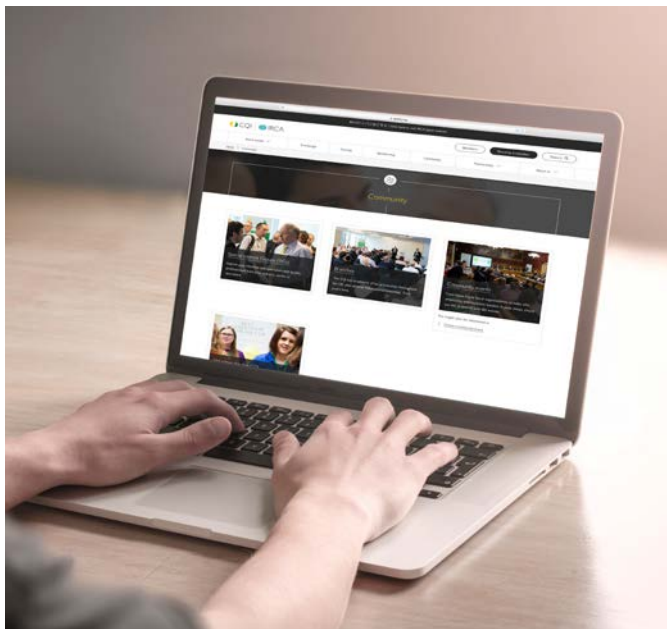# Quality World

March 2017

CQI | IRCA

INSIDE:
10 things your QMS must do

Automation at Ocado

3M
Takatoshi Ohkubo

Welcome to a world where business system design drives innovation

CQI | IRCA

Are you using your member benefits?

Visit the Members' Area for a host of learning resources, including:

- ISO 9001 analysis report
- ISO 14001 analysis report
- Annex SL briefing note
- Repositioning the Profession ebook
- *Quality World* digital magazine
- The eLibrary, with thousands of journals.

Plus, don't miss the Knowledge email and the Members' Update each month.

▷ **Visit quality.org or contact the membership team for more information: membership@quality.org**

From the editor

Mention the name Takatoshi Ohkubo, or 'Taka', to anyone who has met him and you'll be greeted with a smile and a positive memory. Ohkubo is director of corporate process innovation and quality assurance at 3M Japan. In our exclusive interview (p20) he explains his concept of 'business system design for innovation', through which the world's of assurance and improvement work in harmony by harnessing neuroscience.

Robert Gibson

CQI | IRCA

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REGULARS

News and analysis

Prime minister Theresa May and chancellor of the exchequer Philip Hammond meet staff at Jaguar Land Rover in Solihull, England.
© Getty Images, Carl Court/Staff

Improve supply chains to boost the economy after Brexit, says May

The news

Opportunities for quality and improvement have emerged in a green paper outlining the UK's industrial strategy after Brexit.

The green paper, *Building our Industrial Strategy*, focuses heavily on improving procurement to 'drive innovation'. The Government suggests this could be achieved by creating cross-sector deals to address challenges in the supply chain.

These challenges include promoting competition and innovation, and facilitating sustainable investment and coordination between suppliers and their customers. A key part of the vision involves collaboration with stakeholders across sectors, including academia and universities and it is hoped the new plans will benefit SMEs.

The report states that the approach is not about funding, instead the Government has given industry an 'open door' challenge to develop proposals to transform and improve their sectors. By developing these business deals with the Government, it is hoped that sectors will transform their strategic prospects.

The views

Jan Rae, head of policy at Nesta, welcomed the change. In a blog for *City AM* she said: "While this builds on work started by Vince Cable in establishing Sector Councils, there's a noticeable and welcome difference: these priority sectors are not being specified beforehand by government.

"In the past, the system worked well for large businesses with dedicated government relations teams, as they could coalesce around one view and present this to policy makers. The new open door policy could level the playing field. But the open door needs flashing lights, easy access and a welcome mat. Emerging, fast-changing sectors, such as digital and tech, tend to be less defined, comprised of smaller firms and, as a result, may find it more difficult to respond to the Government's call.

"These sectors could be responsible for creating the jobs of the future, requiring early stage support to reap longer-term benefits. It means getting the right regulatory framework in place and harnessing government procurement to drive their growth."

The analysis

Steve Coles, CQP FCQI, consultant and auditor at SBC Consultants, and a member of the CQI Advisory Council, said: "ISO has introduced risk and opportunity to all its management standards and is the focus of clause 6.1 of ISO 9001:2015.

"Brexit, while presenting all businesses with new risks to consider, also presents major opportunities to review relationships and this has been a common challenge for those working in the supply chain.

"While nobody yet knows what the business environment will be like in two or three years' time, the Government recognises that waiting until the details are sorted out will not be good for UK plc. Involvement now, throughout the full supply chain means we have the opportunity to start with almost a blank sheet and develop what is needed and drive progress, rather than wait for what is possible and be limited. This also presents the opportunity to focus agreements on true needs of specification and quality, rather than price."

Radio system plans for emergency services failed to consider risks

The news

A new radio system for emergency services is facing delays after calls were made for additional testing and assurance work.

The Emergency Services Network (ESN) will be used by the 105 police, fire and ambulance services in Great Britain. Through an enhanced 4G mobile network it promises extensive coverage, high resilience, security and public safety functionality.

But the Public Accounts Committee said the current delivery date of December 2019 does not allow for further testing of the ESN, which will replace the current Airwave system. There are concerns over the technology, such as how well it operates on the underground.

The committee warned that the Home Office has not budgeted for an extended transition period and has not put in place detailed contingency arrangements to manage the risk.

The current Airwave contracts expire in December 2019 and the only contingency if ESN is not functional by then is to extend the existing contracts, which would cost an estimated £475m for a year's delay nationwide.

The views

Meg Hillier MP, chair of the Public Accounts Committee, said: "It is absolutely right that emergency services will not commit to using ESN in potentially life-or-death situations until they are convinced it works.

"Questions continue to hang over the technology, not least how it will operate on underground rail systems in London and elsewhere – high-risk environments that present unique challenges in emergencies. These must be addressed urgently.

"It is encouraging that the head of the ESN programme has remained in post since 2011, providing a degree of stability absent from some high-profile projects our committee has examined.

"However, we are disappointed that detailed contingency plans have not been budgeted for or drawn up in the event that, as now seems likely, implementation over-runs.

"It is critical for public safety and achieving value for money that the Government has a firm grasp of the implications of delays in its timetable and a costed plan to tackle them."

Meg Hillier MP, chair of the Public Accounts Committee
© Goldberg/REX/Shutterstock

The analysis

Grant Wordsworth, CQP MCQI, quality manager at Affinity Water, told *QW* that quality planning was missing: "The potential to reuse the commercial 4G bandwidth presented an ambitious opportunity to meet the future communication needs of the emergency services. However, the National Audit Office (NAO) and the Home Office have identified flaws in the plan around the level of national coverage by the network provider, the software, the functionality and the lack of devices that will apparently work in this brave new world.

"From my viewpoint, there is more than a hint of poor quality in the planning for the project delivery programme, which appears to have placed a reliance on the NAO to pass or fail the scheme. I have little doubt that a costly extension to the current Airwave contract will be seriously considered, if not granted, but with a hope that future contracts will contain suitable plans and exit terms."

News and analysis

Big brands discover they fund terror through online advertising

© Alex Segre/ REX/Shutterstock

The news

Major global brands are unknowingly funding Islamic extremists and white supremacists by advertising on their websites, an investigation by *The Times* has shown.

In a string of revelations that raise serious questions about assurance in the media supply chain, advertisements from companies including Waitrose, Marie Curie, Argos and Mercedes-Benz have appeared on hate sites and YouTube videos created by supporters of terrorist groups.

The Times reports that the practice is "likely to generate thousands of pounds a month for extremists".

Many companies said they were unaware of the advertisements on the sites and blamed 'programmatic advertising', a system which allows advertising agencies to track potential customers around the web and serve them adverts on any sites they are browsing.

According to *The Times'* analysis, blacklists designed to prevent digital adverts from appearing next to online extremist content are not fit for purpose.

The six top advertising agencies, Havas, IPG, Dentsu, Omnicom, Publicis, and WPP have denied wrongdoing and emphasised their commitment to their clients.
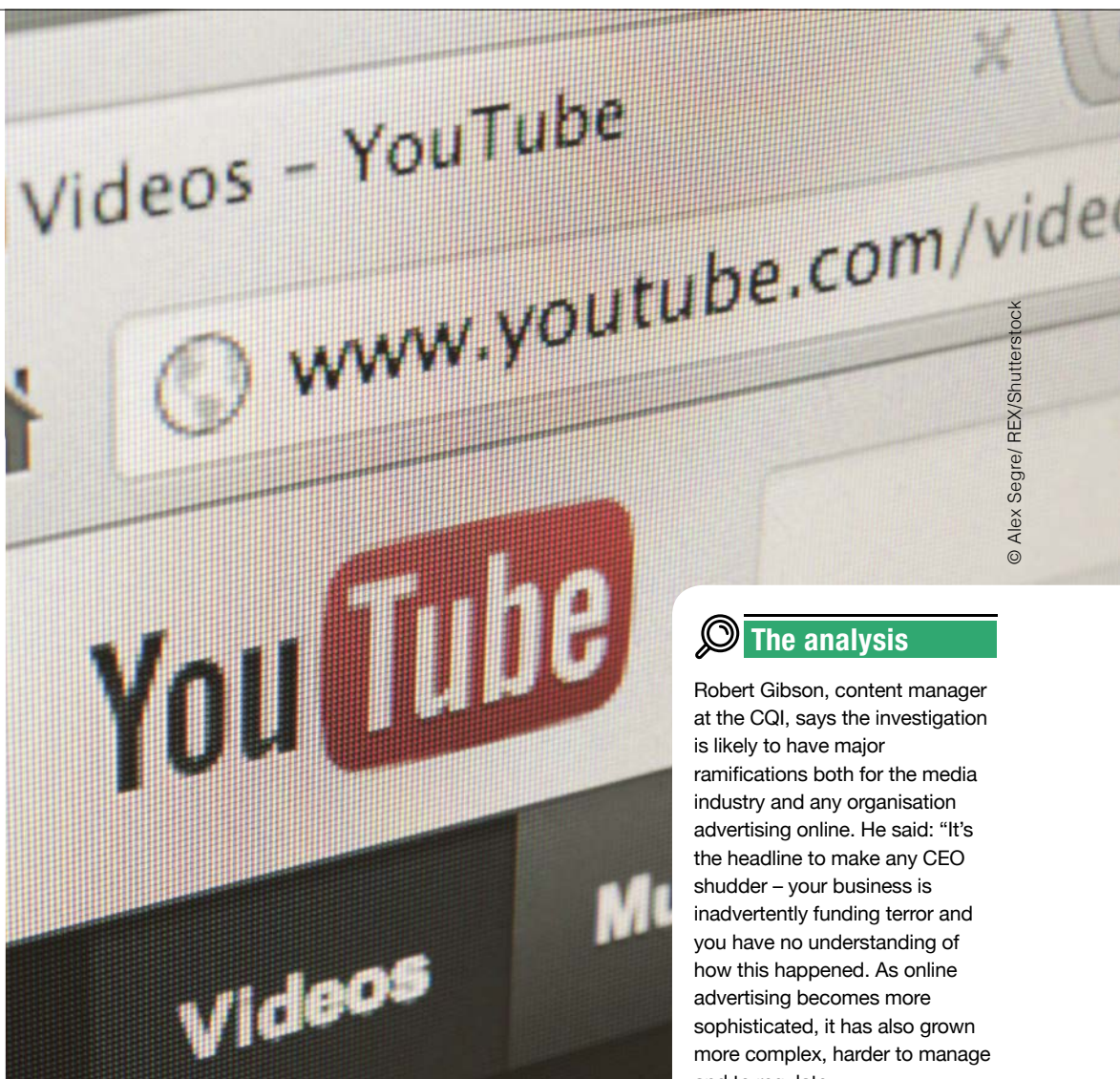
The views

Speaking at the IAB Annual Leadership Meeting 2017, Procter & Gamble's chief marketing officer, Marc Pritchard, called on the media buying and selling industry to be more transparent.

