CURRENCY NEWS™

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6 Months On – the Effects of Indian's Demonetisation

It has been six months since India's Prime Minister announced the immediate demonetisation of the ₹500 and ₹1,000 banknotes, resulting in the highly reported cash crisis within the country.

The removal of India's two most commonly used banknote denominations last November was stated to be part of a crackdown on counterfeiting, corruption and illegal cash holdings. It saw 85% of cash in circulation, with a value of around 17 trillion rupees ($249 billion), become worthless overnight.

At the same time, the Reserve Bank of India (RBI) stated it would issue two new banknote denominations to replace the withdrawn notes, an upgraded ₹500 and a new value ₹2,000 denomination. Only the new ₹500 notes were available for immediate issue.

It also set cash withdrawal limits to manage demand and to restrict those attempting to exchange suspiciously high volumes of banknotes – a target of the campaign.

Initial impacts

Long queues quickly formed outside banks, post offices and ATMs as people tried to make cash withdrawals and exchange or deposit their invalid banknotes before the 30 December deadline. Those from rural areas travelled for hours, even days, to reach their nearest bank. Severe cash shortages were reported throughout the country as the RBI, cash management and CIT companies struggled to cope with demand.

The initial impact had a huge effect on the entire country but it was particularly detrimental to India's unbanked citizens, consisting of almost 40% of the population (according to the World Bank). Without a bank account in which to deposit their now demonetised banknotes, they were only permitted a single opportunity to exchange these, and even this was subject to withdrawal limits set by the Reserve Bank of around Rs 4,500, worth less than $70.

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Award for New Swiss Franc

The Swiss 50 franc (CHF) is the winner of the Bank Note of the Year Award for 2016, made by the International Bank Note Society (IBNS). With nearly 120 new banknotes releases last year, over half were of a sufficiently new design to be eligible for nomination and the CHF 50 was the winner out of a shortlist of 19.

The runners-up in what the IBNS described as 'very tight voting' (by its members) were the Maldive Islands 1000 rufiyaa 'turtle/whale shark' note, Argentina's 500 peso 'jaguar' note, and the Royal Bank of Scotland's first £5 polymer note. The awards are made on the basis of artistic merit, design, use of colour, contrast, balance, and security features

The IBNS has over 2,000 members worldwide, all of whom can nominate the banknotes. Recent winners include New Zealand in 2015, Trinidad & Tobago in 2014 and, for the three preceding years, Kazakhstan.

The CHF 50 is the Swiss National Bank's first new design in 20 years. Printed by Orell Füssli Security Printing, it features wind and national experiences and used the three layer *Durasafe*® composite. The bright green vertical banknote depicts dandelion seeds, a paraglider aloft in the mountains and a striking human hand.

The next new note in the new Swiss series, the CHF 20, will go into circulation this month.

Currency News™ – the Journey Between Then and Now

***Currency News*™ will be 15 years old next January. But its actual conception, as opposed to its birth, was at the Currency Conference in Hawaii in 2002. Given that this issue is being circulated at the 2017 Currency Conference, where the latest technologies and developments in cash will be debated, we have done a 'then and now' comparison of how things have changed, or haven't, in the intervening years.**

Inside this Issue

In that first issue, nearly 15 years ago, the editorial stated that '…currency in the early part of the 21st century is changing faster than ever… as currency evolves, so the community involved professionally with it needs to adapt and itself evolve… currency now exists in many forms, physical and electronic, and involves governments and commercial businesses in its design, production, distribution, management and destruction… in this dynamic climate, communication and information help all members of the currency community to understand and respond to these changes'. And then, 'Currency News will contribute to and be the means for, greater communication within this community'.

To reinforce the need for our publication, we said 'communication brings greater knowledge which in turn means greater understanding, strengthening its component parts and therefore the whole. This can only help the community in a time of rapid change and many challenges'

So have those key 'messages' changed in the intervening years. The answer, we believe, is 'not really'. In reality, the key drivers remain much the same. But it is the pace of change – and how this change has manifested itself – over the past one and half decades that has been so fascinating.

Take the issue about communication. The need for this remains the same. But there is no absence of information these days – indeed, the opposite is true. We are all suffering from information overload. Blogs, newsfeeds etc were beginning to make themselves felt back in the early 'noughties', but social media as a mass means of business communication was still in its infancy (hard to believe that Facebook, Twitter and YouTube only arrived in the middle of the decade).

For a traditionally guarded industry such as ours, getting any sort of information then was a novelty. The same cannot be said today, where information is available through not only an expanded media but through formal and informal exchanges over the internet where facts, fiction and opinion all feature.

Currency News still provides information on industry developments, but, as originally intended, in a trusted manner. It is a reliable, focussed source of analysis and information, a filter for all the news, real or 'fake', that is out there. The value of this, in an information-overloaded world, cannot be overstated!

As for the issues facing the industry, one of the most dramatic differences between then and now is digitisation, in all its forms, which has been both a blessing and a curse. It has put the means of production (ie. counterfeiting) into the hands of many, but it has also created a myriad of opportunities for enhanced production, security and distribution.

The other dramatic difference is the advance in telecommunications which, combined with digitisation, has led to a plethora of alternative means of payment. But this has helped drive economic growth which, in turn, has fuelled demand for all forms of payment, cash amongst them.

Which leads to that old chestnut – what is the future for cash? The difference between 15 years ago and today is that cash is now losing ground. In some countries, cash is no longer king and, in a couple, could be heading for extinction altogether, if the regulators have their way. While 'death' is too strong a word, a smaller share of cash in the overall payments landscape – certainly in percentage terms and probably in real terms too – is likely.

What is also on the cards is the demise of cards. Who could have foreseen the dwindling hegemony of the traditional payment providers, and the startling rise and number of new ones? And that the main transactional vehicle could ending up being the phone, or rather, the smartphone, the first of which (the iPhone) wasn't launched until 2007.

So while the overall direction of the journey of cash in the last 15 years has been broadly in line with the statements we made back then, the speed at which it has travelled has been faster, and there have been many more 'vehicles', so to speak, joining it on the road.

Cash is more sophisticated than ever, ditto the tools for its production and distribution. But, with alternatives snapping at its heels, the need to generate efficiencies to keep it cost-effective will be greater than ever.

So we look forward to providing not just a commentary of the journey of cash in the next 15 years, but to influencing the story with facts, figures and other relevant data. By then of course, many of us – and our readers – will have retired – and perhaps be sunning ourselves in Hawaii, where Currency News first came into being!

News in Brief

Cash and Financial Inclusion

A new report from the ATM Industry Association (ATMIA) – 'Access to Cash: the First Step toward Financial Inclusion' – estimates that 2 billion adults worldwide live without a bank account. Unable to provide financial security for themselves or their families, this vulnerable 'unbanked' part of the population relies primarily on cash for survival.

The greatest barrier to having a bank account is a lack of sufficient funds. Other reasons include living in an underserved rural area, the inability to prove one's identity and lack of financial literacy. Over 200 million micro, small and medium-sized businesses also lack access to basic bank accounts and adequate financing.

