



RAISING THE QUALITY BAR

The automotive manufacturing sector unifies behind a professionalised quality management approach.

INTRODUCTION

Taking the temperature of the UK automotive sector

In November 2018 around 100 quality management professionals from a cross-section of motor manufacturers and automotive supply chain companies met at the UK's first Automotive Quality Management Systems (AQMS) Conference in Birmingham.

The event was staged by SMMT (the Society of Motor Manufacturers and Traders) because of a recognised need to raise the profile of the automotive quality management profession. Quality professionals are an under-supported and unrepresented group whose function has never been more mission-critical to the entire sector. That requires concerted action.

Bringing together representatives from OEM brands and all strata of the automotive supply chain, the conference was a bellwether for the UK

auto industry. It looked in depth at the concerns uppermost in the minds of quality management professionals as they face a range of new and evolving business challenges.

From big changes in the regulatory environment through to risk-based thinking and practice, driverless vehicles, emissions targets and Brexit, the numerous topics discussed were as diverse as they were pressing and critical for the sector.

Many of the delegates expressed how glad they were to find a community of like-minded professionals dealing with similar issues. A strong call was made for the industry to come together to tackle some of these collective challenges cohesively.

This paper summarises the key themes discussed at the conference, and as such gives an insightful picture of the state of the UK automotive industry and the quality management profession at its heart.

EXCITING AND DANGEROUS TIMES

► We are living and working in exciting and disruptive times. There are a number of global technological, political, environmental and economic upheavals currently impacting UK automotive businesses simultaneously, creating a maelstrom of threat and opportunity, particularly for the quality management function.

Global upheaval

Brexit uncertainty and turmoil caused by the threat of tariffs on automotive products from the US are shifting the sands of our trading environment under our feet. The impacts on the supply chain as well as the market overall are likely to be considerable, but how the new landscape will look is not yet clear. The only factor that seems certain is change, and that means manufacturers will need to be extremely agile to ensure their products and their shifting supply base continue to meet the excellent quality standards needed to keep them competitive.

“ **Massive change is taking place. Keeping pace with new entrants is critical.**

- Mike Hawes, CEO, SMMT

Changing standards requirements

2018 saw a demanding and comprehensive new set of quality standards, namely the global transition to IATF 16949. In most

cases, manufacturers that fail to obtain certification will no longer qualify to supply OEMs and larger tier one suppliers.

The new standard is designed to encourage vehicle manufacturers and suppliers everywhere to achieve excellence consistently. However, as it is just minted, there are concerns over internationally-varying levels of engagement and robustness of the scheme's implementation.

“ **As a lower tier supplier, we see expectations from our customers that aren't written anywhere in the standards but are passed down from the OEM through supplier to supplier.**

- Brendan O'Callaghan, Senior Automotive Quality Engineer, Penn Engineering

IATF 16949 is not the only standard that quality teams have to adhere to. The standards environment is complex. Suppliers must also comply with customer-specific requirements and standards such as VW's Formel-Q and those of the German

Association of the Automotive Industry (VDA). Keeping up with them all can be challenging. As one conference delegate put it, it can feel like 'dancing at lots of different parties'.

Emissions targets, automation and services

Product strategies are changing to reflect a move away from petrol and diesel and towards CAVs (connected and autonomous vehicles) and related services. This is partly due to government steering; at the beginning of 2018, the UK government launched a new industrial strategy for the automotive sector with funding for CAVs, electric batteries and programmes to increase the competitiveness of the automotive supply chain. Further positive announcements are anticipated shortly.

This emphasis on emerging technologies not only impacts profit margins as research & development costs increase, but also puts a weighty and pressing demand on quality management teams who have to devise new systems to verify completely new types of products and even services. This is new territory. There are no maps, yet wrong turns where quality is concerned cannot be afforded.

Increased risk and liability

The rise of CAVs is also heralding a big transfer of accountability away from drivers and OEMs and back onto an unprecedentedly complex network of manufacturing and service suppliers as driverless vehicles enter the streets of our connected cities.

“ Automotive manufacturers are at the sharp end of a significant risk issue. Pushing forward is absolutely crucial to the industry getting on top of these issues.

- Peter Shervington, Principal Associate, Eversheds Sutherland

At the same time, consumer claims culture is growing and a tidal wave of media and regulatory attention around quality and safety issues has followed the VW emissions scandal and mammoth recalls from Toyota and Vauxhall. Regulators feel under pressure to flex their muscles in response to claims of corporate capture overriding safety and environmental concerns.

