

ISO Focus+

The Magazine of the International Organization for Standardization

Volume 1, No. 1, January 2010, ISSN 1729-8709



Standards development The inside story



• **Guest Interview**
CEO of Rolls-Royce Motor Cars

• **Radioactive trafficking**



ISO Focus+

ISO Focus+ is published 10 times a year (single issues: July-August, December-January)
It is available in English and French.

Annual subscription - 98 Swiss Francs
Individual copies - 16 Swiss Francs

Publisher

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(International Organization for Standardization)
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ISSN 1729-8709
Printed in Switzerland

Cover photo: Geneva Symphony Orchestra, directed by Hervé Klofenstein
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Contents

Comment

Rob Steele, ISO Secretary-General – Focus on force multipliers 1

World Scene

International events and international standardization 2

Guest Interview

Tom Purves, CEO of Rolls-Royce Motor Cars 3

Special Report

Standards development – The inside story..... 6

Karen Higginbottom – Management with proactive contributions..... 8

Charlie Piersall – Taking a strategic business approach..... 11

Elizabeth Nielsen – The challenges facing a new Chair..... 15

Dan Roley – Consensus leads to win-win for all..... 19

Françoise Pellé – Testing new ideas in informal settings..... 22

Howard Mason – Encouraging sparks of creativity 26

Karla McKenna – Trust generates breakthrough potential 29

Centre-fold

ISO's global solutions 24-25

Planet ISO

News of the ISO system 32

CDC

Standards in economic development and trade 35

Ethical trade claims – A multistakeholder dialogue lends perspective 35

eServices training in Azerbaijan 36

ISO workshop on supply chains and traceability 37

Management Solutions

Auto body shop beats path to quality..... 38

Worldwide uptake of ISO/IEC 27001 increases by 20%..... 40

ISO 14006 will provide guidance on ecodesign..... 40

Standards in Action

ISO 22188 helps tackle illegal trafficking of radioactive material..... 41

360°

The ISO Award for Higher Education in Standardization..... 44

New Releases

Highlights of The ISO Survey..... 48

Coming Up

49

Focus on force multipliers

ISO periodically reviews its standards to ensure that they retain their usefulness as state-of-the-art tools for business, government and society. With a similar intention, ISO has reviewed its magazine strategy and with this edition we will “focus” on an improved, new-look edition of *ISO Focus* – *ISO Focus+*.

ISO Management Systems, the “other” ISO magazine, which had been published six times a year since the end of 2001, has been consolidated into *ISO Focus+*. The roots of *ISO Management Systems* go back 17 years ago to 1992 when ISO launched a bi-monthly newsletter to answer the heavy demand for information on the management system standards and evolved to become a full colour magazine, published in English and French editions by the ISO Central Secretariat, with the close support of AFNOR, the ISO member for France, for the French edition, and in efficient collaboration with AENOR, the ISO member for Spain, which published a successful Spanish edition.

From now on, coverage of ISO’s management system standards will be one of the new features included in *ISO Focus+*. This means that *ISO Focus+* will provide a “one-stop shop” for information on the complete range of ISO’s standards: technical, management, good practice and conformity assessment, and for products, services, processes, systems, materials and professionals. Another feature will be the publication of *ISO Focus+* in both English and French.

It is clear that management system standards provide manufacturing and service organizations with a tried and tested framework for achieving objectives such as customer satisfaction, improved environmental performance, information security, supply chain security and others.

Economic studies, including ISO’s soon to be published study on the benefit standards bring to an organization and sector, make it also clear that the effective

use of ISO management system standards in combination with ISO’s more than 18 500 “other standards” can be a force multiplier for achieving positive results. *ISO Focus+* will therefore echo this strong force multiplier effect and provide a shop window to ISO’s entire palette.

At the same time, the most appreciated features of *ISO Management Systems*, notably standards’ implementation case studies, will be included in *ISO Focus+*. More case studies will be published on ISO Online (www.iso.org).

Other new features will include an increased emphasis on ISO standards “at work” and the benefits they bring to users and stakeholders in business, government and society at large. *ISO Focus+* will also provide enhanced coverage of recently published ISO standards.

Showing the benefits of using ISO standards through real-life experience of their use demonstrates that they are not academic, amorphous or theoretical. ISO standards are developed by experts in their subject who actually practise what they write in the standard. The ISO standard is therefore a treasure-trove of best practice that can be applied.

With this in mind, we have also paid attention to the feedback received from the leaders of the ISO technical committees (TC) and subcommittees (SC) that develop ISO standards. They not only need ISO’s assistance in promoting their work, but they also need to retain and increase the support of the organizations that allow them to take part in this work. *ISO Focus+* will therefore give a higher profile to the TCs, SCs and the 50 000 experts who participate in them.

To mark this new focus, this first edition begins by turning the spotlight on just what it takes to manage one of ISO’s technical committees. We have invited a selection of Chairs – the “orchestra conductors” – to evoke the challenges of leading a group of experts from 20, 30 or even more countries to develop standards that make a practical and positive difference to our world. I hope you’ll agree with me that it makes fascinating reading – and I encourage ISO members to spread the word and promote *ISO Focus+* in your countries.

ISO Focus and *ISO Management Systems* have been a great way to demonstrate the diversity of subjects covered by ISO standards and the benefit standards bring to those who use them. They have also shown how ISO standards help to address global issues.

As we begin 2010, it is clear that *ISO Focus+* will benefit from this amazing legacy, enrich it further and help ISO and our members to answer even more clearly the question, “So why should I use standards or get involved in standardization?”

Readers are welcome to share their reactions to *ISO Focus+*. Please send your feedback to the *ISO Focus+* editorial team, at isofocus+@iso.org. ■



Rob Steele
ISO Secretary-General

Rolls-Royce Motor Cars

Tom Purves



ISO Focus+: *Rolls-Royce Motor Cars is a global brand which, for many people, is associated with ideas of luxury, exclusivity and customization. At the same time, motor car manufacturing is an industry depending on truly global supply chains and characterized by a high degree of standardization to ensure compatibility, safety and interoperability. Have you any idea of the number of technical standards that go into the manufacture of Rolls-Royce cars? How does Rolls-Royce navigate between these poles of exclusivity and standardization?*

Tom Purves: Rolls-Royce Motor Cars produces motor cars that are built to order for every customer, from the initial painting, through to wood and leather choices. We also have a department which works exclusively on one-off bespoke items to meet and exceed our customer expectations.

Every part used on the car is constructed to specific ISO requirements, ranging from screws used to fit interior fittings, to the aluminium spaceframe of the Phantom model series. We are in constant communication with our supply chain management team to ensure they meet our requirements and that of ISO 9001:2008.

ISO Focus+: *Does Rolls-Royce send experts to participate in the development of standards for the automotive sector? If so, can you give details? If not, doesn't it mean that you're not at the table when standards which could influence your business are being developed?*

Tom Purves: As part of the wider BMW Group, Rolls-Royce is represented in the development of standards. BMW Group influences the standards development process to ensure the best possible improvements for the Group as a whole.

BMW Group is a member of the International Automotive Task Force (IATF) which was responsible for the development of ISO/TS 16949:2009, *Quality management systems – Particular requirements for the application of ISO*

Tom Purves is the Chief Executive Officer of Rolls-Royce Motor Cars, a position he has held since July 2008. He has spent his whole working life in the automotive industry, beginning with Rolls-Royce as an apprentice engineer at Crewe, United Kingdom, in 1967. His role with the company evolved to include several management positions in various fields including sales in Europe, Africa and the Middle East. Prior to his appointment as CEO of Rolls-Royce, Mr. Purves was Chairman and CEO of BMW (US) Holding Corp., and President of BMW of North America, LLC. He led the company to achieve groundbreaking success, with market share and sales of BMW Group vehicles more than doubling during his tenure. The company became the second largest BMW export market after the USA. In addition, he was responsible for the successful launch of the MINI in North America. Mr. Purves is married with two children and in his free time enjoys golf, music and motorcycling.



© Rolls-Royce

9001:2008 for automotive production and relevant service part organizations, the European Foundation for Quality Management (EFQM) and the German Association of the Automotive Industry (VDA).

ISO Focus+: Does Rolls-Royce make use of management system standards such as ISO 9001:2008 and ISO 14001:2004? What benefits do they bring you? Are your management systems certified – if

so, what added value do you see in third-party certification?

Tom Purves: Rolls-Royce is part of a matrix certification within BMW Group for both ISO 9001 and ISO 14001. Certification helps with customer/supplier development as our requirements are clearly defined. This, in turn, ensures that product and problem management are efficiently developed.

Third-party certification provides us with an independent validation of our systems as well as providing consultation

on best practice amongst our peers. It also demonstrates to our customers our continuing track record of quality excellence.

ISO Focus+: Have you considered the implementation of other management system standards, such as ISO/IEC 27001:2005 for information security?

Tom Purves: Rolls-Royce builds cars using ISO 9001 and references ISO/TS 16949 for best practice.

BMW Group R&D processes are certified to ISO/IEC 27001, but this is currently not required for manufacturing plants. As a globally operating organization, Rolls-Royce and BMW Group manage numerous risks. Consequently, we have implemented a solid centrally co-ordinated risk management system, which incorporates new standards, principles and practices in order to further develop our risk management.

ISO Focus+: It has been said that ISO 9001 and ISO 14001 have brought standards to the attention of top management. How true is this in the case of Rolls-Royce? More generally, in today's global markets, do you perceive of International Standards as having strategic importance for you? What developments would add value for you?

Tom Purves: International Standards provide the automotive industry with an

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opportunity to market brands and work with global supply networks to ensure they meet requirements. At Rolls-Royce, we have a philosophy of continuous improvement and value added processes. Further development by ISO to the associated standards assists with these principles.

ISO Focus+: *When you're a global brand like Rolls-Royce, you no doubt need to pay close attention to your "corporate citizenship". What's your perspective on the contribution of International Standards toward helping the international community to tackle global challenges such as climate change, sustainable development and social responsibility?*

Tom Purves: International Standards bring together like-minded people to tackle issues of high importance to our community. These standards help companies translate ethical principles into effective actions. Rolls-Royce strives to produce



© Rolls-Royce

Rolls-Royce builds cars using ISO 9001 and ISO/TS 16949.

cars as sustainably as possible, to do this we work closely with the BMW Group's Efficient Dynamics project.

As well as our purpose built site, designed to minimize impact upon the environment, we also ensure that our product is class leader for its segment. For example, aluminium for the Phantom spaceframe is produced using hydro-electric power and its engine produces the lowest amount of carbon dioxide in its class.

All our cars are produced in a way which ensures that they are fully (85%) recyclable, should they ever reach the end of their viability. Around 65% of all Rolls-Royce motor cars ever built are still road-worthy.

ISO Focus+: *In a number of recent publications (July-August 2009 issue of ISO Focus, 2008 ISO Annual Report, Today's state-of-the-art global solutions for CEOs), ISO has sought to show how International Standards can help to renew business confidence in the context of the worldwide financial turmoil. Have they opened your eyes to new possibilities of using ISO standards? As a top CEO, do they communicate to you?*

Tom Purves: The *ISO Focus* magazine provides the automotive industry with a useful tool for highlighting future advantages and delivering enhanced efficiencies. It includes many examples of global economic, social and environmental benefits of implementing ISO standards presenting a thought-provoking document that creates genuine interest in ISO products. ■



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Rolls-Royce overview

Since 1904, Rolls-Royce has created instantly recognizable motor cars that have made the marque an enduring icon all over the world.

Rolls-Royce Phantom redefined the marque for the 21st century – a fitting celebration of the principles of Sir Henry Royce. This continuing pursuit of innovation, realized in the Rolls-Royce EX programme and the models it has produced, has created new benchmarks for the industry. The launch of Ghost marks the next stage in the evolution of the marque.

To develop and build the most technologically advanced car of its kind Rolls-Royce has invested heavily in its people and its facilities at Goodwood, United Kingdom. This investment will help the marque develop new models that will let continue to grow the company's reputation.



Geneva Symphony Orchestra, directed by Hervé Klöfenstein © F. Rudhard, 2009

Standards development

The inside story

by Roger Frost

Fortunately, the misconception that ISO standards are developed by an army of professional standardization bureaucrats who just decide that a new standard might be “a good idea”, then throw the product over the wall to industry, is increasingly seen to be just that – a misconception.

In fact, ISO launches the development of new standards in response to sectors and stakeholders that express a clearly established need for them. ISO standards are developed by technical committees, (subcommittees or project committees) comprising experts from the industrial, technical and business sectors which have asked for the standards, and which subsequently put them to use. These experts may be joined by representatives of government agencies, testing laboratories, consumer associations, nongovernmental organizations and academic circles.

But just what does it take to manage the process of developing standards?

According to the ISO publication *My ISO job*: “The Chair of an ISO committee has the task of helping the committee to reach an agreement which will be internationally accepted. As such, it is essential that the Chair sheds any national positions which would have been appropriate in a probable earlier role as a national delegate.

“The Chair has the task of steering the committee towards that vital consensus and recognizing when it has been reached. In general, this will mean that the committee agrees that a particular solution is the best possible for the international community at that point in time. The Chair must therefore remain neutral, and work towards achieving a result which will be acceptable to the international community.”

While this explanation is clear, it does not really capture the flavour of what it is really like to do the work. This Special Report tries to convey that flavour – the inside story – by a selection of the men and women who lend their management skills to the standards process.

Developing ISO standards takes not only technical expertise, but is also a formidable exercise in management by technical committee (TC) subcommittee (SC) and project committee (PC) leaders of people, “politics”, time and resources.

ISO TC, SC and PC Chairs include some remarkable men and women. This feature presents some of them and seeks answers to questions such as the following:

- How, why did they get involved in standardization?
- How do they understand the role of Chair?
- What does it take to manage a team of experts from perhaps 20 to 60 countries?
- How do they combine the work with their regular jobs?
- How do they deal with conflict, develop consensus?
- What other challenges have they met and how have they tackled them?
- How do they go about obtaining backing by their employers and participation by experts?
- What efforts do they make to learn from best practice and to share it?
- What are their communication and networking strategies?
- How has their understanding of standardization and its benefits – as well as of people – evolved through their major involvement?
- What is their motivation? Has their work made a positive difference to the world? ■

Roger Frost is Head, Communication Services, ISO Central Secretariat.



Karen Higginbottom

Management with proactive contributions



Bigger than big

Just recently, I have completed my first year as Chair of ISO/IEC JTC 1, *Information technology*. This alone makes my “inside story” a bit unique. With ISO and IEC as the parents of JTC 1, the environment is also unique. It is a large operation – 18 subcommittees, five special working groups, two working groups, one vocabulary maintenance team and three study groups, to date. Each of the technical groups are well managed by strong leadership and talented professionals. They do all of the hard work.

Being flexible and injecting some humour are always valuable safety valves.

For example, 270 standards were developed by ISO/IEC JTC 1 in 2007, with an average of 240 new work items per year. The exciting challenge for me (and my very knowledgeable Secretary, Lisa Rajchel, from the American National Standards Institute, (ANSI), is to find a way to address concerns, respond to pressures and identify all the pieces that must fall in place, so information technology standards can be developed successfully – and in a timely manner, for an industry where product creation windows are measured in weeks, not years.

In ISO/IEC JTC 1, there are 42 participating members and 47 observer members, with more than 320 organizations in liaison. The national body delegations are not always the technical experts that attend the subcommittee meetings. Delegations vary greatly, but are comprised of representatives from the national standards organizations, government, multinational organizations, small and medium enterprises, as well as users. Even in the most heated of debates, the decorum of respect and cooperation gets us through a very complex agenda.