Financial exclusion only reinforces the marginalisation of those who suffer from these more entrenched social problems, says ATMIA.

Rather than drawing a line among the world's marginalised between the 'haves' with access to digital payments and the 'have-nots' whose social conditions preclude the luxury of such instruments, cash-friendly programs successfully boost inclusion by building upon the tool that these communities most trust and know best.

Aid to the impoverished has traditionally consisted in delivering commodities or vouchers that restrict payments to a list of specific goods. Today, however, organisations like the Red Cross are leading a new trend towards direct cash transfers in humanitarian aid, empowering those in need to provide for themselves in the ways they know best.

Promising solutions to the lack of a financial infrastructure have emerged, meanwhile, in the form of mobile payment systems, like M-Pesa in Kenya (which has made access to cash easier), as well as new schemes to raise the presence of automatic teller machines (ATMs) in these underserved areas.

Cash is reinjected in the local economy and offers flexibility and dignity to those in need. 'Even when money is sent electronically, it is most often converted into cash', concluded the report, and digital systems, as a faster and cheaper way to engage in transactions, can eventually raise the demand for cash, as the case of M-Pesa demonstrates.

The ATMIA study, authored by Guillaume Lepecq with co-author Jonathan Hollor, can be found at **www.atmia.com**.

Australia Opens New National Banknote Site

The Reserve Bank of Australia has opened a new cash distribution centre and vault as part of its Banknote Infrastructure Modernisation Program, designed to increase banknote storage and processing capacity, introduce new technologies and systems to improve banknote logistics processes and simplify distribution arrangements with cash-in-transit companies.

There are currently1.5 billion banknotes in circulation – or an average of 62 notes for every Australian (according to a report published by the RBA late last year). The RBA also holds large stocks of banknotes to meet fluctuations in demand and for emergencies, such as the run on cash during the 2008 global financial crisis.

The RBA is in the midst of the issue of a new generation of banknotes, and the new facility – the National Banknote Site (NBS) – is intended to enable the transition to the new series and meet the Bank's storage, distribution and processing requirements for the next 25 years. At a cost of A$72 million, it is the Bank's first major investment in banknote storage and distribution for decades and is expected to handle over 5 billion banknotes during the transition period.

In addition to a new 'super vault' in the new two-storey building, the modernisation programme includes the introduction of new banknote containers, automated note storage and handling systems, an upgrade of the existing banknote management systems, and two additional high speed banknote processing systems. It will become operational later this year.

Global Demand Returns for RCM

The Royal Canadian Mint (RCM) has reported a 15% increase in sales to C$2.64 billion in 2016. Consolidate profit before tax was C$32.9 million, compared with a loss of C$38.4 million the previous year. The 2015 figures have, however, been restated to take into account an impairment arising from a reclassification of revenues in the bullion and numismatic businesses. Without this impairment charge the pretax profit for 2015 was C$27.1 million.

Bullion accounted for the lion's share of revenues – 76%.

In the circulation coin business, the reduced availability of recycled coins (due to two financial institutions dropping their recycling programmes) resulted in an increase in production – from 350 million to 533 million coins. However, income was down by 5% to C$90 million due to lower fixed costs.

In the Circulation Products and Services business (which covers foreign coins and services, as well as the Alloy Recovery Program), 1.57 billion foreign coins and blanks were shipped, compared with 1.18 billion in 2015, resulting in a 33% increase in revenue to C$63.1 million. The increase was driven by a 'rebound' in global demand from countries in South East Asia, Africa and Latin America.

Income from the Alloy Recovery Program was down by a half, however, to $C11.2 million, due to reduced access to older composition Canadian coins for recovery.

Overall, the combined income in this unit increased 4% to C$74.3 million.

SARB Closes Branches for Efficiency

The South African Reserve Bank (SARB) is closing three offices in line with a new strategy to reduce inefficiencies.

The bank's executive approved a new cash management strategy earlier this month, which aims to improve the efficiency with which banknotes and coins are supplied to and collected from the financial system, one of the key functions of the Reserve Bank.

'The approved strategy will introduce significant changes to the current functioning of the cash supply chain, including a reduction in the physical branch infrastructure, which will result in the closure of the SARB's Bloemfontein, East London and Port Elizabeth branches by the end of 2017,' said a SARB spokesperson.

The closures will leave three branch offices – in Durban, Johannesburg and Cape Town.

The Four Pillars of Orell Füssli Security Printing

Orell Füssli Security Printing is one of the oldest companies within the industry. With its 500th anniversary just around the corner, we took the opportunity to take a closer look at the philosophy, ideas, innovations and people behind this extraordinary company, talking to the two Managing Directors – Dr Dieter Sauter and Philipp Seewer. They took up the shared position back in April 2014 and their dual leadership, accompanied by what they term the four pillars behind the company's profile, have already proven beneficial to the company's success.

Q: *First of all, can you describe what the four pillars of Orell Füssli are?*

A: They are:

- Tradition – printing experience since 1519
- Pioneers – setting new standards within the industry
- Boutique – being an exclusive printer for niche markets
- Aesthetics – aiming for excellence in system integration and design

Q: *What does it take to reach 500 years in this industry?*

PS: Throughout 500 years, Orell Füssli's history has been closely linked to the general history of printing. Mr Christoph Froschauer, a scholar of Johannes Gutenberg, the inventor of modern printing technology, moved to Zurich from Altoetting in Bavaria and founded a printing company, and here is where the corporate history of Orell Füssli begins. We are not only very proud of Orell Füssli's rich history, but we are also strongly committed to writing further chapters of its history book.

The printing trade, followed by the publishing and bookselling business, were successfully managed and able to expand. In 1770, for instance, Zurich citizens Orell, Gessner and Füssli founded a publishing house that produced German-language editions of Shakespeare's plays, and the works of Homer.

In 1780 the first edition of Switzerland's leading newspaper – the Neue Zürcher Zeitung – was published. In 1868, the newspaper business was spun off into a separate limited company.

Today Orell Füssli is a leader in security technology and printing.

Even though centuries have passed, the core of the company activities still revolve around the printing business. Over decades, we have gained uncontested experience and expertise that forms the reputation well beyond the boundaries of the confederation of Switzerland.

Q: *What is your aim for the coming years?*

DS: Referring to Philipp's statement above, nothing is as constant as change, so continuous innovation is essential to ensure the future of Orell Füssli. Especially since its foundation, the company has advanced and steadily enhanced the art of printing by pioneering new processes and techniques in the field of graphic arts, in particular within printing and security technology.

As an example of one of our first documented implementation of new technologies, intaglio printing was established at Orell Füssli Security Printing in 1603. Since then the continuous implementation of new technologies has become part of our company's brand and DNA.

However, we do not want to get stuck in the past and would like to mention a few highlights to date.

Orell Füssli has gained its reputation as a valuable partner in testing prototypes for machinery park, inks, processing machines and security features such as a *SPARK Live*® from SICPA.