Pritchard said: "Better advertising and media transparency are closely related. Why? Because better advertising requires time and money, yet we're all wasting way too much time and money on a media supply chain with poor standards adoption, too many players grading their own homework, too many hidden touches, and too many holes to allow criminals to rip us off.

"We have a media supply chain that is murky at best and fraudulent at worst. We need to clean it up, and invest the time and money we save into better advertising to drive growth."

Pritchard said ads are currently served to customers through a 'non-transparent media supply chain with spotty compliance to common standards'.

The analysis

Robert Gibson, content manager at the CQI, says the investigation is likely to have major ramifications both for the media industry and any organisation advertising online. He said: "It's the headline to make any CEO shudder – your business is inadvertently funding terror and you have no understanding of how this happened. As online advertising becomes more sophisticated, it has also grown more complex, harder to manage and to regulate.

"From a compliance perspective, media players and advertising agencies will be taking a hard look at their controls – they are aware of the threat posed to their business models. YouTube was quick to remove the videos that escaped its checks, but must focus more on preventive action.

"For quality professionals it's another example to help express the value of quality in terms that senior management cannot ignore: how confident are you that your business is using the right methods to protect its reputation against such risks? Agile assurance is crucial."

ESCAPE
TOWER

PAYLOAD

Remembering the Apollo 1 disaster

Fifty years ago, on 27 January 1967, three astronauts perished in a launch pad flash fire aboard Apollo 1. A subsequent 18-month investigation led to safety improvements that helped pave the way for NASA's successful moon landings
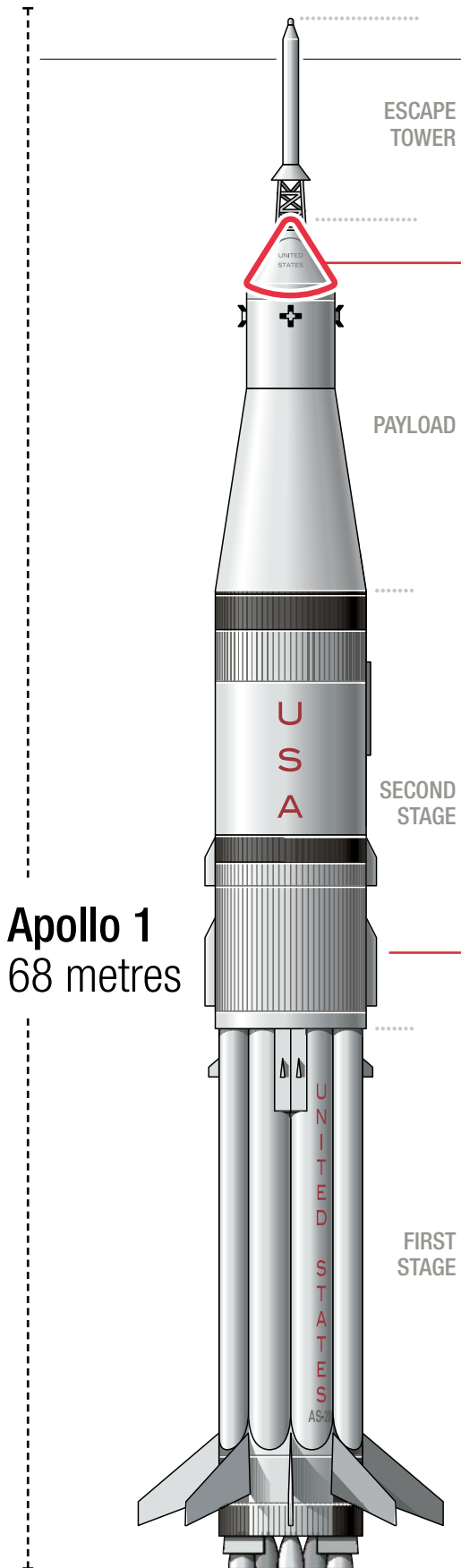
COMMAND MODULE

1pm: Crew board for launch rehearsal test

6.31pm: Faulty wiring beneath Grissom's couch ignites pure oxygen atmosphere inside cabin

Hatch: Astronauts can not unbolt complex two-part, inward-opening hatch – a process that requires 90 seconds in normal conditions

Chaffee
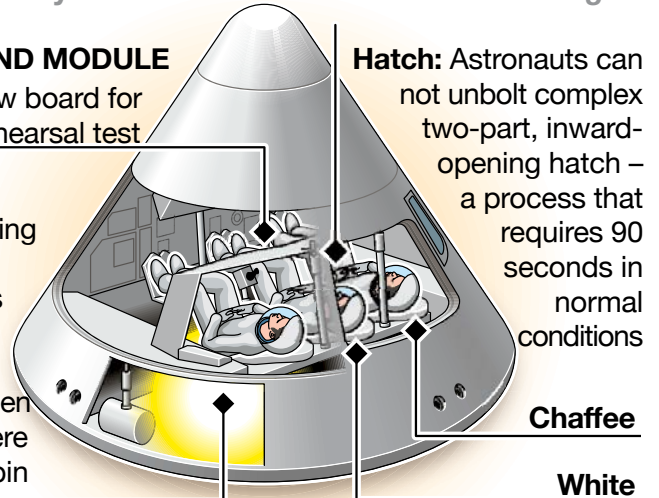
White

Cabin ablaze: Within 17 seconds, rising air pressure ruptures hull. Astronauts die from asphyxiation

SECOND
STAGE

USA

Apollo 1
68 metres

AS-204 launch vehicle: Not fuelled for test – smaller emergency response crew on duty

Apollo 11 to scale

FIRST
STAGE

UNITED STATES

AS-
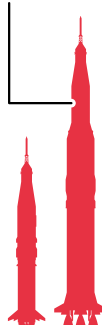
Apollo 1 crew

(L-R) Ed White, Gus Grissom, Roger Chaffee

INQUIRY IMPLEMENTATIONS

- Flammable oxygen environment for ground tests replaced with nitrogen-oxygen mix
- All flammable items removed from cabin
- Hatch redesigned to allow astronauts to open it within seven seconds
- Improved relations between astronauts and engineers helps quickly enact design changes

Sources: NASA, Space.com, wire agencies

© GRAPHIC NEWS

CQI launches London branch

The CQI has opened its new London branch with a session on the 2020 strategy from acting chief executive Vincent Desmond

On 2 February more than 30 guests joined the new branch at the CQI's London office to find out more about their vital role in the strategy and to network with peers from small, medium and large organisations.

Alex Woods, professional networks manager, introduced the event by sharing his aspiration for CQI members everywhere to benefit from the branch network. He gave thanks to the CQI Regional Operations Panel, which has worked tirelessly to ensure branch events support the continuing professional development (CPD) of our members.

Next, delegates heard from Vincent Desmond (pictured), who talked through the CQI's journey since 2011 and the strategy to 2020, including the opportunities for the profession to grow this year. Desmond said:

"I'm pleased to say the event was a great success. The CQI is committed to all of our members and it's great to see such a high level of engagement from our quality professionals in London.

"CPD should be a top priority for members and engaging with branch events is an excellent way of continuing your development."

Host it
We are looking for organisations to host quality tours for branches. Email: **branches@quality.org**

Estelle Clark calls for CEOs to better understand their organisations

CQI executive director of policy Estelle Clark has given an emphatic interview on quality and governance in the February edition of *Director* – the magazine of the Institute of Directors (IoD).

Clark offered readers an insight into the world of quality, urging directors across the globe to remember that governance matters to all organisations, regardless of their size.

She articulated the vital role of quality professionals in turning the idea of good governance into reality.

In today's uncertain economic and political climate, Clark reminded directors that too often organisations make the wrong type of cuts in order to stay afloat – cutting 'muscle' rather than 'fat'. However, by prioritising organisational

governance and the role of the quality professional within it, companies can make positive changes and prevent problems from reoccurring.

In a call to arms, Clark said good governance should be part of "Brand UK" and this would mean "that we do governance properly and in a way that means it doesn't get in the way of being competitive. We can be well governed and deliver, and be lead."

Pharma SIG celebrates its 40th anniversary

The CQI's longest established special interest group, the Pharmaceutical Quality Group (PQG), has planned a host of industry events this year as it celebrates its 40th anniversary.

On 7 February, the PQG met to discuss upcoming events and ways in which it can continue to support quality professionals in the industry. The PQG is a great way for members to network with other quality professionals in the pharmaceutical industry.

The group recently visited manufacturing company PQ Silicas, which serves a wide range of markets and faces challenges in managing the level of good manufacturing practices (GMP) needed to meet stringent customer and regulatory requirements. The site visit provided a unique opportunity to see the manufacturing processes and to discuss experiences in meeting the challenge of operating to different GMP requirements for a range of markets.

Upcoming events at the PQG include two data integrity workshops, which will be hosted in London and Sheffield and organised in conjunction with the Research Quality Association. Along with events and networking opportunities, members can also benefit from a forum that provides ongoing support, particularly for trainees.

Book it
Book your place at the next PQG event at **pqg.org/pharma/events**

Inspire your peers

By recommending the CQI to your peers you are creating a shared understanding of quality throughout industry and around the world. This not only leads to the improvement of products and services, it helps to create a shared language for the profession and addresses future needs and expectations.

At the CQI we value our members, so we offer a £25 reward for every colleague you recommend. David Probyn, (pictured right) lean and quality management consultant at BAE Naval Systems, said: "CQI membership certainly helps with credibility. The most valuable aspect of being a CQI member is the validation – there is a common logic between what we do and what the CQI stands for. From a personal point of view, it's good to know people who think in a similar fashion, whom you can bounce ideas off. We can learn from them and perhaps they can learn from us."

Share it
To recommend a colleague visit the Members' Area at **quality.org**

The CQI celebrates a year of innovation and influence

The CQI's 2016 *Annual Review* has been launched, celebrating our achievements in advancing the profession.

Among the highlights, we are proud we were able to support excellence in the quality profession by investing in our members. As part of this investment we built a new learning and development portfolio, a new membership pathway and we made sure your professional development was at the heart of our work.

Collaboration with other organisations and professions is a key part of what we do and we engaged with more than a thousand organisations spanning the globe to influence the good governance debate. We also delivered industry and technical reports, and resources to help you practically. As your professional body we have a responsibility to influence and support employers and wider industry. We partnered with 24 corporates, in industries ranging from defence to automotive and construction, helping us to create legacies and offer clear development pathways for the entire quality team. By working closely with industry we were able to gain insight and provide cutting-edge information on what business needs from you as a quality professional, as well as how you can rise to the challenge.