Karen Higginbottom is Chair of ISO/IEC JTC 1, *Information technology*. She is Director of Standards Initiatives at Hewlett-Packard, where she has been since 1994. Previously, she represented Apple Computer, leading the standards and consortia team. She also worked at Pacific Bell where she managed the Northern California mainframe computer operations and led the data communications strategic planning group.

Ms. Higginbottom has been a leader of IT standard-setting efforts for over 25 years, first joining the InterNational Committee for Information Technology Standards (INCITS) and its predecessor organization (ANSI Committee X3, then NCITS) as a member. She became NCITS Chair in 1998 and remained in that position until her appointment as ISO/IEC JTC 1 Chair. During her tenure, Ms. Higginbottom facilitated the introduction of a new standards management structure to combine responsibility for domestic and international IT standards oversight.

Enjoying the challenges

The changing technology landscape offers the convergence of consumer electronics, communications and information technology. My career path allowed me the same convergence. First, I began in commercial television production and then in a phone company that trained me to manage the computer machine room. As background for my data communication strategic planning role, I was introduced to the standards world.

Operating both in national standards and consortia bodies, I enjoyed the challenges of finding solutions that worked across multiple platforms. When a computer company offered me an opportunity to be the start of a small corporate standards team, I accepted immediately. By doing so, I was able to expand the number of organizations in which I participated, as well as increase my level of involvement.

The formal standards process is such a vast ecosystem that it was impossible for me to resist new opportunities. Like a proud, extended family, if you worked in an accredited American standards body, you were part of the American National Standards Institute (ANSI).

Time management is the biggest challenge.

If you knew enough to find the key contacts of a competitor, you were the bridge to generate cooperative discussions. And if you knew the structure and procedures of the various organizations, you could become a valued member of a corporate team.

The meshing of the standards development organizations, consortia and the global infrastructure gave me plenty of opportunities to try out some of my leadership skills. It was also the first opportunity I had to be part of the US delegation to ISO/IEC JTC 1.

A great career choice

My first international ISO/IEC JTC 1 meeting was in 1992. It was amazing! It was fascinating to see the national bodies and the way in which they structured their delegations. While there were procedures for advancing the standards process, there



*Karen Higginbottom displays the Edward Lohse Information Technology Medal, which she received from **Robert Noth** (left), Chairman of the ANSI Board of Directors. She is also accompanied by her nominator, **Don Wright**, Director of Standards at Lexmark International.*

was also an unwritten protocol among the delegates. Underlying all of the debate and engagement, there is such professionalism, respect and diplomacy. Every country has their say, every subcommittee has their opportunity. It was all so very impressive to me. Since then, I have been lucky enough to be at every plenary. It just gets in your blood.

In 1994, when my company decided to minimize their support of standards engagement, I discovered something about me that I have since learnt is actually quite common among “standards people”. Rather than change careers, I changed employers. Standards involvement was no longer just a job requirement, it was a career choice.

From time management to time out

Time management is the biggest challenge. At the last plenary, over 150 documents were referenced or presented. The agenda was completed within 10 minutes of the prescribed time – unfortunately, approval of the resolutions was another matter!

Generally, I find that each hour of a meeting requires three hours of preparation time. The secret, I believe, is to have

a sense of the outcome based on investigation and analysis before the debate actually begins. Of course, being flexible and injecting some humour are always valuable safety valves.

Time management is also the biggest ally. Calling a break often shows that some of the most protracted debates can be resolved within minutes, if a short hallway discussion can take place over a cup of coffee.

A significant amount of national body lobbying occurs during our plenaries. It is helpful to respect that dynamic and rely on it when seeking closure on difficult topics. Recently, multiple national bodies were seeking leadership of several new activities. During Chair’s remarks, I asked them to negotiate amongst themselves, so that by the time the agenda item was addressed, compromises had been reached.

Management style

Acknowledging that there are many successful management styles, when I operate on the principle that everyone wants to contribute proactively, I set out to distribute the work. Currently, we are developing an ISO/IEC JTC 1 supplement for procedural matters that is unique to our



technical committee. It is a significant undertaking with very tight timeframes.

I created teams for the various sections of the procedures and asked for their contributions. While this made editing more complex and challenging, the valuable ideas gained through the process were very much

ISO/IEC JTC 1 has evolved to this new landscape. It was the first committee to introduce the fast track procedure, used frequently by national bodies and category A liaisons. It also created the JTC 1 publicly available specification

accomplish both by fully approving and publishing International Standards in nine months. Naturally, the duration depends on the committed resources dedicated to the project.

A few last words

ISO Focus+ asked me about the role of women in the ISO system. I will admit that I was the first woman to attend a meeting at several of the organizations in which I participated. In retrospect, this probably means I have been around for a long time.

However, I'm not the first woman to Chair ISO/IEC JTC 1. This distinction is held by Ms. Mary Anne Lawler. I did notice though, at the last ISO/IEC JTC 1 plenary that there were women on 11 of the national body delegations. I believe this alone speaks well to the growing engagement of women in ISO and IEC standardization. While there are currently no women chairing an ISO/IEC JTC 1 subcommittee, I have no doubt this will change in the very near future.

The last bit of my "inside story" is my current employer, Hewlett-Packard.

Standards work was a great career choice!

worth the effort. I am also very pleased by our special working group to investigate new work interests. This group has already achieved great success in a short time.

Speeding up the standards process

One of the most interesting aspects of ISO/IEC JTC 1 is the Herculean task of maintaining information technology interoperability, among hundreds of standards and specifications from a wide array of developing standards organizations and consortia. Most corporate interests treat the various standards efforts as if they are on a continuum, from the most formal to the most improvised. It is often a complex business decision, based on a variety of factors, that determines what environment the business sees as being the most adept for completing new ICT standardization work.



Karen Higginbottom chairs her first ISO/IEC JTC 1 plenary in October 2009, held in conjunction with the IEC General Meeting to facilitate collaboration. Here, shaking hands with IEC General Secretary **Ronnie Amit**.

(PAS) transposition process, making the approval process faster, better and easier. Currently, six consortia in the committee benefit from this streamlined process.

What's more, ISO/IEC JTC 1 is always looking to enhance its internal processes and improve its image. It has been able to

Chairing ISO/IEC JTC 1 is not my full time job, but it is my full time honour. I am very appreciative of HP's strong commitment to standards work in general and, to my role as ISO/IEC JTC 1 Chair, in particular. It appears that for me, standards work was a great career choice! ■

Charlie Piersall

Taking a strategic business approach



Looking back at why I became directly involved in standardization, I would say that it all started in 1978 when I was asked to become a subcommittee Chair of the ASTM F25 committee on ships and marine technology.

At that time, I was on active duty in the US Navy where I was serving as the first Major Command Programme Manager for Amphibious Warfare and Strategic Sealift. I was accountable for more than USD 24.5 billion, and had been awarded the highest military and engineering awards for successful planning, execution and delivery of more than 30 ships and assault craft, all within budget and “on or ahead of schedule” during my eight years in command.

It was during that time that I realized the value of industry standards. The use of commercial standards would be a significant ingredient in ensuring our programme successes, since military standards were rarely current and their solutions were more costly.

One of my first tasks at ASTM was therefore to undertake the conversion of military specifications to commercial standards and commercial off-the-shelf solutions. Clearly, I saw the use of industry standards as the way forward, and dedicated myself to the task of increasing their use *in lieu* of regulations or military standards. For three terms, I served as Chair in ASTM F25 and was also a member of the ASTM Board of Directors. Then, I shifted my energy and focus to ISO and became the Chair of ISO/TC 8 in 1995, a position I hold to this date.

Setting course and speed

What do I consider important in my role as Chair? Leadership, a business unit approach, clearly defined responsibilities, timing and timeliness, serving as a linking instrument between requirements/regulatory regime and the international maritime industry, and communicating the value of strategic standardization to government and corporate executives, are for me, key elements.

Captain Charles H. Piersall is Chair of ISO technical committee ISO/TC 8, *Ships and marine technology*. He is a retired US Navy Captain with over 50 years of distinguished maritime service – first as a senior naval officer and then as an industry executive. He is recognized worldwide as a leader in the field of international maritime standards. In addition to the highest military awards, Capt. Piersall is also recipient of numerous high-level awards based on his contributions to international standardization. Capt. Piersall is a member of Sigma Xi (honorary science research society), the American Society of Naval Engineers (gold medal winner and life member) and the Society of Naval Architects.

When I became Chair of ISO/TC 8, it was clear that the team viewed itself as a ship, and that “setting course and speed” was expected. We would need to meet frequently to ensure that we could quickly respond to our stakeholder needs and we would invoke both “timing and timeliness” as our prerequisites.

An ISO Chair is not an honorary position.

Roles and responsibilities were readily defined. The ship would operate with only “one Captain on the bridge”. After we put in place these seafaring practices with ease, we developed our strategic vision – *to be the linking instrument between regulators and industry.*

It was evident from the start that ISO/TC 8 should be considered as a business unit operating within ISO. As a business unit, its leadership had the sole responsibility and accountability for its successes or failures.



Capt. Piersall (right) and former ISO/TC 8 Secretary I. Ogo (left) receive the prestigious ISO LDE Leadership Award on behalf of ISO/TC 8, from the then ISO President Prof. Masami Tanaka (centre), in September 2005.

Clearly defined roles and responsibilities

It is my strong belief that the role of an ISO/TC Chair is not an honorary position for observing the committee’s progress. The role is clearly defined in the ISO/IEC Directives, Part 1: “The chairman of a technical committee is responsible for the overall management of that technical committee, including any subcommittees and working groups.”

Use all available ISO tools and necessary resources to achieve

Timing – *You have to be there, be active, be accepted and be known for delivering results*

Timeliness – *You must deliver when the customer needs it. “Business as usual” means failure, and the customer seeks another venue.*

The ISO/TC 8 Secretary, on the other hand, is the chief administrator. He is responsible for providing overall administrative guidance and direction within the committee, resolving any administrative issues and maintaining the status of work in our ISO/TC 8 database. Our Secretary

is a senior leader in industry with a solid administrative support team.

Subcommittee (SC) Chairs are responsible to the TC Chair for their “business unit” success. Similarly, SC Secretaries are responsible to SC Chairs for administration, and to the ISO/TC 8 Secretary for coordination.

There is a recognized chain of command. We all take our responsibilities seriously, and I am grateful that we are blessed with an outstanding leadership and administrative team throughout ISO/TC 8.

On leadership and consensus

I would like to share some thoughts on leading for success. It is the Chair’s job to “lead”, not “manage”, and this applies to our SC Chairs as well.

It takes leadership to tap into potential and forge new ideas. A leader does not emerge, carrying a worn-out playbook or proposing a plan that was already tried. Leaders don’t preach patience or say “let’s wait and see”. Leaders should not engender a sense of misfortune or imminent doom. Their bottom line cannot be fear, worry or dread. I do not believe a leader will emerge whose rhetoric is barren or whose actions fall far short of results. Lead and people will follow. They will be creative. They will deliver. Everyone wants to be part of a winning team. If

Leading team : the Chair and Secretary



Leading the ISO/TC 8 team :
From left : **Yanging Li**, Secretary, and
Capt. Piersall, Chair.

ISO/TC Chair

Solely responsible and accountable for TC performance (business unit) :

- Programme manager – TC executive
- Leader / facilitator
- Public relations and communications director
- Marketing manager
- Not a standards' writer.

ISO/TC Secretary

Chief administrator :

- Provides administrative support to chair
- Provides administrative guidance to SC secretaries
- Tracks work programme status
- Maintains and manages ISO/TC 8 committee data base (8 N 1000)
- Coordinates and resolves administrative matters with and between SC Secretaries & ISO/CS.

you create this sense, then getting consensus is not a problem – “naysayers” will fall by the wayside, while the committee grows and flourishes. Your stakeholders want to deal with a winner.



Getting experts to show up

Just as a ship at sea is stability in motion, so is any successful business. We are constantly reviewing ways to improve, facilitate, refine, realign or restructure our operations. Our markets are changing and the world economy is changing. The maritime industry is truly global – 90% of world trade moves by sea. Regional and national solutions do not best serve an industry competing throughout the world.

We cannot stand still. Solutions must be directed to our stakeholders' needs. Each TC has its own stakeholders, so their solutions, structures and priorities must be tailored for their market. We must also remember that the best solutions are timely, and made by those knowledgeable of market requirements and needs. Yes, we are in the standardization business, but that does not mean “one size fits all”, and it doesn't mean that we decide what standards are needed, or when. Well meaning people deciding on areas where they lack competence is a sure course for disaster.

Experts perform the work. However, without the understanding and support from those with authority to commit funds, no experts will show up. Our focus

is on the decision makers, the executives in industry and government who can say “yes or no”. We must target our messages to the executive level to show them how standards can boost business performance and profitability, or help in implementing government regulatory requirements, using certification in either case as appropriate to gain public and consumer confidence.

*Everyone wants to be
part of a winning team.*

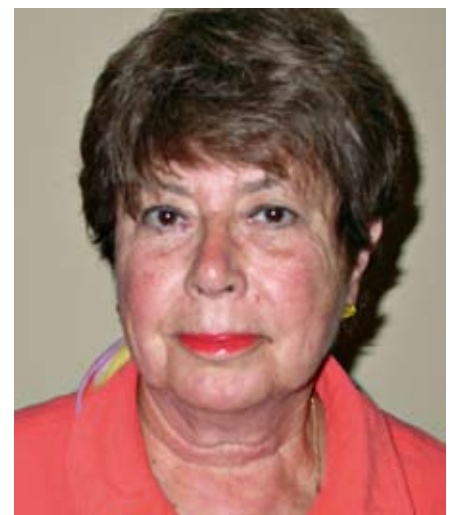
If the executives understand the advantages of standardization for their competitiveness and profitability, or regulatory regime, then they will support it, and then multitudes of experts will turn up. This is why our communications and media efforts are clearly directed at them. Telling each other how good we are may be of some comfort, but it does not provide the resources and commitments we need for success – the assurance that what we are doing is what the market needs and will be implemented. Remember our job is “service”.