In order to give readers further insight, Orell Füssli Security Printing was the first printer, or amongst the first companies, to apply varnishing on banknotes (1970), to use banknote processing machines, to perform 100% note inspection (1992), to use five colour intaglio (1993), to develop and apply the *Microperf* feature (1994), to introduce screen printing, foil application, and to print on new innovations of substrates such as polymer and *Durasafe*®.

To emphasise the pioneering role of our company in the digital age, we would like to mention that Orell Füssli Security Printing created the first digital banknote origination and introduced the computer to plate technology.

Q: *What exactly does being a boutique printer mean to you?*

PS: The base of our driving force for our business is, on the one hand, the high standards set by our customers and, on the other hand, our high expectations towards our own performance. The combination of excellence in design, craftsmanship, experience and know how is essential to manage challenging customers' demands as well as transferring them into highly sophisticated products.

Noting the aforementioned facts, Orell Füssli Security Printing considers itself as a producer of customers' tailor-made high security products and solutions, therefore defining us as a boutique printer.

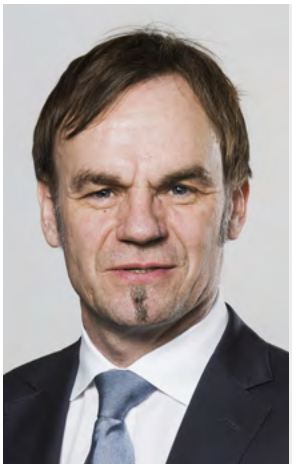
Q: *What is so special about the aesthetic of your products?*

DS: I would like to explain that as you arrive at Orell Füssli Security Printing and look up at the sign at the main entrance, you read 'Art Institute'. The term already implies an aesthetic impression per sè. Incorporating art in our most sophisticated designs is a creative commitment towards being a boutique printer and is further proof of our brand.

In our products, functionality and technology are in harmony with the appearance of visual impression. The perception of the products by the public or by our customers is what we would call aesthetic. This can be described when craftsmanship meets design and artwork.

Let's be optimistic that the future offers us constant change and in particular to Orell Füssli for the following 500 years.

Philipp Seewer studied Mechanical Engineering at the Swiss Federal Institute of Technology (ETH) in Zurich. He also graduated with an Executive MBA at the University in Zurich. He has spent over 15 years in the composite industry and, during his last assignment, was Director of Operations at Airex AG, Sins. He joined Orell Füssli four years ago as Chief Operational Officer, and is responsible for security printing operations.



Dieter Sauter trained and has a doctorate as a physicist at the Max Planck Institute for Metal Research in Stuttgart. He started his career in the security printing industry at Bundesdruckerei in Berlin and then spent several years in R&D and sales with Giesecke & Devrient before joining Orell Füssli six years ago. He was first appointed as Head of Technology and in 2014 took over the role of Chief Technology Officer with responsibility for sales, marketing and technology.

Orell Füssli Sets Revenue Record

In 2016 the Orell Füssli Group achieved revenue of CHF 298.9 million, an increase of 7% over the previous year. Operating profit (EBIT) increased by 5% to CHF 18.5 million (inclusive of special items of -CHF 1.8 million).

Security printing

The Security Printing Division posted net revenue of CHF 121.2 million in 2016, an increase of 3% compared to the previous year. Operating profit (EBIT) at CHF 17.4 million was at the same level as 2015.

Although a substantial improvement in productivity was achieved during the year, some external costs and those incurred during the production start-up for a new series of banknotes negated this operational improvement. However, says the company, the Security Printing Division was again able to produce orders on schedule with high capacity utilisation and higher output than in 2015.

For the first time, banknotes solely of the latest generation were produced in various denominations for two key customers. The launch of the new series of Swiss banknotes in April 2016 marked a major milestone for the company. Work on the optimisation of process technologies to ensure high quality while simultaneously improving productivity continued unabated.

In addition to the further development of production processes, various investments were made in buildings, security, infrastructure and equipment.

Atlantic Zeiser Division

Atlantic Zeiser, which produces numbering and coding systems for banknotes as well as for other sectors, reported a significant increase in net revenue of 34.3% to €66.2 million.

The operating result on a comparable basis was €62.9 million, an increase of 8.5%. Sales revenues in all business segments increased compared to the previous year. Operating profit (EBIT) increased by 63.6% to €1.8 million. In the banknote serialisation segment, net revenue increased sharply following a period of stagnation in the previous year.

Does Cash Restriction Really Fight Crime?

A paper by Dr Friedrich Schneider from Austria's Johannes Kepler University was presented at the recent Bundesbank conference in Germany. The report examines the effects of restricting or abolishing cash on the shadow economy, crime and terrorism, and how the reduction of cash could impact civil liberties.

There has been much discussion recently regarding the use of cash for illicit activities and how a ban on cash would impact such operations. The anonymity of cash is often cited as being a driving factor of such activities, particularly in the shadow economy where black market transactions and undeclared work go unnoticed by authorities, as well as enabling terrorist activity.

Countries have already begun to react. Last May, the European Central Bank announced that it would stop producing its highest value banknote denomination, the €500, due to concerns it was helping to facilitate illegal activities. India and Venezuela have both made sudden withdrawals of certain banknote denominations, citing their use in facilitating illicit operations.

It is becoming commonly discussed that restricting the use of cash, or abolishing it completely, will significantly reduce crime levels and the shadow economy, and terrorist activities would be severely hampered.

Schneider's paper looks at whether cash has such an influence in these areas using econometric investigations.

Recent data shows that cash is still the preferred means of payment around the world, despite the increasing use of alternative digital payment methods.

Schneider investigates the impact of cash on a variety of illegal activities – including corruption, money laundering, cybercrime and terrorist financing. He surmises that, whilst the limited available figures on crime and criminal cash usage suggest that restrictions on cash will probably reduce profits from crime, it will certainly not eliminate them.

He also identifies that other means of storing and transferring illegally obtained assets anonymously are already in use, including the transport of physical valuables such as diamonds, using false identities and fake firms, and criminal middlemen and shell companies that facilitate cashless transfers via regulated entities like the banking system or online payment service providers.

Funds can also be moved through traditional or new alternative transfer systems such as private virtual currency schemes. Technical progress in cyber money such as Bitcoin is rapidly changing habits and will eventually, if not already, be heavily utilised by criminals in future.

Schneider further highlights the fact that the share of cash payments versus the size of the shadow economy within a country do not always correlate. The cash-intensive countries of Germany and Austria have relatively small shadow economies but Sweden, where cash payments have significantly reduced, still has a medium sized shadow economy.

When analysing the effects of reduced cash on civil liberties, Schneider identifies that the importance of cash has much deeper aspects for liberal societies than economic ones. The use of cash provides citizens with freedom and independence, without the threat of a 'big brother' state.

On the subject of civil liberties, Schneider also suggests that whilst the anonymous use of cash makes tax evasion more attainable, citizens' willingness to pay taxes crucially depends on tax morale. Tax morale has been found to correlate with the relation between citizens and the government – the better the relation, the higher the tax morale and subsequently the more tax is paid. Countries where tax evasion is an issue will arguably find they have a poor trust relationship with its citizens.

