

# INFOSECURA

Join us in Seville  
for the  
Security Printers  
International  
Conference and  
Exhibition in  
October



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## Some essential questions



This issue gives a preview of some subjects to be discussed the forthcoming '2016 Security Printers International Conference & Exhibition' which will start in Seville, Spain on October 5, with the Banknote High Meeting and the Identity High Meeting starting one day earlier. Participants will hear about the experience of the Bank of Israel in issuing a new currency series, the European Union laissez passer and many other topics around the two main areas of our industry, identity documents and banknotes and also about some new trends that may not have great importance yet, but probably will have in the near future.

But this time there will be an additional urgency to some of the papers and the discussions, both 'on stage' and among the participants. There is something that feels almost like an existential threat that makes our industry uncomfortable. That spectre is the 'creative destruction' that seems to haunt the two main branches of our industry, banknotes and ID documents. The signs have been there for some time. Just before the last Security Printers Conference in Copenhagen, the Bank of Denmark closed its banknote printing operation. As of 2016, Danish Kroner have been printed abroad. That may have been a logical commercial consideration, as Denmark was probably lacking the economics of scale to produce its currency at a justifiable price. More disturbing was the announcement by the government that most Danish shops would no longer be required to accept cash. Even a considerable number of bank branches no longer carry cash in the country. Denmark is not alone in this. A recent article on Europe's disappearing cash in the 'Economist' quoted a young shop assistant in Sweden's capital Stockholm as saying that "only tourists pay with cash". In launching a new series of banknotes, Sweden's Riksbank did confirm its commitment to cash. Time will tell if it made much of a difference.

According the Riksbank, cash transactions made up barely 2% of the value of all payments made in Sweden last year – a figure some see dropping to 0.5% by 2020. In shops, cash is now used for barely 20% of transactions, way below the global average of 75%. About 900 of Sweden's 1,600 bank branches no longer carry cash or take cash deposits – and many, especially in rural areas, no longer have ATMs. Circulation of Swedish kronor has fallen from around 106bn in 2009 to 80bn last year.

Scandinavia may be an exception, but the concern is more universal in Europe. The future of cash is being talked about. There is a LinkedIn group of that name and recently, a new association has been formed among banknote printers and companies involved in the cash cycle that sees the promotion of cash as one of its main functions (See interview on page 11 - 12). Outside Scandinavia, cash is still strong and it will remain so for a long time to come. Concentrating on new ideas to improve the production, the security and the use of cash, as the Seville conference will, can only be of benefit for the industry and society as a whole.

Until now the ID sector seemed pretty safe from 'dematerialisation', but even in this area there are signs that "everything that can go digital, eventually will". There are several schemes of transitioning driving licences from cards to mobile phones, but these are mainly national examples. Moving passports, which are only used in an international context, to smartphones, as Australia proposed, will be much harder. The relevant authorities in Australia have promised to provide InfoSecura with some details of their plan. When they come, we will report on them.

Editor

In Seville, three panels of industry experts will look at the future of banknotes and ID documents

## Getting to the bottom of things

Intergraf's *Security Printers* conference in Seville in October will be an examination of the state of security printing in its two most important constituencies: banknote printing and identity documents, the latter encompassing passports and ID cards. 44 speakers will report on their experiences and their perceptions of the way their respective business areas will advance. But *Security Printers* has higher aims. It wants to explore the subjects in question from many different angles, citing many different experiences and theories and using the knowledge and the opinions of a wide range of experts. The best way to do this is to get these experts together on the podium and start a discussion, a to and fro of opinions, arguments and counterarguments.

The world at present is not short of fundamental questions and problems. Every part of our world is beset by them; politics, the economy and even technology. Our industry is no exception and the fundamental question for us is: "What is the future of banknotes and IDs?"

While, until the relative recent past, we could expect our business sectors to grow; some years more, some years less, accompanied by technological developments that made our products more safe, more economical and more resistant to misuse. We could reasonably expect this development to continue indefinitely. But suddenly we are faced with the possibility, however remote, that our products could be the victims of 'creative destruction'.

The discussion about a 'cashless society' has been going on for at least two years. It has now been made more urgent by the fact that such an outcome is technically feasible. In the ID sector, physical means of identification, ID cards and passports, have become smaller, technically more powerful, more multi-functional and more convenient. But now, the first examples of physical ID becoming 'dematerialized' have appeared. Driving licenses on smartphones have been developed in several countries and now there is even talk about passports 'in the cloud', or residing on smartphones. So far, much of this is speculation, sometimes by

politicians who want to appear 'clued-in', magnified by the press, but when serious companies start talking about such 'dematerialization', the industry should take notice.

### THE FUTURE OF BANKNOTES AND ID

On the last day of the conference in Seville, Intergraf will gather six eminent personalities from our industry to discuss these and other questions under the title "The future of banknotes and IDs". The frame for this discussion is that identity and money are both undergoing profound changes. How do they influence one another? Technological developments in the field of payment means and systems, of authentication and documents, and of consumer privacy and convenience will be at the heart of this panel discussion, with particular emphasis on security needs and user-friendliness.

Moderated by David Birch, Director of Innovation, Consult Hyperion, UK, the panel consisting of Philippe Barreau, CEO of Sicpa, Eric Boissonnas, CEO of KBA-Notasys, Jose Miguel Fernandez de Lencres, Commercial Director of Spain's FNMT-RCM, Peter Mühlfelder, Head of Business Area Security at Leonard Kurz, Germany, Dieter Sauter, CEO of Orell Füssli Security Printing, Switzerland and Wolfram Seidemann, Chairman of the Board of Managing Directors, Papierfabrik Louisenthal, Germany will look at the wide range of aspects of the subject.

### THE SPECIALIST'S CASE

Issues that are more specifically relevant to the banknote printing and the passport production industry will be the subject of two further panel discussions in the 'Banknotes High Meeting' and the 'Identity High Meeting' respectively, which will take place on 4 October, the day before the 2016 *Security Printers, International Conference & Exhibition*.

In the Banknote High Meeting the discussion will focus on 'co-operative business models in banknote production'. In many industries, sophisticated models of co-operation are increasingly replacing



the traditional separation between supplier and customer so as to optimise value creation and service. Central banks are likewise starting to adopt new co-operative models to improve the quality, security, flexibility and stability of the products and services they outsource. This panel discussion will address a variety of such models and the opportunities they open up for central banks and the industry alike.

The moderator of the discussion will be Tony Pool, President of Document Security Alliance, USA and the panellists will be Sylvain Calluau, Head of Production Section, Directorate Banknotes, European Central Bank, *Richard Wall*, Chief of the Currency Department, Bank of Canada, Beat Grossenbacher, Head of Cash, Swiss National Bank and Ilan Steiner, Director of the Currency Department, Bank of Israel.

The panel discussion in the Identity High meeting, will concentrate on the experience of one country alone, the USA. It will have the title 'United States next generation passport: Lessons learned from key stakeholders'. With the forthcoming launch of the US Next Generation Passport, representatives from key Government stakeholder agencies involved in the design and development will share their lessons learned from this complex five-year process. They will focus on sharing information related to the selection of polycarbonate for the data page, key design considerations, selection of overt security features and equipment enhancements for book manufacturing. The primary purpose of this panel is to assist other governments to better understand the challenges to overcome, and multiple perspectives to consider, when making comprehensive changes to their passport.

The panel will be composed of: Michelle Wilson, Document Design Officer, Bureau of Consular Affairs, US Department of State, Catherine Yates, Technology Program Manager, Security and Intelligent Documents, US Government Publishing Office, and Troy Eberhardt, Section Chief, QD Eastern Hemisphere Section, Homeland Security Investigations Forensic Laboratory, US Department of Homeland Security, Immigration & Customs Enforcement.

