

# Overcoming Inefficiencies in Cash

**Graham Levinsohn, Regional CEO of G4S, will be presenting the findings of a major new study by the company into the relevant cash cycles in 28 countries at The Future of Cash conference next month in Paris. In advance of the launch of this report, which seeks to answer both what drives cash in Europe, and why it remains so popular, Currency News asked him to provide some background to the topic, and his observations on the current state of play for cash.**

**Q:** *Is there a trend away from cash as a payment mechanism?*

**A:** If you look at what is being written in much of the financial press at the moment, there is an assumption that cash is in terminal decline. However, our own research shows that the picture is much more complex. Across Europe the amount of cash withdrawn from ATMs continues to increase, but it is also true that cash as a percentage of the overall payments landscape is slowly decreasing. Cash remains the predominant payment method across Europe, with 60% of transactions still conducted in cash.

**Q:** *Do you expect the European Central Bank's (ECB) decision on negative interest rates to influence cash volumes?*

**A:** Negative rates are an attempt by the ECB to push commercial banks towards lending more money to businesses and consumers. They also have implications for cash volumes. If we look at Sweden and Switzerland, as policy rates turned negative the amount of currency in circulation appears to have risen.

Some commentators suggested banks might have locked away cash in strong boxes to hide it from negative interest-rate accounts – that doesn't appear to have happened. I think we can expect a slight upswing in cash circulation with the ECB's recent announcement.

**Q:** *What factors influence cash use?*

**A:** There are a range of other factors which influence cash use from economic growth through to e-commerce rates in countries. They are multifaceted and complex. What we do know is that cash has a series of unique attributes based on consumer preference. Chief amongst them is that cash is trusted given its status as legal tender. Cash is easily accessible and tangible, it retains anonymity and offers a direct settlement.

**Q:** *Is cash – as a payment mechanism – too inefficient?*

**A:** Our approach, for a number of years, has been to address the chronic inefficiencies in the cash cycle. What has become more apparent with the evolution in cash use over the past few years is that the cash cycle needs root and branch reform.

The cash supply chain is highly fragmented across Europe which creates chronic inefficiency. In most extreme cases throughout the cash cycle, cash can be counted up to 17 times. That just doesn't work for business and it doesn't work for banks. We have the opportunity to modernise cash use in Europe to drastically reduce these inefficiencies.

**Q:** *What should businesses be doing to make cash work better for them?*

**A:** The industry needs to take steps to modernise cash. The only way this can be achieved is by shortening the cash cycle and minimising inefficiencies. This can be done by extending the Europe's cash infrastructure and better integrating it. Through a secure and integrated cash cycle, the cash-to-bank journey is shortened. It then becomes possible to generate immediate value for deposited cash, leading to better banking and efficiency savings for businesses.

*The G4S Cash Report 2016 will be launched on 11 April at The Future of Cash conference.*

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## ZincSecure Available for Bi-Metal Coins

**The ZincSecure™ alloy series from Jarden Zinc Products (JZP), first introduced two years ago (see CN May 2014) for single piece coins, is now being made available for bi-metal coins as well.**

ZincSecure provides a spectrum of unique narrow band electro-magnetic signatures (EMS) which are outside the commonly used solid alloy and plated coinage materials, with the added feature that zinc is non-magnetic. The EMS is the key machine read authentication features for coins in vending and accepting systems, but the new generation of steel-plated coins, which are successfully reducing metal costs by as much as 50%, have the drawback that the EMS is typically less reliable. This is due to the thinness of the layers (usually copper and nickel), which can show significant variations according to the tolerance of the plating thickness, and wear. Moreover, the steel core has a strong magnetic influence over the conductivity signal.

ZincSecure was developed to overcome these issues for plated coins. JZP subsequently undertook an extensive study

to assess the viability of making bi-metal coins (which are used for high denomination coins) based on ZincSecure, resulting in this latest introduction at the World Money Fair in Berlin last month.

The study involved a Design of Experiments (DoE) to understand the materials and design-related factors that influence the separation force between the core and the ring in bi-metal coins. The key factors were optimised to produce ZincSecure bi-metal coins that exceed the market requirements for separation forces in circulation coins. Pairing of the ZincSecure alloys with other commonly used materials, such as plated steel and solid alloy, was also demonstrated in this study.

According to JZP, these ZincSecure bi-metal coins exhibited significant separation force values in the range of 160-220kg, well above the typical minimum range expected for circulation. Both white (nickel/copper plated) and yellow (bronze/copper plated) finishes were applied to ZincSecure alloy in the core as well as the ring of the bi-metal.

Corrosion studies were also performed to identify any potential issues with galvanic coupling of dissimilar core and ring materials, especially at the core/ring interface. There was, says JZP, no evidence of a corrosion problem at any of the core/ring interfaces for various material combinations in which plated zinc was coupled with itself, plated steel or a solid alloy.

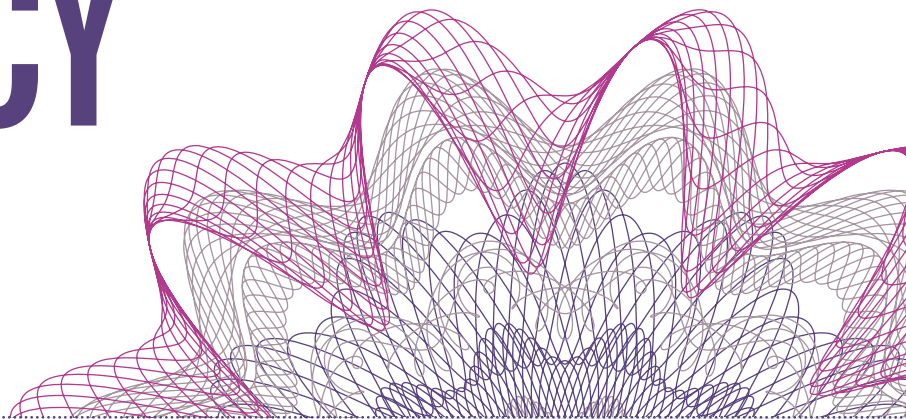
The wear rates of the coins were also within the acceptable limits observed for single piece coins in prior studies.

The EMS from the zinc component in the bi-metal coins, meanwhile, was unique, with ZincSecure clearly differentiating itself from the other materials tested when coupled with these materials in either the core or in the ring of the bi-metal coin.

The result of its current work, says JZP, is a bi-metal product that exceeds the market's performance expectations for separation force, corrosion and wear in circulation coins, that can provide higher security and, and offers better seigniorage compared to the solid alloys typically used in bi-metal coin construction.

# CURRENCY NEWS™

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## Prosegur Sets Sights on Africa



**Prosegur – the Spanish-based security solutions and CIT provider – has made its first move into Africa with the purchase of a 33.33% stake in SBV Services, the leading cash services company in South Africa.**

The acquisition makes it the largest shareholder in SBV Services, the others being the four major commercial banks in the country – ABSA Bank, FirstRand Bank, The Standard Bank of South Africa and Nedbank, each of which have had a 25% shareholding since 2001. They will now hold 16.67% each in SBV. The price for Prosegur's share was 320 million rand (€18.8 million),

SBV Services was founded in 1986 and, in addition to its presence in South Africa, also operates in Nigeria, Namibia and Lesotho. It has 44 branches, a fleet of more than 740 armoured vehicles and a workforce of more than 6,400 employees, providing CIT and cash processing services to the banking and retail sectors. Its turnover in 2015 was 2,300 million rand (€134.8 million).

