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Decision at Last for Gulf Central Bank

A major barrier to the introduction of a common currency for the Gulf states has been overcome following the choice of Riyadh as the home to the new monetary council. This will be the forerunner to the Gulf Central Bank and the decision on its location, which is several months overdue, has paved the way for the common currency to go ahead.

The decision to introduce monetary union followed by the introduction of a single currency was first taken in 2001. The first was originally supposed to happen by 2005 and the second by

2010. The process has been beset by a number of obstacles, however – both economic and political, the choice of the central bank location appearing for a while to be the most intractable since all but one of the participating GCC states wanted to host it.

The monetary union agreement was finally ratified by the GCC heads of state last December (see CN Vol 7, No 1). It outlined the stages and processes leading to the single currency but with-

Continued on page 5

Next Generation Hybrid Substrates Arrive

The debate between paper and polymer for banknotes has entered a new phase with the development of new hybrid substrates that, as the name, implies combine both and are poised to put paid to the arguments that linger about the advantages of one versus the other.

First off the blocks is Louisenthal with its appropriately named *Hybrid™* – comprising a paper layer to which a thin protective film is laminated. It is intended for use in countries with particularly challenging circulation conditions and, according to the company, for the first time offers a substrate that provides durability without sacrificing security and printability.

Hybrid is already in use for the 100 and 200 commemorative and circulation issues of the Emalangeni note in Swaziland, while another African country is planning to issue a Hybrid note later



The world's first hybrid note – Swaziland's 100 and 200 commemorative and circulation Emalangeni.

this year. A more detailed introduction to Hybrid is provided on page 9.

In the pipeline, meanwhile, is *Durasafe*, Landqart's answer to combination substrates. This comprises a fusion of paper and polymer, with the paper sandwiching the polymer core, and is being developed for the new Swiss series which will be introduced next year. The formal launch of *Durasafe* will take place in December at Banknote 2009, while a preview will be provided in the next issue of Currency News.

CONTENTS

Decision at Last for Gulf Central Bank	1
Next Generation Hybrid Substrates Arrive	1
Comment: Recession, What Recession?	2
De La Rue Secures Bank of England Contract	3
G&D Increases Sales and Earnings	3
Enschedé Gears up for Future Euro	3
Landqart Expansion on the Cards	4
Garda Weathers the Storms	4
Diebold Settles in SEC Case	4
Recession Leaves its Mark	5
Canadian Counterfeits – Volume Drops but Value Rises	5
Instability Prompts Rush for \$100	6
Higher Values Fuel Euro Growth	6
People in the News	6
On the Record: Making the Move – New Challenges and Opportunities Down Under	7
Louisenthal Leads the Way with New Hybrid Substrate	9
Banknote of the Month: Nicaragua Goes Live with New Series	10
Note and Coin News	10
EC Publishes White Paper on CIT Harmonisation	11
Five Years Ago	11
European CIT Crime Falls in 2008	12



Recession, What Recession?

We may well be in the midst of a global recession at the moment, but from the performance of many of the industry's leading suppliers, you would never think it. February is the time of the year when most of the CIT and ATM manufacturers report their annual results, while in April and May it is the turn of the printers and papermakers.

The financial performance of an industry's suppliers is as good an indication as any as to its health. And the glut of good results this month and last shows that the currency industry is currently in very good health indeed. As we report elsewhere in this issue, the news is universally positive: De La Rue and Giesecke & Devrient have turned in their usual sparkling results, sales at Enschedé and Goznak continue to grow, while Fortress is gearing up for new investments to meet actual and anticipated demand.

There are other suppliers, too, that – as part of larger, non-currency related organisations – don't report their results but which, as we can tell from the reports of these organisations, are proving to be one of the few, if only, good performers among their peers.

The picture is a similar one for the sector that handles cash, the main parties in which all appear to be robust. Even Garda, which wobbled in the middle of last year, seems to be back on track.

There has been much comment and speculation in Currency News and elsewhere over the last few months on the impact of the recession and how our industry appears to be defying it. When times are good, they are good for our industry. But when times are bad, they are even better!

Counter-Intuitive

Counter-intuitive though this may seem, it is explicable not only by shorter design cycles, more and improved security features and moves toward clean note policies, but also by straightforward public preference for cash. This is either because people are turning to cash instead of credit as a means of managing household budgets and controlling expenditure. Or it is because, following the crisis of confidence in financial institutions, property and shares, many savers have converted their assets to currency, storing this in high value notes. The latter is borne out by the reports from the Federal Reserve and the ECB (see page 6) on the dramatic rise in demand for the \$100 and €500 respectively.

Whether and for how long the current boom lasts remains to be seen. The last time business was so good was the end of the 1990s and the first part of this decade – promoted by two specific factors which were Y2K and the euro launch. Suppliers pumped up capacity, only to be left with idle machines as demand fell away – leading to all the problems that over-supply and a buyers' market bring.

This time round, however, there has been no rush to load up capacity. Louisenthal may be expanding, but that is being primarily driven by the need to upgrade old equipment, while

Fortress' plans, if they go ahead, probably have as much to do with anticipated demand for its new substrate than present-day capacity constraints. In the main, demand has been accommodated by longer lead-times, better planning and production optimisation, with the result that the industry is much better positioned now than it was five years ago to cope with the troughs as well as the peaks.