Similarly, the abolition or strict limitation of cash by a state to enforce control carries the risk of seriously weakening citizens' trust of state authorities and will subsequently be counter-productive. As such, a limitation or abolition could only be justified by sound reasons and quantifiable benefits to ensure the trust between citizens and authorities remains intact.

Schneider concludes that cash is in fact not the motivation nor the reason for shadow economies, crime or terrorist attacks, and its abolition would not lead to large welfare gains. In democratic nations, users – who are the citizens, taxpayers, consumers and producers – should have the freedom to choose which payment instrument to use.

Banknote Ethics Initiative: a Collective Action between Suppliers and Central Banks

By Antti Heinonen, Chairman, BnEI

When the Banknote Ethics Initiative (BnEI) was launched at the Currency Conference in Athens in 2013, it had just finalised its major building blocks – the Code of Ethical Business Practice and the Audit Framework – and agreed on its governance structure as a not-for-profit association under Belgian law. Four years on, with 10 accredited companies and 35 central banks expressing their support for the BnEI's objectives, it is evident that a collective action, by banknote suppliers and customer central banks working together, can be a powerful tool towards reducing corrupt practices.

There has been progress, but there is still a lot to do. Corruption cases still emerge and a number of companies have not yet joined BnEI, even though they would then benefit from fair and corruption-free competition. Also, central banks could do more to advance ethical business practices.

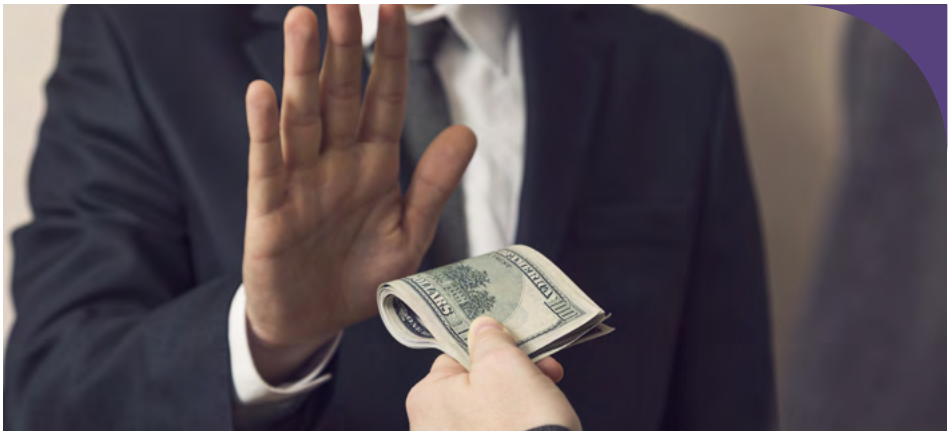
BnEI has been seriously searching for new ways to address the situation. This update covers where BnEI is today and how it considers addressing future challenges.

BnEI today

BnEI was established to promote ethical business practice, with a focus on the prevention of corruption and on compliance with anti-trust law within the banknote industry. The initiative demonstrated that the industry is taking corruption risks seriously and self-regulating through responding with solid controls, with the objective of creating consistent high standards across the industry.

Membership of BnEI is open to all suppliers to the banknote industry, irrespective of their size or experience. To be eligible, a company should be a banknote manufacturer and/or a supplier of components, equipment or services for use in the production of banknotes issued by central banks. To become a member each company must adhere to a strict Code of Ethical Business Practice and becomes accredited after its policies and control systems have passed a thorough and independent audit.

Currently 10 companies have been successfully accredited – Arjowiggins Security, Canadian Bank Note Company, Crane Currency, De La Rue, Giesecke & Devrient, Innovia Security, KBA-NotaSys, Note Printing Australia, SICPA and Royal Joh Enschede (albeit that the latter is exiting banknote production).



In addition, Orell Füssli Security Printing and South African Bank Note Company have signed the BnEI Code and are in the process of becoming accredited. BnEI is also in discussions with suppliers from other parts of the world (such as Oumolat Security Printing in Abu Dhabi.

This year, several member companies will have their second audit, having been accredited three years ago. The audits have been carried out from the beginning by two companies, GoodCorporation in London and KPMG Brussels.

An independent Accreditation Council reviews the reports provided by the auditors and approves these, allowing applicants to become BnEI accredited members. The Accreditation Council is chaired by Philippa Foster Back CBE, Director of the Institute of Business Ethics in London, and the members of the Council are Lorna Thomas, formerly Deputy Chief of Currency for the Bank of Canada and Josef Wieland, Director of Leadership Excellence at Zeppelin University.

Benefits of BnEI

BnEI accreditation provides companies with a high degree of assurance that their standards and the procedures they apply are comprehensive and robust. The process creates a new ethical culture within the company with clear expectations of behaviour, which in turn gives confidence that the risk of harmful incidents is minimised.

If, despite robust procedures and policies, a company suffers from the actions of a lone/rogue employee or business partner, then BnEI requires that this would lead to disciplinary action, usually resulting in dismissal. If the offender is acting alone and demonstrably outside well established and implemented controls, and the response is swift and decisive, then it need not necessarily lead to reputational harm to the organisation.

Moreover, in the case of an investigation, BnEI accreditation would provide evidence to the prosecutors and courts that the organisation had taken significant steps to prevent corruption.

The BnEI Audit Framework consists of a set of eight principles of ethical business practice: top-level leadership, dedicated responsibility for compliance, anti-bribery and anti-trust policies and procedures (including gifts and hospitality), due diligence of third party business partners, training of staff and business partners on policies and procedures, periodic compliance declaration, internal monitoring and external assessment.

The audit looks at four levels of evidence for each individual practice, namely that a policy exists, a system is in place to implement the policy, records exist which show that the system works in practice and the stakeholders agree that the system works in practice.

The auditors carry out the audit using an Audit Guidance Manual, a 70 page document, which also serves to help the companies put appropriate policies and structures in place and prepare for the audit.

As a joint initiative, BnEI provides comfort that the company is not 'going it alone', and an assurance that key sub-contractors who are accredited have also achieved the required standard.

In addition, BnEI provides a forum for the banknote industry to develop best ethical practices in line with the constantly evolving requirements of society. The Audit Guidance Manual is updated at regular intervals – the most recent update focusing on the establishment of detailed, principles-based criteria to justify the remuneration levels of agents. The auditors will judge whether a justification is satisfactory and will report to the Accreditation Council when the justification is, in their view, inadequate, or there are other risk factors relating to the sales agent and/or its remuneration.

They must also report all remuneration arrangements that fall outside certain pre-determined parameters as set out in the Audit Guidance Manual. Furthermore, the Manual calls for a progressive move away from commission-only payments towards agents' remuneration based on a time and expenses structure.

BnEI has also established a whistleblowing system to address concerns in the market regarding corrupt behaviour. Reports will typically concern rumours regarding corruption or anti-competitive behaviour in the market. The independent outside company submits reported cases to the relevant member company, and the auditors check annually how many cases have been raised and how they have been addressed by the relevant company(ies).

