



focus

#106

Your gateway to International Standards



Levelling
the playing field



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fair people

Arguably, one of the most influential popular writers on the nature of globalization is Thomas Friedman, New York Times foreign affairs columnist. His most recent best-seller, *The World Is Flat*, makes for an interesting read and a point of discussion.

I agree with Friedman's assessment that the world is flat. According to Friedman, a "flat world" means that there is now a level global playing field, where all competitors have an equal opportunity. It has now become very possible for many people around the world to collaborate and compete with each other on many different kinds of work, markets and products from many



different corners of the planet – and on a more equal footing.

But there's more. Although today's global economy is flatter than at any previous time in the history of the world, not all companies and countries are created equal nor do they stand an equal chance of succeeding. All too often, the race for small and medium-sized enterprises and developing countries is rigged long before it even begins. Unfair? Certainly, but what's the solution?

It's very unlikely that I'll have a chance to raise the issue with Friedman, but how do standards fit into the bigger picture. First of all, standards are tools that help companies interact effectively with suppliers, customers, public authorities and stakeholders at large. Second, being aware of the standards environment and perspectives is central to the economic intelligence needed for most businesses. They provide the means for market access and help acquire and

disseminate new technologies and best practices.

Bearing all this in mind then, what does this mean to a company's bottom line? The answer is: quite a lot. In this *ISOfocus* issue, we explore some of the ways in which standards are an economic opportunity. We highlight how businesses – both large and small – can calculate the savings and benefits they make today, which amount to a whopping 4% of a company's revenue in some cases. If that isn't tangible, I don't know what is.

Which begs the question: are standards one of the flattening factors in Friedman's theory? The answer is yes. To me, it's all about getting companies throughout the world playing by the same rules, which also opens up the market for those wishing to be more global. It's about having a standard that is universally recognized, so a client knows that a company using an ISO standard in Spain is operating on the same level as a company using an ISO standard in Indonesia. They might not offer the same types of services or even the same quality, but at least, they both abide by a standard of operation that is agreed on as the "international standard".

By setting the framework for fair competition and paving the way for growth, standards level the playing field for companies and economies all over the world, ensuring everyone plays by the same rules. And this is the theme for this year's World Standards Day too.

Not only can using standards offer opportunities for an equal, level playing field and economic growth, but it would be unwise to pursue one without the other. Because operating in any other way is the antithesis of good management.

A client knows that a company using an ISO standard in Spain is operating on the same level as a company using an ISO standard in Indonesia.



Elizabeth Gasiorowski-Denis
Editor-in-Chief of *ISOfocus*

SHARE WITH US
YOUR THOUGHTS, IDEAS
AND FEEDBACK!



@MariaLazarte

ISO Social Media Manager

lazarte@iso.org

Our first Tweetchat!

We have experimented with Google hangouts, photo contests, games, quizzes and other social media initiatives to reach out and engage the public, but one thing we hadn't tried yet was a Tweetchat.

This is just what "kids" call an organized chat or interview on Twitter. **The format is simple: you agree on a hashtag and fix a time, and make sure everyone knows this in advance.** We held ours during a week we had dedicated to sustainability to celebrate World Environment Day (5 June). Hashtag tip: make it short and unique – **ours was #envchat.**

One way to do a Tweetchat is to agree on a set of questions or topics to be discussed by participants. The organizer can, for example, start by tweeting: "Q1: What do you think is the most important challenge to achieve sustainability?" Anyone can then respond using the agreed hashtag and the heading "A1" (to identify the answer). Because you can see what others are saying by following the hashtag, it is easy to share and make comments so that it feels like a real conversation. Other questions then follow until the time is up.

Our intention was to put the public in close contact with ISO experts – in this case, Anne-Marie Warris from the subcommittee revising ISO 14001 on environmental management, and Tom Baumann from that revising ISO 14064 and ISO 14065 on greenhouse gas monitoring and reporting. Our Tweetchat was therefore more of a Tweeterview, where we could discuss the ongoing revision of ISO 14001, ISO 14064 and ISO 14065, and allow the public to ask additional questions directly to the expert. It was an exercise in transparency, putting a human face behind the documents and increasing understanding of our work.

For those of you who like the idea, I would recommend it as an easier alternative to a hangout. It can be done anywhere as long as you have Internet, and you don't need to carry out technical tests. A hangout is livelier, of course, and does not restrict answers to 140 characters, but tweetchats establish a long-lasting connection as they can increase an expert's number of followers and create a reference for further queries. And you can answer more questions as you only have to write a sentence for each!

To those wanting to participate in one of these events, I say "please do". Joining a Tweetchat is as simple as using a hashtag!

**Missed the hangout
on the ISO 9001 revision?
Watch it here.**





Seen on **#envchat**

1 new tweet



ISO @isostandards

Q1/ Why are the ISO GHG standards being revised (**#ISO14064** & **#ISO14065**)? **#envchat**

5:06 PM - 5 Jun 2014



↳ **Tom Baumann** @TomCollaborase

A1/ To remain applicable to emerging policy and market needs, to increase ease of use and consistency with the state of the art. **#envchat**



ISO @isostandards

Q2/ How can ISO committees know what changes users would want to see in the standards? **#envchat**



↳ **Anne-Marie Warris** @AnneMarieWarris

@isostandards **#envchat** We carry out a survey of user needs as **#ISO14001** did. Using good survey designers is critical.



ISO @isostandards

Q5/ Are developing countries playing a significant role in the development of ISO GHG & environmental standards? **#envchat**



↳ **Tom Baumann** @TomCollaborase

@isostandards **#envchat** A5/ Yes! e.g. TC 207/SC 7 leadership = Canada, Malaysia, China. WG leadership also twinned with developing countries.



José Alcorta @Alcortajose

#envchat How will organizations migrate from the previous edition of ISO 14001 to the new one?



↳ **Anne-Marie Warris** @AnneMarieWarris

@Alcortajose **#envchat** Assuming they are **#ISO14001** accredited/certified, they get 3 years to manage the transition **#IAF**.



Maria Lazarte @MariaLazarte

ISO experts are volunteers. @AnneMarieWarris @TomCollaborase, why do you spend time & effort to be part of these committees? **#envchat**



↳ **Tom Baumann** @TomCollaborase

@marialazarte **#envchat** I volunteer because I know standards work, supporting best practices for economic, social and environmental benefits!

[see more tweets](#)

Link

See the full chat here:

<https://storify.com/isostandards/envchat>

Who to follow



Anne-Marie Warris

@AnneMarieWarris



Tom Baumann

@TomCollaborase



ISO

@isostandards

Geeks corner!

A great, simple and free tool to register a hashtag and brand, and schedule your Tweetchat.

<http://twubs.com/>

USD CHF FOM
VSHOW VUV
ARAED MEK
UYU EUR UA
RUB THE VER
UB MONEY CO
JPY BRL AUD
CAD BY RTN

The theory that standards slow growth is bunk.

In fact, they are an economic opportunity.

How do we know? Because these savings and advantages can be determined. A method to calculate the benefits of standards now enables companies to see how much they are making.

And the figures are fascinating.

Standards have a direct impact
on the bottom line.

STANDARDS CONTRIBUTED **USD 648 000** TO DANPER TRUJILLO'S ANNUAL GROSS PROFITS



Photo: Danper Trujillo

The asparagus exporting business of Peruvian fruit and vegetable grower Danper Trujillo.

How many times have you left a meeting and doubted that anything was actually going to change in your company's strategy? This is all the more difficult when time and money are of the essence. All too often, we get together to flesh out a strategy and assess, among other things, how and where standards fit into the picture – and nothing is accomplished. It's frustrating.

Some see standards as a passport to export markets, some as a necessary evil or a hoop to jump through, and others still as the priceless knowledge of experts. But whatever side of the fence you're on, you will have to admit that standards are rarely described in numbers. Take, for instance, the percentage of increased sales or GDP growth that may result from their use. We know that numbers speak volumes, all the more so when there is a dollar or euro sign in front of them.

But is it even possible to quantify the benefits that standards bring? Short answer: Yes, it is. Standards have a direct impact on the bottom line, which you can calculate. The cost of standardization has always been relatively easy to determine, but the calculation of its benefits was much trickier... until recently.

Backed by demand

You can now find out how your company can assess and communicate the economic benefits of standards, and pinpoint exactly which areas are likely to result in the highest benefits. This has been the focus of a long-term study by ISO and its members in which around 30 companies, and even one whole



Photo : NTUC Fair Price

NTUC Fair Price, a supermarket chain in Singapore, saved SGD 7.8 million with the use of over 300 000 standardized pallets as well as an automated sorting system and numerous barcode standards.



Nanotron Technologies, a German information and communications technology company, achieved a 14% cost savings and a 19% increase in sales revenue by using standards, equivalent to almost 33% of its overall annual sales revenue.

industry sector, have scrutinized the way they use standards and calculated the savings that have been made. From a Russian brewery passionate about quality (see article on **page 30**) to a small German company in the business of positioning technology, the numbers make for an interesting read. Of course, the picture is very diverse, with varying experiences depending on company size, sector and use of standards. The companies surveyed range from small businesses with 25 employees and an annual sales revenue of around USD 4.5 million, to conglomerates of several thousand employees with an annual revenue of more than USD 1.5 billion. They operate in a variety of business sectors, such as food, construction and telecommunications. But for all these companies, benefits were seen, usually between 0.15% and 5% of a company's annual sales revenues (see **page 12**).

Want to learn more?

Information resources on the value of standards are available on www.iso.org. You can also check out the video clips, presentations, full versions of case studies as well as the reference book “ISO Methodology 2.0”, the “ISO Methodology toolbox”, and the ISO repository of studies on the benefits of standards. Feel free to use the content to communicate with your stakeholders or to develop new studies in your company and country.