Prosegur has expanded rapidly in recent years, primarily through acquisitions, including Chubb Security Services in Australia, the cash and valuables transit business of Brinks in Germany, the German

CIT market leader Securlog, Thomas Greg & Sons Transportadora de Valores in Colombia, and a number of CIT and security companies in Brazil, Argentina and Uruguay. It entered the Indian market through a joint venture with SIS in 2012, and the Chinese market in the same year via the acquisition of the investment vehicle Imperial Dragon Security Ltd.

Its CIT business has a fleet of 5,200 vehicles and 50,000 employees in 369 branches worldwide. According to the company, its entry into the African continent was the next step in its globalisation process. And, by becoming a shareholder of SBV Services, it has now expanded its international presence to 21 countries,

Commenting from South Africa, meanwhile, Grant Dunnington, CEO of SBV said: 'SBV's engagement with Prosegur dates back to 2010 and this relationship has enhanced our competitiveness as a key player in the cash sector. With a new industry leader on board we will raise the bar on international best practice within the Sub-Saharan Africa cash environment and increase our ability to grow and diversify our business.'

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## SMI Returns to Independence

**The senior management team of Secura Monde International (SMI) has successfully acquired the company from G4S, returning the company to private ownership for the first time in seven years.**

SMI, which provides consultancy services to central banks and other clients in the banknote and cash industry, was founded in 1995 and acquired by G4S plc in 2009.

According to the company, the acquisition will allow SMI to operate again as a fully independent consultancy focusing on all issues relating to the design, production and technology of banknotes; as well as the management and distribution of cash throughout the cash cycle.

SMI's two senior managers are Jonathan Ward and Martin Arkwright, who between them have nearly 50 years' experience in the currency industry, both in pre-issue (cash and currency analysis) and post-issue (the cash cycle).

Commenting on the transaction, Managing Director Jonathan Ward, said 'SMI has enjoyed working within G4S, the world's largest cash service provider, over the last seven years to experience at first hand the many issues facing the cash industry on a daily basis. This has offered SMI a unique insight into this market which we feel is now better served by SMI as an independent consultancy. We would like to thank everyone within G4S for their support, and look forward to continuing to develop and expand the business to meet the needs of our clients around the world.'

SMI is based in Hampshire, UK. Terms of the transaction have not been disclosed.

# It's All in the Timing – a Tale of Two Countries

**It has become something of an industry standard that banknote designs are updated every 5-7 years – whether or not they need it – in order to take advantage of new advances in security features and to keep one step ahead of the counterfeiter.**

Such updates can range from the addition of new features to some or all of the notes through to a wholesale redesign of the whole series and even the move to new substrates. The costs in doing so can be significant, so generally come with a debate as to whether such upgrades are in fact necessary, particularly in countries with traditionally low levels of counterfeiting.

In this issue, we feature articles about new series from two close neighbours – New Zealand and Australia – which perfectly typify this conundrum.

In Australia, counterfeiting has been very low compared with that of most other countries with equivalent economies since the introduction of the world's first polymer banknote series between 1992 and 1996. Counterfeit resistance has been a major selling point for the substrate.

However, in the last few years counterfeiting has been on the increase, culminating, in the last two years, in an unprecedented level of counterfeiting of the \$50 in particular.

In reality, even the latest recorded levels of counterfeiting in Australia (for 2014) – 38 ppm – is low compared with that in many other countries.

But because Australians are not used to this problem, the fake notes, and the Reserve Bank of Australia (RBA), have received considerable negative public publicity.

The media have picked up on the fact that Australian notes are very old – it is virtually 20 years since they were introduced – and so their security features are dated. By extension, the new series – which will start being introduced later this year – is long overdue.

Neighbouring country New Zealand, meanwhile, introduced a series of polymer notes in 1999 and since then has recorded very low levels of counterfeiting (less than 1ppm). Despite this, it announced a new series in 2011. The first two denominations were released last October and the rest will follow soon.

So, if comparing the situation with that in Australia, the Reserve Bank of New Zealand (RBNZ) would appear to have been far more proactive in anticipating a potential issue and solving it before it happened. The RBA, in comparison, would appear to have been too slow off the mark and misjudged the situation.

In other words, New Zealand can much more easily defend introducing its new series (even if it could be argued it was unnecessary), whereas Australia is now playing catch-up.

In reality, however, it's not that simple. New Zealand is a much smaller country than Australia and so Australia's currency is likely to be far more prone to counterfeiting.

And there is no single answer as to why Australia's counterfeits have increased so quickly.

There could be a number of significant factors in both Australia and New Zealand that influenced the different outcomes. Age – and hence obsolescence of security – is one factor, but another is the appearance of sophisticated criminals that can have a serious impact in a short period of time, until they are apprehended (as appears to be the case in Australia, and certainly has been the case in the UK).

Also, it is worth noting Canada, which has now fully converted to polymer with the latest suite of features, and which is enjoying unprecedentedly low rates of counterfeiting with these notes (less than 1 ppm). But, from a high of nearly 500 ppm a decade ago, the Bank of Canada managed to bring this down to 35 ppm, even before the introduction of the new series, by a combination of improving the quality of notes in circulation, public education and better law enforcement.

So it isn't only upgrades that are responsible for lower counterfeiting. But they are certainly a major factor and, fortunately for the RBA, its own next generation banknote series is well underway, with the first new notes to be issued later this year.

As for the conundrum of timing, the lessons to be learned from both countries are twofold. First, 'it's better to be safe than sorry', the approach in New Zealand. And second, failing that, 'better late than never', as is the case in Australia.

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## Prosegur *(Continued)*

### 6.1% increase in CIT sales

In the company's recently released results for 2015, it announced a 4.7% increase in sales to €3.96 billion and a 5.5% increase in operating profit (EBTDA) to €448 million, resulting in an operating margin of 11.3%.

The company has three business areas covering physical security (alarms and guarding), integrated security solutions and cash services. The latter recorded sales of €1.766 billion, representing an increase of 6.1% over 2014 and accounting for nearly 45% of group turnover.

# G4S Improves Performance, but Contract Provisions Sour Results

**G4S has reported a 6.4% increase in sales to £6.4 billion in 2015 and a 5.7% increase in operating profit (PBITA) to £427 million. Net profit increased by 14.1% to £227 million.**

These, however, were the underlying results, which excluded businesses for sale or closure, and allowed for some prior year adjustments. The statutory results – which do not take these into account – painted a different picture, with a slight decrease (0.45%) in sales to £6.86 billion, PBITA falling by 1.5% to £391 million, and net profit by 93% to £8 million after a charge of £335 million. This was made up of £65 million for onerous contract provisions, £44 million for restructuring, £40 million of losses from businesses that are being sold or closed, and a non-cash charge of £106 million for amortisation/impairment of goodwill.