Cash Distribution Struggling

But, in the midst of all this good news, we should not forget that one sector of the industry is not faring so well – namely the suppliers of ATMs and cash distribution solutions. Two of the leaders, in particular, are struggling at the moment – NCR and Diebold. This is partly due to a necessary long-term restructuring and move away from commodity hardware and software towards value-added services and solutions (at which their rival, Wincor Nixdorf, has been rather more successful). But part of it is due to the economic climate. This is not particularly surprising. The key to this sector is the banking industry, where – given all their current problems – capital investment in replacement and expansion is not a main priority.

It is to be hoped, however, that this situation does not continue. The importance of the ATM and cash handling sector to the continued success – past, present and future – of cash as a medium of exchange cannot be overstated. ATMs have reduced the costs of distributing cash, made it convenient and accessible, and fuelled the requirement for clean, machine detectable, good quality notes.

But while, as a result, so-called 'cash-out' processes have become more efficient and cost-effective in recent years, the costs of 'cash-in' – which are approximately twice those of 'cash-out', remain relatively high. And it is the apparent inefficiencies of the cash-in process that have provided the anti-cash lobby with a useful weapon in their effort to displace notes and coins in favour of alternative methods of transaction.

This lobby has been relatively silent in recent times, but it will be back. The development of more efficient practices and systems, together with the deployment of deposit and recycling systems that will do for the cash-in process what ATMs did for cash-out, therefore remains essential.

And the turn of the manufacturers of deposit and recycling systems will come. Apart from the need to deploy technology to bring down the cash-in costs, banks will have to start investing again as the technology in their ATM estates dates, while many of the countries with emerging economies – which are suffering less from the recession and will begin recovering sooner – provide fertile ground for expansion.

Last but not least, consumer preference for cash will continue to underpin the industry in all its forms, and provide the road to recovery for the one sector that is not benefiting from the current economic situation.

When times are good, they are good for our industry. But when times are bad, they are even better!

De La Rue Secures BoE Contract

De La Rue accompanied the publication of its year-end results to March 2009 with the news that it has secured an extension of its contract with the Bank of England for a further five years.

Revenues from continuing operations to the year ending March 2009 grew by 8% to £502.4m and operating profit by 22% to £96.5m. Operating profit margins (before exceptional items), at 19.2%, were 2.2% percentage points higher than last year, reflecting, said the group, the benefits of productivity improvements, volume, customer mix and foreign exchange. The company benefited in particular from the low value of the pound, with movements against the euro the US dollar contributing £25m to revenue and £6m to operating profits.

This is the first set of results since the sale of the cash systems business (now Talaris) last August, and James Hussey took over at the helm as CEO from Leo Quinn in January. The group is now divided into four divisions – Currency, Cash Processing Solutions, Identity Systems and Security Print (which covers non-banknote print and paper, along with holographics).

Sales in the Currency division (both banknote paper and print) rose by 6% to

£348.6m, and operating profit by 24% to £82.2m. Volumes were up by 3% and the division benefitted from the introduction of a number of new banknote series.

The Cash Processing Solutions division, comprising high speed sorting systems retained following the sale the rest of the business, contributed £66m in sales, up by 4% from the previous year. Operating profit of £400,000 remained static.

Along with the preliminary announcement of its results, DLR also announced that following completion of an eight month process, the Bank of England has extended the minimum term of its original seven-year banknote supply agreement – which was due to expire in 2010 - by a period of five years. This contract is understood to be worth £30-40m in sales per year.

The company also confirmed that it is reviewing the options for its 20% stake in Camelot, the UK lottery operator which it helped set up in 1994, but has dampened speculation that it could be interested in buying the Royal Mint. This is now up for sale but, according to the DLR, is not close enough to its strategy, which is to build on its position as the world-leading producer of banknotes and banknote paper.

G&D Increases Sales & Earnings

German banknote printer and papermaker Giesecke & Devrient has turned in another good year, with turnover up by 9% over 2007 to €1.7 billion. Net income broke through the €100m mark for the first time, increasing by 16% to €111m. EBIT was €160m.

According to the company, all three of its business units - Banknote, Cards and Services, Government Solutions – have improved on the results they achieved in 2007. The Banknote business, with sales up by 9.1% to €909m, again delivered the highest contribution to Group revenues. The Paper and Printing divisions both benefited from the growing customer demand for complex security features, with Louisenthal's plant operating to the limits of its production capacity throughout the year (the €70m expansion of its Königstein mill will go into

operation at the end of 2009).

Sales by the Banknote Processing division, meanwhile, rose to a 'record level' in 2008, with the company reinforcing its position in the category of medium- and high-capacity banknote processing systems deployed by cash handling companies and central banks.

The company increased its global workforce by 930 so that, by the end of the year, it employed nearly 10,000 people.

During 2008 €109m was invested in research and development activities. According to Dr Karsten Otterberg, CEO and Chairman of the Board, a further €150m will be spent in 2009 on property, plant and equipment to 'further strengthen the company's innovative powers'.

Enschedé Gears Up for Future Euro

It has been a good year, too, for the Dutch-based banknote and security printer Royal Joh Enschedé, which announced a 13% increase in turnover to €81.7m in 2008, and a 7% increase in EBITDA to €12m.