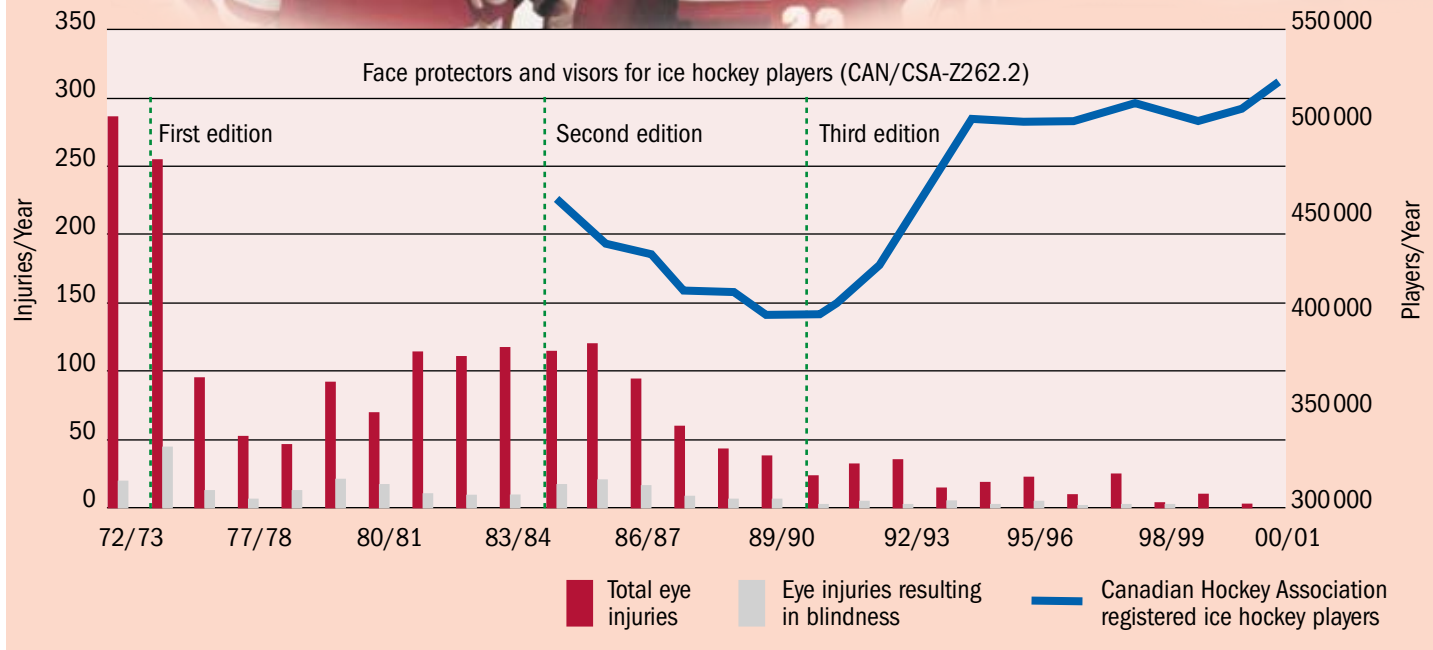
Elizabeth Nielsen

The challenges facing a new Chair



Dr. Elizabeth Nielsen is Chair of ISO project committee ISO/PC 243, *Consumer product safety*, a job for which she is well qualified through involvement in evaluating the risks associated with consumer products and for the development of regulations, legislation and standards. Recently retired from Health Canada, Dr. Nielsen continues to contribute to the work of the Standards Council of Canada (SCC) and the Canadian Standards Association (CSA). She is a member of the Canadian Advisory Committee to the ISO Committee on consumer affairs (ISO/COPOLCO) and the Canadian National Committee of the International Electrotechnical Commission (IEC), and participates in ISO/COPOLCO's working group on product safety, in addition to being the CSA consumer representative in ISO/TC 229, *Nanotechnologies*.





This graph on ice hockey eye injuries in Canada illustrates the ability of standards to reduce injuries. (Sources: Dr. T. Pashby, 2002, Canadian Hockey Association, 2002) © CSA

- The points of view are substantiated with facts and that the facts are documented in meeting minutes or reports
- Looking for synergies among the diverse members to build on in order to achieve consensus
- Ensuring that all decisions are recorded accurately in meeting minutes
- The development process does not privilege, or favour the interests of, a particular supplier, stakeholder groups, country or region
- Ensuring that all members have an opportunity to provide comments on drafts, that the comments are made available to all members of the committee; and that the comments are taken into account and addressed.

Different viewpoints

It will not always be easy to manage a team of experts from many countries who are likely to have different viewpoints on the issues that will arise. In many ways,

this is similar to the scientific committees composed of scientists from various disciplines, or the regulatory committees made up of all types of stakeholders that I have chaired.

To overcome such challenges I have always found it useful to develop and obtain agreement at the start of the process on a set of principles or criteria that will be used to guide the development of the standard or regulation.

Agreement on principles makes the process easier.

Agreement on such a set of principles makes the process easier when disagreements on issues arise that may be difficult to resolve. The principles enable the committee members to evaluate the different positions against criteria they have agreed to.

In addition, it will be important to ensure that the experts are respected and that the views they express are listened to and understood. To assist in the management of the committee, it is critical that all members are fully aware of their role and responsibilities.

The development of consensus is often difficult to achieve when the priorities amongst the members are very different. Often, this is caused by committee members not understanding what consensus is or means. Therefore, this should be discussed early in the process.

In order to achieve consensus, the Chair must follow a number of practices such as trying to ensure that all members are included and no one is excluded; that the diverse interests around the table are respected, and that the committee members are held accountable to carry out their responsibilities.

When there is conflict, it may be possible to resolve it by allowing the individuals to express their concerns in detail without interruption; establishing a small



working group to study the issue and report back to the main committee; allowing for a break in the meeting to give members the opportunity to consider the differing viewpoints; referring back to the guiding principles agreed to at the beginning, and by concentrating on identifying the elements of the issue that the parties can agree on.

Another challenge

Another challenge that I see is trying to ensure that the committee members actually comment on documents, attend meetings and respond to requests for information.

In the current environment, where organizations are under financial constraints, experts may not be given the time or finances to participate actively or attend meetings internationally. This may mean contacting their employers on their behalf to explain the reasons for developing such a standard.

There is only so much that one individual can do and, in some cases, experts are not willing to do the work on their own time, or pay their own travel expenses. Teleconferences also can be a problem, particularly when members live in different time zones, or find it difficult to communicate over the telephone in English.

E-mail is a communication tool that is used quite often, but, unless there is personal contact with the nominated experts, it is not always easy to get members to respond. Documents are always available

on ISODOC and LiveLink, but these are not always easy to access.

Since the standards world is dominated by males and industry members, it is not easy for women particularly those who represent the consumer sector to take part in an effective manner or be taken seriously.

Other technical committee members often assume that they do not have the knowledge or skills to take part in a technical area and do not recognize the benefits from having around the table the customer who buys the product addressed by their standard. The perspective of the consumer can often make the difference between a successful product and a failure.

The development of consensus is often difficult.

Personally, I have found it to be less of a problem than that experienced by some of my colleagues. I attribute this mainly to the fact that I have extensive experience in dealing with senior officials in the public, nongovernmental and private sectors from developing and enforcing regulations.

In addition, the fact that I have the educational background, that I managed laboratories and scientific experts in product safety and radiation protection, and that

I was a senior executive in the Government of Canada makes it easier for me to participate.

Best approach

The project committee for which I will be responsible was tasked with developing an International Standard providing guidance to those in the consumer product supply chain (including designers, manufacturers, importers, distributors, retailers, and other producers of consumer goods), with practical tools to assist them in identifying, assessing and eliminating or reducing the risks associated with exposure to consumer products.

It is intended to help them in determining, documenting and implementing the best approach to reducing the risks and consistently producing and marketing a safe product as required by the law of many countries.

The current information provided by governments is not always consistent, making it difficult for those who sell the products globally. The future standard will benefit those in developing countries who may not have a robust regime with an international benchmark to protect their consumers and facilitate access of their products to international markets.

It is, therefore, reasonable to expect that such an International Standard will promote the trade in consumer goods, promote consumer confidence and competitiveness, and at the same time protect consumers against risks to their health and safety. ■

Dan Roley

Consensus leads to win-win for all



Dan Roley is Chair of ISO technical committee ISO/TC 127, *Earth-moving machinery*. After receiving a PhD in ergonomics engineering from the University of California in 1975, Mr. Roley worked in the earth-moving machine industry in a number of areas, including design, research, testing and development, ergonomics, new technology, and standards. Two of his assignments were in Europe; he was a participant in the USA-France Exchange of Scientists Programme from 1981 to 1982 and served as Caterpillar's new technology manager in Geneva, Switzerland, from 1992 to 1996.

Enjoying the job

After receiving my PhD, I went to work with ergonomics research in the earth-moving machine industry. Some of my work from those early projects was used in developing the first versions of the ISO/TC 127 safety standards. Finding that I enjoyed standards work, I expressed an interest in participating in the development of ISO/TC 127 standards, and experts in the field recommended that I acquire more experience with machine systems, machine applications and machine owners and operators.

Over the next 20 years, I worked with a wide range of assignments, which helped

me to prepare for the chairmanship of ISO/TC 127.

I enjoy the challenges and opportunities associated with developing ISO standards, and promoting their use as national standards and technical requirements for national regulations. Over the past few years, I have travelled to Australia, China, India, Republic of Korea, Russia, South America, the Gulf States, and Europe to encourage and train participants.

In addition, I discuss best practice guidelines for adopting national standards and regulations using ISO/TC 127 standards.

A global market

The earth-moving machinery (EMM) industry has been a global business for more than 50 years, with manufacturers from Europe, the USA and Japan providing machines for large earth-moving projects around the world.

Some countries began developing national standards for EMM about 45 years ago, creating a challenge for the industry because equipment sales volumes are too small to support different models for each country.

ISO/TC 127, *Earth-moving machinery*, was created in 1968 to develop International Standards that could be used at the national level, facilitating the emergence of a global market. During the last 40 years, the ISO technical committee has attempted to maintain a complete set of reasonable and realistic ISO standards addressing commercial needs, while defining safety requirements for EMM.

The published standards are continuously updated and new standards developed to address new machines types, new safety expectations and new technology.

The fruits of our labour

As Chair of ISO/TC 127 since 2002, I continue to support the development of a complete set of ISO standards for EMM and the adoption of our standards as national standards. The challenges faced by the EMM industry have expanded in recent years, and my committee's standards have been beneficial in addressing the following challenges:

- New technology, such as the use of computers and electronics
- Increased customer and societal demand for safety
- New types and sizes of machines and attachments

- More countries developing regulations
- Advancement by developing countries
- Conformity assessment and certification requirements
- Sustainability for EMM.

To address these challenges, ISO/TC 127 has developed a number of new standards in a variety of fields including:

- Remote control safety
- Electronics system safety
- Hazard detection systems
- Computer data exchange
- Recycling
- Vibrations
- General machine safety.

ISO/TC 127 also has new standards projects to address the following issues:

- Theft deterrent devices
- Electric and hybrid system safety
- Fire safety
- Sustainability
- Fuel use
- Quick coupler safety
- Trainer seat protection
- Non-metallic materials for operator protection
- Rooding safety.

ISO/TC 127 standards define safety performance criteria that help the industry address all safety risks and build safe machines that do not need to be tightly regulated by governments. The EMM industry strives to build machines that can be used safely and help customers reach “zero-injury” goals.



ISO/TC 127 manages the new work item proposal (NWIP) process to address the standards development workload. The priorities of suggested NWIPs are evaluated at each ISO/TC 127 meeting and the high priority items are initiated.

A dedicated team of experts

The most important success factor for my committee has been the dedication of the many volunteers. Through a shared goal of creating reasonable and realistic safety standards, the committee helps address the needs of customers, health and safety organizations and manufacturers.

We have lively discussions on the issues, welcome input from all experts, and then work to achieve a general consensus that is win-win for all groups.

The process summary developed for ISO/TC 127 simplifies widespread participation in the standards development process. In challenging economic times, there is a conscious effort to minimize the time and expense for participation by scheduling the work group (WG) meetings together and by communicating as much as possible by e-mail. WG meetings are informal and open communication is encouraged.

The challenge of reaching consensus is usually solved by identifying the concerns of each expert, obtaining information to better define safety risks, and then brainstorming to find good solutions that will achieve the stated objectives.

I enjoy the challenges and opportunities of developing ISO standards.



Dan Rolley is welcomed at an ISO/TC 127 follow-up meeting in China, in October 2009.

I try to encourage participation by all countries interested in EMM. In the last few years, meetings have been held in Australia, Brazil, China, Poland, Republic of Korea and Russia. Future plans include meetings in South America and India. We provide training and encouragement for developing countries, including seminars in Chile, China, India, Republic of Korea, and Russia, in the last few years.

As Chair of ISO/TC 127, I hold regular follow-up meetings to answer questions about standards projects and the process for standards development, and to encourage continued participation in the technical committee.



ISO President **Håkan Murby** (left) presents the Lawrence D. Eicher Leadership Award 2008 to the Chair of ISO/TC 127, Earth-moving machinery, **Dan Roley**, and Secretary, **Sara Desautels**.

Safety without design restrictions

Our committee's standards define performance criteria for acceptable safety levels, as opposed to minimum safety levels. These performance criteria define safety levels that are high enough to help machine users pursue their goal of zero injuries and, at the same time, meet the goals of health and safety and regulatory organizations.

To allow for different approaches toward meeting criteria and advances in technology, we avoid design prescriptive performance criteria. Our standards allow design solutions that provide acceptable safety levels, without restricting design elements or limiting machinery advancements.

Global harmonization of safety

For example, our general safety standard, ISO 20474, references more than 40 machine safety standards. This facilitates the adoption of ISO/TC 127 standards in developing countries, and in countries that do not have manufacturers to help with the standards development process.

The single safety standard also promotes global harmonization of safety requirements. It recognizes that there are a few regional requirements and allows developing countries to make some of the requirements optional until safety demands and national technology advance.

Most countries are now adopting ISO/TC 127 standards to replace their national standards. They are also being used as re-

gional standards, for instance in Europe. Our committee has worked closely with European stakeholders to develop common standards under the Vienna Agreement (a technical cooperation agreement between ISO and the European Committee for Standardization, CEN).

Relationship to regulations

Because ISO/TC 127 standards define acceptable safety levels for earth-moving machines, they are suitable for direct use as technical requirements for regional or national regulations. The ISO 20474 general machine safety standard can be referenced as a single standard to address all safety risks for earth-moving machines.

For developing economies that currently do not need all of the technical requirements in ISO 20474, a good alternative is to use ISO 20474 as the national standard with some of the requirements optional. Its use helps national manufacturers comply with ISO/TC 127 standards, enabling them to access the global market.

Our standards are globally accepted.

Our standards were used as the International Standards for the United Nations Economic Commission for Europe (UN/ECE) project for model regulations. The UN/ECE working party on regulatory cooperation and standardization policies covers standards, regulations, conformity assessment testing, and market surveillance. It promotes global harmonization of regulations using International Standards.

In 2004, an international regulatory model was developed using ISO/TC 127 standards as the technical requirements for regulation for the earth-moving machinery industry.

Conformity assessment and certification challenges

Many countries are adopting or planning to adopt certification requirements for products; one of the first steps is to adopt requirements for certification and conformity assessment testing. For earth-moving machines, the technical requirements and conformity assessment test methods from ISO/TC 127 standards may be used directly. In the developed coun-

tries, manufacturers are able to complete their own conformity assessment testing using our safety standards.

However, certification and conformity assessment testing are more of a challenge in developing countries, where manufacturers rely on third parties for conformity assessment testing as they are not perceived as being able to effectively self-declare conformance.

The UN/ECE WG 6 on international model for earth-moving machines has been updated to address the challenges for conformity assessment testing and certification by promoting some additional options for manufacturers to work with third parties to the conformity assessment testing that has already been completed.



Global acceptance

ISO/TC 127 standards are important for the earth-moving machinery industry in several ways, including:

- Defining acceptable safety levels so that machines will be safe to use
- Promoting global requirements to minimize machine development costs
- Providing global market access for all manufacturers.

Through the hard work and dedication of the many experts who have contributed to their development, our standards are globally accepted and are recognized as best practices for use in national standards and regulations. ■

Françoise Pellé

Testing new ideas in informal settings



Françoise Pellé is Director of the ISSN International Centre – a network of 87 member countries with the responsibility of maintenance authority for two ISO standards – including the International Standard Serial Number (ISSN) standard, ISO 3297. Prior to this, Ms. Pellé was responsible for the planning process of the network of libraries serving higher education institutions for the French Department of Higher Education, Research and Technology. Ms. Pellé is currently Chair of ISO technical committee ISO/TC 46, *Information and documentation*, and member of two of its subcommittees, SC 9, *Identification and description*, and SC 4, *Technical interoperability*. She was also the convener of the ISO working group currently revising the ISSN standard. In addition to her involvement in standardization, she is the author of several articles on identification of information resources.