Read it
Get the full story by reading the *Annual Review* at **quality.org/annualreview**

CQI staff visit Bombardier

CQI staff have been treated to a tour of Bombardier Transportation's Derby site as part of a new initiative at the CQI to meet and observe quality professionals in action.

Through an exclusive tour of the production facility from project quality leader Tony Jordon, CQP MCQI, the team was able to learn about Bombardier's quality culture and its quality graduate scheme.

Jordon said: "The site tour helps to demonstrate the 'Built-in Quality' approach we have deployed at Bombardier Transportation to provide assurance that quality is at the heart of what we do.

"All three attendees actively asked questions as they were introduced to our team to determine for themselves that the approach was deployed throughout the site."

Do it
Do you want CQI staff to see quality at your organisation? email **editorial@quality.org**

Spring at the CQI: what's on in your area

March signals the start of spring, so why not turn over a new leaf and make the most of our opportunities for professional development? From branch events to training opportunities, we have your learning needs covered

MARCH 9th	APRIL 10th
CQI London: Customer loyalty and the quality profession	**CQI North East: Anti-fragility, more than robustness**
Time: 6.30pm to 8.30pm **Location:** The CQI, London This seminar is hosted by the brand new London branch. Mark Eydman, CQP MCQI, chair of the CQI Leicester and Coventry branch, will discuss the impact of customer loyalty on success and the role of the quality professional in this process. Expect to find out about the challenges of implementing an impactful Net Promoter System in a commercial business.	**Time:** 6.30pm to 9pm **Location:** Durham Professor Tony Bendell, CQP FCQI, will question the factors impacting the reputations of high-profile organisations, asking why system and organisation failures are higher now than ever before. Delegates will gain an insight into problems and solutions for organisations and they will find out how they can rise to the challenge as a quality professional.

A new season of cutting-edge training

Our foundation courses are perfect for those new to quality or for those in wider industry looking to learn new skills. Book a course today or recommend a colleague

Introduction to product and service management
Date: 6 March and 23 March
Location: The Cotswolds
Overview: Gain a better understanding of the fundamental tools and techniques, and gain a structured methodology for effective product and service management across a broad range of contexts.
Perfect for: those new to supply chain management, customer liaison and those looking to understand the product or service lifecycle.

Introduction to management systems
Date: 8 March
Location: The Cotswolds
Overview: Gain an overview and awareness of the structure and purpose of a formal management system. Delegates will leave the course with the ability to explain how customer and stakeholder requirements can be used to develop a management approach that sustains improvement and customer satisfaction.
Perfect for: those new to compliance and formal management systems.

Introduction to stakeholder communications
Date: 27 March
Location: Birmingham
Overview: Learn the key skills needed to communicate, influence and negotiate with stakeholders in a broad range of contexts. Leave with the ability to explain how understanding organisational change can improve stakeholder relations.
Perfect for: those who want to improve both their own communications and the communications of others in their organisation.

Introduction to risk management
Date: 13 March
Location: Birmingham
Overview: Learn the fundamental tools and techniques and walk away with a structured approach to risk management.
Perfect for: those who want to apply key tools in the workplace.

Book it
Take the next step in your career and visit
quality.org/bookacourse

Behind the scenes: revising ISO 9004

Mark Braham, CQP FCQI, reports from Rotterdam, where he represented the CQI as Category A liaison for ISO/TC 176, the committee revising the quality management standard

I am pleased to report back to our members on developments at the 32nd plenary meeting of ISO/TC 176 on quality management and quality assurance.

ISO 9004:2009 'Managing for the sustained success of an organisation – A quality management approach' gives guidance for supporting the sustained success of organisations who work in a complex, demanding, and ever-changing environment, and use a quality management approach.

The standard explains that sustained success will be achieved when businesses meet the needs and expectations of customers and other interested parties.

This will only be effective if you plan for the long term and create a learning environment, led by management so that enhanced improvements or innovations are made throughout the entire organisation.

One advantage of this standard, compared to many others, is that it includes a self-assessment tool for reviewing the maturity level of the organisation – covering its leadership, strategy, management system, resources, and processes. This tool identifies areas of strength and weakness as well as opportunities for either improvements or innovations.

ISO 9004 provides a broader focus on quality management than ISO 9001. It aims to meet the needs and expectations of all relevant interested parties and provides guidance for the methodical and constant improvement of the organisation's overall performance.

At the meeting

The meeting took place in Rotterdam, Netherlands. On the first day we stayed together as a working group and went through the general, title and clauses 0-4, before breaking into smaller task groups to complete clauses 5-11 and annex A.

For those who do not know the process, we start by reading through the comments and the recommended action. Believe it or not, ISO does not have a standard response for each comment. The secretary of each technical committee decides the format we should use, so once all comments have been dispositioned we have an auditable record.

We then decide the outcome as a task group, using experience and knowledge from individual experts from industry in different countries and consultants who use the standard. There are a number of outcomes for each comment: it might be accepted in full or partially, it could also be noted or rejected.

Despite the many comments I hear on various forums, the process is fair and we reach consensus on every comment. Sometimes everyone agrees but in other situations we can debate for some time until the majority in the room agrees with the text in the standard. It is the responsibility of the convener to ensure all group members have an opportunity to speak and debate their views.

I have the utmost respect for many members because everything is discussed in English so those from other countries have to translate and then respond quickly. With so many different people from different backgrounds, I often find that we all read the same text but apply it differently. However, this helps us to agree on a way forward. As we have people in the room from different cultures and languages, we can quickly check if the text makes sense when translated.

We are aiming to publish a draft in early 2017. The decision to go directly to Final Draft International Standard has not been made but is permitted by ISO. All CQI and IRCA members will be informed of changes as soon as they occur.

Read it

Catch up with breaking news and insight on quality standards by visiting the Knowledge hub at **quality.org**

In total there were 815 comments:

39 GENERAL

02 ON TITLE

163 ON CLAUSES 0-4

82 ON CLAUSES 5 AND 6

100 ON CLAUSE 7

79 ON CLAUSE 8

123 ON CLAUSE 9

88 ON CLAUSE 10

58 ON CLAUSE 11

78 ON ANNEX A

03 ON BIBLIOGRAPHY

Opinion

Joanne Smith
Can I lead?

Understanding the people I work with has played a huge part in my job as a senior quality engineer. My current role is dynamic because I am exposed to academic and practical tasks. One day I could be inspecting components and solving manufacturing issues, the next day I could be leading improvement projects. I am continuously having an impact on governance, assurance and improvement in the business.

However, I want to become better and more influential in my role, and I am always looking at the gaps in my knowledge. Recently, I completed a self-evaluation against the CQI Competency Framework. The evaluation identified clear gaps in my skills – the biggest gap being leadership. The Competency Framework tells quality professionals to use leadership behaviours to maximise influence and develop a culture of evaluation and improvement. In this very sentence there are key words that highlighted what I was missing – 'behaviours', 'influence' and 'culture'.

As productive as I was in my tasks, I was lacking the leadership skills to influence. I needed to find the optimal method to understand my team so I could encourage a culture of evaluation and improvement. I created professional personal profiles using a questionnaire for colleagues to complete. This revealed their behavioural styles, motivations, expectations and stress behaviours – allowing me to interpret their personalities.

My advice for quality professionals is to understand how you can work more effectively with your colleagues. Then you can use the results to support your decisions as a leader.

Joanne Smith, PCQI, senior quality engineer at Mixing Solutions

Phillip Russell
Stuck in the Dark Ages

More than 30 years ago I was involved in the handover of data at project completion, which included boxes full of 'as built' drawings (drawings which show the changes made during construction) and associated operational and maintenance manuals in paper form.

Throughout the past 30 years, we have used floppy disks, CDs, memory sticks and now we are promised BIM, the 3D model-based process for designing buildings. Still, as an operational and maintenance engineer, I am provided with little information I can use to efficiently operate a project once it is completed. This is due to poor communication. My maintenance engineers use YouTube videos to better understand how to maintain equipment, rather than operational and maintenance manuals that do not speak to them in a media they understand. The construction industry is stuck in the Dark Ages with regards to the processing and handover of data. People who use technology in every aspect of their life revert to paper and pen for much of our industry.

We must embrace the opportunities that technology offers, with a new approach to integrated digital information through the opportunities BIM offers. This means a digital representation of projects updated in real time with the information we need. For example, I should be able to click on the asset on my tablet and a video of all the appropriate operational and maintenance procedures should be available.

Operational and maintenance engineers should be involved at the design stage so they can decide what they need – not what the rest of the industry thinks they need.

Phillip Russell, asset manager at Costain

Say it

To have your say on the burning issues or share your thoughts on anything in this edition of *QW*, email: editorial@quality.org or send your letter to: The Editor, *Quality World*, Chartered Quality Institute, 2nd Floor North, Chancery Exchange, 10 Furnival Street, London, EC4A 1AB.

Digital highlights

Tweets: @Qualityworld

Louise James
@LouLouJames31
It's nearly time.... @Qualityworld CQI in Healthcare Science Session at @ViapathUK #innovation Symposium can't wait #carehomehack #A3 #IA6
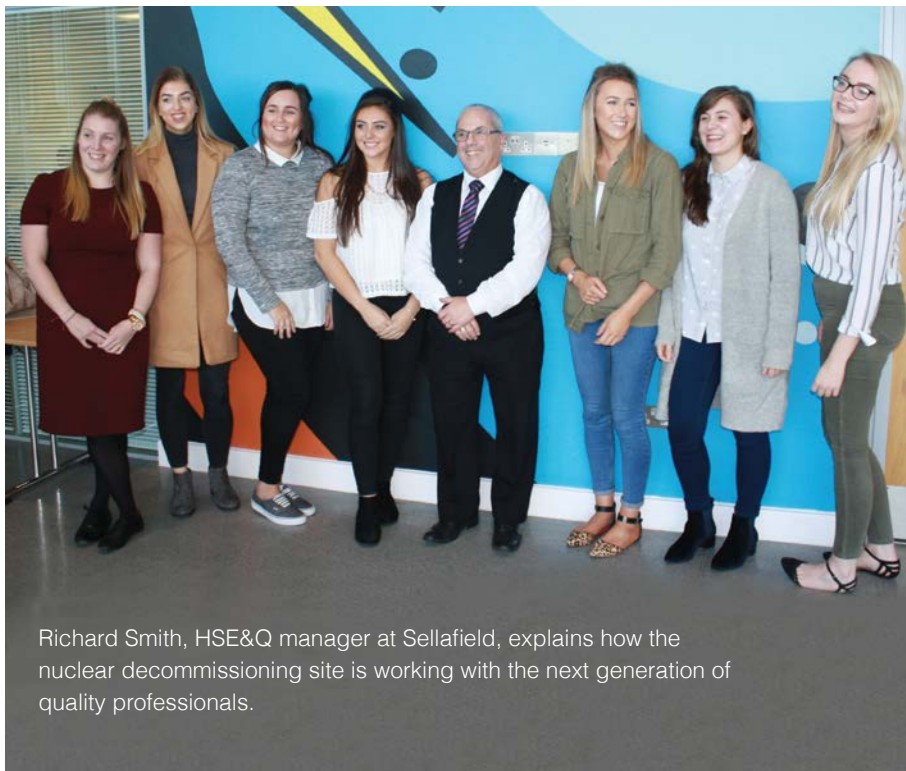
Claire
@claireTempleQMS
Congratulations @Temple_QMS proud to host an evening of celebration for our learners [who are] now Chartered Quality Professionals.