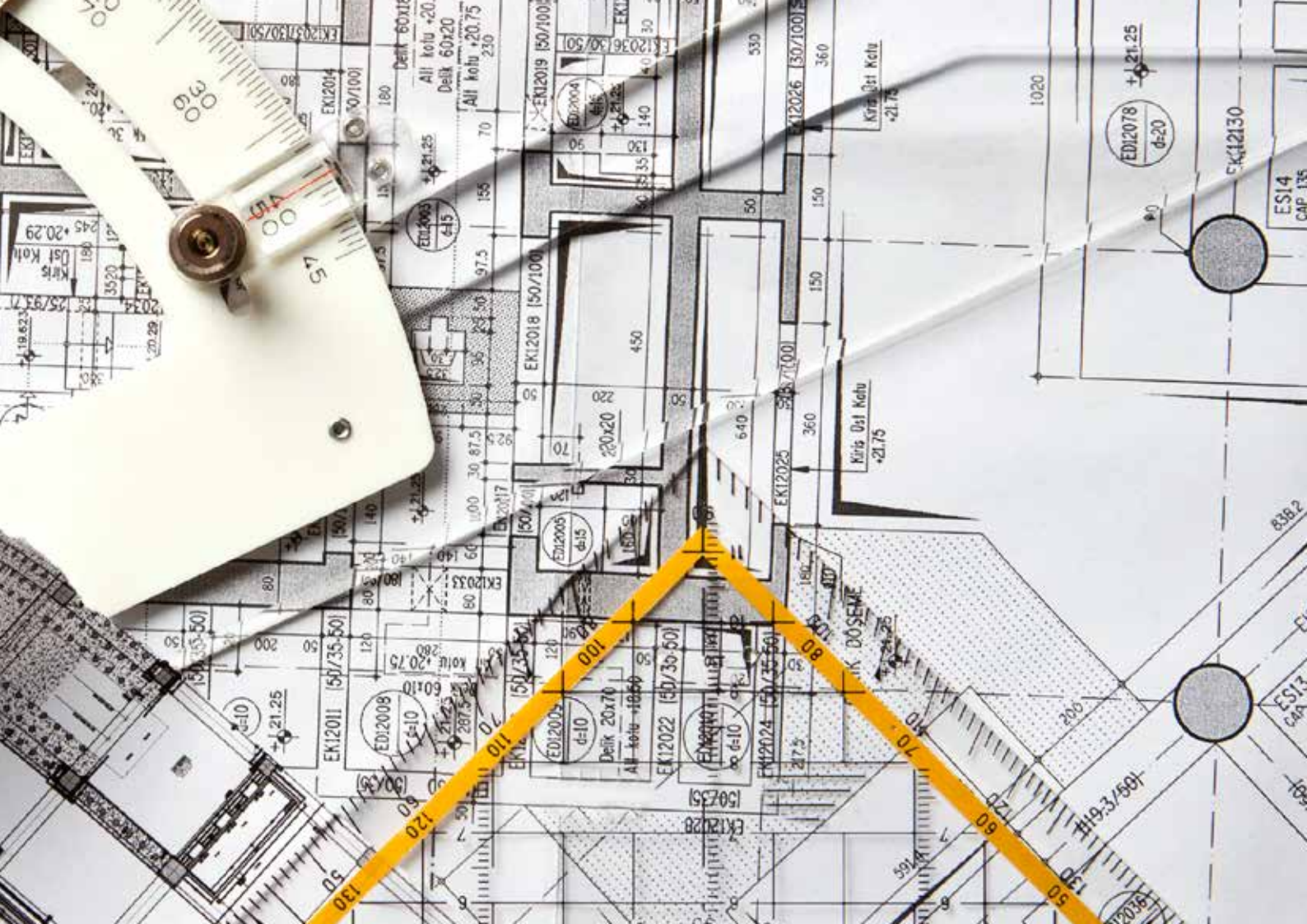


Singapore sings praise

The other significant news to come out of the studies is the industry-sector impact. A case in point is Singapore’s building and construction industry. Several years ago, the billion-dollar industry sector introduced its first national IT standard, SS CP 83, a CAD standard for technical drawings. The standard improved the productivity and efficiency of the work processes within the industry enabling the exchange of drawings and the successful roll-out of CORENET (Construction and Real Estate Network) for the electronic submission of drawings for review and approval to regulatory agencies. So the industry applied CP 83 throughout its value chain for technical drawings in design, planning, operation, testing and commissioning. The use of the standard made it possible to exchange technical drawings electronically between different architects, engineering and design firms, overcoming the need for printouts of drawings.

What tipped the scales was the overwhelming benefits: economic savings of approximately SGD 320 million (USD 250 million) to the Singaporean construction sector (between 2003 and 2012). So how did the standard contribute to the economic returns of the industry?

**ECONOMIC SAVINGS
OF APPROXIMATELY
SGD 320 MILLION
– USD 250 MILLION –
TO THE SINGAPOREAN
CONSTRUCTION
SECTOR**



Standardization was
not a foolish use
of corporate funds.

In a nutshell, the benefits derived resulted from the:

- Cost and efforts spared from having to prepare drawings for project discussions and submissions
- Time spent on the interpretation of drawings
- Cost savings for going from paper to electronic media
- Savings from reduced commuting
- Transfer of employee know-how from one company to the next

The Singapore experience highlights the benefits of using a unified standard for the whole industry. From design and manufacturing to distribution and marketing, all aspects of the industry's products and services were affected at some point by standardization. The implementation of CP 83 – together with the enabling of the CORENET e-submission – significantly enhanced communication and coordination amongst the stakeholders in the design process, as well as helping to achieve substantial economic benefits. For these companies and others, standardization was not a foolish use of corporate funds. It was key to raising productivity and efficiency across the construction value chain.

The bottom line

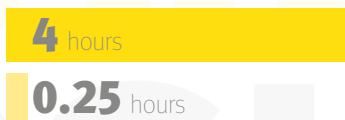
In a rapidly changing world, proactive business owners and managers are always on the lookout for new opportunities, new markets and new products. Here are just a few examples of how standards impact the bottom line, stimulate economic growth, productivity and innovation, and allow businesses large and small to access broader markets.

- **Danper Trujillo** achieved additional profits of USD 648 000 (30 % of annual gross profits) by using standards

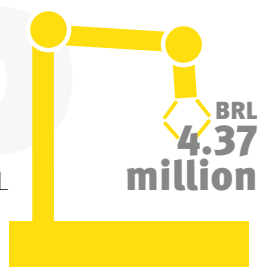


- Botswana brick manufacturer **Lobatse Clay Works** estimated standards as having a positive impact of 4.96 % on earnings before interest and taxes, and contributing 2.63 % of total sales/turnover of brick manufacture in Botswana

- Colombian plastics company, **Gerfor**, attributed 47 % of total sales revenue to compliance with standards which were considered essential to make the sale. The company also reduced PVC resin inspection and analysis time from 4 hours to 15 minutes by following standards-based procedures



- The impact of standards on total earnings before interest and taxes of **Festo Brasil**, a Brazilian automation technology provider, totaled BRL 4.37 million, corresponding to 1.9 % of company turnover



- **NTUC Fair Price**, Singapore, a supermarket chain, estimated at SGD 13.6 million the total benefits over 10 years from implementing standards in its procurement, warehousing/distribution and retail functions



Numbers speak volumes

Over the past decade, increasing interest has been taken to qualify and quantify the economic and social benefits of standards. But how much of an impact on the national scale are we talking about? A series of recent studies conducted in Germany and the UK point to a direct relationship between the use of standards and economic growth, labour productivity, ability to export and more.

A study in the UK by the Department of Industry and BSI, the ISO member for the country, has estimated that standards make a contribution of GBP 2.5 billion to the UK economy and attributes to standards 13% of the improvement in labour productivity in recent years. Likewise, DIN, the German member of ISO, has determined that the benefits of standards represent 1% of the gross domestic product. Similar studies in the USA, Australia and Canada corroborate these findings.

ELIZABETH GASIOROWSKI-DENIS



**A STUDY HAS
ESTIMATED THAT
STANDARDS MAKE
A CONTRIBUTION OF
GBP 2.5 BILLION TO THE
UK ECONOMY**



LET THE GAMES BEGIN!

With the people of Asia making up two-thirds of the entire world population, many eyes will be on Incheon, Korea, this month for the 2014 Asian Games.

From 19 September to 4 October, the region's most accomplished athletes from 45 countries will be competing in 439 events across 36 sports.

The event has been themed "carbon neutral and eco-friendly", meaning the Asian Games organizing committee has made a commitment to provide world-class venues while minimizing their impact on the environment.

ISO has a wide range of standards aimed at sustainability in events or services, such as the ISO 20121 event sustainability management system and ISO 14001 for environmental management. These are just a couple of the many ISO standards that help to create eco-friendly events, products and services.

And with that... let the Games begin!

NEXT STEP IN CARBON FOOTPRINTS

As part of the battle against greenhouse gas emissions, carbon footprinting is increasingly becoming a priority for many companies. The specifications for doing so have just taken a step forward, consecutive to the results of a recent ISO survey.

Following the publication of ISO/TS 14067 for the carbon footprint of products, ISO/TC 207, the committee responsible for developing the ISO technical specification, commissioned a survey to assess its use and gauge whether there was enough demand to warrant it being upgraded to International Standard status.

Over half the national standards bodies that responded to the survey stated an interest in its upgrade within the next three years. In addition, one-third reported they had already adopted it as a national technical specification, and more than half intended to do so in the future.

Acting upon these results, ISO/TC 207 decided to establish an ad hoc group to consider the upgrade more closely. The group's final report is expected to be presented at the next ISO/TC 207 meeting in May 2015. Check out the results of the survey at:

www.aequilibria.com/en/iso-survey-results-cfp-aequilibria/



50-YEAR CAREER SEES NO BOUNDS

Next time you're feeling bored on the job, take some inspiration from the man who has made his career a life-long love affair. Celebrating more than 50 years in the world of developing and implementing standards, Georg Henzold's ability to keep his eye on the ball knows no bounds.

After completing studies in mechanical engineering, the Head of DIN, Germany's standards organization, has spent the best part of his life planning, managing, developing, facilitating and implementing standards, as well as training and advising others in the field of international standardization.

Having clocked up a good many years, changes and technical committee meetings, he remains unfaltering in his commitment to international standardization, reminiscing, "ISO technical committee discussions always ended with optimal solutions that helped facilitate production and global trade, even those [debates] that took years to resolve. And, of course, they resulted in a positive contribution to the standard of living."

ISO 14001 GOES **GREENER**



Green is in with the ongoing revision of ISO 14001 and its suite of environmental standards. In fact, ISO's flagship standard has just made it to Draft International Standard stage following a week of meetings in Panama to discuss the way forward for environmental management.

Important changes to the document include more onerous responsibilities for senior management with new requirements encouraging a proactive – and visible – commitment to protecting the environment.

