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ISOfocus January-February 2020 – ISSN 2226-1095

ISOfocus, the magazine of the International Organization for Standardization, is published six times a year. You can discover more content on our Website at **iso.org/isofocus**, or by staying connected with us on :

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Our future from now on

***Eddy Njoroge**, ISO President.*

It is quite a privilege to be addressing you here as I take up my new role of ISO President. In a world of increasing uncertainty and challenges, there has never been a greater need for standards across all sectors, but particularly for finance. Economic prospects for many countries are increasingly uncertain and ISO standards, as a solid foundation of international expertise, are some of the best tools we have.

Financial services are just one of many sectors where ISO is, and always has been, at the forefront, working on standards in the fields of financial inclusion, digitalization of financial transactions, and, more recently, sustainable finance. These standards not only enable the world to speak a common language, they provide a much needed level of trust.

The financial sector is one I know quite well. After many years in the corporate and financial world, I am an entrepreneur at heart, looking to challenge the status quo and bring more stability to the industry. With strong experience in both the private and public arenas, I am fully aware of the impact that standards can have and how essential they are to our financial system.

Standards have made the financial industry more efficient and improved the exchange of data, an important factor when conducting financial transactions and reporting on financial activity. At the Board of Stanbic Bank in Kenya, we embraced not only management system standards such as ISO 9001, but also the sector-specific standard ISO 20022-6 on message transport characteristics, as a way of simplifying integration between service providers and clients. In addition, standards have made it possible for institutions to integrate and move data to solve the historical inefficiency associated with connecting new partners.

With technology evolving at a fast pace, challenges are bound to rise in areas of information management, data management and cybersecurity. In this regard, the implementation of ISO/IEC 27001 for information security management systems, published in conjunction with the International Electrotechnical Commission (IEC), is key to managing sensitive information and assets. This is particularly important in the financial sector so that it remains secure. To this end, it is essential not only to promote the use of standards that can give the sector a competitive edge, but also to ensure the development of financial standards that leverage on emerging technologies like blockchain, which promote efficiency and financial inclusion.

I intend to use this experience, coupled with my unwavering belief in the value of standards, in my role as ISO President, to further the outstanding work that the ISO international standards community is doing. My goal is to act as a global ambassador for the benefits of standards and the ISO system, and to facilitate the substantial work of coordination, promotion and advocacy.

It is also a remarkable time to be ISO President as we put the finishing touches to the ISO Strategy 2021-2030. We must ensure this strategy is effective and drives us towards making standards as widely used and as relevant as possible. Wider use of these standards is fundamental to a sustainable future, as each and every one of them contributes in its own unique way to achieving the United Nations' 2030 Agenda for Sustainable Development, which promises a fairer, more peaceful and more prosperous world for all.

Standards are our ticket to a sustainable future. Among the objectives of the 2030 Agenda, you will see inclusive growth, clean water and greater equality. ISO has standards that contribute to all of these areas, as well as standards that enable financial inclusion.

A comprehensive set of International Standards for the financial sector has the capacity not only to help us achieve several of the United Nations' 17 Sustainable Development Goals, but to strengthen our global financial system. In a nutshell, ISO standards attempt to tackle two main issues. First, because they are international, the standards facilitate global comparisons, and hence avoid the negative externalities created by confusing and incomplete information. Second, when ISO standards are used around the world, they can facilitate people's access to mainstream financial services, including savings accounts, loans, insurance and other financial services that help towards a well-regulated financial system. You can read more about these in this *ISOfocus* issue.

It is paramount that developing countries are included in the financial world. One of the key challenges for them is the lack of trust and transparency, with much economic activity done by unregistered companies. This fosters vulnerability and the risk of corruption and economic decline. Developing country participation is not only desirable but is, indeed, indispensable for achieving sustainable financial markets, and thus greater stability and protection for all – so no one is left behind.

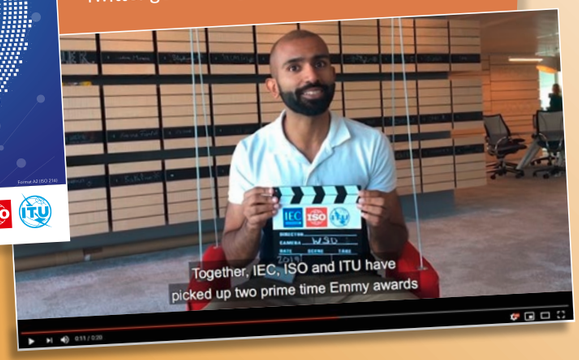
As we embark on a new year, I feel proud and honoured to be President of ISO, following in the footsteps of the many inspirational leaders that have gone before me. In this issue of *ISOfocus*, the first for 2020, I would like to take the opportunity to thank everyone in the ISO community for welcoming me into this new role. I have big shoes to fill, for sure, but I am confident these next two years will be fruitful and progressive. I very much look forward to working with you all. ■

Celebrating World Standards Day

It's thanks to our members and hard-working experts around the world that hundreds of standards are published each year. That's why ISO joined the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU) in celebrating the efforts of this community on World Standards Day (14 October).

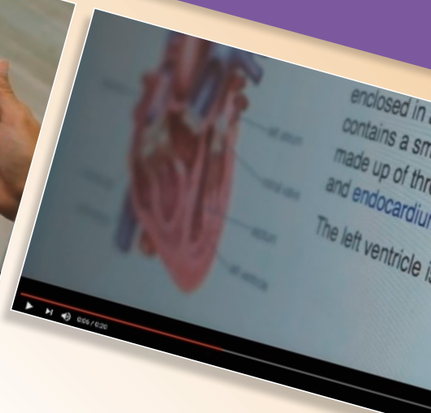
The theme this year was video!

Video technology has come a long way, allowing us to share our favourite clips, video-call loved ones, or watch a movie on a flight home. Standards have been so integral to these advancements that IEC, ISO and ITU have been recognized with an Emmy! Capitalizing on this special occasion, we created a video highlighting some of the faces behind the scenes of our work, which circulated across Facebook, LinkedIn and Twitter generating over 100K views!



#futurevideo contest

Running in parallel was the **#futurevideo** contest, challenging entrants to imagine the future of video and capture it in a film no longer than 20 seconds. The winning video comes from Mohammad Khodadadi in Iran and shows a medical student using a tablet to visualize the anatomy of the human heart.



WHAT'S IN STORE FOR E-COMMERCE?

by Rick Gould

Twenty years ago, commercial transactions over the Internet made up a tiny fraction of the total market for retail goods. Today, however, e-commerce is growing rapidly and fast becoming the norm. This rapid growth has not been without its challenges and has highlighted the need for new bespoke standards to assure the quality of e-commerce transactions. ISO has formed a new technical committee, ISO/TC 321, to answer this need.

E-commerce has gained in popularity over the past decades and, to some extent, it's replacing traditional brick-and-mortar stores. Although it's become safer than ever to browse and shop online, there are still security threats facing the e-commerce consumer. In 2018, ISO formed a new technical committee, ISO/TC 321, *Transaction assurance in e-commerce*, to develop standards for commerce over the Internet. There are already several ISO/TCs and dozens of standards that apply to e-commerce, so why is another technical committee needed? In a nutshell, e-commerce makes sales so easy that it also presents new ways for things to go wrong.

The secretariat for the committee is shared between the French standards body AFNOR and the Standardization Administration of the People's Republic of China (SAC), both ISO members in their respective countries. "SAC approached us to see if we were interested in working together to develop standards for e-commerce," explains AFNOR's Fanny Lannoy, joint Committee Manager of ISO/TC 321. "We were already working in this area, whilst the European Commission (EC) had recognized the importance of the digital economy, especially for small to medium-sized enterprises," she adds.

E-commerce has gained in popularity over the past decades.

Shanfeng Dong, ISO/TC 321's other Committee Manager, explains. "I approached ISO to develop International Standards as there had been a lot of experience and lessons learned with e-commerce, so it would be better to use this experience to make an international contribution." Dong operates a consulting firm in China specializing in sustainable cities. His active role in ISO/TC 268, *Sustainable cities and communities*, since 2013, as project leader and convenor of one of the technical committee's working groups, was invaluable in helping to set up ISO/TC 321.

In many ways, the development of e-commerce mirrors that of the 19th-century telegraph. Both were founded on the means for rapid, global communications propelled by electrons. The telegraph and the Internet have both catalysed and created businesses rapidly. And in both cases, they quickly highlighted the need for protocols and harmonized processes to assure the security and quality of business and consumer transactions. Indeed, we often think of the Internet as the progenitor of fast and seamless global business, but according to the editor of a 19th-century trade journal when referring to the telegraph, "at its very birth, it became the handmaiden of commerce".

Fast forward to present time and e-commerce, which was once a fringe activity, is increasingly evolving into the standard way of doing business in both the retail and business-to-business sectors. So just how fast has e-commerce grown, what are the driving forces, and what can we expect in the future?

THE RISE (AND RISE) OF E-RETAIL

While it still represents a relatively small slice of the overall commerce pie, online shopping is fast gaining momentum all over the world.

In the USA, there were about **5 million** e-commerce transactions in 1998. By 2016, there were **389 million** – or a growth rate of over **7 500 %**.

Source : US Census Bureau

In China, e-commerce accounted for less than **0.1 %** of all retail transactions in 1999. Today, that figure is **20 %**.

Source : UNIDO

Europe's online commerce accounted for **15 %** of sales in 2014, rising to **17 %** in 2017.

Source : Eurostat

The South-East Asia sector is valued at **USD 38 billion** today and is projected to hit **USD 150 billion** by 2025.

Source : Google-Temasek e-Conomy SEA Report 2019

Exponential growth

Twenty years ago, a group of entrepreneurs in China founded the Internet technology company Alibaba to both catalyse and capitalize on e-commerce. At the time, e-commerce accounted for less than 0.1 % of all retail transactions in China. According to the United Nations Industrial Development Organization (UNIDO), this proportion had reached 8 % by 2013 and 15 % four years later. Today, the figure is around 20 % and continues to grow unabated. Meanwhile, Alibaba has become one of the largest Internet technology companies worldwide.