How products and their safety information are presented to users is very important. Consumers can no longer be expected to understand how today's high-tech products work. This means that engineering, marketing and quality control need to be joined up through effective management systems.

Increased globalisation is revealing inconsistencies between the ways in which laws are implemented and how auto manufacturers react to the same situations in different countries. Companies need to think beyond the letter of the law of the land and ask themselves, "Is this safe?"

Once again, the responsibility falls on quality management professionals to steer their organisations through the dangers.

Stunted growth

In the midst of all this, UK automotive manufacturing output has declined over the past year. Quality management is key to ensuring manufacturers have the agility and adaptability they need to stay competitive.

“ In the ISO9001 standard of 2008, the word 'risk' was only mentioned once - in the introduction. The same standard in 2015 mentioned it 16 times. In IATF 16949, there are 59 references to risk.

- Max Collier, Consultant - Management Systems, SMMT Industry Forum

Responding to all of these vicissitudes in a timely and appropriate way is far from easy – but standing still is not an option. There is a very real risk that British auto manufacturers will be rapidly outpaced and outclassed if they fail to successfully navigate and capitalise on new developments quickly and effectively.

“ You've got to understand what the risk is to your customer, and how you can build that into your business.

- Des Lewis, Quality Manager, Charter Automotive

WHAT DOES 'QUALITY MANAGEMENT SYSTEM' MEAN?

A QMS is a formalised system to document business processes, procedures, and responsibilities in order to consistently meet customer requirements and organisational policies and objectives. Simply put, it's a recipe for uniform excellence.

The new IATF 16949 standard is designed to provide an automotive QMS that will ensure excellent quality across the industry globally.

WHY IS QUALITY SO IMPORTANT NOW?

► The degree of challenge, opportunity, risk and change facing the auto industry makes quality management an urgent issue.

It is mission-critical that quality management is at the core of every step manufacturers take to stay competitive in the new business landscape. Quality is key to introducing new technologies, services and skills, boosting productivity, managing risk and competing in a global market.

“ A quality management system is an environment for the right behaviours.

- Nigel Blenkinsop, Director of Quality & Automotive Safety, Jaguar Land Rover

When so much in the sector is changing, the importance of standards – and the quality management professionals that are responsible for their implementation – come to the fore. Strong global standards provide an essential platform of reliability upon which to build the next generation of products.

“ Improving competitiveness in the UK automotive sector is absolutely critical, and fundamental to this is ensuring the highest quality right across the industry. While 'made in Britain' has global recognition as a standard for high quality, we can't rest on our laurels.

- Mike Hawes, CEO, SMMT

Unified approach

Although quality is a lever for competitive advantage, it is in the entire industry's best interest to maintain consistent standards across borders and companies. Global harmonisation is urgently needed and the voice of the UK's quality professionals needs to be heard in those discussions. On the one hand, we need a

level playing field with no one gaining advantage by cutting corners. On the other, the automotive sector is an increasingly connected network with suppliers serving numerous OEMs and other customers - no one can afford weakness in any part of the system.

“ Quality is an integral part of our supplier selection process.

- Tom Grantham, Parts Quality Commodity Manager, BMW

Investing in excellence

Standards alone are not enough. Organisations need to promote a culture of quality throughout their business that goes far deeper than audits and nonconformities. This demands leadership and maximum engagement; no employee can be exempt from the need to strive for continuous improvement.

None of this is easy. The speed of change means that the importance of the quality management function is matched only by the scale of the challenges it faces. It's critical that this is understood and invested in at board level. The stakes are high and being good enough is not good enough – excellence needs to become the norm.

Organisations need to hire and nurture the best quality management talent, and those professionals need to know they have the full backing of their senior leadership teams.

The industry, too, needs to do more to support the quality specialists that are so critical to its survival.

“ The UK can't keep up with China on cost, so we have to exceed on quality. We have to be better than everyone else to compete.

- Michael Mychajluk, Supply Chain Projects Manager, Jaguar Land Rover

► This next section examines the priority topics discussed at the SMMT AQMS Conference, which have been grouped into three prominent themes: standards, culture and functional pressure.

1. Standards – a challenge and an enabler

The introduction of a new set of international automotive standards puts undeniable pressure on quality management teams, even as it promises to resolve some of the sector's issues.

Robust standards underpin not just product and technology but competitive business performance in all areas. That includes workforce skills, every part of the supply chain and the experience delivered to customers.

The rise of the connected vehicle is bringing an increase in the value of services as part of the total product offering. That in turn requires adaptability and flexibility – and standards can help to foster these.