Oliver Parry
@OliverWParry
Great session this morning with @Qualityworld @ICSA_News @PwC_UK on @The_IoD's future work on #corporate governance @estelleclark

The big story: Training the next generation

Richard Smith, HSE&Q manager at Sellafield, explains how the nuclear decommissioning site is working with the next generation of quality professionals.

Quality and consumer trust in the age of fake news

Fake news is high on the agenda in 2017, with more than 44 per cent of US adults receiving their news from Facebook. Triaster's Brad Fagan explains why a culture of quality is critical for protecting reputations and ensuring consumer trust is maintained.

2016 in pictures – improving your member benefits

To complement the launch of the new CQI *Annual Review*, we look at some of the highlights from 2016, showing how we improved your member benefits. View the slideshow to make sure you are using all of your benefits. Visit the Membership News section in the Members' Area.

LinkedIn discussion of the month

Mark Eydman, CQP MCQI, calls for members to support branches
"Branches are not just about the AGM and committee meetings but offer an ongoing programme of events, which may revolve around a presentation, site visit or social event. Attendance supports your CPD and provides a great opportunity to build relationships with fellow professionals. How about committing to attend a branch event or two in 2017?"
Visit linkedin.com/groups/1908534

The CQI provides a wealth of content as part of your membership package. As well as *Quality World* magazine, you can access a whole archive of great content on our website, quality.org. Read the expert articles in our Knowledge hub and search by sector, topic or competence. You can also download ISO reports and resources in the Members' Area. Look out for the yellow action boxes in this issue of *QW* for further reading.

⬇ Download it
Prefer to read *QW* on your tablet or computer? Flick through the digital version of the magazine or download it to read on the go. Just log in to the Members' Area at **quality.org**

Assurance in a changing world

ILLUSTRATIONS: RICHARD DUCKETT
WORDS: MIKE TURNER

In an exclusive extract from the new *Repositioning the Profession* series by the CQI and Oakland Consulting, leading quality professionals share their views on the top 10 components of a 21st century QMS

The CQI's Competency Framework shows how governance provides the foundation for organisational effectiveness by establishing clarity of purpose/intent, which is then captured in policies, plans, processes and the capability required of the people and the partners. This all becomes meaningless, however, if the setup is not implemented. Assurance activities are needed to ensure that all stakeholder requirements are being met, in terms of both the product or service and the operation of the processes by the people.

In recent years we have seen many well-publicised examples of the absence of effective assurance activities and the disastrous consequences that can develop, including the serious impact on reputations. These have ranged from companies simply failing to deliver products and services that meet established and accepted customer requirements, through to phone hacking by members of the press, overstating of profits in the retail sector, banks involved in a range of misdemeanours, falsification of product performance data – and even to the claiming of excessive expenses by MPs. The effects of these occurrences in the modern world can quickly become global news.

The Repositioning the Profession series has been informed by interviews with senior quality professionals from a range of private and public sector organisations. In semi-structured interviews, each respondent was asked a set of questions relating to their experience of the key areas of competence within the framework. As in the previous parts in the series, this part makes direct reference to their experiences, as well as using them to inform conclusions. This contributes to understanding the complexities of assuring quality in the 21st century.

»
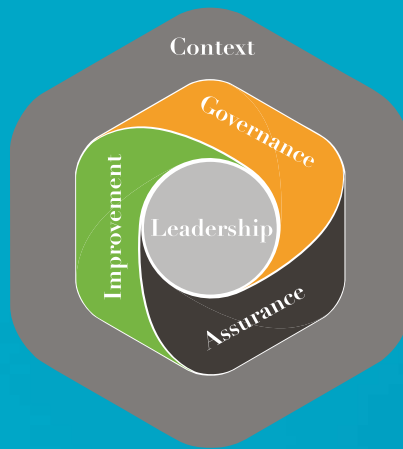
Governance: How quality professionals use the right approaches to create plans, polices and processes that deliver strategic goals, working to harness the entire organisation to meet all shareholder and stakeholder expectations

Assurance: How quality professionals provide the invaluable confidence that these plans, policies and processes are effectively implemented to minimise and manage risk and sustain reputation

Improvement: How quality professionals enable and facilitate organisation-wide learning and improvement

Context: How quality professionals use domain and/or industry knowledge and understanding, essential for the implementation and sustenance of the above
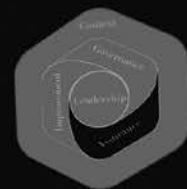
The 10 components of a fit-for-purpose 21st century quality management system

Assurance is about ensuring that the defined requirements are understood and fully met, so it is important to:

1.

Get a balanced set of indicators that provide assurance

The use of balanced scorecards was referred to frequently in our interviews with senior leaders in the quality profession. According to Nigel Croft, chairman of ISO TC176/SC2 for Quality Systems, it is important for all boards and top management teams to look beyond just the financial report, and to consider other aspects, such as social and environmental reporting, and their potential impact on reputation and business performance.

The head of quality in a leading automotive company said: "The massive thing for most companies is measuring 'cost of quality', but so few adopt it. Within our industry standard it is actually stipulated that a company shall measure and understand the cost of poor quality and I have found personally that, if you want to wake up senior management teams to focus in on quality, once you put it into pound or dollar value, it certainly makes people sit up in their chairs."

"TO WAKE UP SENIOR MANAGEMENT TO QUALITY, ONCE YOU PUT IT INTO POUND OR DOLLAR VALUE, IT CERTAINLY MAKES PEOPLE SIT UP IN THEIR CHAIRS"

2.

Focus on process assurance as well as product assurance

This is especially important in a services or 'manu-services' (involves the manufacture of goods and the provision of after-sales service) environment where the 'product' is a combination of tangible and intangible outcomes. Paul Bunting, environmental health safety and quality manager at the Nuclear Advanced Manufacturing Research Centre (Nuclear AMRC), noted in the context of that business: "The lines between product and process are becoming increasingly blurred. The processes that run that piece of research or that development programme are the ones that underpin it and, therefore, it's about getting those processes right so that the product comes right at the end." So often, managers focus too much on trying to monitor and fix the outcomes, rather than building process and people capability.

3.

Work to reduce the potential causes of failure

Croft notes that in ISO 9001:2015, the production and service provision process requirements contain elements of automation – foolproofing etc – that form the basis of a robust assurance approach. He says: "I don't see process and system approaches as two separate things. My suggestion would be to look at the description of the quality management principles described in ISO 9000:2015, one of which says, 'Consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes that function as a coherent system'.

The quality professional really has a role as translator, putting 'technical quality language' and concepts into the context of the business in which they are working – in simple terms that top management and all levels of management can identify with."

4.
Work hard to get a good baseline for your metrics

At the Tees, Esk and Wear Valley NHS Foundation Trust, they believe in the importance of observation in establishing and maintaining this accurate baseline. Director of operations Adele Coulthard speaks of the importance of "teaching people how to observe, how to see things, in order to measure appropriately".

At Leonardo MW Electronic Warfare Lines of Business, a metrics pack is delivered to the board. Head of quality Gary Illingworth says: "The metrics pack is used to monitor business performance, but ownership and business improvement is driven through the operational guys on the shop floor."

5.
Obtain sufficient resources to deploy the chosen approach for assurance

Efficiency drives can lead to a reduction in the resources deemed affordable. Clearly, over-resourcing risks the quality function being seen in a 'policing' role, with the attendant abrogation of responsibility for 'quality at source', ie putting quality in the hands of those producing it, but too few can generate risks to the business.

How do organisations find the balance point? A number of them are mapping quality activities across the entire value chain and using the output to scope and size the resources required. Christopher Elliott, head of quality and configuration management policy at the Ministry of Defence (MoD), is acutely aware of the importance of finding this balance point. He argues that the efficiency agenda demands that roles cover a number of different disciplines, while the ever-increasing demand for specialist approaches leads to a division of labour. Achieving this balance is a constant challenge.

6.
Develop your own approach to assurance, based on the specific context of the business

The variety that so many businesses need to manage in their valued outcomes has led a number of companies to develop business management systems that allow specific projects or products and services to vary practice within a framework of governance and risk management. Steve Williams, head of quality at Lloyd's Register Quality Assurance sees this as a critical element of developing the right approach to assurance. He says: "You have to understand what you are doing, who you are doing it for and what the risks are of not delivering what your customer wants." Neil Anderson, managing director at Caterpillar Skinningrove, says his organisation designed a bespoke QMS, developed from the best of a number of different approaches, as a consequence of finding that no single approach provided the levels of assurance its customers required.

7.
Assess the maturity of the organisation to handle the chosen assurance approach

Croft has observed how important this is. He describes how a 'quality at source' approach to assurance worked well where there was a strong quality culture led from the top, but how it failed in a less mature environment where quality had been driven by the quality function with a policing approach.

8.
Adopt the principles of target operating model (TOM) design to develop the assurance approach

A number of companies have used the TOM approach, which encompasses the design of the right processes, people resources, organisation design, technology, data, and partnerships, required to deliver the assurance outcomes necessary and sufficient

> ## "QUALITY PROFESSIONALS NEED TO BE WORKING AT THE POINT WE CAN INFLUENCE RATHER THAN BEING WHEELED IN WHEN SOMETHING'S GONE WRONG"

to deliver the strategic goals. Process design stems from a review of quality across the value chain, whereby organisations are mapping the quality assurance and control activities that must take place at every stage and when these activities will be carried out. This determines the skills, experience and capacity needed in process ownership roles and within the formal quality department. From that, the best organisation of these roles into teams and areas of responsibility and accountability is determined. Additionally, the best use of technology and data can be used to drive increased efficiency and effectiveness from the model.

A major automotive manufacturer uses this approach to assure the quality of supplied material and components to the assembly line. Every supplier is subject to a common set of quality standards, with help given by in-house technical assistants. These standards are developed right at the start of the design of a product or variant and set out the processes that will be required (manufacturing and business) to build a vehicle consistently and reliably.

At Leonardo MW Electronic Warfare, Illingworth has organised his quality team into functional assurance lead roles that carry out the necessary assurance activities, in concert with the relevant process managers and project leads. One of their roles is to approve changes or deviations to the business system as a consequence of the specific requirements of any one project. This achieves the right balance of agility with assurance. It enables his team to build up functional specialisms and, over time, earn credibility with the business. »

9.
Establish the right points of influence

'Quality' can so often be called in after the event when it is too late, or too early in the management cycle, when value-add is not recognised and there is no recognised role for quality to play (the resurgence of quality planning is challenging this business assumption). Illingworth has recognised this and seeks to discover the key points of influence, where a tactical contribution can be made: "I think quality professionals need to be working at the point we can influence rather than being over here checking stuff or wheeled in when something's gone wrong. Of course, we spend a chunk of time when things have gone wrong but the real cusp of it is to get in where we can influence what's going on." Illingworth has a theory that this is determined by two key factors: the extent of the changes required to meet variety (termed 'unplanned changes') and the extent of functional assistance required – or inherent risk. Figure 1 shows a simple correlation whereby, as both of these factors increase, the potential points of influence increase. Williams notes that, where the quality professional is integrated into the management team and not seen as on the periphery of the business, their influence on what goes on in the business improves dramatically.