#### BROAD AS WELL AS DEEP

Similar in scope to the panel discussions are a series of presentations that take an overall view of a subject and explore it both in depth and in a wider context. To mention just two - there are many more - one of these is a presentation by David Birch, Director of Innovation at Consult Hyperion, a British consultancy at the forefront of IT payment technology. Digital payments are only possible with

secure digital identities and this is where the two core elements of the Intergraf conference meet.

David Birch calls his presentation "Security for the next generation", and he calls for a rethink of identity for a digital world, not simply for electronic versions of existing models. The central question for this part of our future lives will be the interaction between people, technology and money. More specifically, the interaction between digital identity, digital networks and digital money.

Although in subject matter, the second of the analytical presentations is very close to the first one, Ralf Wintergerst's talk on "How we pay in the future", will look at the payment question from a very different angle. Ralf Wintergerst is Chairman designate of the Management Board of Giesecke & Devrient, a company that produces banknotes and is active in the payment card sector. To compare the conclusions of these two experts will be highly interesting.

The aim of the conference is to alert the industry to future opportunities and challenges and also to provide for new impulses in looking at present problems by presenting examples of experiences made by producers and issuers of ID and payment instruments. ■

## NEWS

### Succession in the Management Board at Giesecke & Devrient

Ralf Wintergerst (53) will succeed Dr. Walter Schlebusch (67) as Chairman of the Management Board (CEO) of Giesecke & Devrient (G&D), on November 1, 2016. Dr. Schlebusch will leave the company on November 1, 2016 for reasons of age, and move over to the Advisory Board of G&D.

### Innovia opens new facility in Wigton

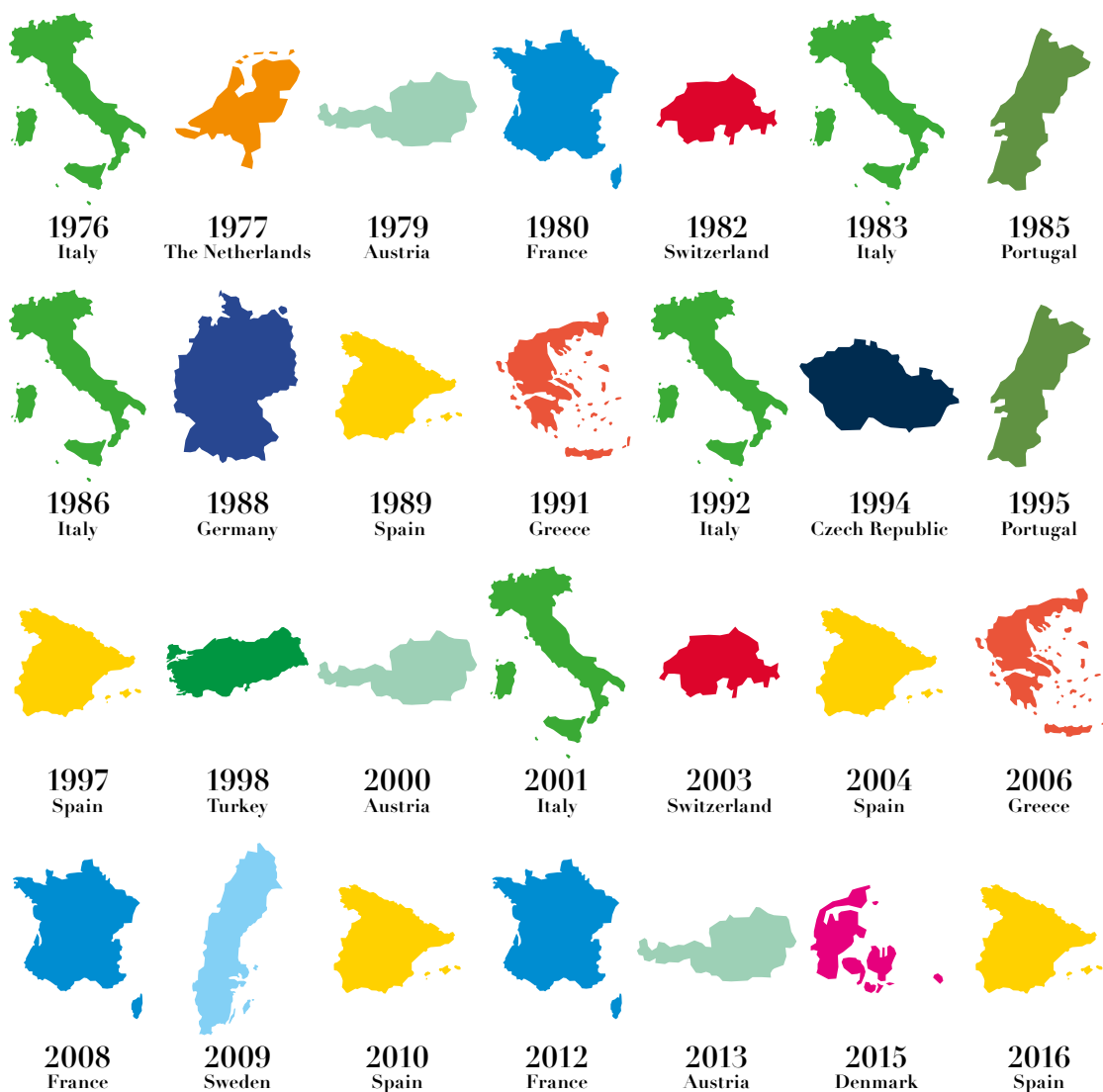
Innovia announced the opening of a new high security plant at its Wigton site in Cumbria to produce the Bank of England's new polymer £10 banknote substrate for circulation in the Summer of 2017. This follows the launch of the BoE's new polymer Fiver, which will enter circulation on 13 September.

Both notes are manufactured using Innovia's Guardian polymer substrate and high-security ClarityC film.

This brings the total amount invested in the past two years by Innovia for its polymer banknote business in the Wigton site to well over £40 million creating an additional 80 skilled jobs.

# 40 years in the making

*Intergraf's Security Printers*

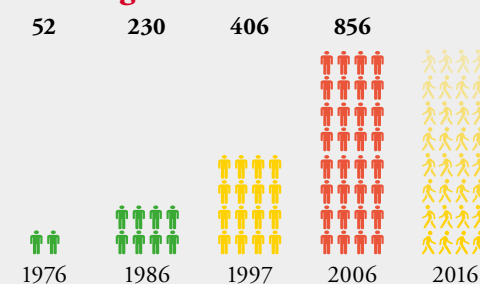


In 1976, Intergraf's predecessor, the International Master Printers Association, formed a specialist section for security printers encompassing both the banknote and ID sectors, and organised a first conference in Milan, Italy.

About 50 security printers, their customers and suppliers attended. The event met the need of the industry players to come together and learn what was new. It was held every 18 months for the next 15 years, drawing up to 200 delegates.

In 1991, suppliers were invited to exhibit for the first time. Attendance shot up, making Intergraf's Security Printers, International Conference & Exhibition the largest and most comprehensive in the industry. Since then, Security Printers has given a universal and precise picture of the industry as a whole, catering equally to central banks and passport issuing authorities, to police and security printers, and to their suppliers.

## Growing ever since





# The new € 50 banknote

**The European Central Bank has unveiled the design of the next note in the Europa series, the € 50. It follows the preceding three notes quite closely, while preserving the overall feel of the Euro.**

On July 4th, the European Central Bank unveiled the design of the new € 50 note, the fourth in the Europa series, the second series of the Euro. It will enter into circulation on April 4th, 2017.

At the ceremony in Frankfurt, Yves Mersch, ECB Executive Board member, said. "Its state-of-the-art security features help protect our money. It is part of our continued efforts to preserve the Euro as a stable currency, a currency that 338 million people across the euro area rely on day by day. The gradual launch of the new Euro banknotes with new and enhanced features also underlines the Eurosystem's commitment to cash as a trusted and efficient means of payment."