The problems with legacy contracts and goodwill impairment relate mainly to the services G4S provides under a £60 million a year contract to the UK government for asylum seekers, numbers of which have surged in the last year. It has also been beset with problems in its Children's Services business. This is now earmarked for sale, as are a number of other businesses, including G4S Israel, UK Utility services and its US Youth Justice services.

In total, some 39 businesses with sales of £400 million between them have been identified for sale or closure. Rationalisation to date has already generated proceeds of £281 million. Further divestments, says the company, will materially improve its strategic focus and realise proceeds of £250-350 million.

## Cash Solutions

In contrast to some of the other parts of G4S, the Cash Solutions business, which accounts for just over a quarter of the company's turnover, fared well. Sales increased by just under 1% to £880 million, but operating profit increased by 6.5% to £117 million, resulting in an operating margin of 13.3%.

Revenue from emerging markets increased by 2.7% to £375 million, with operating profit increasing by 13.25% to £60 million. In comparison, sales from developed markets fell slightly to £505 million, although operating profit remained level at £57 million.

According to CEO Ashley Almanza, 'during 2015 we made substantial progress with the strategic and operational transformation of G4S. Against a background of global economic uncertainty, demand for our services remained resilient and growth accelerated in the second half of 2015, providing good support for further operating and financial progress in 2016'.

# People in the News

**Jim Narron** has been appointed First Vice President and Chief Operating Officer at the Federal Reserve Bank of Philadelphia, effective from the beginning of April. He is currently a Senior Vice President and Product Manager at the Federal Reserve Bank of San Francisco, where he leads the Federal Reserve System's Cash Product Office (CPO). The CPO provides standard software and processing tools for all cash processing and vault automation systems nationwide and guides policy, product development, and currency and coin capacity planning for all Federal Reserve cash operations. He succeeds **D Blake Prichard**, who is retiring.

The Reserve Bank of New Zealand has appointed **Steve Gordon** as its new Head of Currency, Property and Security (CPS). He is currently Head of Risk, Assessment and Assurance, having joined the Bank in 2012 and has been closely involved with CPS in his role as a steering committee member on a number of projects, including the development of the new series of banknotes (see page 10). He replaces **Brian Hayr**, who is leaving to take up a position with Innovia Security.

The Supervisory Board of Wincor Nixdorf has extended the contracts of CEO & President **Eckard Heidloff** as well as Deputy CEO & President and CFO **Dr Jürgen Wunram** by three years until February 2019. The Board has also appointed former Senior Vice President **Dr Ulrich Näher** as a further member of the Board of Directors for three years.

**Dr Thomas Gräbener** has retired from the management of Gräbener Minting. The new Managing Directors are **Martin Stahlschmidt**, Sales Manager for many years, and **Ronny Stöcker**, previously Service Manager.

The ATM Industry Association (ATMIA) honoured three individuals for outstanding service to the industry at its annual awards ceremony during the association's 17th annual US conference in February in New Orleans. **Elizabeth Bohlen**, SVP and Chief Payments Officer for Pueblo Bank and Trust and **Jack Milford Ford**, Attorney-at-Law, both received Outstanding Service Awards. **Eric de Putter**, Managing Partner for Payment Redesign, received the International Consultant of the Year Award.

# Fortress Paper Improves Performance

**Fortress Paper, after a good fourth quarter, reported revenue of C\$307.62 million for 2015 compared with C\$275.94 million, an 11.5% increase. It also substantially increased its operating profit (EBITDA) from a loss of C\$22.5 million in 2014 to a profit of C\$10.4 million 2015.**

## Security Paper Products

The Security Paper Products segment (the Landqart paper mill in Switzerland) also had a good fourth quarter, with sales growth of 9.1% compared with the same period the previous year. For 2015 as a whole, Landqart achieved sales of C\$164.83 million, up 5.85% on the previous year, on shipments of 10,439 tonnes compared with 9,210 tonnes in 2014.

Operating profit (EBITDA) also improved, by 68.5% from C\$7.05 million to C\$11.86 million.

According to the company, Landqart has continued to build on a strong order book comprising new and repeat orders, despite overcapacity in the security paper market. The mill has achieved targeted overall key performance indicators to date and the company expects that it will continue with further efficiency improvements.

The results have been helped by the production of *Durasafe*® as the substrate of the ninth series of the Swiss franc for the Swiss National Bank, which began in 2014 and is expected to continue in 2016 and beyond.

# Money Laundering Through the Physical Transportation of Cash

Last month we reported that a number of authorities were calling for high denominations in major currencies to be discontinued due to their use by criminals for illegal purposes.

In a recent report, 'Money Laundering Through The Physical Transportation Of Cash', the Financial Action Task Force (FATF) provides much useful information on the topic gathered from many countries, but certainly there is no evidence to suggest that removing high denominations would have any substantial effect on the situation. Instead, it would seem that a tightening of the existing systems could have a major impact. Here we provide a brief overview of their findings.

Despite the availability of non-cash payment methods in developed economies, cash remains an important means of settlement across the globe, with an estimated \$4 trillion in circulation and between 46% and 82% of all transactions in all countries being conducted in cash.

Similarly, cash is still widely used in the criminal economy and it remains the raw material of most criminal activity. In many cases, even when the proceeds of a crime are initially generated in electronic form (such as the theft of funds from a bank account), criminals often choose to withdraw the funds from a bank account in cash, transport it to another country, and pay it into another account in order to break the audit trail.

The physical transportation of cash across an international border is one of the oldest forms of money laundering and it is still widespread today.

There are no fully reliable estimates for the amount of cash laundered in this way, but the figure would seem to be between hundreds of billions and a trillion US dollars per year, and the majority of countries surveyed believed that cash smuggling is an increasing problem.

Physical transportation of cash as a method of money laundering is used by drug trafficking organisations, the illegal trafficking of other commodities such as alcohol and tobacco, and by criminals involved in tax fraud, weapons and arms smuggling, organised immigration crime and the financing of terrorism. There are no cash smuggling methods more associated to one form of criminality than another, and no guarantee that criminals committing the same type of crime will move their proceeds in the same way and by the same route.



**\$4 trillion dollars in circulation around the globe still in use.**

Instead, the methods used to physically transport criminal cash are dependent on a decision making process undertaken by the criminal to suit the particular situation. At all stages, factors such as risk, familiarity, simplicity and the demands of partners will affect the decisions made.

Once the cash has been moved to its destination and used for its intended purpose, it will eventually enter the legitimate financial system and will be recycled by banks and other financial institutions. Countries that use their own unique currency have the opportunity to monitor the repatriation of their currency from overseas, and while this is by no means straightforward, proper analysis can in some cases identify high risk routes, money laundering networks and drive national programmes to raise awareness of risk.

## Key findings

Some common features and trends emerged from the report:

- The transportation of cash distances the criminal proceeds from the offence that generated them, and breaks audit trails.
- The amounts of cash being concealed in cargo are far in excess of what can be carried by a natural person.
- The currencies most frequently encountered in consignments of criminal cash are the US dollar, the euro, the British pound, the Swiss franc, etc. – ie. the most stable, widely used and readily traded in the world.