How did you get involved in standardization?

Françoise Pellé: My background is librarianship, specialized in planning processes and computer science applied to information systems. For many years, standardization has been fundamental to librarians' professional practice. In a sense, I have always been professionally involved in standardization, but my involvement became deeper when I was appointed Director of the ISSN International Centre.

The ISSN International Centre, besides its tasks of maintenance and edition of the ISSN register and its responsibility for controlling the activities of the ISSN National Centres, is also in charge of ISSN

assignment for international publications and for serials issued in countries with no national centre.

The International Standard Serial Number (ISSN), an ISO standard, is an international system for the identification of serials such as journals, magazines and newspapers. International standardization is at the very heart of my daily work for the ISSN system.

How do you view the role of a TC or SC Chair?

Françoise Pellé: There are various aspects to serving as Chair of ISO/TC 46, but one of the most important responsibilities is to facilitate consensus. My job is to help ensure that agreement is actually reached, and to maintain balance among various interests and visions. That is sometimes quite a challenge, but in my opinion, it is one of the most essential aspects of international standardization.

What is your motivation for accepting this position?

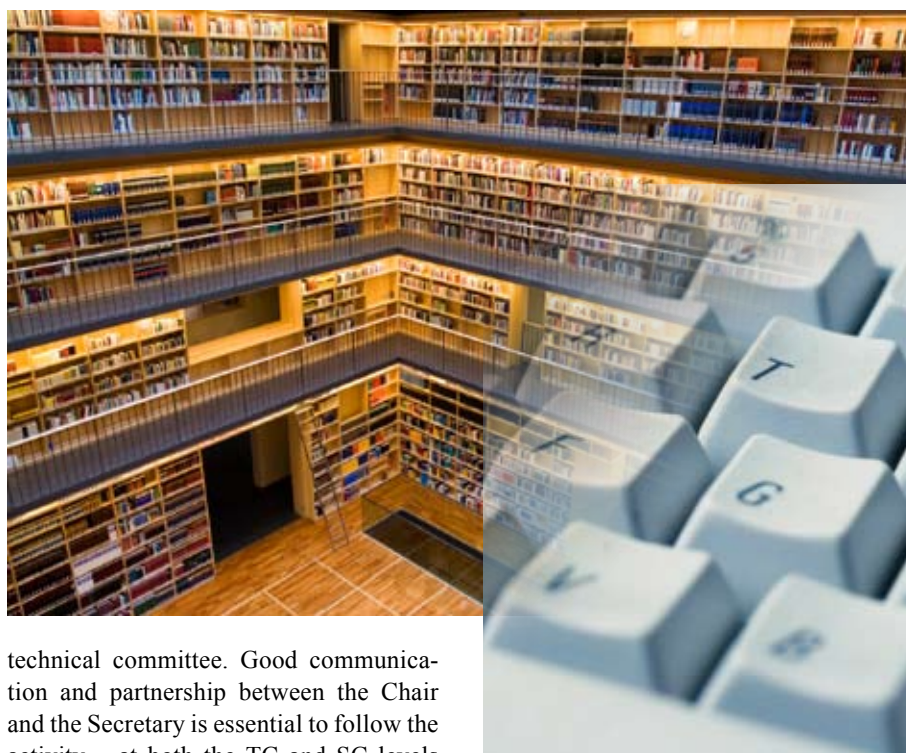
Françoise Pellé: Naturally, I am very aware of the positive role of international standardization throughout society. Many aspects of our lives would be made more difficult, complicated, inefficient, or simply impossible without standards. For this reason, I am honoured to have the opportunity to participate as actively as possible in this international effort.

International standardization is at the very heart of my daily work.

What does it take to manage a team of experts from 20 to 60 countries?

Françoise Pellé: Well, the real standardization work is done by experts, within working groups managed by convenors under the responsibility of SC Chairs and Secretaries. In my experience, the work of the experts is managed much more by the working group convenors, and by the secretaries and chairs of SCs than by the chairs and secretaries of the technical committees.

That said, I would recognize the important role played by the TC Secretaries, who are at the heart of the activity of a



technical committee. Good communication and partnership between the Chair and the Secretary is essential to follow the activity – at both the TC and SC levels and across those levels.

How do you deal with conflict and promote consensus?

Françoise Pellé: This is always a delicate exercise, and there is no simple recipe. In one case, the solution to a blocked situation was suggested during a coffee break by one of the experts – a person who had previously adopted a very rigid attitude. This was made possible because all of the participants had a genuine professional, intellectual and economic interest in reaching a solution.

The lesson is that we should never underestimate the importance of coffee breaks and dinners. It's often easier to test new ideas in a less formal environment.

What other challenges do you see on the horizon?

Françoise Pellé: In this period of economic crisis, financing the participation of experts becomes a more difficult challenge – and there is no progress in standardization without broad participation by experts. This should lead us to look very carefully at virtual participation in various meetings.

How do you go about getting the backing of your employer and participation by experts?

Françoise Pellé: I am very lucky in that my employers are as convinced

as I am that international standardization is very important. And the experts are generally keen to get involved. The problem isn't finding motivated people, it's getting the funding to allow them to attend meetings and devote time to standards issues.

Again, videoconferencing and virtual meetings can be a big help, so that people who have something to contribute can be part of the process without putting a strain on their organizations' finances.

One of the most important responsibilities is to facilitate consensus.

How do the standards developed by your committee benefit the targeted sectors?

Françoise Pellé: Our standards help to improve quality. They facilitate and secure transactions. They enable re-use of the work done by others and make it possible to measure the impact of various activities. They support interoperability, which is the basis for the development of professional software. They are the key to data exchange and to the development of technical protocols. On top of all that, some of the standards developed by our technical committee – such as those regarding country codes – are heavily used in sectors outside those covered by ISO/TC 46. ■



- TC 134** Fertilizers and soil conditioners
- TC 135** Non-destructive testing
- TC 136** Furniture
- TC 137** Footwear sizing designations and marking systems
- TC 138** Plastics pipes, fittings and valves for the transport of fluids
- TC 142** Cleaning equipment for air and other gases
- TC 145** Graphical symbols
- TC 146** Air quality
- TC 147** Water quality
- TC 148** Wind turbines
- TC 149** Wind turbines
- TC 150** Wind turbines
- TC 151** Wind turbines
- TC 152** Wind turbines
- TC 153** Wind turbines
- TC 154** Wind turbines
- TC 155** Wind turbines
- TC 156** Wind turbines
- TC 157** Medical devices
- TC 158** Medical devices
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- TC 166** Medical devices
- TC 167** Medical devices
- TC 168** Medical devices
- TC 169** Medical devices
- TC 170** Medical devices
- TC 171** Medical devices
- TC 172** Medical devices
- TC 173** Assistive products for persons with disability
- TC 174** Jewellery
- TC 176** Quality management and quality assurance
- TC 177** Caravans
- TC 178** Lifts, escalators and moving walks
- TC 180** Solar energy
- TC 181** Safety of toys
- TC 182** Geotechnics
- TC 183** Copper, lead, zinc and nickel ores and concentrates
- TC 184** Automation systems and integration
- TC 185** Safety devices for protection against excessive pressure
- TC 186** Cutlery and table and decorative metal hollow-ware
- TC 188** Small cranes
- TC 189** Ceramics
- TC 190** Ceramics
- TC 191** Ceramics
- TC 192** Ceramics
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- TC 205** Ceramics
- TC 206** Ceramics
- TC 207** Ceramics
- TC 208** Ceramics
- TC 209** Clean rooms and associated controlled environments
- TC 210** Quality management systems corresponding general aspects for medical devices
- TC 211** Geographic information/ Geometrics
- TC 212** Clinical laboratory testing and in vitro diagnostic test systems
- TC 213** Dimensional and geometric product specifications and verification
- TC 214** Elevating work platforms
- TC 215** Health informatics
- TC 216** Footwear
- TC 217** Cosmetics
- TC 218** Timbers
- TC 219** Floor coverings
- TC 220** Cryogenic vessels
- TC 221** Geosynthetics
- TC 223** Societal Security
- TC 224** Service activities relating to drinking water supply systems and wastewater systems - Quality criteria of the service and performance indicators
- TC 225** Market, opinion and social research
- TC 226** Materials for the production of primary aluminum
- TC 227** Springs
- TC 228** Tourism and related services
- TC 229** Nanotechnologies
- TC 230** Project Committee: Rating services
- TC 231** Project Committee: Rating services
- TC 232** Project Committee: Rating services
- TC 233** Project Committee: Rating services
- TC 234** Project Committee: Rating services
- TC 235** Project Committee: Rating services
- TC 236** Project Committee: Project Management
- TC 237** Project committee: Exhibition terminology
- TC 238** Solid biofuels
- TC 239** Project Committee: Network services billing
- TC 240** Project Committee: Product recall
- TC 241** Project Committee: Road-Traffic Safety Management System
- TC 242** Project Committee: Energy Management
- TC 243** Project Committee: Consumer product safety
- TC 244** Industrial furnaces and associated thermal processing equipment
- TC 245** Project Committee: Cross-industry of second-hand goods
- TC 246** Project Committee: Anti-counterfeit tools
- TC 247** Fraud countermeasures and controls
- TC 248** Project committee: Sustainability criteria for bioenergy
- TC 249** Traditional chinese medicine
- TC 250** Project committee: Sustainability in event management

Howard Mason

Encouraging sparks of creativity

Early days

I first became involved in standardization in the late 1970s, as part of a team building a common information exchange protocol for the European aerospace industry. There was a strong business need to pass around the digital definitions of the complex curved external shapes of aircraft as we operated international collaborative programmes like Concorde, Tornado and Airbus.

Each manufacturer had developed its own mathematical representation for such geometry and these were generally incompatible. We succeeded in developing such a format within the industry at the time the first computer-aided design systems were becoming available. These systems were similarly incompatible, and various projects around the world began to explore the more complex problem of exchanging data between them.

Social events give the opportunity to explore and resolve differences.

At this time, the British Standards Institution (BSI) was planning to close down its activities related to industrial automation. These were seen as critical for our industry and I was invited to set up and lead the UK for the newly created ISO technical committee ISO/TC 184 on industrial automation. My background led to the work of subcommittee SC 4 on industrial data – first, as head of the UK delegation since its inception in 1984, and then, as Chair from 2000.

The work of the committee focuses on open standards for industrial data, allowing it to be exchanged, shared and archived in a digital form that is independent of the computer system that was used to create it, and then loaded into other systems without loss of meaning. The work addresses the detailed electronic definitions that are created today to support the design, manufacture, operation and disposal of products, along with libraries of components, technical dictionaries and product characteristics that can be used for cataloguing and procurement.



Howard Mason, Chair of ISO/TC 184, *Automation systems and integration*, SC 4, *Industrial data*, works for BAE Systems, the premier global defence and aerospace company in the United Kingdom (UK). He is responsible for information standards in the Corporate IT Office. Mr. Mason has been involved in the development of industrial automation standards for over 25 years, and has chaired ISO/TC 184/SC 4, winner of the 2007 Lawrence D. Eicher Award, since 2000. He is the Chair of the OASIS consortium technical committee exploiting STEP, the Standard for the Exchange of Product Model Data. Mr. Mason is also the Chair of the management group of the Memorandum of Understanding on eBusiness between ISO, the International Electrotechnical Commission (IEC), the International Telecommunication Union (ITU) and the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT).

From consensus-building to the “Tuesday night social event”

My job as Chair is to focus and facilitate the efforts of a large team of committed, intelligent and innovative experts, from a range of different industries and interests, and to ensure that the necessary consensus is not obstructed by misunderstanding.

Frequently, valuable time can be lost in “violent agreement”, where differences in terminology used to describe a concept conceal a much deeper agreement on the fundamental principles of the concept itself. It is critical to listen carefully to what is behind the apparent argument – leading to much greater insight and agreement in the end. In addition, one needs to ensure that sparks of creativity are not stifled, since they often lead to great ideas.

Of course, these consensus-building activities are aided by a long tradition in SC 4 of the “Tuesday night social event”, which provides a key break in our plenary activities running from Sunday to Friday. While sometimes involving the ritual humiliation of the Chair, these social events give the opportunity to explore and resolve differences, helping progress in the rest of the week. They also serve to educate experts in the cultural heritage of the host nation. In more recent years, the events have been coupled with national seminars arranged by the meeting hosts to expose a broader range of industrial participants to the work of SC 4 and the key players.

One needs to ensure sparks of creativity are not stifled.

Another key role is to facilitate the procedural aspects of the committee work in conjunction with the secretariat team, to allow the experts to focus on the technical tasks. It is always a dangerous sign when engineers try to act as lawyers – and the converse is also true. We have enjoyed a long and fruitful relationship with our ISO technical officers and the publications team over the years, as we have mutually explored the darker corners of the ISO processes and expanded boundaries in a quest for improved speed and efficiency.



*The Chair of ISO/TC 184/SC 4, **Howard Mason** (right), receives the 2007 Lawrence D. Eicher Leadership Award on behalf of the subcommittee from the then ISO President, **Håkan Murby**.*

Using the best of IT

As new processes and opportunities have been approved by the ISO technical management board (TMB), our experts have often been quick to seize the initiative in exploiting them to the limit. Key examples include:

- The widespread use of technical specifications to get standards out into the marketplace for early implementation
- The delivery of standards in PDF and HTML format for publication
- Applying the new “standards as databases” procedures to simplify

the management and approval of the library of standardized components from which our standards are built.

SC 4 is responsible for over 600 standards and specifications, which leads to a significant management challenge. Our secretariat and experts have developed a number of innovations to address the operational requirements of the group, well before the equivalent e-services became available from ISO.

We have operated for nearly 15 years a comprehensive Web site for documents, covering all our committee documents, meeting reports and liaison material,



with appropriate degrees of password protection.

We have operated our own project tracking database for over a decade, pre-dating the open availability of the ISO project database.

This includes additional stage codes to reflect all the points where responsibility is transferred between individuals and organizations, so that we can run simple queries to identify slippages against planned schedules, and discrepancies with the ISO database.

Many of our standards and specifications are now delivered in HTML format, so that cross references can be hyperlinked and users can easily navigate within and between large and complex documents.

The publication of this number of standards with the required level of consistency would not be possible using traditional methods, so we have had to develop an electronic publishing environment.

This allows us to author text components using the eXtensible Markup Language (XML) and use XSL Transformations (XSLT) scripts to compile and integrate these components into a deliverable HTML format, incorporating all the ISO boilerplate text. Changes in a single component can be reflected out into the entire suite of publications just by re-running the scripts.

We make extensive use of teleconferences and webconferences to support our work programme, sometimes held weekly to accelerate progress. The advent of the

GoToMeeting service by ISO is welcomed, as it will reduce the cost burden on some of our convenors and team leaders in supporting this capability.

Key business benefits

The key benefits to industry from all this effort arise from the fundamental capabilities that standards provide in the age of digital information. In today's global economy, it is unrealistic to expect the supply network for a major product to use common systems for design, manufacture and support throughout the life of the product.

A key success factor is involvement of industrial end users.

After all, a military aircraft can have a life of more than 50 years, far beyond the life of the software that was used to create it (typically not more than 10 years), the life of the computing environment (changes at least annually) and the computer hardware (already obsolete).