Also being revised are ISO 14064 and ISO 14065, two leading standards on greenhouse gas emissions (GHGs), with a view to incorporating, respectively, carbon offsets and carbon footprinting alongside existing GHG quantification. All this effervescence ties in with a recent proposal by US President Barack Obama to cut carbon emissions from power plants as part of the country's commitment to fighting climate change – an announcement that gives hope for continued international negotiation in this area.

With more and more governments worldwide committing to the fight against climate change, regular revision of ISO's environmental standards ensures they remain useful tools to effectively guide green policy in the future.



SKY'S THE LIMIT FOR DUBLIN'S STADIUM

Dublin's world-famous events stadium, Croke Park, has scored another goal by taking its sustainability levels sky high.

By revamping its IT infrastructure and moving its servers to a cloud-based system, Croke Park has become one of the few stadiums in the world to gain ISO 20121 certification for event sustainability management.

ISO 20121 was given its first major test in the 2012 Olympic Games in London and helps to ensure that events of all sizes are managed in a sustainable way, reducing any

negative impacts on the environment and maximizing the positives.

Implementing a cloud infrastructure allowed Croke Park to significantly reduce its power consumption and energy use, achieving a cut in carbon emissions of 31.61 kg – the equivalent of taking 13 cars off the road.

The system also saves considerable amounts of time and offers enhanced security – and greater peace of mind – in terms of business continuity and disaster recovery, meaning both staff and visitors can get on and enjoy the game.

Enter the first cyborg-type **robot**

What if cyborgs were real?

Partly robot, partly man, functioning as one.

No, we are not talking science fiction anymore.

The first one is here and his name is HAL.

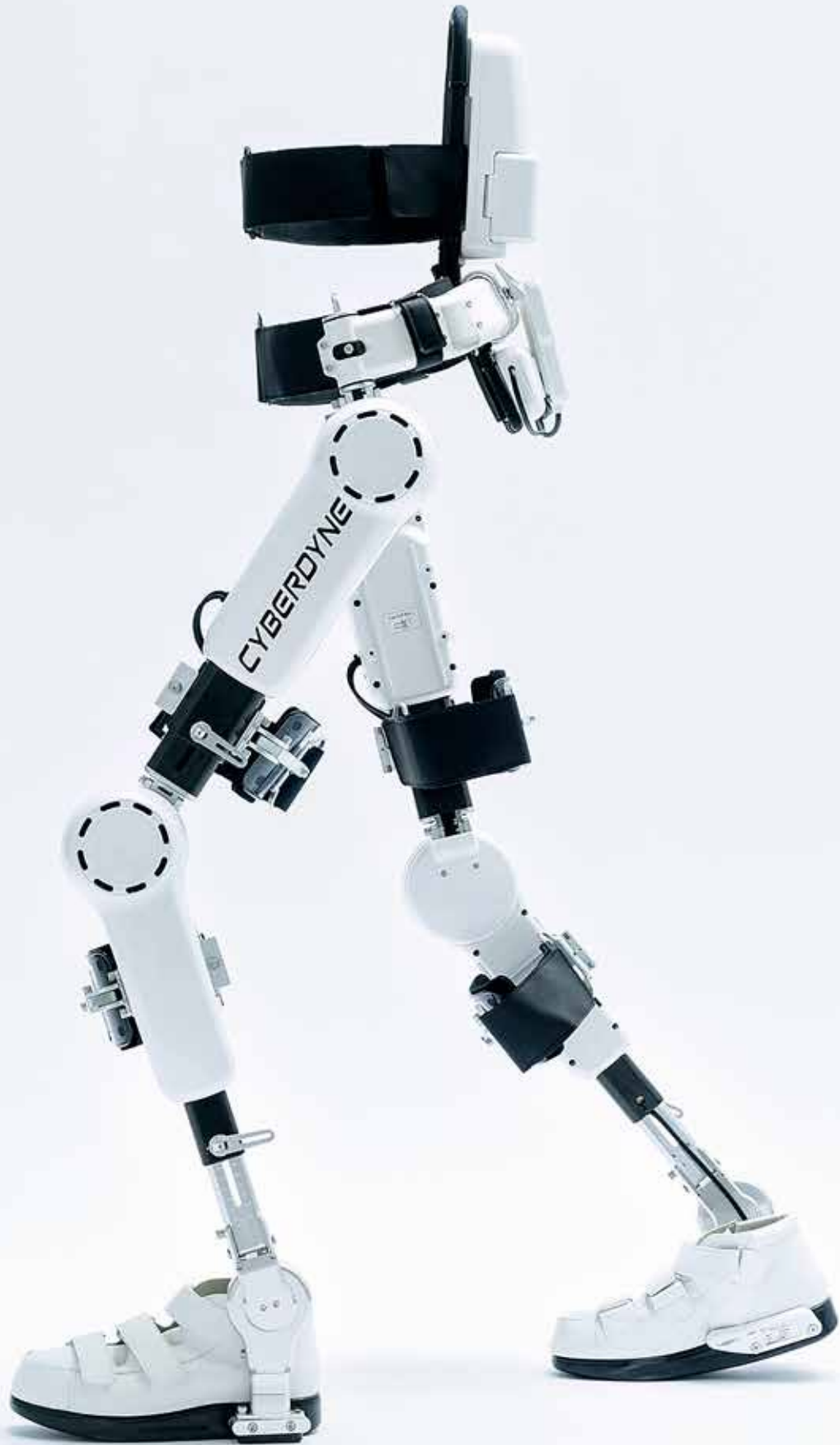


Photo : Prof. Sankai University of Tsukuba/CYBERDYNE Inc.

HAL is **unique** in that there is no other technology of its kind to compare with.



Do you know someone in a wheelchair? What if I tell you there is a way that this person can walk again? That all it takes is a robot suit that reads your mind. What if you too could wear this exoskeleton to gain the strength of a Hulk or a Superman and help people? Would you believe me if I said all this was possible? Japanese robotics company CYBERDYNE has created one such exoskeleton, that is, a device designed to be worn by a human. This Hybrid Assistive Limb (HAL) can detect and reproduce the wearer's intention to move by reading signals from the brain. According to CYBERDYNE's CEO, Dr. Yoshiyuki Sankai, HAL is unique in that there is no other technology of its kind to compare with. "Our aim was to treat, improve, support and enhance human physical functions," he tells me. Well, HAL does just that.

Not just a robot suit

This is not *just* a robot suit. HAL's innovative interactive biofeedback system (iBF technology) allows it to not only read bio-electrical signals from the user but also reflect the wearer's intention to move. iBF promotes functional improvement, acquisition and brain regenerations, in patients with nerve and muscle disorder whose numbers are increasing due to our ageing society.



Photo : Prof. Sankai University of Tsukuba/CYBERDYNE Inc.

It has been a long road ; Dr. Sankai has been working on this project since 1991. But its potential to dramatically transform and improve the quality of life of millions of people has been worth the effort.

Taking care of you

HAL comes as part of a wave of advances in robotics aimed at creating devices that help us carry out many of our daily activities. With its “personal care robots”, this expanding industry responds to the challenges presented by ageing populations requiring more support, low birth rates restricting the available labour force, and modern lifestyles that leave little time for day-to-day tasks. It is no surprise that CYBERDYNE originated in Japan, the cradle of modern robotics. But will this innovative technology be easily adopted by the elderly ? Dr. Sankai seems to think so. “If it is truly useful with an ergonomic design that takes psychological considerations into account, it will.”

And this is just the tip of the iceberg. HAL is not only expected to assist the aged and people with restricted and impaired mobility, it will also support able-bodied workers who could benefit from the enhanced physical abilities. One example is nurses who regularly need to carry patients, or rescue workers who might have to lift victims out of difficult disaster zones without the intervention of potentially destructive large machinery. At this point, the possibilities seem endless.

First of its kind

HAL is the first of its kind in terms of integration between humans and robots. But is it safe to use ? “We have extensively considered and addressed the risks in the development process,” explains Dr. Sankai. At present, the main challenge is that it is difficult to find a light and compact actuator (motor that controls the system) that moves with the same speed and power as a human joint. The device will not exceed the speed of human joints, so as to keep the risk of hitting and collision at a low level.

This raises the question : who makes sure that new devices like HAL are not dangerous ? Because the world has not seen anything like these robots before, there is no legislation in place to protect users. International Standards are therefore crucial for creating confidence in these products. I asked Dr. Sankai if this is one of the reasons why CYBERDYNE became an early adopter of ISO 13482, the first standard on safety requirements for personal care robots. Published in 2014, CYBERDYNE applied it while still a draft.

“CYBERDYNE is not just a user of the standard,” explains Dr. Sankai, “We were also actively involved in its development. And that is because we believe that it is our company’s mission to contribute to society by participating in the development of International Standards, so that we can help build a solid and reliable infrastructure for this new industry.”

Dr. Sankai emphasizes the importance of international collaboration and academic development. CYBERDYNE sees itself as a leader demonstrating by example. “By being an early adopter of ISO 13482, we were able to better understand the procedures needed for its implementation, including any challenges and benefits resulting from its use. We believe that our experience will help other companies to apply ISO 13482.”

Interestingly, CYBERDYNE also participates in the ISO technical committee responsible for medical robots. As Dr. Sankai puts it, “ISO 13485 is the global standard for quality management systems for medical devices. Planning ahead, we developed our products to be compliant with ISO 13485 before even obtaining ISO 13482, so that we can position our products in both the medical and personal care industries.”

More than just a 2 and a 5

CYBERDYNE considered ISO 13485 a necessity to distribute HAL as a medical device. “ISO 13482, on the other

hand, was important to develop and ensure the safety of personal care robots for non-medical use, which is the new industrial flagship of the next generation,” explains Dr. Sankai. “We believe that in the future, requirements for products like ours, which are in the boundary between hospital and home life, will be integrated. So complying with both standards is essential for us,” says the CEO.

For Dr. Sankai, perhaps the most important advantage of ISO 13482 is that it will open up the market for a new generation of robots. Up until now, robotic devices have been required to comply with high safety regulations akin to those of the medical industry, but which are not necessarily always appropriate for this technology. This might make sense for CYBERDYNE, but for other companies, these stringent requirements have simply created entrance barriers.

Safety levels for personal care robots remain under discussion as the technology is still in its infancy. But for Dr. Sankai, the standard provides a base on which this innovation can grow and flourish, accompanying

The personal care
robot industry is
here to stay and
its potential to
benefit society is
enormous.