How can the central banks support BnEI?

It is essential for central banks, as major customers, that the standards applied by the whole banknote industry are beyond reproach.

BnEI has offered central banks the opportunity to express their support for its objectives and 35 central banks have already taken up this offer. This possibility is offered also to other organisations with connections to the industry. By including its name on the BnEI website an organisation does not create any financial or other commitments. It does however signal their support for the BnEI objectives, and thereby gives also an important message to potential suppliers.

This is, however, only one way in which central banks can support BnEI. The BnEI Members' Committee has recently decided that the Audit Guidance Manual can be made available to central banks after they have signed a non-disclosure statement.

The purpose of this is twofold. First, the Manual will enable the central banks to better understand the rigorous process of member accreditation. Second, it is circulated for potential consideration as part of the central bank's tender process.

Currently 23 central banks have signed the NDA and received the Manual, and the first central banks are already using specific ethical criteria in their tenders. The number of such central banks is expected to increase.

ISO 37001 and BnEI audit framework

The International Organization for Standardization (ISO) has recently developed a new standard ISO 37001, to help organizations fight bribery and promote an ethical business culture. This is clearly good progress in the fight against corruption.

The new standard broadly covers the principles and processes required to protect an organisation against bribery and corruption risk. Like most ISO standards, 37001 is for general application in any type of organisation faced with possible corruption risk.

The BnEI audit framework, on the other hand, is purpose-built for the banknote industry. To give an overall picture, of the 50 points in the BnEI framework, ISO 37001 has no equivalent for 12 points. There are a further 12 which do have a direct equivalent but without covering anti-trust risks as these are not in ISO 37001's scope. Several other practices have approximate equivalents but with material differences, such as matters which need to be considered but are not mandatory as in the BnEI audit framework.

Besides anti-trust aspects, the key contrasts are that the risks associated with sales agents are not addressed by the ISO standard. Similarly, BnEI's government and regulatory affairs content is only thinly covered in ISO 37001, there being no focus on intermediaries which interact with public officials on an organisation's behalf and no reference to lobbying, politically exposed persons or political contributions.

In addition, the certification method is not set out for ISO, as it is left to the certifiers to decide how they gain assurance on the processes to be certified. By contrast, the BnEI accreditation process is highly prescriptive in the detailed tests which are needed. These tests make extensive demands both in the conduct of interviews with employees, agents and managers and in rigorous testing of the relevant processes.

Future challenges

A critical mass of companies has already seen the importance of ethical business practices and a number of central banks have shown their support for these practices. However, despite the new tougher legislation, corruption scandals still emerge, and it remains as a major obstacle to development around the world.

Besides this societal perspective, there is also an important aspect here from the point of view of individual companies. Companies which adhere to zero tolerance against corruption in their compliance programs may be faced with free riders, ie. companies which are not subject to the same rigid standards and may disregard existing statutory obligations.

BnEI would like to contribute in addressing this free rider problem, finding new ways to increase the detection and sanctioning of corruption in public procurement within the banknote industry. Therefore, BnEI is currently developing integrity pacts for use by central banks and other public entities in their banknote tenders.

An integrity pact is a tool for preventing corruption in public contracting, and they have been applied since the 1990s in more than 20 countries. It is an agreement between a public contracting entity and the companies bidding that they will abstain from bribery, collusion, extortion and other corrupt practices for the extent of the bidding and contracting process, as well as during the life of any subsequent contract. Thus integrity pacts combine the integrity efforts of both the supplier and the customer.

The integrity pact should, in principle, cover all the activities related to the contract from the designing of the tender, the pre-selection of bidders, the bidding and contracting process, through the implementation and completion. To ensure accountability, integrity pacts use independent monitors to oversee the process. They will investigate any violation of applicable anti-corruption laws or rules set out in the integrity pact, as well as any justified suspicion for such violation which has come to their attention.

This has been the general framework for the development of an Integrity Pact for tendering within the banknote industry and the work is currently under BnEI consideration.

Conclusion

Maintaining high ethical standards is increasingly important today – with customers and stakeholders needing confidence that they are being pursued and maintained. BnEI has been established with this in mind, in particular. The key difference which separates BnEI from other similar initiatives is that – rather than self-assessment – companies are externally audited and independently accredited. Furthermore, BnEI provides a forum where suppliers and central banks can work together to ensure that all the companies operating in the banknote industry are performing to the highest ethical standards.

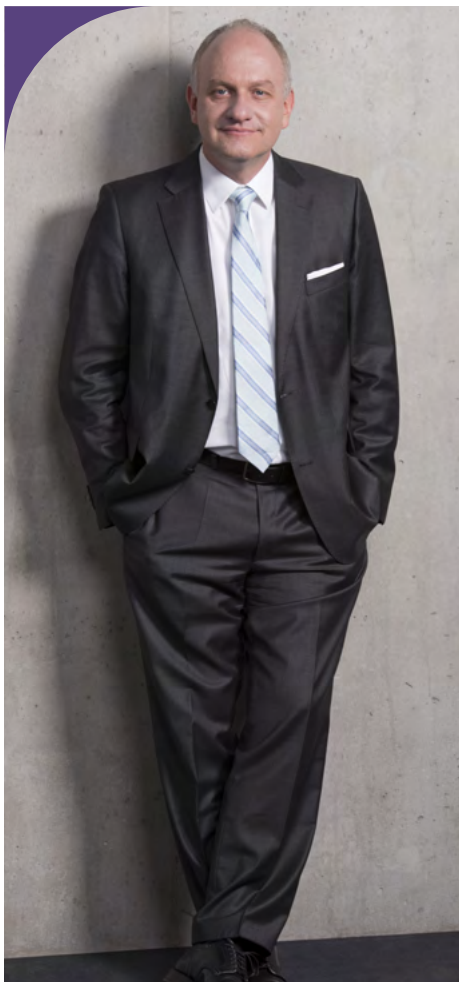
The banknote industry has now a golden opportunity to do something together to reduce one of the major evils in society – corruption. BnEI provides the infrastructure for suppliers to join forces collectively in insisting on only doing business on the basis of ethical practices, and saying an unconditional 'no' to corruption.

G+D Currency Technology Goes Live

Last month we covered the news of the changes at Giesecke & Devrient, which has been divided into four legally independent subgroups. They include the Banknote business unit, now Giesecke+Devrient Currency Technology GmbH, headed by Dr Wolfram Seidemann and which 'goes live' at the Currency Conference. *Currency News*™ spoke to him about the changes, and what it means for the company and its customers.

Q: *The new company – Giesecke+Devrient Currency Technology – is being introduced at the 2017 Currency Conference 2017 in Kuala Lumpur. What is behind this new company?*

A: Behind the new company is the former G+D business unit banknote – but with a twist. As of the beginning of 2017, we have become an independent corporation under the ownership of G+D, just like our sister unit Mobile Security. There are several reasons for this move, the most important being to establish a greater degree of corporate responsibility in the individual corporations.