This means that industrial information standards can add value by providing a common digital backbone both through the supply network and, through time, by protecting the organization's investment in information.

Various studies have demonstrated that use of ISO standards to avoid the costs of copying and re-entering data, and developing and maintaining multiple point-to-point data conversion software runs into billions of dollars per year. Companies are often unwilling to provide accurate details of their savings, but this in itself is evidence of their value. These benefits have served to sustain industrial interest in the work of SC 4.

A key success factor is the involvement of real industrial end users in conjunction with our technical experts. This involvement serves to ground our work in reality and relevance, and has led to the evolution of our priorities in a changing world.

Our focus has developed from simple design data in the early days, to the integrated models supported by modern product lifecycle management tools, to the preservation of those models across different generations of tools.

In my own company, International Standards are seen as a key enabler for interoperability between our global businesses, and in providing a consistent service to our customers. The experience of standardization has also been useful in my day job of managing information standards across BAE Systems.

The principles and practices that I have learnt over the years have been put to good use in extending the coordination activity across multiple committees in the Management Group of the MoU on eBusiness between ISO, IEC, ITU and UN/ECE, and a number of the eBusiness consortia. This group brings together the leadership of all of these organizations into a single forum to align their disparate development programmes, avoiding duplication of effort and inconsistent standards.

Challenges ahead

I foresee that the challenges that we have faced over the last 25 years will continue to evolve, as we strive to ensure that our investments in internationally agreed information models can be sustained and supported by changing information technology.

We also need to bring along the next generation of standardizers to continue the work, and maintain the existing standards. They will face their own challenges as the computing and standardization environment evolves, undoubtedly in ways that we can only guess at. ■

Karla McKenna

Trust generates breakthrough potential



Karla McKenna is Chair of ISO technical committee ISO/TC 68 on financial services, a position she has held since 2006. Recently, she was re-appointed to continue her service to ISO/TC 68 for another term, ending in December 2012.

When not handling ISO assignments, Karla McKenna, Director, Securities and Fund Services, manages the Industry Leadership group for these businesses for Citi – the global financial services provider. In addition, she is Chair of the Securities Market Practice Group (SMPG) and serves on the Boards of Accredited Standards Committee X9 (ASC X9) and International Securities Association for Institutional Trade Communication (ISITC). She is also actively involved in committees of industry organizations such as, the Society for Worldwide Interbank Financial Telecommunication (SWIFT), and in supporting standards initiatives such as, the Issuer to Investor: Corporate Actions Initiative.

Karla McKenna tells *ISO Focus+* about her role as Chair of ISO/TC 68, *Financial services*, and how she balances this position with her duties at Citi.

How did you get involved in standardization?

Karla McKenna: My involvement with standards started when I worked on the implementation of ISO 15022 – an ISO standard for the format of electronic message exchange used in banking and commerce at Citi. We use ISO 15022 to process securities transactions with our clients, who were affected by the mandatory migration from SWIFT messaging platform ISO 7775 to ISO 15022. The upgrade to ISO 15022 was designed to accommodate the increased level of transaction and information sophistication currently required from custodians, investment managers and broker/dealers.

In addition to a rewarding experience with the technology migration itself, I saw a lot of potential in the adoption of an International Standard across the industry. Not only did Citi gain direct company benefits through the adoption of ISO 15022, but the International Standard served to drive initiatives and developments, both within our industry and global markets as a whole.

How do you understand the role of a ISO/TC chair?

Karla McKenna: The Chair must be a leader. He/she must organize, and facilitate the group as one would any team. These traits are even more important in an international organization like ISO, with members in 162 countries, with a set of standards and processes.

There are a few aspects of the job that I find particularly energizing. One is being a broker of ideas, within the committees, and in the field, making sure the right people are engaging with one another, both within the TC and externally with industry and market players. I often describe what I do as “connecting the dots” in identifying and linking industry experts with the proper technical subjects and initiatives.



responsibility: ensuring a high-quality, technically relevant, and market-driven standard.

What does it take to manage a team of experts from 20 to 60 countries?

Karla McKenna: In simple order they include (1) preparation on the issues, (2) the ability to synthesize clear ideas from diverse inputs and give guidance on ideas, (3) ensure that all member views are expressed and heard while moving toward the ultimate goal of making forward progress and achieving consensus, and (4) making all members feel that they have contributed positively to the TC's progress and its decisions.

However, more than these basics, developing respect for members, in light of divergent opinions and ideas, is probably the most challenging and rewarding.

How do you go about obtaining backing by your employer and participation by experts?

Karla McKenna: Citi has implemented a strategy of active leadership in securities industry standards. For example,

What is your motivation for being involved and accepting this responsible position?

Karla McKenna: I want to make a difference. As Chair, I am in a position to use my experience, knowledge, and interests, to do so. My name was put forward as a candidate to lead the committee by my colleagues in the national standards body – ASC X9. Following my appointment, I have been privileged to meet and work with some of the best International Standards and business professionals in my industry.

ISO 20022 has attracted new participants and stakeholders.

A strong motivator is probably timing, as well. The chance to foster and promote the adoption of ISO 20022, *Financial services – UNiversal Financial Industry message scheme*, as its reach extends to the global financial services industry, is really a once-in-a-career opportunity, with a pretty ambitious challenge and



Karla McKenna (centre), Chair of ISO/TC 68, Financial services, with **Pedro Luiz Guerra** (left), Head of Global Financial Services in Brazil at Citi, and Vice-President of the Brazilian association of capital markets, known as ANBIMA and Executive Committee Coordinator of Scientific Technologies Inc (STI) and, **Marcio Veronese** (right), Head of Securities and Fund Services in Brazil at Citi and Standards Subcommittee Coordinator of STI.

I manage a dedicated group whose purpose is leadership and participation in industry organizations, both nationally and internationally, that develop and influence securities standards, as well as identify standards opportunities for other Citi business lines. This formally supports Citi's commitment to the ISO standards that we use.

Within any business, there is always the challenge of making the time to participate effectively as a volunteer, while meeting all of your internal commitments and obligations. A careful selection of projects for which there is a solid link to business and its goals is key. The time spent on standards work then is viewed as time spent furthering and maintaining good business practices and developing solutions.

How do you combine your ISO work with your regular job?

Karla McKenna: At Citi, I positioned my regular job to support my ISO work, and to leverage and compliment the work that I do on standards with the job I do for Citi. Being involved in ISO work allows me to be in contact with Citi customers and vendors, as well as to keep in touch with industry players and other stakeholders.

Standards exist to support business, to solve issues, to make doing business more efficient, predictable, and as ISO states, sustainable. This guidance ultimately assists our customers in cost savings, information gathering and risk reduction. It is this linkage that I maintain in the relationship between my standards work and my job.

Sometimes, breakthroughs are made in informal settings, outside of "working hours". Do you have any anecdotes to illustrate this?

Karla McKenna: The value of networking, sharing views, and forging alliances cannot be underestimated in standards work as in any other professional relationship. I would agree with the premise of your question: great things happen when people get to know each other and have some comfort in sharing ideas that are not guaranteed to be good ones every time. Ultimately, it boils down to trust at some level. Any setting that promotes professional and personal trust among people with a common purpose has "breakthrough potential".



What place do you give the communication and networking strategies – can you give examples?

Karla McKenna: Communications and network development are a huge part of standards adoption. First, it is a great way to collect perspectives and ideas. Second, it can drive market awareness and acceptance. Unfortunately, these benefits are often overlooked or underestimated.

Any setting that promotes trust has breakthrough potential.

How has your understanding of standardization and its benefits – as well as people – evolved through your major involvement?

Karla McKenna: I think it has built my own awareness of our business processes. Successful standardization tends to encourage people in the financial services industry to pay closer attention to process in general. The global nature of our industry – and how it manifests itself in

dealing with countries and liaison groups – has also given me some new perspective on the reach and sheer economic effects of standardization. Emerging countries and a growing liaison membership to the TC are evidence of the role of standards to answer country- and industry-specific challenges, and this adds new voices, perspectives, and ideas to the mix. All of this keeps us fresh and relevant.

How do the standards developed by your committee benefit the sector at which they are targeted?

Karla McKenna: By developing business-worthy standards and extending them to others in the financial industry, the TC gains recognition and trust as a developer of sound financial processes. It also supports transparency in financial transactions and reporting in hot topics, such as identity and identification standards.

ISO 20022 has attracted new participants and stakeholders to the standards process development process. This has and will continue to promote standards governance and interoperability within our industry. ■

ISO Secretary-General guest lecturer at German university



ISO Secretary-General Rob Steele (front centre) with faculty and students of the Technische Universität Berlin.

ISO Secretary-General Rob Steele was a guest lecturer at the *Technische Universität Berlin*, in October 2009.

Some 30 university students attended the “Strategic standardization” course, which features in its curriculum a series of lectures from leading practitioners in the field of standards.

Using credit cards, cars, aircraft, water and even a can of tuna fish as examples, Mr. Steele demonstrated the way standards affect every aspect of our economic lives. He went on to talk about current global challenges which standardization can help solve, and the challenges that face standardization, currently being tackled in the consultation process for ISO’s Strategic Plan 2011-2015.

The strategic importance of industry, consumers and government involvement in the development of standards was also highlighted. “If you are not at the standards development table, then not only do you become a ‘standards taker’ but crucially you abdicate your position to the competition,” Mr. Steele said.

The course of lectures is being held for the third time in the 2009/10 winter semester.

Benefits for Botswana

ISO Secretary-General Rob Steele recently paid an official visit to Botswana, which encompassed a series of meetings with representatives of the Botswana Bureau of Standards (BOBS) and key government officials.

During his visit to BOBS, the ISO Secretary-General underlined the increasing need

for, and expectations placed on, International Standards to support a sustainable global economy. Particular emphasis was given on their significant contribution to a country’s economic competitiveness and social development as recommended by the World Trade Organization (WTO) Agreement on Technical Barriers to Trade.

The ISO Secretary-General met with representatives from the Ministry of Trade

and Industry, including the Deputy Permanent Secretary, the Permanent Secretary and the Assistant Minister, and addressed key BOBS stakeholders from industry, other government officials and consumer groups.

These were occasions to underline the scope and breadth of ISO’s portfolio of standards for products, services, materials, processes and conformity assessment and to outline ISO’s work to address new sectors such as energy management. It was also an opportunity to reinforce BOBS’s role in ISO and the fact that in Botswana, BOBS *is* ISO.

Mr. Steele also took the opportunity to congratulate BOBS for their impressive new facilities for testing and standardization activities.

ISO President talks climate change in Malta

ISO President Dr. Alan Morrison concluded a two-day visit to Malta in October 2009, which encompassed a series of meetings with the governance and management of the Malta Standards Authority (MSA) and with key Maltese government officials.

Climate change was the key topic of discussion between the ISO President and the Minister of Finance, Economy and Investment Tonio Fenech. The ISO President explained how, for its part, ISO will continue to address the world’s need for, and deployment of, low-carbon, clean energy technologies in all sectors. Through its partnerships with different organizations around the world, ISO will continue to disseminate and promote, through the development and use of International Standards, and as a matter of urgency, good practice



From left to right (standing) and right to left (sitting) are **Rob Steele**, **O. Chinyamakobvu** (SADC Secretariat), **Malefho** (Ministry of Roads Transport and safety), **G. Hollaway** (SADC Secretariat), **M. Nthomiwa** (Ministry of trade and Industry), **O. Motsewathata** (Department of Geological Surveys), **Dr. E. Meintjies** (Managing Director, BOBS), **M. Ramabu** (Chairperson, Standards Council, BOBS), **M. B. Marobela** (Deputy Managing Director, BOBS).

and relevant technologies to address this major challenge.

Minister Tonio Fenech explained that the protection of the environment and the conservation of climate, as the common concern of mankind and for the benefit of future generations, continues to be a fundamental pillar on which the government's vision for the sustainable development of Malta rests.



ISO President Dr. Morrison meets Malta's Minister of Finance, the Economy and Investment, Tonio Fenech, in the presence of MSA Chairman, Ing. Francis E. Farrugia.

Next ventures on information technology

ISO/IEC JTC 1, *Information technology*, held its 24th plenary meeting in Tel Aviv, Israel, in October 2009 in the context of the IEC General Meeting (see *World Scene*). It received reports from each of its subcommittees on their activities over the last 12 months while also addressing proposals for new areas of standardization.

In particular, it established a new subcommittee to deal with distributed application platforms and services, which will among others address cloud computing, and a new working group to develop standards for sensor networks.

Other initiatives included addressing the energy efficiency of data centres – a venture into the realm of green IT – as well as initiating a study of the contributions that ISO/IEC JTC 1 can make in the field of smart grid.

Rubbery issues

The ISO technical committee on rubber and rubber products, ISO/TC 45, held its 57th annual meeting in Kochi, India, in October 2009.

Over 175 delegates from 20 countries representing all facets of the international rubber industry, including the natural and synthetic rubber production sectors, the tyre sector and the non tyre (dry and latex) sectors, participated in the event, which addressed issues relating to the developments of quality standards for the rubber industry.

Technology advisor at the Bureau of Indian Standards (BIS), R.K. Matthan, commented on India's adoption of 236 rubber standards. He said that the country is

ISO/TC 45 57TH ANNUAL MEETING AT KOCHI, INDIA OCTOBER 26TH - 30TH 2009 Hosted by the BUREAU OF

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- Links Pages
- Other Accommodation
- Indian Currency
- Airlines Services to Cochin
- Time Difference
- Health Issues
- Tourism
- About Kerala
- Kochi Map
- Weather

the week from 26th - 30th October 2009 in Kochi, India. The ISO/TC 45 Meetin

INSTITUTIONS OF THE INDIAN RUBBER INDUSTRY

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Mr R. Buddhiraja, Director General
Mr T.Chakravarty, Secretary General
<http://www.atmaIndia.org>

RUBBER BOARD OF INDIA
Dr Sunny Sebastian, Joint Director, Processing Department
<http://www.rubberboard.org.in>

RUBBER RESEARCH INSTITUTE OF INDIA
Dr James Jacob, Director
<http://www.rubberboard.org.in/RubberResearchInstitute.asp>

BIS dedicated a Web site to the ISO/TC 45 plenary in Kochi, India.

adopting ISO standards to meet industry needs. The cross industry support from the production and manufacturing sector has been forthcoming, as there is a growing awareness that with globalization, of the rubber industry, quality consistency and standardization are key drivers for market penetration, growth and retention of market shares.

Dr. Matthan underlined that despite the global economic recession, the rubber industry recorded a 24% export growth in the last fiscal year and rubber-related companies reported a positive performance. This was evidence of the growth of Indian rubber and rubber products around the world.

The plenary was hosted by the BIS, ISO member for the country, and the Indian Ministry of Consumer Affairs.

Big steps for nanotech

The ISO nanotechnologies committee, ISO/TC 229, did not think small at its last meeting, where considerable progress was made on its work.

The event, hosted by the Standards Institution of Israel (SII), ISO member for the country, was held in conjunction with the International Electrotechnical Committee (IEC) General Meeting, in October 2009, in Tel Aviv, Israel (see *World Scene*).

This was the second meeting of the technical committee in 2009. Despite the relative proximity to its previous meeting, virtually all its active project groups attended and made fruitful advances.

Substantial progress was made on terminology and nomenclature of nanotechnologies, including the soon to be published standard defining basic terms. Other projects include:

- Nanostructured materials

- The bio-nano interface
- Medical, health and personal care applications
- Nanomanufacturing.