Announcing the results, CEO Arie Piet commented that, although the company has been hit by the recession, the windfalls and setbacks have balanced each other in such a way that the results are still in line with the company's five year strategic plan.

The company is engaged in both security and commercial printing, with the former – which includes postage and tax stamps as well as banknotes - accounting for around half of sales.

Turnover exceeded that of 2007 due to higher order levels for the euro and optimising the order flow. The company produces part of the Dutch central bank's euro indent and has also benefited from the cooperative purchasing group JET (Joint European Tender) which was set up by DNB along with the central banks of Luxembourg, Malta, Slovenia and Cyprus in early 2008 (see CN Vol 6, No 3), winning orders for notes for these countries as well.

New Investment

With an eye to future euro production, the company made a number of investments in new equipment during the year, including the purchase of a new KBA GIORI *NotaScreen II* with *SPARK®* module. This makes it one of the first printers in the world capable of producing this feature, enabling it to meet immediate demand from other countries as well as for the Euro second series, when the specification for this is proven and finalised.

Landqart Expansion on the Cards

Fortress Paper is planning to expand its Landqart security paper mill, potentially tripling capacity. The mill is the exclusive supplier for the Swiss currency, and exports banknote and passport papers around the world. According to CEO Chad Wasilenkoff, the technical specification and requirements for the expansion, which are currently being finalised, look very attractive. The next step will be to obtain financing which, assuming it is obtained, will enable the mill's capacity to be increased from 3,000 to 10,000 tonnes per year.

Fortress acquired Landqart in 2006, since when capacity has doubled. The papermaking machinery is now some 30 years old and it is likely that part of the rationale for the expansion is to gear up for future demand for the company's new *Durasafe* hybrid substrate (see page 1).

That apart, the company states that the mill is currently running at full capacity, its order books are full until 2011 and it is constantly having to turn orders away.

According to Wasilenkoff, the financ-

ing of the expansion – which some have put at \$40m – is likely to be through borrowing. 'The investment community considers us under-rated' he said. 'So the route won't be through share dilution, but via traditional debt financing'.

Fortress had sales of C\$190m in 2008, of which the Landqart business accounted for 45%. An announcement on the expansion is expected by the middle of the year.

Garda Weathers the Storm

Garda, the security services and CIT company most affected by the recent financial crisis, reported a 7.8% increase in turnover to C\$1.26 billion for the year ending January 2009. EBITA grew by 11% to C\$113m, much of this growth attributed to operational efficiencies in the US cash logistics sector, and strong organic growth in Canada.

However, the company recorded a net loss of C\$97m (compared with a net profit of C\$15m the previous year) thanks to a series of one-off non-recurring charges amounting to \$102m. These included one-time financing fees and a goodwill impairment charge of C\$55m relating to the overpayment for the acquisition of the AT Systems CIT

business in 2007, plus losses from discontinued operations.

Garda's rapid expansion in recent years through debt-financed acquisitions left it vulnerable to the financial storms of last year, and the renegotiations of its debts resulted in higher interest costs just at the point sales and profits declined. Problems with integration of AT Systems were largely resolved by then, however, and last year the cash logistics business saw revenues increase by 16.6% to C\$622m – half of the group's turnover.

After the poor half year results, Garda had stated that it was examining ways of enhancing profitability and financial flexibility. One of the options

was the sale of the cash logistics business, which had been prompted by an unsolicited bid that subsequently fell through (see CN Vol 6, No 12). The company has, however, now sold its CashLINK cash management systems technology to Firelink Security Group, as well as its Mexican and US guarding operations.

According to CEO Stephan Cretier, 'due to the acquisition of AT Systems and global financial pressures, we have had to take drastic measures. Our results clearly demonstrate that we have experienced a short but difficult period all our business units are now healthy and ready to weather and succeed in the current economic storms'.

Diebold Settles in SEC Case

ATM manufacturer Diebold has reached an agreement in principle with the Securities and Exchange Commission (SEC) to settle civil charges stemming from a three-year investigation into how it recognises revenue.

According to the company, it has also been informed that the US Attorney's Office for the Northern District of Ohio will not bring criminal charges against it in connection with the transactions and accounting issues that are the subject of the investigation. This was started following Diebold's admission, back in 2006, that it had made a material overstatement of revenue and a

material understatement of deferred revenue balances for the prior year.

Under the terms of the agreement, which remains subject to final approval by the SEC, Diebold will neither admit nor deny civil securities fraud charges, will pay a penalty of \$25 million, and will agree to an injunction against committing or causing any violations or future violations.

The announcement came as Diebold, which celebrates its 150th anniversary this year, lowered its forecasts for 2009 and outlined plans to axe 300 jobs in the face of poor first quarter results. Revenues of \$663.2m were 4%

down on the same period in 2008 (although those for financial self-service products actually rose by 1% to \$493.5m). Turnover is now expected to be 6-13% lower than last year.

The latest measures come less than a year after the company disclosed plans to eliminate \$100m in costs by shutting down two of its four global ATM manufacturing facilities and restructuring its supply chain and distribution network (see CN Vol 6, No 8). That was on top of a \$100 million cost-reduction programme introduced in January 2006.

Recession Leaves its Mark

Three of the industry's major suppliers have been hit by the economic downturn, but not in their banknote businesses.