The €50 is the most widely used Euro banknote, accounting for 45% of all banknotes in circulation. There are more €50 banknotes in circulation than the €5, €10 and €20 together. The number of €50 banknotes in circulation is also nearly the same as the total number of all denominations in circulation at the end of 2002, the year when Euro banknotes and coins started to circulate.

## A PART OF THE WHOLE

When the Europa series was designed, the ECB chose not to redesign the banknotes radically, but to modify the images without changing the overall design parameters, such as the stylised architectural features depicted - in the case of the € 50 a renaissance doorway and a bridge on the reverse. The architectural images, however, have been made more prominent. As in the first three redesigns of the Europa series, the overall colour

was retained but made more pronounced, with greater contrasts and made to feel 'warmer', which perhaps lead to the € 10 and the new € 50 not being very dissimilar in colour. The 'warmer' tone is also further accentuated by the fact that the banknote paper has changed from being a stark white to a more creamy tone.

As was the case with the first three notes of the Europa series, the new note was designed by the independent Berlin banknote designer Reinhold Gerstetter. The way the design of the second series was adapted to that of the first, also demonstrates that each note is a definite part of the series and not a design in its own right. Thus the straight left edge of the printed image of the old note, where it meets the blank space that contains the watermark, has given way to a circle section. The watermark itself is a repetition of the image of 'Europa' in the window and the broad holographic stripe that also covers the window, follows the same sequence of images as that of the new € 20 notes.

## SECURITY FEATURES

The image in the window and in the watermark appeared first in the € 5 note and shows the head of the mystical "Europa" found on a Greek vase. There is an additional holographic feature covering this image in the window, showing moving lines with a 50 in the centre and moving 50 numbers on the reverse side of the window, from which the Europa face is also visible. The same face in the multi-tone watermark is accompanied by the doorway as in the main image and the number 50 as electro-type watermark. The number 50 is also prominently displayed on the front - bottom left - printed with





the 'Spark' OVI ink and - larger towards the middle of the note - printed in intaglio. The main architectural feature as well as the initials of the ECB in nine language versions are also printed in intaglio, as are a series of oblique lines at both edges of the front of the note to aid the visually impaired.

The back of the note shows a stylised bridge in the renaissance style and the map of Europe with some islands in the French Caribbean, where the Euro is also used, tucked into the extreme left corner. The first three notes of the Europa series also had an opalescent stripe on the back, showing the denomination. The information on the new € 50 note on the ECB's website makes no mention of this, but this stripe was also not mentioned in the information for the other notes. We will find out when the notes are released. There are a number of other security features, such as the security thread and micro lettering, that essentially follow the same pattern as the preceding notes.

#### UV FEATURES

The UV features of the new note use standard UV and UV-C and the paper itself does not glow. Under standard UV on the front of the note small embedded fibres, showing three colours, appear. The stars in the EU flag, the small circles as well as the large stars glow yellow. Several other areas also glow yellow. On the back a quarter of a circle in the centre as well as several other areas glow green. The horizontal serial number and a stripe appear in red. Under UV-C on the front, the small circles in the centre glow yellow, the large stars and several other areas glow orange. The € symbol also becomes visible.

#### A DISCREET WINDOW

Considering that the € 50 note is not only the most widely used of all Euro notes but also, together with the € 20, the most counterfeited, the number of security features is not excessive and there seem to be none that were not already used in the new € 20 note. However, compared to the previous series, the Europa series lost a useful and very economical security feature, the see-through feature, which was quite noticeable and easy to verify.

The most modern security features of the new

banknote is the window, which in some other currencies, notably the Canadian Dollar and the Australian Dollar, has become something of a fashion statement, if such a thing is possible in the sober world of banknotes. In contrast, the ECB opted for moderation and restraint. In the new € 50 Euro, the window shows the face of Europa covered by a holographic feature on the front and by additional overprinting on the back. The window is so thoroughly integrated into the holographic stripe that, if the note is viewed from the top against a solid background, it hardly shows its full complement of kinetic brilliance at all. It is more visible on the back of the note, as the cutout shape interrupts the bridge design.

#### BETTER SAFE THAN SORRY

In the lifetime of a currency issue, counterfeit numbers tend to creep up in any currency, which is why central banks change the design and the security features periodically. The European Central Bank publishes figures on counterfeiting twice a year, which show the development over the years.

As an example, in the second half of 2012, there were only 280 000 counterfeits in total, rising to a peak of 507 000 in the second half of 2014 and thus amply justifying the ECB's decision to update the currency. The last figure prior to the introduction of the € 20, that for 2/2015, was 454 000. The first half year that includes the updated € 20, and thus shows the effectiveness of the new security features, which are largely the same as on the new € 50 note, showed a drop to 331 000 counterfeits. In 2/2015, 46.2 per cent of counterfeits were € 20 and 37.1 per cent €50, while in 1/2016, €20 accounted for 31.6 per cent and the € 50 for 48.2 per cent. This shows that counterfeiters found the new € 20 more of a challenge. We will see at the end of the year, if the number of counterfeits of the € 50 showed a similar drop. Changes in such numbers are not instantaneous, as the old notes are still legal tender and counterfeiters can churn out the old design for some time to come. They will just have to make the counterfeits look a little older.

The new € 50 presents few surprises. The public accepted the first three notes of the Europa series very willingly, it will also accept the latest one. ■



In the last issue of Infosecura we reported the decision of the European Central Bank to stop printing the 500 Euro note and stop issuing it around the end of 2018 “taking into account concerns that this banknote could facilitate illicit activities”, as the bank’s press release puts it. Law enforcement authorities, including the European police agency Europol, as well as finance ministers have stated repeatedly, that high denomination banknote are used by money launderers and criminals, because large amounts of cash can be moved relatively unobtrusively. Many governments have also placed limits on payments in cash, for much of the same reasons, an additional one being tax avoidance. There are however, voices that disagree with either position.

Recently, the Swiss National Bank spokesman Walter Meier told swissinfo.ch: “The Sfr. 1 000 note remains a useful tool for payment transactions and for storing value.” Recognizing the need to have some control over large movements of cash, the Swiss parliament approved new anti-money laundering rules in late 2014 that insist on due diligence checks on cash purchases in excess of Sfr. 100,000. But insisting on due diligence is one thing, outlawing cash payments over a certain, sometimes relatively low threshold is another.

Jean-Pierre Roth, former President of the Swiss National Bank and Chairman of BCGE (Banque Cantonale de Genève) emphasized this point in an opinion piece on the bank’s website, stating that “the decision to stop issuing high-denomination banknotes will receive the blessing of well-meaning souls but it will fail to meet its objective of fighting efficiently against criminality and will have negative side effects.”

He said that those favouring the disappearance of high value notes usually argue that these notes are rarely used in everyday payments. Withdrawing them would seem to have little impact on the honest citizen. However, a closer look shows that matters are not that simple.

Taking the Sfr. 1000 note as an example, as it is currently the highest-value note in circulation in the world, it is clear that the note is very popular. There are 45 million of them and their combined value of Sfr. 45 billion represents more than 60% of the total

**Withdrawing high-denomination banknotes from circulation and ever-lower ceilings for cash payments are supposed to deter money laundering, tax evasion and other criminal activities. Voices from Switzerland and Israel suggest that there is little evidence that they do.**

amount of cash in circulation in Switzerland. This fact makes it obvious that money is not only an instrument of exchange, but a store of value and to assume that the majority is held or used for criminal purposes is somewhat reckless. There are no really reliable statistics of where and by whom this money is held, as neither honest savers nor money launderers nor tax evaders will volunteer any information and as cash by its very nature is anonymous. Jean-Pierre Roth points out that small savers value high-denomination notes, “who see them as a safe way of preserving their capital, thereby holding claims against the central bank, whereas with bank accounts they depend on the soundness of the financial system. Do we want to restrict their freedom of movement .... and reinforce the financial repression already in force, which is penalising savers with negative interest rates?”