- Although by no means universally seen, high-denomination notes are often used to reduce the bulk and weight of criminal cash when concealment of the cash is a prerequisite to smuggling it.
- Criminals exploit mechanisms of cash declaration systems, particularly as a method of legitimising criminal cash introduced into the legitimate financial system.
- Because of the legitimate demand for cash, it is moved in huge quantities on a daily basis across the world. Although most countries have a reasonable knowledge and understanding of transportation of cash by and have comprehensive measures in place to monitor and control this issue, substantially less have any appreciation of the legitimate movement of cash in cargo and mail, and pay little attention to this phenomenon despite the amounts moved in cargo being much larger than those being moved by individuals.

A possible reason for this is that FATF Recommendation 32 covering standards for the transportation of cash focuses on 'natural persons'. When transported in cargo, cash is treated as a form of goods and in most cases only a basic customs declaration is required – most countries do not require a specific cash declaration in addition to the normal customs declaration. The amount of detail required on this declaration is minimal – not even the actual value of the cash is required – which means that, in most cases, there will be insufficient information to form a view on whether the shipment is suspicious or not, restricting the ability of the customs authorities to open and inspect shipments, require the provision of further information and exercise effective control of cash in cargo.

These factors can significantly hamper efforts to identify consignments of criminally-derived cash. There are indications from research carried out by some countries that criminal groups have become aware of this and seek to infiltrate large amounts of cash into the legitimate system used by banks and other financial institutions to transport cash traded between themselves, effectively hiding it in plain sight.

Every physical transportation of cash across international borders involves at least two countries, and most of those surveyed raised the importance of effective international co-operation in controlling the phenomenon.

# Ghana's Modern Cash Management System and Clean Note Policy

Ghana is situated on the West Coast of Africa on the Gulf of Guinea and Atlantic Ocean. The country has a population of 27 million with Accra as its capital city.



Vice President of Ghana, His Excellency KB Amissah-Arthur at the opening of the new cash centre in Accra.

Ghana gained its independence from the UK on 6 March 1957. Until then, the country was known as 'The Gold Coast'. The Bank of Ghana was established two days before independence and within a year the first Ghanaian currency, the Ghana pound, was issued.

It was replaced in 1965 by the cedi, which according to John Gyamfi, Assistant Director of the Bank's Currency Management Department in his presentation at the MEA Cash Cycle seminar in Beirut in November 2015, has gone through a series of changes, culminating in its redenomination in July 2007 when four zeros were removed.

Ghana is one of the world's leading producers of cocoa and has natural resources of gold, oil and diamonds. The country ranks number 70 in the world based on GDP. Ghana's economy, like many others in sub-Saharan Africa, remains very much cash-driven in spite of efforts to introduce other forms of payments. Between 2008 and 2014 Ghana's currency in circulation grew by 312%, in value terms.

It has 30 commercial banks that, between them, have 1,115 branches and has seen rapid growth in the number of ATMs, with nearly 8.5 per 100,000 inhabitants in 2014, compared with just over 4 per 100,000 in 2010.

## Currency management system

The Bank of Ghana Act of 2002 gave the Bank the sole right to issue and redeem currency (banknotes and coins) in the country and the Currency Management Department carries out this responsibility.

The Bank has six branches and one cash office (large circles on the map) but additionally operates seven agencies (small circles on the map) at branches of the largest indigenous Deposit Money Bank (or DMB, which is a commercial bank) in locations where it does not have a presence. These agencies receive deposits and honour withdrawals in their catchment areas on behalf of the Bank.

The transport of cash to and from the branches and agencies is handled by armoured bullion and escort vehicles belonging to the Bank, manned by armed guards.

The DMB agencies are responsible for the movement of their deposits to the central bank and the distribution of banknotes among their branches. Several DMBs engage the services of CITs to transport cash. Presently, the vehicles used by the DMBs in are not armoured, but this is something the Bank of Ghana will be enforcing with time.

Despatches and receipts of banknotes at the branches and agencies are captured electronically via Vault Management Software (VMS). The Bank is in the process of replacing this with more a more efficient version in the form of De La Rue's Enterprise Cash Management (ECM™) software.



Bank of Ghana branches and DMBs throughout the country.

## Move to a clean (and genuine) note policy

In 2009, the Bank, after reviewing its cash cycle, decided to implement changes to optimise the quality of notes in circulation. This followed the realisation that there was little or no fitness sorting among the DMBs in the cash supply chain and that as much as 50-80% of cash deposits were re-circulated without processing.

As part of the policy, DMBs were required to process all of their deposits into Fit and Unfit categories and to re-issue only Fit banknotes (ie. genuine and clean) to their clients. While the DMBs were free to choose their own processing equipment, the sorting machines have to be certified by Bank of Ghana to ensure consistent standards throughout the country. All Unfit notes are to be returned to the Bank for authentication and subsequent destruction.

Bank of Ghana processes all banknotes deposited by DMBs at its two branch offices and the Head Office, equipped with BPS machines supplied by Giesecke & Devrient (G&D) to detect shortages, mixtures and counterfeit notes and separate Fit and Unfit notes. To uphold quality and quantity sorting standards at the DMBs, the Bank levies penalties on the face values of both shortages and counterfeits detected during processing at 200% and 400% respectively.

As regards coins, currently the Bank sorts and packs these using SC 4000 and BDO systems from Scan Coin at the head office and some regional offices. Currently, the Bank does not accept coin deposits from the DMBs to encourage coin usage in the economy. However, it does swap one denomination for another on request of DMBs and offers a free service whereby it will accept coins from a DMB for sorting and repacking into smaller sachets.

## Major step forward

While the Bank's clean note policy is still work in progress, it took a major leap forward with the opening last December of a new state-of-the-art cash centre at its headquarters, which is said to be the largest and most advanced in the region. The project, which started in the last quarter of 2011, was completed within four years. The two major suppliers for this programme were G&D and De La Rue.

G&D supplied and installed eight new BPS M7 systems, along with four NotaPacks and one BDS 400 (Banknote Destruction and Briquetting system), all of which were completed ahead of schedule. The installed systems have a total capacity of 3 million for banknote processing and a 2 million destruction capacity based on a six-hour shift.

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# World's Markets in Turmoil – But Has the Bear Been and Gone?

In the last *Industry Watch*, covering roughly mid September to mid December 2015, we were able to report a recovery in most markets following a previous slow decline. In fact, we ended the year on a somewhat positive note, with Asia, the USA and Europe having experienced gains in that period of 8-12%, 9-10% and 5-7% respectively, the predicted bear market having been held at bay. However, the message was tinged with caution, which proved to be well founded.

Virtually all markets began falling from mid December, primarily driven by news indicating China's economic circumstances were worse than being declared. But also in question was the ability of big banks to withstand another recession and the effect of the dramatic fall in the price of oil.

There were other issues too – the refugee crisis in Europe caused by the chaos in parts of the Middle East, the economic problems in Argentina, Venezuela, Brazil and some other countries in Latin America, and concerns regarding Africa's economies.

With little to cheer about anywhere, the markets continued to fall throughout January and the first half of February. Some fell more than 20% below recent highs (eg. Brazil, Canada, China, France, Germany and Japan) and for these, a bear market was declared. The markets in the USA and the UK, however, avoided falling below the 20% tipping point.