First is KBA GIORI, whose parent company Koenig & Bauer, the world's third largest press manufacturer, saw a 20% fall in order intake in 2008 and a 10% fall in sales to €1.53 billion, prompting the resignation of the president and CEO Albrecht Bolza-Schünemann. The problems were due to a collapse in demand for sheet-fed presses, with order volumes shrinking by 36.7% to €501.5m in this division by the year end. It recorded operating losses of €180m, in contrast to an operating profit of €100m in the web and special press section, which includes banknote

presses. The company anticipates a further drop of 20% in sales for the coming year although it says that, barring a renewed slump in demand, its current programme of debt rescheduling, consolidation and cost-cutting initiatives should enable it to post a balanced result for 2009.

Second is Crane & Co, which has laid off over 90 staff since the beginning of the year, all in its personal design services and stationery divisions which have been hit by the worldwide drop in demand for personalized stationery. The company employs 1,100 people in the US and Sweden. Its banknote paper and print divisions are not affected.

And third is Sequana, parent company of Arjowiggins Security. Group sales

fell by 4% in 2008 to €4.9 billion, resulting in a net loss of €428m compared with a profit of €155m the previous year. Turnover in security products, however, grew by 10% to €264m and EBITA by 20% to €41m.

Sales for the group declined by a further 16% in the first quarter of 2009, compared with the same period in 2008. The security business, however, was described as resilient and having a positive impact on profitability.

In its first quarter statement, Sequana also confirmed that the sale of Arjowiggins Security will be announced soon, subject to a satisfactory price being obtained.

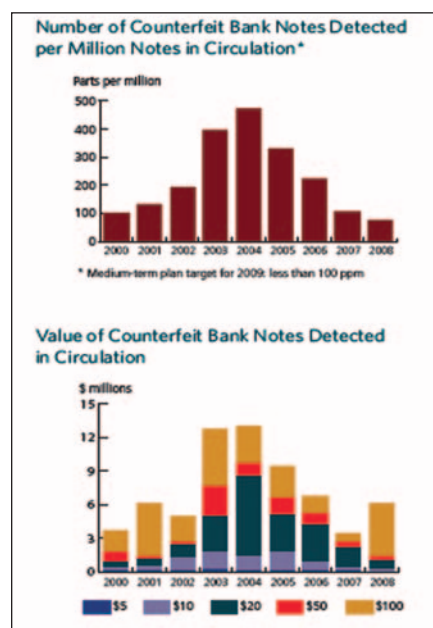
Canadian Counterfeits – Volume Drops But Value Rises

Counterfeiting of Canadian currency has fallen for the fourth consecutive year in a row, according to the Bank of Canada's 2008 Annual Report. Some 1.8 billion notes were in circulation in the year with a value of C\$54 billion. The counterfeit ratio was 76 per million (ie approximately 135,000 notes) which is below the 100 per million target that the Bank aimed to reach by 2009 (and well down from the peak of 470 per million in 2004).

Although the number dropped, the value increased – from C\$3.3m to C\$6 m. This was due to the most counterfeited denomination being the \$100 (as opposed to the \$20 in the preceding four years). This is a worrying trend given that, in the first few years of this decade, the levels of counterfeit \$100

notes were so high that public confidence in the currency took a battering, prompting a major initiative to improve the security of the notes, educate the public and cash handlers, engage law enforcers and speed up the removal of older series notes from circulation. In spite of this, one third of the counterfeits were still from the older and less-secure series, even though these now represent a small proportion of notes in circulation.

In response to the latest spate of fake \$100 notes, the Bank undertook a campaign to alert the public, educate retailers and provide additional training on note authentication for financial institutions. As a result, it says, by the end of the year the number of counterfeit \$100 detected had declined significantly.



Canadian counterfeit notes (source: Bank of Canada)

Decision at last...cont

out a specific timetable beyond the state date of January 1. Among the first tasks of the monetary council will be to establish the name and value of the new currency, and to plan its physical intro-

duction. The virtual currency will come first, next January, followed in due course, by the physical currency (as happened with the euro, where there was an intervening period of three years between the two).

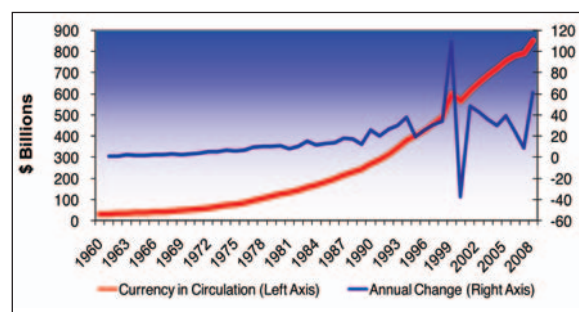
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Instability Prompts Rush for \$100

The presentation made by Michael Lambert of the US Federal Reserve at the recent ICCOS conference in Chicago provided clear evidence of the impact of last year's financial crisis and the ongoing economic situation on demand for US currency, and in particular the \$100.

But once adjusted for population growth and inflation (which he views as a more realistic indicator of growth), it was actually flat.

This pattern continued through to the first half of 2008, but all changed in September 2008 when the financial storm erupted and US currency began growing at rates not seen since the early 1990s.