Whilst China is a clear leader in e-commerce, data for the rest of the world shows a similar pattern. Like the early telegraph, e-commerce is both a facilitator for business and a driver to create it. According to the Google-Temasek e-Conomy SEA Report 2019, e-commerce in South-East Asia has increased sevenfold from 2015 to over USD 38 billion in 2019. The sector is on track to exceed USD 150 billion by 2025. E-commerce has become a regular shopping experience, with over five million orders coming in on an average day.

In the USA, the US Census Bureau reported that in 1998, there were about five million e-commerce transactions. By 2016, there were 389 million – or a growth rate of over 7 500 %. As a proportion of retail sales in the USA, eMarketeer, a research company that provides business data on the digital economy, reports that e-commerce now accounts for about 15 % of all transactions, with this proportion expected to grow by taking 2 % of all retail sales for at least several years. In monetary terms, e-commerce sales in the USA amounted to USD 1.3 trillion in 2014, rising to USD 4.9 trillion in 2017.

Data for Europe tells a similar story. Eurostat, for example, reports that e-commerce accounted for 15 % of sales in 2014, rising to 17 % in 2017. One year later, the British *Telegraph* newspaper, citing data from the UK's Office for National Statistics, reported that "one in every five pounds spent with UK retailers is now online". So what accounts for this rapid growth?

Shopping by phone

Although the growing availability of the Internet provides the foundation, it's the penetration of smartphones that is the real force behind e-commerce : transactions over mobile phones now account for 60 % of all e-commerce. South-East Asians, for example, according to the Google-Temasek report of 2019, are the most engaged mobile Internet users in the world. There are 360 million Internet users in the region and 90 % of them mainly use their mobile phones to connect to the Internet.

Transactions over mobile phones now account for 60 % of all e-commerce.

Another strong influence is the development of a phenomenon that Jack Ma, one of the co-founders of Alibaba, called *the new retail* or the blending of online and conventional retailing. In simple terms, the line between conventional and online retailing is becoming increasingly blurred, especially with purchasing tools such as *click-and-collect*, where a customer looks through an online catalogue using a smartphone and then reserves an item for collection at a local retailer.
Most e-commerce transactions in the retail sector take place through platforms, which can provide an effective and highly efficient means for both buyers and sellers to do business. Amazon and eBay are well-known examples, although there is a growing number of such platforms, some of which are on the same global scale as Amazon. These include the China-based Alibaba, of course, but also the Canadian Shopify platform and Singapore's Shopee, which spans seven markets in South-East Asia, including Singapore, Malaysia, Thailand, Taiwan, Indonesia, Viet Nam and the Philippines.

Global malls and markets

For all parties involved, effective platforms benefit everyone. "Buyers can browse, and purchase products conveniently on-the-go, and easily access products from both local and overseas sellers," explains Kavan Sito, Regional Head of Customer Operations and Trust with Shopee. Like other major platforms, Shopee is an example where users can choose from millions of products from leading international brands on a virtual mall, as well as from SMEs and local sellers from the general Shopee marketplace.
Sellers also benefit. "Vendors can showcase a full suite of products and, more importantly, operate at significantly lower costs as compared to setting up an offline retail store," adds Sito. Ordinarily, such SMEs would only be able to afford a small shop in a high street or shopping centre, whereas a virtual mall can be much more effective and efficient for smaller vendors. Indeed, across the world in Europe, the European Commission (EC) envisaged such opportunities in the digital economy. "In its policy for digital economies, the EC wanted to ensure that e-commerce would provide leverage for SMEs to prosper," adds AFNOR's Lannoy.
Platforms such as Amazon, Alibaba and Shopee are examples of this benefit for SMEs. "There is also the advantage that a vendor can tap into an e-commerce platform's audience. For example, our sellers can leverage on the Shopee platform's existing database to widen their reach and drive sales," informs Sito.

The big question is how do platforms build trust between the buyer and seller?

When things go wrong

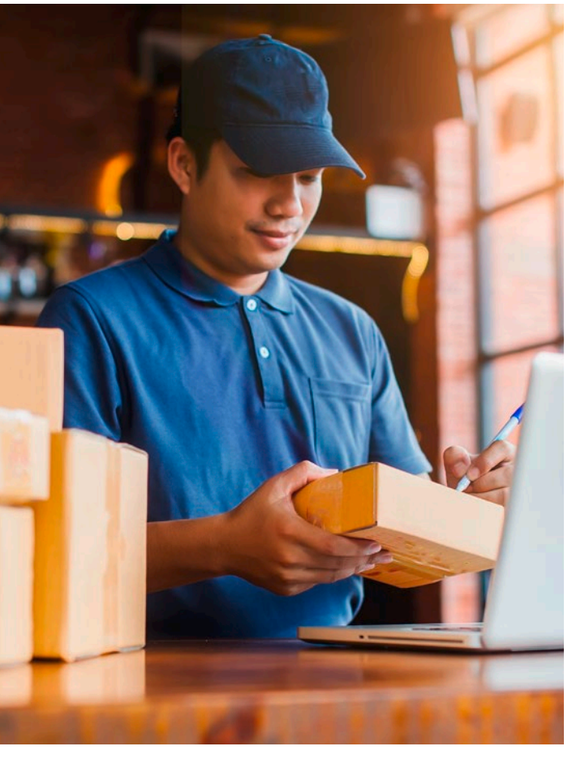
That said, e-commerce has revealed significant risks amongst the expansive range of opportunities. One irony is that a mechanism that readily enables commerce can also provide more opportunities for things to go wrong, which is borne out of the proportion of complaints about e-commerce transactions. The 2017 UNIDO report on e-commerce in China, for example, disclosed for 2013 that 40% of consumers' complaints about all retail purchases were about e-commerce transactions, even though e-commerce accounted for just 8% of the retail market.
Elsewhere, recent statistics for Europe are similar, revealing that 6% of buyers reported damaged goods, 16% complained about late deliveries and, worse still, 6% reported fraud. "The big question is how do platforms build trust between the buyer and seller? The transaction is not happening physically, so it's harder for the buyer and seller to 'sense' whether the other party is legitimate or not," explains Sito.

Cooperation for e-commerce

Back in 2016, China's national standards body, SAC, approached ISO with the proposal for a new technical committee that would foster safe cross-border e-commerce and promote commodity trading over the Internet. Two years later, ISO/TC 321, *Transaction assurance in e-commerce*, was born under the twinned leadership of SAC and its French counterpart, AFNOR. Both countries currently enjoy a cooperation agreement to develop voluntary standards in strategic sectors.

The impulse came from the Hangzhou Municipal Market Supervision Bureau, which now hosts the ISO/TC 321 secretariat. Several important factors underpinned this proposal, such as the advantage of Hangzhou's global presence in e-commerce, strong support from SAC and local government, and the new collaborative partnership with AFNOR.

Known as China's e-commerce hub and home to Internet retail giant Alibaba, Hangzhou is the country's first cross-border e-commerce pilot zone, making it the seat of choice for the ISO/TC 321 secretariat.



Another relatively common problem is misrepresentation. "A typical example of things that can go wrong is the buyer not getting the product he or she was expecting," informs Sito. Without standards and regulations to underpin the process of resolution – or, more importantly, avoiding the chances of this happening – the buyer's options for restitution are limited. Other challenges include payment options, seamless transactions that include all transboundary taxes and tariffs, and logistical challenges for delivery. Another irony is that e-commerce can make selling too easy, but as with the early experiences of the telegraph, delivery is a distinctly tangible challenge.

So how can International Standards help, especially with the proliferation of national regulations and standards for e-commerce? China, for example, has already developed several standards for e-commerce since a successful pilot programme for such standards in Shenzhen, and like the EU, in 2018, published a major new law for trading online.

Standard solutions

There are many standards that platforms and regulators are already applying to e-commerce, such as ISO 20488 for online consumer reviews, ISO 12812 for mobile financial services in banking, the ISO 10008 guidelines for customer satisfaction in business-to-consumer e-commerce transactions, as well as technical specification ISO/IEC TS 29003 for identity proofing, published in conjunction with the International Electrotechnical Commission (IEC). "We will apply these existing standards within a framework for e-commerce," asserts Lannoy. That said, there is a lack of specific standards for e-commerce, especially those which can bring all e-commerce platforms up to the same level of quality as the best.

So what types of deliverables will ISO/TC 321 develop? "The TC is still very young and is beginning by establishing a framework and terminology for e-commerce," explains Lannoy, "although there are plans for standards that will address the needs of platforms, buyers and sellers." These standards will include requirements for presenting products in e-commerce, specifications for identifying and tackling counterfeit brands, dispute avoidance and resolution, quality inspection criteria, and specifications for delivery.

It is likely that ISO/TC 321 will produce certifiable standards as these will strengthen the process of assuring transactions in e-commerce. "There may be a need to prove conformity to standards for e-commerce, as the aim of ISO/TC 321 is to promote the healthy growth of the new and emerging industry of e-commerce. However, this must be based on proving its value and help to solve real-world problems. If the standards meet the real need of the users, certification will be a good vehicle to rely on," explains Co-Committee Manager Dong.

International Standards will also help to harmonize the developing regulations and standards worldwide, and so avoid fragmentation and incompatibilities amongst national and regional approaches to assuring transactions in e-commerce. "International Standards ensure consistency across the world and lower the learning curve for retailers interested in embarking in e-commerce," adds Sito. "E-commerce is just as complex as traditional retailing. Therefore, standards will help retailers make an informed decision for their e-commerce strategy," he explains.

International Standards are also important because they establish a global structure and rules for everyone to adhere to. "In the case of e-commerce, ISO standards will help normalize usage throughout the world and dictate what constitutes responsible behaviour," concludes Sito. ■

THE *down-low* ON DIGITAL CURRENCY

Photo : Aleksi Räisä/Unsplash

by Kath Lockett

Everybody has heard about Bitcoin by now. It was the first cryptocurrency to go mainstream, but others are fast growing in popularity. There could be more than 1 800 different types of cryptocurrencies in existence, and more are being developed every day. So how do we ensure digital currencies are safe ? *ISOfocus* picks its way amid the confusion to find out more.

