

Quality World

December 2018

CQI | IRCA



RESOURCE REVOLUTION

SUSTAINABLE SOLUTIONS
FOR THE WORLD'S
NATURAL RESOURCES

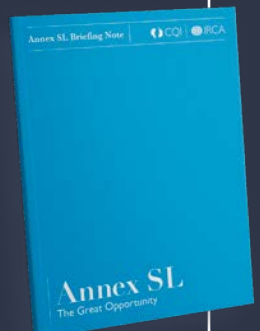
The ISO 19011:2018 report has arrived



Update your knowledge on the guidance standard for auditing management systems in our exclusive report **ISO 19011:2018 – Understanding the International Standard.**

Download your free copy from the **eLibrary** in the **Members' Area**. quality.org/members

Get a comprehensive understanding of the latest ISO revisions with our unique collection of resources, all available for you to download free from the **eLibrary**.



From the editor



Welcome to the final edition of 2018. I am super excited for the year ahead – the CQI's Centenary, and also the launch of *Quality World's* new look, which my team and I have been working hard on. Our readers' survey gave you an opportunity to share your thoughts on the magazine, and we have listened! In response to the feedback received, and as part of the redesign, we are introducing some new sections, which we look forward to unveiling in our next issue!

Also in January's edition, we'll be sharing all the news from the 2018 International Quality Awards ceremony! Don't miss it.

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News and analysis

US retailer Sears declares bankruptcy



The news

Sears, the American chain of department stores, has filed for bankruptcy on 15 October, following years of growing debt. The final straw that led to the bankruptcy was a US \$134m debt payment due that day, that the company could not afford.

Three vendors in Sears supply chain told Reuters that the retailer missed scheduled payments to them in the beginning of October. But it is still not clear how widespread the issue is and how it will affect Sears' supply chain, ahead of the holiday shopping season.

At the time of filing for bankruptcy, Sears had about 700 stores and 68,000 employees – down from 1,000 stores with 89,000 employees that it had in February 2018.

The company said it is looking for a buyer for a large number of its remaining stores, and will close at least 142 stores by the end of the year. This is in addition to the 46 stores already planned for closure in November. Sears did not rule out closing additional stores, as the bankruptcy process proceeds.



The views

Sears has issued a statement saying it intends to stay in business, keeping open stores that are profitable, along with its website.

“As we look towards the holiday season, Sears and Kmart stores remain open for business and our dedicated associates look forward to serving our members and customers,” Eddie Lampert, Sears' Chairman, said in a statement.

Lampert, the company's largest shareholder, has given up his title of CEO and Sears will now be run by three of the its top executives.

For years, Lampert has claimed the company was making progress to end its years of ongoing losses. “While we have made progress, the plan has yet to deliver the results we have desired,” Lampert said in a statement. He added the bankruptcy process will allow the company to shed debt and costs and “become a profitable and more competitive retailer”.



The analysis

David Hutchins, CQP FCQI, Principal at David Hutchins Innovation Quality College, asks: “How do companies such as this, that were once totally dominant in their fields, get into this sort of trouble?”

“More often than not it is arrogance and conservatism. There are three recognisable phases in the life of a company: entrepreneurial, mechanistic and dynamic. The most dramatic failures usually occur in the mechanistic phase.

“Feeling secure, [businesses] stop watching market forces and stop noticing changes in the market place. Usually, they only wake up when it is too late, often after some shocking business results.

“Recovery is sometimes possible, but the damage is often too severe. If they are lucky, a business genius spots the key deficiencies and restores the entrepreneurial dynamics of the entrepreneurial phase. Such recoveries are rare. Benchmarking is the only way to avoid this form of disaster.”

“Benchmarking is the only way to avoid this form of disaster”

News and analysis

CQC warns of growing 'care injustice'



© iStock



The news

People's experience of care is dependent on how well local systems work together, according to the Care Quality Commission's (CQC) annual assessment of the quality of health and social care in England.

The study showed quality has been maintained overall despite continuing challenges around demand, funding, and workforce pressures. However, the CQC's reviews of local health and care systems found that ineffective collaboration between local health and care services can result in people not being able to access the care and support services in the community that would avoid unnecessary admissions to hospital.

The CQC's review of children and young people's mental health services also found that some patients were 'at crisis point' before they got the specialist care and support they needed, with average waiting times varying significantly according to local processes, systems and targets.



The views

Peter Wyman, Chair of the Care Quality Commission, said: "The fact that quality has been broadly maintained in the face of enormous challenges on demand, funding and workforce is a huge testament to staff and leaders. But we cannot ignore the fact that not everyone is getting good care.

"Safety remains a real concern. Although there have been small improvements, 40% of NHS acute hospitals' core services and 37% of NHS mental health trusts' core services were rated as 'requires improvement' on safety In acute hospitals, the pressure on emergency departments is especially visible, but while many are responding in a way that maintains quality of care, some are not. It is increasingly clear that without a long-term funding settlement for adult social care, the additional funding for the NHS will be spent treating people with complex conditions for whom care in the community would have been more effective."



The analysis

Philip Carroll, CQP MCQI, Lead Consultant at Reflexive Management Associates, said: "The creation of the welfare state in post-war Britain created public expectations of high-quality health and social care services. Since then a multi-tiered, publicly and privately funded market sector has developed.

"Delivering excellence in health and social care is politically, demographically and legally complex and financially costly. The Chancellor highlighted in the autumn budget that the additional investment of £250m in new crisis services will include 24/7 support via NHS 111, but uncertainty around Brexit remains.

"I would recommend ISO 9001:2015 as the enabling solution for commissioners and providers of health and social care organisations.

"Collaborative efforts and continuous improvement will promote a well-led, caring, effective, responsive and safe national health and social care provision."

"In acute hospitals, the pressure on emergency departments is especially visible"

News and analysis

Environment Agency commits to fight against modern slavery



The news

More than 100 Environment Agency (EA) waste enforcement officers have received training from anti-slavery charity Hope for Justice to tackle modern-day slavery in the waste and recycling industry.

The EA has committed to working alongside police and enforcement agencies to look for common signs of exploitation in the industry, including an extreme fear of authorities, signs of physical or psychological trauma including anxiety or malnourishment, and evidence suggesting workers may be living on site. Earlier this year, the agency issued body worn cameras to officers following an increase in the number of abusive incidents discovered during site inspections.

Hope for Justice says two-thirds of victims are reported to have worked within the waste industry. Waste management company Biffa has also recently joined Hope for Justice's Slave-Free Alliance to ensure its supply chain is working in an ethical and responsible way.



The views

Marie Fallon, Director of Regulated Industry at EA, said: "Our work with Hope for Justice has given our officers the skills to understand the signs of modern slavery which can add value to the work of the police, partners and local authorities."

Sara Squires, UK Training Manager at Hope for Justice, said: "I know from first-hand experience that good quality training leads to an improved response. More than half of referrals to Hope for Justice of potential victims of modern slavery come from organisations we have trained, and many of those referrals lead directly to rescues."

Melanie Flogdell, Divisional HR Director at Biffa, said: "Businesses in all sectors are concerned about discovering workers who are victims of modern-day slavery in their supply chains and we want to ensure our staff know what to look for and how to respond."



The analysis

Steven Moir, CQP FCQI, Compliance and Assurance Director at DigiPlex, said: "With the introduction of the Modern Slavery Act 2015, it is a positive step that the Environment Agency is helping to bring the legislation alive through good quality training, equipment and in collaboration with enforcement agencies.

"When writing this analysis, I was surprised to discover things I didn't know about slavery in the UK from UK lobby group Anti-Slavery International.

"For example, the UK government estimates there are tens of thousands of people in slavery in Britain today. In 2017, over 5,000 people were referred to British authorities as potential victims of slavery (up one third from 2016). This includes over 2,000 children.

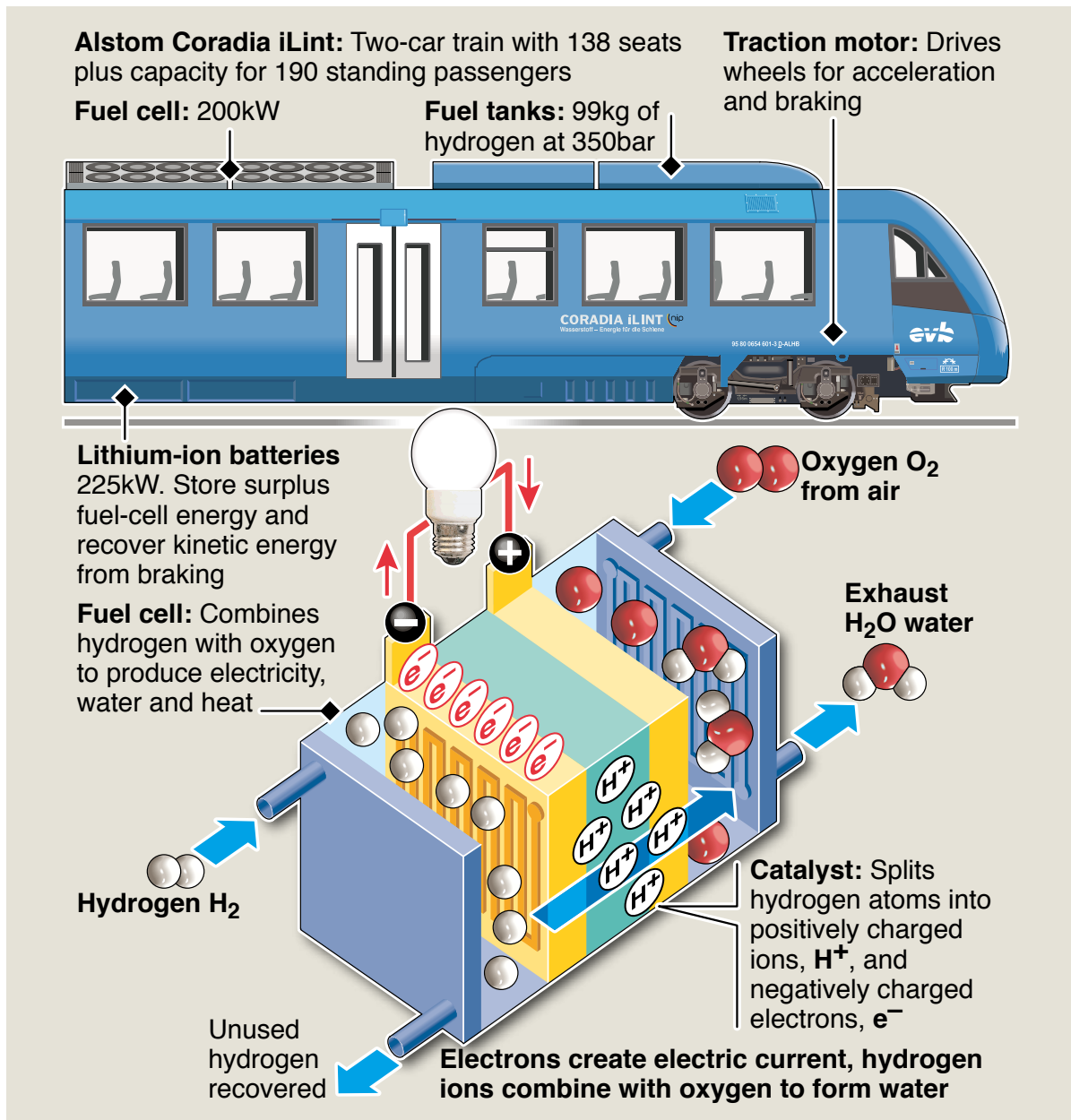
"One of the problems with modern slavery is that it is hidden from view and we think it doesn't happen on our doorstep. We all have a responsibility as individuals to identify and report to the enforcement authority."