Then, from mid February onwards, all major markets improved slowly – most are now 5-10% higher than their low points, with China and Japan gaining 10-15%. But whether this recovery can be sustained is questionable, as global economic and other events remain fragile on a number of fronts.

The currency sector has generally not fared well in the last quarter, with only two companies increasing in value, although four did outperform their markets.

## Paper, print and features

**De La Rue** made no significant announcements in the period. The share price closely followed its market's trend, but from a position generally some 2-6% below it, the company ended the period underperforming by 7%. In the last 12 months, it has underperformed its market by 10.3%.

**Fortress Paper** released its fourth quarter results and year end results this month (see page 3). Despite an encouraging improvement, its share price remained stable. From mid-December to end January, Fortress outperformed its market by between 5 and 10%, but throughout February the situation reversed, with the company trailing its market by as much as 20%, only to recover to end the period level.

However, whereas this time last year its share price was in the doldrums, it is now outperforming its market by 132%.

By comparison, **Orell Fussli's** share price during the whole of January and the first half of February was between 5 and 10% ahead of its market. In the period and the last 12 months it has outperformed its market by 2.5% and 44.5% respectively.

**Spectra Systems'** share price had fallen 14% from mid December, but at the end of January a significant purchase of shares (around 1 million) improved the share price by 20%. It has since fallen back, but outperformed its market by 7.5% in the period and in the 12 months by 19.7%.

## Mixed performance for CIT

**Brinks'** results for 2015, released in the period, were mixed – sales were down 11% but operating profit increased by 26%. The share price, however, remained below its level at the start of the period and although it lost value (down 3.7%), it nevertheless outperformed its market by 1%. In the 12 month period, it is 14.3% ahead.

**G4S** experienced a major fall in its share price on its preliminary announcement for 2015 (see page 3). It tracked its market closely during December and most of January, but declined 15% in the first week of February due to problems with the prison management side of its business. It then staged a steady recovery (up 10%) until crashing 12.5% based on the possibility of reduced profits this year, ending the period underperforming its market by 15%, and in the 12 months by 26.5%.

## Company Performances – March 2016

Company	Current Share Price	Market Cap	% Share Price Change – Dec-Mar	% Change Versus Market – Last 3 months	Price/Earnings Ratio	% Change Versus Market – Last 12 months
De La Rue	£436.3	£433.7m	-8.6%	-7%	11.0%	-10.3%
Fortress Paper	C\$4.45	C\$66.63	-11.65%	0	-	+132.4%
Orell Füssli	CHF 108.5	CHF 209.7	-2.6%	+2.5%	27.2	+44.5%
Spectra Systems	20.5	£8.3m	+7.5%	+7%	-	+19.7%
Brinks	\$30.9	\$1.47b	-3.7%	+1%	-	+14.3%
G4S	£185	£2.9b	-0.6%	-15%	285	-26.5%
Loomis	SEK 237.8	SEK 16.68b	-13.7%	-5%	16.3	+5.7
Prosegur	€4.81	€2.9b	+12.9%	+25%	15.3	+8.5%
Diebold	\$25.4	\$1.65b	-26.6%	-20%	28.8	-23.1%
NCR	\$24.7	\$3.25b	-9.8%	-1%	-	-10.3%
Wincor Nixdorf	€47.3	€1.57b	0%	+10%	75.8	+22.75%

# Cash Management in Ghana *(Continued)*

**Loomis** has been growing and improving its performance and value for several years. At the beginning of February, it reported sales growth for 2015 of 14%, operating income up by 24% and an operating margin improvement of 0.5% to 10.6% for 2015. Its share price increased by 10% and had gained another 5% by the beginning of March.

However, in early March its share price then fell 18% in two days in high trading. The company has given no reason for this sudden fall in value. In the period, Loomis underperformed its market by 5% but in the 12 months it is 5.7% ahead.

**Prosegur** also released its results for 2015 this period (see page 1), reporting a sales increase of 4.7% to €3.96 billion and an operating profit (EBITDA) increase of 5.3% to €448 million, resulting in an operating margin of 11.3%. Net profit increased by 15.5% to €183 million. The market reacted positively, with Prosegur outperforming its market in the period by 25% and in the year by 8.5%

## ATMs and services – Diebold-Wincor merger proceeds

**Wincor Nixdorf's** acquisition by Diebold for their business merger continues, leaving Wincor's share price unchanged at the offer price. However, due to its market's fall in the period, Wincor outperformed this by 10%.

**Diebold** did not fare so well. In 2015, its sales fell by 11.2% and its operating profit by 61.5%, reducing its operating margin from 6% to 2.6%. Its share price had already fallen by around 14% since mid December at the time of the announcement, and it then fell by a further 13%. It has since recovered somewhat (by about 6%), but in the period it underperformed its market by 20%, and in the year by 10.3%.

**NCR** also reported results for 2015 last month. Its sales fell by 3% and its operating profit by 61.8%, reducing its operating margin from 5.4% to 2.1%. However, its \$1 billion share repurchase and \$820 million investment by Blackstone must have carried more weight – its share price increased by 20% during the two weeks after the announcement, but it still ended the period 9.8% lower than where it started in December. In the period, it only underperformed its market by 1%, but in the 12 months it underperformed by 10.3%.

G&D also delivered and installed the equipment for the six major vaults, with a total floor area of 1,600m<sup>2</sup>. The vaults are semi-automated, with shelving in all major strong rooms, Jungheinrich pedestrian stackers for handling the ex-mint pallets, and Wave Work Assist Vehicles for handling trays within the vaults.

In addition to the systems and equipment, the Bank is implementing De La Rue's ECM system to replace the existing vault management system, which is designed to transform the cash cycle from a series of independent systems at the commercial banks and central bank locations into an integrated and collaborative environment.

The ECM system will be used within the Bank to administer banknote stocks and oversee policy adherence, and to manage all aspects of banknote life and circulation through the exploitation of various data sources, including integration of the Bank's banknote processing systems.

The system will also reach out into the commercial sector, providing the commercial banks with an online interface with the Bank of Ghana. In other words, anything related to banknotes and coins, from manufacture through to destruction, will be managed, governed and monitored by the ECM system.

The new cash centre in Accra is the first stage of this nationwide ECM roll-out. The project – which began with design procedures to ensure that the solution both fitted current needs, and the capacity to grow to accommodate the needs of the future – is expected to be rolled out in 2016.

According to the Bank of Ghana, the new set-up will provide it with the required throughput to handle deposits more efficiently and securely, providing a sufficient buffer for peak seasons and maintenance downtimes.

Ghana is one of six members of the West African Monetary Zone. They have been working since 2000 to form a monetary union and adopt a single currency along the lines of their Francophone counterparts, which use the CFA currency. The target date for introducing the new currency has been postponed several times due to inability of the member states to meet predetermined convergence criteria. The new deadline for introduction of a common currency has been set as 2020.

Irrespective of such plans, Ghana has recently embarked on a five year national payments plan designed to develop an electronic payment infrastructure, prompt financial inclusion and reduce the dependence on cash.