Imagine you're sitting in the foyer of ISO, waiting for your meeting. Seated next to you are two gentlemen also waiting for their meeting. You greet each other and ask, "So what are you here for ? " Edward and Ryan answer. " We're here as part of the technical committee ISO/TC 68 to work on developing International Standards for security aspects of digital currencies."

Like most people, you'd probably nod politely and feel too uninformed to ask any further questions. That's where we step in : What *is* digital currency, exactly ? It is easy to get bogged down with the myriad of terms used : cryptocurrency, e-money, b-money, i-money, e-currency, virtual currency, but a useful definition sees digital currency as a type of currency – or money – that's available in digital form, unlike the physical objects we know as banknotes and coins.

Like " physical " currency, digital currency can be used to buy objects and services, but some can be restricted to more specific items in online gaming communities. Unlike " real " currency, digital currency does not have to be issued by a government or bank, but instead uses cryptography to link transfers through online networking and date-stamping. The most well-known example is " Bitcoin ", which allows digital currency to be decentralized or unregulated and controlled by its developers and users in the online community.

Crypto rising

ISO already has a standard for " real " currency, ISO 4217. This has been in use since 1978 and lists currency codes based on World Bank verifications. These codes are three digits, such as EUR for euro, USD for United States dollar, and are used by banks around the world in their financial transactions.

However, digital currency is expanding faster than these codes can cope with. The ISO 4217 standard can allocate around 500 three-digit codes, yet digital currencies are being created and used online with thousands of separate versions. In 2018, it was estimated that over 1 800 digital currency options existed.

Photo : Austin Distel/Unsplash

Like "physical" currency, digital currency can be used to buy objects and services.

In July 2019, the International Monetary Fund (IMF) published its paper "The Rise of Digital Money", which found that the growth in popularity of digital currency boils down to convenience, workability with online apps and very low cost to users. Trust is also important in countries like Kenya where digital currency is considered more reliable than banks and telecommunications companies.

In 2016, roughly a millennium ago where digital currency is concerned, the Study Group on core banking services of ISO/TC 68's subcommittee SC 7 (now disbanded) noted that digital currencies can be used to replace some real currencies in many areas, which raised concerns about how to apply computer science, cryptography and banking guidelines to ensure that digital currency is properly defined and secure to use. It was then estimated that there were more than a hundred thousand digital currency transactions every day.

Protecting our digital assets

Back to Edward and Ryan, or Edward Scheidt, Convenor of ISO/TC 68/SC 2/WG 17, *Security aspects of digital currencies*; and Ryan Pierce, Co-Chair of this working group. Their Website reveals only the tantalizing title. What is the working group focusing on?

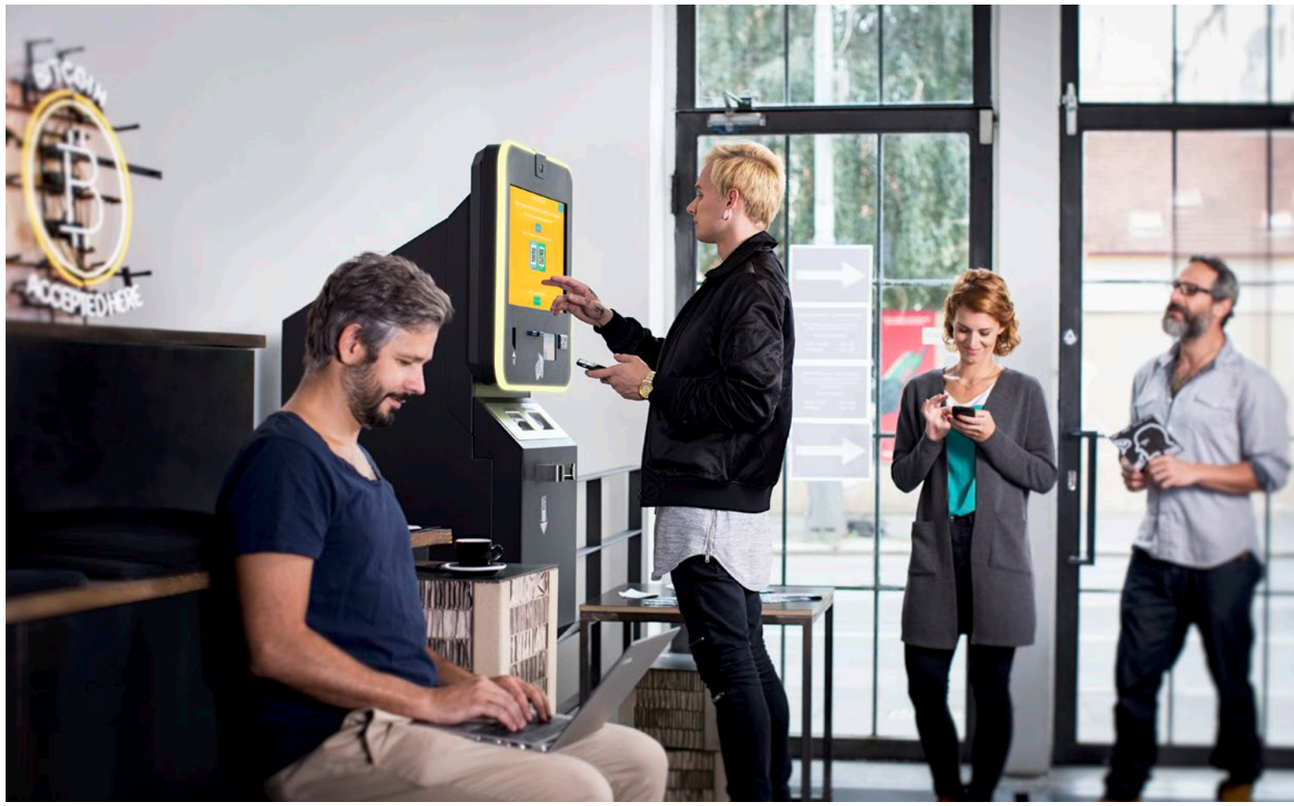
As Convenor of this working group, Edward Scheidt liaises with ANSI (American National Standards Institute) and is the Vice-Chair for ANSI x9 Global Security Standards (banking standards under the American National Standards Institute); he also collaborates with the ITU (International Telecommunication Union) Fiat Digital Currency Committee.

"Our first focus is to examine the potential security of digital currencies with a goal to develop a future ISO standard. We meet monthly and have 21 members representing various national bodies taking part."

Technology is moving at an incredibly rapid pace, which raises issues on how the economic stability of currency (non-digital) could be affected; what commercial and private industry influences can affect digital currency; what various political and regional issues need to be addressed; and how to connect these elements into a robust framework that can be used by all.

Scheidt explains that physical money is already well supported by policies, laws and rules leading to banking regulations. Yet while convenience appears to be a big advantage for money in a digital format, three security-related issues need to be resolved:

1. Trust, so that the supporting international financial ecosystem can warranty its financial payments and financial transactions
2. Binding liability, so that investments supporting a financial ecosystem do not have negative legal ramifications
3. Privacy, so that the individual, as a consumer, with the supporting financial infrastructure can ensure that information remains private when needed



Casting a wide net

Collecting input from ISO members and financial experts is vital, he says. The committee must consider issues from policy, legal, central authority and technical security standpoints.

"The technical committee is working on drawing a line between the security technology needed for these standards and how they can apply to business cases. Potentially, we're looking at collections of concepts and directions by national authorities to end up with a security framework that all digital formats can adhere to.

"We need to take the standards we have today and update them to ensure interoperability across countries' recognized digital currency systems. This will be the first step towards universal acceptance. Trust is paramount: without that, all the technology in the world is not going to provide the answer."

As both gentlemen point out, it's also important to note that digital currency is not just the concern of countries and their government agencies: businesses and commercial enterprises are also operating in this area, which was traditionally left to governments. These standards could, at a conservative estimate, affect up to one trillion dollars in digital transactions per day, so security is vital.

Distribution of trust

Ryan Pierce, Co-Chair, Digital Asset Working Group at FIX Trading Community and expert member of ISO's TC 68/SC 8/WG 3, expands further. " We are examining the creation of identifiers for digital tokens. This is an obstacle facing us all right now because there are so many new types of digital assets being created, and we need to be able to identify them to help eliminate any ambiguity between firms sending and receiving them."

He explains that while Bitcoin was the original digital currency, thousands more digital currencies have since been created and used. These digital currencies represent bartering, equity, securities and services, all of which have expanded beyond the original function of Bitcoin. They have a similar function to currencies in that they can be used as a medium of exchange, but they can move beyond that definition if they are also tokens tied to specific utilities or services such as allowing data storage in a shared cloud, earning extra tokens by viewing advertising, or providing other services.

" When Bitcoin was first introduced, it helped solve the problem of 'distributed trust'. If someone wanted to trade digital assets in the past, they would have had to pick a trusted party to hold the ledger and keep records of who owned what. For example, most of us place our trust in banks. We know that we can use our credit card and we can pay for our lunch ; we trust that we will only be charged once for the correct amount."

With Bitcoin, he says, no one person can censor or modify transactions, and it no longer requires placing absolute trust in one entity. The technology allows the creation of a ledger that does not depend on a bank. It operates by having enough people running the same computer software to achieve consensus on the state of the ledger ; it would be cost-prohibitive to modify or delete past transactions.