Figure 1
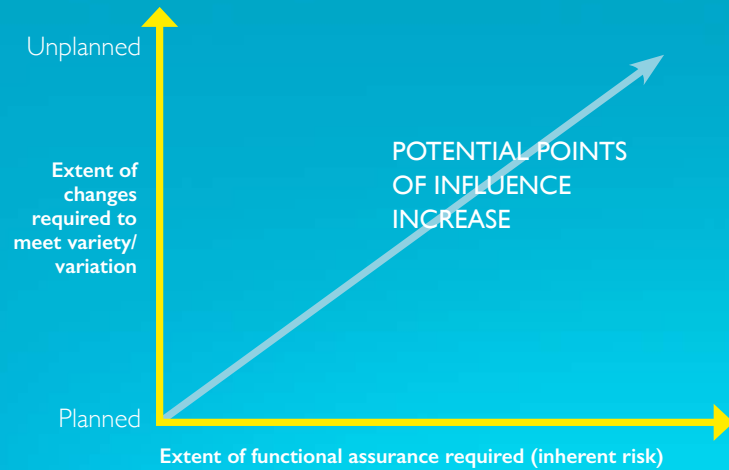Involvement of the quality professional to add value

Unplanned

Extent of changes required to meet variety/ variation

POTENTIAL POINTS OF INFLUENCE INCREASE

Planned

Extent of functional assurance required (inherent risk)

Figure 2
The extent and nature of influence

Figure 2
The extent and nature of influence

Extent of process change required to meet variety in value chain outcomes

| Functional quality leads provide peer review for required changes | Direct intervention by quality experts at key points of influence |
| Business management system-driven (concession managed) | Coaching and supporting functional leads to manage assurance activities |

Level of functional assurance required or inherent risk

10.
Provide up-to-date and accurate data to each point of influence

Anderson describes how he uses data in the Skinningrove plant: "We have a fantastic system at Caterpillar. Once the shoes are shipped and they are on a machine or an excavator, they are measured in four ways:

i) 0-20 hours of ownership, which is the first couple of days
ii) 21-200 hours, which is the first two months of ownership
iii) 201-1,000 hours
iv) 1,000 hours or more.

"I can go onto the system today and tell you our current figure is one PPM, so that's one failed shoe and the hours this defect occurred with a field report. This report tells us all we need to know. We feed this back to the shop floor with any process changes we deem appropriate. This corrective action, if required, is put in place with immediate effect."

The automotive industry also collects field warranty data at service points for zero, three, six and 12 months. In addition, it collects customer survey feedback, both from internal processes and from industry bodies such as JD Power. It also collects data from roadside assistance services and dealer experiences. Audit feedback, from suppliers right through to dealers, completes the set of data that is fed back into the design, manufacturing and assembly processes to drive improvement. This minimises the risk of missing the 'silent error', ie failure that is not reported.

Illingworth sums up this approach: "You know you can't always get engaged at the right point of influence, sometimes you don't know when it is, and it's a very busy environment, but that to me is what assurance is about – applying it at the right point."

This simple thinking could be applied across the whole value chain model in order to identify where the quality team can and must have the most influence. Moreover, it could be expanded into a four-box model that could be used to identify the extent and nature of influence (see Figure 2 above). ■

Download it
CQI and IRCA members can read part four of *Repositioning the Profession* in full, by visiting the Members' Area at **quality.org**

THE INNOVATOR

Takatoshi Ohkubo is a Japanese quality director making a big difference. Here, he speaks to Natasha Cowan about what makes quality the differentiator at 3M and how he uses neuroscience to turn his team into influencers

WORDS:
NATASHA COWAN

PHOTOGRAPHY:
STEVE MORIN

Takatoshi Ohkubo is the director of corporate process innovation and quality assurance at 3M Japan. The company is widely considered one of the most innovative organisations in the world and is a winner of the US government's prestigious National Medal of Technology.

3M was founded in Minnesota in 1902 as a small mining venture. Fast-forward to 2017 and the company now makes 55,000 products and operates in about 70 countries across the globe. These products include everything from the sticky tape on your desk to stethoscopes used by hospitals internationally.

Famously, the organisation has employed the '15 per cent rule', which encourages staff to spend up to 15 per cent of their time pursuing their own thought experiments and projects to create breakthrough inventions. This policy has inspired innovation organisation-wide and was responsible for the invention of the company's most famous product, the Post-it Note.

Ohkubo has risen up the ranks by understanding the psychology of management and creating a culture that ensures quality meets 3M's innovative philosophy. His novel management techniques have made him a force to be reckoned with and ensure he keeps his customers happy and his staff even happier. Here, he tells *QW* readers his secrets. »

"I TELL MY TEAM TO GET TO MEETINGS FIVE MINUTES EARLY AND SUBMIT THEIR MEETING MINUTES WITHIN 24 HOURS BECAUSE THIS BUILDS A GOOD RELATIONSHIP, FREE FROM ANXIETY AND FULL OF TRUST"

What is your role at 3M?

I design innovative quality processes and take responsibility for the corporate process and corporate products, including complaints. The quality team optimises the digital process at 3M and our job is to improve results while using limited resources.

What does quality look like at 3M?

I employ high-potential people to come up with solutions to process issues. The team collaborates with different people across the company, such as the sales department, as well as the supplier and also the customer. Importantly, we play a governance role in the company because it is our job to make sure we deliver good quality to all our customers. This includes forecasting preventative activity to make sure the customer is satisfied.

What are your aims for 2017?

From a quality assurance perspective, we need to be prepared for potential quality issues in the new product introduction process and managerial change process. Crucially, we will be assuring against human error in the production line. We are also using Lean Six Sigma to solve issues in our processes and a key tool for us is DMAIC methodology (define, measure, analyse, improve, control).

Why is team development so important to 3M?

To do a good job quality professionals need a certain level of competency, for example, understanding the 5 Whys – this requires training and certification. By training the team in FMEA (failure mode and effects analysis), we are able to find clues for identifying potential risks in new products. The tool helps us to provide preventative action whenever we identify potential risks. Then we use a programme to identify quality issues after products are introduced to the market.

How do you train your auditors?

Often we hold workshops, including programme work sessions, to help auditors understand how to identify potential risks. We also give training in audit design because we want our auditors to speak to the supplier and gain information on the quality control process before they visit the workplace.

We then show them how to provide a potential risk analysis using FMEA and conduct a check based on the outcomes. Next, we identify issues through the audit and we meet with the supplier representatives to provide corrective actions. It's important to continue to communicate with the supplier after the audit so you can help them solve the problems with the product. Developing skills in communication with the customer is vital. Our auditors need to know how to build a relationship of trust with the customer so we identified a skillset for this.

Tell us how you build trust with the customer

I tell my team to use a good, logical approach when they are explaining a nonconformance. It's very important that the customer understands the issue with the product and they understand the corrective action, so we have trained our people to think about the issue from the customer's point of view.

How does understanding neuroscience help you become a better manager?

By understanding neuroscience we can learn about the biology behind doubt and anxiety in the workplace. These feelings are detrimental to relationships. For example, I ask my team to tell me if they are frustrated as soon as the feeling occurs. Why? Because when we are stressed our body creates the neurotransmitter cortisol, which leads to unconscious anxiety. Our brains use up 20 per cent of our daily calorie intake and 75 per cent of this is consumed by our unconsciousness, so the question is: how do we use this energy productively? When we think negatively we waste energy. One way of preventing this is to solve the customer's problems quickly with a well-thought out explanation.

Our Six Sigma Black Belts need to build a solid team so they must have good teamwork skills in order to build trust effectively. If cortisol is the key neurotransmitter in anxiety, then we should understand oxytocin is the key neurotransmitter for trust. »

"WHEN WE THINK NEGATIVELY WE WASTE ENERGY"

3M by numbers

1902
THE COMPANY BEGAN AS A SMALL MINING VENTURE IN MINNESOTA, US

55,000
PRODUCTS USED IN HOMES, BUSINESSES, SCHOOLS, HOSPITALS AND MORE

70
OPERATES IN ABOUT 70 COUNTRIES

2016
OPENED A STATE-OF-THE-ART, $150M (£120M) RESEARCH AND DEVELOPMENT LABORATORY IN MINNESOTA

2017
WINNER OF THE 2017 CATALYST AWARD, WHICH RECOGNISES COMPANIES WORKING HARD TO EXPAND OPPORTUNITIES FOR WOMEN

I tell my team to get to meetings five minutes early and submit their meeting minutes within 24 hours because this builds a good relationship, free from anxiety and full of trust. By acting in this way you become an influencer in your organisation.

What is your 'business system design for innovation' idea?

The idea is based on understanding the psychology of the human mind and using it to create organisational systems we can use to inspire people to pursue their professional goals and work in a more innovative way.

To empower your team and foster innovation you have to give people the freedom to pursue new ideas with the knowledge that whatever the result, they will be supported. For example, when a new hire joins a company, senior executives often expect them to deliver a productive and positive outcome quickly. During this time the new hire might propose an idea for making an improvement. If their manager is not supportive of the idea or the idea fails and the new hire is punished, he or she will sense there is a poor company culture.

People do not like change, however, change is crucial if we want innovation to take place. For an organisation to be successful, employees have to stretch themselves and often this means doing something that is a little out of their comfort zone. This might give them some anxiety and they might feel compelled to do the task. I call this the 'stretch process'. A manager's job is to support this process by giving the employee a feeling of safety and security, for example, directly helping them when they have a question and reminding them your door is always open. I call this the 'serotonin effect' as it creates feelings of a calmer atmosphere.

Serotonin is a chemical in our brain that helps us feel happy and secure. Sunshine and eating enough protein help us to create serotonin but you can also create serotonin through kinship with the people you like. This helps you during the uncomfortable stretch process and ensures you will succeed in a sustainable way. This type of management is proven to work far

better than giving people a light and easy workload and it even works better than increasing an employee's salary – giving someone a pay rise alone will not help them achieve their goals or climb the career ladder. Feeling respected by your manager and colleagues motivates you to pursue new goals and stretch yourself.

By creating a continuous cycle of setting new 'stretch goals' and supporting your staff, you will give people more resistance against stress as they know they will be supported in the future. By following this formula, employees will be less afraid of failing and will want to pursue new achievements for the team and the company as a whole.

"WE PLAY A GOVERNANCE ROLE IN THE COMPANY BECAUSE IT IS OUR JOB TO MAKE SURE WE DELIVER GOOD QUALITY TO ALL OUR CUSTOMERS"

How are you engaging people across the company in quality?

Our team is able to demonstrate excellence across the organisation because they show people their achievements. We lead workshops across the company and we always find the root cause of a problem and give a corrective action, along with identifying potential future risks. During these workshops we engage with others, for example, our manufacturing and sales teams, and solve their challenges – proving quality is an asset to everyone in the company. ■

Hygge:
the Danish way to create a culture of happiness and innovation

Across the world from 3M's Japan headquarters, the Danish Happiness Research Institute conducted a study of job satisfaction in the workplace – with surprising results.

The report, published in 2016, found Denmark has the happiest workforce in Europe, with 94 per cent of Danish employees saying they were satisfied with their work, while the EU average is a mere 77 per cent.