While standards alone cannot deliver quality, IATF 16949 is intended to support businesses to develop a culture of excellence in all areas.

“ Standards play an important role in enabling us to execute our automotive industrial strategy and develop an internationally competitive supply chain.

- Dr Chris Owen, CEO, SMMT Industry Forum

We're not quite there yet

Strong certification schemes are a good thing for the industry but currently some countries (e.g. Japan, China and Korea) are under-represented in terms of OEM participation with the IATF.

“ We'll be using data analytics to look at take-up and conformity trends in different markets. That will help us identify problem areas and take action.

- James Bruin, Chairman, IATF

IATF is focusing on increasing engagement, audits and certification body office visits to improve standards across the board. It is also analysing data and feedback from OEMs and industry bodies to identify and act on quality trends and ensure

IATF certification and supplier performance are aligned.

IATF is also conscious of the difficulties manufacturers can face trying to comply with numerous sets of different standards and customer specific requirements. It aims to address the issue by working to minimise customer-specific quality requirements through standardisation, particularly with OEMs. Key to this is perfecting IATF 16949 so it satisfies all quality management system requirements and the need for second party audits drops away.

“ We want to bake all requirements into one standard and minimise the load on suppliers.

- Dr Chris Owen, CEO, SMMT Industry Forum

IATF 16949 is still a very new standard and it will take a little longer before IATF achieves its aim of making it the best possible standard in the world.

IATF has set itself five imperatives (in order of importance):

- ensuring its effectiveness as a guarantee of quality
- working towards international excellence
- expanding uptake in all geographies
- making sure it works for new technologies such as CAVs and electric and hybrid vehicles
- ensuring its relevance for the new communications and network services market growing up around CAVs.

“ Certification must equal quality. This has to happen.

- James Bruin, Chairman, IATF

2. Driving a quality culture

The overarching message of the SMMT AQMS Conference could be summed up by the phrase, 'Quality is a culture not an exercise'.

To achieve the commitment to excellence that IATF 16949 demands, a problem-solving, quality mindset has to be embraced by every part of the organisation, as well as its entire supply chain. This means, as well as an organisational culture, an industry-wide quality culture is needed, with the appropriate support structures, checks and balances. Only then will it be possible to recruit people with the right mindset and experience, and engage suppliers committed to excellent quality. Potential disruption to international supply chains caused by Brexit makes it even more important and urgent that all tiers of the UK market attain world class quality standards.

“ Organisations fail audits because they lack the skill sets needed to solve problems.

- James Bruin, Chairman, IATF

Within organisations, achieving excellence is a strategic objective that needs board-level leadership, concerted effort and investment. Quality cannot be merely grafted onto an organisation through conforming to rigorous external standards; it has to grow out from the enterprise's own internal value system. While quality managers – backed by their senior management team – play a key role in facilitating this process and monitoring its success, they can't do it in isolation.

Vision, strategy and motivation

Vision and strategy are the starting point for developing the foundations of any business and the engine of an organisation's culture – as long as employees are engaged with and motivated by them. Sustaining high levels of staff engagement and motivation is essential to achieving quality excellence. People's basic need to feel secure can cause resistance to change, so they need to feel that any new development is worth the effort. That means they need to feel inspired.

New standards and new technologies require new skills. One good way to keep motivation high is to invest in people's skills and then trust them to use them.

Finding good talent is far from easy, so it's wise for organisations to invest in the people they already have. Fit-for-purpose quality systems training and support are crucial – not only for quality managers, but across the workforce. We must prepare our people now for the challenges ahead.

“ Quality does not end with certification. OEMs tell us there is a need for suppliers to 'live' their certifications to reduce variation and waste and drive improvement.

- Mike Hawes, CEO, SMMT

Quality and people are intricately connected and to succeed in either area requires investment in both. When an OEM selects a supplier, they are looking for people they can work with as much as a product they can trust.

In the same way that an OFSTED inspection can help a school focus on key performance indicators, but the verdict can never tell the full story of what it's really like to be a pupil or a teacher there, standards certifications are only one piece of the puzzle.

To succeed, a QMS must be closely aligned with an organisation's vision, mission and strategy. Standards are an important enabler but it's an organisation's values that, more than anything, drive the behaviour of its people.

“ We need to understand what quality actually means – it's about culture. The first thing I look at is health & safety. If a supplier has good safety practices, I know the quality of their product is likely to be good.