"Two-thirds of victims are reported to have worked within the waste industry"

Behind the news

Hydrogen to power trains of the future

Alstom, the French company that produces the high-speed TGV trains, has unveiled the world's first passenger-carrying hydrogen-powered train. The two-car train, named Coradia iLint, has a range of 600km and can travel at speeds of up to 140km/h.



MY AGENDA: VINCENT DESMOND



Brexit is a black hole. It is drawing in effort from the entire UK government while organisations in the public, private and not-for-profit sectors expand resourcing on navigating away from the immediate danger.

If there is a withdrawal agreement, most things will continue as normal, however the uncertainty will be kicked down the road for some years to come. If there is no withdrawal agreement, things will get interesting.

The UK government website offers guidance on the no-deal scenario which contains a list of 20 topics concerning travel (for example, taking horses abroad if there is no deal), importing and exporting.

Many CQI members and IRCA certificated auditors working in the UK and overseas are facing uncertainty over how just-in-time supply chains will work, the impact on human resources if the pipeline of talent to and from the EU is compromised, and the impact on growth

and investment if we see a downturn or even recession in the economy.

Organisational responses to a no-deal situation range from automotive firms suspending production in March, to UK-based notified bodies applying for accreditation with EU-based accreditation bodies. Responses also include the NHS stockpiling medicines, and firms establishing legal entities in remaining EU countries – such as EasyJet's £10m investment in EasyJet Europe.

In the meantime, the UK Industrial Strategy – which was a key element of Theresa May's programme – has been overshadowed by Brexit. The strategy involved promoting industries of the future, improving skills and spreading wealth, and a key part of this is addressing the UK's poor record in improving productivity.

Andy Haldane, Chief Economist at the Bank of England, is to be made a Senior Government Adviser on improving Britain's poor productivity record, and Chair of the

new industrial strategy council.

Mr Haldane said: "Productivity isn't everything but, in the long run, it is almost everything."

The UK quality infrastructure and the quality profession have the potential to play an important part in UK productivity. Germany has demonstrated that while investment in standards, business processes and technology are vital, managers need the skills to exploit them.

This is where the quality profession has the potential to help organisations use standards, processes and technology to improve productivity.

As an example, the CQI Construction SIG is doing great work supporting the Get It Right Initiative, which has identified that avoidable errors in the construction sector amount to between 5% and 25% of total project cost.

Applying that thinking to the whole UK economy could go a long way to improving productivity and putting UK industry and public services at the forefront globally.

Leading quality for 100 years

Next year, 2019, marks the CQI's 100th year! We will be celebrating our centenary with events, dedicated features and publications, plus there will be an exciting short film on quality and, of course, a deep dive into our past 100 years and the people who have made us who we are today.

But it's not all about us – we are celebrating 100 years of quality and we will be talking about the profession, the gurus, the tools and the techniques that have influenced our world for the better

over the past 100 years. And we will be looking at how quality will become even more important in the future.

We will also be asking you, our members, to get involved and make it a year to remember! We will have materials available from January for you or your organisation to use in your own celebration of quality – be it during World Quality Day 2019 or at any other time.

Look out for more information in the next edition of *Quality World* and online at: quality.org/CQI-Centenary

CQI publishes its interpretation of ISO 19011:2018

The CQI is delighted to present its latest report on ISO 19011: 2018 'Guidelines for auditing management systems'

In July, the International Standards Organization published its latest version of ISO 19011. ISO 19011:2018 sets out guidance on all aspects of management systems audit including the principles of audit, managing an audit programme, conducting management system audits, and guidance on evaluating the competence of those involved in the audit process.

The revisions to the standard are significant and include an enhanced focus on risk-based auditing, which is included as a new principle of auditing

as proposed by the CQI. The CQI's report, *ISO 19011: 2018 – Understanding the International Standard*, provides a plain-English interpretation of the standard, describes the revisions included in this latest edition, and discusses the implications for all those involved in the management systems audit process.

This report is essential reading for anyone involved or affected by the audit of management systems in any discipline, not just quality. It is invaluable CPD for all CQI members and IRCA auditors, their colleagues and business leaders.

By reading the report, quality professionals will be in the best position to support organisations through robust, best practice audit planning delivery and reporting.

Learn more

Download our report on ISO 19011:2018 at bit.ly/2pZiynF

Branch events

CQI EoS: The Journey to Practitioner and Chartered Quality Professional

When: Tuesday 27 November – 6:30pm

Venue: Abbott Risk Consulting, 11 Albyn Place, Edinburgh, EH2 4NG, UK

Speaker: James Mayers

CQI and IRCA Taiwan: Inaugural meeting of the Taiwan branch of CQI and IRCA

When: Saturday 1 December – 1:30pm

Venue: Postal Museum - second floor, No.45, Sec. 2, Chongqing S. Rd, Zhongzheng Dist, Taipei City 100, Taiwan, Province of China

Speakers: Jeff Monk, Lydia Yeh, Henry Yeh, Murli Mohan Mukkamula

CQI Yorkshire: Lightning talks

When: Wednesday 5 December – 6:30pm

Venue: Sheffield Hallam University, Owen Building, Room 1025, Howard Street, Sheffield S1 1WB, UK

CQI Deming SIG: Using ISO 9001 to deliver a robust and sustainable workplace

When: Thursday 13 December – 10:30am

Venue: The Chartered Quality Institute, 2nd Floor North, Chancery Exchange, 10 Funnival Street, London EC4A 1AB, UK

Book it!

To register for any of these events or to find events in your area, visit quality.org/community-events

Winners of 2018 International Quality Awards

Couldn't make the 2018 International Quality Awards ceremony?

Check our website (www.quality.org) to find out this year's winners! And look out for all the details about the ceremony and a word from our winners in *Quality World* January 2019.

Headline partner



Category partners



Reception partner



TopTweets from the day



Conquip

@ConquipGroup

Today is World Quality Day! Hear it from Team Conquip as we talk about how trust affects the organisation. Read more: <https://bit.ly/2AURZ9I> #WQD18 #advocatingtrust #TeamConquip #Conquip

Sir Robert McAlpine

@WeAreMcAlpine

Happy #WorldQualityDay! In this second part of her video, @WeAreMcAlpine Project Quality Manager Nataliya Nasonova reflects on the meaning of #Trust #AdvocatingTrust #WQD18

LR Business Assurance

@LRQA

Happy World Quality Day! We've been celebrating our customers' achievements and finding out how their QMS helps them build trust. Here's the @DBSchenker team in Singapore explaining what their QMS means to them. Discover more at <https://www.lr.org/wqd18> #WQD18 #AdvocatingTrust

SCS

@SCS_Co_UK

We're celebrating World Quality Day and the importance of trust for organisations. Join us between 11.00am – 3.00pm today at our office 716 Lisburn Enterprise Organisation & find out more. Hope to see you! #WQD18 #Advocatingtrust

Sir Robert McAlpine

@WeAreMcAlpine

On #WorldQualityDay, @WeAreMcAlpine Project Quality Manager Nataliya Nasonova shares her passion for advocating quality and reflects on the notion of trust #AdvocatingTrust #WQD18

Telespazio VEGA UK

@TelespazioVEGA

Today is World Quality Day, an opportunity to celebrate our achievements in quality and recognise those who work to preserve the trust of our stakeholders. #WQD18 #Advocatingtrust

tinytag

@tinytag

All going on here for #WQD18 #Advocatingtrust...here's the 'Take One if You Dare' food table - trust us it's OK!

A DAY OF QUALITY CELEBRATIONS

This year's World Quality Day, on 8 November, saw our members all over the world celebrate the importance of trust and the role quality plays in building and maintaining it. These celebrations were a great opportunity to raise awareness around quality. Here are some of the best initiatives and tweets from the day



Canadian Blood Services (Canada)

Canadian Blood Services celebrated World Quality Day by hosting an open house event for employees at their operations' facility in Brampton, Ontario. Organised and led by the company's quality assurance team, the event highlighted the importance of quality.

Interactive display booths gave employees the opportunity to learn quality concepts and processes through participation. Employees engaged with the history of quality, quality myths, processes, and the faces of quality. There were also activities about non-conformance processes, standards, and systems.

The quality assurance team planned the event so that their colleagues throughout the organisation could expand their knowledge of quality assurance. The team's intention was also to embrace their quality policy through learning, doing, and strengthening relationships between different departments.

For event listings, visit: quality.org/community-events

CQI (United Kingdom)

To celebrate World Quality Day 2018, everybody at the CQI participated in a game about creating trust and loyalty in a fictional company. Staff were divided into six teams, each one with a different case study, and tasked to put together ideas on how to gain customers, and build their loyalty and trust. The teams then presented their strategies on World Quality Day. A panel of judges distributed 'trust credits' to each team, according to a list of actions that an organisation can take to gain customers, loyalty and trust.

Helen Flannery, Office and Quality Systems Manager at the CQI, was one of the organisers of the event. She talked about how trust is something that takes a long time to build, but can be destroyed in a moment.

"Here at the CQI we have to build trust in our processes, our staff, and our members need to trust us. The industry needs to trust that our members are competent, and society has to trust us and trust that our quality professionals' services are high standard," she said.

Willmott Dixon @WillmottDixon

For World Quality Day, our Wales and West team have made a short film. Hear more about the importance of trust and collaboration to resolve difficult situations, and how our quality product serves and astonishes our customers. #WQD18 #Advocatingtrust

Briggs and Forrester @BriggsForrester

In the lead up to #WQD2018 we've been looking at #trust in relation to customers, supply chain and employees. Discover some of the ways quality management supports organisations in building and maintaining trust by following the link | <http://briggsandforrester.co.uk/news/why-are-we-discussing-trust-world-quality-day> ... | #advocatingtrust

Watts Group Limited @Watts_Group

Watts support #WorldQualityDay2018: "Relationships Built on Trust". Here at Watts, we gain our clients' trust by #BuildingRelationships and delivering exemplary levels of technical expertise. For more information click here: <http://www.watts.co.uk/latest-news/watts-support-world-quality-day-2018/> ... #WQD18 #AdvocatingTrust

ASQ Section 1414 @ASQAustin

Happy World Quality Day! We are celebrating the importance of trust for organizations and the relevance of quality to make it stronger. #WQD18 #Advocatingtrust

L&T Technology Services @LnTtechservices

@Qualityworld Today is #WorldQualityDay 2018 This year we are looking at the role that #quality plays in building and sustaining #trust in an #organization. Checkout this #infographic to find out how: <http://bit.ly/2zBueBq> #WQD18

Rephine @RephineUK

Happy World Quality Day! We are celebrating the importance of trust for organisations and the relevance of quality to make it stronger. Click the link to read an interview with our CEO: <https://www.linkedin.com/pulse/quality-trust-pharmaceutical-industry-interview-dr-rino-veress/> ... #WQD18 #Advocatingtrust #pharmaceuticalindustry #GMP #GCP

Sri Lanka Standards Institution (Sri Lanka)

The Sri Lanka Standards Institution publicised World Quality Day in many of the country's newspapers. The institution also worked with schools, universities, public and private organisations across Sri Lanka to spread the message of this year's World Quality Day - Quality: A question of trust.

Chain Reaction Partners (Singapore)

Chain Reaction Partners conducted pro bono workshops for the local community. They worked with students from the Nanyang Polytechnic Singapore, hoping to attract a new generation of quality professionals.

