



## ISO/TS 16949

### QUALITY SYSTEM - AUTOMOTIVE SUPPLIERS - PARTICULAR REQUIREMENTS FOR THE APPLICATION OF ISO 9001:1994

#### **A new challenge. A new opportunity.**

The needs of quality systems in the automotive industry are constantly and rapidly developing. Just as automotive suppliers are coming to terms with the Third Edition of QS 9000, along comes a new document titled ISO/TS 16949 - Quality Systems Automotive Suppliers - Particular Requirements for the Application of ISO 9001:1994. This document raises a number of questions for those people working in this industry, such as, what exactly is this document? How will it affect a quality professional's responsibilities for the quality management system (QMS) of an automotive supplier? Also, is there an urgency? Do we have time to understand this new arrival, or do we have to drop everything straight away?

#### **What is ISO/TS 16949?**

In 1999, a new technical specification was published called ISO/TS 16949. It is an ISO Technical Specification, which was developed by the International Automotive Task Force (IATF) incorporating the requirements of the French automotive standard **EAQF**, the German standard, **VDA 6.1**, the Italian standard **AVSQ**, and our current automotive standard **QS-9000**. The new standard is for automotive suppliers who need a single quality system that is recognized by the international automobile manufacturers. It is recommended by Ford, GM and Daimler Chrysler as the next step in the certification process.

#### **Who are the authors of ISO/TS 16949?**

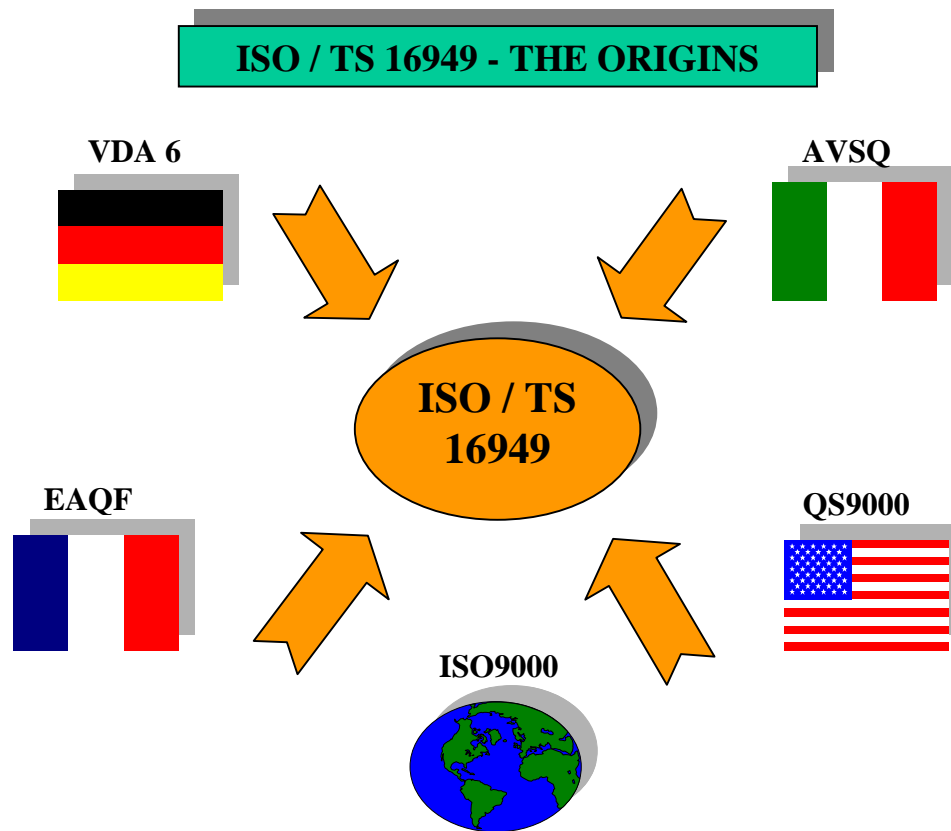
ISO/TS 16949 has been developed by the International Automotive Task Force (IATF) in collaboration with the ISO Technical Committee 176. The IATF is an international group of vehicle manufacturers that consists of Ford, GM, Daimler Chrysler, as well as various automotive trade associations such as AIAG (America), VDA/QMC (Germany), SMMT (UK), ANFIA (Italy), CCFA and FIEV (France).

#### **Will ISO/TS 16949 be accepted and replace the current automotive standards such as QS-9000 and VDA 6.1.**

Work has already begun to restructure ISO/TS 16949 to ISO 9001:2000, with publication expected early in 2002 and this can easily be seen in the focus on continual improvement and customer satisfaction that occurs within the standard. Therefore, although ISO/TS 16949 does not yet replace existing individual automotive standards, it is set to become the Quality System Requirement for the automotive supply chain globally. Indeed it is accepted by most of the leading vehicle manufacturers such as Ford, General Motors, Daimler Chrysler, BMW, Fiat, PSA Peugeot-Citroen, Renault SA and Volkswagen.