Mr Roth also thinks that it is an illusion to presume that criminality or tax evasion will be reduced by withdrawing high-denomination banknotes, because there are other means of settlement or alternative forms of dissimulation, such as Bitcoin.

Another point Mr. Roth makes concerns central banks directly. Withdrawing high-denomination banknotes means restricting the value of the currency in circulation and increasing the average cost of production of the existing cash. That would result in a decline in the central bank’s seigniorage, hence a decline in its earning capacity because the central bank relies heavily on the role played by paper money in its balance sheet liabilities.

#### CASH IS NOT ONLY FOR CRIMINALS

Jean-Pierre Roth and the Swiss National Bank are not alone in their defence of large denomination notes. A report in ‘Global Treasury Intelligence’ noted, that “associating large bills with criminality is a mistake, as today most criminal activities are happening online and through electronic means of payment, not through cash. Yet no one suggests getting rid of credit cards.”

The report states that recently, terrorism financing has been closely studied and authorities have realised that terrorists are using much more complex ways of transferring large amounts than crossing borders with duffle bags full of cash. That doesn’t really happen any longer, because criminals can



employ other means. The website Perspectives on Terrorism studied six of the most widely-used methods to transfer cash for terrorism purposes: cash couriers; informal transfer systems (like hawalas); money service businesses; formal banking; false trade invoicing; and high value commodities. All weapons and explosives used in the Paris terrorist attacks in November 2015 were purchased by means other than cash. The same trend was recorded in Australia where the Somalia-based terrorist group, Al-Shabaab, used false names to transfer money. Closer to home, it is probable that cash is still used extensively in small time criminality, but how likely is it that the corner drug dealer is offered a € 500 note in exchange for his customer's weekend 'hit'?

And it is not only the Swiss who like large denomination notes. Germans too seem to be fond of the €500. The reason to create the €500 in the first place was to offer the Germans an alternative for their DM 1000 note, which had an almost identical value at the time. And Germans seem equally keen to preserve the possibility of paying larger amounts in cash. In February this year 'Bild', Germany's highest circulation newspaper, published a letter for readers to send to finance minister Wolfgang Schäuble in protest at plans to limit cash purchases to €5,000. "Cash means liberty," stated the letter, "Cash means independence from banks, technology and fees."

#### **SOWING DOUBT**

The German proposal to limit cash payments is not an isolated example. There are now many countries worldwide that place severe restrictions on the use of cash in order to combat terrorists, money launderers, tax evaders, drug dealers, and other criminals. However, Mordechai Fein, at the time Head of the Currency Department at the Bank of Israel argued in his paper 'Cash: Down but not out', that a move toward more severe restrictions of the use of cash in transactions leads to cash use being considered a "suspicious activity", or even "illegal activity". With people being warned so strongly against cash transactions, any objection to such measures or any consideration of their legitimacy or efficiency may risk being suspected as supporting tax evaders and other criminals.

There is a very wide spread in cash restriction ceilings between different countries, which Mr Fein thought points to the fact that the true economic and social aspects of such restrictions have not been fully taken into account. For example, in France, since September 2015 cash transactions of over € 1000 have been banned and any cash deposit or withdrawal of over €10 000 per month will be reported to the French fraud and anti-money

laundering authorities. Italy and Portugal also set the cash-payment limit at € 1000, while in Greece it is € 1500, in Spain € 2500, in Belgium € 3000 and in Bulgaria approx. € 5000. In Slovakia the ceiling is € 15 000 and in the Czech Republic €14 000 per day.

Where a definite ceiling for cash payments exists, at least the situation is clear. In the USA however, no formal legislation, nor exact amounts of limitation have been established, but there are numerous strict reporting requirements which can be more complex than rules in countries with legislated ceilings. Banks are required by federal regulations to file a report when they encounter a "suspicious activity" and are encouraged to directly contact law enforcement officials if the activity is suspected to be part of a shadow economy. Transactions of \$5,000 or more must be reported if the bank knows or suspects that the transaction may involve potential money laundering or terrorism financing, or if the transaction has no business or apparent lawful purpose or is not the type of transaction that the particular customer would normally be expected to engage in, and if the bank essentially cannot explain the transaction after looking into the facts.

#### **CASH IS STILL RELEVANT**

Despite the seemingly never-ending call for the limitation of cash, there is much research and numerous surveys showing that cash remains as relevant as ever. Among the main reasons for this is that cash is universally accepted. Cash is also the only form of payment that does not leave a data trail. While that fact may be exploited by criminals, honest people as well are weary of having their life becoming totally transparent to the data gathering of private companies. In secure democracies, we may trust in privacy protection, guaranteed by the law, but data protection is not equally strong in all countries. Cash is also cost effective, as it is the central bank, which bears currency production and distribution costs. The platforms for e-payments, by contrast, are owned by private companies for profit.

While in western Europe, bank accounts and debit or credit cards are nearly universal, there are countries, among them Israel, where large subgroups have neither. Among the Israeli Arab population, 20 per cent do not own a bank account, (five per cent among the Jewish population). 22 per cent of bank account owners (16 per cent in the Jewish sector and 54 per cent in the Israeli Arab sector) do not hold any credit card.

The risk of cybercrime is consistently growing, as cyber criminals succeed in breaking into the most robust cyber defence systems. A significant shift of transactions to electronic payments will markedly increase the already high risk of cyber fraud. ■



Israel began issuing the first denomination of its C series, the New Israeli Shekel (NIS) 50 in 2014, followed by the NIS 200 in 2015. Dr. Ilan Steiner, Director of the Bank of Israel's Currency Department and Lior Lichtman, the department's Head of Issuance Division, talked to Infosecura's Editor about the new series. Dr. Steiner will also give a talk about the lessons learned in the introduction process at Intergraf's 'Security Printers' conference in Seville on October 5th.

The front of new NIS 200 note showing Nathan Alterman, a much loved Israeli poet

Israel's new currency series has found much positive interest and admiration, not only in the country itself, but also in the wider banknote printing community. In 2015, the NIS 50 note was nominated as a finalist for Excellence in Currency

Award in the Best New Banknote/series category of the International Association of Currency Affairs and in 2015 the series' KURZ Kinogram Volume security foil stripe was declared Winner of the "Best Applied Security Product" award

by the International Hologram Manufacturers Association.

Since 1985, Israel has had only two series of its currency, the New Shekel, the last of which was issued in 1999. That series was characterized by its vertical format and a very dense design, centring on the portrait on the front of the note, accompanied by images that relate to the historical significance of the persons depicted and to the time in the history of the country in which they were active. Three of the portraits on the 20, 50, 100 and 200 Shekel notes showed politicians - prime ministers or presidents of Israel - and one a writer and poet. The historical or cultural information given on the banknotes could easily fill a lengthy conversation, but in a busy market or supermarket check-out, such intellectual matters probably were easily lost.

#### RETURNING TO PAPER

In 2008, the Bank of Israel (BOI) decided to try a new substrate for its - hitherto - paper banknote: polymer. The NIS 20 was issued as a polymer note, with only minimal changes to the design and to the existing security features. The idea was not only to test the durability of the new substrate but also to see if it could be printed under more or less identical conditions to the paper note. The experiment worked well and the note was easily accepted by the public. However, as now two almost identical

NIS 20 notes circulated side by side, the smooth integration of the polymer note into the cash cycle proved to be a challenge, especially as the volume of polymer notes was relatively low - the NIS 20 is the least used note in the line-up - and conversion of all automatic vending machines, etc. proved to be costly. Consequently, the BOI returned to print the NIS 20 notes on paper, although there are still some such polymer notes in circulation.