IRCA Lead Auditor Dennis Heng, Regional Quality Assurance HSE Manager at Chain Reaction Partners, also produced two new songs on the topic of quality: 'Certified quality auditor is here' and 'Quality, a question of trust'. The music videos are available to watch on YouTube at bit.ly/YouTubeCertifiedQualityAuditor and bit.ly/QuestionOfTrust_Youtube

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UK & Worldwide

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- ▶ Environmental management systems (ISO 14001)
- ▶ Occupation health & safety management systems (ISO 45001)
- ▶ Energy management systems (ISO 50001)
- ▶ Asset integrity management systems (ISO 55001)
- ▶ Food safety management systems (ISO 22000)
- ▶ Information security management systems (ISO 27001)
- ▶ Business continuity management systems (ISO 22301)
- ▶ Sustainable development management systems (ISO 37101)
- ▶ Collaborative business relationship management systems (ISO 44001)

☀ Industry specific management systems

- ▶ Oil & gas (ISO 29001, ISO 29010 and API Q1 & Q2, CCPS, EI, IOGP)
- ▶ Rail (ISO/TS 22163)

- ▶ Aviation, Defence & Space (AS9100 & AS9110)
- ▶ Automotive (IATF 16949)
- ▶ Medical devices (ISO 13485)
- ▶ Nuclear energy supply chain (ISO 19443)

☀ Strategic operational audits

- ▶ Improvement-focused strategic audits

☀ Training programmes (CQI/IRCA Approved Training Provider)

- ▶ CQI/IRCA Approved Training courses
- ▶ Management systems training solutions (Awareness, Implementation & Auditing)
- ▶ Risk management (ISO 31000)
- ▶ Supply chain management
- ▶ Contractor management
- ▶ Business improvement courses (Incident Investigations, Problem Solving, Statistical Process Control)



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AS 9100

ISO 13485

ISO 14001

IATF 16949

ISO 27001

ISO 44001

ISO 45001

ISO 50001

ISO 55001

AND MORE...

Qladvert05



THINKING, SEEING, DOING **DIFFERENTLY**



Meet the Fellow:

Ali Al-Zubaidi

Ali Al-Zubaidi, CQP FCQI, Managing Director at Integrated Management Systems Associates (IMSA), shares his views on quality management

Why did you apply for the CQI Fellow grade?

I have been a member of the CQI since the professional body was called the Institute of Quality Assurance. I attained chartered status shortly after the professional body also gained its chartered status in 2006. Becoming a Fellow was a natural progression because it is an important professional recognition of my involvement in quality management.

What are the key characteristics of a CQI Fellow?

They should possess an in-depth knowledge of quality management and innovative approaches for the effective implementation of quality management systems. They should also be able to facilitate change.

What is your approach towards quality management systems?

Quality management systems should

be implemented in organisations to help achieve stakeholder satisfaction and not simply meet the generic and minimum requirements of international standards.

What has been your greatest achievement since establishing your consultancy firm, Integrated Management Systems Associates (IMSA), in 1999?

Working with a range of organisations on successful business improvement transformation projects, together with providing added-value training programmes.

What do you enjoy most about your role as Managing Director at IMSA?

Changing people's attitudes and approaches with respect to the concept and application of quality management, by acting as a management systems adviser and trainer.



Staff profile:

Julian Jack

Alicia Dimas talks to Julian Jack, CQI's Membership Manager. He is responsible for the New Member and the Member Journey teams

What do you enjoy the most about your job?

The variety of the role is wonderful. I love working with people to get the best from them, and I appreciate every conversation I have with my work colleagues and our fantastic members.

What do you think is the key to great customer service?

Listening, learning and acting. As a membership organisation we could not do what we do without the support of our members. What I love about working here is that we really use the voices of our members to make improvements to the work that we do. We sit down once a quarter with the feedback our members share with us and work up action plans for continuous improvement.

What are the main reasons members contact the CQI?

For advice about regrading and for support with recording and gaining continuous professional development (CPD).

Members are now renewing their membership for next year. In your opinion, what are the main benefits that CQI members receive from their membership?

There are so many benefits, but two that spring to mind are the access to research and reports, and a sense of community. As a member you get access to the latest reports and *Quality World*.

To be part of the only organisation in the world dedicated to quality with the Royal Charter behind it, it's something to be proud of.

Having the post nominals after your name shows that you are placing quality at the heart of everything you do.

The CQI is celebrating 100 years in 2019. If you were transported back to 1919, what would you miss the most about the present time?

Definitely the food – my wife's chicken curry and my mum's cheesecake. Two wonders of the world I'm sure would not be around if I went back to 1919!

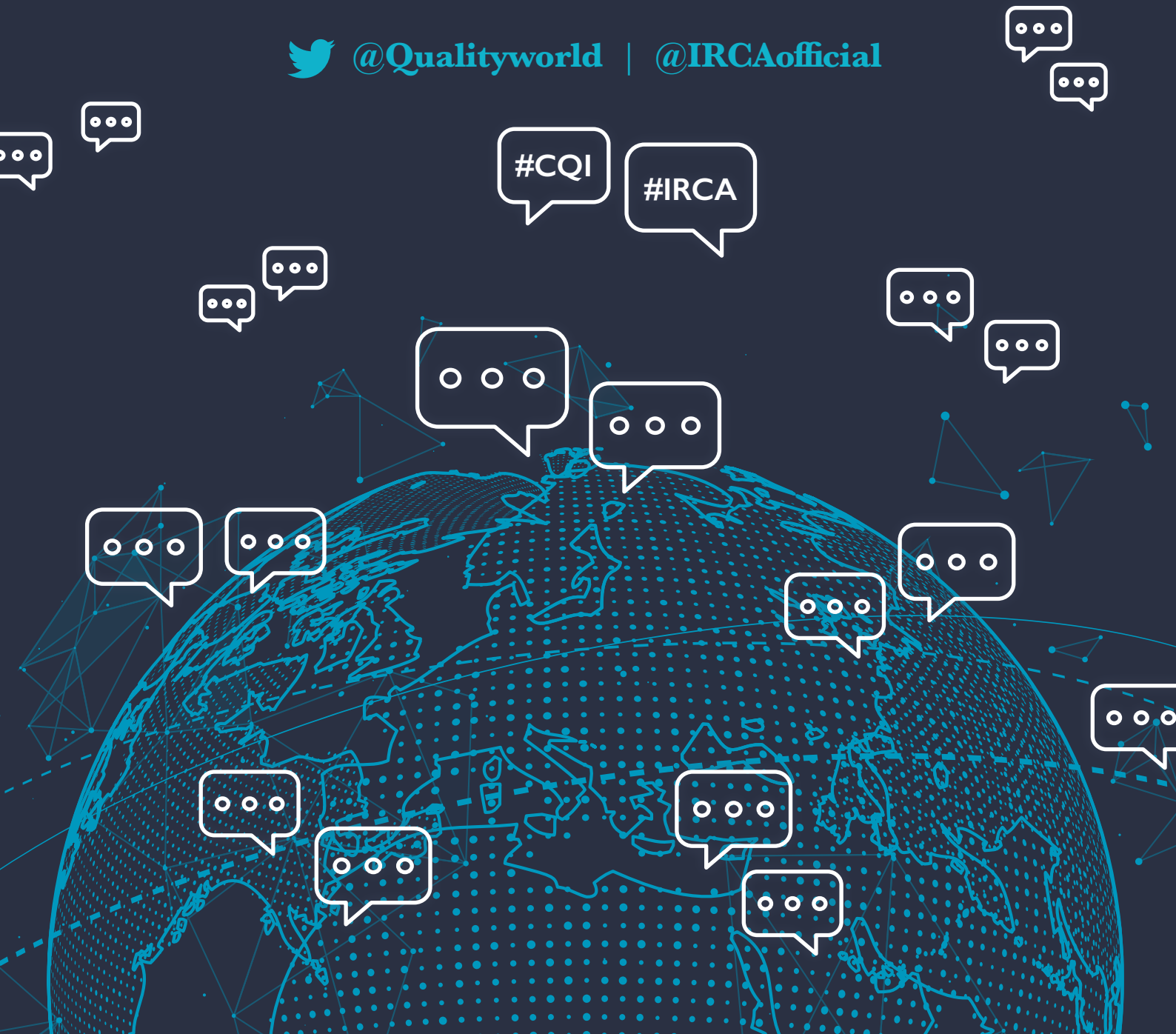
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#CQI

#IRCA



Opinion



Mark Eydman

Making your approach to quality strategic

Let me first declare a vested interest: I am a fan of ISO 9001:2015! Applied well it is an aid to improved organisational effectiveness, employee engagement and customer loyalty – the three legs of business success.

I am also a passionate advocate of quality professionals, a generally modest and underappreciated component of many leadership and management teams, valued for their skills, temperament and competence. But are we doing enough?

In essence, Section 4.1 of ISO 9001:2015 outlines the start of a requirement for a compliant Quality Management System to be aligned and supportive of an organisation's vision and strategic direction. What a powerful starting point for us, individually and as a profession, to add impactful value.

It is of course not unusual to see quality appear within lists of values, an organisational ethos or a marketing-led tagline, but the jump to quality being truly strategic is quite another thing. I searched for a definition of strategy and the best definition was “of great importance within an integrated whole”. That is surely the bar to be reached; a situation where quality is not just seen as important but openly and widely recognised as of great importance in our organisations, securing the long-term objectives embedded within the stated vision.

On a scale of 0-10, how strategic is your organisation's approach to quality? If 9 or 10, I look forward to hearing about your successes and learning from some great practices. If not, perhaps the next management review requires a little more thought?

Mark Eydman, CQI MCQI, is the Founder of Six Pillars Consulting



Ian Dalling

Integrated management systems need to become the norm

Organisations may be understood as super organisms and are the most complex things we may encounter. Optimally managing an organisation is an enormous challenge, but can be made easier by the adoption of one or more management systems.

However, over the last decade there has been a general realisation that multiple fragmented management systems contribute to ineffectiveness and inefficiency, and fail to address many intractable problems that organisations and society face. A delusion persisted that separately managing multiple facets of performance could somehow summate to excellence and equitable stakeholder satisfaction. The myth persisted because of a failure to understand that all facets of performance are determined by the same common set of structures and processes that deliver

the organisation's purpose. We failed to appreciate that performance cannot be directly managed – it is only the structures and processes of an organisation and how they impact stakeholders that can be managed. Good performance is the outcome of good structure, process and stakeholder management. Not *vice versa*.

Many organisations have now tasted the fruits of integrated management, but only a few have so far adopted fully integrated management systems that manage the totality of the business. Fully integrated management systems now need to become the norm, directing and guiding fully coherent functionality. Managing the totality without boundaries is the next evolutionary step for quality management.

Ian Dalling, CQP FCQI, is Chair of the CQI Integrated Management Special Interest Group

Say it

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

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Global trends

PwC has launched its **21st CEO Survey** – *Technology leaders maintain their optimism, which gathered responses from 127 CEOs in the technology industry.*

48%

are very confident about their companies' revenue prospects

45%

are concerned about cyber threats

43%

are worried about the availability of key skills

Video throwbacks



AI in industry: Intelligent health care

Massachusetts Institute of Technology (MIT) professor, Dina Katabi, talks about the AI gadget she is building for the healthcare industry. The AI can sit in one spot and track everything from breathing to walking, with no wearables required.