Progress was also made on work addressing measurement and characterization, and health, safety and the environment, with new standards soon to be published, and others considerably advanced. Some examples include:

- Endotoxin tests on nanomaterial samples for in vitro systems
- Generation of metal nanoparticles for inhalation toxicity testing
- Characterization of metal nanoparticles used for inhalation toxicity testing
- Physico-chemical characterization of engineered nanoscale materials for toxicologic assessment
- Guidelines for occupational risk management of nanomaterials based on a "control banding" approach
- Preparation of material safety data sheet for nanomaterials.

A technical report for a nanomaterial risk evaluation framework was also completed.

ISO/TC 229 has task groups on:

- Nanotechnologies and sustainability
- Consumer and societal dimensions of nanotechnologies
- Measurement and characterization for environment, health and safety
- Planning and coordination
- Business planning.

And it maintains a nanotechnologies liaison coordination group (NLCG). This group was established to help ensure effective and active communication between technical committees and other organiza-



Participants at the first meeting of ISO/PC 243.

tions with a direct interest in nanotechnology standardization. Currently ISO/TC 229 has 25 internal and seven external liaisons.

The committee's next meeting will take place in May 2010, in the Netherlands.

Tackling consumer product risk

An International Standard to prevent the development and marketing of products which could present health and safety risks to consumers is the goal of a new ISO project committee which met for the first time in Toronto, Canada.

The projected standard will offer practical guidance to suppliers of consumer goods, so that they can reduce risks associated with their products. It will thus increase consumer confidence, while promoting trade and competitiveness.

Currently some 23 countries are involved in the work of the project committee, ISO/PC 243, *Consumer product safety*. And over 20 experts from Australia, Canada, China, Japan and the Republic of Korea actively participated in the first meeting in October 2009.

The scope of the standard was among the key issues discussed. In particular, participants looked at defining what constitutes a "consumer product", and whether goods such as tobacco, food and medicine should be included or excluded.

It was suggested that the standard be developed with a wide and flexible scope in mind. Dr. Elizabeth Nielsen, Chair of ISO/PC 243 explained: "Governments that adopt or reference the future standard in their regulation will be in a better position to define which products it should apply to, depending on each country's situation and existing regulation."

ISO/PC 243, was established following an initiative from the working group of the ISO Committee on consumer policy (ISO/COPOLCO) which aims to reduce risks related to consumer products.



According to the proposal, injury statistics in Europe, North America and Pacific countries indicate that design problems, malfunctions and inadequate safety information for consumer products are associated with many unintentional injuries. An International Standard would provide universally applicable guidance and practical tools to identify, assess and eliminate or reduce potential safety risks, so that they can be addressed before the products enter the market.

The future standard is expected to provide guidance to all parties involved in the consumer product supply chain (designers, manufacturers, importers, distributors, retailers, etc.). It should result in fewer preventable injuries, promote consumer confidence, provide an international benchmark to facilitate access to international markets, serve as an adjunct to regulatory approaches, offer a systems approach to product safety, level the playing field, educate suppliers, and more.

The first meeting of ISO/PC 243 was hosted by the Canadian Standards Association (CSA), which holds the Secretariat of the project committee on behalf of the Standards Council of Canada (SCC), ISO member for the country. The next meeting will be held in early February 2010 by Web conference.

Plastics progress

Reflecting the global economic recession, the world plastics industry is in the midst of a dramatic restructuring involving mergers, acquisitions, asset sales, plant closings, and rationalization of short-term capital spending and R&D investments.

In spite of the difficult economic situation, over 220 delegates from 20 countries attended the annual meeting of ISO technical committee ISO/TC 61, *Plastics*, in October 2009 in Rome, Italy. The Japanese delegation alone numbered 60.

A task force was set up to examine all aspects of committee's meeting policy, including holding meetings of working groups and subcommittees during the ISO/TC 61 plenary week. The annual meeting cycle, which has its advantages and its disadvantages, has come up for discussion on a number of occasions in the past, but the conclusion has always been that the advantages of holding meetings simultaneously outweigh the disadvantages.

An innovation at the Rome meeting was a statistics workshop which presented the work done by the working group on statistical methods. This work includes a simple, practical guide to conducting interlaboratory trials, an Excel-based tool for calculating the results of such trials and an International Standard (ISO 25337), to be published early in 2010, on the use of single measurements for production quality control.

While the bulk of ISO/TC 61's work programme concerns the raw materials used by the plastics industry, work is now also being carried out on some unusual products previously not dealt with by the TC, such as woven plastic sacks, plastic railway sleepers (railroad ties) and plastic drinking straws. ■



At the ISO/TC 61 plenary held in Rome, Italy, from left, **Todd Sandler** (Secretary), one of the two presenters, **Bob Dicker** (ISO Central Secretariat) with an Award of Appreciation for 22 years' work, **Mike Fisher** (Chair), **Klaus Könnecke** recipient of this year's Outstanding Service Award and **Sam Eldin** (Chair of SC 5), the second award presenter.



Participants have lively discussions on ethical claims.

event, COPOLCO invited its liaison organization, Consumers International, to coordinate with selected organizations involved in ethical trade and with some interested COPOLCO members, in order to investigate consumer issues arising from ethical trade.

The first objective was to get a common understanding of ethical claims, and to explore the significance for consumers of the great number and variety of different types of ethical claims for products on the market. For instance, the implications of these claims on consumer choices, and in turn, the effect of these choices on positive societal and environmental impacts that ethical trade products are purported to make.

The roundtable was part of a more general research project aimed at building confidence in the purchase of ethically traded products and services.

The participants understood “ethical claims” in a broad sense, covering all types of information to consumers, including advertising, about aspects of a product or service having particular so-

cial or environmental merit. The scope covered environmental aspects, such as recycling, sustainable forestry, sustainable fishing, organic agriculture, carbon footprint, and social – including (but not limited to) fair trade, social responsibility or animal welfare.

During the roundtable, independent researchers from the Pacific Institute and OneWorldStandards presented the results of their findings, based on their research and analysis of 180 previously published studies from a number of countries.

These findings covered the range, quantity and quality of ethical claims, consumer attitudes regarding ethical claims, and impacts of consumers’ attitudes on their purchasing decisions. It was obvious that the number and variety of ethical claims – and their uptake by consumers – has been growing exponentially over the past 20 years.

What was less apparent was the relationship between the type and quality of claim and the resulting decision (or not) to purchase the product. The analysis also revealed great complexity in the consumer response to ethical claims, depending on the geographical location and the type of claim (indifference, skepticism, awareness, partial engagement, or strong commitment).

Through table discussions, participants were led to reflect on what constitutes a “good” ethical claim as against a “bad” one, examining a variety of factors. Some aspects of a good claim included whether it was independently verifiable, accurate, and with a clearly defined scope and unambiguous message. Factors contributing to a bad, or misleading claim, were identified

as spurious use of images, vague language, and lack of transparency in the process and characteristics of the ethical claim.

Participants also clearly identified the stakeholders involved in developing and supporting an ethical claim, and discussed their respective roles. They pointed out the need for more data on consumers’ priorities in developing countries and the need to raise awareness of the implications of ethical trade processes, both locally and in export markets.

The ETFP group members then engaged the participants in a discussion of a way forward and developed some preliminary conclusions. They recommended to clarify concepts around the different attributes (social, environmental) and processes supporting these claims (e.g. third-party verification), and develop a methodology allowing consumers to distinguish among them, for type and quality. The next step would be defining a set of minimum requirements for reliable ethical claims.

Other recommendations were to develop tools empowering consumers to make informed purchasing decisions, and encouraging all stakeholders involved in ethical trade processes to promote these tools jointly, in order to raise awareness among consumers.

The ETFP group confirmed its intention to undertake further research to implement these conclusions, including a mapping of current ethical trade initiatives to identify gaps and synergies and to avoid duplication of efforts. A final report was to be published in December 2009. ■

Dana Kissinger-Matray
is Secretary, ISO Committee on consumer policy



Some 70 participants took part in a roundtable in October 2009, in The Hague, entitled, “Assuring consumer confidence in ethical trade”.

eServices training in Azerbaijan

by Jan-Henrik Tiedemann

A regional workshop on ISO eServices held in Baku, Azerbaijan, was heralded as a success. The ISO regional workshop, which received simultaneous interpretation into Russian, was broadcasted by five TV newschannels in Azerbaijan.

The four-day, hands-on IT course covered the background and use of ISO electronic tools provided by the ISO Central Secretariat to enable ISO members to effectively participate in the international standardization process. The course included training on electronic balloting and the new national mirror committee document dissemination service. For the first time, new eService applications such as the ISO meeting management and the ISO eCommittees were shown during the training.



Participants of the ISO eServices workshop in Baku, Azerbaijan.

A total of 14 delegates from ISO member bodies and correspondent members participated in the intensive training (from Azerbaijan, Belarus, the former Yugoslav Republic of Macedonia, Georgia, Kazakhstan, Kyrgyzstan, Lithuania, Tajikistan, Ukraine and Uzbekistan). The event also provided an opportunity for participants, who are the responsible contact point for ISO eServices in their organization, to exchange knowledge and share experiences with colleagues from other countries.

The course was considered a success not only by the country's news media, by the participants themselves: "Everything in this course was of great benefit," said Mr. Goran Pletvanski, Advisor for Standardization at the Standardization Institute of the Republic of Macedonia (ISRM).

This concerted, combined initiative was organized by the ISO Development and Training Services and hosted by State Committee on Standardization, Metrology and Patents of Azerbaijan Republic (AZSTAND), the ISO member for the country. The regional course is part of a series organized by the ISO Central Secretariat to assist members from developing countries to access ISO eServices. ■

Jan-Henrik Tiedemann
is IT business analyst, ISO Central Secretariat



ISO workshop on supply chains and traceability

by Sandrine Tranchard

The role of International Standards in managing the global supply chain and traceability was the theme of the ISO Committee on conformity assessment (ISO/CASCO) workshop held in Geneva, Switzerland, in November 2009.

About 153 participants from 32 countries and organizations in liaison with ISO/CASCO attended the workshop, which was simultaneously broadcast via Internet – a first for this annual event.

The Webinar participants could thus follow the workshop as if they were in the meeting room in Geneva. They were able to see and hear the presentations via their computers and to submit written questions to the panel of presenters.

The ISO/CASCO Chair, Olivier Peyrat, defined the aim of the workshop: "We know that industry, even during these harsh economic times, understands the value of International Standards in building confidence in global supply chains and traceability. The aim of the workshop is to identify how organizations make use of and manage International Standards in their supply chains as well as to identify any gaps existing in the standards." ■

The ISO Secretary-General Rob Steele, in his welcome address, declared: "A closely related issue that this workshop will consider is traceability of products. This is critical in the supply of products and as we have seen, of food. Issues of origin of the product – country or area of origin, as well as method of production – and the components in the product are of increasing interest. In some cases, this includes concerns from a health and safety perspective, as well as reliability and confidence."

The supply chain is a key component of the economy as it literally links all the economic players, from raw material to finished product, from farm to fork, from business to consumer. This is even more true in global supply chains.



The workshop participants included (from left): **S. MacCurtain**, ISO/CASCO Secretary; **I. Cleare**, Moderator for the second session; **S. Mauel**, Head of Product Security, Merck Serono; **C. Agius**, IECX and IECQ Executive Secretary, IEC; **S. Marinkovic**, ISO/CASCO Project Manager; **M. Schmid**, Director Quality Management, Rail Division, Voith AG; **O. Peyrat**, ISO/CASCO Chair.

The workshop focus was industry-based and raised interesting discussions on the benefits of using International Standards from the following sectors:

- Food
- Industry and consumer
- Industry associations
- Standards developers and regulators.

Examples of managing the supply chain in pharmacy, food, automotive, engineering, railway, telecommunication sectors were provided.

The conclusions will provide input to future ISO/CASCO work to improve practice in the global supply chain. ■

Sandrine Tranchard
is Communication Officer, ISO Central Secretariat

Auto body shop beats path to quality

by David Venter Jnr.

Before XLNT Panel Beaters became the first panel shop in South Africa to achieve ISO 9001:2000 certification, it had faced closure many times. Since then the company has gone from strength to strength, increasing its turnover by 100% and citing adoption of ISO 9001 principles as central to its new-found success.

When the Venter family started its fledgling automobile panel beating shop – XLNT Panel Beaters – it became a daily struggle for survival. Starting out as a backyard operation with just two employees, the company managed to secure its first humble premises in the Blackheath suburb of Cape Town, South Africa.

However, the wolf was never far from the door, and we faced closure many times. Yet today, XLNT is one of the top 10 panel beating shops in the Western Cape, has expanded its business exponentially, and looks to the future with optimism. This startling turnaround in fortunes is rooted in the company's commitment to quality management, and specifically to its ISO 9001:2000-based quality management system (QMS).

Transition to ISO 9001

The quality transition started in mid-2005 when I left a successful career as an industrial engineer at Yardley to join



XLNT offers customers the services of a courtesy taxi while repairs are carried out – a first in the local industry.

the ailing family business. Having studied quality management as part of my engineering degree, and then working in an ISO 9001 environment, I was acutely aware of the positive impact that ISO 9001 implementation and certification can have on a company.

One major obstacle was to convince the workforce at XLNT to adopt new procedures and systems. The panel beating sector of the South African automotive industry had ignored the opportunity of implementing ISO 9001-based systems, and not a single panel beater anywhere in the country was certified to the International Standard.

Workplace safety also improved greatly.

To open the way, I appointed Deano Goodman as Quality Assurance/Project Manager, following his previous experience of ISO 9001 implementation at Eskom's Koeberg Nuclear Power Station in the Cape. With the guidance of auditors from the South African Bureau of Standards (SABS), we set out to become the first panel shop in South Africa to achieve ISO 9001:2000 certification – a goal we achieved just 12 months after starting the project in early 2007.

Dramatic improvement

Even during the implementation and certification process, we already noticed

dramatic improvement, especially in reworks – an occupational hazard in panel beating. A vehicle is booked in and goes through several stages of work before the repair is finalized. Often, mistakes early in the process were only detected later, which necessitated redoing those early steps correctly. Work and costs are duplicated, profit drops and the business suffers.

Often, this happened because of something as simple as a technician not understanding the scope of work requested by the customer. But the moment we implemented an organized documentation system with job cards read and understood by all, reworks dropped to a fraction of previous levels.



After body repairs a vehicle is masked for final paint spraying at ISO 9001-certified XLNT Panel Beaters.

“Workplace safety also improved greatly,” says Deano Goodman. “We focused on this vital aspect first and put all employees through safety training. This led to cleaner and neater work areas, and improved housekeeping generally. As a result, we have almost eliminated workplace injuries.

“Everybody is up to speed with the workflow and customer service delivery requirements, so there are fewer misunderstandings and fewer unhappy customers. That translates into a more productive workforce with higher job satisfaction.”

Adopting ISO 9001 principles

The adoption of ISO 9001 principles – putting the customer first and delivering quality services on time – has been central to our success. At first, people were sceptical about hiring an ISO 9001 expert and taking on the additional administrative workload required for certification – especially at a time when the business was struggling to survive. But the QMS principles made the workflow much smoother and more controlled.



(From left) **David Venter Snr.**, Workshop Manager, and author of this article, **David Venter Jnr.**, General Manager, of XLNT Panel Beaters.

So now, instead of spending our time reacting to workshop floor problems on a daily basis, we are putting our time and energy into focusing on the broader objectives of the business.

