suppliers, as well as the managing director of the Quality Management Center and one managing director of the VDA business divisions. The Quality Management Council is the driving force for the development and further development of quality standards **and** for the quality policy in the German automotive industry.

The role of the Quality management Council is

1. To define the **Quality Management Strategy** with the approval of the VDA Board
2. To decide **strategic projects** and control their implementation
3. To **define the quality methods** and initiate their further development.

The **Quality Management Center** is the **administrative department of the VDA** that implements the decision of the Quality Management Council. Further there is a Strategic Quality Management Circle which is an automotive group of senior experts that is consulting and supporting the Quality Management Council in strategic topics.

International license partners are authorized to train VDA QMC methods with VDA QMC copy right protected material and to distribute the VDA books in the national language. Among these license partners is also the Slovak Society for Quality.

The executive members of the Quality Management Council sharpened their vision of quality management in the automotive industry in the 1990's when automotive quality management systems were developed and implemented in order to ease homologation requirements but also to assure product quality for the rapidly increasing complexity of automotive systems.

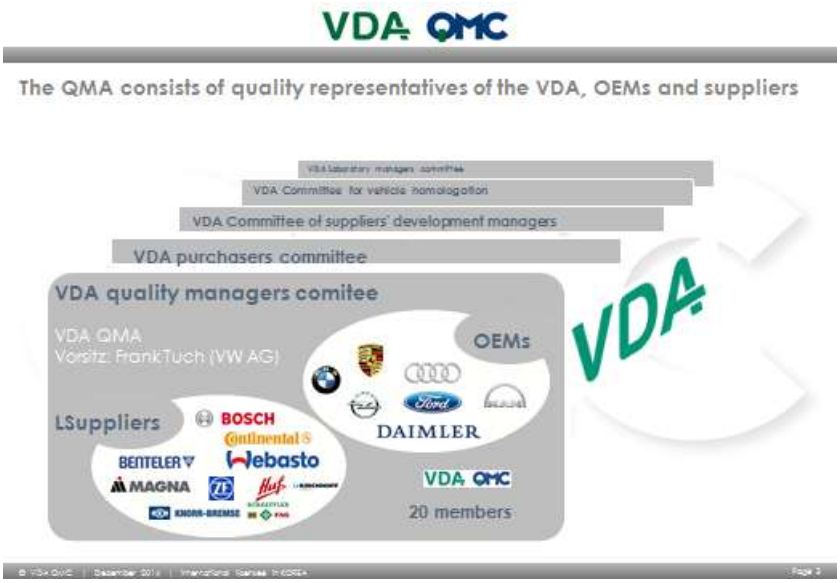

figure 2 Representatives of the VDA, OEMs and suppliers

In the year 1988 a work group of the Quality Management Council developed the **first automotive Quality Management System standard**, the VDA 6.1, which was **published in 1991**, based on the ISO 9001:1987 and ISO 9004:1990. The AIAG QS-9000, French EAQF and Italian AVSQ **followed** 1994 with their first edition. Just to mention: the first VDA standard of the "red book" series, the VDA 1, a **Guideline for the Documentation and Archiving of Quality Requirements and Quality Records** was published already in **1973**. In the early 1990's the automotive world of German premium manufacturers was changing – from a seller's-market to a buyer's market. International competition became stronger. 1990 the book "**The Machine That Changed the World**" by Womack, Jones, Roos of the **Massachusetts Institute of Technology** was published. This automotive study revealed that the USA and European automakers produced with considerably more cost and less quality than the Japanese competitors. There arose even the fear that the German automotive industry could be taken over by Asian competitors like the watch industry or the consumer electronics. Projects for cost savings and lean production systems were introduced to strengthen quality and competitiveness.

In the view of the quality leaders of German manufacturers and suppliers the **development and implementation of quality standards needed a more effective organization**. For this purpose the **Quality Management Center** of the VDA **was founded in 1997**. The first managing director, Mr. Jürgen Schulz focused on the marketing of the VDA quality methods and the organization of the automotive projects and work groups. In the year 2000 even the Idea **of an automotive excellence approach** based on the EFQM model was born.

Since 1997 the International Automotive Task Force has developed the ISO/TS 16949. The VDA published the German version, contracted ISO/TS 16949 certification bodies and trained their certification auditors. The VDA ISO/TS 16949 oversight office is worldwide responsible for the oversight of their contracted certification bodies with respect to **adhering to the "rules for achieving IATF recognition"**. In addition to auditing the quality management system the automotive experts of the VDA developed in 1998 the VDA 6.3 standard to audit manufacturing processes and service processes and the VDA 6.5 standard to audit products. The German IATF delegation introduced these audit methods as requirements in the ISO/TS 16949. During the last years a lot of other important VDA standards were designed or renewed. The VDA-QMC organized the trainings and examinations concerning to this standards. E.g. the new version of the VDA 6.3 was published in 2010. Since this presentation worldwide more than 9500 certified quality auditors were trained by VDA-QMC. Since 2014 also the VDA Standard not only offered as printed paper, we started with selling E-Books with the online VDA-QMC webshop.