Photo: Prof. Sankai, University of Tsukuba / CYBERDYNE, Inc.

technological developments and protecting users on this pre-dawn phase. In this way, the standard levels the playing field for new companies wishing to enter the emerging industry.

“ISO 13482 is not difficult to apply and should be a good standard for many companies to receive certification and get started in the domain of personal care robots,” says Dr. Sankai.

This is one example where standards can pave the way for innovation. But how much is too much? The CEO advises that we must tread carefully in order to make sure we do not develop inadequate standards, and rather than second-guess technology, go hand in hand with it.

Machine over human

The personal care robot industry is here to stay and its potential to benefit society is enormous. But I can't get rid of that nagging reminder from science fiction stories depicting dystopian worlds where robots take over our lives. Could this be the future? Dr. Sankai reassures me, “Washing machines, radios, cell phones, PCs, and so on, have high levels of autonomous functions, just like robots. They are not scary at all!”

“If you look at it that way, you realize that there is no reason for people to be only afraid of ‘robots’. When I was child, among my stuffed toys, there was one with a spooky face...”

More seriously, he adds: “At present, and in the near future, people will not be able to develop robots whose killing power exceeds that of machine guns, toxic gases, missiles or nuclear and biological weapons. In fact, it is not robots but weapons equipped with automation technology that are both dangerous and horrific.”

The CEO goes on to tell me about a new academic field in which CYBERDYNE is actively involved through the University of Tsukuba in Japan. He calls it “Cybernetics: a new domain of interdisciplinary academic field centered on cybernetics, mechatronics, and informatics”.

“In this discipline, we believe that social sciences like philosophy, ethics and law should be at the heart of our ideas, in addition to technology and science. And that scientists, researchers and engineers have a responsibility to adopt this approach.”

Do robots have an advantage over humans? “In actual life, robots and people will exist cooperatively, so we cannot jump to conclusions on which is superior, explains Dr. Sankai. “Machines make up for areas where people are not good and vice versa. Technology should be beneficial to human life.”

“For people who, like us, are involved in new technologies, such as personal care robots, it is important to have a long-term vision of how these technologies will impact the future of society and their consequences. At CYBERDYNE, our philosophy is to develop technologies that enable people to help each other. We call this ‘techno peer support’.”

So I asked Dr. Sankai whether he would call HAL the first cyborg. “No,” he answers. “He is the world's first cyborg-type robot.”

MARIA LAZARTE



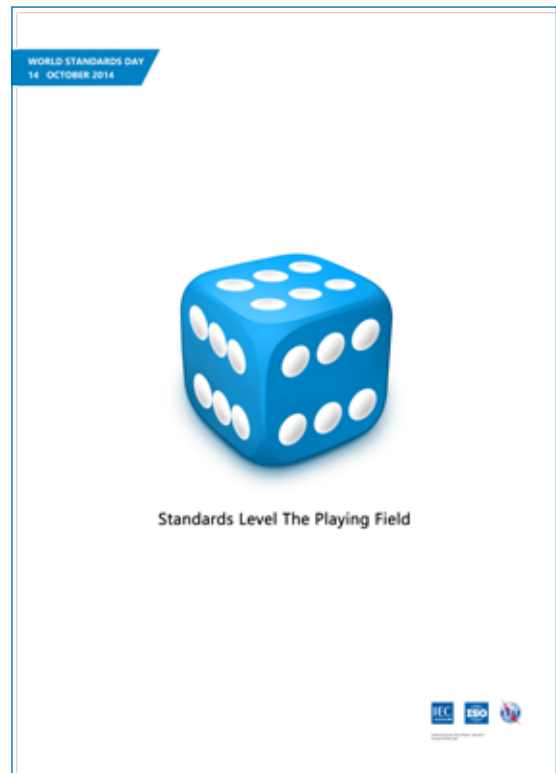
Dr. Yoshiyuki Sankai, CEO of CYBERDYNE.

The technology is
still in its infancy.

Levelling the playing field... **IN LOVE & WAR**

All's not fair in love and war, or in business for that matter. In today's flat, global economy, **ALL COMPANIES ARE NOT EQUAL**. All too often, small and medium-sized enterprises lack the right weapons and financial resources to compete on an even keel on the global marketplace. And so the large groups take the lion's share of the market, making millions in profit and expanding their customer base. Unfair? Certainly, **BUT NOT WITHOUT REMEDY**.

I was looking
for an image that
would encompass both
the ‘equal opportunities’
and ‘playing’ elements



Opening up the field

With International Standards, business is no longer left to chance. Acting as powerful tools for sharing best practices, standards are leaving small and medium-sized enterprises (SMEs) better equipped to develop products that meet market expectations, overcome artificial trade barriers and get a toehold on the international market. Now SMEs can at least make it to the sidelines of the pitch. By setting the framework for fair competition and paving the way for growth, standards level the playing field for companies and economies all over the world, ensuring everyone plays by the same rules.

And this is the theme of choice for this year's World Standards Day* (WSD). The annual event, which takes place on 14 October, pays tribute to the thousands of men and women all over the world who develop voluntary standards for the advancement and welfare of societies. But the Day also provides the perfect opportunity for us all to think about the benefits that standards bring to our everyday lives, the market economy and to the smooth running of public affairs.

* World Standards Day is coordinated by ISO, the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU). The event looks into the positive impact International Standards have on our lives at the social, economic and environmental levels.

Open to all

A chance to think and to be creative. The WSD event is supported by a common visual identity – a poster – used by national standards bodies all over the world to organize events in their country. We wanted to have your thoughts on our chosen theme by inviting you to join our World Standards Day 2014 poster competition, where we asked young people to tell us what “levelling the playing field” means to them. And with 200 submissions, the response we received did not disappoint.

And the winner is...

With so many high-quality designs to choose from, the decision was tough. But this year, the prize went to Damar Panji Wijaya, a 20-year-old student in communications from Indonesia. Of the inspiration behind his design, the laureate explains: “I was looking for an image that would encompass both the ‘equal opportunities’ and ‘playing’ elements, and I came up with an equally numbered dice. I also tried to maintain simplicity in my design, so it would be easier for people to focus on the message.” **VIVIENNE ROJAS**

building Leaders



Leaders sometimes wish they had
a crystal ball to see the future.
Of course, that would be too easy.

of the *future*

Leaders have to anticipate, forecast and create the future, with a clear vision that will remain true, relevant, and purposeful. But how can they ensure this vision is carried on when they are no longer at the helm?

The current ISO leadership has worked very hard to evolve the culture of the organization into having a forward-thinking, agile and pro-active organization and mindset. They have also projected ISO into a future that will make our organization relevant in a forever changing world whilst remaining true to its origins. A way to achieve this is to rely on identifying, developing and engaging with the leaders of tomorrow, from within – enter the ISO Leadership Programme (ILP).

As the first programme of its kind at ISO, *our six nominees want to deliver on expectations*. In the following pages, you can find out more about the programme – from their perspective.



Nationality: British

Education: Bachelor in Human Sciences (a mix of anthropology, sociology, genetics and evolution)

Years at ISO: 2 years and a few months

Position: Head, Communication and Content Strategies

What does leadership mean to you?

Leadership is about inspiration. It is about helping people to believe in, and feel enthusiastic about, a certain direction or goal, and their role within it.

Who has been your biggest coach or mentor?

I think I would have to say my piano teacher when I was growing up. For him, life is a beautiful adventure. He taught me that the limits we often live by (the “I’m not naturally good at that” limits) are usually our own creations. He also taught me that being one’s own severe self-critic doesn’t always lead to success.

What do you think makes a good team?

A good team means enjoying spending time together and really wanting to help each other out. If there is mutual respect and no one holds grudges, then things should work out.

Leadership is
about inspiration.

What does leadership mean to you?

Good leaders speak up when others won’t or can’t. Good leaders have integrity, credibility and aren’t afraid to admit their mistakes. They have the confidence to try new things, and the confidence to stop them or adapt them if needed.

Who has been your biggest coach or mentor?

A combination of people at different stages of my life:

- The older sibling who would take me by the hand and not let go, even through those awkward “leave-me-alone-I-know-what-I’m-doing” moments
- The teacher who saw a spark and who patiently, very patiently, took the time and energy to turn the grade from a C to an A
- The boss who left me alone to do what I needed to do, and who was fond of saying: “When they’re running you out of town, make it look like you’re leading the parade!”

What do you think makes a good team?

Being a leader is hugely rewarding but can take its toll on other equally important parts of life. It’s important to keep it all in perspective.



Nationality: Spanish

Education: Bachelor (Hons) in English

Years at ISO: 3 years

Position: Technical Group Manager for Energy, Health, Data Applications, Services and Management Systems

All you need is self-belief.



Henry Cuschieri

Nationality: British and American

Education: Graduate of the University of Wales, UK

Years at ISO: Just over 3 years

Position: Technical Group Manager for Information Technology, Construction, Transport, Logistics and Security

What does leadership mean to you?

In my youth, when I thought about leaders such as the great heroes of history, famous politicians, writers and philosophers, I believed that you had to be born with that unique charisma. All you need though is self-belief – the courage to realize your dream despite any initial failures and determination.

Who has been your biggest coach or mentor?

My last manager was an excellent mentor and friend. I learned so much from her, not only about managing a complex unit, but, most importantly, about the importance of believing in yourself and always putting a dose of humour in your life, particularly in difficult situations.

What do you think makes a good team?

Respecting each other and knowing how your individual skills complement the group are key. Oh, and a bit of fun always helps!



Laurent Galichet

Nationality: French

Education: Master's in Chemistry

Years at ISO: Just shy of 3 years

Position: Head of Publishing

What does leadership mean to you?

Leadership is to an organization what water is to life. It flows throughout the organization, supporting all its activities. Without it, everything stops. Leadership should be equally authentic, resilient and selfless.

Who has been your biggest coach or mentor?

Professor Tony Moffat, former Chief Scientist of the Royal Pharmaceutical Society of Great Britain. I was very lucky to work closely with him early on in my career for several years. One piece of advice I always use and remember is: if you've made a mistake, own up straight away, and fix it.

What do you think makes a good team?

It should be composed of people with as diverse a background as possible and all committed to a clear goal. Giving the freedom to a team to achieve goals is also very important. It makes for the richest of exchanges, and ultimately results in the best outcome.

I tend to value personality over skills.

What does leadership mean to you?