Photo : Chris Liverani/Unsplash

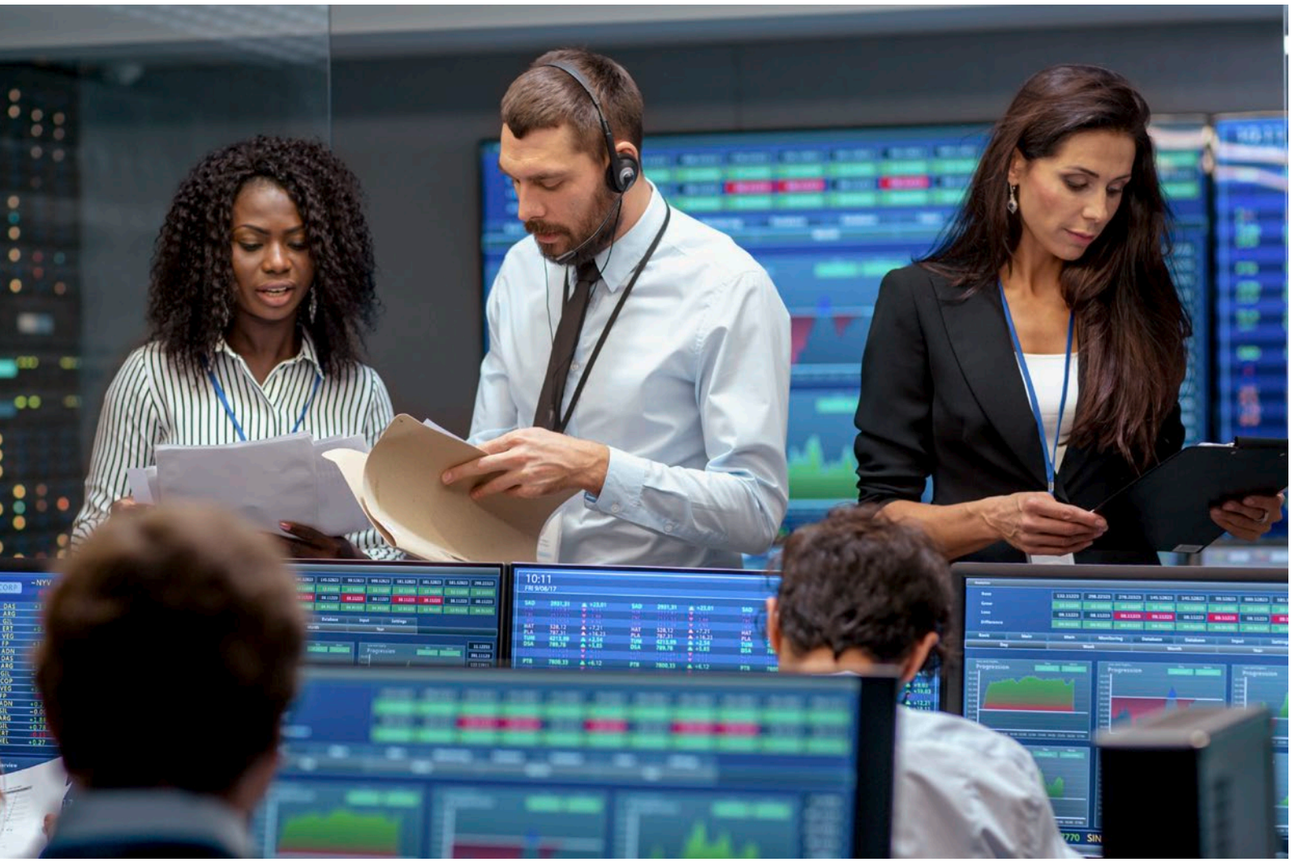
While Bitcoin was the original digital currency, thousands more digital currencies have since been created and used.

New symbols will be needed to integrate cryptocurrencies easily into our language.

Digital ID

Pierce provides a good example of how digital currency needs to be properly identified : " If you wanted to wire transfer one hundred US dollars to me, then you'd automatically be using the ISO 4217 currency codes, which identify US dollars as 'USD'. All banks know exactly what this means, and there is no confusion. There are also ISINs, defined by ISO, that identify other forms of securities such as stocks, bonds and derivatives. This results in making all transactions unambiguous by all banks around the world.

" However, digital currency has no official identifiers, names, or currency codes. Your bank can differentiate US dollars and euros, but how would they tell the difference between Bitcoin and Bitcoin Cash ? " That is the issue facing ISO. There is no authority anywhere in the world in charge of digital currencies today, so there is no official way to define Bitcoin or any other digital currency, and no universally recognized identifier for it.



Your bank can differentiate US dollars and euros, but how would they tell the difference between Bitcoin and Bitcoin Cash?

"Back in 2016, it was determined that digital currencies, such as Bitcoin, that were not issued by monetary authorities could not be assigned ISO 4217 currency codes (such as USD or EUR). However, we believe that they need a separate list of codes to identify them – digital token identifiers. These codes will eliminate confusion and allow banks and other financial entities to transfer digital tokens. By easily identifying them, we would avoid misunderstandings," Ryan explains.

As with all ISO standards, these are best-practice guidelines and not regulations. "We will not provide any opinion on the reliability of the digital tokens that would be issued identifiers as we must not make judgments. If a digital currency or token exists, then it is eligible for an identifier. That does not mean that all digital currencies that have identifiers will be reliable or valuable. Think of your birth certificate: it establishes that you're born, and you officially exist, but no other judgments (like creditworthiness or whether you are trustworthy) can be made solely based on that identifying document."

Fighting fraud

A worrying business model is emerging where companies plan to create a digital platform to provide a service, then sell tokens that can be used to pay for that particular service. Investors buy these tokens in the hopes of seeing an increase in value when the service is launched. But there have been "exit scams" that see companies taking the money and disappearing. In these cases, a DTI (digital token identifier) could still be issued for that token.

Pierce explains the valuable role in introducing DTIs to reduce fraud. "Regulators frequently ask for transaction records in regulated industries. Banks can detect suspicious financial activity and file reports if you suddenly have a hundred thousand US dollars appear in your account. But can regulators ask for transaction records on suspicious financial activity involving digital currency? Without an official digital token identifier, it would be hard for regulators to make sense of such data.

"It's not just the regulators. The average person benefits from being able to access and use the DTIs to know exactly what they are sending or receiving. I could sell my car to you for five Bitcoin tokens, but when we carry out the actual transaction, you could send me something completely different. Without an official definition of Bitcoin or a recognized identifying code, there are too many opportunities for confusion. Digital token identifiers will eliminate that confusion (or deliberate fraud) and will be an objective way to identify a particular digital currency or token."

With all that explained, it seems that ISO/TC 68/SC 2/WG 17, *Security aspects of digital currencies*, will be far more than a blank page. Watch this space! ■

Money moves

ISO 10008
(business-to-consumer e-commerce transactions)

ISO 12812 series
(mobile financial services)

ISO 20022 series
(financial messaging)

ISO 17442
(legal entity identifiers)

ISO 20488
(online consumer reviews)

ISO/IEC TS* 29003
(identity proofing)

Future standard
on digital token identifiers

COMPANY

BANK

ONLINE PLATFORM

The world is inching towards faster payments with fewer hurdles across national borders. Here's how standards for financial transactions promise to improve the flow of money for all.

*TS : technical specification

BUILDING *a framework for a sustainable future*

Tackling climate change, poverty and inequality requires an innovative financial system. In an interview with *ISOfocus*, Peter J. Young, Chair of the new ISO/TC 322 on sustainable finance, puts a compelling case for why International Standards are essential for mobilizing finance globally to address these environmental and social imperatives and ensure future prosperity.

What is sustainable finance and why does it matter? Economic growth has created unprecedented prosperity for many, but it has come at a high price – climate change, inequality and severely depleted natural resources. According to WWF, the world's leading independent conservation organization, if we are to tackle these issues successfully, huge amounts of capital need to be shifted to more sustainable low-carbon sectors.

Commitment demonstrated through both public and private investment, and a new financial system, are urgently needed to meet these challenges, and to achieve the United Nations Sustainable Development Goals, which are designed to shift the world on to a path of sustainable prosperity in just over a decade. Time is running out. At the World Economic Forum Sustainable Development Impact Summit in New York in 2019, business leaders and public figures voiced concerns about the lack of progress, pointing to a deficiency in innovative financial solutions focused on sustainability.

Photo : Peter J. Young

***Peter J. Young**, Chair of ISO/TC 322*, Sustainable finance.

So how can sustainability considerations, including environmental, social and governance practices, be integrated into the financing of economic activities? Peter J. Young, Chair of the recently formed technical committee ISO/TC 322, *Sustainable finance*, has some answers.

***ISOfocus*: With the world facing many challenges, from climate change to inequality, why is sustainable finance so important?**

Peter J. Young: Sustainable finance is at the heart of solving the biggest global challenges that confront us today. Financial activities are vital for the transition to a sustainable global society – addressing key needs such as economic stability, poverty, inequality, climate change, environmental degradation, prosperity, societal stability in peace, and justice.

Financial services are estimated to be between 12% and 19% of the global economy. This is a huge sector characterized by many segments, often operating and regulated with limited overlap. The shift towards sustainable finance requires both an increase in coherence and a facilitation by common approaches, two elements that International Standards can help provide.

Achieving the United Nations Sustainable Development Goals (SDGs) by 2030 will require doubling current investment flows to the range of USD 5 trillion to USD 7 trillion each year, requiring a significant scaling up of both capital flows and the capacity to practise sustainable finance. This is essential to deliver strong, sustainable, balanced and inclusive growth, addressing the SDGs' 2030 targets and international climate change commitments. All countries are falling short, but the greatest gap is in developing countries where a large increase in foreign direct investment is required. This can only be facilitated by increasing consistency, transparency and security in the sustainable finance market.

Why did ISO create a technical committee to address the subject?

Currently, there is no globally agreed definition of sustainable finance as applied to the practices, activities and products of the financial sector. There are also varying interpretations of what constitutes good sustainable finance practice and these issues are a drag on progress. Tackling these uncertainties is part of what ISO/TC 322 was created to help address.