Currency in Circulation Value and Change 1960-2008

He began the paper - *Economic Uncertainty and Currency Trends* - by reviewing the conclusions of a similar presentation on circulation trends made at ICCOS in 2006, when he noted that - in nominal terms - US currency was continuing to grow, albeit more slowly than in the past.

1999 was the last peak year for growth, with the value of currency jumping by \$109 billion due to the Y2K factor. Annual incremental increases thereafter (apart from a sharp drop immediately afterwards) have been half this or less. In 2007 - a year of comparative economic stability - the increase was much lower - just 1.1% in nominal terms, or \$9 billion.

But by the end of 2008 the value had gone up by \$61 billion, virtually all of it in the last quarter, pushing the overall value of currency in circulation to \$853 billion. This growth - of around 10% - is continu-

ing, driven very largely by international demand for the \$100. Transactional demand, meanwhile (as represented by the use of dollars from \$1 through to \$20), has remained relatively constant

International demand for the \$100 is demonstrated by the fact that the international net payments of \$100 bills went from a deficit of \$2 billion at the start of 2008 to a surplus of the same amount by the end of 2008.

An immediate consequence has been the need to accelerate production of the \$100. In March to August 2008, 621 million \$100 bills were produced, and none in September. From October to March this year, the volumes were 817.6 million.

Lambert concluded his presentation this time round by stating that currency in circulation continues to grow (albeit at a lower rate based from a larger starting base). Annual incremental value, however, is increasing, and will continue to do so as long as the current economic and political uncertainties prevail, while financial instability will continue to be a key factor behind the popularity of the \$100 as a store of value.

Higher Values Fuel Euro Growth

The European Central Bank, in its 2008 Annual Report published at the end of April, noted that the number of euro notes in circulation at the end of the year stood at 13.1 billion, with a value of €762.8 billion - an increase of 8.3% and 12.7% respectively over the previous year.

A marked increase - equivalent to €35-40 billion, was recorded in the first half of October alone, at the time of the financial market collapse.

In the last quarter of 2008, meanwhile, demand was particularly high for the €100 and €500 and was to a large extent driven by demand from outside the euro area. Around 20% of euro banknotes are now thought to be circulating outside the euro-zone.

In terms of denomination breakdown, demand for the higher value notes, which are used mainly for hoarding, grew the most. The €500 banknote grew by 17.1%,

the €200 by 9.3%, the €100 by 14.2% and the €50 by 10.6%. The number of lower denominations rose at rates between 3 and 6%.

This growth was not only limited to banknotes. The total number of euro coins in circulation grew by 7.9% to 82.3 billion, while their value rose by 5.7% to €20.4 billion. The 1 and 2 cent coins accounted for most of this increase.

People in the News

- **Sara Church** has retired from the Bank of Canada and returned to the US Federal Reserve. Her interim and part-time replacement as Head of the Bank Note Technology Research Program is **Bruce Hardwick**, formerly of Note Printing Australia.

- Dr Peter Mihatsch and Dr Karl Heinz Weiss have stepped down from the Advisory and Supervisory Boards of

Giesecke & Devrient, and replaced by Dr **Susanne Weiss** and Prof **Dr-Ing Gunther Reinhart**.

- **Andrew Mills**, formerly of Portals and OpSec, has joined the Royal Mint as Sales Director, replacing Keith Cottrell who has retired

- **Thomas Kleindienst** will take up his new role as Managing Director of

Gleitsmann Security Inks next month. He joins the company from Kurz, before which he was with Bundesdruckerei.

- Brinks' has announced that CFO **Michael J Cazer** is to become President of the company's European, Middle Eastern and African operations.

- Former Venezuelan Finance Minister **Nelson Merentes** has been appointed President of the Banco Central de Venezuela, replacing Gaston Luis Parra Luzardo, who died last December.

Making the Move – New Challenges and Opportunities Down Under

Bernhard Imbach, formerly of Swiss banknote printer Orell Füssli, joined Note Printing Australia (NPA) in late 2007 as Chief Operations Officer, taking over as Chief Executive from Chris Ogilvy in April last year. 12 months into his new role, Currency News caught up with him at the Intergraf security printing conference in Stockholm to find out how the last year has been, the challenges he faces and his objectives in moving from the conservative and traditional environment of Switzerland to the more relaxed lifestyle and culture of Down Under

CN: First of all, can you describe your background and career before joining NPA?

BI: I have a Swiss certificate in offset and letterpress printing and joined Orell Füssli in 1982 as a printer, learning all the processes in banknote printing and moving up the career ladder in the normal way – from department manager to deputy and then production manager, and then operations and so on. Over the past 26 years with the company I was involved in all aspects of security printing - not only banknotes, but passports, security documents and, when Orell Füssli was still involved in them, high end credit cards as well. Along the way I have also gained qualifications in operations management, accounting etc.

CN: So what, after so long, prompted the move?

BI: Probably because it had been so long, and I felt that I needed to do, if not something else, then the same thing but somewhere else. And that somewhere else would, obviously, have to be abroad.

At Orell Füssli we had a very good relationship with NPA, stemming from our first production of polymer notes in 2004-2005, which we implemented very successfully. I knew many of the people there well and, within 24 hours of my talking to John Coleman, then Managing Director of Orell Füssli, about the need for a change, a phone call came from NPA who were looking for an Operations Director. I went down there and started discussions, and six months later my wife and I decided to make the move.

