
VALUE ADD OF SUCCESSFUL IATF 16949 IMPLEMENTATION



INTERNATIONAL AUTOMOTIVE TASK FORCE

Executive Summary

This paper demonstrates that the value added by IATF 16949 certification is significantly greater for the automotive sector than that provided by ISO 9001 certification.

IATF 16949 has 16 areas of automotive-focused requirements over that of ISO 9001, ensuring alignment with the automotive customer needs, and an enhanced, closely managed certification scheme, deploying highly qualified and experienced auditors.

Automotive OEM data shows that 90% of manufacturing companies certified to IATF 16949 maintain customer satisfaction while only 73% of manufacturing companies certified to ISO 9001 maintain customer satisfaction.



Background

Superior product quality and delivery are main drivers to achieve customer satisfaction. High customer satisfaction with products and services are required by automotive OEMs and their suppliers to survive and grow in the highly competitive global automotive market.

Return on Investment (ROI) is a key financial indicator of any new investment or application of resources and is also an important measure in achievement of customer satisfaction.

An effective Quality Management System (QMS) must be designed and implemented to meet the customer's product quality and delivery requirements and to address current issues, prevent future problems, and drive continuous improvement.

The successful implementation of a certified QMS according to IATF 16949 - the state-of-the-art QMS standard in the automotive supply chain - is key to deliver that ROI.

However, it's not enough to simply believe in the certainty of value add when comparing ROI projections. This brochure provides you with the facts and data that objectively demonstrate the value of the effective implementation of a QMS that is based on IATF 16949.





Areas of Value Add Demonstrated by Successful Implementation of IATF 16949

Manufacturing companies that effectively implement a QMS certified to IATF 16949 can objectively demonstrate added value in a number of areas for all stakeholders involved. These include:

- Operational and strategic areas
 - » The balance between cost of good quality vs. the cost of poor quality
- Automotive specific requirements and processes
 - » Automotive specific QMS requirements aligned to the customer needs
- Enhanced Certification Scheme for Automotive
 - » Auditing and certification rules designed to maximize the benefit of the IATF 16949 certification scheme
- Product performance comparisons
 - » Customer satisfaction measures for IATF-certified manufacturing companies compared with those for ISO 9001-certified manufacturing companies



Operational and Strategic Areas

Quality Management Systems are designed to ensure product and process compliance with the customer's requirements.

IATF 16949-certified manufacturing companies achieve product quality and delivery through capable and effective processes that focus on productivity and customer satisfaction, leading to greater profitability overall.

Effective leadership is at the heart of every successful manufacturing company. IATF 16949 requires Top Management engagement in the manufacturing company's Quality Management System: from business continuity, through the development and deployment of a strategic approach to quality to the management review process.

IATF 16949 requires a data-driven approach to the Quality Management System using performance indicators to understand how processes are performing. This data-driven monitoring and improvement process is the customer satisfaction feedback loop of IATF 16949 Quality Management Systems, leading to enhanced customer satisfaction and continual improvement.



Cost of Conformance / Good Quality	Prevention Costs	<ul style="list-style-type: none"> Consistent quality improvement activities Management of suppliers and supply chain Prevention of recurrence of issues Industry methods: APQP/MLA, PPAP, Control Plans, FMEA, etc.
	Appraisal Costs	<ul style="list-style-type: none"> Inspection of production steps Built in Quality, Quality Gates Calibration, gauging & control
Cost of Non-Conformance / Poor Quality	Internal Failure Costs	<ul style="list-style-type: none"> Scrap Downtime, lost capacity Not meeting product specifications Rework and repair
	External Failure Costs	<ul style="list-style-type: none"> Processing customer complaints Warranty claims Dealer and field fixes Lost revenue