A large number of voluntary and regulatory activities are being developed by countries, regions and sectors. Many of these are explicit in recognizing the benefit that International Standards could offer, although none is involved in developing such standards across the whole market. This partly reflects the fact that these stakeholders have had limited exposure to International Standards and developing them requires ISO/TC 322 to access a whole new audience, get them to engage in the ISO processes and direct them through their national standards bodies to participate. This is a challenge in itself.

The role of ISO/TC 322 is to establish a framework under which new standards may be developed to define and guide certain sustainable finance activities. This is a very broad remit which cannot be achieved without considerable contributions from other ISO/TCs (several of which already have directly applicable standards; for example, supporting management and reporting) and from external stakeholders and organizations.

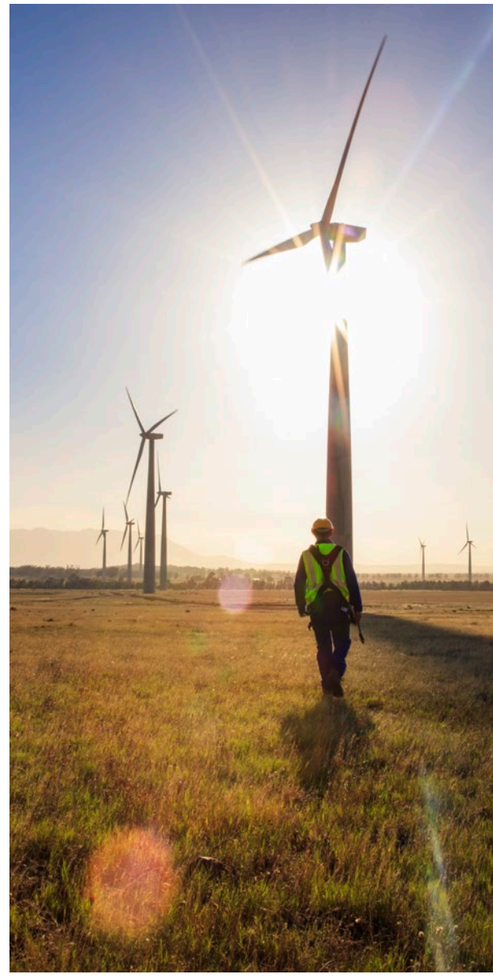
ISO/TC 322 will reach its goals, partly by providing a harmonizing and collaborative platform for all relevant sustainable finance work and partly by developing new standards, often in cooperation with other ISO/TCs as appropriate.

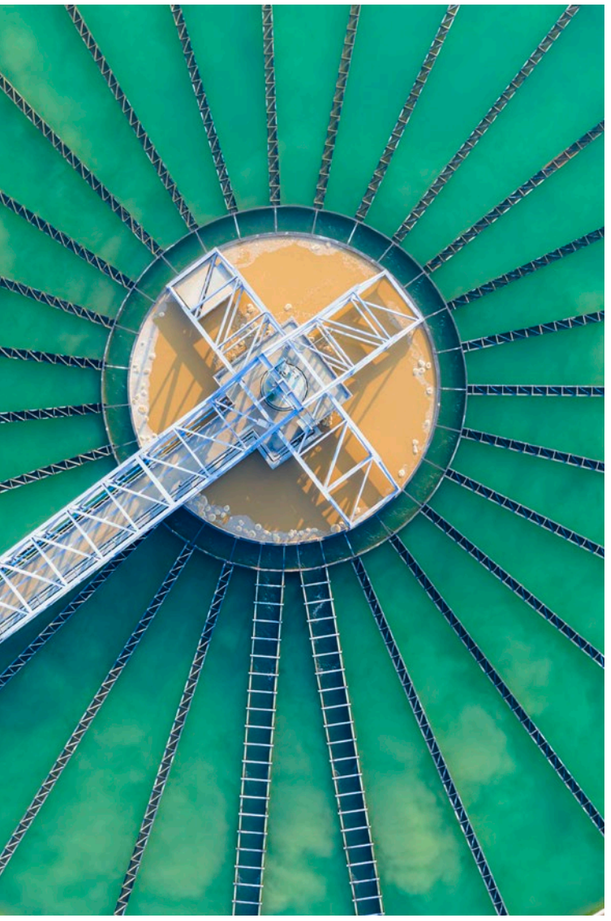
What are your goals and hopes for the TC work programme?

I believe the planned work has global implications and is of interest to a great number of countries and organizations from across the global financial services sector. This structured ISO standards programme for sustainable finance will help align global financial systems with sustainability. Specific outcomes I would like to see arising from ISO/TC 322's work include:

- Development of globally recognized common terminologies, principles and standards for sustainable finance, helping to reduce market confusion and lowering transaction, verification and communication costs for players engaged in the sustainable finance market
- Clearly defined standards to help prevent "sustainability washing", underpin the credibility, integrity and scalability of sustainable finance activities, and guide financial institutions (including banks, investors and insurers) to better integrate environment, social and governance (ESG) considerations into investment and finance practices
- Improved understanding of sustainable finance activities to facilitate the innovation and development of sustainable financial products, as well as related services such as third-party verifications and ESG data provision
- Standardized metrics to allow the measurement and improved transparency of sustainable finance flows and the ESG performance of sustainable finance activities, financial institutions and markets

The role of ISO/TC 322 is to establish a framework.





Financial services are estimated to be between 12 % and 19 % of the global economy.

What are the TC work items, if any, that are currently underway?

ISO/TC 322 aims to support the alignment of the global financial system with the SDGs by developing standards (including a terminology guide, high-level principles, a framework, and specific technical standards to populate the framework) for financial institutions and financial products. This broad remit means we need a deep understanding of existing relevant activities, whether by other ISO technical committees or external organizations.

Existing work is, therefore, focused on enabling activities involving a "stock-taking" study group to map existing initiatives and needs, and a terminology group to develop a technical glossary. This glossary – potentially in the form of a technical report – will organize and explain commonly used terms and languages on sustainable finance, including sustainable finance concepts, financial products, analytical tools, organizations and initiatives. It is already under development with a view to publishing in 2020.

The first ISO standard envisaged sets out good-practice principles for sustainable finance applicable globally. It will provide a context for the development and role of future specific standards by providing consistent understanding of sustainable finance concepts, a framework for informed decision making and risk mitigation, techniques for measuring benefits and guidance on disclosure.

Do you have any future aspirations for the standards to be developed?

ISO/TC 322's aim is to consolidate the rapid learning and innovations in sustainable finance at an international scale and enable all countries to finance delivery of the SDGs at a faster pace, lower cost and reduced risk. It wants to expose financial organizations to the value of the international standardization process. I also want us to anticipate and facilitate the trend towards a more balanced sustainable approach, competent in meeting ESG goals in even measure.

Building on the early work above (and bearing in mind that we have only existed for about nine months), my aspiration is to see a suite of technical standards developed over coming years. These could cover impact assessment requirements, disclosure requirements, verification and stewardship. Each can be applied to the major financial products which can deliver sustainable outcomes, including sustainable loans, sustainable bonds, funds, insurance, private equity and listed stocks.

Some standards will be delivered by supporting other technical committees and subcommittees (e.g. ISO/TC 207/SC 4 on its work related to sustainable lending/bonds) and some by joint working groups (e.g. with ISO/TC 207/WG 11 on green finance) to ensure the necessary expertise is convened during the standards development process. Close working relationships will have also been established with other organizations active in segments of the financial community.

Our outputs will help guide the sustainable operations of financial institutions and investees, define and classify sustainable finance activities, measure the sustainability impact, enhance transparency and ensure integrity of sustainable finance activities. They would help accelerate the growth of sustainable finance and provide reliable mechanisms for mobilizing finance globally to address our most pressing environmental, climate and social challenges. ■

ISO/TC 322's aim is to consolidate the rapid learning and innovations in sustainable finance at an international scale.

The *migration* of money

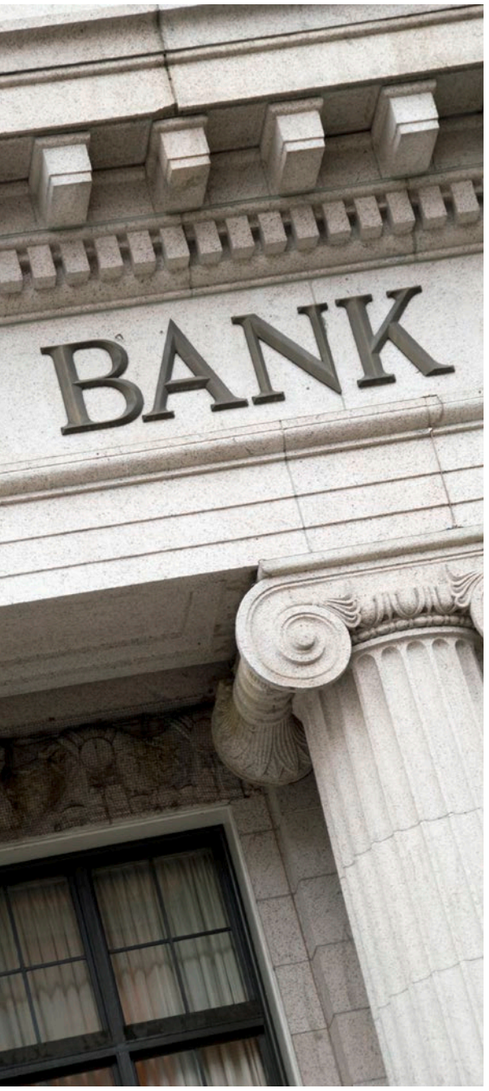
by Barnaby Lewis

The global financial system is currently undergoing its most far-reaching transformation in recent history as new market infrastructure, such as instant payment platforms, is being implemented worldwide. Underpinning these developments is ISO 20022, an international messaging standard that promises to be a game changer in payments.

The movement of goods and people is fundamental to global trade and is one of the areas where International Standards excel. From containers in which to pack goods, to electronic systems that identify contents and help with customs clearance, the headaches of moving stuff around are substantially reduced by standards. But the other half of the economic equation involves moving money, and this presents a whole different set of problems. Once again, ISO standards provide a solution.