I like to think of leadership as discovering new things, being creative. Stepping forward and leading others into unknown territory.

Who has been your biggest coach or mentor?

I can't really identify one particular individual: I treasure everything I see, read and hear and then distil it into my own philosophy. Therefore, anybody can potentially be my mentor, even (especially) my six-year-old daughter.

What do you think makes a good team?

I tend to value personality over skills. People with great skills but difficult personalities are not going to work well in a team. You also want to keep some aspect of playfulness in your daily work, even when dealing with serious issues.



◀ **Nationality:** Italian
Education: Master's in Business Management
Years at ISO: 13
Position: Team Leader, Web and Graphic Design



▶ **Nationality:** French
Education: Master's in Computer Science and Software Engineering
Years at ISO: 7 years and counting
Position: Head of Application Services

No one is a natural born leader!

What does leadership mean to you?

No one is a natural born leader! We're all leaders in our own comfort zone... the trick is to get out of it, grow and help others start their journey!

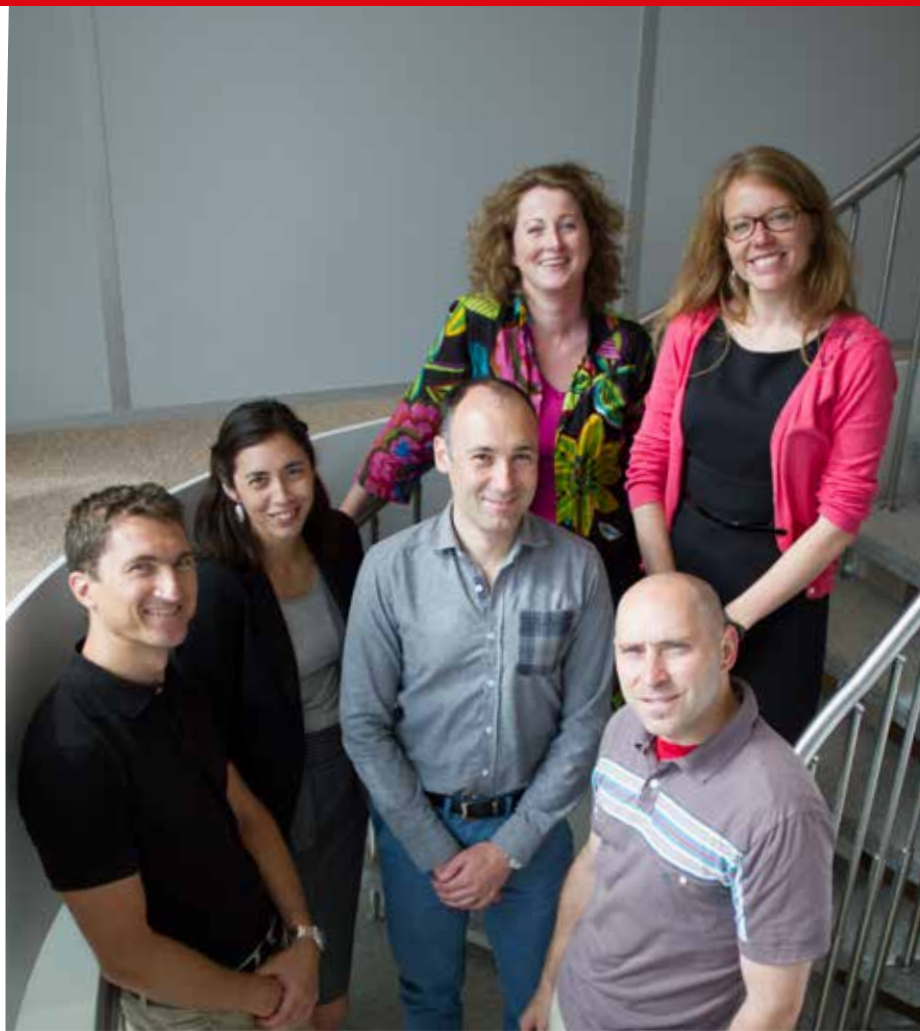
Who has been your biggest coach or mentor?

My childhood was spent travelling around the globe with my family, following my dad's job assignments from one country to the next. This probably helped me to not be afraid of change and prepped me for cultural awareness. Mentoring at the roots in some ways...

What do you think makes a good team?

Autonomy, diversity, trust and excellence... not to mention having a lot of fun together!

Our project is all about reaching out to the next generation of standardizers in order to make sure ISO remains relevant in tomorrow's world.



Young people programme

We wanted to know more about the topics that are relevant to young people today, the factors that motivate young professionals to get involved in the development of global solutions, and how this generation would like to collaborate. In order to explore these questions, we have created online communities focusing on hot topics (road safety and climate change) and asked young professionals with experience in the area to discuss the solutions needed. Then we watched and observed... as well as asking lots of questions along the way!

Team testimonial

“Participation in this project offered a unique challenge at ISO/CS as it involved taking on something new, undefined, and quite far removed from the regular tasks of the job. With the freedom to determine our own direction and a mandate to think outside the box, brainstorming as a group is definitely the road to success and the ‘more criticism, the better’. It was a tough assignment to come up with a project plan! But so far, this has been a rewarding experience as it has offered a rare opportunity to create something new and innovative that can inspire others, to collaborate with colleagues from other departments and to develop an idea from the ground up as a team of equals.”

Leaders: Katie Bird & José Alcorta

Team: Belinda Cleeland,
Andrew Dryden, Blandine Garcia,
Laurent Charlet

Communication channels

On any given day, ISO/CS communicates with more than 15 000 different people. By examining our current communication practices, soliciting feedback from the community, and benchmarking ourselves against peer organizations, we arrive at a set of sound strategies.

The ultimate goals are to make sure we are sending meaningful information to the right audience in a coordinated and coherent fashion, and developing ways to encourage feedback, collaboration and cooperation.

Team testimonial

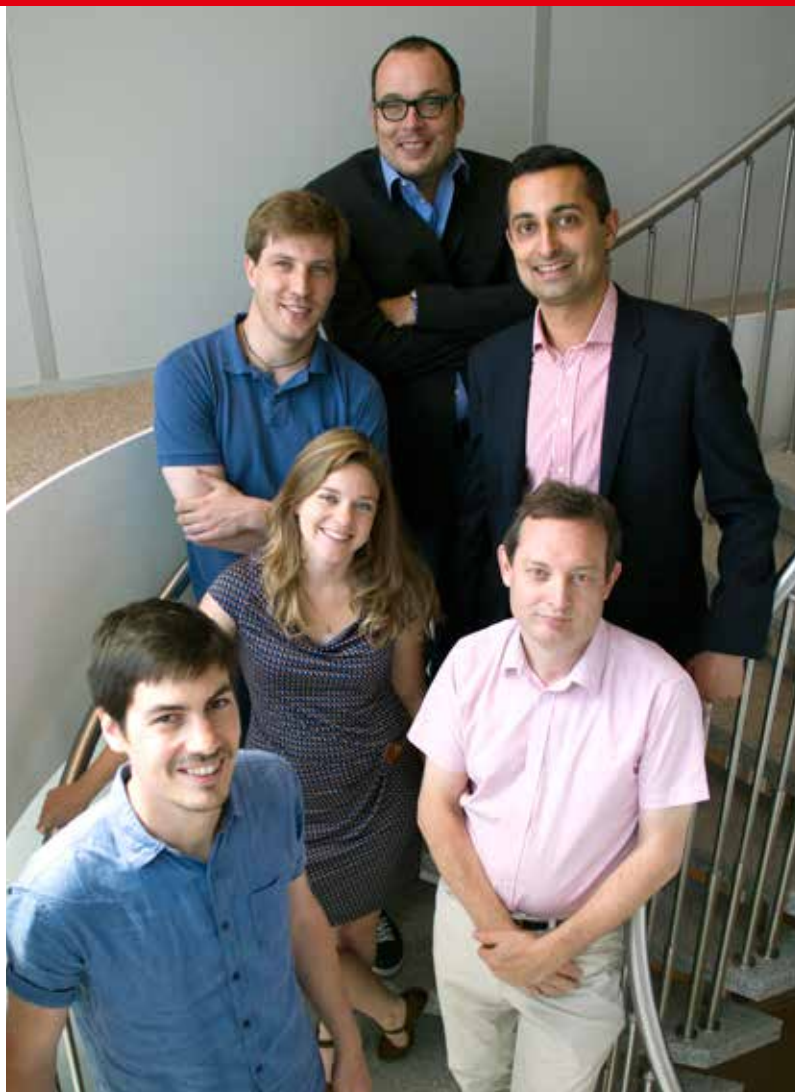
“Without a doubt, the ILP has injected a renewed sense of enthusiasm, not only in the organization but for all of us on the team. It has been an interesting journey to work with colleagues we don’t usually work with so closely, and who have different responsibilities across the organization. We have shared views and ideas openly. We have been open to receiving candid feedback from our stakeholders and have worked with them to improve the ways in which we communicate. We have used new and innovative ways of collaborating – while constantly challenging the status quo – all on a tight deadline! The professional experience gained over the last few months has been very rich, and rewarding, resulting in a highly practical project aimed for the good of ISO’s international community. But, above all, it has been a team-building exercise whereby the whole is greater than the sum of its parts.”

Leaders: Henry Cuschieri & Stéphane Châtelet
Team: Carole Alther, José Baltar, Liz Gasiorowski, Jeff Poulin, Kirsi Silander



The ISO Academy project was an opportunity for ISO to offer support to all our stakeholders in professional development.

We embarked on creating a model of how the ISO Academy could function: who could be involved, who could benefit, and how all of these actors could interact in the most effective way in the interest of all.



Business development of the ISO Academy

We assessed what had been done previously, and investigated novel methods to deliver quality training systematically and cost-effectively.

The project was to provide as much help as possible to the first Director of the ISO Academy, to whom we wish the very best.

Leaders: Laurent Galichet & Luigi Principi

Team: Laura Matthew, María Lazarte, Javier Liñares, Miguel Fernandez-Buhigas, Laurent Tettoni

Team testimonial

“Imagine a place where you learn by doing, from teachers that are also students. That is what it feels like to be part of the ISO Academy ILP project. We all have different skills, experience and ideas to bring to the table. With a team made up of curious, energetic and motivated individuals, the dynamic is just great! Luigi and Laurent are good leaders. We can speak up and know we will be listened to. Sometimes it can be challenging and even frustrating – like when we encounter unexpected hurdles and have to go back to the drawing board. But that’s what projects are like. The ILP experience is not only about the finish line, but also the race. It is an incredible opportunity to do something new and different from our usual office routine; ‘rediscover’ some of our colleagues individually and professionally, and just have a bit of fun! The atmosphere is great, the people fantastic; and the experience, a learning haven.”



