

SMMT IF ISO/TS16949: 2002 NEWSLETTER



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Welcome to this edition of the SMMT *Industry Forum (IF) ISO/TS16949: 2002* newsletter. This regular publication is aimed to keep readers up to date with developments with ISO/TS16949 and SMMT IF services. Feel free to distribute to other interested parties. Any comments and suggestions for future editions would be welcomed, send to paul.hardiman@industryforum.co.uk

5 DAY SMMT CORE TOOL CERTIFICATION COURSE

We recently delivered the five day Core Tool Certification Course, in association with the North West Automotive Alliance (NWAA), to 12 delegates from a range of different organisations in the automotive supply chain in the North West.

The feedback from the course was excellent, including the following comments:

"Gained a full understanding of the APQP process rather than the individual elements"

"Gained a better insight into what APQP is about and how the core tools are linked"

"Learnt importance of cross functional teams in core tools activities"

THE PROCESS APPROACH TO AUDITING ISO14001

Many organisations registered to ISO/TS16949 also hold a registration to ISO14001. Whereas TS audits undertaken were utilising the "process approach", audit programmes for ISO14001 are based on a compliance approach, with audit schedules being clause rather than process based. SMMT IF has developed a two-day ISO14001 course focused on the process approach to auditing.

This was run at Delphi, Liverpool, in association with the North West Automotive Alliance (NWAA) and the live audits done on the second day of the training identified improvement opportunities that were being missed by a purely compliance approach.

ISO/TS16949 TRAINING FOR PROCESS OWNERS/AUDITEES

Historically training has focused in many organisations on training internal auditors in the process approach to auditing, focusing on process effectiveness and efficiency. However the success of an internal audit system very much depends on the attitude and knowledge of the auditee/process owner.

In February we delivered a two-day course primarily for auditees, with an aim to up skill delegates in the real meaning of the process approach and what an auditor will be looking for in a process based audit.

Feedback comments included:

"Gained valuable knowledge that hopefully can be put into practice in my work area"

"Much greater understanding of process"

"Course was good quality and full of new information"

"I feel happier with addressing an audit to ISO/TS16949 standard and now understand the requirements"

"Easy to understand and well presented course"

"The course gave me a greater understanding on what auditors are looking for"

SMMT INDUSTRY FORUM TRAINING

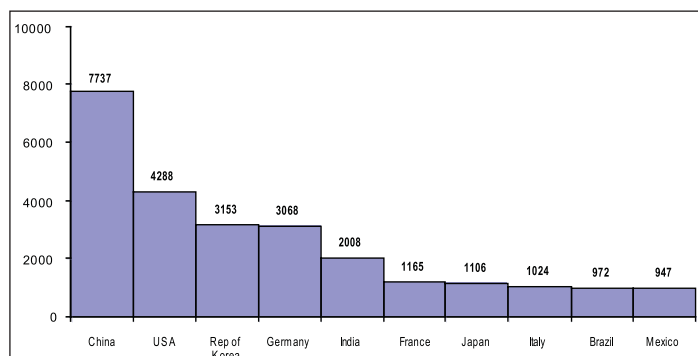
Full details of all our training courses can be found at www.industryforum.co.uk

All open courses can be booked directly on the website. In-house courses can be booked via Jenna Porch at Jenna.porch@industryforum.co.uk

GROWTH IN REGISTRATIONS TO ISO/TS16949

At the end of 2007 35,200 organisations had achieved certification to ISO/TS16949: 2002

The graph below shows the certificate distribution for the top 10 countries. The UK remains 12th with 701 certifications.



INTERNAL COMMUNICATION

One problem many organisations face is to communicate to employees the principles of ISO/TS16949 and what are some of the key requirements. SMMT IF has developed a simple communication leaflet that can be tailored to meet a specific organisations needs.

If you would like a copy to distribute throughout your organisation contact jenna.porch@industryforum.co.uk

SUMMARY OF MAIN ISSUES FOUND IN RECENT ISO/TS16949 AUDITS

SMMT IF facilitates a number of TS network groups where like minded organisations come together to discuss issues related to ISO/TS16949. Each participating organisation provides us a copy of their external audit findings.

Some of the common areas of concern are:

Section 4: Record retention

- Record retention policies not taking into account customer specific and regulatory requirements

Section 5: Management review

- Management reviews not addressing all the requirements defined in the ISO/TS16949 requirement 5.6 Management Review
- Actions from management review not closed in a timely manner

Many organisations have addressed this by redefining their management review process. Rather than having an annual review, they have moved to a structured programme of monthly reviews, where a plan shows, that in addition to standard agenda items, certain requirements defined in 5.6 are covered periodically.