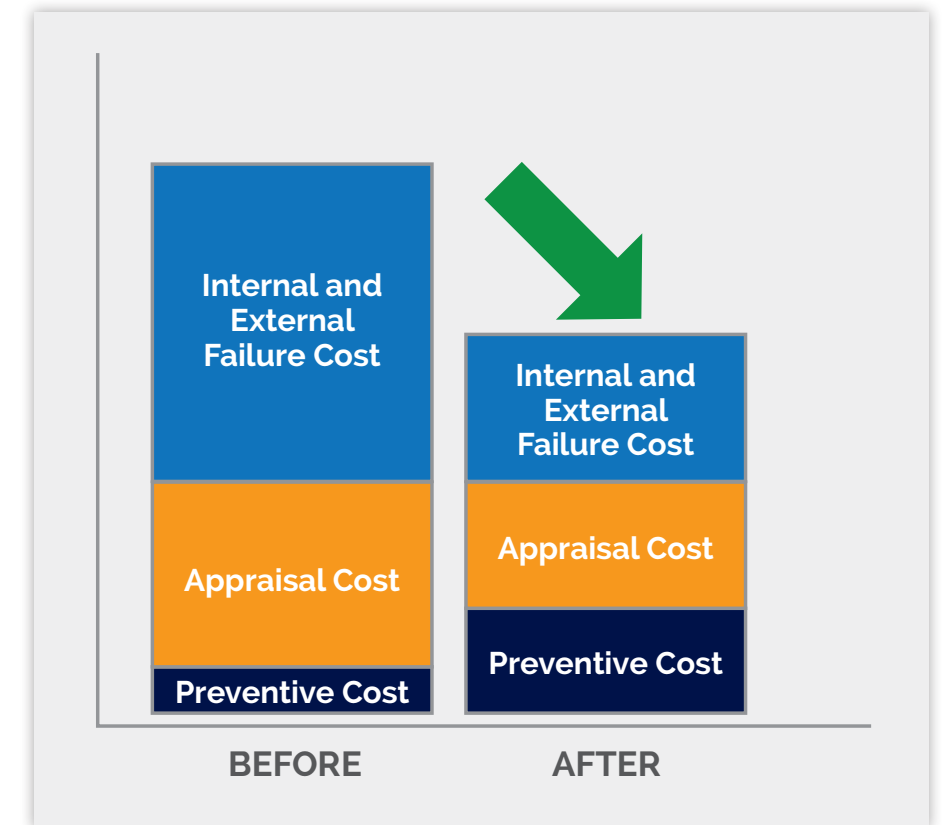
Typical automotive factors in cost of good quality and cost of poor quality

The graphic demonstrates the interaction and balance between cost of good quality vs. cost of poor quality.

While good quality is not "free", it tends to pay for itself through end results and improved customer satisfaction and potential for increased business. These are the principles embedded in IATF 16949.

Focusing on prevention costs (cost of good quality) can make more resources available for company and product reinvestment.

The balance between cost of poor quality and cost of good quality can lead to an optimized level where 0% defective product is achievable.



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Automotive Specific Requirements and Processes

Quality Management Systems can be both incredibly broad and incredibly narrow in their focus. Some are generic, like ISO 9001, which can be applied to any sector. These broad management systems are built upon years of lessons learned and because they are recognized by many government agencies, they are relatively easy to implement into the majority of business structures.

IATF 16949 is a private standard, controlled and managed by the IATF themselves. Underpinned by ISO 9001, IATF 16949 adds automotive industry specific requirements