In the meantime, however, cash remains the dominant means of payment and, with an annual average growth rate of over 7% since 2000, a slowdown in demand is unlikely. Hence the investment to ensure that, for the next ten years at least, the cash cycle will be managed in Ghana using the best technologies, standards and practices available.





# Overcoming Inefficiencies in Cash

**Graham Levinsohn, Regional CEO of G4S, will be presenting the findings of a major new study by the company into the relevant cash cycles in 28 countries at The Future of Cash conference next month in Paris. In advance of the launch of this report, which seeks to answer both what drives cash in Europe, and why it remains so popular, Currency News asked him to provide some background to the topic, and his observations on the current state of play for cash.**

**Q:** *Is there a trend away from cash as a payment mechanism?*

**A:** If you look at what is being written in much of the financial press at the moment, there is an assumption that cash is in terminal decline. However, our own research shows that the picture is much more complex. Across Europe the amount of cash withdrawn from ATMs continues to increase, but it is also true that cash as a percentage of the overall payments landscape is slowly decreasing. Cash remains the predominant payment method across Europe, with 60% of transactions still conducted in cash.

**Q:** *Do you expect the European Central Bank's (ECB) decision on negative interest rates to influence cash volumes?*

**A:** Negative rates are an attempt by the ECB to push commercial banks towards lending more money to businesses and consumers. They also have implications for cash volumes. If we look at Sweden and Switzerland, as policy rates turned negative the amount of currency in circulation appears to have risen.

Some commentators suggested banks might have locked away cash in strong boxes to hide it from negative interest-rate accounts – that doesn't appear to have happened. I think we can expect a slight upswing in cash circulation with the ECB's recent announcement.

**Q:** *What factors influence cash use?*

**A:** There are a range of other factors which influence cash use from economic growth through to e-commerce rates in countries. They are multifaceted and complex. What we do know is that cash has a series of unique attributes based on consumer preference. Chief amongst them is that cash is trusted given its status as legal tender. Cash is easily accessible and tangible, it retains anonymity and offers a direct settlement.

**Q:** *Is cash – as a payment mechanism – too inefficient?*

**A:** Our approach, for a number of years, has been to address the chronic inefficiencies in the cash cycle. What has become more apparent with the evolution in cash use over the past few years is that the cash cycle needs root and branch reform.

The cash supply chain is highly fragmented across Europe which creates chronic inefficiency. In most extreme cases throughout the cash cycle, cash can be counted up to 17 times. That just doesn't work for business and it doesn't work for banks. We have the opportunity to modernise cash use in Europe to drastically reduce these inefficiencies.

**Q:** *What should businesses be doing to make cash work better for them?*

**A:** The industry needs to take steps to modernise cash. The only way this can be achieved is by shortening the cash cycle and minimising inefficiencies. This can be done by extending the Europe's cash infrastructure and better integrating it. Through a secure and integrated cash cycle, the cash-to-bank journey is shortened. It then becomes possible to generate immediate value for deposited cash, leading to better banking and efficiency savings for businesses.

*The G4S Cash Report 2016 will be launched on 11 April at The Future of Cash conference.*

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## ZincSecure Available for Bi-Metal Coins

**The ZincSecure™ alloy series from Jarden Zinc Products (JZP), first introduced two years ago (see CN May 2014) for single piece coins, is now being made available for bi-metal coins as well.**

ZincSecure provides a spectrum of unique narrow band electro-magnetic signatures (EMS) which are outside the commonly used solid alloy and plated coinage materials, with the added feature that zinc is non-magnetic. The EMS is the key machine read authentication features for coins in vending and accepting systems, but the new generation of steel-plated coins, which are successfully reducing metal costs by as much as 50%, have the drawback that the EMS is typically less reliable. This is due to the thinness of the layers (usually copper and nickel), which can show significant variations according to the tolerance of the plating thickness, and wear. Moreover, the steel core has a strong magnetic influence over the conductivity signal.

ZincSecure was developed to overcome these issues for plated coins. JZP subsequently undertook an extensive study

to assess the viability of making bi-metal coins (which are used for high denomination coins) based on ZincSecure, resulting in this latest introduction at the World Money Fair in Berlin last month.

The study involved a Design of Experiments (DoE) to understand the materials and design-related factors that influence the separation force between the core and the ring in bi-metal coins. The key factors were optimised to produce ZincSecure bi-metal coins that exceed the market requirements for separation forces in circulation coins. Pairing of the ZincSecure alloys with other commonly used materials, such as plated steel and solid alloy, was also demonstrated in this study.

According to JZP, these ZincSecure bi-metal coins exhibited significant separation force values in the range of 160-220kg, well above the typical minimum range expected for circulation. Both white (nickel/copper plated) and yellow (bronze/copper plated) finishes were applied to ZincSecure alloy in the core as well as the ring of the bi-metal.

Corrosion studies were also performed to identify any potential issues with galvanic coupling of dissimilar core and ring materials, especially at the core/ring interface. There was, says JZP, no evidence of a corrosion problem at any of the core/ring interfaces for various material combinations in which plated zinc was coupled with itself, plated steel or a solid alloy.

The wear rates of the coins were also within the acceptable limits observed for single piece coins in prior studies.

The EMS from the zinc component in the bi-metal coins, meanwhile, was unique, with ZincSecure clearly differentiating itself from the other materials tested when coupled with these materials in either the core or in the ring of the bi-metal coin.

The result of its current work, says JZP, is a bi-metal product that exceeds the market's performance expectations for separation force, corrosion and wear in circulation coins, that can provide higher security and, and offers better seigniorage compared to the solid alloys typically used in bi-metal coin construction.

# Retailers Take Radical Approach to Cash

By Brendan Doyle, Cash Management Systems

**Across many of the world's largest economies, circulation and cash usage are showing opposing trend lines. In both the US and UK, circulation has increased at an average rate of 7% by value since 2008 as the percentage of cash used as a spending instrument continues to decrease. The difference between the two trend lines is generally attributed to cash being hoarded in mass volumes while the opportunity cost of banking interest remains low.**

Cash's decreasing percentage of wallet share presents a problem for retailers. With year-on-year growth of online shopping and a decreasing share of cash used in store transactions, cash's proportion of total revenue is decreasing – in some sectors at alarming rates.

For retailers this makes cash, at best, operationally frustrating and, at worst, a payment instrument that will continue to increase in cost. However, while cash continues to maintain a significant percentage of wallet share and societal importance, the majority of retailers don't currently have a business case to limit its acceptance.

Against this backdrop, retailers need to amplify operational efficiency and take action against the rising cost curve. A number of retailers are following innovative strategies, as follows.

## Outsourcing

While a number of major retailers outsourced their cash counting to third parties in the late 1990s, the movement towards such 'prime count' solutions lost momentum due to poor service quality, high losses, challenges around reconciliation and rising prices.

However, recent improvements in technology allowing speedy, automated and low cost reconciliation to checkout level has changed the cost benefit model and made outsourcing an attractive alternative. As charges tend to be on a price-per-note basis, outsourcing is sensitive to changes in cash volumes, transforming cash processing from a fixed to a variable cost so that declining volumes will mean falling costs.