Dr Wolfram Seidemann

Q: *The new structure is a holding structure then?*

A: We still belong to G+D which, as the holding company of all newly created corporations, will continue as a family-owned private limited company (GmbH), with no changes in its shareholder and legal structure, and will provide the strategic framework and financial backing for the businesses. It's good to know that our shareholders, the von Mitschke-Collande family, and the G&D committees, the supervisory and advisory board, stand fully behind us.

Q: *What's different from what was in place before?*

A: Giesecke+Devrient Currency Technology is a one-billion-dollar company with approximately 5,000 employees worldwide. Continuity is important to us, but so is flexibility and agility. Currency Technology will incorporate both in exemplary form.

Naturally, we will still be the only provider covering the entire cash cycle and a global quality leader in banknotes, cash processing solutions and services around currencies. Louisenthal has been transferred to the Currency Technology but will continue to run under its own flag.

There is a sense of a new beginning right now, across Currency Technology and all of our subsidiaries, which gives us extra momentum.

Q: *What are the benefits of this new company?*

A: There are several benefits for all parties concerned. For our customers, I expect us to become a little faster in our decisions and implementations. Our collaborative approach combined with a strong regional presence all over the world enables us to deliver maximum performance and efficiency as well as first class customer support.

And we will put a stronger focus on innovation. That is very important to me personally and will benefit our customers in the long term.

Internally, we have the opportunity now to create the structure and organisational model that is best for us, without having to make allowances for a larger organisational entity. We will enjoy greater freedom and can design an environment conducive to independent entrepreneurship – which goes hand in hand with the greater degree of corporate responsibility.

I also see advantages in our access to our markets, speed and in leveraging opportunities for growth.

Q: *What are your priorities for Currency Technology?*

A: My top three priorities are as follows.

First, an even stronger customer orientation: our customers are at the centre of our activities and at the heart of everything we do.

Second, entrepreneurial leadership, making Currency Technology profitable by strengthening and deepening customer relationships and by further developing existing and creating new business areas.

And last but not least, winning together. The industry is changing, everyone can see and feel it. Maintaining our market position and technology leadership will only succeed by cultivating mutual trust and helping each other towards successful collaboration – both internally and externally. I will do everything I can to strengthen a climate and culture that fosters mutual appreciation.

Q: *Where do you see the growth opportunities for Currency Technology?*

A: Cash in circulation keeps growing at around 5% per year and is still the world's number one payment method, with 80% of all transactions across the globe being conducted in cash.

We are looking at the big picture from several angles: services and solutions, products, innovation, and new technologies such as track & trace or Big Data. We are investing in digitalisation and Industry 4.0 solutions. The trend towards digitalisation will also help us to offer our customers that extra flexibility that's in ever-increasing demand.

In a nutshell: we will offer our customers the excellent products, solutions and services they have come to expect from us.

In addition, we'll focus even more on research and development of modern and efficient banknote solutions, as well as the latest state-of-the-art technologies for the efficient management of the cash cycle.

G+D Currency Technology

7 Layer Solutions – Software Focused on Cash Cycle Efficiency

To kick off a periodic series of features in *Currency News*™ on different technologies and systems that are creating a more efficient cash cycle, in January we focused on NamSys and the smart safe revolution. In this issue, we take a look at the software that sits behind cash logistics, and the benefits it offers, from 7 Layer Solutions.

Cash logistics refers to the manner in which cash is produced, stored, issued, circulated and destroyed, and should not be an uncoordinated or disjointed process.

Central banks distribute new and destroy unfit cash; the public obtains cash from, and recycles cash to, bank branches, ATMs, shops, restaurants; and involved in this cash circulation are CIT companies and cash centres, either commercial or belonging to the central bank or a mixture of the two depending on the central bank's outsourcing policy. The cash centres are generally bulk processing locations receiving, checking, storing and repacking cash for distribution via a CIT company.

Efficient passage critical

Needless to say, the efficient passage of cash between all these players is critical and the digital revolution offers the opportunity to transform the sector. One company that specialises in the creation of software application development projects for the sector is 7 Layer Solutions, which was founded in 1999 by its Managing Director, Lee Maisner, and which has undertaken outsourced development work for banks and CIT companies, as well as global suppliers of cash processing and vault management systems.

The company has built its business by 'applying technology meaningfully to real world cash logistics problems'. Its prime tools are strategic and operational analysis, system modelling, technology audits and cost benefit models. In its 18 years in the industry it has implemented systems that have integrated hardware, materials handling technologies and automation, and track and trace.

Its model is to partner with customer-facing companies to produce their unique vault and cash management software solutions, as well as undertaking special projects for them.

Most of these customers remain confidential, but one is Tellermate – a leading provider of cash counters, intelligent cash drawers and retail solutions. The two companies are combining their expertise to maximise their potential reach and further enhance the retail cash logistics process.

Another example is Innovia Systems, the system offering banknote authenticity and lifecycle management to commercial and central banks globally.

Key to 7 Layer's business model is the interaction between the user community and the IT department.

Due to the classified and security-conscious nature of the company's client relationships, case study examples are difficult to evidence. But one example it can cite, albeit an early example, of the bespoke nature of its software solutions is the global dollar tracking system it developed for HSBC, who act as an agent for the US Federal Reserve for the stockholding and distribution of US dollars.

This involved a system for capturing shipment data using bar-coding and portable scanners (as a by-product of normal operation), which was uploaded to a database on the bank's PC network, enabling a fast response to queries from immediately available data and reports.

Another is a note quality, fitness monitoring and benchmarking system for Intelligent Currency Solutions (ICS), designed to enable a central bank to assess the quality of notes in circulation.

The system comprises a suite of vendor-independent detectors, software and support services. The detectors monitor note throughput and quality by denomination according to pre-determined parameters which cannot be altered by the machine suppliers or operators.

Data is linked via the Internet to a reporting package hosted on secure servers by ICS, which consolidate the data from each site, shift, machine, customer etc. The data can be accessed by the processing organisation and the banknote issuing authority.

Two benefits are the avoidance of arbitrary penalties from the subjective interpretation of standards and the issuing authority having a detailed knowledge of what is happening in the market.

Big Data – the NoteChain solution

Given that the technology exists to store and access large volumes of data cost-effectively, significant benefits could be derived by tracking individual banknotes using their serial number and linking the output of all the fitness and authentication sensors.

Several central banks are already exploring this possibility, as is 7 Layer Solutions with the development of ***Note****Chain* – its 'next generation web platform flagship product- as a commercially-available (Big Data) system.

What is surprising about NoteChain is the lack of data, since the results to queries are presented diagrammatically or graphically (the product's strapline is 'bringing insight to your banknote lifecycle through meaningful visualisations').

Another insight into its capabilities is summarised in another comment – 'the aim of NoteChain is not to answer the questions you have, but to make you ask the questions you didn't know you should'.

Billions of patterns

One example of what NoteChain can do is track individual banknotes to provide billions of banknote degradation patterns, enabling interrogation using evidenced based statistics (analytics). For example, do banknotes in some regions deteriorate more quickly than in others, and if so why? Do banknotes from each supplier perform equally well? Are the main reasons for destruction the same for each supplier? Can you forecast the impact of a change in clean note policy such as reducing soil tolerance?