#### **What are the benefits of ISO/TS 16949?**

Clients that provide automotive products to international markets will have the option of maintaining one quality system registration to meet multiple customer quality requirements. This will simplify the quality system and avoid multiple audits. ISO/TS 16949 has also been designed to improve product and process quality while increasing efficiency and reducing variation. Will there become a single alternative that is universally recognised as the definitive statement on quality management? That threshold is one which the industry is not just about to cross, but is already crossing, with the emergence of the new ISO/TS 16949.



*Figure 1. The new TS16949 standard incorporates the requirements of the French EAQF, the Italian AVSQ, the German VDA 6.1 and the American QS9000.*

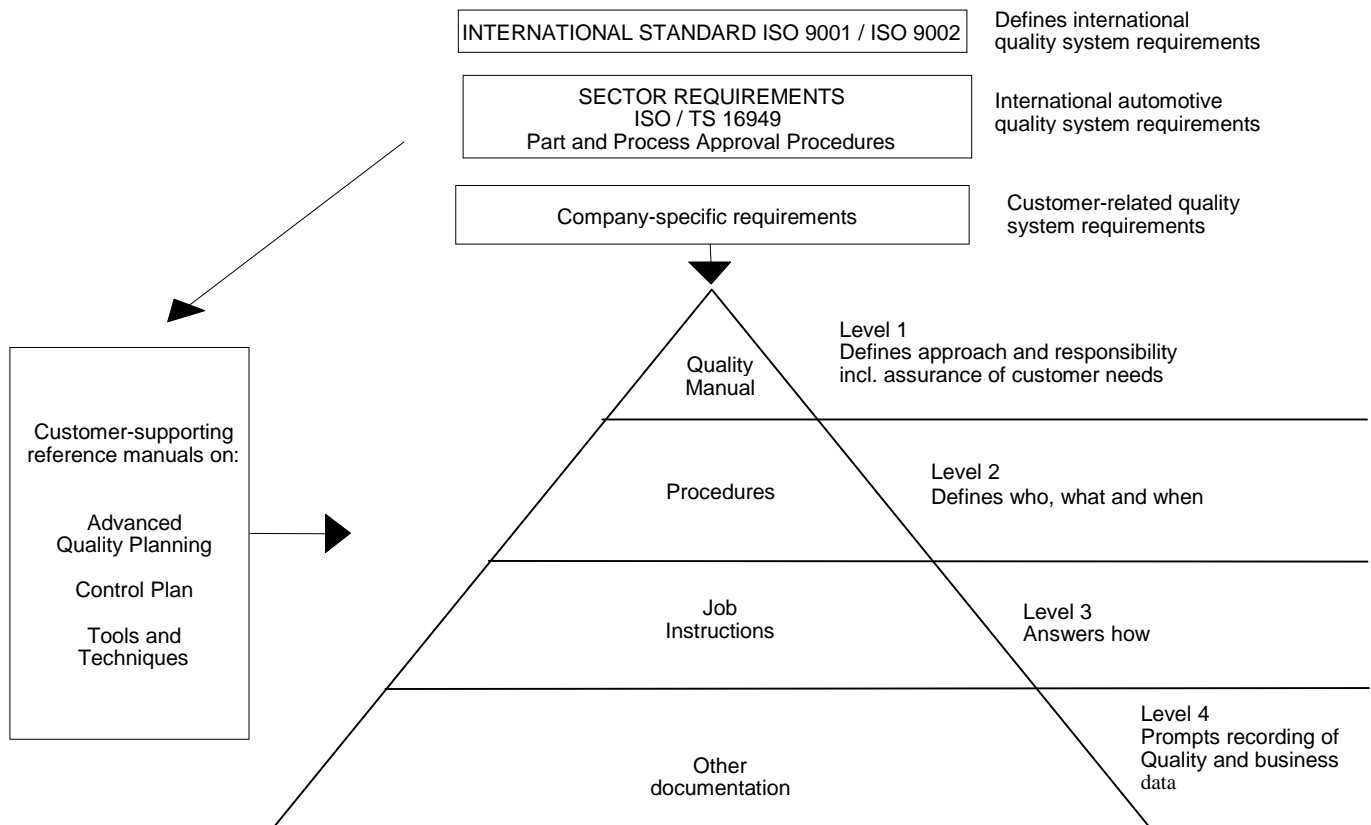
**So, what’s different?**

The first thing is that ISO/TS16949 combines the requirements of ISO9000 – 1994 with those from the individual vehicle manufacturers standards previously mentioned, thus making it very demanding, but at the same time securing its almost universal acceptance since it covers all their requirements. All the ISO 9000 requirements are covered, and a lot more besides. Instead of concentrating on compliance to procedures and ensuring systems to correct problems that have occurred, ISO/TS 16949 focuses upon the effectiveness and efficiency of processes, a proactive rather than reactive approach to problem resolution and the use of company data to drive continual improvement. This is similar to the revised focus within the new ISO 9001:2000 standard and reflects the new approach to quality systems.