It was a difficult decision, obviously,



Bernhard Imbach

to move - not just because of the distance but because it is a completely different environment. But we both loved Australia. And the decision was helped by the fact that we have very young children. If I was ever to make a move, then that was the best age to move them.

So I joined in November 2007. Three months later I was appointed CEO, and started in that position last April.

CN: Switzerland is seen as a conservative and traditional country. Australia is not. How easy was it to make the change, and what are the key cultural differences in respect of the workplace?

BI: From the cultural point, it is certainly true that the Swiss are more conservative, while Australians are more relaxed and open. Having said that, in some respects the business culture at NPA is more formal and challenging. For example, if you would design a process at NPA it would be much more complex and complicated than it was at

Orell Füssli.

This, however, is more to do with the legal status of each company than the cultural norms of each country. Orell Füssli is privately-owned and the ways things are done is relatively straightforward. NPA is a 100% subsidiary of the Reserve Bank of Australia (RBA) and hence publicly-owned. This results in more attention to compliance with, for example, health and safety, procurement guidelines etc etc. They concentrate much more on that side than we did in Switzerland.

So that was the greatest difference – not the banknote industry itself, which I know, but learning how to adapt to the requirements of the RBA.

CN: Another difference is that Switzerland is one of the centres of the banknote industry in Europe while NPA is isolated – both geographically and because it is the only banknote printer to manufacture notes solely on polymer. What particular challenges, if any, does this pose?

BI: Yes – NPA is certainly geographically isolated. And for a while they had to concentrate on polymer, to make sure of its high quality, during which period – inevitably – some contact with the banknote world was lost.

But, although NPA was set up to supply the RBA, it is now a considerable exporter as well – and it is my target to open up the company and prepare for the next generation of banknotes and banknote technologies. One of my philosophies is that I do not expect the NPA staff to know everything; what we have to know is who to

Continued on page 8

ask to get the right information - in other words, using the available knowledge of our industry. Having this knowledge is critical and it is why we travel so much, attend conferences, meet customers and generally get involved in the industry.

Another challenge, which follows on from this, is that if you only concentrate on one product, then you become static and lose focus and the ability to pay enough attention to new techniques and processes. So the real challenge is to make sure that we always have a challenge?

CN: So what challenges are uppermost at the moment?

BI: Well, for start, ensuring that that we are competitive in terms of quality, efficiency and cost.

CN: How important is that, given that you have a complete monopoly in Australia, and a virtual monopoly elsewhere where polymer notes are concerned?

BI: We might have had a monopoly once, but not anymore.

In addition to the state printers that now print polymer for their own domestic requirements - ie Mexico and Vietnam - there are also a number of others that can print on polymer as well for the commercial market. As well as Orell Füssli, these include Giesecke & Devrient, Canadian Bank Note, South African Bank Note and Oberthur. So if countries decide on polymer, then we compete in tenders for the production of their notes alongside any of these other printers.

CN: Presumably, however, you set up these competitors in the first place. Weren't you shooting yourselves in the foot by doing so?

BI: Far from it. Our principal aim should be to help the industry create high security, quality banknotes on polymer. So if there is a possibility to help other printers to do this as well, then we should definitely do so. So yes, we have helped companies that are now our competitors and are taking away our customers. But in the end, we are creating a market.

This wouldn't have happened in the past. But the industry has changed and it is in our long-term interests to help others because it is necessary to have dual or even multiple sources of supply for, among other purposes, business

continuity.

CN: Those printers that you listed have only ever printed on paper in the past. Is there anything specific to polymer that makes it easier or harder to print than paper?

BI: The really unique thing about polymer was the window, although paper makers are now beginning to introduce these. But apart from that, just about every feature available for paper notes can be applied to polymer as well.

But printing on polymer needs a little bit more care - it is a much less forgiving substrate than paper and ever minor errors, that in paper would be disguised by the roughness of the substrate, are evident in polymer.

CN: Can you give some details now about the structure and capacity of NPA?

BI: NPA has 250 permanent staff. This includes those employed in the National Note Processing Centre, which we operate on behalf of the RBA and which processes unfit notes returned to it from all around the coun-

"It is my target to open up the company and prepare for the next generation of banknotes and banknote technologies"

try.

Our turnover is in the region of A\$80-90m and our capacity is currently 550-600 million notes per year. We have, however, recently made a very substantial investment in two new Super Orlof machines with five-colour printing which are more or less unique in the industry. With this investment we can improve our capacity to 700-750 million notes per year, which is enough. We don't need the capacity for one billion notes or more. We want to focus on premium customers - preferably a broad base to avoid the risks of over-reliance on just one or two - and preferably with long term supply agreements that will bring us the necessary volume to fill this capacity, along with stability that benefits quality.

In addition to the new lines, we have also invested in a Cutpak system. This, combined with our BPS 2000, gives us a completely automated process for cutting and inspection, with

no manual intervention in the sorting, banding and packing of finished notes.

CN: You mentioned earlier the importance now of export business. What percentage of your turnover comes for orders other than notes for the RBA?