Section 6: Training and training effectiveness

- No evidence of competence achieved for temporary and agency personnel
- No evidence of identification of competence requirement to perform each job/task
- No evidence of evaluation of training effectiveness
- No evidence of training in any modified job

Whereas organisations in their engineering change process considered whether FMEA, control plan and work instructions need updating as a result of a change, many do not consider whether the proposed change triggers a training need, (this will depend on the nature of the change) and if so, how evidence of this training will be provided.

Section 7: Supplier development, Process control/control plan adherence, calibration

- No evidence of supplier development towards the goal of supplier compliance with ISO/TS16949
- Control plans not reflecting actual practice, or specified checks not being undertaken consistently
- Calibration records not available for all equipment (including employee and customer owned)
- MSA studies not available for each type of equipment

Section 8: Corrective action/problem solving

- Corrective actions not closed off in a timely manner
- Lack of effective problem solving leading to identification of root cause

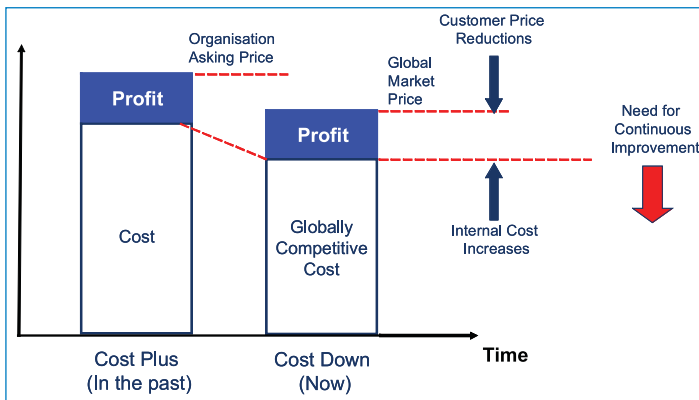
If you would like access to the full database of findings contact paul.hardiman@industryforum.co.uk

LINK BETWEEN ISO/TS16949 AND LEAN MANUFACTURING PRINCIPLES

The goal of ISO/TS16949 is

“The development of a quality management system that provides for continual improvement, emphasizing defect prevention and the reduction in variation and waste in the supply chain”

For an organisation to survive in an ever competitive automotive supply chain, it is essential costs are reduced to ensure ongoing profitability is maintained



To do this an organisation needs to focus on continuous improvement activities to reduce waste and hence costs. It would seem then that it makes sense that the personnel responsible for management of a quality system have a strong link to those involved with organisations lean manufacturing activities.

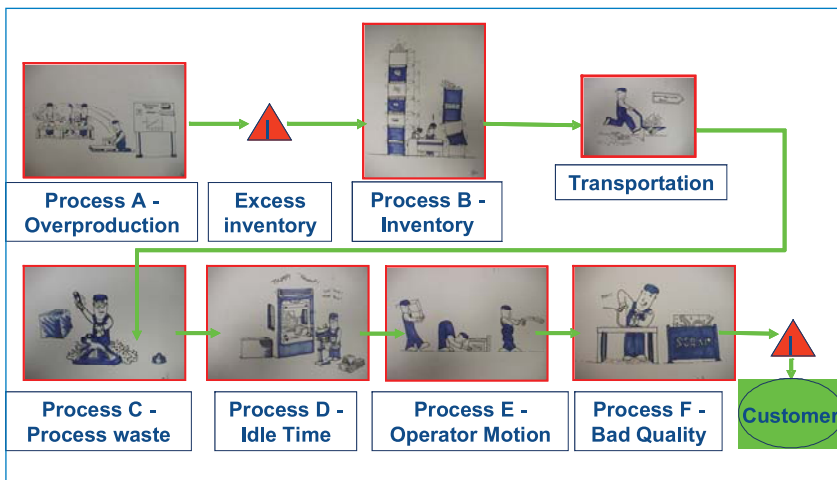
This article studies the links between the ISO/TS16949 and the SMMT IF approach to reducing waste through lean manufacturing.

How can waste be categorised?

SMMT IF categorises waste into 7 types:

- Overproduction
- Inventory
- Transportation
- Process
- Idle Time
- Operator Motion
- Bad Quality

OVER PRODUCTION: Producing more than the customer requires at that point in time



This causes **inventory**, which in turn can cause problems including:

- Requires storage space and equipment. (Rent, power.)
- Requires handling and transport to and from storage. (People and equipment.)
- Potential safety issues and damage during handling and transport
- Stock taking costs
- Costs associated with protecting product from deterioration and stock rotation.
- Slow moving stock ties up money and space required for high turnover stock

ISO/TS16949 7.5.1.6 states *“Production shall be scheduled to meet customer requirements, such as just in time supported by an information system that permits access to production information at key stages of the process and is order driven”*

Over production can be caused by:

- Producing in batch sizes larger than customer order
- Producing ahead of schedule
- Keeping resource utilised

- High inventory levels are at risk of becoming obsolete and slows the response to change in customer demand

An organisation should focus on removing the causes of over production and inventory, which may include

- Implementation of KanBan system where product only produced when minimum specified quantity reached or down line process returns empty bin
- Reviewing batch sizes
- Improving production scheduling system
- Balancing resource levels

ISO/TS16949 requires that improvement targets are set and communicated to reduce the cost of poor quality.