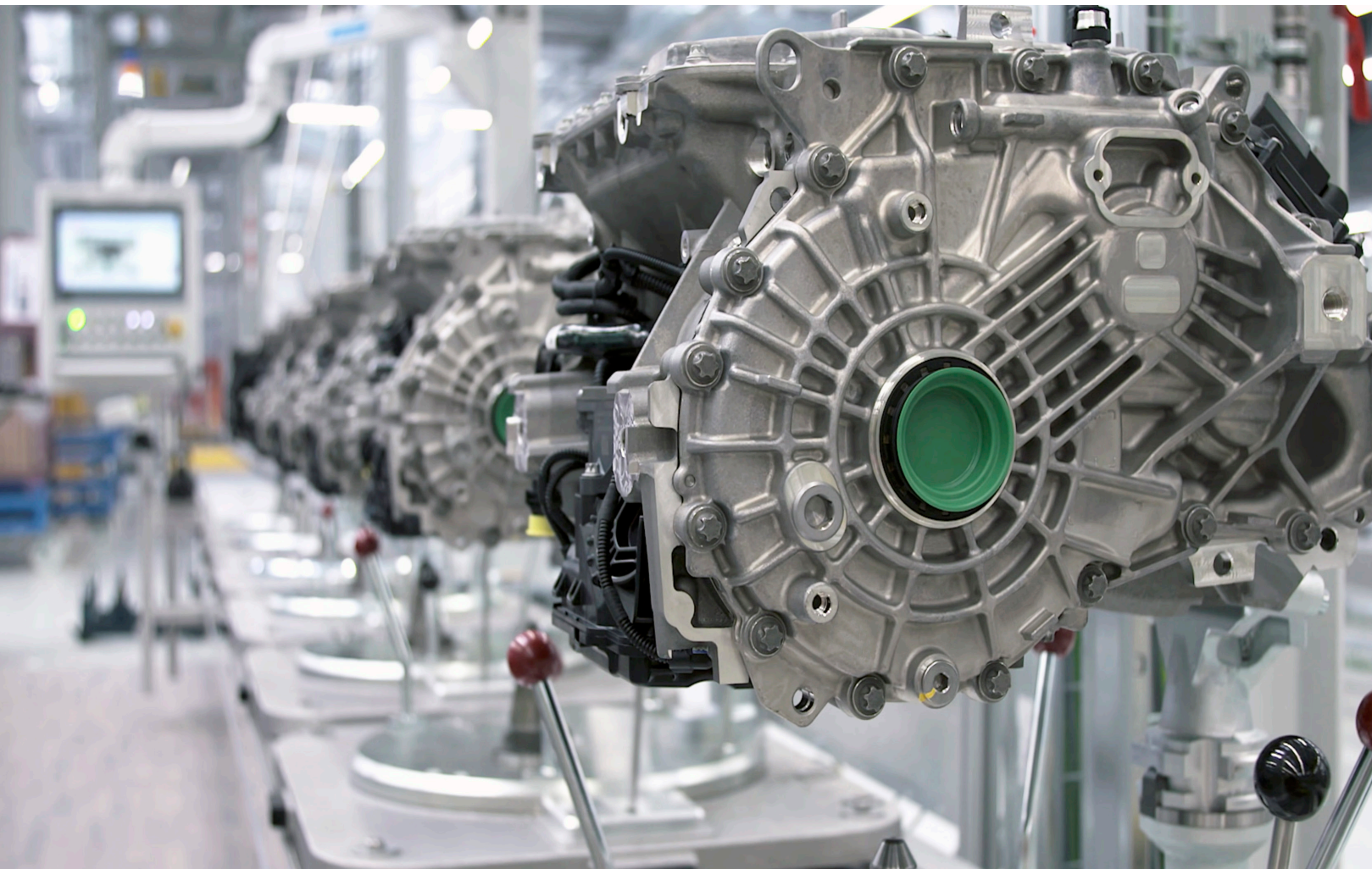
building on the ISO 9001 foundation. It is through these automotive specific requirements, developed by some of the world's largest and most influential automotive companies, that we can say the voice of the customer is well and truly integrated into the requirements of the international standard they have developed.

The automotive requirements within IATF 16949 are specific and applicable to all manufacturing companies designing, manufacturing, and providing automotive products.

IATF 16949 includes 16 areas of automotive-focused Quality Management System requirements that provide value-adding concepts and methods which are state of the art in the automotive industry. The verification of their effective implementation is the purpose of IATF 16949 certification audits conducted by IATF-contracted certification bodies (CBs).

- **Customer Specific Requirements (CSR)** – Enhanced customer satisfaction by inclusion of customer specific automotive requirements aligned to each customer's processes and needs.
- **Product Safety** – The automotive industry is a highly regulated industry with a strong emphasis on product safety, supported by a coherent set of regulatory and industry-driven safety requirements.
- **Risk Analysis** – Specific mandated tools for analyzing and planning actions for minimizing and preventing risk (e.g., FMEA).
- **Plant, Facility, and Equipment Planning** – Specific mandated methods for facilities and equipment planning.
- **Measurement Traceability** – Focus on measurement traceability, including specific automotive requirements for optimizing measurement equipment, its usage, and calibration.
- **Competence** – Specific skills are needed in the automotive sector to make product and meet customer requirements.

- **Control of Documented Information** – The automotive industry requires specific documentation for instructions, records, etc., that generic standards cannot include.
- **Organization Manufacturing Feasibility** – Automotive is complex and high volume, requiring specific approaches to ensure manufacturing capabilities beyond those of generic process validations.
- **Design and Development** – The design approach used in the automotive industry often varies in detail from OEM to OEM, but these requirements define the common elements that all automotive manufacturing companies must complete.
- **Supplier Management** – Component suppliers provide more manufacturing value than in many other industries, specific automotive processes are required to ensure quality and delivery throughout the supply chain.
- **Production Control** – Enhanced controls on manufacturing processes, including mandated methods (e.g., Control Plans).
- **Product Approval** – Thorough and precise product and manufacturing process approval process for all automotive products.
- **Monitoring, Measurement, Analysis, and Evaluation** – Automotive statistical methods to ensure products meet specifications throughout the production process.
- **Internal Audit and Management Review** – Specific approaches are needed to ensure that the complex automotive requirements are met.
- **Corrective Action** – Specific methods are used for implementation of permanent corrective actions following a structured approach to problem solving, preventing recurrence.
- **Continual Improvement** – A strong focus on improvement at every opportunity throughout the manufacturing company's entire Quality Management System.