Photos: Baltika

Cheers **to quality**

For some, the choice is simple: light or dark, lager or ale. But for the true beer lover, the stakes are higher, the options wider. It all boils down to the flavours and qualities of the different brands, something that Dr. Isaac Sheps, President of Russia's largest brewery knows only too well. "My first love is beer, my second, quality," he says with a smile. Here is why.



“The fact that beer exists is proof that God loves us!” says Dr. Sheps to a bemused audience of representatives from ISO national member bodies visiting Baltika Breweries during the ISO General Assembly in St. Petersburg. With a market share of more than 38%, Baltika is the leading beer brand in Russia, and is part of the Carlsberg group, one of the largest brewers in the world.

But why are we here? There is more to standards and beer than needing one to read the other. President Sheps knows it well. A staunch believer in the product he sells, he lives and breathes quality and fully understands the benefits that International Standards bring to this renowned brewery. So much so that, although a busy man at the head of a large company, Dr. Sheps volunteers his time to participate as an expert in ISO/TC 176, the ISO technical committee responsible for ISO 9001 on quality management systems. It’s not surprising that Baltika has received numerous quality awards.

Standards are that common language.



Baltika Breweries



8 500

Employees



30

Beer and non-beer brands



10

Breweries in Russia

Exporting
to



75

countries



Photo : Baltika

Dr. Isaac Sheps, President of Baltika Breweries and Senior Vice-President of Eastern Europe Carlsberg Group.

“The fact that beer exists is
proof that God loves us!”

From Dr. Sheps we learn some interesting facts: Did you know that China is the largest beer market in the world? Or that the pH scale was invented in Carlsberg laboratories? Or that Carlsberg has over 500 different brands? And that Baltika capacities are enough to produce 500 million litres of beer every month? But the highlight is that the use of standards – calculated using a methodology developed by ISO – resulted in savings amounting to 3.4% of the company’s annual revenue. He explains that this is due to the fact that standards helped establish efficient high-quality manufacturing and product branding as well as an extensive distribution network. Standards have also been key to helping Baltika Breweries meet the needs and expectations of its customers.

To bring down the message, Dr. Sheps makes a powerful analogy by reminding us of the story of the Tower of Babel. “If we all speak the same language, there are no limits to what we can achieve. Standards are that common language.”

How did standards help?

By applying widely used standards of the European Brewery Convention, Baltika was able to purchase raw materials on the international market for a lower price. This had not been possible before when Baltika relied exclusively on national Russian standards (GOST) for procurement. Moreover, by requesting that their suppliers implement a robust quality management system, Baltika was able to secure supplies of consistently high quality, which made it possible to reduce the frequency of laboratory testing and transfer some of the laboratory staff to other operations.

Baltika's management system, based on ISO 9001, was instrumental in streamlining processes, integrating acquired companies and optimizing cooperation between factories, resulting in a significant increase in labour productivity. Standards were also used in the refitting of railway wagons needed to deliver products, which is a precondition for operating a nationwide system of sales outlets. Finally, by turning to ISO 10002 for customer complaints handling, Baltika was able to improve its operations by encouraging customers to identify the company's weaknesses, offer suggestions and express their preferences. MARIA LAZARTE

Driven by quality*

Company name: Baltika Breweries

Country: Russian Federation

Industry: Beer production/breweries

Main use of standards:

- Procurement (including testing of incoming materials)
- Production
- Warehousing
- Distribution
- After-sales services

Most important ISO standards:

- ISO 9001 for quality management systems
- ISO 14001 for environmental management systems
- ISO 22000 for food safety management systems
- ISO 10002 for handling customer requests and complaints

Major benefits:

- Increases labour productivity
- Lowers purchasing costs for raw materials used in brewing
- Decreases the environmental footprint by saving electricity, water and other resources
- Builds up a reputation as manufacturer of fine beers with a large portfolio of products
- Supports a wide distribution network with sales outlets throughout the Russian Federation

*The following information is extracted from the ISO study entitled *Economic Benefits of Standards*.



Photo: Baltika



How standards help the cream rise to the top

Raised on a dairy farm in southern Ontario, Canada, the young John Walter, now CEO of the Standards Council of Canada, never thought that a childhood spent milking cows would lead to a career in standards. Here, he tells us how life in the creamery can generate unsuspected rewards.



Photo: David Folkerson (SCC)

What could be more enjoyable than an ice cream cone or sundae, whipped up thanks to the many benefits of standards.

My quite accidental career in standards began almost at birth at the end of the Second World War. With countries torn apart by conflict, the world was picking up the pieces, and the creation of ISO in 1947 was one of the ways by which the international community sought to bring back peace, stability and confidence.

I was fortunate to have been born into a family that owned a large dairy farm on the outskirts of Goderich, Ontario. The milk collected on the family homestead was produced by Holstein cows raised to international breeding standards.

The visionary patriarch

My great-grandfather was a Canadian pioneer in the use of glass bottles to store milk. Through his ingenuity, he helped develop standards for maintaining the cleanliness of these bottles.

Later, towards the beginning of the 1900s, my ancestors stopped bottling milk and began to manufacture ice cream and butter instead. This, of course, entailed the use of standards spanning many areas of the dairy farm and creamery business, such as pasteurization, homogenization, sanitation, storage, refrigeration... right down to the disposal of waste water. Today, ISO 8086 is one of many important standards for setting hygiene conditions in dairy plants.

Early uptake

I grew up in the dairy business and started work at age 12 for the princely sum of one dollar a day, eating all the ice cream my heart desired. Although the average person may not even know that standards exist, I was briefed early on about the tangible benefits they bring to dairy farms. Years later, I would discover that standards support virtually all products, services and systems in any industry.

In the creamery, I quickly learned the value of standards for equipment such as boilers and pressure vessels. I found out that ammonia was used for refrigeration and that steam had to be created for pasteurization and cleaning activities. To maintain water purity, proper sanitation and cleanliness were essential.

Grading cream was required to test for butterfat content. I discovered firsthand how metrology, the science of measurement, is vital for ensuring the proper size and content of containers destined to hold one pound of butter. I also acquired some knowledge of product control, including the fact that butter could only contain specific amounts of water, for instance. After leaving the family business, I went to work for the Government of Ontario. My first job, which I held part time while attending the University of Guelph in Ontario province, was in a prison environment. On the surface, this would appear to be a major departure from the dairy farm business, yet my job at the facility entailed, believe it or not, milking cows!



Photo : Mike Pinder Photography

My quite accidental career in standards began almost at birth.

John Walter is Chief Executive Officer of the Standards Council of Canada and Vice-President (Policy) of ISO for the 2014-2015 term. Mr. Walter's many ISO duties include leadership of ISO's Strategy and Policy Committee, supporting achievements of the ISO Strategic Plan and ensuring effective communication on strategic issues within ISO and with its stakeholders.

Every step of the way

Standards would remain a daily fixture of my career for the next 18 years as a senior administrator for several Ontario correctional institutions. As you may know, prisons are self-contained communities requiring food storage and preparation, medical and dental services, educational and work programmes, and much more – all of which must comply with dozens of standards.

Having used standards for many years, both in my personal life and informally in my career, I became Assistant Deputy Minister, Technical Standards Division, for the Ontario Ministry of Consumer and Commercial Relations. During my tenure, I adopted and referenced codes and standards for boilers and pressure vessels, elevating and amusement devices, and fuels (oil and gas, petroleum, propane), helping to create a safe, productive and environmentally sound society for millions of people.

Thirty years on to the day, by another twist of fate, I left Ontario to embark on a career with the Canadian Standards Association – today known as CSA Group – as Vice-President of its standards development unit. There, I was responsible for the development and maintenance of more than 3 000 standards, codes, guidelines and other documents of considerable value to Canadian local government, industries and consumers.



The overseer

After eight years at CSA Group, I was approached by the Government of Canada's Minister of Industry to take on the role of Chief Executive Officer of the Standards Council of Canada (SCC). Now in my second term at SCC, I am responsible for overseeing Canada's standardization network. This community of stakeholders from government, industry, consumer groups and academia, as well as experts on other related subject matters, promotes and strengthens the use of standards to improve the quality of life of the Canadian people. Looking back, if there is one message I wish to endorse, it is this: every society around the world is based upon sets of standards that modulate the daily lives of billions of people. Most of these people have no idea how much their lifestyle and well-being rely on standards, developed and maintained by a small number of global standardization experts.

Anyone who is in any way involved in standards, or in standardization in general, should be proud of the outstanding work they do. What's more, they have the privilege – and the onus – of telling their families, friends and colleagues about their work, thus helping to further the cause of standards.

For standards are the skeleton of an invisible infrastructure that keeps our modern society ticking, ensuring the lights in our homes turn on, appliances function and our tap water is safe to drink. As the blueprint for virtually everything that is produced in the world, standards are the guarantee of good health, safety, reliability, productivity, sustainability and so much more to all citizens. After all, what could be more enjoyable on a warm summer's day than an ice cream cone or sundae, whipped up thanks to the many benefits of standards.