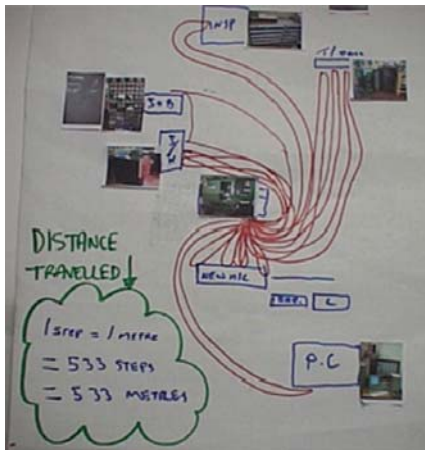
If your organisation wants any more information related to reducing waste, contact Jenna.porch@industryforum.co.uk and she will put you in contact with a qualified SMMT IF engineer who can contact you to discuss your specific needs

TRANSPORTATION: Excessive or unnecessary moving or handling of products, information or equipment.

ISO/TS16949, 6.3.1 states *“Plant layouts shall optimize material travel, handling and value-added use of floor space, and shall facilitate synchronous material flow. Methods shall be developed and implemented to evaluate and monitor the effectiveness of existing operations”*.

Transportation waste can be caused by:

- Excessive inventory
- Poor layout
- Inappropriate positions for materials or information
- Double handling
- Transport moving empty



By reviewing each process and mapping movements (example “string diagram”) opportunities to remove transportation waste can be identified.

PROCESS WASTE: Unnecessary or complicated processes. Too many steps in process

ISO/TS16949: 2002 4.1c states *“determine criteria and methods needed that ensure both the operation and control of these processes are effective”*

In addition 6.2.2.4 states: *“The organization shall have a process to motivate employees to achieve quality objectives, to make continual improvements”*

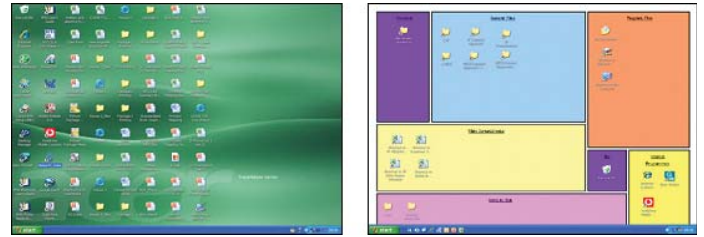
Process waste can be eliminated by getting employee involvement in reviewing each process and asking the question “what changes can I propose to the process to take out non-value added activity?”



In the example below there is the opportunity to modify the process to deduce the distance traveled between the drill and the part. While this may only reduce seconds from the operation, when this is added up over a day, this can give additional time to manufacture more parts if there is demand, or to undertake cleaning or TPM activities.

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Process waste can also be removed from non-production processes. How much time do we lose looking for



information and files on a computer!

By taking time to organise screen or file layout, this can save valuable time that can be directed to value added activities

IDLE TIME: Employee or equipment inactivity during process cycle time.

In addition to the ISO/TS16949 requirement 6.3.1 outlined above, ISO/TS16949 5.1.1 states: *“Top management shall review the product realization processes and the support processes to assure their effectiveness and efficiency”*

Idle time occurs when:

- An employee is waiting for equipment or another employee to finish a task
- Equipment is waiting for the employee in order to continue
- This can be caused by variation in cycle time or a poor balance of tasks

OPERATOR MOTION: Any unnecessary or excessive walking, bending, turning and reaching. A physically difficult or awkward part of the process.

ISO/TS16949 6.4.2 states: *“..means to minimize potential risks to employees shall be addressed by the organization, especially in the design and development process and in manufacturing process activities”*

Issues with operator motion can often caused by a badly organised work environment which can cause accidents and lost time. An organisation should evaluate each process, observe working practices and strive to reduce risks

BAD (POOR) QUALITY: Scrap or reworking of products

ISO/TS16949 5.6.1 states *“Part of the management review shall be the monitoring of quality objectives, and the regular reporting and evaluation of the cost of poor quality”*

Associated costs include:

- Material and time to rectify
- Capacity making the first time
- Space for collecting and disposing of scrap & rework
- High levels of overtime to meet customer demand
- Overproduction
- Inspection and documentation
- Loss of customer satisfaction
- Low confidence in schedules