Enhanced Certification Scheme for Automotive

The relevant ISO accreditation standard for certification bodies (CBs) providing audit and certification of multiple types of management systems, (i.e., ISO 17021-1), is not specific to any industry sector, including automotive.

That is why the IATF established automotive sector-specific and strict certification scheme requirements for IATF-contracted certification bodies to achieve and maintain IATF recognition, including requirements relating to CB's processes to manage the following areas:

- Impartiality, competence of personnel involved in certification, auditor qualification, systemic problem solving, complaints, continuous improvement, internal audits, certification contracts, contract review, audit cycle timing, audit day calculation, planning and conducting of audits, certification decisions, certificate issuance, decertification and certification records.

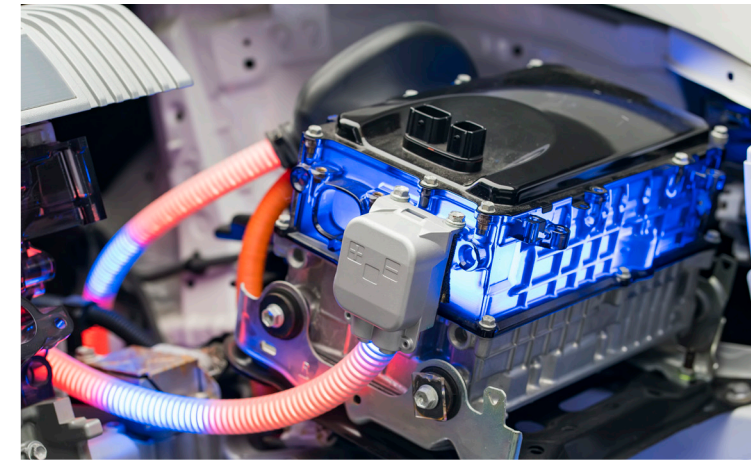
The IATF has established five IATF Oversight offices to effectively monitor the global compliance of the IATF-contracted certification bodies and their auditors to these requirements.

Such ongoing monitoring activities include frequent witness audits and office assessments world-wide.

IATF has full control over the rigorous initial and ongoing qualification process for the IATF certification auditors and the maintenance of their credentials. All IATF 3rd party auditors have extensive experience in the automotive industry, are highly qualified and are trained to focus on the automotive process approach to drive improvement in the manufacturing company's QMS.

The IATF certification scheme is being continuously improved based on the outputs from monitoring activities, stakeholder feedback, and opportunities for improvement identified by the IATF members supported by regular benchmarking against other sector certification schemes.





Performance Comparisons

The IATF 16949 Quality Management System is designed to provide methods and approaches to consistently achieve customer satisfaction with their products. IATF-certified automotive manufacturing companies are demonstrated to meet customer requirements at a higher rate than those certified to ISO-9001. We reviewed the OEM-measured performance of 10,800 manufacturing companies for 3 IATF member OEMs, of which about 1,500 were certified to ISO 9001. Almost 8,400 IATF-certified manufacturing companies met requirements, while approximately 1,100 of the manufacturing companies certified to ISO 9001 met performance requirements, leading to the summary table below.

PERFORMANCE INDICATORS

Percentage of IATF-certified manufacturing companies meeting quality performance targets	90%
Percentage of ISO 9001-certified manufacturing companies meeting quality performance targets	73%





Conclusion

IATF certification of a manufacturing company in the automotive sector adds value to operational and strategic areas, to Quality Management Systems, through certification scheme oversight, and to customer satisfaction, when compared to that provided by ISO 9001 certification.

Competitive advantage can take many forms, even the implementation of a comprehensive Quality Management System can provide a competitive advantage. IATF certification is not just a certificate on the wall. If successfully implemented, IATF certification can provide that competitive advantage through:

- Ensuring appropriate focus and resource allocation on prevention measures over corrective actions
- Aligning a manufacturing company's Quality Management System to customer requirements in 16 automotive areas
- Validating effective implementation of IATF 16949 through a closely managed audit process of an enhanced Certification Scheme for Automotive, and
- Enabling more certified manufacturing companies to meet customer requirements





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