In this *ISOfocus* dedicated to finance, we are looking at new technologies, including crypto-currencies, that can circumvent some of the issues associated with transferring conventional fiat money. But they don't work for everyone, and as you'll see elsewhere in this issue, they do come with their own problems.

People have been sending money across great distances for centuries.



Trust : the essential component

People have been sending money, and other objects of value, to each other across great distances and even national boundaries for centuries. The earliest systems were established along the Silk Road over a thousand years ago and relied on a network of people who knew each other, at least by reputation.

Simply put, a person in one place who wanted to send things of value, such as coins, to a distant partner would approach an agent in their own region and explain how much they wanted to send, to whom and where. The sum would then be entrusted to this transfer agent, who would reach out to his network of fellow brokers and couriers. In many cases, multiple parties would become involved in a chain established through meetings and written notes that would end with the person receiving their payment.

Each step along the way required trust built on an established reputation and paid for in the form of a commission. This type of system is widely known as *hawala* in the Islamic world and continues to this day. Economists might classify hawala as an "informal" value transfer system, but that name can be misleading. It may not use the same sort of corporate structures and financial instruments as western systems, but it is highly organized, has stood the test of time and is trusted and widely used today. In fact, millions of migrant workers rely on hawala to send money back home to their families, particularly in countries where banking infrastructure is less developed, or has been wiped out through disaster.

Down to the wire

It was only at the end of the 18th century that a system for sending money was created within the western banking model. This began with money orders, which were effectively promissory notes that could be exchanged and redeemed between specified parties. The broker in the middle would typically be an institution, rather than a network of individuals.

The system was established in the United Kingdom where, in later times, post offices fulfilled the role of issuer and broker of the arrangement. It is their involvement, and evolution of the system, that gives rise to the name "postal order" for this type of transfer. Like hawala, the system is still in use today and is invaluable for those who don't have a bank account. And like hawala, the central element is trust. All parties must be confident that the instruction given will be clearly understood, reliably transmitted and the payment honoured.

Despite significant operational differences between systems, these same principles are essential to any successful money transfer system, as I learnt when I spoke to Karin Deridder, Head of Standards Development at SWIFT, an organization that facilitates more than ten billion successful financial transactions each year.

The rise of SWIFT

Karin started out giving me some much needed background. SWIFT, whose name is an acronym for the Society for Worldwide Interbank Financial Telecommunication, is a global organization based in Belgium that has established a network to enable financial institutions around the world to send and receive information about transactions in a secure, standardized and reliable way. It came in to being when existing systems such as money orders and, later, wire transfers just couldn't keep up with the pace of post-industrial finance.

Asked about the role of standards, Karin is clear that things simply couldn't function without them. "Since its inception in the 1970s, standards have been an essential component of SWIFT's way of working." As such, SWIFT has a close working relationship with ISO, acting as the Registration Authority (RA)[1] for ISO 13616 (which covers International Bank Account Numbers [IBAN]), ISO 10383 (which defines Market Identifier Codes [MIC]), ISO 9362 (which defines Business Identifier Codes [BIC]), ISO 15022 (which covers securities) as well as ISO 20022 (which defines how financial messages are structured).

SWIFT facilitates more than 10 billion successful financial transactions each year.

1) An RA is an independent body charged with the task of maintaining key parts of International Standards. You can find out more about these organizations and the standards they maintain by searching "Registration Authority" on ISO.org.

The benefits are widespread, as Karin explains: "All these standards are important to SWIFT's customers as they increase operational efficiency and straight-through processing (whereby electronic data for settling payments can be transferred directly from one party to another, reducing errors and work replication)."

It's not just money that's migrating

SWIFT, together with hundreds of other financial organizations, recognizes that the predictability and consistency offered by standards is essential to secure and trusted transactions. And with the volume and complexity of these transactions increasing, they work closely with ISO to keep standards in line with market practices and new business requirements, including regulatory ones. *ISOfocus* looks at one of the most talked about finance standards, the ISO 20022 series, which defines a universal financial industry message scheme.

To industry insiders, "migration" is the term most commonly associated with ISO 20022. But it's not the whimsical notion of money moving from place to place, so much as the process of changing systems from SWIFT's proprietary MT (Message Type) standard to ISO 20022 for cross-border payments and reporting, and implementing procedures that will take advantage of the full range of capabilities offered by ISO 20022.

It's a change, but Karin reassures me that it's one that is being carefully managed. "SWIFT is actively engaging with its customers and industry players in order to use the ISO 20022 common language and model that will ensure end-to-end consistency in traditional as well as new ecosystems."

If it ain't broke, don't fix it

This wisdom was drummed into me as a child as I happily dismantled appliances, bicycles or furniture that seemed to be in need of a check-up. It's worked to curb my tinkering, and limit the number of "projects" that I have on the go at any one time, so I put the question to Karin: If it's working now, what are the advantages of changing, especially given the substantial investment and planning required (migration is a multiyear project for many organizations)?

Here's what she said: "ISO 20022 facilitates the creation of new services and simplified end-to-end processing. It will enable richer, better structured and more granular data to be carried in electronic messages in business domains such as payments, securities, foreign exchange, and even your credit cards."

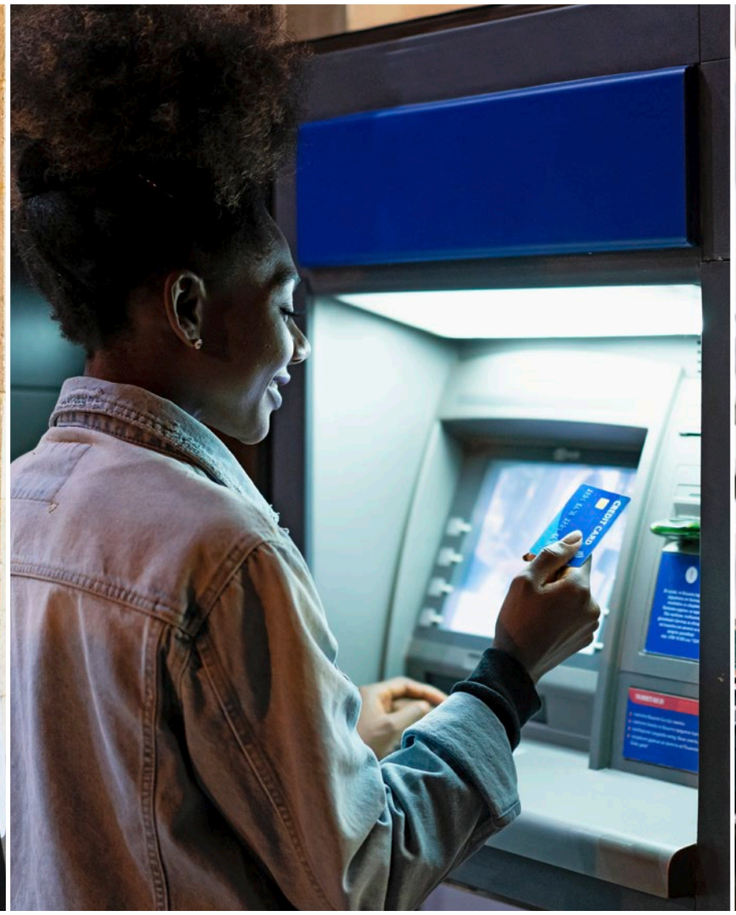
The predictability and consistency offered by standards is essential to secure and trusted transactions.

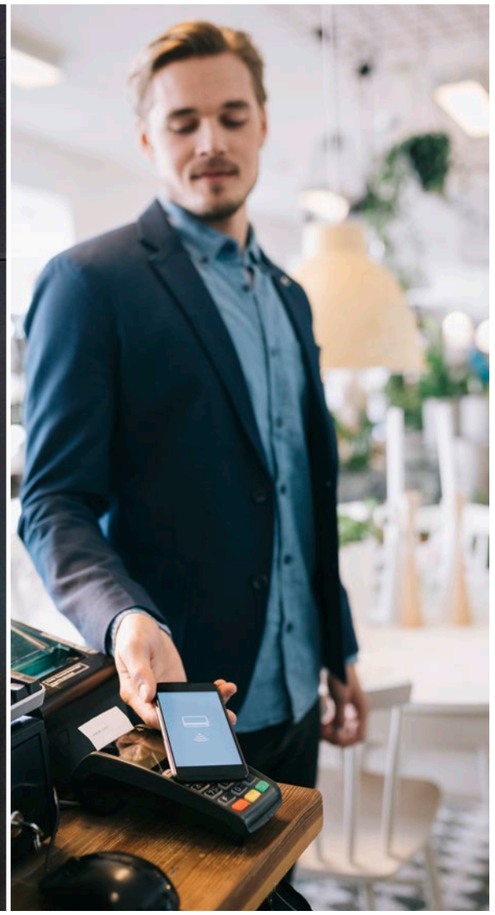
Karin points out that it's not just that the process is made simpler, but that the "quality" of data in these electronic messages will be improved. "For example, for payments this means more transparency and more remittance information for your customers, which in turn means better customer service." I can begin to understand the attraction; as a customer, I get a better experience because quality data means quality payments.

Highlighting additional migration benefits for those who are already using SWIFT systems, Karin says that ISO 20022 promises "even better tracking, transparency and speed". Further operational benefits include improved analytics, less manual intervention, more accurate compliance processes, higher resilience and improved fraud prevention measures.

Get with the programme

With payment systems of major reserve currencies adopting ISO 20022, the financial community came to a consensus decision to move to the International Standard in "financial-institution-to-financial-institution" payments and reporting.





5 THINGS YOU MUST KNOW ABOUT ISO 20022

First published in 2004, ISO 20022 is widely recognized as the standard of the future. As well as being flexible enough to work with the latest technology, ISO 20022 can also adapt to new technology as it emerges.