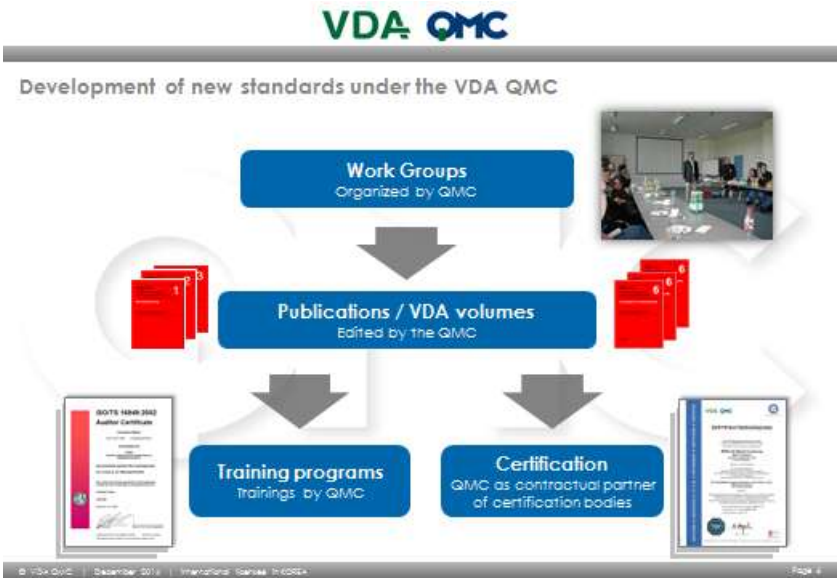

figure 3 Development of new standards under the VDA QMC

The VDA-QMC has own offices in Germany, China (founded 2005) and Russia (founded 2008) with nearly worldwide partners and trainers. Most VDA standards are also published in different translations.

The VDA QMA contributed to this success with **state of the art best practice methods**. Some examples for the **role as trendsetter for world class quality methods** of the recent years are:

- **The VDA book Maturity level assurance for new parts** – the first automotive standard which stringently applies multi project management for new parts in the supply chain based on the so called "round table decisions". And in contrast to the traditional **APQP** method, the criteria of each milestone include not only supplier tasks but also OEM tasks and a **common evaluation of achievement**, both by suppliers and their OEM customers.

- **The VDA book robust production process**, which lines out standard processes for lean production systems. This standard is linked to the VDA book Maturity level assurance for new parts in order to **implement standards for robust production processes throughout the supply chain**.

- **The VDA 6.3 Process Audit**, is a **unique approach for a detailed strengths and weakness analysis** of production processes in the product creation and series phase. This new approach was designed especially for the process validation before SOP and proved a major success factor for improving manufacturing processes and all supporting processes.

- **The VDA book Field Failure Analysis** – this standard puts the focus on measures for planning appropriate analysis methods **for potential field failures already in the product creation phase**. Fast and effective failure elimination, providing no recurrence was the objective with the **focus on the so called "no trouble found" errors** where at the dealer or at the supplier the product behaves normal even though functions failed at the customer.

- **The VDA book 2 edition 2012**, a new approach for production part and process approval, also known as **PPAP**, that acknowledges that the major success factor for production part and process approval is the **planning of this process** and the implementation of a **P – D – C – A loop for control and monitoring** the approval **progress, also called "maturity"** until the final approval of the new or changed parts and manufacturing processes.