#### THE C SERIES

Although counterfeiting was not a large issue and rates of counterfeiting in Israel are comparable to those in Europe, the BOI decided in the second decade of the new millennium, to start work on a new Shekel series in order to stay one step ahead of counterfeiters. In many countries, including Israel, public acceptance of banknotes is taken very seriously and that means not only the design, but the subject matter of the notes, in Israel's case, the people who would grace the people's money with their portrait. The BOI has a very sophisticated protocol for deciding on the design of banknotes, involving the final decision by the Governor of the BOI and the decisions of a number of committees, which also take account of public input, as well as the government. Given the diversity of the Israeli population, coming to an (almost) universally accepted solution is no easy matter. For the new series, the BOI decided to forego politicians and concentrate on Israeli poets and writers instead, the first two of which have now appeared on the NIS 50 and 200 notes respectively. Both of these notes show male poets, but the two notes still to come will be dedicated to women poets, Rachel Bluwstein - Rachel the Poetess - on the NIS 20 and Leah Goldberg on the NIS 100, thus guaranteeing gender equality.

#### NOT HEROES BUT POETS

The portraits of Shaul Tchernichowsky (on the NIS 50) and Nathan Alterman (on the NIS 200) are accompanied on the back by a single line from one of their most famous poems and some other attributes that convey the spirit of the poem, such as a



The reverse of the NIS 200 note with the line of poetry in the top right corner.





The front and back of the new NIS 50 note, showing the poet Shaul Tchernichowsky

Corinthian column and citrus trees and fruit on the NIS 50 and autumn leaves and moonlit flora on the NIS 200. The design is deliberately minimalist and concentrated on the essence of the notes' subject, as the BOI decided that Israeli banknotes are neither history books nor poetry books. However, given the penchant of many Israelis for learning and literature, on both notes, the text of another beloved poem by the poet depicted is given in full on the front - for

those that have a magnifying glass to read the microtext.

#### SECURITY FEATURE INTEGRATION

While the subject matter of the notes is of obvious concern to both the public and the BOI, the actual design is more of an internally decided issue. But even here, a design competition was held that produced about 100 entries, of which three were presented for final selection. The winning entry was designed by Osnat Eshel. A clear, minimalist design can contribute significantly to the security of a banknote, but placing the necessary security elements on such a note can be a challenge. The aim of the BOI was to integrate the security features as much as possible into the design. The notes carry the full implement of modern security features, as well as features for the visually impaired, from traditional multi-tone and electrotype watermarks and

see-through features to a windowed security thread and the mentioned, award winning KURZ Kinegram Volume OVD feature, as well as an OVI 'Spark' feature, a golden book. One device that was first used on the polymer note of the previous series is the denomination number in 'Microperforation'. Banknote durability was addressed by printing elements in intaglio on both sides of the notes and by additional varnishing. Given the climate in Israel and the overall 'white' image of the notes, note cleanliness is another concern, that is addressed by the network of cash centres that guarantee that notes in circulation are fit for purpose. The Bank of Israel is also conducting an extensive public information campaign for every denomination of New Shekel issued, including videos on its website and posters in five languages, Hebrew, Arabic, Russian, Amharic and English, drawing attention the security features of the banknote.

It may seem unusual that Israel only has four denominations, and those are of relatively low value. The NIS 20 corresponds to the € 5 or \$5, the NIS 50 is a little more than the € 10 or \$ 10 and the NIS 200 is roughly equivalent to the 50 Euro or Dollar note. Although there had been discussions in the past to issue a NIS 500 note, the BOI has currently no plans to issue higher denomination notes and because of universal concerns over money laundering and tax evasion and in an effort to combat the black economy, the government is not keen on higher value banknotes either.

As in most modern economies, the use of non-cash payments in Israel is growing, but so is the use of cash itself. The average growth of cash was 10 per cent p.a. rising to 15 per cent last year, probably due to low interest rates. ■

The ICA Board: (from left) Martin Sutherland, De La Rue, Barna Barabas, Jura (Vice-Chairman), Ralf Wintergerst, Giesecke & Devrient (Chairman), Philippe Barreau, Sicpa (Treasurer), Dieter Sauter, Orell Füssli, Eric Boissonnas, KBA NotaSys and Bernhard Imbach, Innovia Security (not in the picture)



Cash is a natural part of everyday life. The voices opposed to cash have painted a scenario in the past years that is as unrealistic as it is simply false. 80 per cent of all transactions worldwide are still being made using cash. Cash is neither out-dated, nor expensive and will definitely not disappear, rather the contrary" said

Ralf Wintergerst, Chairman of the International Currency Association (ICA) and soon-to-be CEO of Giesecke & Devrient, in a conversation with the Infosecura editor in Munich. With him was another member of the ICA Board, Dr. Dieter Sauter, CEO of the Swiss banknote printer Orell Füssli.

**The advantages of cash need to be told, the industry decided. The new International Currency Association will be the voice to put the arguments to the world.**

The ICA was founded by seventeen companies in April this year in Paris as an association to both drive innovation as well as the best commercial and technical practices, and as a unified voice for cash. A look at the seven-member ICA Board shows that the ICA represents an impressively high level of the currency industry. Apart from the mentioned Ralf Wintergerst and Dieter Sauter, there are Barna Barabas of Jura, as Vice-Chairman, Philippe Barreau, CEO of Sicpa as treasurer, Martin Sutherland, CEO of De La Rue, Bernhard Imbach, CEO of Innovia Security and Eric Boissonnas, CEO of KBA-Notasys.

Seventeen is only the beginning. The ICA expects more members in the new financial year, when prospective member companies have had the opportunity to build membership plans into their budgets. Meanwhile, the ICA is already presenting its aims and its arguments to the industry.

Why are there no state-owned banknote printers or central banks among the members? "We, as private companies within the currency industry, are totally committed to cash, whereas central banks, and also state-owned print works for example, have to be neutral in the face of the existing currency mix," said Wintergerst, with Sauter adding that the ICA does not regard other forms of payment as adverse to cash but as a supplement. Sauter: "With mobile payments via smart phone we are seeing an increasing number of yet another kind of non-cash payment. We observe these new trends with interest. Unfortunately, every new player thinks they have to attack cash, obviously because cash still going so strong. And that's why the ICA – and, fortunately, many other players in the industry – makes the case for cash."

One of the prime objectives of the ICA is therefore to set the facts straight, as most of the cash opponents use arguments that do not reflect the reality, as Wintergerst stated. Cash is still growing at around 5 per cent worldwide and in many Asian, African and South-American countries at substantially higher rates. The often quoted trend in Scandinavian countries towards cashless payments may well be an outlier and even there, the Swedish Riksbank recently declared that it is committed to the continued use of cash and it backed its words with the issuance of a new series of Kronor.

#### ARGUMENTS FOR CASH

The arguments for cash are compelling. Cash is certainly secure, to be exact, 99.9975 per cent secure according to the European Central Bank, while card fraud, cybercrime and online fraud are soaring. Cash is also an inherently universal,

inclusive and democratic means of payment that is available to the rich and the poor, those with or without a bank account. It also protects the privacy of its users and gives freedom of choice. Having a functioning cash payment system also minimizes risk in natural catastrophes or terrorist attacks when electric systems no longer function. In a crisis, the use of cash usually goes up. And cash is very cost-efficient as well as transparent when it comes to cost, as the cost of producing it is borne by the central bank while in alternative payment platforms, the cost is hidden and paid by the retailers and, in the end, by the consumers. Lastly, cash is a strong symbol of national identity, or European identity in the case of the Euro.