- Mike Baunton, Chairman, SMMT Industry Forum

Jaguar Land Rover (JLR) – centring people not process

Manufacturers tend to devote a lot of effort to the manufacturing operating system but forget to think about the people operating system. JLR aims to turn this around and put its people front and centre by following a 'Nurture FIRST' paradigm, where 'FIRST' stands for Fun - Integrity - Respect - Simplicity - Tenacity'.

The company's approach to recruitment is 'hire for behaviour, train for skill'. It operates an internal Operational Excellence Academy for staff to strengthen leadership behaviours such as collecting and acting on data and never walking past a sub-optimal condition or situation.

JLR's Supplier Quality Development Programme is equally exacting, with a training curriculum that includes data driven problem solving, failure mode avoidance, driving improvement and applying customer insight.

Team Improvement Circles give colleagues a safe environment in which to step out of their frontline roles and take time to reflect and improve. Now in its fourth year, the practice has been extended to involve suppliers.

“ The key is to create an environment that makes success inevitable.

- Nigel Blenkinsop, Director of Quality & Automotive Safety, Jaguar Land Rover

3. A mission-critical function under pressure

A host of pressures are bearing down on quality managers as they assimilate big industry changes and adapt to new standards and increasingly exacting customer requirements. At the same time, the quality management role has never been more important to the sector.

Yet, up to now, the profession has had little recognition or targeted support. There is currently no national approach to developing the competencies the function demands, and, unlike Germany and the US, the UK has had no go-to place for quality professionals to find help.

Quality management professionals need a community of practice to get support, training, knowledge and resources to help them implement system standards and keep abreast of

“ We want access to a forum where we can voice our opinions on changes happening in our industry at the moment.

- Brendan O'Callaghan, Senior Automotive Quality Engineer, Penn Engineering

industry developments. There is also a need for the concerns of UK quality managers to be heard, nationally and internationally. It is not sustainable for a function that is so critical to our industry's success to remain so unrecognised and unsupported.

A NEW COMMUNITY OF PRACTICE

► In order to meet the needs of the UK's automotive quality management specialists and thereby underpin the competitiveness of UK manufacturers, SMMT has created SMMT QMD, its new Quality Management Division.

SMMT QMD was launched at the inaugural AQMS Conference in Birmingham in November 2018. It aims to ensure that the UK automotive industry plays an active role in the development and governance of national and international automotive standards.

“ We've been looking for somewhere we can ask questions and get a response back.

- Geoff Stanford, Senior Quality Specialist, Tata Steel UK

SMMT QMD will provide a community of practice to directly support UK quality professionals, ensuring standards are effectively implemented and improving competitive performance.

The SMMT QMD model borrows from best practice elsewhere in the world; its approach is similar to the VDA's Quality Management Centre (VDA QMC) and the quality initiative of the AIAG (Automotive Industry Action Group).

“ QMD will be a national centre of excellence and a natural home for quality management professionals. It can help make the UK the best place in the world to do automotive manufacturing.

- Dr Chris Owen, CEO, SMMT

An industry association for quality managers

SMMT QMD aims to be a professional community that listens and responds to its members. Building upon the existing informal network of UK quality professionals that has formed in recent months, it will provide an arena for both structured and informal support that quality specialists can turn to for the day-to-day help they need.

“ It would be better for the industry and our supplier base if we could come together and work as one in a lot more areas.

- Anna Lee, Head of Supplier Quality, Energy & transportation, Caterpillar

SMMT QMD platforms such as the Automotive Quality Management Professionals Community LinkedIn group and the AQMS Conference offer networking forums in which to get information about the latest industry developments, answer questions, share challenges, highlight requirements and air opinions.

SMMT QMD will also amplify members' voices to government and internationally to ensure UK manufacturers have a say in global affairs. Working groups on specialist topics will provide a link to international partners. SMMT QMD will also ensure the quality profession is represented at the Automotive Council's national skills working group.

SMMT QMD will facilitate the industry-wide discussions needed to develop a national consensus on key issues and then lobby to effect change. And by providing platforms to share best practice approaches, it will help to make UK manufacturers more competitive.

SMMT QMD - ORGANISATION



SMMT BIRMINGHAM OFFICE

2680 Kings Court
The Crescent
Birmingham Business Park
B37 7YE
+44 (0) 121 7176600



Supporting IATF

The UK has a vital role to play in developing the IATF 16949 standard and deploying it effectively globally, and SMMT QMD provides an important link between UK expertise and the IATF.

Through its IATF Oversight Office, SMMT QMD will offer ongoing support to IATF with the operational delivery of the standard in the UK, as well as helping to steer its long-term vision and strategy in line with the needs of the industry. It will monitor the scheme's performance over time and develop and manage its certification bodies and auditors, ensuring they have the training and skills required. It will also act to ensure poorly performing IATF certified companies are reported and action is taken.