Considerable emphasis is also placed upon Management Responsibility. This section now includes requirements that look at the way in which, and how often, customer satisfaction (including internal customers) is determined, validated and documented. Also now included are continuous improvement tools and techniques, such as control charts (variables, attributes, CUSUM), design of experiments, theory of constraints, overall equipment effectiveness, parts per million analysis to achieve zero defects, value analysis, benchmarking, analysis of motion / ergonomics and mistake proofing. The standard also covers the impact created on society by minimising risks to customers, employees and the environment and the way in which company data at all levels is used, including how it measures and demonstrates progress to overall business objectives. Elsewhere, as would be expected, the standard places great emphasis upon the requirements of individual customers. A total quality approach is encouraged by the demand for multidisciplinary approaches to product realisation, problem prevention and solution.

Another important enhancement over previous standards is the requirement to evaluate known or suspect problems against products of similar design and implement appropriate corrective actions.

The development and use of a structured system and the control of its documentation to ensure all relevant information is available whenever and where ever it is needed in the process is paramount. Thus a typical ISO/TS 16949 system would be constructed as follows:



**Figure 2** Typical structure of an ISO/TS 16949 system

Whilst being similar to the traditional pyramid we have come to know and love for so long, the above model has significant customer additions that focus on the planning, approval, control and development of product and processes throughout their life cycles. Quality management planning, processes for production part approval, control plans, plant and facility layout, the identification and control of special characteristics, and mistake proofing figure prominently in the new standard.

As with any quality system, audit provides one of the key measures of performance and conformance and here also there are important additional requirements. System, process and product audits are all compulsory along with the use of specific checklists and the adjustment of audit frequency dependant upon internal and external non-conformity and customer complaint. Specific customer requirements with regards to auditor qualifications must be followed with the objective of a higher auditor skill level ensuring a more efficient implementation of the management system.



## **What are the advantages of conformance to ISO/TS 16949?**

The obvious one is the retention of existing, and securing of new business. Gone are the days when orders continue to roll in because that is what has always happened in the past and ISO 9000, even in its 2000 guise, is being increasingly seen as the “entry level” minimum requirement for automotive quality management. Demands are increasingly towards independently verifiable proof of capability against stringent requirements that are becoming more and more customer specific, with demonstrable evidence to prove effective introduction being readily available. The economy of scale that is evident by conformance to one rather than multiple standards is obvious, particularly if it is one that can drive true efficiency and productivity improvements. And of course now is the opportunity to demonstrate commitment by becoming amongst the first to gain certification.

This is not going to go away, indeed the standard itself requires that companies gaining certification, in turn develop their suppliers to ISO/TS 16949, so be prepared for it to be driven down throughout the supply chain. This means that wherever you are in the supply chain for the automotive industry, sooner or later you will have to work towards this standard.

Clearly, things will not stop here and like any standard, ISO/TS 16949 will itself evolve. Already, work is underway to align it against the process based ISO 9000 – 2000 that also looks at business excellence models such as those from the EFQM (European Foundation for Quality Management) or the American Malcolm Baldrige Award. Moreover, in a world becoming more environmentally conscious, exacting demands around those aspects can also be envisaged, and indeed beyond the 2000 version, the next re-write of ISO 9000 is expected to include joint quality and environmental management system requirements.

Now is the time to understand and implement the new specification. In the UK, the Society of Motor Manufacturers and Traders (SMMT) has been appointed by the IATF to manage the launch and maintenance of the registration scheme for ISO/TS16949. It is also responsible for the qualification of certification bodies and certification body auditors, against very stringent requirements laid down by the IATF.

So don't get left behind. QMT can help you conform to this sector-leading standard by offering a complete range of training and support services designed to help you understand ISO/TS 16949. To put its requirements into practice, courses can be run in-house tailored to meet company's specific needs. These include the interpretation of the standard for your business through to systems design and development. QMT can also assist with on going systems maintenance, implementation, or support during internal and external audits and all aspects of training.

For more information contact QM&T on 01483 453511 or visit our Website; [www.qmt.co.uk](http://www.qmt.co.uk)