BI: Of course, our primary focus is on the Australian banknotes and these account for about 40% of our production. Export customers include New Zealand, Papua New Guinea, Brunei and some of the requirements for Malaysia.

CN: Given your close links with Securrency, to what extent do you rely on them for your export sales?

BI: Although the two companies work closely together, they have their own sales and marketing department and so do we, and we are regularly visiting our customers and potential customers. More and more contracts are via tenders and we have to compete with other printers. It can be a hard market, but it keeps us on our toes, so we have to look on a daily basis to check that we are efficient and cost-effective. We couldn't compete in the market, or offer efficient outcomes for the RBA, otherwise.

CN: Finally, having uprooted yourself and your family after so many years in Switzerland, do you plan now to stay put in Australia?

BI: I have a temporary visa for four years only, and a contract with NPA that will end in two years, with the option of course for another year after that. The decision to go for a temporary visa only was a deliberate one because, at the end of this time, we will need to sit down and make a conscious decision as to what is in the best interests of the children. The eldest by then will be 8 and, if we are to make a move again, then that is the time - in terms of schools - to do it. Leave it any longer, and it will be too late. We may stay, or we may return, but either way, it will be the result of a conscious decision rather than by default.

And of course, Bob Rankin at the RBA has some say in the matter too!

But at the moment, there is no reason to go back. We love it here. I love the work. And I have another two years before I have to start thinking about the future again.

Louisenthal Leads the Way with New Hybrid Substrate

Ever since polymer was developed for the Australian currency, there have been claims and counter-claims about the relative durability and security of one substrate versus the other. At the same time, the leading papermakers all developed their own versions of durable papers that have added strength and anti-soil treatments in one form or another (such as an element of synthetic polymer fibres mixed in with the cotton, reinforced edges and corners to prevent folding and tears, or a top coating to prevent the ingress of dirt or moisture).

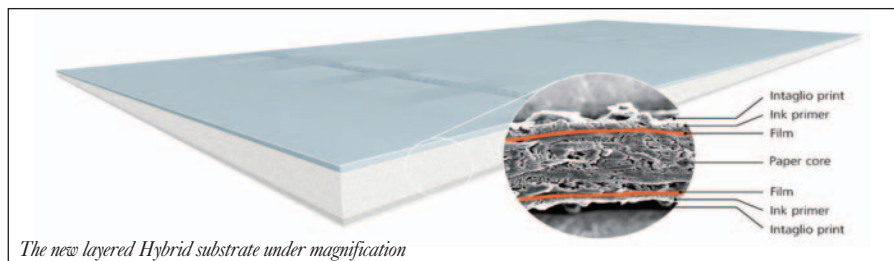
The term hybrid in the context of substrates has, up until now, been used occasionally to describe either the aforementioned paper substrates that combine synthetic with cellulose fibres, or paper substrates with an aperture or window which is sealed with a film overlay.

Now, however, Louisenthal has developed a true hybrid that is a layered composition of both paper and polymer. *Hybrid™* comprises a paper core with a protective film layer and, says the company, combines all the security, tactility, printability and handling properties of paper with the durability of film, particularly – as regards the latter – for countries with harsh circulation environments.

The inner core of the substrate is a traditional cotton fibre-base construction – typically around 75gsm – which is protected with a thin film, laminated to both sides, each around 6 microns thick. The combined weight and thickness of the finished substrate is therefore the same as conventional paper substrates (ie 95 gsm), with the same printing and handling properties (and, importantly, the same ‘feel’ as paper).

The paper is produced in the usual way and can incorporate all the commonly-used paper-borne features such as cylinder mould-made and electrotypes watermarks, security threads and fluorescent fibres. Hybrid can also include foil stripes or window features.

The film applied to each surface is polyester, as opposed to the BOPP used for polymer substrates. According to Louisenthal, based on its experience with



The new layered Hybrid substrate under magnification

PET foil for threads and film, this base material gives an excellent printability and allows the same ink adhesion as on paper. This avoids, it says, one of the weakest points of polymer substrate, and will be a key selling point since the substrate permits the same sustainable relief and hence tactility which is typical of intaglio-printed paper notes.

Even though the substrate is laminated, delamination down the line is not, says Louisenthal's Product Manager Dr Friedrich Kretschmar, an issue. 'We have conducted extensive circulation simulation tests, he explained, 'and just as delamination is not a problem for paper or polymer substrates, neither is it a problem for Hybrid'.

Commenting on the new substrate,

Louisenthal's Managing Director Michael Boehm said: 'Hybrid is the ideal and latest substrate solution to provide durability without sacrificing security. The appearance of Hybrid banknotes barely changes even after long periods in circulation. As a result, all the banknote's security features can still be clearly identified even after long circulation, both by the general public and by automatic banknote processing systems.'

Louisenthal unveiled Hybrid at the recent Intergraf conference in Stockholm. It has, however, already been in circulation for nearly six months – on Swaziland's 100 and 200 Emalangeni notes. As a consequence, says the company, comments on the properties and benefits of the substrates are based on practical experience.

Movement Through Magic

Louisenthal has also developed a range of new features based on micro-optics that will be fully launched at later this year, but which were previewed at the Intergraf conference.