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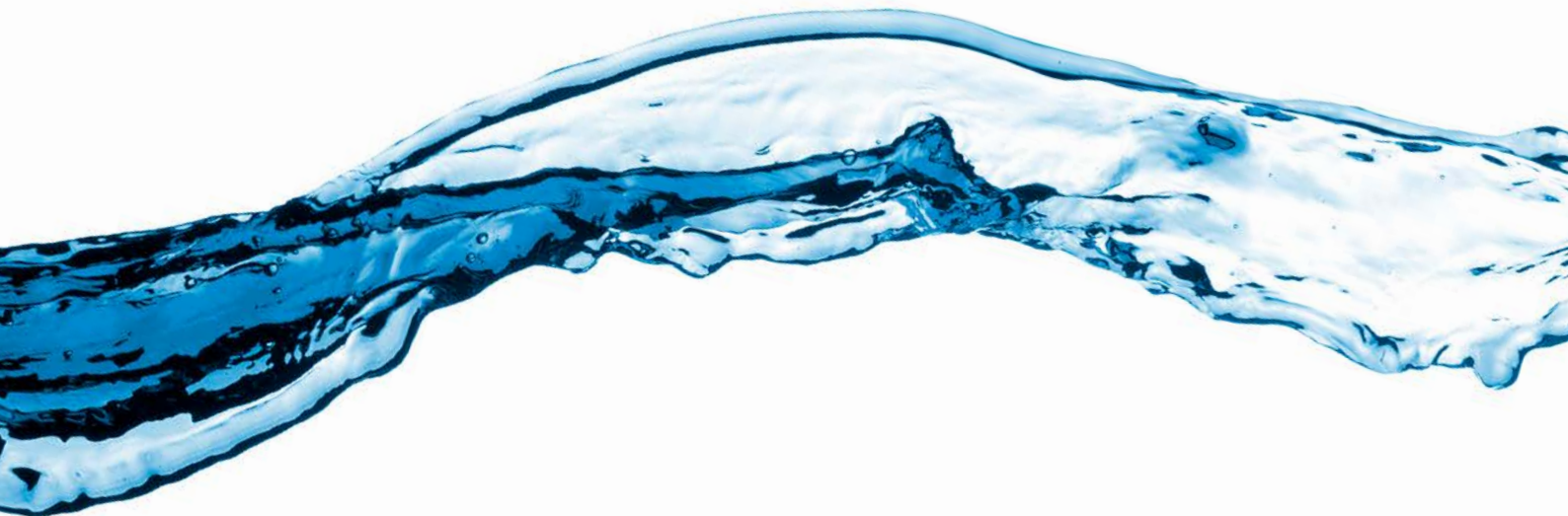
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CLOSING THE GAP ON WATER SCARCITY

Water shortages could affect half the world's population by 2050 due to climate change, according to a UN report on the state of the world's water. Joseph Fay, Executive Global Supply Chain Leader, and Kristin Mortensen, Global Quality Leader at Suez, tell Dina Patel how they're using quality to protect resources and ecosystems





With industries becoming increasingly concerned about reducing the environmental impact of their activity, French-based utility company Suez is helping to recover sludge into renewable energy, reduce CO2 emissions, transform seawater into drinking water, decontaminate soils and promote biodiversity.

The quality team is heavily involved in product development and implementation through the maintenance of management systems and the application of business-process management methods such as Design for Six Sigma (DFSS) to ensure the organisation can provide a reliable product and service offering.

The history of the company dates back to the construction of the Suez Canal and the beginning of industrialisation in Europe. When the Suez Canal opened in 1869, it revolutionised world trade and became one of the world's most heavily used shipping lanes. It also sparked Suez's desire to participate in the beginning of industrialisation and influenced the organisation's name. The company has since brought together experienced professionals and advanced technologies to solve the world's most complex challenges related to water scarcity, quality, productivity, the environment and energy.

As experts in water and waste for 160 years, Suez is adopting innovative approaches and taking advantage of digital technologies to offer solutions such as real-time management of water and sanitation services, smart collection systems, and optimisation of energy consumption in factories.

The Suez boiler product application team, for example, optimised one water treatment programme so that industrial water users, such as refineries and power plants, could manage their process and yields more effectively without jeopardising their assets or risking reliability issues. Suez's 'TrueSense for Cooling' water treatment is another technology, used by industrial customers, that continuously measures and applies the right amount of chemistry for corrosion, deposit and microbiological control to improve cooling operations.

Resource revolution

Suez is committed to tackling the challenges associated with population growth. For example, it is providing drinkable water solutions, aiding the industrialisation of developing regions around the world and optimising existing technical solutions in the developed world. One of its core visions is to also lead the resource revolution, which includes providing access to clean water and sanitation to everyone on the planet. As a business to business (B2B) technology service and product provider, Suez strives to support its customers in the power generation industry, and the oil and gas, manufacturing, and food and beverage sectors, helping customers to make the change from a linear model that over-consumes resources, to a circular model that recycles and recovers them. ►

SUSTAINABILITY

In 2017, Suez acquired GE Water and Process Technologies, establishing its own industrial water activities in a new business unit – Suez Water Technologies and Solutions (WTS). The unit has the expertise to solve tough water and process challenges for its customers. It covers the entire water, wastewater and process value chain, including design and build projects, specialty chemical services, equipment and system offerings, outsourced services, and digital water management.

Joseph Fay, Executive Global Supply Chain Leader at Suez, one of 7,500 employees who moved from GE following the acquisition, says: “Jean-Louis Chaussade, the Suez CEO, made it abundantly clear on day one of the acquisition that it has been Suez’s wish to acquire GE Water and Process Technologies for a number of years, simply because we have many best-in-class technical solutions for tough-to-treat water and process challenges. We also lead the market in many areas, both in terms of advanced equipment and chemical-based treatment solutions. We very much feel like we’ve found a good home and our new parent company values everything that we do.”

The acquisition has also provided Suez with a bigger market presence in North America, where the WTS business unit is headquartered. “Approximately half of the WTS footprint is focused in North America so that was a huge appeal for Suez. I think it would be very fair to say that previously Suez was very focused in Europe. Even though there are tens of thousands of employees, the business mostly existed in France and the UK.”

The company continues to grow in developing areas of Latin America, parts of Asia Pacific, and the Middle East. “Places that have historically had a lighter touch on regulations are now very much coming in line with European- and US-style regulatory control,” Fay says.

Lean thinking

With a background in chemicals, working in research and development, quality, and process and manufacturing, Fay hopes to continue to evolve the business unit with better, brighter, and smarter technologies. He explains: “My team is located all over the world with over 14 manufacturing sites that constantly look to apply Lean and other continuous improvement methods to operate in a reliable and productive way. I often joke that I have a 500-plus strong team but almost none of them are here by my side, they’re based at our manufacturing operations or on the road



Above: Kristin Mortensen, Global Quality Leader at Suez (left) and Joseph Fay, Executive Global Supply Chain Leader

Right: Suez’s ZeeWeed ultrafiltration hollow-fiber membranes technology is used at California’s American Canyon wastewater treatment plant to produce high quality effluent (liquid waste or sewage discharged into a river or the sea)





serving the customer through services such as our specialised ChemSure deliveries (a fleet of more than 110 vehicles and 40 experienced chemical delivery specialists, certified to deliver chemical solutions). One part of my team takes new innovative molecules and formulations that come from our technology group and develops methodology to a stage where we can scale them to produce and provide a technical solution for our customers.”

Suez Water Technologies and Solutions’ vision is to deliver revolutionary solutions for the toughest water and process challenges in a connected world. “I describe my role as providing seamless execution throughout the supply chain, working behind the scenes to remove obstacles from a lot of other functions – principally the commercial team because if we succeed, then our customers will feel the added value. A key part of what we’ve driven in the team focuses on Lean Six Sigma, operational excellence and driving a culture of continuous improvement.”

Fay’s knowledge of the Lean Six Sigma methodology, from his background of initiating and developing programmes in a supply chain environment, allows him to keep many plates spinning. “I find that we can tackle the toughest of problems if you’ve got a good foundation and a structured and methodical way of tackling it. Six Sigma is very data driven and looks at minimising variation,

and Lean thinking comes with an approach of simplifying things and cleaning out unnecessary process steps. I believe the two complement each other very well. Lean thinking offers great practical solutions to a lot of manufacturing and shop floor problems. Six Sigma can also focus on fulfilment and ensuring consistent product quality around the world,” Fay adds.

Managing a global supply chain

Part of Fay’s role is developing and implementing global supply chain strategies. He does this by incorporating a collaborative approach with all the stakeholders. Fay says mid-term planning is crucial as it is important that everyone is aware of what the business unit will be doing not just the following year, but over the coming five years and beyond.

“One thing we have learned is that you need to invest the appropriate resources in the optimum location if you want to be successful. Some of that requires a detailed engineering solution, but much of it is based around having the right people, with the right skills in place, who are powered with pride in what they do,” Fay says. He adds that clear communication is important for the team as they are located in different countries with different regulatory environments and this has an effect on how Suez ➤



operates in that location. The business unit has one single enterprise resource planning (ERP) system which Fay explains provides greater transparency and visibility. “Having just one global ERP platform ensures we manage transactions across the value chain in a consistent manner, be it commercial and customer activity, manufacturing and fulfilment operations or product lifecycle management. Efficiency is also measured through key performance indicators. However, health, safety and compliance are always our main priority,” Fay says.

Data quality

Kristin Mortensen has an important role as Global Quality Leader at Suez. It is her responsibility to ensure the quality management system is operating and that the company maintains its compliance to ISO 9001:2015. Currently, her team is working on bringing together the GE and Suez quality management systems to define what the vision for Suez Water Technologies and Solutions will be.

Mortensen says: “My world includes dealing with ISO certification and Suez’s quality management system, and of course working with all the different departments to improve their operations. For example, I help Joseph with quality within his plants, ensuring his operations are running as efficiently as possible and that standards are maintained and improved. When we recognise a need for improvement, we engage our Six Sigma team. I have the luxury of working at a company where quality is ingrained in our DNA – it affects all of our operations. As you can tell from talking to Joseph,

he understands quality, and this makes my job easier. He oversees everything from product quality and all of the issues down to the specific properties of our products that are delivered to our customers.”

Mortensen’s current objectives include making sure she is working with all the business leaders at Suez following the acquisition, to ensure the company is maintaining high quality standards, merging best practices and ensuring the customers are not affected by the acquisition. “We’re always trying to improve,” she says. “One example of this is our customer issue tracking systems. We want to make sure we have a continual feedback loop from our customers and that we’re addressing any issues, whether it’s with product quality or our processes. There’s a hunger for more data so that you can make data-based decisions and intelligently predict the future. We’re always striving to do better, provide more visibility to everybody, from leadership to our operators.”

The problem with merging businesses and data, Mortensen argues, is re-establishing trends across different business segments and different geographies. “How do I pull all of those systems together to ensure that we understand what is really happening and that we are being proactive, not reactionary to business and customer needs? Having data is one thing, but what we do with it and

how we make it meaningful is critical. It’s a challenge because we have a diverse product and customer range. We work within the power generation, hydrocarbon, chemical and water-treatment sectors as well as microelectronics, healthcare, food and beverage industries and more. You name it, [and] we have some kind of value-added product and service offering.

“We try to take complicated problems from the customer and drive clean, smart, simple solutions, but the biggest problem is trying not to get contaminated by that complexity. That’s a real challenge for my team – making sure we don’t complicate things for ourselves internally and that we focus on simple solutions that are right for the customer.”

A successful quality culture

“My top tip for a successful quality culture is to make sure that quality is appreciated and talked about at every level of the organisation. I’ve got some great executives like Joseph who live for quality, and that goes a long way with driving a quality culture,” Mortensen says.

Fay explains that the acquisition has added more knowledge and expertise to Suez. “We’ve got a lot of strength and depth, I would say, in the people and the knowledge that we have within this business unit. I’m humbled every day to be surrounded by incredible talent. Culturally, we’ve also gone through a lot of change, but we strive to move in the same direction. The world is tightening its control of natural resources and we as a business

need to provide world-class solutions to this problem.”

Fay says quality is inherently built into Suez’s product offering right from the development phase through to manufacturing, execution and operation. “An example of this,” he says, “would be our product, CrudePLUS. A North American refinery was experiencing significant penalties due to critical heat transfer equipment fouling [fouling is the deposition and accumulation of unwanted materials]. CrudePLUS was used to help the refinery track and respond to any increase in fouling. It uses an oil fingerprinting device with powerful predictive analytics to provide rapid analysis of crude oils, oil blends, and other hydrocarbon fluids and provide guidance on potential actions and treatment applications to ensure the crude oil can be processed in a cleaner manner.”

Bringing more than 7,000 employees from GE into an already established business was not easy. Fay says that although the acquisition proved to be beneficial for both organisations, there were technical and cultural challenges. “The acquisition made us rethink how we approach quality management systems and other areas, including the environment, health and safety programmes, marketing, even how we organise our commercial and field teams,” Fay adds. “I think the great thing is that everybody is pulling in the same direction but we always have an attitude that there are endless opportunities to develop and improve internally in order to provide excellent value-added solutions for our customers.” ■

Suez monitors drinking water quality in real-time

Suez has designed AQUADVANCED Quality Monitoring to enhance the monitoring of drinking water quality in real time.