7 Layer Solutions claims NoteChain can help with all of these and many more, such as planning currency supply and demand and evaluating the life expectancy of a new series.

The benefits will be greater if every machine in the entire cash cycle can read the serial number of a banknote and is linked to the system. Given the increasing amount of recycling outside of cash centres using small machines (including recycling ATMs), this may not be possible for cost or practical reasons. But a great deal of valuable information will still be available if every fitness sorting machine records a banknote's condition each time it is sorted.

Case studies indicating the net cost savings of software-based cash management systems were, until recently, difficult to obtain, but this has changed as more implementation studies have been concluded and reported.

Cost savings of at least 20% are generally the norm, but many believe there is much more to come with the advent of Big Data analytics.

The Effects of Indian's Demonetisation *(continued)*

The removal of such a high face value of banknotes in circulation without adequate notes to replace them, coupled with a chronic shortage of small denomination banknotes, caused an immediate slowdown of India's economy.

Instead of being at their usual jobs, people were stood in queues trying to obtain cash. Shops, factories and agriculture fields were empty. Even when people returned to work, employers struggled to pay their wages as they simply could not acquire enough cash.

As such, many businesses were forced to use electronic bank payments to pay their staff. Whilst this can be seen as progress in the country – becoming more in line with President Modi's plan for the country to become financially digitised – this did not work for India's unbanked, and only resulted in further severe delays in receiving their wages.

Some employers resorted to paying their staff with goods such as rice or potatoes, as the traditional act of bartering resurfaced with people trading their surplus stocks for other groceries.

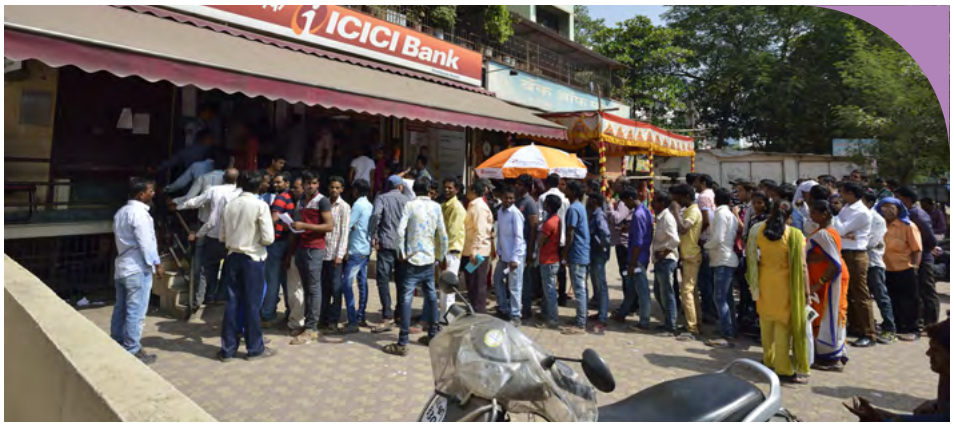
The following months

The Indian government had originally anticipated that up to a third of the old ₹500 and ₹1,000 banknotes would not be declared, considered 'black' money or money that had illegally escaped the tax net.

However, it was reported during January that more than 97% of the old banknotes, worth an estimated Rs 14.97 trillion ($220 billion), had been returned and deposited into accounts by December 30, 2016. This suggests that there was in fact less money involved in tax evasion or corruption than originally thought by the government, and fewer counterfeits.

India's demonetisation particularly impacted small businesses, the real estate industry and the informal sector, all of which historically depend on cash. Citing the negative impact on the informal economy (agriculture, construction or home-based activities), which employs 80-90% of the workforce, the World Bank reduced its original growth forecast for India in the fiscal year to March 2017 from 7% to 6.4%.

One further outcome of the demonetisation was, and continues to be, the increased usage of mobile payments. Many mobile payment service providers reported a surge in the number of users signing up to their service during the cash crisis, including India's largest mobile payment provider companies, Paytm and MobiKwik.



Mumbai, India – November 12, 2016: people standing in long queues to withdraw money from banks after the demonetisation of R 500 and R 1,000 Indian currency notes.

The use of mobile payments, and the prospect of becoming a 'less-cash society' is one that is fully supported and promoted by the Indian government, and ties in to its 'Digital India' campaign launched in July 2015 – an initiative to connect rural areas with high-speed internet networks and improve digital literacy.

The limits on cash withdrawals in India were removed in March, allowing people to freely withdraw cash from their bank accounts once again. Simultaneously, the volume of mobile payments reportedly began to subside, albeit slightly, as some people returned to their preferred use of cash payments.

Another consequence of the demonetisation process was identified by analysts from Deloitte Touche Tohmatsu India LLP. They predicted that the 'onset of domestic turmoil' could be triggered due the effects of the cash crisis being 'disproportionately felt by the lower and upper income classes'.

Similarly, another consequence arguably linked to the country's demonetisation was the increase in calls to domestic violence hotlines. According to The Economist, calls to such hotlines in the city of Bhopal doubled as men discovered cash supplies their spouses had been secretly saving. Indian women are 15% less likely to have their own bank account, and subsequently store their own cash savings at home.

And today

The latest Business Confidence Survey by FICCI (Federation of Indian Chambers of Commerce and Industry – an association of business organisations in India) was held during March and April this year, and included the participation of over 180 Indian companies.

Its results indicate that the impact of India's demonetisation has subsided more quickly than anticipated and, with the country's remonetisation now at an advanced stage, the corporate sector is returning to a normal state.

Whilst this is good news for India's economy, there are still instances of ATMs reportedly running out of cash. Whether this is specifically attributable to the country's demonetisation or is a consequence of the country's day to day business life is, however, unknown.

The move by India's government and the RBI to withdraw the ₹500 and ₹1,000 banknotes caused major disruption throughout the country, lasting several weeks before things started to return to some sort of normality.

In hindsight, it appears that the country's banking system was not able to cope with the enormous impact that the demonetisation process created, while the central bank had not ensured sufficient stocks of lower denomination banknotes, thereby causing severe difficulties for both urban and rural people.

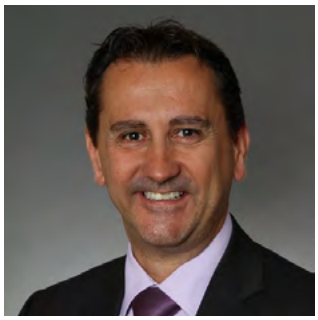
With the volume of returned demonetised banknotes being much higher than that predicted by the government – arguably challenging its reasoning of targeting illicit activities – several economists are questioning whether this whole process was worth the difficulties placed on the population as a whole.

The UN's 'Economic and Social Survey of Asia and the Pacific 2017' report, issued at the start of this month, predicts economic growth in India to be stable at 7.1% in 2017, increasing to 7.5% in 2018. The report states that economic growth will increase as 'remonetisation restores consumption, and infrastructure spending increases'.