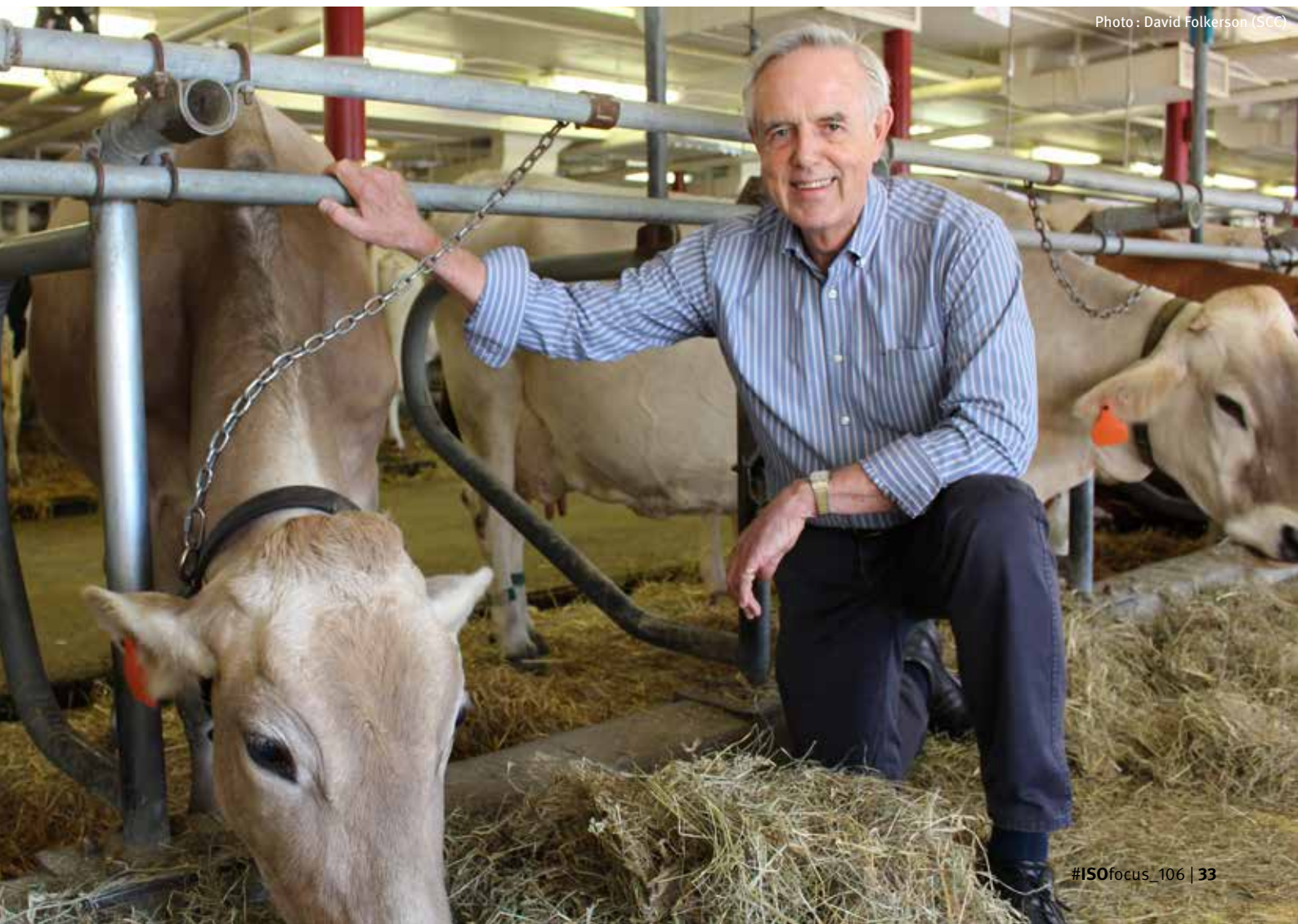


Photo : David Folkerson (SCC)

With an estimated five billion people – or 60% of the world's population – living in cities by 2030, developing livable and sustainable urban environments for the future is crucial. This was the key theme of the 2014 World Cities Summit held in Singapore earlier this year.

A number of fundamental issues were debated at the four-day event, including the definition of the “smart city” concept, where it was agreed that sustainability was no longer an option but a necessity.

The global summit is aimed at addressing urban sustainability challenges and developing solutions for them, and this year it grossed a record participation of more than 20 000 representatives from 118 countries, including ministers, mayors, industry leaders and academics.

The summit was held alongside the Singapore International Water Week and CleanEnviro Summit Singapore. For more information, see www.worldcityssummit.com.sg

SMART AND SUSTAINABLE CITIES



TOURISM TALK

Thinking your next holiday might be in some far-away land? How different the world would be without tourism, not only culturally but economically as well! So much so that the United Nations World Tourism Organization (UNWTO) hosts an annual World Tourism Day on 27 September. This year's edition is to take place in Mexico with a focus on tourism and development in the community.

A well-endowed portfolio of ISO International Standards, covering all aspects related to tourism, helps support the UNWTO objectives. ISO's technical committee on tourism develops and refines standards for everything from adventure tourism to hotels, tourist offices and diving services, to name but a few. All of which helps to ensure your next overseas sojourn is a memorable one!

GEARING FOR DRIVERLESS CARS

Imagine if your next car had no steering wheel, no accelerator pedal and no brake pedal. Seems impossible to conceive, but that car is actually one step closer to becoming reality

with Google's recent attempt at building its first prototypes of driverless car, designed to be much safer and efficient than those that rely on us mere mortals to drive them.

And Google is not alone. Just about every major car manufacturer is in the field of developing some variation on autonomous technology, from semi-autonomous, where humans do some aspect of the driving, through to the car that literally drives itself. It is just as well ISO is keeping pace thanks to ISO/TC 22 for road vehicles, which is working on standards related to all different kinds of autonomous vehicles.

International Standards help the automotive industry move forward by increasing respect between car makers and consumers, providing consistency in quality and safety, and generally helping to make our future driving experiences safer, less polluting and more environmentally friendly. With ISO standards, you can – literally – sit back and enjoy the ride.





BLUNDERS THAT COST BILLIONS

Even the smallest error in calculation can have enormous, and often costly, repercussions, as the French state-owned railway company, SNCF, recently discovered. After ordering 2 000 new trains at a cost of billions of euros, it realized that the platform measurements “weren’t quite right” and now have to alter some 1 000 platforms in order for them to fit. All of this might have been avoided had they, and national rail operator RFF, been on the same page when it comes to platform measurements.

SNCF certainly isn’t the first to make such a costly blunder. London’s Millennium Bridge was nicknamed “the wibbly wobbly” by locals after it had to be shut down to correct the enormous wobble when it was walked on, the result of a miscalculation in the “synchronized footfall effect”. Similarly, the day before the opening of the Sochi Winter Olympics, it was noticed that the biathlon track was not the right length and some quick amends were made, and finished, just in time.

Thankfully, ISO has developed over 1 350 International Standards dedicated to measurement, ranging from noise to smoke and everything in between. It also has a number of standards devoted to trains, covering such aspects as construction, maintenance and associated materials and services. There’s even a standard on the measurement of seat vibration! All vital considerations that help get trains on the right tracks.

WEARABLE TECHNOLOGY IN STYLE

From measuring your vital signs to checking the latest football scores, technology at your fingertips really is the next big thing, as evidenced by the “wearable technology” recently developed. Rivals to the Google Glass were recently showcased at a large Asian technology fair, alongside the Martian Passport Watch, a clever timepiece with integrated smartphone featuring a host of in-built associated functionalities (camera, Internet, phone).

And the technology is not only creeping into our accessories, but our clothing as well. You might soon be able to buy a “mood sweater”, which changes colour depending on how you feel, or a “smart wig” that can navigate roads while it measures your blood pressure.

Joint technical committee ISO/IEC JTC 1 is dedicated to all aspects of information technology, boasting over 2 000 standards and many more in the pipeline. In addition, teams of experts are developing standards in the field of health monitoring devices, with a view to promoting interoperability between independent systems. The experts come from across the board, spanning areas from industry to standardization, to ensure there are standards fit for the future – so that your high-tech shirt is as safe as it is smart.





In pursuit of innovation

We like to think that innovation comes from a wellspring of free-spirited creation. In fact, the opposite is true: it is extreme order that supports the greatest innovative breakthroughs.

Standards can “trap” an industry in obsolete or inferior standards when there is a better alternative available, or lead to excess inertia when it comes to developing new products.

Not so! Innovation and standardization are two facets of the economic coin.

The truth is, many of the innovations that have revolutionized our world, including modern manufacturing, interchangeable parts and the Internet, have only succeeded because of standardization. That said, research into this dichotomy is ongoing, addressing two main questions: how to manage standardization without impeding innovation, and how to manage innovation while maintaining effective standards. Here, German economist Knut Blind*, who is leading the research, provides some answers.

ISOfocus: There is common belief that standardization hinders the creation of new products and services. After years of research, do you believe they are mutually exclusive?

Knut Blind: There is a natural “tension” between established standards and radical innovations. Although innovative technologies, products and

services sometimes coexist on the market alongside traditional models, more often than not, they end up replacing the products and services in current use. Standards must then either be adapted or replaced.

The reason for this is clear. When developing prototypes, it is important to ensure they are compatible with existing infrastructure. Standards provide the perfect interface to achieve this by helping to harmonize plugs in electric cars, for instance, or to avoid the need of costly adaptors, but also by assisting fast and broad dissemination on the market.

Today’s consumers are savvy, so fulfilling all the health, safety and environmental requirements is essential to successfully commercialize an innovation on the global market. Again, standards can contribute to building that trust.

* Prof. Dr. Knut Blind is Head of the Public Innovation research group at the Fraunhofer Institute of Open Communication Systems FOKUS, in Berlin, Germany. In addition he holds the Chairs of Innovation Economics at TU Berlin and of Standardisation at the Rotterdam School of Management of Erasmus University Rotterdam. His areas of expertise include, among others, innovation management, innovation economics and policy, and standardization policy.

But I would even go a step further by asserting that standards support and guide the development of innovation. Standards are present from the ground up. In the research phase already, they help to unify terminology in new fields of science and technology – a case in point being nanotechnology. In fact, successful research often depends on the reliable and valid metrology, measurement and testing methods laid down by standards.

Overall, we notice that shared and common practices can be strong drivers of transformation. But for this to happen, they must reflect the cutting edge of science, research and technology, which is only possible if the research community proactively commits to the development of new standards and, just as importantly, to the revision of existing ones. With common goals, common platforms and common interfaces, the interaction between standardization and innovation constitutes not a vicious, but a virtuous circle.

You have been researching the dynamics between innovation and standardization for a long time now. How did you organize your research and what sources did you draw on?

We knew the relationship between innovation and standardization was a complex one. So we went for a multi-dimensional approach, targeting both the stakeholders of standardization, i.e. companies, research institutes and individuals, and the methodologies covering scientific indicators, surveys and macroeconomic statistics.

There is a natural
“tension” between
established standards
and radical innovations.



Photo: Kruppa/Lietzmann



You have to start somewhere, so we pooled together all the currently available data analysis from patent and standard databases. This, however, only provided a sketchy outline of the situation. We then conducted one-off company surveys at the national and European levels, which confirmed the correlations that exist between innovation and standardization, but were unable to demonstrate a causal effect.