However, achieving certification within one year was the easy part. The challenge lies in maintaining the system and the discipline.

“Through business expansion and natural attrition, we constantly have new employees coming into the business. Some come from workplace environments that don’t follow ISO 9001 principles. It’s tough getting them to embrace new methods and then maintain the discipline without lapsing back into their old way of doing things. But when they see the benefits of doing things the ISO 9001 way, the rewards flow naturally,” says Deano Goodman.

Unexpected growth

The effects of ISO 9001 implementation have not only been felt on the workshop floor, but are also reflected in the balance sheet. At a time when many panel beaters are either cutting back or going out of business, XLNT has increased its turnover by 100%.

This unexpected growth allowed us to buy the former Ross Auto Body in Sea Point, Cape Town, and increase our workshop space from 1000 m² to more than 3000 m², together with new equipment to the value of ZAR 2.5 million (about USD 340 000). Recently, XLNT opened a third premises in Belville, Cape Town – a 700 m² quotation centre set up as a franchise outlet to handle non-structural repairs like scratches and minor dents.

However, we expanded so fast that growth actually became a threat to the business. Our outlay was putting severe

demands on our capital and cash flow resources. So we aim to franchise the XLNT brand as the only panel shop service in the Western Cape to offer a free 24-hour emergency call centre, credit to customers, and roadside assistance for taxi operators, including a facility for courtesy vehicles while repairs are carried out – a first in the local industry.

In addition, XLNT offers a customer liaison officer to keep clients updated on the progress of repairs to their vehicles, a branded car care product line to be distributed in major chain stores, and an XLNT Club which offers member benefits like reduced excess and service fees.

XLNT has earned approval from Chevrolet, Daihatsu, Ford, Foton, Isuzu, Kia, Mazda, Meiya, Nissan, Opel, Ssangyong and Tata, and our new equipment purchases are aimed at adding Toyota and Volkswagen to the list.

XLNT has increased its turnover by 100%.

The company has also achieved Automobile Association Quality Assured certification, along with the highest level of grading awarded by the South African Motor Body Repair Association (SAMBRA).

We have appointed an external company to measure customer satisfaction, by contacting clients within one week of completed repair jobs. From our findings, XLNT currently boasts a customer satisfaction index rating of 98%.

Helping competition

We were so impressed with the effectiveness of ISO 9001 at XLNT that we wanted other small companies in the sector to experience the same benefits. So we established a subsidiary, Sag-ghée Consulting, which works in conjunction with the government’s Manufacturing, Engineering and Related Services Sector Education and Training Authority (MERSETA), to offer training to companies wishing to achieve ISO 9001 certification. For its efforts, Sag-ghée recently received an award for Outstanding Achievement in Training from MERSETA.

It might seem strange to help our competitors, but as a family we have always been entrepreneurs, so small business



XLNT proudly flies the South African Bureau of Standards (SABS) banner proclaiming its achievement in becoming the first panel shop in South Africa to achieve ISO 9001:2000 certification.

management is both a passion and a calling for us. For me, it is not just about doing well and forgetting the rest. We are part of a broader society that desperately needs jobs and economic growth. Sag-ghée is a business opportunity for us, but it’s also our way of contributing to the development of South Africa as a nation.

Message to others

XLNT is not limiting its quality management aspirations to ISO 9001 alone. Our business has potential impact on the environment, as we handle many different chemical products. Recently, the industry globally has moved towards water-based paints, and our customers are increasingly expecting us to show due responsibility on issues such as the recycling of thinners or oil.

So achieving ISO 14001-based environmental management system certification is a natural progression. We are no longer the only panel shop with ISO 9001 certification, but we aim to be the first in South Africa to achieve ISO 14001.

While the expenditure and administrative workload associated with the implementation process can be off-putting to potential companies, I urge them to take a longer-term and broader view. My message is this: if you wish to increase your profit and expand, if you want to spend less time reacting to production floor problems and more time focusing on the strategic objectives for your company, then take the time and effort to implement ISO management system standards.

It turned our company’s prospects around completely. Where we once worried daily about survival, we are now in control of our strategic direction and looking to the future with great optimism. ■

ISO 22188 helps tackle illegal trafficking of radioactive material



Radioactive materials travel – often illicitly and inadvertently. The International Atomic Energy Agency (IAEA) is the world's nuclear inspectorate, with more than four decades of verification experience. Inspectors work to verify that safeguarded nuclear material and activities are not used for military purposes. The Viennese physicist Christian Schmitzer who heads the IAEA's Safeguards Analytical Laboratory, chairs the ISO working group that prepared ISO 22188:2005, *Monitoring for inadvertent movement and illicit trafficking of radioactive material*. In an interview for CONNEX¹⁾, the magazine of the Austrian Standards Institute, ASI – www.as-institute.at, he discusses the importance of standards, illicit trafficking, and highly accurate analysis for world peace.

The inadvertent movement and illicit trafficking of radioactive material occurs again and again. This is nothing new, but concerns are rising. Are they justified?

Christian Schmitzer: There is an interesting phenomenon: the more monitoring equipment is put in place, the higher the number of incidents. This is similar to screening for cancer. Suddenly, the number of cancer cases diagnosed grows dramatically, but the number of people dying of cancer does not change.

¹⁾ This interview has been adapted with kind permission from the one that appeared in the September/October 2009 issue of CONNEX. It was carried out by Mag. Priska Koiner.

When the Soviet Union dissolved in the early 1990s, there was certainly reason for concerns as many control structures also collapsed in the East at that time. By now, the situation has stabilized again.

At the IAEA, you head the technical laboratory. You say that the number of incidents increases because of intensified checks. How did the quality of monitoring instruments develop over the past 10 years?

Christian Schmitzer: Right now, cutting-edge portal monitors are installed at the United Nation's Vienna International Centre. A lot of technological progress has been achieved. Moreover, a fascinating discovery has been made that is of

great help to border protection services or the military.

You can not only measure whether radiation is present, but – with major technological efforts – the fingerprint of radioactive material also tells you whether the radiation comes from natural and medical sources, or from dangerous ones.

Do border guards also need this knowledge?

Christian Schmitzer: It is not enough to know that something emits radiation. During the test phase at the border crossing between Austria and Hungary, we operated a hotline for the border guards so that they were able to obtain clarifications. Thus, insecurities were eliminated about whether freight had to be held back for several hours or not.

The International Standard on instruments for measuring radiation in cross-border transport was prepared under your chairmanship. The standard answers the questions of how ionizing radiation can be detected according to standardized criteria under the rough conditions at the borders and which tools can be used for that purpose. How did this project come about?

Christian Schmitzer: Measuring radiation is not easy. When you eventually characterize radiation by means of a single parameter – the dose – there must



Inspectors wearing protective clothing search a vehicle for radioactive sources.
© Stefan Schönhacker, WIRK.ZONE www.wirkzone.at

be a clear agreement on how this value is determined. Austrian standardizers have always been active in the field of radiation protection.

I considered it a privilege to join a group of highly motivated experts when I worked as a radiation protection specialist at the Austrian Research Centre Seibersdorf. My then employer agreed to bear the costs that would be incurred for this involvement in international standardization.

That was the decisive step, taken to avoid grumbling over standards “imposed” by others – a common practice in Vienna – but instead to participate in shaping them. In cooperation with the international organizations based in this city, including the IAEA, we were able to gain profile.

The working group is currently dormant. Is it not necessary to fine-tune the standard?

Christian Schmitzer: I guess that in two or three years, when the manufacturers have a better grip on the new technologies we will start to review the standard.

You do not work as a radiation protection expert at the Research Centre Seibersdorf any more but head the IAEA laboratory. What are your challenges now?

Christian Schmitzer: Following the famous “Atoms for Peace” speech delivered by President Dwight D. Eisenhower to the United Nations, the IAEA was created to make sure that nuclear material is used for peaceful purposes. Hence, one of the Agency’s mottos is “Atoms for Peace”. All countries that signed the Nuclear Non-Proliferation Treaty also agreed to regular inspections by the IAEA. Our inspectors take samples for subsequent tests at the laboratory. These are performed by 45 specialists. Through analyses and extensive computations, we can find out whether the operator of a nuclear facility

About the IAEA

The International Atomic Energy Agency (IAEA) is the world’s focus of cooperation in the nuclear field. It participates in the work of 11 ISO standards-developing technical committees or subcommittees and follows the work of another four, ISO and the IAEA have signed a Memorandum of Understanding to facilitate cooperation between them.

The IAEA was set up as the world’s “Atoms for Peace” organization in 1957 within the United Nations family. The Agency works with its Member States and multiple partners worldwide to promote safe, secure and peaceful nuclear technologies.

The IAEA Secretariat is headquartered at the Vienna International Centre in Vienna, Austria. In 2005, the IAEA was awarded the Nobel Peace Prize.

Yukiya Amano of Japan is the new IAEA Director-General, as of 1 December 2009. He succeeds Mohamed ElBaradei.

has a stock of 3.5 tonnes of uranium hexafluoride or 3.499 tonnes. This raises the challenge of accuracy.

How do you achieve such exact results?

Christian Schmitzer: All laboratories worldwide are interested in being able to perform accurate measurements. Of course, each country active in the field of nuclear technology has its own laboratories. They serve for monitoring the production cycles of nuclear fuels. We take part in inter-laboratory tests on unknown samples.

The results reported by three-quarters of 50 laboratories participating lie in a range of +/- 0.5%. By comparison, the European Union carried out an inter-laboratory trial with 350 laboratories testing drinking water for lead some time ago (IMEP-12). Out of them, 300 only just achieved +/- 50%.



Installed radiation monitors automatically detect the presence of radioactive material.
© Stefan Schönhacker, WIRK.ZONE www.wirkzone.at

Are these amazingly accurate nuclear tests standardized?

Christian Schmitzer: There is no specific ISO standard on them. Fascinatingly, however, the group adopted its own “standard”. It was necessary to define target values for accuracy and measurement uncertainty within the group. They are called “International Target Values” or ITV2000 for short. These values are not legally binding, but everybody complies with them.

Will this international, but internal standard become an ISO standard?

Christian Schmitzer: This would probably only be a small step now, but nobody feels that it is necessary. This may also be due to the fact that many of these efforts are made under the umbrella of the IAEA. In many fields related to the safety of nuclear facilities, the IAEA has a certain normative function. Some of these projects are implemented within the framework of ISO or in cooperation with ISO, some of them through other channels.

But don’t get me wrong: For specific analyses, we cooperate very intensively with ISO in many of our laboratory-related activities. Examples of the issues covered are: How do you analyse plutonium? Which methodologies exist for analysing uranium? The International

Atomic Energy Agency also delegates experts to most working groups. The Agency definitely does not go it alone in all its activities.

Let’s go back to border checks where analyses are carried out under rough conditions. What is the error rate here?

Christian Schmitzer: Countries that set up monitoring equipment very early

detectors can be bought at any home improvement store here as well.

Many experts disagree on the reasons why radiation sources are smuggled. After all, industrial users need certificates to document all steps from the purchase of the material to its disposal here. That raises the most worrying question: Are there unofficial users? Those may be active in international terrorism and organized smuggle.



The familiar trefoil (left) basic ionizing-radiation warning symbol (ISO 361 and ISO 7010) was joined in 2007 by the supplementary warning symbol (right) launched in ISO 21482:2007.

About the author



Christian Schmitzer studied physics at the Technical University of Vienna, his city of origin. After a short time in Yale and six years as a research/teaching assistant

at Vienna’s Technical University, he worked as a radiation protection expert at the Austrian Research Centre Seibersdorf. Since 2006, he has headed the IAEA’s Safeguards Analytical Laboratory and has been responsible for highly accurate analyses. He actively contributed to radiation protection standards. Under his chairmanship, International Standard ISO 22188 was published in 2005. Today, it is the generally accepted norm for instruments measuring and detecting radiation in border checks.

report that 95% of alarms are actually a “nuisance”. They are not false alarms as radioactive material is indeed present, but it is not illicit trafficking either.

Sometimes radioactive material is inadvertently included in scrap metal deliveries or contained in natural substances, such as granite or mineral fertilizer. People who received a nuclear medical treatment – for example thyroid scans – give off radiation and the alarm is triggered.

And the remaining five percent of alarms at borders relate to criminal activities?

Christian Schmitzer: These cases clearly have an illegal background. The motive may be personal gain, but there is also deliberate smuggling within the framework of organized crime. In this context, too, foolish things may happen. In the past, for example, some people tried to smuggle Russian smoke detectors.

They contain plutonium, but only in minimal quantities. The dream of getting rich fast did not come true as smoke

Finally, a personal question: was it your childhood dream to head a laboratory in the service of world peace?

Christian Schmitzer: No, that was not my childhood dream. My childhood dream was to become a physicist and I achieved it. It all started with a simple question: Why is the sky blue? And it is wonderful when you find an answer to that question as a physicist. It was simply also good luck that I have the opportunity to work in this laboratory now within the framework of the International Atomic Energy Agency.

Do you have further aims for your career?

Christian Schmitzer: I am very satisfied where I am now – being part of a mission that promotes peace. Let me quote Benjamin Disraeli: “Fortune favours the prepared mind.” That is the way in which I have mostly experienced my life. You cannot bring about conditions conducive to your career, but you can be prepared to walk through doors when they open up. ■

The ISO Award for Higher Education in Standardization



by Dr. Ir. Henk J. de Vries

The Rotterdam School of Management of the renowned Erasmus University, the Netherlands, is the winner of the 2009 ISO Award for Higher Education in Standardization. The award was presented at the 32nd ISO General Assembly in Cape Town, South Africa.

The ISO Award aims to raise awareness of the importance of standardization worldwide by supporting institutions of higher education that have developed and implemented successful programmes related to standardization as a tool to access world markets, transfer technology and promote good business practice and sustainable development.

Dr. Ir. Henk J. de Vries, who received the 2009 award on behalf of the school, presents below the aims, content, achievements and perspectives of the programme.

The other finalists describe their programmes in the *ISO Focus+* section on ISO Online (www.iso.org/isofocus+).

Belarus: Belarussian National Technical University

Egypt: Arab Academy for Science, Technology and Maritime Transport (AASTMT)

France: Ecole Internationale des Sciences du Traitement de l'Information

Republic of Korea: Chung-Ang University

Ukraine: National University of Life and Environmental Science of Ukraine.

The Rotterdam School of Management (RSM), Erasmus University is one of the leading business schools, both in research and education. We are Europe's number one business school in terms of the number of scientific publications in high-ranked scientific journals in the management field. RSM's education is based on research and its close cooperation with industry and other stakeholders worldwide.

Since January 1994, RSM has hosted a Chair in Standardization, situated within the Department of Management of Technology and Innovation. This has been made possible by the Netherlands Standardization Institute (NEN), the ISO member for the country.

Standardization education consists of both elective courses and the inclusion of standardization in other courses. An array of bachelor/master (BA/MA) and executive education (MBA) programmes are available. The school's education programmes have been renewed several times to keep up-to-date with new developments and methodologies.

Bachelor in business administration

In the 3rd year of the business administration curriculum, groups of three students have to write a thesis. They learn to design a research project, conduct the research and report about it in the form of a bachelor thesis. The topic of this thesis differs with each group. One option is to focus on standardization with the goal of :

- Getting a general overview of the area of standardization
- Understanding possible business benefits of standardization
- Becoming familiar with scientific research in the field of standardization.

General knowledge on standardization is achieved in the form of self-study, presentations and in-class discussions. The research topics differ per group (see **Box** opposite page).