Training, professional development and resources

SMMT Industry Forum already offer a host of courses and resources for continual professional development. SMMT QMD will further develop and expand the offering for quality management professionals and auditors. It will create national quality management professional certifications and help apply the apprenticeship levy to develop future-focused quality management skills for the UK workforce.

Publications

All IATF publications, together with all their supporting documentation, are now available from the SMMT QMD web shop. SMMT QMD will also publish a range of internationally common resources to help suppliers and OEMs adopt and effectively deploy the 16949 standard.

Practical help

The team at SMMT QMD is on hand to answer questions and provide clarity on IATF and other automotive standards. They can help analyse any gaps that could result in nonconformities and offer practical advice on what to do about them. Their expertise can be tapped into to get feedback and support on using the standards to improve business performance.

Where next?

SMMT QMD is still a new initiative but it has big plans.

In the coming months work will focus on building the community and establishing working groups on key topics of interest. There will also be a good deal of effort applied to raising awareness of the resources already available and encouraging organisations to engage with SMMT QMD. A new website www.smmtqmd.co.uk will provide a portal to training, publications, working groups, events, the Oversight Office and other resources. In the meantime, there is an active LinkedIn group.

SMMT QMD is a listening organisation that exists to understand and meet the needs of those that engage with it and ensure their views are heard in discussions that affect them. Above all, it aims to ensure the UK's quality professionals have the support they need to do their jobs effectively, thereby assuring the future success of the UK auto industry.

CONCLUSION

- ▶ In times such as these of immense upheaval, risk and challenge, quality standards and culture become critically important. Central to these is the role of the quality professional.

Until now the UK automotive quality management profession has been largely unrecognised and under-supported and there has been no channel via which UK manufacturers can participate in the development of international standards. It's time to change that.

The new IATF 16949 standard is well positioned to support the current and future challenges of the industry. However, standards are only part of the picture. In order to remain competitive, British manufacturers need to develop a culture of excellence that is woven into the fabric of all their activities and independent of any external audit. That requires leadership, commitment and effort.

With the creation of SMMT QMD, we are laying down sound foundations on which to build the quality management capabilities UK auto manufacturers will need in the years ahead. It's now up to those manufacturers to follow this lead and ensure they give the appropriate amount of support and investment to their own quality management teams. The future of the sector depends on it.

► About IATF 16949

IATF 16949 is an internationally-recognised set of management system requirements for the automotive industry. It specifies the requirements for establishing, implementing, maintaining and continually improving a quality management system for all automotive sector organisations, regardless of size.

Developed by the International Automotive Task Force, it is intended to promote excellence across entire product life cycles from design and development through to manufacturing, customer support and warranty management.

IATF 16949 aims to help organisations develop consistent processes to ensure they meet customers' requirements. It replaces the now-redundant ISO/TS 16949 and places a much

stronger focus on leadership, problem-solving and preventive action. It should provide vehicle OEMs some reassurance that any changes they make in their supply chain will not mean a fall in quality.

► Is everybody conforming?

The bar to achieve IATF 16949 compliance is high. Many businesses find interpreting the requirements challenging and audits often uncover areas of non-conformity requiring corrective action, which can take time.

Around 600 UK companies have now obtained their IATF 16949 certificate and globally there are over 71,000 organisations qualified.

LINKS AND RESOURCES

- **LinkedIn Group: Automotive Quality Management Professionals Community -** [<https://www.linkedin.com/groups/13639828/>]
- **SMMT Industry Forum web shop:** [<https://shop.industryforum.co.uk/>]
- <https://www.iatfglobaloversight.org>
- <https://www.industryforum.co.uk>

GLOSSARY

AIAG: Automotive Industry Action Group (USA)

AQMS: Automotive Quality Management Systems

CAV: Connected and Autonomous Vehicle

Formel-Q: Series of requirements specified by Volkswagen to which its suppliers must adhere

IATF: International Automotive Task Force

IATF 16949: New International Automotive Quality Standard

OEM: Original Equipment Manufacturer

QM: Quality Management

QMS: Quality Management System

QMD: Quality Management Division

SMMT Industry Forum: Training and consultancy provider that works with major global manufacturers to better understand, optimise and improve manufacturing capability and business performance

SMMT: Society of Motor Manufacturers & Traders

VDA: German Association of the Automotive Industry

RAISING THE PROFILE OF THE AUTOMOTIVE QUALITY MANAGEMENT PROFESSION