The product was developed to meet increasing regulatory stringency in water quality requirements, not just for municipalities, but also for employers and facility management companies.

The solution uses probes placed at strategic check points in the distribution network to make it possible to act quickly when a risk is confirmed.

For installations without a power supply, the solution comes with a self-powered power supply that provides electricity to the equipment.

The solution enables the targeted and continuous monitoring of sensitive areas or buildings, such as nurseries, schools, hospitals and retirement homes.

Left: The city of Abilene, Texas, uses Suez’s ZeeWeed ultrafiltration hollow-fiber membranes technology to treat any raw water to the quality needed

Right: Suez’s ZeeWeed technology at use in the Bedok NEWater Factory in Singapore



Breathe easy

As the Environment Agency's Monitoring Certification Scheme celebrates 20 years, Rick Gould, PCQI, Technical Advisor at Environment Agency, explains how the scheme has developed and influenced international standards through the years

In 1998, the Environment Agency for England launched its Monitoring Certification Scheme (MCERTS) for instruments that measure emissions of air pollution from industrial processes. These instruments are fixed to chimney stacks and are known as continuous emission monitoring systems (CEMs). The Environment Agency's aim was to improve the reliability of monitoring data and improve confidence in measuring instruments. In simple terms, the scheme aimed to achieve this by integrating national and international standards for pollution monitoring, quality assurance, accreditation and certification.

MCERTS has grown significantly since then and now applies to measurements of pollution in water, air and soils. The scheme has not just improved the quality of pollution monitoring but has influenced the development and outcome of international standards and monitoring worldwide. Rick Gould, PCQI, Technical Advisor at Environment Agency, explores the drivers and history of MCERTS, how the scheme is structured, how it applies to air emissions monitoring, and how MCERTS has influenced monitoring internationally. ►





Photos: CBISS Ltd; iStock; and Environnement S.A

Monitoring in context

The Environment Agency (EA) regulates thousands of industrial sites in England, such as power stations, oil refineries, chemicals manufacturers, cement and lime kilns, energy-from-waste plants and wastewater-treatment works. These typically have either emissions to air, discharges to water, or both. The EA issues permits to industrial-site operators on the condition that they meet the requirements of environmental legislation, such as controlling emissions to minimise environmental impacts. The operators must eliminate or minimise the releases of pollutants as far as practicable, while the permits specify strict limits on pollutants. Operators must demonstrate compliance through the monitoring that the operators either do themselves or contract test laboratories to do for them. This process is known as operator self-monitoring (OSM), and the MCERTS sets the quality standards for OSM.

Permits now include a condition stating that any monitoring must either be MCERTS-certified or accredited as appropriate. For example, if the permit requires the operator to measure emissions continuously, then their CEMs must be MCERTS-certified. And if the operator employs a laboratory for periodic monitoring, then the laboratory must be accredited to the applicable MCERTS standards.

When the EA launched MCERTS in 1998, the scheme applied only to CEMs initially, and after a year there were just eight certified systems from dozens available. Today, there are well over a hundred CEMs. The scope of MCERTS now covers most aspects of regulatory monitoring (see Table 1). This has resulted in more confidence in monitoring data, which ultimately leads to stronger environmental protection.

However, leading up to 1998, the monitoring landscape was very different. “We spent a lot of time having to justify our equipment to operators,” recalls William Averdieck, who spent over 25 years managing PCME, a manufacturer of dust and flow-monitoring CEMs, and one of the early adopters of MCERTS. “We would usually

have to demonstrate that every instrument we sold performed well on the stack, which was very onerous for both ourselves and operators”, he explains.

Drivers for the Monitoring Certification Scheme

Before the launch of MCERTS, there was a wide spectrum of quality among CEMs, which led to operators wanting assurances that CEMs would not only provide accurate and precise results, but keep working too. “There were a lot of problems with reliability before MCERTS,” adds Paul Firth of Tarmac, a British building materials company. As a monitoring technologist, he has a leading role on assuring the quality of emissions-monitoring at Tarmac’s cement and lime plants.

Meanwhile, environmental regulators such as the EA were also concerned about the reliability of data as well as instrument credibility. “At the time, there was a type-approval scheme in Germany, but that was focused on German requirements and not completely suitable here,” adds Averdieck. For example, the type-approval scheme did not have the degree of longer-term assurance of a product-certification scheme. These factors led to the desire for a certification scheme for CEMs among regulators, operators and CEMs manufacturers. So the three parties worked together to develop a scheme, commissioning GAMBICA, the trade association for instrumentation, control, automation and laboratory technology in the UK, to write the MCERTS performance standards. So, how did the scheme work?

The MCERTS models for products and services

The first MCERTS standard applied national and international standards for monitoring, testing, accreditation and certification, binding them into a coherent package. The MCERTS standard included performance criteria and test procedures for CEMs, such as linearity, response-time, resilience to interferences from other determinands and environmental conditions, and availability. The

Table 1 – Scope of MCERTS performance standards

Stack emissions monitoring	Continuous emissions monitoring systems (CEMs).
	Hand-held emissions monitoring systems.
	Dust-arrestment systems for emissions of dust.
	Minimum requirements for stack emissions monitoring laboratories (sampling and analysis).
	Personnel competency standard.
	Automatic, isokinetic samplers.
Ambient air-quality	Continuous ambient monitoring systems (CAMs).
	Indicative ambient dust-monitoring systems.
Discharges of liquid effluent	Automated sampling systems.
	Continuous water monitoring systems (CWMs).
	Continuous flow monitors.
	Minimum requirements for the self-monitoring of effluent flow.
	Competency standard for flow-monitoring inspectors.
	Minimum requirements for effluent sampling and analysis laboratories.
	Portable water-monitoring equipment.
	Minimum requirements for laboratories conducting radioanalytical testing of environmental and waste waters.
Soil	Minimum requirements for sampling and analysis laboratories for soils.
Data management	Requirements for data acquisition and handling software.

first MCERTS-standard for CEMs combined an array of existing standards from the International Organization for Standardization (ISO), European Committee for Standardisation (known as CEN), and the British Standards Institution (BSI), specifying a set of laboratory tests, followed by a field test at least three months long on an industrial site. During the field test, the measurements from the CEMs were validated using parallel measurements, performed by an accredited test-laboratory using standard reference methods with a known measurement uncertainty.

Meanwhile, to assure the quality of data, the scheme applied two accreditation standards: EN 45001 for laboratory testing, and EN 45011 for product certification. The National Physical Laboratory and AEA Technology (now Ricardo-AEA) performed the tests on the CEMs, while the EA contracted the accredited certification body SIRA Certification Services (now part of the CSA Group) to manage MCERTS on its behalf. EN 45001 and EN 45011 have since been superseded by EN ISO/IEC 17025 and EN ISO/IEC 17065 respectively.

As part of the process of product-certification, SIRA audited the manufacturers' quality-system to assure that there were provisions for managing design changes and manufacturing consistency. Following certification, there would be a process of continuing surveillance.

All the MCERTS schemes are underpinned by accreditation standards (Table 2), for example, the schemes for testing instruments, air emissions, liquid effluents and the chemical-content of soils must meet the requirements of EN ISO/IEC 17025. Management-system assessments apply EN ISO/IEC 17021, whilst the scheme for personnel certification applies EN ISO/IEC 17024.

The model for CEMs (see Figure 1, p33) is applied to certification schemes for other types of monitoring instruments, such as meters for measuring the volumetric flow of liquid effluents, automatic samplers for effluent, or the ambient air-quality monitors used in the UK government's national network for measuring to demonstrate compliance with ambient air-quality legislation.

Alignment and evolution

After the first wave of certified continuous emission monitoring systems (CEMs), the Monitoring Certification Scheme (MCERTS) hit a barrier when manufacturers with CEMs type-approved in Germany were reluctant to go through another comprehensive

The schemes for testing instruments, air emissions, liquid effluents and the chemical content of soils must meet the requirements of EN ISO/IEC 17025. Management-system assessments apply EN ISO/IEC 17021, while the scheme for personnel certification applies EN ISO/IEC 17024



THERE WERE A LOT OF PROBLEMS WITH RELIABILITY BEFORE MCERTS

Table 2 – Accreditation standards applied through MCERTS

Standard	Scope	Example of application
EN ISO/IEC 17021	Management systems	Continuous emissions monitoring systems (CEMs).
EN ISO/IEC 17024	Personnel competency	Continuous ambient monitoring systems (CAMs).
EN ISO/IEC 17025	Quality of laboratory testing	Automated sampling systems.
EN ISO/IEC 17065	Product certification	Minimum requirements for sampling and analysis laboratories for soils.

ENVIRONMENT

test programme and wanted recognition for their approvals. While the schemes were similar regarding performance-specifications for CEMs, there were some significant differences too, such as no manufacturing audits in the German scheme. Therefore the EA worked initially with its counterparts in Germany and then with a working group within the CEN to align its standards. Following a memorandum of understanding for mutual recognition, type-approved CEMs only needed a few supplementary tests and the manufacturing audit for MCERTS certification. This provided a boost to MCERTS.

Manual stack-emissions monitoring

In parallel with this work, in the year 2000, the EA started developing a set of performance standards for test laboratories that perform periodic measurements of stack emissions. The driver for this was the wide spectrum in the quality among test laboratories. Although some of these were accredited, the EA found that it spent a great deal of time auditing these laboratories. Industry had similar experiences. “We had a team which would audit test laboratories and we found that the quality varied a great deal,” says Firth of Tarmac. “We wanted reputable, quality-assured companies to carry out our monitoring,” he adds. “As the results aimed to demonstrate compliance with our permit conditions, if the results were wrong, then we would have problems,” asserts Firth.

In simple terms, the EA and operators, such as Tarmac, found that accreditation to ISO/IEC 17025 was not enough on its own. As a result, the EA developed MCERTS performance standards for organisations, which was a sector-specific application of

ISO/IEC 17025. But more importantly, as the proficiency of the staff performing the sampling is at least as important as the test laboratory’s management-system, the EA also developed a personnel certification scheme for stack-emission monitoring personnel. Underpinned by ISO/IEC 17024 for the competency of persons, this scheme requires staff to demonstrate competency through interviews, exams and evidence of experience.

The scheme specifies two levels of certification, which are Level 1 for team members, and Level 2 for more experienced team-leaders. The performance standards for personnel also describe four Technical Endorsements, which provide for the competences necessary to perform specialised tasks; for example, sampling for complex pollutants such as heavy metals, and using specialised techniques for measuring gases continuously with transportable versions of CEMs.

At the end of September 2018, there were 141 Level 1 personnel and 209 at Level 2, while 23 test laboratories are accredited to the MCERTS standard.

As well as improving the quality of monitoring, the personnel-certification scheme has also given a professional status to manual stack-emissions monitoring.