#### HOW WILL ICA WORK?

There is certainly no shortage of arguments to put to the general public, the world of trade and commerce and to 'opinion leaders', such as the media. A coherent case for cash also has to be made to academic economists, who influence generations of decision makers who in turn will decide on our economic and political futures.

The ICA will be active in two directions: towards the industry itself and towards society as a whole. The first three of ICA's stated objectives illustrate the 'internal' aims well: to *ensure that its members drive innovation and offer the best commercial and technical practices to their customers; promote the highest ethical standards and do everything in its members' power to ensure that cash is secure, efficient and effective.*

This is not an easy goal to achieve. While competition between companies is increasing, all companies in the cash industry are facing competition from the outside, necessitating closer cooperation within the industry. Consequently ICA is encouraging sharing of best practices and benchmarking among members. It is also seeking to improve the conferences and trade shows of the industry. If that would mean greater involvement in identifying and addressing the subjects that are of burning interest to the industry and instill a new and greater vision, the initiative would surely find much support.

The fourth of ICA's stated goals is directed towards the cash using public: *Support and promote currencies worldwide as universal and inclusive means of payment.* Much of this work will be defined and carried out by the ICA's committees, among them the Global Cash Alliance Committee which, beginning 2017, has the aim of setting up a global campaign in support of cash among ICA members and entities outside. It is this work that may well have the greatest influence on the well-being of cash. ■



# The laissez-passer of the European Union



The cover of the European Union Laissez Passer with text in 24 languages

Passports can only be issued by national governments and they link the bearer to his nationality. When travelling on behalf of a sovereign international institution, the relevant document is a laissez passer. The European Union has very recently moved its European Union laissez- passer fully into the 21<sup>st</sup> century.

It can be assumed that nationals of EU countries working for the European Commission have their own national passports. However, private passports are for private travel. If the “members and servants” of the institutions of the European Union travel for official purposes, either inside or outside the Union, they are using a “laissez-passer” and they have been doing so since the European project started. Last year the European Union transformed this document into an electronically enabled travel document

with a large array of security features and since 25 November 2015 all laissez-passer in circulation have a form that fully conforms to ICAO standards and the European legal Framework. This is a significant step, as until then, the laissez-passer was a hand written document.

The new European Union laissez-passer (EULP) is based on Council Regulation (EC) N° 2252/2004 of December 13<sup>th</sup> 2004, which defines standards for security features and biometrics in passports and travel documents issued by Member States and it was implemented after Council Regulation N° 1417(2013) was adopted on December 17<sup>th</sup> 2013. Although the EULP is recognised as a valid travel document by the 28 EU Member States as well as by about 100 other states, it is not a passport but an administrative document and it thus does not convey diplomatic privileges according to the Vienna Convention. Nevertheless many third countries consider the EULP as the basis for the definition of residence of EU staff posted in their territories.

## WHO CAN HOLD A EUROPEAN UNION LAISSEZ PASSER?

The EULP is issued to members of the EU institutions, to members of the European Parliament and staff of the EU institutions according to certain defined grades, functions and roles and to the EU External Action Service (EEAS). Since 2013 eligibility has been extended to people on long-stay or long term posting outside the EU and, subject to

specific conditions, their family members, as well as other officials, seconded national experts and junior professionals in Delegations and their family members.

The EULP is also used to hold visas for missions and residence permits for long postings. It is the only document that establishes an official link between the holder and the EU. It shows the diplomatic title of the holder (on page 4), allowing EU staff to appear in the official diplomatic list of the third country or of the international organization concerned.

Upgrading the security level of the new European Union laissez-passer also meant upgrading the issuing process. The laissez-passer is issued by the President of each European institution. Since mid July 2015, EULPs are issued in Brussels and a little later issuing started in Luxembourg and in Frankfurt. EULPs can now also be issued remotely through mobile stations in EU Delegations. To guarantee the highest level of security during the issuing process, there are three parties involved, the Commission for enrolment, document signing and delivery, the contractor, Austria's Österreichische Staatsdruckerei for production and personalisation and the EU's Joint Research Centre JRC in Ispra, Italy as the PKI Certification Authority.

Following a tender process, the Österreichische Staatsdruckerei (OeSD) is the main contractor for the EULP for the next nine years, producing and personalizing the booklets in its facility in Vienna. OeSD chose two subcontractors, the Portuguese company Vision-Box for the enrolment part and Latvian company X-Infotech for the life cycle management. The issuance architecture, however, remains under the control of the European Commission, which fulfils this function on behalf of all European institutions. It is the central point in particular for personal data processing purposes.

## THE EULP DESIGN

As the laissez-passer follows the ICAO recommendations for machine-readable travel documents, it will be easily recognized by international authorities and even the range of security features will be very familiar to officers at border crossings. The laissez-passer uses all electronic security measures to combat fraud. To detect a forged chip, Passive

The data page of the EU LP



Authentication is used, to combat skimming and eaves dropping, Basic Access Control and Supplemental Access Control are installed, Active Authentication detects cloning and non-authorized access to sensitive data is prevented by Extended Access Control and Terminal Authentication.

The physical book is equally well protected by security features. It has a chip, which contains the bearer's personal data, a portrait and two fingerprints, embedded in the back cover of the book. The

The data page of the EULP showing the security foil protecting the personal information



paper of the book has two types of watermarks, a multi-tone mould made one for the data page and, in a different orientation, for the visa pages and an electrotpe watermark, showing the page number. The printing of the booklet uses intaglio, dry-offset, wet offset, screen-printing, letterpress and inkjet for personalisation. The inks used employ the whole range of special security ink effects. The three letter code for the EU - EUE - is used as a design element throughout the book, as are the stars of the EU flag.

Special attention has been given to the data page. The paper, and thus the personal data, of this page is covered by a thin fragile laminate, which contains a range of holographic as well as printed elements. One design peculiarity is that all text, including that on the cover, is given in 24 languages.

#### EARLY SUCCESS

The success of the EULP can be judged by the fact that it has been widely recognized not only by all EU

countries, but formally or informally, by third countries, a process that is continuing. At a conference on the EULP held in Brussels in June, the features and the workings of the EULP were explained to delegates from 23 EU and ten third countries, doubtlessly accelerating this recognition process.

#### FITTING INTO THE INTERNATIONAL CONTEXT

As a travel document, the EULP has to be part of international efforts to promote works, e.g. by ICAO, to strengthen travel documents globally. The ICAO Traveller Identification Programme (TRIP) is such an effort, that involves border police, immigration, airlines, airports, etc. The programme takes into consideration evidence of identity, MRTDs, document issuance and control, inspection systems and tools and interoperable applications in order to maximize both security and facilitation aspects. Among electronic travel documents, such as the EULP, the exchange of keys for verification of the document via ICAO's Public Key Directory is of major importance. Currently the EU is working on a 'Schengen Masterlist', a compilation of the CSCA keys for verification of all EU Member States as well as third countries. Both TRIP and the 'Schengen Masterlist' were discussion points at the conference.

The European Laissez Passer is an on-going project. The next development that is being worked on is the creation of a Single Point of Contact, (SPOC) to allow national authorities to read the fingerprints stored in the chip of the travel document. This entails important security operational requirements for the registration authorities involved as well as a sound auditing system. Cooperation with each country concerned implies, before the SPOC goes live, the installation by each of them of a compatible testing system to be used for interoperability tests and updates to ensure full compatibility.

One important actor in the ELP project is the EU's Joint Research Centre in Ispra (Italy), which serves as a Knowledge Centre. Its contributions to the laissez-passer relate to the PKI, the SPOC and the National PKD. Additionally, JRC is engaged in the Schengen Masterlist, interoperability testing, digital tachograph and biometrics (children, ageing of fingerprints).