1 ISO 20022 is **AN EMERGING GLOBAL AND OPEN STANDARD** for payments messaging.

2 ISO 20022 creates **A COMMON LANGUAGE** and model for payments data across the globe.

3 ISO 20022 can be **USED BY ANYONE** in the industry and implemented on any network.

4 ISO 20022 provides **HIGHER-QUALITY DATA** than other standards, which means higher-quality payments for all.

5 ISO 20022 covers **FINANCIAL INFORMATION** transferred between financial institutions.

Source : **www.swift.com**

SWIFT has orchestrated a specific programme to facilitate this community-wide adoption. “The ISO 20022 programme will establish a new messaging service, coexistence measures to support migration, training and adoption services towards this goal,” Karin tells me. A realistic time frame has been established, with new ISO 20022 messages, compliant with agreed market practice, set to go live on the SWIFT platform from November 2021. After a period of four years of coexistence, the corresponding legacy messages (known as SWIFT MT) will be decommissioned on the SWIFT platform.

For the time being, the adoption of ISO 20022 on the SWIFT platform applies only to payment instructions and reporting messages exchanged bilaterally between financial institutions. However, ISO 20022 clearly has the potential for much wider application, and I put it to Karin that other sectors will surely be asking if they also need to migrate. “Other transactions such as corporate payments and cash management, securities post-trade, clearing and settlement, corporate actions, foreign exchange, treasury and trade finance are currently not in scope,” she confirms.

Customer benefits beyond migration

ISO 20022 is an increasingly established global language for payments messaging. Already used by payment systems in over 70 countries, in the coming years it will be the *de facto* standard for high-value payment systems of all reserve currencies, supporting 80 % of global volumes and 87 % of value of transactions worldwide.

By creating a common language and model for payments data, ISO 20022 significantly improves the quality of data across the entire payments ecosystem. Richer, structured, meaningful data will enable new client experiences, while improving compliance and efficiency. It’s about getting the fundamentals right, and future-proofing business. As Karin concludes: “ISO 20022 is flexible enough to meet the needs of today and those of tomorrow.” ■

TRAVEL THE WORLD
WITH ISO

ISO's 2020 calendar delivers two things: breathtaking pictures and standards titbits. Taken by staff from ISO member bodies and the ISO Central Secretariat, the images are a collection of travel souvenirs, each linking to a different ISO standard. From Swedish lakes to Chilean sand dunes, the photos were selected via a social media competition run during the **#travelstandards** campaign in August 2019. The ISO 2020 calendar is now available to download on **ISO.org**.

PARTNERSHIP
FOR LIGHT

It's easy to take light for granted. After all, it surrounds us. Entire cities, including homes and workplaces, harness the power of light through many technologies to create pleasant experiences for people, improving the way they live and work. That is why ISO values its partnership with the International Commission on Illumination (CIE), with whom it has just signed a Partner Standards Developing Organization Agreement (PSDO).

The new agreement will provide opportunities to jointly develop International Standards through ISO's technical committee ISO/TC 274, *Light and lighting*, thereby serving the global community in the field of application of lighting.

The PSDO builds on over 30 years of cooperation between the two organizations, which began in December 1986 when ISO entered into a tripartite Memorandum of Understanding (MoU) with the CIE and the International Electrotechnical Commission (IEC) to avoid the overlapping or duplication of work in the field of light and lighting.

20 YEARS OF SPANISH AT ISO


Photo : NC

Participants at the training session in Havana, Cuba, commemorated 20 years of Spanish translation.

The first ISO Spanish Translation Task Force recently celebrated its 20th anniversary. In 1999, a pioneering resolution was passed at the ISO/TC 176 plenary meeting in San Francisco, USA, with the purpose of having a single Spanish translation of ISO 9001. The translation would guarantee a consistent Spanish language version of the ISO 9001 standard on quality management, under preparation at that time.

This first experience built the foundation of the Spanish translation process at ISO, enabling the model to be replicated in other ISO/TCs. These official versions, now numbering over a hundred standards, bring linguistic cohesion throughout the Ibero-American community, supported by a single Spanish version published by ISO.

Established in 2007, the Spanish Translation Management Group (STMG) – under direct responsibility of the Technical Management Board – oversees all ISO translation bodies in Spanish and approves the annual work programme. This is undertaken while coordinating the publication of deliverables at the ISO Central Secretariat.

Photo : SAC

*ISO Secretary-General **Sergio Mujica** speaks at the 2019 Qingdao Forum on International Standardization.*

STANDARDIZERS MEET IN QINGDAO

Focused on the theme "International Standards and the Fourth Industrial Revolution", the 2019 Qingdao Forum on International Standardization (QFS) ran on 27-29 October in Qingdao, China, under the guidance of ISO, the International Electrotechnical Commission (IEC), the International Telecommunication Union (ITU) and the Standards Administration of China (SAC), ISO's member for the country.

Hosted by the Qingdao Municipal Government, the Forum discussed the trends and achievements of standardization in five important sectors, namely the modern marine industry, international intelligent manufacturing, environmental protection, new display industry, and talent training. It is believed to have reached more consensus and facilitated practical cooperation on the development of global standardization for today's digital economy.

This is the second QFS held in Qingdao, indicating that the coastal city will play a leading role in the future process of industrial civilization and modernization through standards. As an example of this process, ISO Secretary-General Sergio Mujica cited the automated port of Qingdao as "a fully integrated solution to the physical, digital and virtual reality". It can be a role model for the world, he said, concluding that "ISO needs China, and China also needs ISO."

ISS MARKS 85 YEARS
OF STANDARDIZATION

ISS, Serbia's national standards body and ISO member for the country, proudly celebrated 85 years of loyal service to standardization last September in the capital Belgrade. Celebrations were held in the presence of ISO Secretary-General Sergio Mujica and Elena Santiago Cid, Director General of European standards organizations CEN/CENELEC, both guests of honour at the event.


Photo : ISS

***Elena Santiago Cid**, Director General at CEN/CENELEC receives a commemorative certificate from ISS Director **Tatjana Bojanic**.*

"ISO is in safe hands," said Mr Mujica, paying tribute to the region's rich standardization history, while Ms Santiago Cid referred to ISS as a "success story" in European standardization. Both leaders were later awarded a commemorative certificate by ISS Director Tatjana Bojanic in recognition of their organizations' contribution to the advancement of Serbian standardization.

Standards development in the region has come a long way since the first attempt at an institutionalized form of standardization for former Yugoslavia emerged in the 1930s in Belgrade, Ms Bojanic reminded the audience. Now ISS boasts 30 000 Serbian standards covering almost every aspect of life. The milestone anniversary was celebrated under the motto "Life in the Standards World", designed to raise public awareness to the importance of standards.

CHINESE *ISOFOCUS*
NOW AVAILABLE ONLINE

Whether a multinational enterprise faced with major decisions or a small business looking for ideas, *ISOfocus* magazine seeks to provide both the kind of overviews that strategic planners need and the little details that can make a big difference. And now the magazine is available in the Chinese language.

The Chinese edition of *ISOfocus* joins the already existing PDF versions in English, French and Spanish available on **ISO.org**. The English edition of the magazine has been published by ISO since 2005 (and prior to that under different variations of the same name) and has grown to be one of the leading standardization magazines in the world. With the addition of the Chinese edition, *ISOfocus* will now be able to leverage the Chinese-speaking market and grow its readership base even further.

The Chinese edition is made possible with the support and contribution of SAC, ISO's member for China, and the China Standardization Press (CSP).


Photo : CNIS

Participants at the APEC Forum in Beijing, China.

APEC GOES FOR SILVER

Economies of the Asia-Pacific Economic Cooperation (APEC) gathered last September in Beijing, China, to discuss the role of standards for driving employment in APEC's silver economy. The Forum was a response to the significant challenges associated with an ageing workforce across the Asia-Pacific region. Experts from ISO's technical committee ISO/TC 314, *Ageing societies*, also attended the event, hosted by the China National Institute of Standardization (CNIS).

The Asia-Pacific region is ageing fast, heralding a potential crisis for labour markets through the lack of young professionals, but also employment opportunities that APEC needs to collectively harness for a healthy workforce participation of the elderly. The event was an opportunity to identify common employment challenges, share best practices and explore possible standardization solutions for the APEC economies.

"This forum focused on the use of standardization to resolve employment problems within the silver economy, such as the insufficient supply of youth labour resources, the extension of retirement ages, and the unsustainable employment and re-employment of the elderly population," explained Lili Cao, of the CNIS Sub-Institute of Service Standardization that organized the event.

A large chunk of India's population lies on the outskirts of the formal economy.

Financial services for all

by Ann Brady

In the world of haves and have-nots, nearly two billion people globally lack access to the mainstream financial system. Why does this matter and what can be done to tackle the issue? Experts explain how International Standards can help to establish transparency, rebuild trust and solve the identity crisis in the digital age.

Money makes the world go round, or so the saying goes. Great when you have it; not so good when you don't. And in this day and age, it can be catastrophic for those who not only have little or no money but who also do not have access to the formal financial sector, which includes financial services such as banking, bank accounts, access to credit and financial products. Financial services are the foundation on which so many of us – as individuals and businesses – depend to make a decent living.

Financial inclusion is regarded as an enabler for seven of the United Nations' 17 Sustainable Development Goals (SDGs). For example, SDG 1 is to end poverty in all its forms, and access to a properly regulated financial system would go a long way to helping the most vulnerable who put their lives at risk daily in desperate measures to make a living. The World Bank Group considers financial inclusion so fundamental to universal well-being that it has launched a global goal to reach universal financial access by 2020.

Paradoxically, those who have most difficulty acquiring banking services are the very people who could most benefit from them. For example, the working poor tend to access credit informally through pawnbrokers and money lenders who can charge exorbitant interest rates, much higher than any quoted at formal commercial banks. What's more, they also often lack the financial literacy allowing them to plan ahead and expand their enterprise. Financial inclusion could give them a real chance of climbing out of poverty.

People queue for money at a bank in Khartoum, Sudan.