Impacts and international influences

“As suppliers, we all learnt a great deal from MCERTS [and] generally it has been very positive,” says PCME Averdick. “There has definitely been an improvement to monitoring. Before MCERTS, it was difficult to assess accuracy,” he adds. Firth, from Tarmac, echoes these findings: “The quality of monitoring varied wildly

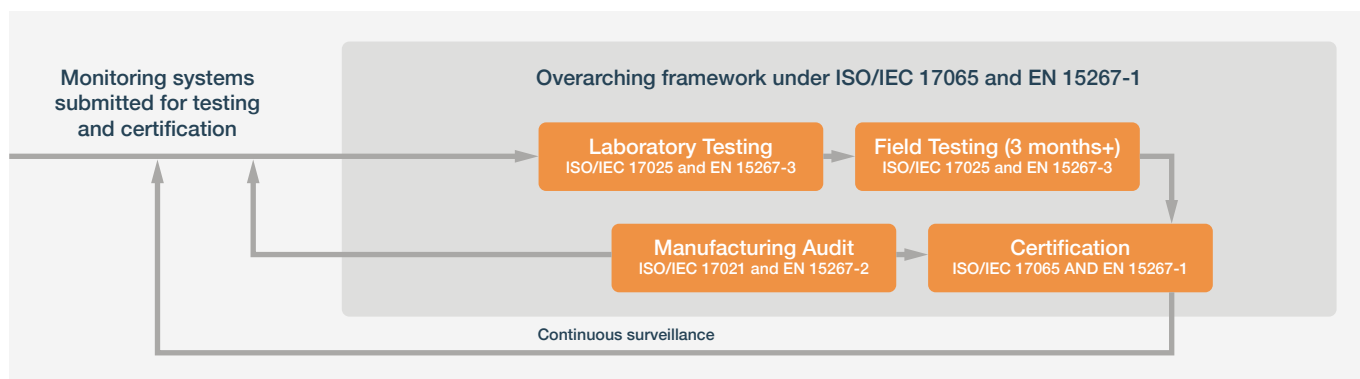




WE HAD A TEAM
WHICH WOULD
AUDIT TEST
LABORATORIES
AND WE FOUND
THAT THE
QUALITY VARIED
A GREAT DEAL



Figure 1 – the MCERTS product-certification model, applied to continuous emission monitoring systems



before MCERTS. The consistency of reporting has greatly improved.”

MCERTS has also had two impacts internationally, in standardisation and sales for manufacturers. The aligned Anglo-German standard for CEMs, for example, became the basis for a European standard, EN 15267-3, which describes performance criteria and test procedures for CEMs. Now both the German type-approval scheme and MCERTS are fully aligned with the EN 15267 series of standards.

Meanwhile, a related standard in this series, EN 15267-2, describes the requirements for a manufacturer’s management-system provisions for design control and manufacturing consistency. EN 15267-2 was based on an internal standard that the EA and SIRA developed together, so that CEMs manufacturers could readily include the MCERTS requirements within their existing management systems. This internal standard was a sector-specific

adaptation of ISO 9001 for CEMs manufacturing.

The team behind the standards for manual stack-emissions monitoring also worked with their European counterparts within a CEN working group to develop standards for this sector. One of the standards that the CEN working group developed, CEN/TS 15675 (Air quality. Measurement of stationary source emissions. Application of EN ISO/IEC 17025:2005 to periodic measurements) was strongly influenced by the MCERTS scheme for manual stack emissions monitoring test laboratories.

MCERTS has also evolved into an international brand. For example, many organisations and countries overseas specify MCERTS in tender documents. “MCERTS has definitely helped with overseas sales, especially in mainland Europe (France and Italy, for example) when the scheme became aligned with EN 15267-3 for CEMs,” concludes Averdieck. ■



[illegible]

In developed countries, quality is seen as an acquired right. People expect quality products and services, and companies integrate quality in their daily processes. However, in developing countries quality can mean the difference between economic development or starvation. ►

Although the application of quality processes and procedures to agricultural production can help developing countries to improve their agricultural industry and enter the international markets, quality is still overlooked by some producers.

Quality is more than just improving agricultural products and maximising production; it's about ensuring the produce is fit for national and international consumption. It's about getting it right the first time and every time, improving processes and avoiding unnecessary actions and costs. So why isn't every farmer in the world wearing a quality badge?

Yemi Shodipo, Quality and Food Safety Management Systems Consultant, Auditor and Director at Charis Management Systems, a CQI/IRCA Approved Training Partner, tells *QW* that the main challenges for the agricultural industry in developing countries are the different regulations and absence of mutual recognition by the



The Nagricoin Project

NagriCoin is a project of an international biotechnology company, NagriTech LTD, which is helping to increase yields and improve the quality of crops with Nagri-HL

Established in 2011 by a team of scientists and businessmen from various countries around the world, NagriCoin has helped to produce Nagri-HL, an organic fertiliser that consists of microelements and antioxidants that stimulate plant growth, to increase yields and improve the quality of crops. The fertiliser cuts the concentration of nitrates in the crop (due to a more intensive metabolism), and decreases side effects (for instance, the fertiliser does not stimulate the growth of weeds).

Evgeniy Kozarenko, CEO of NagriCoin, explains that the project started as a way to fight the declining quality of agricultural crops, particularly in developing countries.

Over the past decade, the demand for food and fodder crops has increased by 1.5-2.5 times, depending on the plant's species. This is due to the rise in population and the improvement of quality of life, which directly affect the volume of consumption.

Kozarenko says that this led to aggressive methods of stimulation being used in the cultivation process, such as the application of nitrogen fertilisers, the use of chemical growth stimulants, and the widespread application of pesticides and herbicides, to suppress undesirable effects from fertilisers and stimulants. "This leads to the reduction in the overall quality level of agricultural crops," he says. "At the same time, there is a constant increase in the requirements for the quality of products, both from the population and the public authorities. Consequently, improvement of the quality of crops is the key to sustainable sales."

The NagriCoin project team picked Brazil as the first agricultural market to distribute Nagri-HL because of the importance of the agricultural industry in the South American country. Brazil is considered the third largest agricultural market in the world, making it an attractive market for manufacturers of fertilisers and

agricultural machinery. Although the project is still in its infancy, Kozarenko says they have successfully passed field and safety tests, and are now planning to implement ISO 9001:2015 'Quality Management System' and ISO 14001:2015 'Environmental Management' standards, as well as voluntarily adhere to ISO 22000 'Food Safety Management', which integrates the seven principles of the Hazard Analysis and Critical Control Points (HACCP) system.



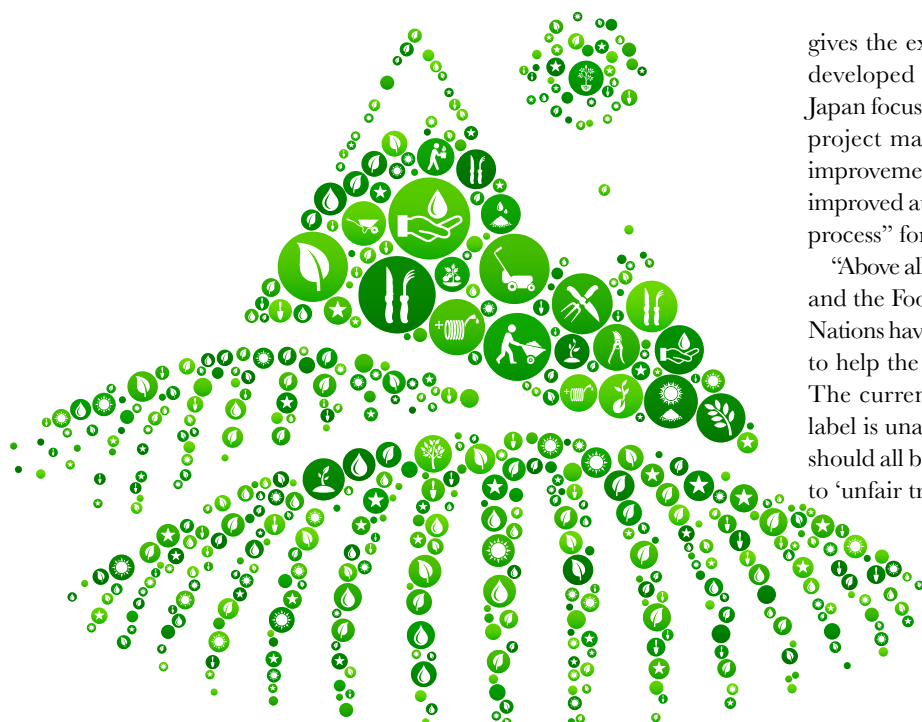
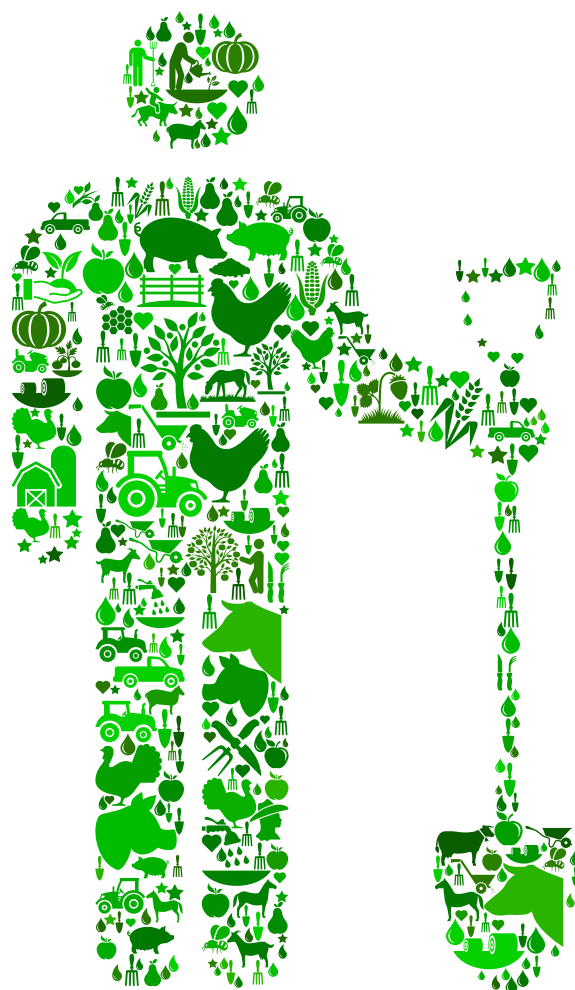
developed world, the low penetration of international standards, quality infrastructure challenges, and a low development of supply chains and related know-how.

“I am aware, through my membership of the Nigerian British Chamber of Commerce, that black-eyed peas from Nigeria are subject to a ban. This is due to the presence of pesticides banned by the European Union (EU) that are still legal in the country of production,” Shodipo says. He believes that the solution for situations like this is for developing countries to align their legislation with the EU market.

Another factor holding back the agricultural industry in developing countries is the low compliance rate to international standards. The industry is sometimes solely focused on the internal market, which does not demand compliance to international standards. Shodipo believes this is a ‘chicken and egg situation’ as the industry doesn’t follow international standards because the number of international commercial transactions is low. However this number could be higher, if the industry complied with international regulations.

Some developing economies are also lacking basic quality infrastructure, like an accreditation regulatory framework or an independent certification body. Farmers face challenges like lack of guidance, information and support on quality processes, testing and calibration. Shodipo says there is also an overall lack of technical and quality professional knowledge, increasing costs and imposing additional barriers to agricultural companies in these countries.

He adds that problems extend throughout the agricultural supply chain as a general lack of expertise compromises the quality of transportation, shipping, clearance and other supply chain operations. “Quality is right at the centre of overcoming these significant barriers to trade that keep the developing world a negligible part of the overall world trade,” Shodipo states. He



gives the example of Japan and how the country exponentially developed its agricultural sector after the Second World War. Japan focused on quality to improve its supply chain management, project management and product development, among other improvements. Shodipo stresses that international standards and improved auditing procedures can “help jumpstart and hasten this process” for developing economies.

“Above all, interested parties such as the World Trade Organization and the Food and Agriculture Organization (FAO) of the United Nations have a role to play in implementing a positive discrimination to help the developing world get a fair share of the world trade. The current tokenism of a dedicated aisle with the ‘Fairtrade’ label is unacceptable. This should be flipped over and our goods should all be fairly traded so that we would have an aisle dedicated to ‘unfair trade’.” ►

Embracing technologies for agricultural productivity

Some international organisations are already helping independent farmers in developing countries to get a fair share by providing them access to training, technology and the tools to build resilience to unexpected yield losses caused by diseases or extreme weather scenarios.

In Nicaragua, Abelino and his family have been growing coffee for 27 years, but in the past two years they have lost their entire coffee crop to coffee rust, a plant disease that thrives in rising temperatures.