Meanwhile, we set up the German Standardization Panel (Deutsches Normungspanel, DNP), funded by the German Society for the Promotion of Research on Standardization e.V., with a view to compiling panel data on how companies conduct their standardization activities and implement standards and their influence on innovation. The panel development will take some time, but we have a sound starting base of answers from more than 100 companies. However, matching with data of the German Innovation panel reveals already that companies active in the development and use of standards not only invested more in research and innovation, they were also more successful, achieving a higher turnover with innovative products.

In the next round of the survey, due to launch on World Standards Day on 14 October 2014, we hope to broaden the scope by including companies that implement standards without engaging in standardization activities. We will also approach individual experts from public research institutes and universities as well as private companies.

Do your findings apply to all industry sectors and companies, including small and medium-sized enterprises?

Certainly. We note a positive relation between innovation and standardization in companies from all sectors. What differs is the strength of the relationship depending on the activity and size of the company. In fact, in the fields of information and communication, innovation and standardization cannot be disentangled. Size is also a key factor: small firms are sometimes hampered by financial constraints that prevent them from taking an active part in standards development. As such, they cannot always benefit to the same extent as larger companies from the “virtuous” relationship between innovation and standardization.

There is general consensus about the need to move towards a “green economy” and a more sustainable world. Is this shift apparent in the innovations you have studied and how do standards support it?

The focus of our research is gradually drifting towards the role of standards in the standardization versus innovation equation, especially with regard to climate-related

innovations studied within the context of a PhD project funded by the Climate Knowledge and Innovation Centre, the EU’s main climate innovation initiative. In this vein, some of our research is conducted in the area of bio-based materials, i.e. processed substances originally derived from living organisms. These account for many modern innovations such as cornstarch used to create packaging pellets, or bioplastics derived from soybean oil and used to make tractors, water bottles and take-away cutlery, to name a few.

How do the findings from your studies translate to countries outside Germany, such as developing countries for example?

The results of some of our research have already been replicated in other countries, like the Netherlands for instance. Our aim now is to leverage the German Standardization Panel concept to other countries, both inside and outside Europe. Organizations interested in our activities are strongly invited to participate.

However, several case studies on quality infrastructure in South America, covering such issues as standards, certification, accreditation, conformity assessment and metrology, and encompassing the innovation dimension, show that strong links between innovation and standardization are only really observed in companies and countries displaying a broad capacity for innovation. Developing countries do not as yet benefit from this virtuous circle, though there is good reason to believe that, with the support of innovation and standards, they will soon catch up with the developed world.

Developing countries
don’t as yet benefit from
this virtuous circle.



Deadly price of deadly drinks

More than 80 people have been reported dead and some 175 hospitalized in Kenya last May after imbibing alcohol laced with dangerously high levels of methanol.

Unscrupulous manufacturers selling dangerous and mislabelled products are the cause of this human tragedy.

More than 80 people are reported to have died in Kenya after drinking alcohol believed to have been laced with methanol. Dozens of others across four counties are said to have been blinded after drinking the illicit brew.

In the East African country, all food and drink products must comply with standards developed and published by the Kenya Bureau of Standards (KEBS), ISO member for Kenya, before they are put on the market for consumer use. So how could such a tragedy occur? We spoke to Mr. Charles Ongwae, Managing Director of KEBS, about how it all happened and what the Bureau is doing to prevent other such incidents in the future.

ISOfocus: Can you tell us about how this tragedy unfolded?

Charles Ongwae: Let me begin by giving you some background information. Properly produced and certified alcoholic drinks are made with ethanol – an alcohol that’s safe to drink in moderation. But samples of some of the drinks involved in the tragedy were found to contain illegally high levels of methanol (methyl alcohol), which has serious adverse health effects. The presenting symptoms of blurred or decreased vision and abdominal pain are consistent with methanol toxicity.

Many of these drinks were unlabelled, illicit products. But a few were falsely labelled by the manufacturer and carried a KEBS quality mark suggesting they were certified drinks, when in fact they were fake. In Kenya, locally manufactured products that have been inspected and certified to the relevant standards are allowed to use the KEBS mark of quality. Imported products are inspected at the country of origin by our inspection agencies and issued with a certificate of conformity. Only products bearing the quality mark are allowed for sale on Kenyan soil.

One company involved in the incident, Comrade Investment Ltd. that manufactures the Sacramento and Countryman brands, was found to be illegally using the KEBS mark, leading consumers to believe their products had been certified, when they clearly hadn’t. As a result, legal action has been initiated against the directors of this company and its operations have been shut down.

How did you first respond to this tragedy?

At first, we made visits to the sites where calamities were reported. We carried out thorough investigations and tested samples of the methanol-tainted alcohol. Of the samples tested, over 50% contained dangerously high levels of methanol. We then worked with regulatory and law enforcement agencies to crack down on the illegal manufacturers and suppliers of these illicit brews.



Has anyone been charged with these deaths? How did the whole affair impact your reputation?

The brewer Comrade Investment Ltd. is facing charges for illegally using the KEBS standardization mark without authorization. But more serious charges are likely to be levied considering some of the people who consumed the illicit brew actually died.

Unfortunately, there was a lot of bad publicity surrounding the case, especially with regard to government agencies that regulate this sector. We worked hard to clarify our role and took steps to counter the crisis, which included providing leadership to guide the joint government task force that was set up to deal with it.

How will you ensure this kind of tragedy doesn’t happen again?

It is important to note that the tragedy was caused by criminals who engaged in the manufacturing of illicit brews using very unconventional methods. We have established a cross-agency/government department task force to get to the root cause of the tragedy and to recommend appropriate regulatory requirements for the alcohol industry.



**Over 50 %
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As Kenya's national standards organization, we have taken a number of steps to strengthen the system in order to protect Kenyans against similar incidents in the future. Firstly, we have tightened the requirements for the quality mark to include:

- Physical possession by the producer of the standards applicable to the products
- Proof of employment of a person technically qualified in food management
- Establishment of a laboratory to test the products and raw materials

In addition, we have increased surveillance activities of registered brewers to confirm the compliance status of their products. This has resulted in the suspension of a number of permits and brands of the manufacturers concerned, not to mention recalls.

Furthermore, we are reviewing the product certification scheme for the alcohol sector. We have also requested that the Inspector General of Police authorize police officers to arrest manufacturers found operating without a KEBS permit or collecting and using counterfeit bottles of major brewers.

What advice would you give to others in this sort of situation?

The main piece of advice is to engage the public in the fight for quality. Following the tragedy, we issued a statement calling on people to help us "police for quality". We also asked them to report any manufacturing outlets that operate in a suspicious or illegal way, or that use fake standardization marks on their products.

Among the things to look out for are products that don't display their name clearly, or where the manufacturer's details are not available. Last but not least, there is a list of approved products on the KEBS Website (www.kebs.org) and we have asked consumers to report any products for sale that are not mentioned on this list, which has already proved very positive

for us. KATIE BIRD

What **THE CUSTOMER** ordered

In the olden days, when life was simple, advertising was about TV commercials and print. Today, with many more businesses competing for market space, things are far more difficult.



Photo : Lionel Egger

Customer satisfaction is the name of the game for Régis Brinster at ISO/CS.

These days, there are many more channels, messages, cultures, languages and ways to do just about everything. Marketing has changed in profound ways. The pace of change in technology is doubling each year and social media platforms are emerging everywhere, which can be used creatively to enhance your business. Customers have changed too, in significant ways. Blessed with a modern outlook and shorter attention spans, they expect immediate attention on Twitter or Facebook. Not content with having a great product, companies now have to provide alluring content – a tall order for any marketing department.

ISO is no stranger to the digital revolution, and Régis Brinster, Senior Leader, Marketing and Sales Services at ISO Central Secretariat (ISO/CS), is right on trend. Here, he tells me how ISO is adapting its product strategies to keep the organization on top of the game for the long haul.

ISOfocus : How has the role of marketing in ISO/CS evolved over the last decade, and particularly since you have been at its helm ?

Régis Brinster : The wave of change has been tremendous as we are evolving from a retail-based model, i.e. one of transaction, to a subscription-based model, focused on forging bonds with our customers.

As society moves forward, so do our customers' behaviours. More discerning and demanding, they are consuming content in radically different ways, which forces

ISO is now in a position
to supply content in novel
and different ways.

us to re-think how we develop our products and service our clients. Gone are the days when customers would satisfy themselves with a document in PDF format. Today, they want access to up-to-date content – at anytime, anywhere, on any device. Some also want to be able to integrate content into their own systems or applications.

With its XML-based production chain, ISO is now in a position to supply content in novel and different ways that meet customer needs, offering flexible and intuitive products such as red-line standards, where changes between versions are highlighted, ePubs for smartphones or tablets, as well as feed elements contained in standards (e.g. country codes). Through our Online Browsing Platform (www.iso.org/obp), for example, customers can also view and buy the content of single standards. This will be supplemented by sector-specific online collections as well as new – annual and monthly – subscription models and licensing options so that content can be shared within a company. Helping customers optimize their assets – that's the name of the game.

How do you see the business of marketing in the next 5 to 10 years? Any predictions?

These are exciting times. There is a drastic shift in customer expectations in the scientific, technical and medical industry and, more specifically, in standards. Marketing has a pivotal role to play. We need to be agile and adapt by diversifying how we give access to our content. We will be honing our product development over the coming years as

we seek to maximize users' experience by creating easy-to-use products that allow content to be integrated at a granular level, such as paragraphs, mathematical formulae, etc. We also have to offer increased flexibility in our subscription models, similar to what we can observe in the music or movie industry, where customers rent rather than own content. What's more, today's time-limited customers need rapid access to content with immediate visualization, for example in the form of videos or infographics – our next Everest to climb.

We will also be focusing on collecting and analysing vast quantities of data so that we can fine-tune our customer relationships and enhance our products and services. For the moment, we're not very good at integrating customer feedback into our product development process.

What is, in your view, the single most important thing a marketing professional working in standards needs to know to be successful?

Two words: customer needs. This might sound very basic but marketing professionals have to know precisely what their customers want in order to satisfy them. More than ever, we need to involve customers in the product development process from the early stages to ensure we deliver added value. The silo approach in place today must necessarily become one of collaboration where standards development organizations work with customers and businesses to find real solutions to the challenges they face. VIVIENNE ROJAS



Save the date

World's Standards Day

2014-10-14

iso.org/wsd2014