#### GETTING TO BE KNOWN

IATA (International Air Transport Association), which represents over 200 airlines and provides a platform for exchanging information, will inform the airlines about the EU laissez-passer and enhance its recognition for check-in and travel. The IATA-internal database of all documents, called TIMATIC already contains information on the EULP as well as information on all countries that accept it. ■



## NEW ISO 19998 STANDARD FOR TAX STAMPS MOVES CLOSER

The proposed introduction of a new international tax stamp standard (ISO 19998), which is supported by the International Tax Stamp Association (ITSA), has moved a step closer with plans to publish an initial draft for public consultation in the second half of 2017, followed by adoption before the end of that year. Ian Lancaster, project leader for the standard, reports on the latest developments.

Currently, there are over 250 revenue agencies (national and state governments) around the world using tax stamps to collect valuable tax duties and excise payments, involving the worldwide production of some 140 billion stamps annually. As well as providing visible proof of tax payment and revenue collection, tax stamps have also taken on product authentication and anti-tampering applications.

So while some countries or regional states have stamp programmes for collecting tax, there remains large parts of the world where there are little or indeed no tax stamps. This is driving the requirement towards a global standard (ISO 19998) for the specification of tax stamps - an unequivocal standard that would bring all countries using stamps, and encourage those not using them, to have programmes that are in line with the very best and most effective on the market.

A new standard would provide guidance on a number of related issues: how to approach a new tax stamp project, how to upgrade an existing system and how stamps could be integrated into a tax collection programme rather than being a standalone device. The standard would be fundamental to raising the game for issuers of tax stamps, giving them up-to-date objectives, good information on the characteristics and function of components, and guiding them on how to select those components. It would also help to level the competitive playing field for stamp and component suppliers and provide a common terminology that would facilitate dialogue and engagement between those involved in the sector.

The scope of the ISO 19998 standard is currently agreed as *'This international standard provides guidance for the content, security and issuance of tax stamps (physical or non-physical) used to indicate that the required excise duty or revenue tax identified with an item has been paid and to signify that the item is legitimately on the intended market.'*

*'The standard will cover, but is not limited to: the*

*functional content of a tax stamp; substrate material for physical stamps; the design of the stamp (physical or non-physical); the security of the artwork files and materials; inks and other materials used to print the stamp; overt and covert security features; serialisation and track and trace systems used; the issuance systems; finishing processes and testing'.*

However, while this is the draft scope as it currently stands, it is felt by those involved that as well as providing guidance for the content, security and issuance of tax stamps, the standard also needs to provide guidance on the examination of tax stamps. If authentication devices are used, they need to be examined. Too often, there are very sophisticated devices and protection systems on the stamp, but they are not examined, and the 19998 working group is proposing to ISO that the scope be amended to include examination of the tax stamp.

Also the 'physical or non-physical' portion of the standard has been the subject of strong debate recently, and the exact meaning of those words is still being considered regarding the extent to which the standard covers both physical and non-physical tax stamps.

### OPEN DEFINITIONS PARAMOUNT

As far as definitions are concerned, the fundamental need in getting them right is to make them 'open' definitions, not 'closed'. If the standard is going to be successful and work for the foreseeable future, open definitions will need to accommodate, not exclude, new technologies and/or developments. The current drafted definitions for tax stamps are:

- Tax stamp: a visual or electronic device placed on certain types of consumer goods to show that the appropriate tax has been paid; these devices may be in the form of a label, closure seal, indicia or mark applied to, or included in the package or container of the taxable item. These devices are a tool within a government's system for the collection and protection of the applicable taxes.
- Applicable taxes: excise and other revenue taxes on products as defined within national, state, provincial or local law. (Of course, no standard can override national law.)
- A tax stamp is an official document that, because of its security characteristics, must allow for the verification of its authenticity. The verification process shall provide information on who paid the tax related to the product and when this transaction occurred.

Work around definitions relating to issuance is more

*TSA was founded by a number of leading industry companies and stakeholders to ensure the better understanding of the benefits of tax stamp technology and to promote the highest professional standards within the sector. To this end, one of its key objectives is to support and promote the introduction of the ISO 19998 standard for tax stamps.*

*Members are Advanced Track and Trace, Ashton Potter Security Printers, Chanwanich Security Printing, Holoflex, Holostik India, Manipal Technologies, OpSec Security, SICPA, Surys (formerly Hologram Industries), Thomas Greg & Sons de Colombia, Alexis sro, Jura JSP, Luminescence, and Rolland Enterprises.*

of a work in progress than the tax stamp definitions but these are:

- Production of the tax stamps should operate in compliance with recognised security management standards, specifically ISO 14298 'Graphic technology – management of security printing processes'. (This also covers management of security foils production processes.)
- Tax stamp issuance should operate under recognised security practices and procedures relative to the security risk associated with the various production, distribution and issuance processes. These procedures should provide security adequate to prevent the unauthorised reproduction, release or theft of tax stamps and provide a system to detect any such release, reproduction or theft in a timely manner. Issuance personnel should be trained in security practices and procedures and where allowed, screened through criminal background checks.

The key words worthy of drawing attention to in this definition of issuance systems are 'security' and 'risk'. The underlying approach being taken with the standard is to try to guide authorities to undertake security risk assessments. Every element in the production, distribution and issuance of tax stamps has a risk associated with it, so authorities are urged to assess risk at each stage and implement appropriate security procedures.

There is clearly a lot more work to be done on

the standard in the next 18-24 months, and those who would like to join the working group are being urged to do so and provide their contributions. Recent moves have highlighted the need for a more balanced approach to representation on the editorial board responsible for drafting the ISO 19998 standard for tax stamps. Comprising 19 individuals, mainly involved in the supply of tax stamps and related components, the process could benefit by including specifiers and issuers, as well as companies physically applying tax stamps to products, to remedy the bias towards suppliers.

However, because ISO has very set procedures, any specifiers, issuers and appliers wanting to become part of the working group, would first need to contact their National Standards Body (NSB). They would, simultaneously, have to ensure that their NSB is a participating member of ISO's Technical Committee 292, titled Security and Resilience and, if so, the NSB can nominate them to be a member of Working Group 4, Fraud Countermeasures and Controls, for 19998.

What are the next steps? The ISO has established timetables for the writing and adoption of the new standard to allow adequate time for writing and consultation at different stages of the draft. Working within these ISO procedures means that the tax stamp standard will be published for public consultation in the first half of 2017 with the aim of adopting it before the end of that year. For more information contact Ian Lancaster at [ianl@reconnaissance-intl.com](mailto:ianl@reconnaissance-intl.com) ■

## FROM CLOUD PASSPORT TO MOBILE ID

**Anything that can go digital, will. This is a sentence that is becoming increasingly true. eGovernment is already a reality in several countries and mobile identity is being rolled out, but how soon are we to see totally 'paperless' or 'documentless' travel?**

Back in October 2015, the Sydney Morning Herald reported that Australia is looking at trialling passport-less travel. Foreign Affairs Minister Julie Bishop even predicted that such a scheme would go global. Passport-less may not be the right term, however, as what is being talked about in Australia is a migration of the traditional passport backed by machine readability and a chip, to a totally de-materialized form that would perhaps reside in the 'cloud' and be visible on the bearer's smartphone.

The Sydney paper said that under a cloud passport, a traveller's identity and biometrics data would be stored in the cloud, so passengers would no longer need to carry their passports and risk having them lost or stolen. The Department of Foreign

Affairs said that 38,718 passports were registered as lost or stolen in 2014-15. The department did not say how many smartphones were lost or stolen within the same period.

The Foreign Affairs Minister confirmed that Australia was in discussions with New Zealand about the approach. She admitted there were security hurdles to cross before the idea could be implemented, especially related to storing citizens' biometric data in the cloud. So far details about the scheme are scarce and the understanding of it in the general press seems to be very limited.