Together with his wife Martha, Abelino participated in a training session run by the charity Christian Aid and its partner Soppexcca. With the information gained, they decided to plant cocoa instead, as it would prove better suited for their climate and soil characteristics.

The session was part of the Christian Aid sponsored project Adapta Nicaragua, which helps small and medium-sized cocoa and honey producers become more resilient to unpredictable weather and increase the productivity of their crops, through access to high-quality climatic information (detailed and complete data on climate changes). The Adapta Nicaragua project contributes to the climate change adaptation agenda by testing innovative business models and information technologies for efficient use of water, such as water harvesting and recycling. The project also aligns with the Inter-American Development Bank's plan for Nicaragua, which aims to support small producers to adopt innovative technologies that help generate income but are also environmentally sustainable.

Now, Abelino collects information daily on air and soil temperature and humidity, which he then reports by SMS to a research institute. The data the institute accumulates from Abelino's and other farmers' text messages are analysed and compiled, and the conclusions help Abelino and his family make an informed decision on the type of crops they will plant.

In fact, new technologies are proving to have a positive impact on developing agriculture around the globe. For instance, the mobile app VetAfrica, developed by Cojengo in Scotland, in partnership with Microsoft, is enabling veterinarians and farmers in East Africa to accurately diagnose livestock illnesses and find the most effective drugs for treatment. With more than 100 million farmers in East Africa, the developers predict massive growth of mobile and cloud tech solutions in the area.

Evgeniy Kozarenko, CEO of NagriCoin, a project of an international biotechnology company that produces organic

fertilisers for developing countries, believes robotic automation and processing of big data will have a huge impact on the sector in the near future. "These two trends can solve the main problems of agriculture: an abundance of manual labour, inaccurate forecasts, and calculations on weather and fertilisation. Modern technologies, such as blockchain, will help this industry save money and time, currently taken away by bureaucracy," he says.

Beyond technological changes, political changes and economic advancements could also bring new opportunities for growing markets in the near future. As developing countries make political and economic advancements, their infrastructure will evolve and this will help farmers to meet international market requirements and quality standards. Quality culture is taking root in developing countries and consequently their agricultural industry will develop and become more competitive. ■



Photo: Christian Aid/Alex Ciucu

Abelino collects information on air and soil temperature and humidity, which he then reports by SMS to a research institute. The data is analysed and the conclusions help Abelino and his family make an informed decision on the type of crops they will plant

■ **ROBOTIC AUTOMATION AND PROCESSING OF BIG DATA WILL HAVE A HUGE IMPACT ON THE SECTOR IN THE NEAR FUTURE** ■

Agriculture in developed economies

Quality challenges in the agricultural industry are not limited to developing economies; sustainability and food quality are some of the main concerns for producers in developed economies, such as the European Union and North America



In 2017, the European Academies Science Advisory Council (EASAC) published *Opportunities and challenges for research on food and nutrition security and agriculture in Europe*, a report that explores how the current scientific evidence can shape understanding of challenges faced by the agricultural sector in Europe. Dr Robin Fears, Biosciences Programme Director at EASAC, shares the report's findings and the role of quality in developing the agricultural sector in Europe.

What were the quality findings in the report?

Quality in agriculture, like quality in any other sector, depends on the quality of the scientific evidence and the quality of the data. So, the report discusses a number of general issues for producing excellent science and relevant, large, useable data sets. For example, standardising these data sets makes it easier to verify and share them as part of the quality agenda.

I guess that quality, in the context of quality improvement, very much depends on innovation. The report discusses and gives a number of examples in agriculture, where innovation is important in order to enable and support high quality agriculture. Actually, one of the aspects of quality and innovation, which we emphasise, is the need for the European regulatory framework to focus on product quality.

What are the European agricultural industry's main quality objectives?

The main objectives are to produce sustainable and healthy diets, so quality in agriculture has to be associated with these new objectives. There are also

concerns for environmental, societal and economic sustainability. These objectives also encompass reducing the waste of food. Waste during harvesting, food processing and consumption. All of these issues relate back to agricultural productivity because, of course, the less we waste, the less we have to increase production by.

What role can quality play in guaranteeing food safety?

Maintaining food quality links with issues of food safety, food processing, analysis in food science and technology, and the issue of the authentication of food composition and origin. That traces back to agriculture if, for example, the variety of meats that consumers believe they are eating is not right. If those meats are being substituted for poorer quality meats, or an entirely different animal origin, that raises issues of food safety, food authentication, labelling and communication.

How are new technologies changing the sector?

New technologies brought precision agriculture. There's no good definition of precision agriculture but, essentially, it's related to improving the efficiency of agriculture, reducing inputs of pesticides, herbicides, fertilisers, and the use of water in agriculture, to increase the efficiency and quality of production systems.

However, this raises many questions: What are the methodologies? How can the uptake by farmers be encouraged? What are the potential consequences for the environment, for the homogeneity of agricultural production systems and for improving efficiency in quality?

What role does regulation play in ensuring quality in agriculture?

I think there is a regulatory dimension, particularly in Europe, regarding the regulatory frameworks for plant and animal breeding quality. The regulation of plant breeding is imposed according to the methodology used to breed that new variety. So, if you are using a genetic modification technology, then that's regulated under the Genetically Modified Organism (GMO) regulations.

What we need is a common standard in regulation that focuses on the nature of the product, and the quality of that product, rather than the process by which it is produced. We can argue that Europe should move to a system that focuses more on product quality than it does on the process. This is quite unusual in agriculture.

Let's look at other industry sectors, for example, pharmaceuticals. Pharmaceutical regulation is broadly according to the product quality, the efficacy and safety, not on how it's being produced.

What does the future hold for agriculture?

Data processing and research advancements will impact the sector. For example, large linked data sets will be used for the precise application of fertilisers by farmers. To decide on which crops to grow, farmers will have combined data from market and commodity prices.

All of this will be important in order to respond to challenges such as climate change, population growth, and alternative uses of land.

Read it!

Download the EASAC's report *Opportunities and challenges for research on food and nutrition security and agriculture in Europe* at <https://bit.ly/2x2bmNB>

Quality at the service of mental health

Dr Louise Boulter and Leslie McDonald share the benefits of a quality assurance approach to continuous improvement in a mental health charity



ental health issues in the workplace are becoming more prevalent and equate to a cost of £3.6bn in the UK. Competing

service priorities, juggling budgets during times of reduced resources, and a shifting sands approach to national and local policy means access to NHS mental health services is not straightforward. This is where the provision of a quality-driven counselling service by the charity Nottingham Counselling Service is making a meaningful contribution to the local and national community.

Nottingham Counselling Service's journey to excellence

Established in 1875, Nottingham Counselling Service (NCS) provides therapy and support for adults living, studying and working in Nottinghamshire and in the East Midlands. The charity is recognised for its technical competence in providing psychotherapy through its British Association for Counselling and Psychotherapy (BACP) accreditation, and for the past several years has enjoyed a client satisfaction rate of 95% for the quality of its client therapy. However, it was only recently, in August 2018, that NCS realised its quality ambitions through

accreditation to ISO 9001:2015 'Quality management systems' and BS 76000 'Valuing people management system'.

NCS believes the two standards are complementary and supportive. ISO 9001:2015 provides a robust frame for consistency and efficiency in service delivery, while BS 76000 ensures the charity nurtures and develops the talents of staff and volunteers.

Despite ongoing challenges, including the global financial crises and associated austerity with a wholesale cut in the charity's funding, NCS Executive Director Leslie McDonald was determined to meet his commitment to NCS' formal strategic five-year plan, which was accreditation to recognised quality assurance standards.

The charity's journey to accreditation commenced with McDonald getting buy-in from key stakeholders including staff and counsellors by engaging them in the process, addressing any fears they might have and explaining how a quality management system (QMS) would positively impact their role and bring benefits to the work they do. To attain NCS' quality ambitions, a quality management consultant was carefully selected, in line with the charity's values, to support NCS' implementation of a robust QMS. As part of this journey, NCS developed a quality manual, and

established a quality management team with responsibility for overseeing the implementation of the new QMS.

Early benefits from accreditation

Since accreditation, NCS has experienced a number of early and significant benefits. One improvement introduced as part of the charity's QMS is a standard practice log that captures information about NCS counsellors' activities including clinical psychotherapy mode and number of hours spent with a client. This information is important because it provides NCS with data to measure the effectiveness of its counsellors' clinical approach and the value of the work the charity does, including the contribution towards savings to mainstream NHS money.

This information can now be incorporated within any bid for funding, signalling the effectiveness of the charity's quality approach.

The QMS also formally requires counsellors to track clients' progression and is helping to drive improvements in clients' successful progression towards improved mental health. All counsellors are required to use an intelligent software tool that tracks therapeutic approach and clients' progression as measured by clinical outcomes. This data is now used to provide useful information regarding alignment between clients' mental health problem and therapeutic approach. Importantly, it also helps identify where a client is progressing successfully but therapy continues, which may indicate a client's unhealthy attachment to a therapist. Overall, the QMS is helping NCS understand the best approach in providing

"Before ISO 9001 accreditation, there was, on average, around 33 client referrals per month. This has now increased to around 76"



a client with an effective clinical journey towards good mental well-being, recovery, change and resilience.

There is also now a standard operating procedure for client referral. Before ISO 9001 accreditation, there was, on average, around 33 client referrals per month. This has now increased to around 76, which is an indication that having a standard operating procedure pays dividends, given the process is more user friendly and prevents referrals to inadvertently fall through the cracks.

In addition to the above benefits, accreditation to ISO 9001 and BS 76000 will continue to support NCS by:

- Assuring key stakeholders, including clients, staff, donors and the Charity Commission, are aware of the charity's excellent governance.
- Giving counsellors, clients, commissioners and private sector organisations confidence in NCS' commitment to providing a quality service to clients.
- Assuring clients that they have come to the right organisation.
- Putting NCS in a strong position

to respond to tenders by having an internationally recognised and auditable QMS.

- Enabling NCS to manage its resources more effectively.
- Having efficient and effective standard operating procedures which enable counsellors to focus on the most important thing, which is improving clients' mental well-being.
- Enabling NCS to continuously improve its service by regularly reviewing key processes that impact customer satisfaction.

The benefits achieved by NCS demonstrate the value that quality can have on the third sector. The charity believes quality professionals can play a key role in educating and supporting small charities about the value of quality management practices. For instance, quality professionals can offer to do pro bono work, such as volunteering to work on a quality project, to help a charity improve its service quality through improved processes, or offer to be trustees in order to champion a charity along the quality journey.

NCS CEO's top tips for realising quality aspirations

- Make a formal commitment to quality in your strategic plans so that quality becomes your way of 'doing things'.
- Senior managers need to articulate their vision to staff, and other stakeholders about how the quality system will benefit the organisation as a whole and also organisation governance.
- Staff have intimate process knowledge. Get them to draw out current key processes and ask them to agree measures/improvements.
- Find as much information as possible on various quality approaches and quality standards. Establish which ones are the right ones for your organisation and why.
- Don't be shy to ask other organisations about their experience and gain knowledge from their approach.

Dr Louise Boulter is a Trustee of Nottingham Counselling Service, and a Senior Lecturer and Programme Leader in the Business School at Middlesex University London. She is the academic adviser to the CQI Advisory Council and has application knowledge of quality approaches, having gone through ISO lead auditor and European Foundation for Quality Management (EFQM) training.

Leslie McDonald is Executive Director at Nottingham Counselling Service. He has over 30 years' experience in senior management roles including SME development and is a member of the Nottingham City, Health and Wellbeing, representing the voice of the third sector.