It appears that India's economy is recovering from its cash crisis. However, to avoid a repeat of India's cash woes, other countries considering a similar exercise are likely to look very closely at what happened in India and the impact it had on its citizens before embarking on such a huge task.

A New Payments Focus for Currency Research

Currency Research, organisers of the upcoming Currency Conference as well as a series of other cash-related events, is branching out this year into a new area – central bank payments. It has also undergone extensive reorganisation in recent months. In the run-up to the Currency Conference, *Currency News*™ spoke to Gonzalo Santamaria, now Vice President of Payments and Business Development, to find out more.



Q: *Tell us about your new role and the reorganisation within Currency Research (CR), as well as the new focus.*

A: Since I joined CR in 2011, a very dynamic structure has evolved. Many of the staff were encouraged to take up initiatives beyond the usual organisational scope and are now travelling the globe meeting, learning, and educating all at once.

Within this, and after successfully growing the four regional Cash Cycle Seminars (aka ICCOS) over the last few years, we felt a more dedicated focus on business development was required. Careful analysis allowed us to conclude that organic growth (in addition to the Banknote Conference acquisition in 2012) should stem from efforts in consulting, market analysis/ intelligence and payments.

With this in mind and following some market consultation, we were encouraged to fill a gap within a platform and particularly in the central bank payments and infrastructure areas. Hence the launch of the Central Bank Payments Conference (CBPC), with the inaugural event taking place this 26-28 June in Amsterdam, Netherlands. Needless to say, these are exciting times and I was eager to fulfil this role.

In parallel, we searched for another high-level candidate with extensive experience to give continuance to the overall initiatives under CR's umbrella, including oversight of the regional CCS events. Earlier in the year, we hired Dan Harrison as VP of Operations. Dan had forged his industry experience for more than 25 years at CSI, De La Rue and later with Chubb. Most recently, he had been the Business Director with Prosegur (Australia).

Q: *What were the key drivers behind this payments-focused initiative?*

A: Knowing that innovation in payments is now being viewed more holistically within the central bank community, it was sensible to fill this gap as these topics would not typically be discussed in open forums.

The inaugural CBPC aims to gather together central bankers responsible for payments policy, payment systems, clearing and settlement systems, rules and standards, and oversight to discuss trends, innovation in technology, initiatives and experiences, new research, challenges, and opportunities in this area of central bank function.

Commercial organisations and researchers doing work specifically in the area of electronic payments have also been included depending on the research and technology offering.

Q: *What is the rationale for CR to move into this area when historically, as 'the world's resource for currency knowledge', you have been focused on currency-related research and events?*

A: CR has, from its beginning, been focused on, and has built and maintained very strong relations with, the central banking community. Many central bankers who were involved in the currency policy side have now moved to the payments policy/oversight area and we predict a convergence of these two central banking roles in the future. The move to the payments area is therefore a natural progression for CR, particularly when we listened to our central bank customers discuss their needs in the conferencing and consulting areas.

We will now apply our expertise to this unique payment event dedicated to and focused on the central bank payments department's interests. As always, we have concentrated on a strong conference programme in order to attract the key thought leaders in the Payments and Market Infrastructure departments.

As of today, we are pleased to report that we are on track to meet and exceed the targeted audience for the inaugural CBPC.

Q: *Is this initiative targeted at the central bank community specifically, or is it geared towards a wider audience?*

A: In addition to central bank attendees, the CBPC delegation will include players in the field of payment systems. For these, the event will serve to enhance their understanding of central bank issues and needs.

Specifically, we have invited those private institutions that fall under central bank oversight, and in some cases, invited them to present on relevant topics. Bringing these key participants together will encourage constructive discussion and help to progress efficiency and improvement in the system.

Another distinctive feature of this conference is its focus on major policy concerns of the moment; it will not deal with payment systems basics nor will it target newcomers to the field. We expect the audience to comprise mostly department heads and senior experts with many years of experience in the field.

Q: *There are already numerous events dedicated to payments, so what differentiates this event from others in the commercial space?*

A: In contrast to other commercially-organised payments conferences, the CBPC is unique in focusing on payments and payment system issues exclusively from a central bank perspective.

Q: *What are the key themes / topics of the conference?*

A: Financial integration continues to be high on the priorities of many central banks and it remains a concern. Access to modern payment systems is deemed to be an obstacle to economic growth and thus will be highlighted during the course of the CBPC. Innovations such as distributed ledger technology (DLT or blockchain) can have a large impact, but the benefits and downfalls of such developments still remain rather mysterious. If this technology drastically fragments the payments landscape, will there be any limits to disintermediation?

Other challenges to be discussed include potential future opportunities for banks in payment processing as well as real-time payments, and the possible effects these may have on consumer behaviour across all markets, including cash usage.

These and many similar challenges are now facing the central banks who need a relevant forum for discussion, learning, and debate. We, as a key industry resource, have identified the requirement to provide a selective and secure forum to discuss these and other relevant topics.

Programme Takes Shape for 4th Coin Conference

The programme is coming together for the fourth international Coin Conference, which will be held from 23-25 October, 2017 in Warsaw, Poland.

Positioned as the counterpart of the Currency Conference (ie. the Coin Conference is to coins what the Currency Conference is to banknotes), it has as its theme 'The Challenges for Circulating Coins – Managing the Change'.

As such, it fills the gap for a dedicated forum that enables those involved in the management of circulating coins – central banks and issuers, mints and suppliers – to discuss and share ideas in a series of sessions covering all the key aspects of circulating coins worldwide.

There will be three optional workshops on the first day (23 October). The first, run by Dieter Merkle of Schuler, will be on the MDC's Customer Service Task Force. It is reserved for central banks and issuers only.

The other two, shorter workshops, will be on the note/coin boundary and coin quality and design guidelines. The main part of the conference will be divided into sessions on cost reduction, optimising circulation, security/authentication, driving efficiencies and engaging the public.

There will also be two panel discussions. One will discuss the impact of digital payments on coins. The other will be on whether countries need their own mints, and the benefits of state-owned versus private mints on trust, confidence, efficiency, security and innovation.

The honorary sponsor for the event, the Mint of Poland, will be both hosting the conference and, on 26 October, a tour of its new premises, just outside Warsaw. Numbers are limited, and attendance will be on a first come, first served basis.

Other sponsors include The Royal Mint, Royal Canadian Mint, Mint of Finland, China Banknote Printing and Minting Corporation, Monnaie de Paris, Jarden Zinc and Freiberger EuroMetall.

The conference was launched by Currency Publications in 2011 as the only event of its type for coin issuers and has grown steadily ever since. The third event, in Madrid in 2015, attracted 250 delegates from across the spectrum of coin issue, production and management.

www.thecoinconference.com

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The editorial team welcomes your news, contributions and comments.
Please send these to **info@currency-news.com**

10 Windmill Business Village, Brooklands Close, Sunbury, TW16 7DY, UK
Tel: +44 (0)1932 267 232; Fax: +44 (0)1932 780 790 **www.currency-news.com**

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