## Cash office technology

With same day value through 'provisional credit', removal of liability once cash is counted and deposited, immediate checkout operator reconciliation, transparency and labour savings... what's not to like about cash counting safes?

Interestingly, adoption of this technology has been slow so far, with the exception of the quick service restaurants sector. Obstacles have included upfront capital investment for non front-of-house solutions and low interest rates, limiting the attractiveness of provisional credit.

However, declining technology costs and a turn in the interest rate will remove these barriers.

Cash in transit companies have tried to develop rental strategies to provide end-to-end cash management solutions and, as the underlying attraction of this technology improves, we expect retailers to show increased interest. But concerns remain that retailers could become 'locked-in' to long term contracts at high prices, while the cash in transit providers gain all the value from reduced technology costs, scheduling efficiencies and high exit barriers.

The decline of cash increases the need for retailers to seek efficiencies in cash operations and move from fixed to variable cost models. A combination of outsourcing and cash technology solutions will become normal practice for larger retailers as the interest rate cycle changes and technology costs reduce.

With this backdrop, a good cash strategy is a must.

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## Improved Banknote Sorting with Snowfish

**Snowfish® is the latest development from PNO Global Innovations – an analytic tool that allows central banks to assess the quality and efficiency of circulating notes and identifies areas where key factors can be improved. Less waste of fit banknotes, and reduced costs in procuring new notes (of up to 40%), are the key benefits.**

According to PNO, both defining and maintaining the delicate balance between cost and quality with regard to distinguishing notes fit for circulation is complex, and the sorting machines deployed for this purpose are fallible. Notes that from a human point of view are perfectly fit are sometimes destroyed, whereas notes that are dirty from this same human standpoint are often declared as fit and returned to the circulation by the machines.

In the words of banknote specialist Tom Buitelaar (formerly of the Dutch National Bank and the European Central Bank, and now Manager of PNO Global Innovations),

who invented Snowfish, 'the worst I have observed is bundles of freshly printed notes from a certain production being shredded completely, bundle after bundle. Optimising the performance of the sorting machine can lead to huge cost savings: this saving in the form of a reduced procurement of new notes can be up to 40%'.

Snowfish derives its name from 'Single Note Fitness Inspection System'. It is described as the 'ultimate tool' for cash centres in central banks, enabling quality levels of banknotes to be maintained by assessing the performance of sorting machines. It also identifies when and where the sensors and algorithms in these machines can be improved and evaluates the quality of freshly printed notes.

The tabletop-sized device can measure a wide range of banknote properties. In addition to reflective and transmissive measurements in IR and standard colours, it measures indigo and violet, which are parts of the colour spectrum that can improve soil recognition. 3D aspects,

such as intaglio print, crinkles and surface structure, form an integral part of its recognition and measurement capabilities.

Snowfish also has the potential to measure the gloss and limpness of banknotes through a special gloss and sonic sensor, while customer specific analyses can be provided upon request.

Snowfish will be unveiled at the Banknote Conference in Washington DC, US in May, and also at the High Security Printing Latin America conference in Mexico in June.



3D processed image of printed banknote. With such an image, captured by Snowfish, the three dimensional aspects of a note can be easily quantified.

# Brighter Money for New Zealand

New Zealand's latest banknote series – which is currently in the process of being introduced – has been named the 'Brighter Money' series by the Reserve Bank of New Zealand (RBNZ). This is because the notes have a brighter, more vibrant and clearer design than the previous, sixth series.

The themes of the new series remain the same, the main changes being to the security features, since the key aim is to benefit from the technological advances in security that have been made since the late 1990s – when the previous series was designed.

Although New Zealand boasts a low counterfeiting rate (in 2014, with around 150 million notes in circulation, it was less than one part per million, according to Reserve Bank statistics), the Bank knows how important it is to stay one step ahead of counterfeiters.

## A bit of history

The first Reserve Bank banknotes were issued in 1934, six months after the RBNZ was established. They were printed by Thomas De La Rue in London, and were called pounds.

As the years went by, subsequent new series were introduced as a result of events that included decimalisation (when the New Zealand 'pound' became the New Zealand 'dollar'), and a change to a new banknote printer (when De La Rue lost its contract to Bradbury Wilkinson).

The latter event required the production of new printing plates, which created an opportunity to redesign the banknotes and to add a much-needed new denomination – the \$50 – to the existing \$1, \$2, \$5, \$10, \$20 and \$100 notes.

1991 saw a complete redesign of the notes, using distinct New Zealand themes. The \$1 and \$2 notes were dropped and the portrait of Queen Elizabeth – which had until then adorned all the notes – was retained only on the \$20, with the other denominations featuring well-known New Zealanders.

This series lasted until 1999, when polymer was introduced – principally for durability but also because it enabled windows to be included as an enhanced security feature. This sixth series retained the same images and general designs as the fifth, with slight modifications to accommodate the windows.

## Enter brighter money

In 2014, the Reserve Bank contracted The Canadian Banknote Company to design, develop and print the seventh, Brighter Money series of New Zealand banknotes, with upgraded security features.

The \$5 and \$10 notes of this latest series were launched in September last year by New Zealand's Prime Minister John Key and RBNZ Governor Graeme Wheeler, and went into circulation in October. The \$20, \$50 and \$100 are targeted for release this May.

The new notes have retained the five portraits of the previous series, as well as the colour and flora and fauna themes. The size of each note also remains the same, thus saving costs associated with changing production and cash-handling machinery.

Some of the design differences between the old and new series include larger numerals and a greater colour contrast between notes. Another, notable difference is the introduction of the Māori language on the notes, as well as the incorporation of Māori patterns in a prominent printed panel.

Since both the new and old notes are of the same size, with the same portraits and colour (and since the old notes enjoy such a low level of counterfeiting), both series will co-circulate for the foreseeable future.



## New security features

The Brighter Money notes carry overt security features that are consistent in type, content and location. This makes checking the notes for authenticity very easy. The notes also carry new machine-read features.

The most prominent new security feature is the large vertical window running down the front and back of each note, but stopping just short of the edges, so as not to interfere with sensors in sorting machinery. The window has an intricate border and contains a detailed diffractive metallic element in the form of a *KINEGRAM ZERO*. *ZERO*® from Kurz, with images of the denomination and flora and fauna of that particular banknote.

The next new feature is the use of *SPARK Live*® for the native bird, which is prominently positioned on the obverse of the note. The SPARK image uses a diagonal rolling bar effect along with a colour change on tilting. This effect is repeated on the converse, in the form of a fern-shaped window.

The notes carry a see-through feature referred to as a puzzle number. It consists of the denomination separated into two different images – one on the front, one on the back – in exact register, so that in transmitted light the two images combine to produce the denomination number.

The notes are printed in double-sided intaglio so that raised printing (particularly on the large numerals, the portrait, the bird and the text) can be detected on both sides of the note.

The advice to the public to help them remember and identify the security features is the now familiar 'feel-look-tilt' slogan.

It is expected that the new security features in the Brighter Money series will provide a very formidable challenge to would-be counterfeiters.