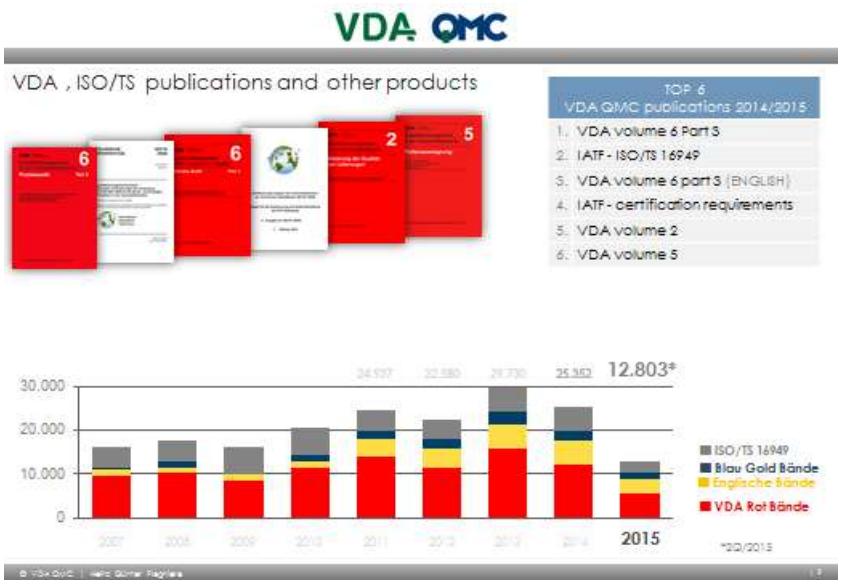

figure 4 VDA QMC publication and products

All these processes have a **common process design and are linked to each other.** They enable manufacturers and suppliers to communicate, plan and act effectively in the product creation up to the service phase.