If you read the lifestyle section of any magazine or newspaper in the last year, you would have learned about the Danish phrase 'hygge'. The seemingly untranslatable word has sprung in to the vocabulary of design gurus and East London hipsters alike. A feeling of homeliness or cosiness is often used to sum up hygge and it is often likened to sitting by an open fire on a cold winter's night. Now, CEOs are using this idea to increased productivity in the workplace and evidence suggests this could this be the root cause of the 17 per cent increase in job satisfaction.

According to the Happiness Research Institute, good leadership plays a significant part in ensuring job satisfaction and managers need to pay attention to employee's achievements, telling them how their contributions have helped achieve the big picture. As Morten Fjord, manager at Kolind Centralskole, says: "It is particularly important as a leader, when work assignments get complex and challenging for a company, to strengthen employees' belief in their own abilities."

Additionally, the research suggests money has almost no positive impact on job satisfaction. However, this does not negate its importance to people's satisfaction with their life outside of the workplace.

Lastly, the report found that trust is pivotal for creating job satisfaction and retaining staff. Trust increases productivity and decreases stress but it has to operate as a two-way system, between colleagues and between employees and managers. However, the trust between leaders and staff has a greater impact on motivation. To strengthen trust, leaders and employees should meet regularly and these meetings should be smaller as people tend to hide in larger crowds. ◼
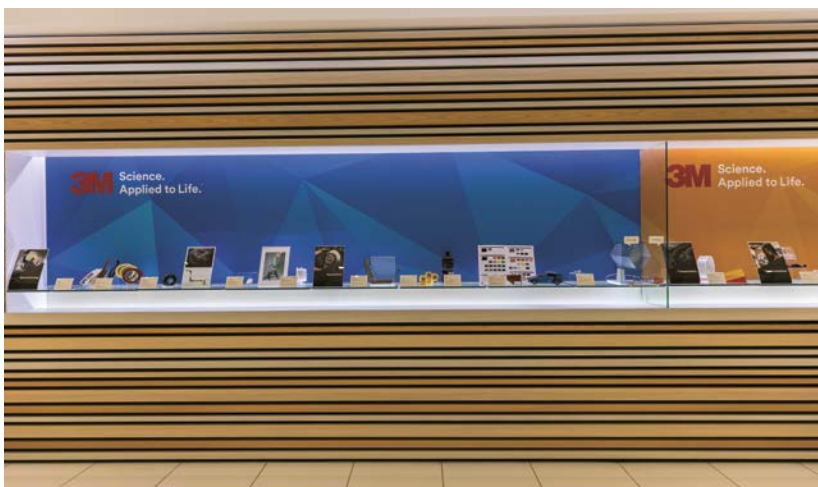
ROBOT
REVOLUTION

Ocado has grown rapidly since its launch in 2000, from three people in a single room to over 10,000 employees, becoming the world's largest online-only grocer. Dina Patel speaks to engineering R&D manager Sid Shaikh and Ocado Technology general manager James Donkin to find out how humans and robots are working together to deliver more

Ultimate pie company

PIE

Only the finest ingredients

USE BY DATE : SEE SIDE OF PACK
KEEP REFRIGERATED BELOW 5°C

250g

BOT - A008

Red Wine

Made with
100% DURUM WHEAT

Since three former Goldman Sachs bankers launched Ocado, the business has blossomed as a successful online retailer with no physical stores. The company even recorded growth during the 2008 recession while other supermarkets and retailers floundered. In an interview with the *Financial Times*, one of the founders, Tim Steiner, said Ocado had adopted a number of initiatives to protect the business during the economic downturn. These included understanding the changes in consumer purchasing patterns, adapting to their needs and introducing internet-only prices.

Today, the company continues to innovate by utilising the latest automation technology at its new warehouse in Andover, Hampshire. Automation has come a long way since the first robot was used in a General Motors plant in the 1960s, and with other industries choosing to explore the intensive use of industrial robotics, there is an opportunity to re-imagine the possibilities of using automation and AI.

Visit Ocado in 2017 and you will see robots form an integral part of the fulfilment of customer orders. It's a system designed to improve speed, accuracy, efficiency and customer satisfaction. These robots deliver results, as *QW* reveals…

ROOKS ON A CHESS BOARD

Planning for the Andover warehouse began three years ago and the first part of the journey was to prove that Ocado could deliver product development. Sid Shaikh, engineering R&D manager, tells *QW*: "We were confident we could deliver the pick stations because we've done that before, but developing the grid, bins and robots was new to us. We partnered with a lot of external suppliers to map out what this journey and timeline would look like."

The new warehouse takes the existing process at the Hatfield and Dordon facilities to another level. The biggest difference between the old and new is that the previous conveyor system, which transported goods around the warehouse, took up a lot of space.

The new system at Andover is concentrated in a compact grid, with robots moving up and down like rooks on a chess board. Underneath the 'chess board' sit yellow and green crates containing products in storage, which are picked by the robots and taken to the edge of the grid. Here, a member of staff picks the desired item and puts it in the customer's crate. The robot then takes the storage crate back via the grid.

"These robots run on a track that's several metres up in the air," Shaikh says. "We have a racking system that includes hundreds of thousands of

»

bins full of products and there are up to 3,000 robots running on the top of this grid. The robots travel in different directions and go down several metres to pick up a bin.

"Then the robot zooms off and puts the bin in the appropriate location. The challenge is to avoid collisions as the 3,000 robots run at four metres a second, within a few millimetres of each other."

The accuracy of the system is critical as every customer order is different. "We pick millions of products and we have over 50,000 different products," Shaikh adds. "We never have an identical order so our software needs to track inventory coming in, inventory being picked, and schedule customer orders."

One of the benefits of the system is that if one robot stops working, another robot can pick up the shopping. As a result, the average time it takes to pick a customer's shopping has been reduced from two hours to 15 minutes.

In order to avoid the contamination of products and products being crushed, Ocado

also measures the size and weight of its goods. "We have a machine which scans the shape of products as well," general manager James Donkin says. "There's an algorithm which looks at combinations and the sequence of picking things. That algorithm will favour the segregation of products, based on keeping meat separate from fresh vegetables, and avoiding things like putting a heavy melon on top of crushable eggs. It's all about data gathering."

Donkin says the safety process around those in an operating warehouse is also critical, particularly for those working on engineering
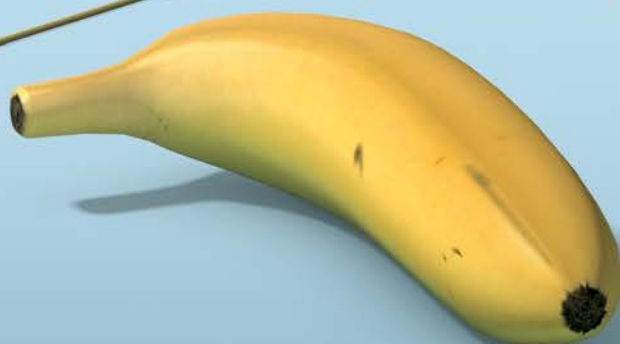
and repairs. "The customer fulfilment centre in Hatfield has a similar length of conveyor belt to Heathrow Terminal 5. It means there is a lot of automation at work and, from a safety perspective, having the ability for any pick station to hit a stop button is really critical to us."

SMARTER TECH

Shaikh says Ocado is a company that wears two hats. "We deliver online groceries but we're also developing technology for our use and for use by other clients. We currently have a deal with Morrisons where we deliver online orders to their customers from Dordon. We also supply Waitrose products to our own customers and as a result we provide the equivalent of 25 stores in terms of grocery deliveries. With Morrisons, we took them from having a zero presence in ecommerce to having a state-of-the-art system."

Ocado has recently signed up Morrisons for its Ocado Smart Platform, an end-to-end grocery ecommerce fulfilment solution.

The technology allows other retailers to operate the entire shopping process for their customers using integrated software systems. These include interfaces with their customers, management systems for supply and inventory, management and control systems for the fulfilment centres, and software to optimise delivery routes. Ocado is now looking to market the Ocado Smart Platform to other retailers worldwide.

Shaikh says the software helps convince companies overseas that they can have an automated warehouse facility with an online presence without the need to build a 200,000sq ft warehouse and the £200m investment.

With the Ocado Smart Platform, Shaikh says these businesses will be able to lease a small facility and build a small grid with a few robots and pick stations, and then scale up the grid as their online business grows.

KANBAN AND IMPROVEMENT

Donkin, who oversees the Ocado Smart Platform, says a big part of his role involves getting the right people in the right place to carry out the right work. He ensures the teams understand what good looks like in their discipline and that they've got the knowledge to deliver results.

The real way to create continuous improvement, Donkin says, is to give teams at the ground level a clear idea of what Ocado is trying to do and where the company wants to go. "We need to tell them what our mission is and then give them enough autonomy and scope for decision making. In most agile practices, there will be a workflow »

of some kind and often tasks will be visualised using a whiteboard, typically with a 'done' column.

"It's important there's a common understanding among teams about what 'done' means. It sounds easy but depending on the context of the software you're building, 'done' can mean different things. It's basically specifying what it means for work to be finished. When someone says something is 90 per cent working, to me that's not working. So we've been very clear about what 'working software' is."

Ocado also has a 'Kitemark'-type initiative in place to ensure the software conforms to high standards. Donkin says there were two stages to the initiative: "The first was establishing the marks and rolling them out. When we decide on a new mark, we will typically look to assemble a group of experts. They form a working group and write a white paper on why it should be a mark.

"We'll then release that to the whole technical community for comment and get feedback. Once we get consensus or feedback, we'll then document it into the mark requirements and build it into the process so it becomes part of the checklist. With the new marks we also have a new process where we give people time to work through all the software and implement it."

Donkin says the company is growing quickly and bringing in new teams all the time. It can be a challenge to educate

> "The new system is concentrated in a very compact grid with robots moving up and down like rooks on a chess board"

the teams on what they should be aiming for. "If teams are releasing software very slowly and have very long testing and debugging cycles then that's a sign of bad quality. We're not trying to build the organisation like a machine with cogs and wheels, and specify all the interactions.

"I'm trying to empower staff to produce really good code and be able to identify an issue and take corrective action. This means allowing variety in teams and variety in ways of working, because people face different challenges. It's important to tell employees why quality is important and why the senior managers really value it."

And Ocado's senior management team is highly involved in the day-to-day running of the business. Shaikh says it is essential to gather senior stakeholders in a room to discuss multiple projects taking place on multiple sites.

"These meetings occur regularly so our rate of innovation is quite high. This is because we don't have to wait a long time for a decision to be made."

THE HUMAN TOUCH

While quality principles clearly play a leading role at Ocado, what does its move toward automated process mean for the quality profession? Automation and AI will undoubtedly change the shape of industry and business over the coming years but Shaikh is adamant that the machines do not pose a threat to human resources. He argues the technology has only made Ocado more competitive in the retail market and encouraged growth. "When I joined Ocado five years ago, there were 2,000 employees. We now have over 10,000 employees, so although we're highly automated, we're still employing more and more people."

Two-and-a-half years ago, the engineering R&D department consisted of Shaikh alone, but has grown to 35 employees. Shaikh predicts by the end of 2017 there will be 60 people focussing on high-end product development capabilities. "Rather than just project management, we will be focussing on systems engineering capability, reliability engineering and safety engineering. We're also recruiting a design team, new product introduction engineers and manufacturing engineers.