In IT News, IBRS infosec analyst James Turner said that the proposal to have a database of identities raised many cyber security questions, primarily about data governance. «Who will be allowed to make changes, how are updates to records authorised, and a comprehensive and reliable audit trail will need to be maintained, and protected to the



same level as the cloud database.» He said that the database could become a potential honeypot for malicious actors. If the proposal would be limited to giving Australians the opportunity for «document-free travel between Australia and New Zealand», as one paper mentioned, it could be implemented without too many difficulties, but to envision over 190 countries in the world agreeing on a common digital reading and verification system for biometric data and a totally electronic visa system raises some doubts.

Australia is one of many countries using ePassports, that contain a chip with the traveller's identifying details, allowing automated processing at airport smart gates. The ePassport is, however, still a physical document, which allows border officials to verify the identity of the bearer, even, if need be, under the most primitive conditions. With a smartphone-passport backed by a database «in the cloud», a simple lack of Internet cover or a electricity black-out could render the smartphone-passport useless. Unless, the smartphone acquires extra hardware that holds the biometric identity information itself, as the chip in a conventional ePassport does. But then we face again the problem of «lost or stolen» smartphone-passports. And proving the bearer's identity is just one, although the most important, function of passports. They also contain visas and provide a travel history. It would of course be useful if border officials would be able to check the travel history of travellers at the same time as they check their identity, without having to search in the book for visas and entry and exit stamps, but for this, passports would not have to be 'dematerialized'.

The great effort to reduce the time it takes to pass the border control at airports is a little surprising, as the passport check usually takes only a fraction of the time spent in the queue for the security check. The IT, ID and security industries seem to think that there is a technical possibility to reduce the time for this procedure, while there seems to be no easy technical solution that would reduce the time it takes to make passengers feel that everything has been done to make them safe before they get onto the plane. Waiting in line and going through the procedure of having everything with you or on you scanned, is part of the reassurance process.

We don't really know yet if this is an idea whose time has come but some serious companies within the secure identity industry are having a go anyway.

At the End of March a De La Rue spokesman told the UK daily 'The Telegraph' that «paperless passports are one of many initiatives that we are currently looking at, but at the moment it is a

concept that is at the very early stages of development.» Since then De La Rue has not released any further details.

### NOT ONLY PASSPORTS

While paperless or digital or cloud passports - take your pick - are still a somewhat distant proposition, mobile ID is already with us in several forms. Several governments in Europe have followed the example of Estonia and moved certain government services onto the Internet, to be accessible even via smartphones. Access to government services is of course linked to a secure identity and if smartphones are to be used, that identity needs to be mobile.

In June, Poland's Ministry of Digitalisation announced that the government is considering a new mobile identity system for eGovernment that can place identities on eID cards with chips or on smartphones. Digitalisation Minister Anna Strezyńska said that there are 19 million smartphones in Poland (in a total population of 38.5 million) and an average Pole uses his mobile device three hours a day, and this trend is growing.

Although so far only scant details have emerged, it is assumed that initially a mobile ID application will simply be linked to a mobile version of the government portal for citizens. [obywatel.gov.pl](http://obywatel.gov.pl), but there are indications of a 'federated' model, with assorted digital identity suppliers operating in parallel (eg. e-banking, telecom companies, etc.). The minister confirmed that by saying that credit cards, student cards, city cards, driving license, health insurance can all be integrated into smartphone-held identity cards.

### GROWING IMPLEMENTATION - GROWING THREAT OF CYBER CRIME

Mobile ID or mGov is a digital identity. It allows the use of a mobile phone for securely accessing e-services and digitally signing documents. Proponents of mGovernment and mobile identity regard the main benefits of such a transition as improving convenience and meeting citizen expectation, including a 24/7 service independent of location. That is good and laudable but it ignores the possibility of an increase in identity fraud, which cannot be taken lightly. In 2014, 51 per cent of all data breaches resulted from identity fraud (Gemalto Data Breach Level Index report).

It is also claimed that mGovernment will save money. It may well do, by streamlining administrative operations, but the savings will not come from abolishing physical ID documents. A best mobile ID can be a complement to physical ID documents, not a replacement. ■

# SECURITY SOLUTIONS FOR HIGH-SPEED INKJET PRINTING

At this year's DRUPA 2016 printing exhibition, one of the most exciting and visible trends was a move of the printing industry towards digital printing. Within this general trend one particular technology will have increased relevance for the security-printing field: the development of high-speed inkjet printing.

Today, digitally produced printing products account for between 10 and 15 per cent of the global print market. Studies carried out at the turn of the millennium predicted that by 2020 this share will have risen to about 60 per cent (Canon-Insight-Report 2008). Until now, the replacement of established printing methods, in particular offset printing, has not happened. However, the printing industry might now be at a turning point. Experts are talking about an annual increase of digital printing of 10 per cent and especially high-speed digital inkjet printing has the potential to surpass these expectations. One can thus expect that with these developments, the prediction will eventually come true.

## THE ADVANTAGES OF DIGITAL PRINTING

More and more printing houses see the advantages of the digital printing market. Smaller print jobs and shorter delivery times make digital solutions a much more attractive alternative to traditional printing methods. Low margin or previously unprofitable print jobs can now be printed economically in high-quality full colour using digital printing. Wastage is reduced, machine set-up time is shortened and there is increased flexibility to respond to customers' wishes.

In recent years considerable progress has been made on the grey tones and shades with the development and improvement of digital inks. In general, the quality of the image comes closer and closer to that achieved with offset printing machines (Digital printing technologies, TU Darmstadt).

Improved inkjet printing and digital inks require correspondingly improved printing substrates leading to increased demand for specialized digital papers especially for high-speed inkjet printing. Given the progress made in image quality and the advantages of high-speed inkjet printing, there are now options for future development in the security printing sector.

## PAPER FOR SECURITY INKJET PRINTING

On request, all security papers from DREWSSEN SPEZIALPAPIERE can be supplied with excellent printability for inkjet printing. The papers developed meet the demands of high-speed inkjet printing and are used for special products such as vouchers, cheques, admission tickets, passports, certificates and other security documents.

PROSECURA Security Paper Inkjet Professional is available with the following security features:

- UV-dull
- One, two or multi-tone watermarks (mill standard or bespoke / random)
- Daylight and / or UV-light visible security features (e. g. fibres, starlights, A-dots)
- Chemical Protection
- Security threads (metallised, fluorescent – with or without microprint, machine readable)
- Special Identification Systems

Drewsen works in close cooperation with customers to create and develop bespoke solutions for a wide range of applications. Colour/shade, substance, as well as the combination of the security features can also be individually customised.

Following on from its introduction at the Intergraf Conference 2015 in Copenhagen, the new development has met with great interest. There was a great deal of positive feedback from the customers, especially for cheque papers produced in accordance with C&CCC specifications (CBS1 & CBS2).

Due to further developments made by the OEM's and ink producers, it is now also possible to print magnetic inks (MICR) and UV inks onto the substrate using the inkjet process.

In particular, the MICR coding with magnetic pigmented ink needs a more technical paper and printing process. The perfect readability of the CMC-7 and E-13B fount can be confirmed without limitations.

Fast drying properties, clean and sharp print definition, and resistance to water run off using full colour printing are features adopted from the established PROINKJET Professional quality. Optimised colour receiving layers prevent ink bleed, providing sharp contours and lines.

In addition, a special hybrid version "PROINKJET Classic Plus" has been added for the application of offset printing where subsequent personalisation is carried out by inkjet. This paper combines the advantages of offset printing with the flexibility of inkjet processing. By a special modification to the paper recipe this allows the two printing processes to be combined on the same paper. ■



Watermarked security paper



Pigmented ink visible under UV light





**The officer's  
best friend  
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