Patchy uptake

Although the digital age, with the spread of the Internet and the global usage of smartphones, has played a big part in lifting people out of poverty, the move towards financial inclusion is uneven and in some countries progress has been slow. According to the World Bank 2017 Global Findex report, about 1.7 billion adults around the world still remain unbanked. And this is not just a problem for developing countries, nearly 40 million citizens in the European Union alone, for instance, still do not have a bank account.

However, according to the Global Findex, nearly half of the world's unbanked populations live in Bangladesh, China, India, Indonesia, Mexico, Nigeria, and Pakistan. Many of these are women, living in poor rural areas – so-called micro-entrepreneurs, small stallholders selling food and drink, who keep their money at home, stashed in jars and bags, with the attendant risks. And while mobile technologies are conquering poorer regions, spurring the development in 2017 of the ISO 12812 series designed to bring secure financial services to a wider audience, still, for many people, it is safer to keep money at home than in a bank.

The financial crisis of 2008 undermined public trust in the financial system and banking, and, ten years on, this trust remains low. How can confidence in financial institutions and the financial system be restored? And how can ISO standards help? One person with a key understanding of these issues is Stephan Wolf, Chief Executive Officer of the Global Legal Entity Identifier Foundation (GLEIF), and Co-Convenor of the ISO/TC 68 FinTech Technical Advisory Group (ISO/TC 68 FinTech TAG), set up by ISO's technical committee ISO/TC 68, *Financial services*, to establish proactive dialogue with financial institutions and regulators. "Trust starts with transparency about identity," he says. "And a global identity is the starting point to foster growth and prosperity for economies worldwide."

Financial services are the foundation on which so many of us depend to make a decent living.

The issue of identity hit the headlines in 2016 with the release of the Panama Papers. The investigation by the International Consortium of Investigative Journalists (ICIJ) into the offshore finance industry exposed a murky world of tax evasion and money laundering and showed how the rich exploit secretive offshore tax regimes. So far, according to the ICIJ, more than USD 1.2 billion in back taxes and penalties has been recovered around the world.

A trusted identity

For developing countries, Wolf says that one of the many challenges is the lack of a trusted identity for small and medium-sized companies and those individuals acting in a business capacity for these companies in order to know whom you are doing business with. "In many developing countries," he says, "more than 50% of economic activity is conducted by unregistered companies – businesses that lack transparency and identity. Those remain cut off from essential services, such as supply chains and payments. When that happens, there is higher vulnerability to corruption and bribery, economic decline and dependency on development aid."

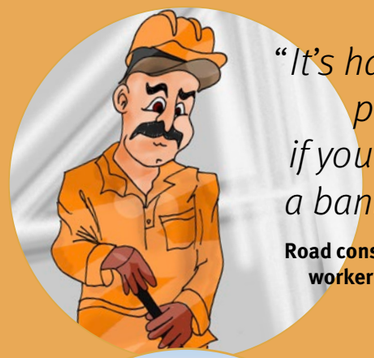
He goes on to explain that the Global Legal Entity Identifier (LEI) System is designed to uniquely and unambiguously identify participants in financial transactions. "Initiated by the G20, the Global Legal Entity Identifier System delivers a unique identification scheme as open, public good. It is accessible and free of charge for everyone."

Research by GLEIF indicates that a globally accepted approach, based on the broad adoption of the LEI, "would remove complexity from business transactions, deliver quantifiable value to financial services firms and lead to financial inclusion", Wolf says. And, he adds, ISO is an integral part of this approach as the LEI is an ISO standard (ISO 17442).

Another expert, Robin Doyle, Managing Director, Office of Regulatory Affairs at JP Morgan, and an active member of the ISO/TC 68 community, underscores the significance of establishing trust and the challenge of providing identity assurance for the one billion people who are without any legal/government issued credentials. "As documented in the Global Findex Database 2017, barriers to financial inclusion include lack of necessary documentation, financial institutions located too far away, high cost of opening accounts – and a lack of trust," she says. Such challenges require innovative thinking and new approaches to allow underserved populations to enter the financial markets.

A WORLD OF INCLUSION

Achieving the United Nations Sustainable Development Goals (SDGs) would be a lot tougher without bringing people into the banking system. Here are seven areas where financial inclusion works towards an all-embracing society.



"It's harder to get paid at work if you don't have a bank account."

Road construction worker in Brazil

"Farmers who have access to financial services produce more bountiful harvests."

Tobacco farmer in Malawi

"Digital payments help me pay for my medical expenses."

Single mother in India

"Having my own savings gives me economic power."

Female market vendor in Kenya

"Access to a bank allows me to increase my income and have a better life."

Fisherman in Indonesia

"Micro-loans have enabled us to start our own business."

Market stallholders in the Philippines

"Being able to manage my money helps me build a decent life for my family."

Family man in Nepal

Source: Seven SDGs highlighted by the World Bank

Illustrations: Alexane ROSA

Regulated entities

Doyle points out that financial institutions are highly regulated entities and onboarding of customers requires strict compliance with know-your-customer (KYC) laws and regulations. "Compliance risk is high if current rules are not met," she says. Rules aside, she goes on to say that the ability to unambiguously verify the authenticity of a person "is key to preventing criminals from accessing the financial system for nefarious purposes such as money laundering, terrorism and human trafficking".

Finding new and innovative ways for verifying identity could help financial institutions tackle this challenge. Doyle says new approaches could include moving away from the gathering of traditional government-issued documents. She cites the growing use of smartphones in underserved populations as "an opportunity to leverage a person's digital footprint as a means to identification and verification".

Indeed, as the world moves deeper into the era of the Fourth Industrial Revolution and the economy becomes ever more digitized, the question of identity gains even more significance. Wolf explains that no one knows, globally, what companies exist in the world, nor how they are related. That is a big problem, he says, for regulation, research, resolution, transparency, and basic business efficiency. He points out that transactions among business partners will be in real time and warns that "without a secure identification system as a foundation, it would be nearly impossible to manage a trustworthy business". He says: "Looking beyond financial services, GLEIF is convinced that the LEI could serve as a key 'data connector' to advance digital entity identification and to simplify identification for the digital age."

For Doyle, it is clear that new approaches to onboarding and KYC need to be accepted by the regulatory community. If that were the case, she says, banks could "better support financial inclusion by helping the unbanked to gain access to the financial system and be a trusted source of identity verification for them".

A harmonized approach

She believes, like Wolf, that ISO has a clear role to play. She points to its work in newly convened ISO/TC 68's working group WG 7 on addressing the challenges of assuring identity for natural persons, adding that ISO can promote a harmonized approach "using open standards in support of the broad diversity of jurisdictional identity regimes providing for consistency and interoperability of approaches taken by nations around the world". ISO's work, she says, will need to take into consideration not only traditional means of identification but must establish principles and standards that will support financial inclusion and the emerging digital economy.

ISO is also working with the International Telecommunication Union (ITU) in developing standards for secure digital financial services (DFS). Both organizations are working on different standards for security for digital financial services, with ISO focusing more on the financial services side and ITU on the technical standards related to the underlying telecommunications infrastructure and applications. Vijay Mauree is the main focal point for DFS at the Standardization Bureau at ITU and coordinates ITU's contribution to the Financial Inclusion Global Initiative (FIGI), a joint programme led by ITU, the World Bank Group, and the Committee on Payments and Market Infrastructures of the Bank for International Settlements. FIGI is supported by the Bill & Melinda Gates Foundation.

The World Bank says that the spread of the Internet and the rapid growth of digital technologies have accelerated the rise of financial inclusion worldwide.

Mauree explains that under FIGI, ITU is leading the Security, Infrastructure and Trust Working Group, which is composed of four workstreams: security; distributed ledger technology for financial inclusion; quality of service; and trust. The working group's activities in the field of cybersecurity support financial sector authorities to better understand the threats, targets, risks and impacts of cyber-attacks, and to deploy adequate tools to increase cybersecurity. Mauree says: "The technical reports produced by the working group are stimulating new work in our standardization expert groups, ITU Study Groups."

Mauree was also the coordinator of an ITU initiative investigating Digital Fiat Currency (DFC), digital currency authorized and issued by a country's central bank. The initiative concluded its activities in June 2019 with the delivery of seven technical reports detailing the requirements of DFC as they relate to regulation, technical and business dynamics, and security. These reports will also feed into the standardization work of the ITU Study Groups, explains Mauree. He points out that highly developed countries are piloting DFC to ensure that their central banks retain authority over money management as the use of cash declines. "Developing countries that are home to populations without access to bank accounts see considerable potential for DFC to contribute to greater financial inclusion. ISO also participated in our DFC activities to share the work that is being done at its level in this field," he says.

Tackling uncertainty

In digital financial services, Mauree says one of the greatest risks and challenges to achieving universal financial inclusion is the uncertainty that can be created in the cross-cutting nature of DFS regulation and supervision. "DFS regulators need to create an enabling DFS environment for financial inclusion. To do so, they need to develop policies and regulations that foster innovation, promote competitive markets, and enable the efficient and sustainable provision of high-quality financial services."

As well as ensuring that consumers – particularly those who are poor – are protected from unfair practices, he says that "regulators need to ensure that the risks introduced by new providers and business models are effectively managed to maintain financial sector stability".

Governments have a key role to play in closing the financial inclusion gap. According to Mauree, only 25% of developing countries process their cash transactions and social benefits electronically. "It is, therefore, important for governments to create policy environments that encourage digital financial inclusion," he says. In the Philippines, for example, "the regulator has quickly allowed digital platforms that can be leveraged by government and the private sector in delivering services, transacting with their partners and the general public to bring more people into the financial system".

Progress has been made. The World Bank says that the spread of the Internet and the rapid growth of digital technologies have accelerated the rise of financial inclusion worldwide. Giving people access to the mainstream financial system enables them to channel their savings into investments; to buy insurance products that protect them in times of risk and ill-health; and pay for their children's education.

ISO standards go a long way to ensuring that individuals and companies can enjoy the benefits of responsible and sustainable financial inclusion, helping the world go round more smoothly for everyone. ■