"I think that '100 per cent automation' is a while away. If you ask people on the street what they know about Ocado, they usually talk about the great customer service. While we know that automation is a very hot topic at the moment, for the most part consumers

THE JOURNEY TO ROBOT PICKERS

Ocado's first customer fulfilment centre (CFC) opens in Hatfield, Hertfordshire
2002

Ocado on the Go apps launch on Apple and Android
2009

Ocado Technology established as separate division within Ocado
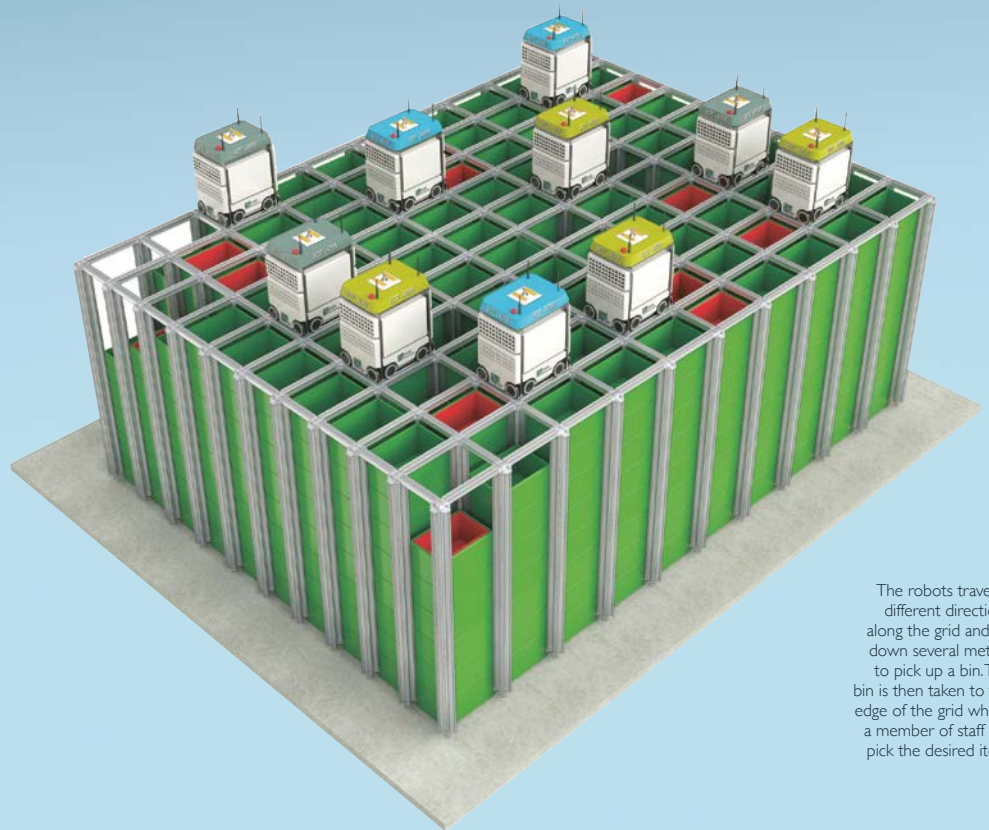**2012**

General merchandising warehouse and Dordon CFC open
2013

The robots travel in different directions along the grid and go down several metres to pick up a bin. The bin is then taken to the edge of the grid where a member of staff will pick the desired item.

Engineering R&D manager,
Sid Shaikh

Ocado Technology general
manager, **James Donkin**

"The average time it takes to pick a customer's shopping has reduced from two hours to 15 minutes"

prefer to have a human touch. For Ocado, that human touch is expressed by the delivery drivers and our customer contact centre."

Shaikh says Ocado's long-term robotic research programme will continue to explore areas where automation can be applied to assist with heavy lifting or repetitive tasks.

The business is involved with the SecondHands project, which aims to design a robot that can offer assistance to warehouse maintenance engineers.

"We're looking at areas where you could use a robot assistant to help maintain an automated facility." The first version of this robot could be demonstrated later this year.

"It's a very exciting time at Ocado," Shaikh says. "It's a very fast-paced company. I've been working in automation for more than 25 years and I've never worked in a company where you learn so much and where there is so much innovation."

Signs deal with Morrisons – first strategic customer	Starts to develop OSP end-to-end solution for retailers	Launches world's first grocery app for the Apple Watch	Opens development offices in Poland, Spain and Bulgaria	Announces automated warehouse solution for Andover CFC	Andover CFC goes live
2013	2014	2015	2015	2015	2016

Knowledge

HOW TO WRITE A KILLER ARGUMENT

Neil Mellor, CQP FCQI

The chair of the CQI Construction Competency Working Group shares his tips for effective writing for quality professionals

With our skillset of governance, assurance and improvement and our detailed insider knowledge and experience of implementing change, the quality professional should be top of the list when it comes to making a bigger contribution to company success. Surely we should be in demand in every company – not just the few enlightened ones.

While the reasons are hotly debated in the profession, for me the biggest issue is our failure to present our message in the right way. We have a great story to tell but we do not always make it compelling enough for others to listen.

After recently attending cross-training on bid management and reviewing several submissions from other quality professionals, I came up with a few writing tips which could help boost the profile of quality in the corporate world. Each of these rules has stood me in good stead when it comes to engaging management in my work.

Rule 1
Ask: what's in it for me?
This is the first rule for writing a compelling article. When you ask, 'What's in it for me?' you are putting yourself in the mindset of the reader and the aim is to understand what would motivate them to read on. If you cannot engage the reader in the first few lines, then it does not matter how good the argument is because it is unlikely to be read. This is especially true with time-poor members of senior management who need to understand proposals quickly.

At school, we are taught to write scientifically by setting the scene, going on to explain and then laying out the results and reaching a conclusion. This is great to mark but is unlikely to be read unless it's obligatory. Quality professionals are particularly comfortable with supplying lots of accurate facts but these are not always palatable for readers.

Instead, think like a journalist. Journalists often reverse the structure to give us the reason to read their article (the conclusion) first. So why not make a resolution to start that important board paper or email by telling the reader why they should read it, before going on to explain the how? Leave our previous opening gambit – the evidence – to bring up the rear.

Rule 2
Make it readable
This may sound obvious but how many of us understand or use the readability statistics that are supplied with our word-processing package?

Turning on the readability statistics might throw up some confusing numbers but only a few of these are important.

For assessing readability, the Flesch-Kincaid Grade Level is probably best. This is a measure of how easy a section of text is to read, based on the reading ability of the average US school child. For example, ninth graders should be able to read articles at an index of 9.0 or below. The formula for the score is: $(.39 \times ASL) + (11.8 \times ASW) - 15.59$. ASL is the average sentence length (the number of words divided by the number of sentences) and ASW is the average number of syllables per word (the number of syllables divided by the number of words).

A piece is considered readable when it scores within a target band between 10.0 and 12.0. Too low and the piece will sound trivial, too high and the piece becomes difficult to read and is no longer enjoyable so it is unlikely to get the attention it deserves. So, keep that inner

> **"To be effective we have to be seen as part of the solution, not offering advice from the sidelines"**

'expert' on a leash and stop talking about 'requirements' and use 'needs' instead.

Rule 3
Avoid passives
Another little indicator that appears in the readability statistics is a percentage labelled 'passives'. To make the piece more engaging you should keep this measure below 10 per cent as passives make the piece sound either wistful or lecturing, neither of which will spur our reader to the action we propose. To be effective we have to be seen as part of the solution, not offering advice from the sidelines.

Rule 4
Keep it short and sweet
It is not surprising that the quote: "I am sorry I have written you a long letter because I did not have time to write a short one," has been attributed to effective influencers from Blaise Pascal to Winston Churchill. They all knew the key to influencing others was to take the time to sharpen the message as much as possible because a concise piece will always be more interesting and engaging for any reader. This may not always be practical, but for that important email or paper it might be worth it.

Keep these four rules in mind and you will soon be on your way to writing more hard-hitting and influential pieces. The evidence? Since adopting the above approach for my more important emails and written documents the responses have been noticeably more positive.

Neil Mellor, CQP FCQI, is head of business improvement at Kier

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LETTING GO OF FEAR

Russell Jowell

The communications manager at Worldwide Responsible Accredited Production (WRAP), a CQI and IRCA Approved Training Provider, urges businesses not to let fear drive social compliance
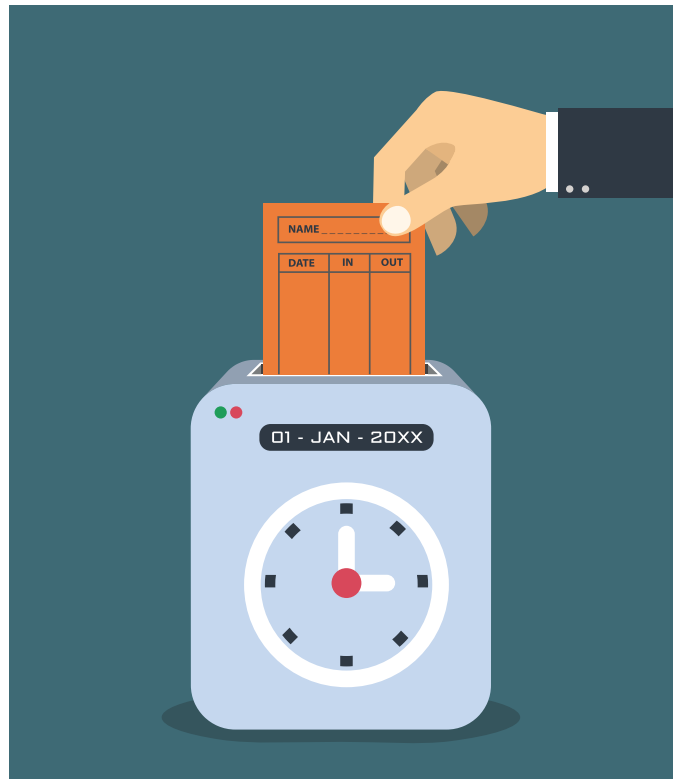
There's an adage that proclaims the key to change is to let go of fear. Fear is highly antithetical to meaningful change and, in an industry like social compliance, fear can put you on the road to failure.

Let's consider the concept of working hours as it pertains to social compliance, and specifically the origins of the industry. WRAP was born amid a push for greater accountability for working conditions in global garment factories. A set of standards known as 'WRAP's 12 Principles' were established to be used by independent accredited monitors to conduct an objective evaluation of a given production facility's social compliance.

Certification decisions could then be based simply on whether the facility provided adequate objective evidence to verify compliance with the principles. Among other requirements, these principles mandated that factories abide by the working hour laws of their home countries, a necessary provision in a time when many facilities were forcing their workers into excessive overtime – and in many cases, failing to pay for these extra hours.

Fearing the negative effects to their business of not passing a social audit, many of these facilities maintained dual sets of time records, including one that portrayed full compliance with working hour laws, even though the reality may have been different – a concept that became known as 'double books'.

Fast-forward to today and the world has changed significantly. Excessive working hours still exist in many facilities but economic opportunity is making more and more of these hours voluntary. What's more, the prevalence of double books has become a running joke in social compliance circles, mainly because the only thing they improve are the deception skills of fearful factory managers, which has resulted in a plateau of overall progress.