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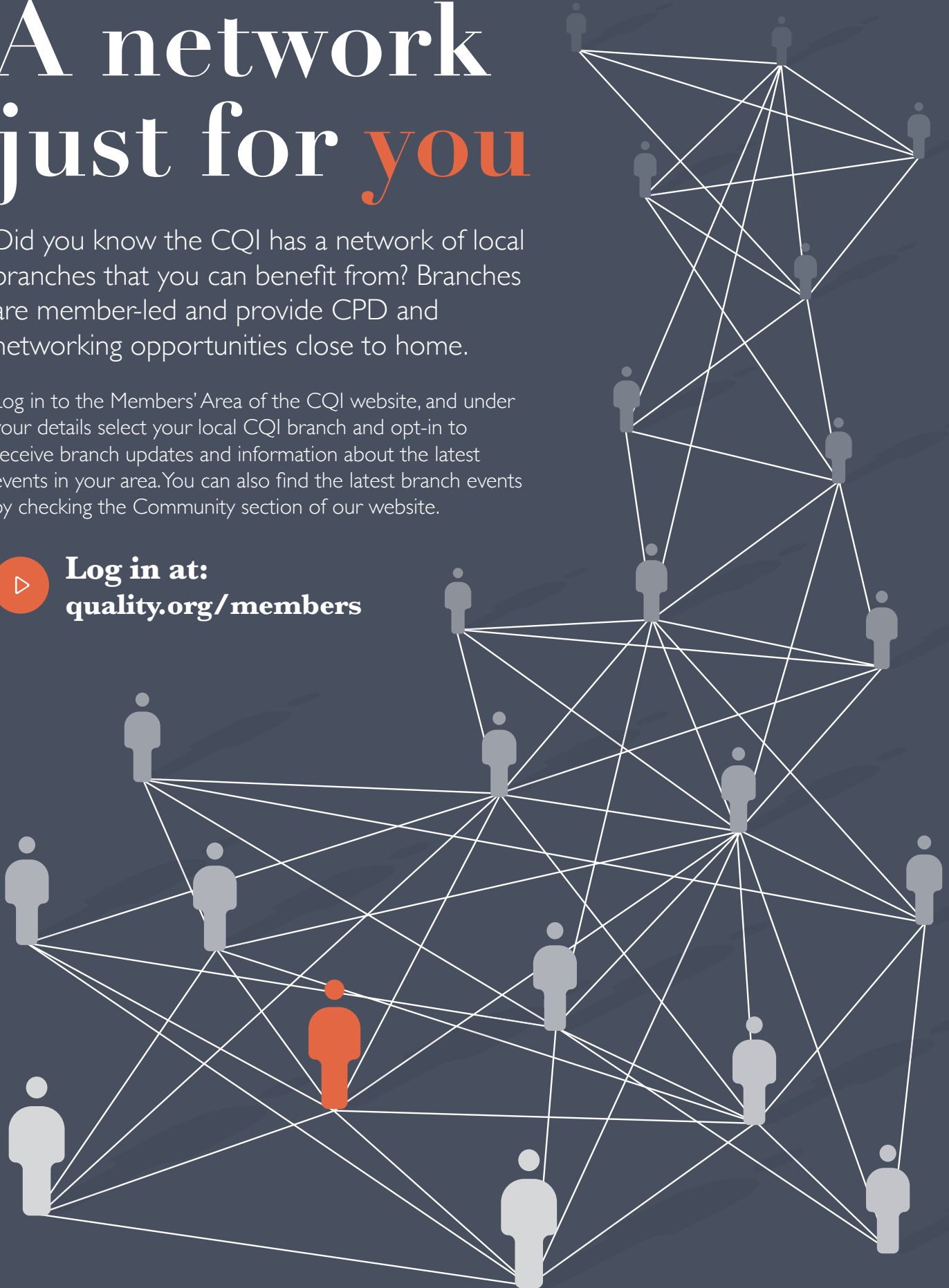
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Experts uncut

Time for Lean



David Cole

explores how Lean techniques can help a business through an uncertain economy

A recent article in the *Economist* painted a gloomy picture suggesting another global recession may be on the horizon. Worryingly, with interest rates low and previous policy ideas less palatable, the article asked if the world economies are ready to weather such a storm. We should also be asking ourselves if our organisations are ready to deal with such uncertainty.

Research completed by the Centre for Economic Performance (CEP) after the 2008 recession showed that the quality of management practices is a key indicator in predicting an organisation's ability to survive (or succeed in) the unpredictable challenges of a recession.

Maybe this is why a consistent topic of conversation at the moment on Bywater's management systems training courses (regardless of whether the subject is quality, environmental or health and safety focused) is Lean.

After all, the Japanese know a thing or two about surviving natural disasters and long-term stagnant economic growth.

Most readers will know that Lean is synonymous with quality – reducing waste with a focus on value for the customer, and meeting customer expectations. But a Lean approach can be applied to other areas of management too, such as environmental, health and



safety and information security management. Indeed, there is a requirement in standards including ISO 14001, ISO 45001 and ISO 27001 for the continual improvement of these management systems, which Lean is well placed to support.

A commonly used Lean tool that compliments workplace safety very well is 5S. In its English translation, 5S stands for Sort, Set, Shine, Standardise

and Sustain. This Lean tool is normally used to establish organisation and standardisation of the workplace with the aim of improving productivity.

Used well, 5S can form the basis for creating a safe and ergonomic workplace through the careful placement of equipment (such as heavy objects where they can be lifted easily), removal of unnecessary items, keeping tools and equipment clean and then maintaining

these safe habits. Similarly, environmental management can be supported by the top level Lean tool, Value Stream Mapping (VSM).

VSM helps organisations to map the steps taken for materials and information to reach a finished product or service, forming the basis for continual improvement and waste reduction.

Lean defines seven wastes (or eight if you include the underutilisation of people) as waiting, unnecessary movement, transportation, defects, over production, unnecessary inventory and unnecessary processing.

While these are looked at with value to the customer in mind, it is clear to see that unnecessary transportation and storage space, and the disposal of excess product or hazardous material, all negatively impact the environment.

By combining Lean initiatives with your environmental management obligations, you'll be able to reduce costs, improve efficiency and improve your organisation's environmental performance all at the same time.

As these examples show, using Lean tools needn't be thought of as the preserve of organisations with company-wide Lean initiatives.

David Cole is Director at Bywater

Members' Area

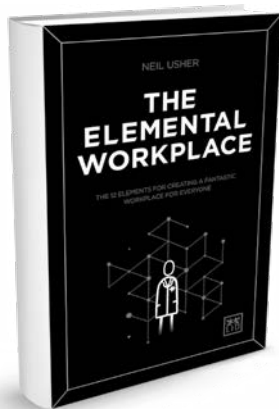
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Reviews



The Elemental Workplace: The 12 Elements For Creating a Fantastic Workplace for Everyone
by Neil Usher, LID Publishing (2018), £12.99

When reading this review at work, look around you at the lighting, the space, the colours painted on the wall. Does your workplace look uninspiring? Is it a dysfunctional environment? I am sure you will admit to yourself that things could be significantly better.

We often hear about employee engagement, or lack of employee engagement, or even new concepts like employee wellbeing. Have you ever considered that the workplace has a very important part to play in wellbeing and employee engagement?

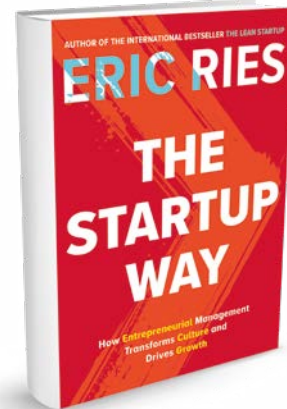
The Elemental Workplace shares the vast wisdom of 12 interlocking components that, delivered correctly, will create a fantastic workplace, provide an environment that fosters learning, growing,

collaborating with colleagues, and is simply a great place you can enjoy coming to, to work.

The book does not have drawings or plans, nor does it tell you how to design the workplace. But it shares the knowledge of the elements needed to produce a fantastic workplace.

We have just moved to a new office, and while looking around it was almost as if our office was a case study for *The Elemental Workplace*. Our Office Project Management team, with specialist designers and suppliers, truly delivered a place of work for the 21st Century. It makes me feel happy and relaxed every time I visit.

Steven Moir, CQP FCQI, is Compliance and Assurance Director at DigiPlex



The Startup Way: How Entrepreneurial Management Transforms Culture and Drives Growth
by Eric Ries, Portfolio Penguin (2017), £10.40

The *Startup Way* presents some very interesting ideas about entrepreneurship. The author sells us a concept that makes entrepreneurship an everyday function that all people are capable of. Some are better than others, and his work also elaborates on how to identify and nurture that ability through making it a dedicated function within a business.

A creative person in isolation is not necessarily an entrepreneur, but the models and methods laid out in this book may allow a creative person to become one.

The sections explaining how to convince investors to measure success incrementally and scale-up investment based on different predetermined metrics are particularly interesting.

The latter sections of the book focus on policy and governance

approaches in an organisation that will allow for a controlled and uniform approach to entrepreneurship. While very interesting, I felt the application of a function dedicated to entrepreneurship would be difficult to implement in many organisations. New businesses, tech start-ups and global giants will definitely be able to benefit from this approach. But small to medium-sized enterprises may find opposition from the board for this additional expense.

It is a good read and thought-provoking. A definite 'must' for those with good ideas looking to put them into practice.

Mark Davies is Group SHEQ & Compliance Manager for Lionweld Group and Operations and Finance Officer for the CQI Next Generation Network (in a volunteer capacity)

Review it

If you would like to be a reviewer, email submissions@quality.org to find out what's involved. We also welcome suggestions of books you would like to see in QW.

5 minutes with...



Bethany McCulloch, PCQI

Head of Quality at Carey Group Plc

I'm Head of Quality at Carey Group. I work with the leadership and management teams to develop and implement improvement strategies to reduce risk of error; and support our teams to ensure we continue to meet and exceed our clients' expectations.

I have an early childhood memory of my auntie Susan telling me not to be "so bloody pedantic". So, you could say I got started in quality from an early age. Officially, however, I left university with a degree in Counselling Studies and got a temping job as a Project Secretary with Galliford Try and Imtech Process, where at project handover the Operations Director put me into a Quality Administrator role. Quality has similarities to counselling: asking the right questions, root cause analysis, behaviour change, instilling empowerment, and leading to improvement.

Carey Group is passionate about being better every day. We value efficiency, don't tolerate duplication and care about collaborating to build lasting relationships with our internal and external stakeholders. Quality is so important that it's ingrained into our culture of 'it's not all about what we do, it's also how we do it'. That is what initially attracted me to the company – the commitment to improve. In my five years with the Carey Group, that commitment has never wavered.

I've recently joined the CQI ConSIG Steering Committee. This came about at a Get It Right Initiative (GIRI) meeting after talking with Jon Adshead, QA Director at Mace and Chair of the CQI ConSIG. The ConSIG's vision of advancing quality and improvement in the construction industry aligns perfectly with the Carey Group's vision. It is a great example of 'united we stand: divided we fall'. If we're going to improve the industry, then being part of committees like the ConSIG and GIRI is essential.

When asked 'what do you do?' and I see their eyes glaze over at the mention of 'quality', I say there are three P's to take care of in a business. Health and safety looks after the people element (you wouldn't want to harm your people); environment looks after the planet (we don't want to harm that either); and quality looks after the product and everything connected to it (harm that and you don't have a business!)

My top advice for quality professionals looking to rise in their careers is to take an interest in everything, and be personable, honest and objective. Quality stretches across so many disciplines and work practices that it's essential to make the time to understand how everything meshes together. I practise some basic techniques from my counselling degree: Never assume you understand what's truly going on, check for clarity without influencing the response, and keep the findings objective. A key part of delivering this is building and maintaining a good rapport with everyone – you need to keep your humanity.

The colleagues I've worked with are the highlights of my career. Through the years I've grown professionally and personally because of the teams and individuals around me. The good times have lifted us, the challenges bonded us, and even after we've disbanded at the end of a project, the feeling of family remains.



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Rashad Issa, CQP MCQI, Director of Operational Success at Workplace Options



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