# Demonstrating that Efficiency and Security go Hand in Hand

**Every four years, KBA-NotaSys' 'Banknote Horizons' takes place in Lausanne, Switzerland, to coincide with DRUPA, the world's largest printing show. The 2016 event will be held 30 May-17 June and, with its theme of 'Efficient Security', aims to show banknote printers from around the world that increasing the security of a banknote does not restrict the efficiency of the production processes, and vice versa.**

According to KBA-NotaSys, banknote printers are under pressure from two sides – namely, to increase security on the one hand, but to reduce costs on the other. These pressures require solutions that allow the printer to increase precision, quality and productivity while at the same time reducing waste and using resources in the most efficient way.

Such solutions are now available, says KBA-NotaSys. The latest generation of production platforms are more economical since they can be operated by fewer staff, have reduced downtime for make-ready and maintenance through ingenious automation and, at the same time, offer increased precision, thereby allowing printers to push the boundaries of banknote design.

During the event, KBA-NotaSys will showcase the technological advances made over the past few years and the new security features that have been enabled by the increased precision or the integration of various processes. It will also demonstrate that increased efficiency has a positive impact on the bottom line.

One example is the latest generation Super *Simultan IV*, which is equipped with an automated plate-clamping device. Job change-overs on this press take less than four hours whereas, in the past, multiple shifts were used to change from one job to the next.

Moreover, the increased precision achieved through the automated plate-clamping provides the opportunity to develop a new range of security features that were not attainable before, such as KBA-NotaSys' *SUSIFlip*® UV feature or Orell Füssli's *TwinImage*®. As the technology is adopted by more banknote printers, it is expected that more novel security features will reach the market, confirming the value of simultaneous offset printing.

Another example is the *Super Orlof Intaglio III* that features automatic washing devices for all cylinders and plates, saving operators at least 30 minutes per shift in cleaning.

Another example is the opportunity to compensate for plate elongation. Due to the enormous pressures involved in intaglio printing, the printing plate will elongate by up to 1mm. In the past, this was compensated for by cutting the inking chablon larger than the actual print area, resulting in increased ink consumption. It is now possible, however, to adjust the speed of the chablon against the plate so that the former can be cut smaller, thereby saving up to 15% in ink consumption. Tests have shown that print register and print quality also improve as a result.

Other highlights of the two-day agenda include workshops that demonstrate the total cost of ownership of the different systems (demonstrating the importance of considering not only capital expenses but also operational expenses when looking at investing in new technologies). The above mentioned examples of reduced make-ready, smart automation and ink savings deliver a huge saving over the technical life-time of the press.

Further topics to be presented are KBA-NotaSys' services and support for, among others, banknote design, production efficiencies and anti-counterfeiting.

More information can be found at [www.kba-notasys.com](http://www.kba-notasys.com).

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## Cash Cycle Seminar Reaches Beyond Europe

**The 6th Annual Europe Cash Cycle Seminar (ICCOS), organised by Currency Research (CR) in partnership with Banco de Portugal, successfully concluded in Lisbon, Portugal, last month. Hosting 180 delegates from 100 different organisations, from more than 30 countries, the event welcomed a community reaching far beyond Europe, with participation from issuing authorities including Angola, Mozambique, UAE, Sri Lanka and Israel.**

The event started with a closed-door Central Bank Summit led by Banco de Portugal, which covered the multiple challenges facing the central banking community. Round-table discussions focused on major risks, threats and core processes in business continuity planning. Also examined were the key factors, methodologies and tools of estimating public demand for cash. Currency circulation models and motivations for NHTO (Notes Held to Order) schemes were

also discussed, involving an analysis of the benefits to all stakeholders.

The event was one of the first opportunities for Alain Gerbier, Director of the Cash Department at Banque de France, to address the international community about the intricacies of France's new automated cash centres in Paris and Lille, which place it at the forefront of eurozone logistics innovation, alongside Magyar Nemzeti Bank (since 2008) and Deutsche Bundesbank (with a project also underway). The session provoked many questions relating to the costs of the centre (higher than previously reported at over €110 million), combined with Banque de France's plans to reduce the number of cash centres to 36 by 2020 and increase cash recirculation to just under 50% (see CN February 2016).

Critical cash cycle topics were debated throughout the panel discussion on Cash Recirculation, led by Leonor Machado of Caixa Geral de Depositos. Panelists

included David Hensley of Cash Services UK on current UK payments trends, Meritxell Serra of Grupo Santander explaining elements of innovations and smart safe technology at a group level, and Maria de Gloria Lópes of ESEGUR stating the position of a leading cash management company in the Portuguese market.

Branch and retail cash solutions were especially prevalent, both in the plenary sessions and the breakout meetings, held by leading vendors in the cash industry. The Post-Seminar Symposium continued on the latest hot topic recently highlighted by eurozone politicians, namely the potential eradication of high denomination banknotes (ie. the €500) due to their apparent usage by money launderers and criminals. Europol stated it best by saying 'not all cash is bad, but bad people all use cash.'

The next European Cash Cycle seminar will take place in Budapest, Hungary in March 2017.

# Increase in Counterfeit Notes in Australia

Australia is facing a major increase in counterfeit A\$50 notes. The number in circulation has more than tripled during the last two years and there has been an eightfold increase in the number of arrests made in connection with counterfeits.

In its 2014/15 annual report, the Reserve Bank of Australia (RBA) shows the number of counterfeit notes detected in circulation at 37,134 with a nominal value of nearly A\$2 million, which is around 28 counterfeits per million.

Although this level remains low by international standards, it is a 63% increase over the previous year and around double the number two years ago.

The counterfeits are said to be 'incredibly sophisticated', with many sufficiently convincing to evade detection by Australian banks.

The current banknotes are now over 20 years old – an almost unprecedented age for any banknote series now – and the press believe the once state-of-the-art banknotes are no longer secure.

In 2012, the RBA announced the Next Generation Banknote (NGB) project to issue a new series with upgraded security features. Its problem, however, is that the first two denominations to be released, in 2016/17, will be the A\$5 and A\$10 banknotes, neither of which is counterfeited to any extent. No date has been given for the release of the more counterfeited A\$50.

## Counterfeit Banknotes in Australia

	A\$5	A\$10	A\$20	A\$50	A\$100	Total
Number	78	66	755	33,292	2,943	37,134
Nominal value (A\$)	390	660	15,100	1,664,6000	294,00	1,975,050
Parts per million	0.5	0.6	4.8	55.3	10.2	27.9

Source: RBA

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## Events

**11–12 APRIL 2016**

**THE FUTURE OF CASH**

Paris, France

[www.thefutureofcash.com](http://www.thefutureofcash.com)

**01–08 MAY 2016**

**MINT DIRECTORS CONFERENCE**

Bangkok, Thailand

[www.mdc2016.com](http://www.mdc2016.com)

**22–24 MAY 2016**

**ESTA**

Marbella, Spain

[www.esta-cash.eu](http://www.esta-cash.eu)

**23–26 MAY 2016**

**BANKNOTE 2016**

Washington DC, USA

[www.banknoteconference.com](http://www.banknoteconference.com)

**31 MAY–10 JUNE 2016**

**DRUPA**

Dusseldorf, Germany

[www.drupa.com](http://www.drupa.com)

**20–22 JUNE 2016**

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