At the beginning of 2016, WRAP changed its policy on working hours to say that factories should meet the working hour laws of their country instead of insisting that they meet the requirement. Our ultimate objective at WRAP is to partner with facilities to improve their working conditions.

This is only possible if we have an accurate picture of conditions in the facility, even if the facility is not yet in full compliance with local laws. Rather than indicating a non-compliance, we work with these facilities to develop a 'Working Hour Action Plan (WHAP)' that outlines an accountable path to compliance for the facility.

All overtime must be worked voluntarily in healthy and safe conditions, and the facility must demonstrate progress on their WHAP in each successive audit, in addition to complying with the rest of WRAP's 12 Principles.

Fear is a poor post on which to moor your business and labour practices. It is highly unstable and will eventually lead to demise. Real meaningful change can only occur when fear is replaced with mutual, transparent trust and understanding as a base for progress.

> **"Fear is a poor post on which to moor your business and labour practices. It is highly unstable and will eventually lead to demise"**

Quality Standards Specialist & Auditor

NAVBLUE, an Airbus Company, is a leading global provider of flight operations solutions, including aeronautical charts, navigation data solutions, flight planning, aircraft performance software (take-off/landing, weight and balance), and crew planning solutions. These products directly support millions of flights each year and help NAVBLUE customers maximize efficiency, reduce costs, ensure compliance with complex national and international safety regulations, and effectively deliver their services.

NAVBLUE is currently seeking a Quality Standards Specialist Auditor. This role will be responsible for collaborating with the production teams to ensure that a high-level of quality is met, working with all departments to monitor and maintain proper documentation procedures, assisting with customer communications to demonstrate quality commitment, and meet quality metrics to help the business make accurate and strategic decisions.

The successful candidate has experience in flight operations, with a focus on air navigation and quality. Your ability to collaborate effectively at all levels of the business and champion Quality best practices throughout the organization is integral to this role. You are experienced in collaborating with teams to drive proper documentation, and setting high quality standards that are critical to making sound business decisions. You strive for success and are committed to supporting Quality whether it be for internal or external customers including or Civil Aviation Authorities.

Responsibilities:

- Partner with management & production teams, providing consultation and guidance on effective corrective and preventative actions, and identifying situations where the QMS could be more effective or updated as a result of non-conformances
- Maintain and assist in communicating the overall company audit schedule, ensuring that all departments are prepared and equipped, to ensure conformance with the Quality System and documented procedures
- Lead wash-up meetings and facilitate agreement on corrective and preventative actions
- Document areas of non-conformance and monitor non-conformances to verify that corrective actions have been taken, ensuring timely resolution or escalation as necessary, and close non-conformances with proper completion and evidence
- Assist with monitoring regulations and best practices issued by authorities and partner with management and production teams to ensure that they are integrated into products
- Research changes in industry standards as directed
- Review service providers in accordance with contracts and service level agreements; and, Conduct quality audits for customers as required
- Consult with management & production teams on development of process specific instructions and procedures that fulfill the QMS
- Liaise with appropriate authorities on behalf of the organization, including Civil Aviation Authorities, EASA and customers

- Maintain quality process documentation and track/analyze key quality metrics as required for continual process improvement and to aid decision-making
- Assist the Quality Director in devising Quality Management programs
- Support teams by promoting accessibility and understanding of the Quality Manual and QMS and conducting local training sessions on Quality initiatives and standards
- Participation in Quality Management Review Meetings as required
- Applying knowledge of air navigation and aircraft performance to assist in the review and suggestion of quality improvements for production processes, methods of instruction and quality check procedures
- Ensures procedures and training materials for various departments adequately addresses flight operations, customer use of the end-product and quality output

Academic/Education Requirements:

- Auditor course by an accredited organization (preferably Lead Auditor's course)
- Vocational qualification, diploma or degree in relevant subject
- Minimum 2 years' experience in aviation

Required Skills/Experience:

- Knowledge of quality systems and their implementation
- Experience as Quality Manager or equivalent in an ISO9001 environment an asset
- Ability to contribute in a collaborative environment
- Detail-oriented, well organized, and able to work with minimal supervision
- Proven ability to communicate and learn quickly while applying knowledge effectively
- Strong time management skills and ability to successfully work under tight time constraints
- Strong verbal and written communication skills
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- General understanding and base knowledge of flight operations, aircraft navigation systems and/or aircraft performance

How to Apply:

Candidates who are interested in joining the NAVBLUE team are invited to submit their resume and cover letter, highlighting their work experiences and skills via email to **hr@navblue.aero**.

We thank all applicants for applying. Only selected applicants will be contacted.

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Leadership in the Headlines: Insider Insights into How Leaders Lead
by Andrew Hill, Pearson (2016), £16.99

Leadership in the *Headlines* is a collection of short newspaper columns that have been brought together, all on the subject of leadership. I generally agreed with most of the principles, as I believe there is a strong difference between leadership and management, especially the importance of saying thank you. As it is a collection of themes, the book never goes very deep into any one aspect and I found it hard to get into.

The articles are well written and accessible, but occasionally they feel slightly general at first glance and only later reveal more intricate thinking. The themes are broken up by chapters and each chapter ends with a set of leadership lessons summarising the take-home message. These leadership lessons provide some linkage between the articles.

There are some articles that resonate more than others. For example, the article on 'purpose' being the new CEO buzzword was a particularly interesting read, as it considers the advantages and risks of such an approach to leading people.

This book is definitely different to other books on leadership. It's neither complex, nor patronising. There are a few interesting insights but the article format does make it feel a little disconnected and made it difficult to immerse myself in the book. Overall, I would recommend this to people who are looking for a quick read on their commute.

**Hannah Murfet,
CQP MCQI**
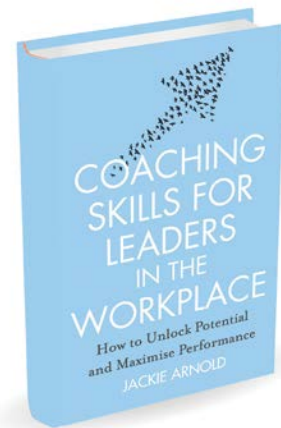
Coaching Skills for Leaders in the Workplace
by Jackie Arnold, Robinson (2016), £14.99

When I spotted the opportunity to review a book for *Quality World*, this title immediately jumped out at me as I am a firm believer in effective coaching and the value it can add to a person and a business.

I was intrigued about whether this book would enhance my knowledge and practical coaching skills.

I found it to be very informative, easy to read, well-referenced and structured. Each section has applicable case studies to back up the applications of the theories mentioned. The theories include establishing the right coaching climate and use of coaching models such as the Johari Window.

The book also contains guidance on coaching tools and exercises that a coach can conduct with their coachee, for example, confronting the energy drainer and the SDOC tool which analyses someone's strengths, development areas, opportunities and challenges.

The appendices also contain useful information such as example document formats to use. These include coaching contracts and coaching models.

The book is very detailed and does not neglect the basics of effective coaching such as establishing the right climate, effective communication, being aware of your body language, preparing in advance for a coaching session and avoiding bad habits such as rushing into a coaching session when you are running five minutes late.

**Geran Davies,
CQP MCQI**

5 minutes with…

Lucy Payne, CQP MCQI
Quality management consultant at Vale Quality Management Services, a CQI and IRCA Approved Training Partner

I'm a quality management consultant and trainer. As a sole trader I have to do everything the business needs, from admin to marketing and strategic planning.

Being able to communicate at all levels is a must. Interpreting the requirements of ISO 9001 is great, however, getting that across to everyone throughout the organisation takes special skills.

Today the profession is facing a new cultural challenge: inspiring top management to be actively involved in quality management systems. Getting quality into the boardroom where it belongs will rely on skilled and tenacious quality professionals.

If you want to promote quality you have to keep it simple. By sharing your knowledge, skills, experience and ideas, you can open up channels for communication that see quality permeate through the whole organisation.

Pitching quality in the boardroom requires a different language to pitching to the shop floor. The board are more likely to pay attention if you show them the benefits for the things that matter to them most.

Training is a great way to gain the skills to achieve buy-in from senior management. A great course can help you become the resident expert on tools and techniques.

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The courses help to eliminate any mystery surrounding ISO 9001:2015 by addressing organisational context, risk-based thinking and the process approach.

The foundation courses include process design, stakeholder communications and risk management – key concepts in ISO 9001:2015, helping implementation to be more meaningful.

Not every employer is willing to grant study leave and many quality professionals self-fund their learning and development. This can be challenging so I've created an e-learning platform to give people the opportunity to complete the courses within a budget and timescale that suits them.

The key to success is hard work, determination and always being open to a learning opportunity. But above all, a good support network is essential for keeping me focused on my goals.

Image: Ryan Cowan

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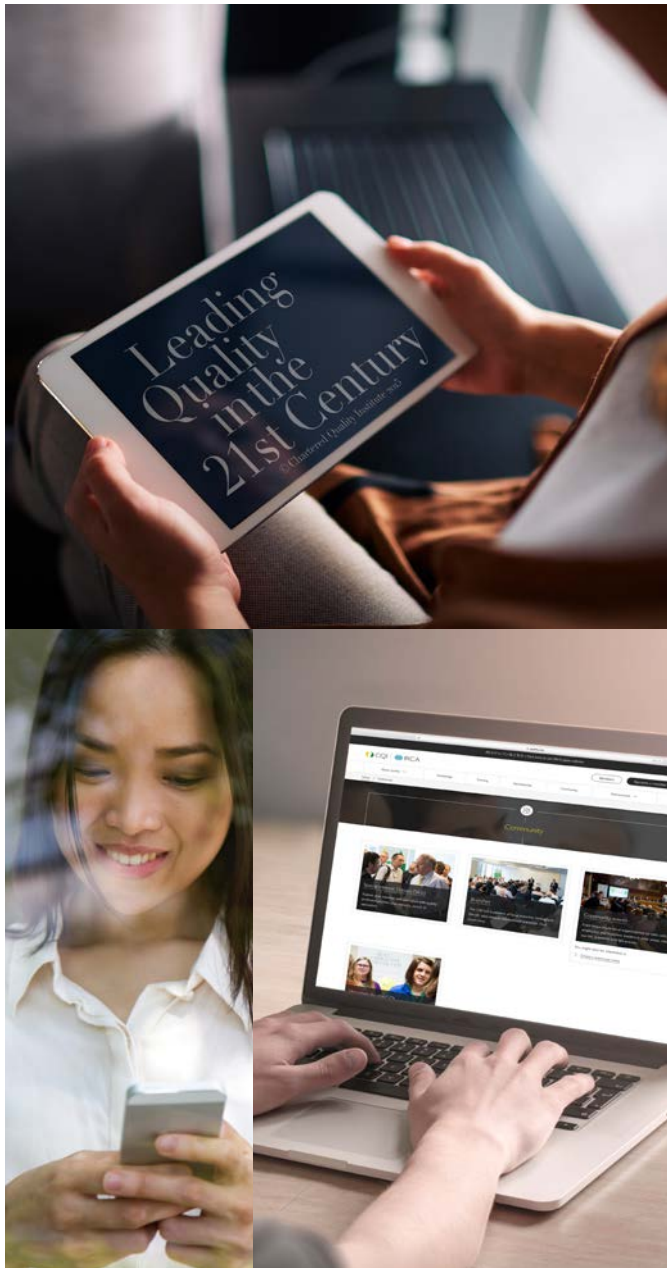
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