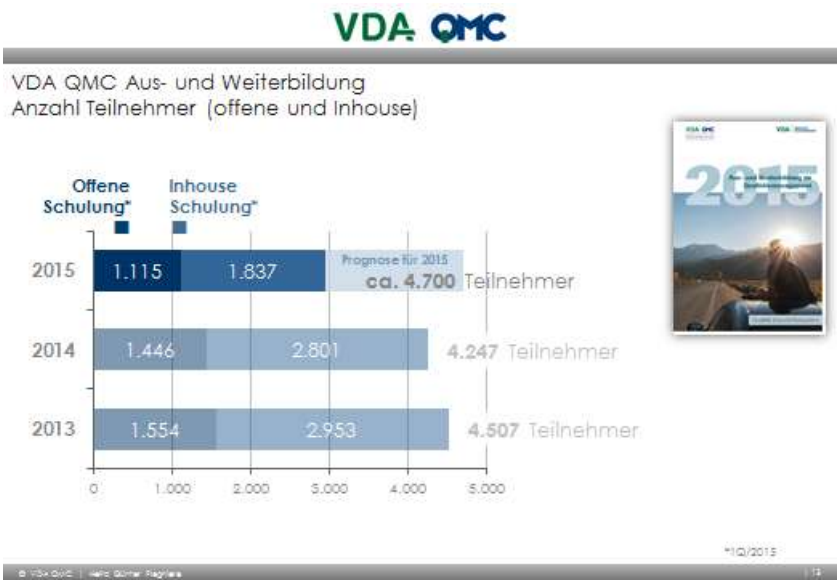

figure 5 VDA QMC trainings and amount of participation

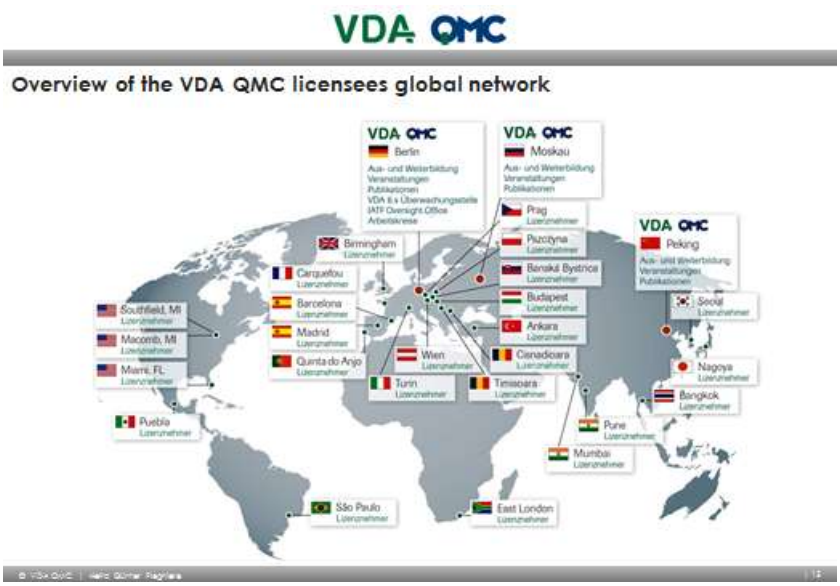

figure 6 VDA QMC licensees global network

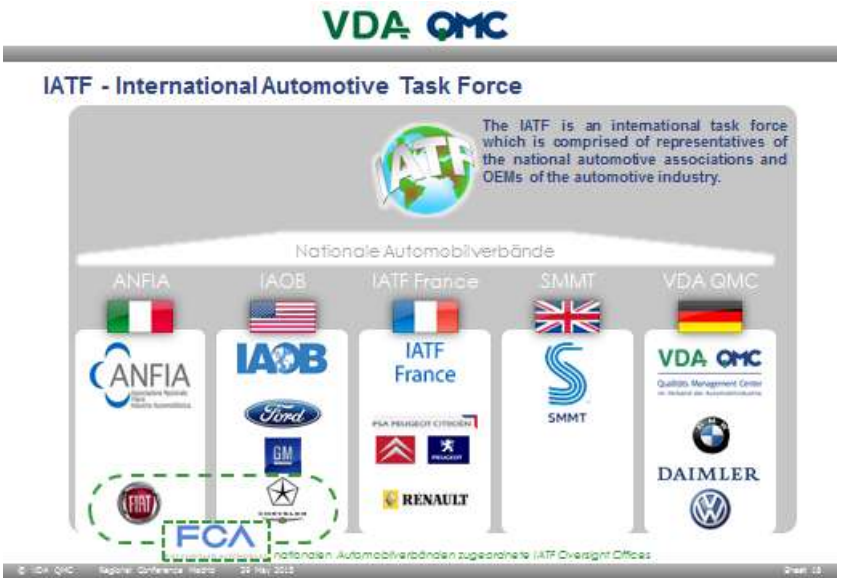

figure 7 IATF and VDA QMC, overside offices

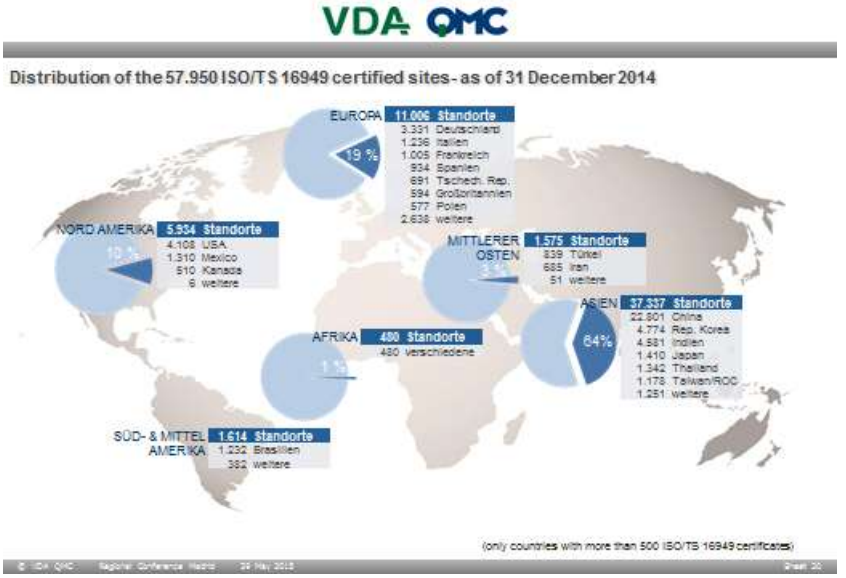

figure 8 ISO/TS 16949 certification sites - 31 Dec 2014

figure 9 VDA QMC – Events

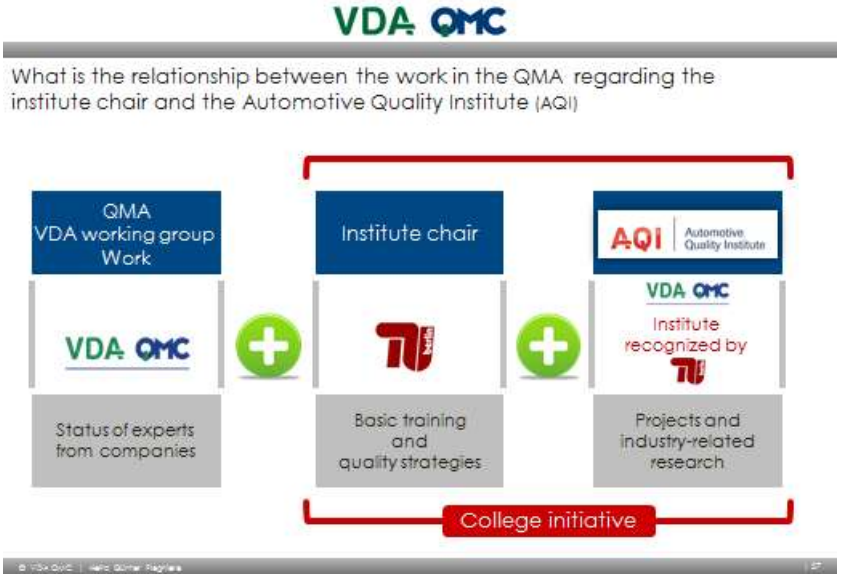

figure 10 VDA QMC - University Institute chair and Institute in Berlin

References

- Information, figures: VDA QMC Verband der Automobilindustrie e.V., Berlin
- Text partly written by Mr. Robert Frank, Bonn, e-mail: QED@rfrank.de