Students have to present their findings to a jury consisting of NEN's General-Director, a researcher from Erasmus Univer-



The Rotterdam School of Management (RSM) of the Erasmus University

sity, and the Head of NEN's Business Development. Some of these bachelor theses have formed the basis for publications in scientific and professional journals.

Innovation and standardization management

Learning objective of this masters elective is to provide participants with basic knowledge about standardization management, and its role in innovation management. The goal is to enable them to develop and employ a standardization strategy for an individual company, a supply chain or a branch of business.

We are Europe's N°1 business school in terms of the number of top-scientific publications.

The course covers standardization management not only at company level, but also at the level of industry associations and governments, nationally, regionally and internationally, and how this relates to innovation management.

Following a general introduction, the course addresses standardization by formal bodies at national, regional and international levels, by industry associations, industrial consortia, companies, and networks of organizations. Another topic covered by the course is conformity as-

essment. This is followed by methods and techniques of standardization, and the legal implications (including the use of standards as "soft laws" and the relation with intellectual property rights).

Next, we collect all this to innovation by linking standards and standardization to the phases of the innovation process and finding examples to back this. Finally, the question of how to manage standardization in relation to innovation is highlighted. This includes ways of or-

From sport shoes to kite-surfing

Topics for 2009 theses:

- Impact of the ISO 9001 standard for quality management on radical innovations
- Impact of backwards compatibility in hardware and software on perceived customer value
- Impact of product assortment size on customer satisfaction – The case of jeans
- Consumer willingness to pay for more product variety – The case of Adidas sport shoes
- Mathematical optimization of preference ranges from a financial point of view – The case of sizes of kites used for kite-surfing
- Product standardization, innovation and IPR – Relating numbers of patents to the amount of participation in standardization
- Cradle to cradle certification.



Dr. Lr. Henk J. de Vries (left) presents Susanne Biesheuvel, Randy Schimanski and Stéphane Knook an award for the best thesis in 2006 on electronic payments. The main findings of the thesis were published in a Dutch marketing journal.

ganizing, within companies as well as between companies and other stakeholders.

The course includes scientific contributions from disciplines like economics, law and political science. The challenge is to combine these disciplines to solve real business problems. The scientific basis of this course is complemented with business input in the form of case studies, company visits, guest lectures, and real-life assignments.

Business excellence

In two other courses, standardization is part of the curriculum. The master's course "managing innovation" pays attention to the topic standards battles, using the case of HD-DVD versus Blu-Ray.

Our mission includes stimulating the development of standardization education.

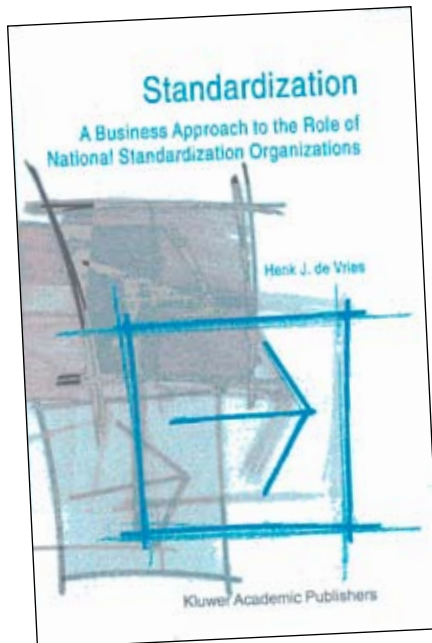
The master's elective "business process excellence" addresses several standardization topics: standards for business processes, standards for management systems (ISO 9001, ISO 9004, ISO 14001), business excellence models (European Foundation for Quality Management, Deming Award, Malcolm Baldrige Award), and the role of standards in supply chains and in networks of organizations.

Master and PhD theses

Students can devote their master thesis to standardization. In many cases, this is combined with an internship in a com-



The course on innovation and standardization management includes a visit to Océ's R&D department in Venlo, the Netherlands. Océ (www.oce.com) has integrated standardization with its innovation process.



The RSM Erasmus University's education is founded on research.

pany or other organization. The Web site www.rsm.nl/standardisation lists some of the topics. Some students have managed to win national best thesis awards. Some theses have formed the basis for publications in scientific and professional journals.

PhD trajectories are primarily research but can be seen as a form of education as well. In the past year, three PhD students have defended their thesis on the following:

- Standards battles for complex systems – empirical research on the home network.
- Certification, accreditation and the professional – case study about colleges for higher vocational education
- Realizing business benefits from company IT standardization.



Achieving business benefits

Recently, RSM Erasmus University has extended its executive education portfolio with two- and three-day courses. We were the first to develop a course on achieving business benefits by participation in international standardization. The course aims to provide knowledge enabling participants to influence International Standards development in such a way that the resulting standards are fit-for-use by the company to achieve the necessary business targets. The main topics include:

- The business impact of participation in international standardization
- How to calculate benefits of participation?
- Mapping the stakeholders and their stakes
- Understanding the International Standards development process
- How to use this process to achieve what your company intends to achieve?

The programme is interactive and presentations are alternated with exercises and discussions. The target group for the course is participants at the technical committee level in international standardization. The first course was held in January 2009 in Rotterdam with 15 participants from seven European countries. The course may be organized in other countries, and in cooperation with national standards bodies.

For more information:

www.openprogrammes.com/is.

Stimulating standardization education

Our mission includes stimulating the development of standardization education, both in the Netherlands and abroad. Here are just a few of our initiatives:

Higher vocational education

We have been involved in a NEN project to stimulate and support standardization education at the level of higher vocational education in such areas as: electrotechnical engineering, mechanical engineering, construction, and business administration. Activities included lobbying, the development of educational materials and training of teachers.



The RSM Erasmus University developed teaching materials together with colleagues from China, Germany, Indonesia, Sri Lanka and Viet Nam.

Linking Dutch universities

We coordinate an academic network of researchers on standardization and conformity assessment. This informal group consists of researchers of the majority of Dutch universities, in different disciplines (including economics, business administration, law, history, and technology). The focus is on research, but education topics are addressed as well. We provide guest lectures at other universities and are currently involved in supporting another university in its development of a standardization course.

Republic of Korea

The curricula developed at the Catholic University of Washington, D.C., and RSM Erasmus University have formed a benchmark for the start of standardization education activities in the Republic of Korea. Today, the Republic of Korea has the greatest number of university students in standardization education.

Asia Pacific Economic Cooperation

The Asia Pacific Economic Cooperation (APEC) operates a standardization education project. We collected and classified 1300 scientific and professional publications on standardization. These are intended to be used for, and underpin the teaching materials being developed in this APEC project. For this project, we had the assistance of guest researcher Vladislav Fomin, from Kaunas University, Lithuania.

Asia Link Project

We shared experiences and developed teaching materials together with col-

leagues from China, Germany, Indonesia, Sri Lanka, and Viet Nam.

For more information: www.asia-link-standardization.de/.

International Cooperation for Education about Standardization

We participated in the Tokyo meeting in February 2006, where the International Cooperation for Education about Standardization (ICES) was founded and were responsible for co-organizing the first ICES Workshop in Delft, the Netherlands in February 2007. ICES aims to promote and support standardization education worldwide.

European Academy for Standardization

Dr. Henk J. de Vries is Vice-President of the European Academy for Standardization (EURAS), a rather informal organization of researchers and other interested people in the field of standardization. EURAS focuses on research but education is its second field of interest.

European standards bodies

We are involved in activities of the European Committee for Standardization (CEN) and the European Committee for Electrotechnical Standardization (CENELEC) to stimulate standardization education. We have suggested possible European and national strategies and provide support in developing a repository of education materials.

Cooperation with Japan and China

At the request of the Japanese Ministry of Economy, Trade and Industry (METI),

cooperation has been recently established between the Tokyo University of Agriculture and Technology's department on Management Of Technology, the China Jiliang University in Hangzhou, China, and RSM Erasmus University. An agreement to cooperate in the field of standardization education and research was signed by the three universities. The cooperation includes the exchange of ideas and teaching materials and, as far as feasible, of students.

Didactical approach

Academic teaching should be research-based, but the abstraction inherent to scientific research may also hinder proper understanding. Therefore, the starting point is not in research, but in creating moments of 'surprise' by confronting students with real-life situations, or inviting them to come up with their own experiences. The approach includes:

- Let students experience real-life cases with all related aspects
- Study several aspects in-depth using scientific methods
- Combine the findings from the different scientific abstractions and "return" to reality. Iterations between science and reality may be needed.

For more information:

www.rsm.nl/standardisation. ■

About the author



Henk J. de Vries is an Associate Professor in standardization at the RSM Erasmus University since 2003. He has combined this position over the years with a position

at Netherlands Standardization Institute (NEN), ISO member for the country. He wrote his dissertation on national standards bodies (Henk J. de Vries, 1999. *Standardization – A Business Approach to the Role of National Standardization Organizations*. Boston/Dordrecht/London: Kluwer Academic Publishers). He is the author of more than 250 publications on standardization. For more information, see www.rsm.nl/devries or contact: Hvries@rsm.nl, (+ 31) 10 408 20 02.



Highlights of The ISO Survey

by Roger Frost

Implementation of ISO management system standards for food safety and for information security (with IEC) has sharply increased, as revealed by *The ISO Survey of Certification – 2008*.

Certification to ISO 22000:2005, which gives the requirements for food safety management systems, shot up by more than 96% during 2008. At the same time, certification to ISO/IEC 27001:2005, which gives the requirements for information security management systems, increased by more than 20%.

Despite the financial crisis which began in 2007 and spread to most countries and sectors of the economy in 2008, *The ISO Survey* reveals certification activity around one or more of ISO's management system standards in 176 countries (175 in 2007).

ISO comments in the introduction to the survey: "This a clear demonstration that they have become essential tools of the world economy and retain their attraction for organizations even in time of crisis. It is also possible that organizations look to management systems for supporting their objectives *even more* during a crisis."

ISO 9001:2000/2008

The 2008 survey reports cumulative results for ISO 9001:2000 and ISO 9001:2008 because the new edition does not include any new requirements compared to the earlier edition which it replaces.

ISO 9001, which gives the requirements for quality management systems, is now firmly established as the globally implemented standard for providing assurance about the ability to satisfy quality requirements and to enhance customer satisfaction in supplier-customer relationships.

Up to the end of December 2008, at least 982 832 ISO 9001 (2000 and 2008) certificates had been issued in 176 countries and economies. The 2008 total represents an increase of 31 346 (+3%) over 2007, when the total was 951 486 in 175 countries and economies. Services have significantly increased their share of certificates, with service providers accounting for 40% of all ISO 9001 certificates compared to 32% in 2007.

ISO 14001:2004

ISO 14001:2004, which gives the requirements for environmental management systems, confirms its global relevance for organizations wishing to operate in an environmentally sustainable manner.

Up to the end of December 2008, at least 188 815 ISO 14001:2004 certificates had been issued in 155 countries and economies. The 2008 total represents an increase of 34 243 (+22%) over 2007, when the total was 154 572 in 148 countries and economies. Services accounted for 34% of certificates, compared to 29% in 2007.

ISO/TS 16949:2002

ISO/TS 16949:2002 gives the requirements for the application of ISO 9001:2000 by suppliers in the automotive sector. Up to the end of December 2008, at least 39 320 ISO/TS 16949:2002 certificates had been issued in 81 countries and economies. The 2008 total represents an increase of 4 122 (+12%) over 2007 when the total was 35 198 certificates in 81 countries and economies.

ISO 13485:2003

ISO 13485:2003 gives quality management requirements for the medical device sector for regulatory purposes. Up to the end of December 2008, at least 13 234 ISO 13485:2003 certificates had been issued in 88 countries and economies. The 2008 total represents an increase of 249 (+2%)

over 2007 when the total was 12 985 in 84 countries and economies.

ISO/IEC 27001:2005

ISO/IEC 27001:2005 gives the requirements for information security management systems. At the end of 2008, at least 9 246 ISO/IEC 27001:2005 certificates had been issued in 82 countries and economies. The 2008 total represents an increase of 1 514 (+20%) over 2007 when the total was 7 732 in 70 countries and economies.

Service providers account for by far the largest share of certificates, 94% (up from 90% in 2007).

ISO 22000:2005

ISO 22000:2005 gives the requirements for food safety management systems. Although the 2007 survey did not provide detailed breakdowns of ISO 22000:2005 certifications, it gave a rough global total. The 2008 survey allows a comparison by providing country-by-country breakdowns for both 2007 and 2008.

Up to the end of December 2008, at least 8 102 ISO 22000:2005 certificates had been issued in 112 countries and economies. The 2008 total represents an increase of 3 970 (+96%) over 2007 when the total was 4 132 in 93 countries and economies.

Brochure + CD-ROM

ISO makes available the principal findings of the survey free of charge on the ISO Website. More information, including industry sector breakdowns, can be found in *The ISO Survey of Certifications – 2008*, which is a combined brochure and CD-ROM. It is available from ISO national member institutes (listed with contact details on the ISO Web site www.iso.org). It may also be obtained directly from the ISO Central Secretariat (sales@iso.org). ■

Roger Frost is Head, Communication Services, at ISO Central Secretariat.



Have you ever wished for one remote control that could operate all your electronic equipment? Or that spare parts were always easily available? Most of us take for granted that we can buy paper that will fit any printer, that software will work in all computers, or that our electronic money transfers are accepted without problems by banks in other countries. But the ability of products and services to interact with each other is largely enabled by International Standards representing global consensus amongst stakeholders.

The February 2010 *ISO Focus+* explores an issue at the heart of most consumers, and also one of the key roles of standards: interoperability. It is also an important concern for businesses, as enabling the interoperability of products or services is crucial for entering markets or determining the viability of innovative products.

ISO standards help by disseminating harmonized specifications and state-of-the-art know-how. Manufacturers can outsource parts confident that these will be compatible with their products, allowing them to better channel research efforts and market new technologies.

With ISO standards, businesses can become more competitive, which in turn

results in fair prices and a wider and better choice of products for consumers. Interoperability increases product lifespan, reduces waste and contributes to environmental sustainability.

The February *ISO Focus+* features a selection of standards that are making our lives easier and more comfortable by, for example, ensuring the compatibility of spare parts, accessories and components among product models, lines and brands. But their benefits are not limited to products, ISO standards geared at services facilitate transactions, increase transparency and improve overall service delivery in, for example, financial transactions or health informatics.

In addition, International Standards enable the interoperability of knowledge, which facilitates access to information and resources to people from around the world, whether through library and archiving standards, country or language codes or accessible file formats like JPEG, to name just a few.

Don't miss the next issue of *ISO Focus+* to learn more about the standards that are currently contributing to a safer, more efficient and more convenient world – and those that will join them. ■

360°

Developing good standards

What does it take to make a “good” standard? Authors Jerry Smith (Secretary, ISO/TC 184, SC 4, *Industrial Data*) and Pete Nielsen (Chief Operating Officer, Intellegere Foundation) explore this question in the February issue of *ISO Focus+*.

Technical excellence, timeliness and development by a recognized organization are basic requirements, affirm the authors, but not enough. To be considered good, a standard needs to go just a little bit further.

“Standards may be considered science, but the standards development process can be considered an art – balancing issues to achieve a result which is technically functional and attractive to end users.”

The authors look at several aspects including technological evolution, knowing when to release a standard, what specifications should reflect, and much more. In the end, the authors say, markets determine which standards will be the winners. Knowing how to work together and address real needs is key.

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ISBN 978-92-67-10473-7

International Organization for Standardization – www.iso.org

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