ISO/TS16949:2002
The Automotive Quality Management Business System

Background

ISO/TS 16949:2002 is an ISO Technical Specification. The International Automotive Task Force (IATF), which consists of an international group of vehicle manufacturers, plus national trade associations, wrote ISO/TS 16949:2002 in conjunction with the International Organization for Standardization (ISO). This specification aligns existing American (QS-9000), German (VDA6.1), French (EAQF) and Italian (AVSQ) automotive quality systems standards within the global automotive industry.

Together with ISO 9001:2000, ISO/TS 16949:2002 specifies the quality system requirements for the design/development; production, installation and servicing of automotive related products. In addition, there are customer specific requirements that are required by individual subscribing vehicle manufacturers.

ISO/TS 16949:2002 does not replace the existing quality system requirements. However, along with customer specific requirements, ISO/TS 16949:2002 has been accepted as an equivalent to QS-9000, VDA6.1, AVSQ, and EAQF. It does not replace QS-9000; it is an optional document. ISO/TS 16949:2002 will eliminate the need for multiple certifications. Most automotive customers have published customer specific supplements to ISO/TS 16949:2002, which are a binding extension of the specification and are subject to audits.

**Daimler Chrysler has required all product and service part suppliers to obtain registration to the ISO/TS 16949:2002 Standard by July 1st 2004.**

**Please visit the IAOB website at** [www.iaob.org](http://www.iaob.org) **for the latest customer specific requirements.**

**GM / Ford** require registration. Accepted as optional to QS-9000 up to December 14, 2006. **Registration to ISO/TS16949:2002 by December 14, 2006.**
Development of ISO/TS 16949:2002

In the USA, Ford, General Motors and Chrysler developed QS-9000, which harmonized their quality system requirements for their suppliers into one document. QS-9000, based upon the International Standard ISO9001: 1994, is supported by a series of support manuals, focusing on the key automotive tools, namely Measurement System Analysis (MSA), Failure Mode and Effects Analysis (FMEA), Advanced Product Quality Planning (APQP), and Statistical Process Control (SPC). In France, Germany and Italy similar quality system requirement documents EAQF, VDA6.1, AVSQ were developed.

This led to automotive suppliers servicing multiple vehicle manufacturers and still having to comply with differing Quality System Requirements, all with the same intent of improving product quality.


Organizational Benefits of ISO/TS 16949:2002

- One quality system to meet multiple customer quality requirements
- Documented operational and quality system
- Ability for increased business
- Improved utilization of time and materials
- Improved efficiency and profitability
- Increased customer satisfaction
- Quality improvement and timely delivery
- Improved control of quality and processes
- Improved performance from suppliers
- Responsibilities of personnel clearly defined
- Documented system provides useful reference
- Lower reject rates, rework, and warranty costs
ISO/TS16949: 2002 focuses on the effective linkages between the company's business plan, quality policy, quality objectives and measures, planning on how objectives can be achieved, and deploying objectives throughout the organization.

Some of the key additional requirements include the need for:

- Top management involvement including establishing and implementing a business plan, including linkages to clearly defined measurable quality objectives.
- Clear definition of responsibilities, including shift activities and authority to stop production to correct quality problems.
- Top management review of the performance of the quality system, including reporting and evaluation of the cost of poor quality.
- Human Resource management including processes for defining competence requirements, providing training (including on the job training for employed and temporary and agency personnel), and verifying effectiveness of actions taken.
- A process to achieve quality objectives and continual improvement, creating an environment to promote innovation.
- A process to measure the extent to which personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.
- Focus on product and process design.
- Use of automotive core tools (Statistical Process Control (SPC), Failure Mode Effect Analysis (FMEA), Measurement System Analysis (MSA).
- Controlling production processes by use of control plans including provision of adequate work instructions.
- Ensuring effective control of internal and external laboratories.
- A process for measurement of customer perception and satisfaction.
- Undertaking effective system, process and product audits.
- Effective analysis of data to drive continual improvement.
- Evidence of continual improvement through the organization and manufacturing process improvement.
Major Steps to Implementation

There is no single blueprint for implementing ISO/TS16949:2002. Your organization should approach implementation as a project. A detailed project plan will need to be developed defining the necessary steps for achieving a successful system. This will include top management involvement, cross-functional teamwork, and ownership at all levels.

If ISO/TS16949:2002 is a completely new subject and you lack the knowledge, expertise, time and objectivity, you should consider hiring a Management System Consultant to assist you with your implementation. We can take on the project leader role, especially if you have a specific deadline to meet for implementation. An experienced consultant will have a structured process approach that will save your company time, money, and effort.

The key objectives to implementation include:

1. Approach implementation as a project.
2. Consider use of a consultant. [www.sustainingedge.com](http://www.sustainingedge.com)
3. Acquire and read the ISO/TS16949: 2002 Standard. Copies can be purchased through the American Society for Quality at [www.asq.org](http://www.asq.org)
4. When you read the SO/TS16949: 2002 Standard, read the process approach described in the introduction section. It describes what is a process and how your organization must identify and manage the interactions of your quality management system.
5. Develop an implementation team.
6. We can conduct Management Systems Training.
7. **Implement a quality system that meets ISO/TS16949: 2002 requirements.**
   a. Perform a Gap Analysis of your current system against the ISO/TS16949: 2002 standard requirements. This helps you to determine where your processes are, and where they need to be.

8. **Write and develop documentation:**

    **Four Levels of Documentation**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>Quality Manual, Quality Policy, and Quality Objectives</td>
<td>Defines scope and application, responsibility and authority; references procedures in accordance with ISO/TS 16949:2002. States the overall commitment to quality and goals, which measure the effectiveness of the quality system relative to the quality policy.</td>
</tr>
<tr>
<td>QMS Procedures</td>
<td>Describes specific responsibilities, tasks, associated documents and records.</td>
</tr>
<tr>
<td>Work Instructions</td>
<td>Define specific task information</td>
</tr>
<tr>
<td>Forms and Records</td>
<td>Documents used to record information and referenced in procedures, as appropriate. These may be electronic or hard copy. Evidence of the quality system requirements.</td>
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8. **Time Frame to Implementation**

The time it will take for your company to conform to the requirements of ISO/TS16949:2002 depends on a number of factors such as complexity of the system, size of the organization, resources, a sound implementation process approach, and commitment and involvement of top management. It is very important to consider all these issues when you are in the planning phase. The implementation plan can take up to six months in order to have sufficient time to plan the system and execute. This will include defining the interactions of your system, documenting, collecting, and defining the necessary data systems, required records, and verifying your system is working properly.

Registrars usually want to see up to three months of the system in operation before conducting a third party audit. The operating period will also include a complete internal audit of your system and a management review.
9. **Select a Registrar**

Registrars administer ISO TS 16949:2002 registration. Registrars are accredited, independent third party organizations that review the organizations quality manual and other pertinent documentation to ensure that it meets the standard requirements. A registrar’s function is to verify whether an organizations quality system has been properly implemented and conforms to ISO/TS 16949:2002 and any other applicable requirements. This includes auditing processes to verify the system described in the documentation is in place and operating effectively. A universal phrase of this system is “say what you do, do what you say.” Once registration is achieved, the registrar conducts regular surveillance audits of the facility to determine if the system continues to meet the standards requirements.

*If you would like more information or assistance with ISO/TS 16949:2002, please contact us today.*

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