The micro-optics technology is similar to that deployed by Crane for its *Motion* thread – based as it is on the phenomenon of moiré magnification. It comprises an array of micro-lenses and a corresponding array of microscopic printed images, which are magnified and projected by the lense. When the angle of view changes, so does the focal point of each micro-lens, resulting in visible images that move, counter-intuitively, in the opposite direction to the movement of the note.

Louisenthal's version is called *Magic*. It is also developing *Magic Flip*, based on the same technology but which demonstrates ortho-parallactic movement

whereby one image transmutes into another. A third version shows the image fading in and out of view according to the viewing angle.

Crane's Motion was first launched in October 2005 and adopted in the Swedish Kroner the following year. It has subsequently been adopted by a number of other currencies and Louisenthal's intention is to develop the market further. It also plans to develop the features – and Flip in particular – to use in its *Varifeye* transparent window feature. Although the visual effects are intended to be the same as those offered by Crane, they do not – according to the company – infringe its patented and patent-pending technology.

Full details of the new technologies will be made available in December this year at Banknote 2009.

Nicaragua Goes Live with New Note Series

The Banco Central de Nicaragua (BCN) is introducing a new note series, the first denominations in which – the 10 and 20 Córdobas – are produced in polymer and went into circulation in mid-May.

Noel Picado, Deputy Manager of the BCN's Cash Department, told Currency News that the Bank began to consider the introduction of polymer back in 2002 when Canadian Bank Note Company, which is an approved polymer printer, won the contract for the 20 Córdoba note.

The decision was prompted by positive experiences in Chile and Mexico as well as countries that have a tropical climate like that of Nicaragua, and was made to deal with the deterioration and relatively low useful life of the lower denomination bills (the 10 and 20 Córdobas are equivalent to 50 US cents and US\$1 respectively). Although, says the Bank, the new notes cost more to produce than the paper versions, they are expected to last considerably longer.

Nicaragua's last wholesale redesign of its notes was in 1999, although there has been a major upgrade since then, in 2003. The notes in the 2009 series all have different lengths, but the same width as their predecessors. The most notable departure from the previous series (other than the use of polymer) is the design theme, in which the por-



traits of historic national figures have been replaced with images of the country's tourist destinations, monuments and historical sites, along with various cultural and artistic expressions.

This theme is reflected in the 10 Córdoba note with an image of the Castle of the Immaculate Conception in Rio San Juan on the front, and Hacienda San Jacinto in Managua on back. The 20 Córdoba features an image of a typical house on the Caribbean coast of Nicaragua on its front, and a dancing group on back.

The principal security features of the new polymer notes are designed for public verification and include a complex transparent window containing colour change and shaded image, along with a second window in which the

denomination numeral has been embossed. The notes also feature intaglio print and an iridescent band. These features will also appear on the new 200 Córdoba, which will be introduced later in the year.

Features of the soon-to-be-introduced 50, 100 and 500 Córdoba paper notes, meanwhile, include mould-made and electrotype watermarks, security thread and iridescent stripe. The highest denomination will also feature a magnetic thread and OVI.

According to Mr Picado, once a period of time has elapsed using the current polymer denominations – probably 4-5 years – an evaluation will be made as to whether the remaining denominations will convert from paper.

The new notes have been printed by Giesecke & Devrient. Some 15 million 10 Córdobas and 12 million 20 Córdobas will be issued during the first year, and will co-circulate with their paper counterparts as the latter are gradually withdrawn. No time limit has been set on the period of co-circulation.

The introduction of the new notes is being accompanied by a PR campaign targeted at bank staff, customs and immigration officials and the general public comprising interviews in different media, banners, seminars and workshops.

Note and Coin News

- The Bank of Jamaica will issue a new high denomination \$5,000 note in September, bearing the image of the late former prime minister, Hugh Lawson Shearer. Currently the highest Jamaican note in circulation is the \$1,000.

- Nepal Rastra Bank has put into circulation a new 20 Rupee banknote in which the image of King Gyanendra, has been replaced with that of Mount Everest. This latest note completes the process that began in late 2007 to remove all images and symbols of the former monarch from the country's currency.

- The Indian government is introducing a new bimetallic 10 Rupee coin, which has an aluminium/bronze outer ring and a

cupro-nickel centre. The new coins have two design themes - Unity in Diversity and Connectivity and Information Technology – and 25 million are being issued in the first year. This is the country's first circulating 10 Rupee coin, and its first bimetallic coin. Its introduction is part of a policy to gradually replace lower denomination notes with coins.

- The Central Bank of Tunisia will shortly be issuing a new 50 Dinar note. It will likely replace the 30 Dinar note, currently the largest denomination in circulation.

- The Bank of the Republic of Burundi is upgrading the 2,000 and 5,000 Franc notes with new security features and the

addition of *Cornerstone* – watermarks designed to reinforce the corners of the notes to protect against wear and folding. The Bank has indicated that the other notes in the series – the 10, 100, 500 and 1,000 Francs – could follow suit.

- The Central Bank of Barbados has introduced a new \$100 with new security features, completing a process that began in 2007 when the other five denominations in the series were upgraded (see CN Vol 5, No 9). In common with the \$20 and \$50 notes, the new \$100 features an additional watermark, new wide fluorescent windowed thread with microprint and a raised numeral for the visually-impaired.

EC Publishes White Paper on Harmonisation

One of the key and most lively-debated topics at the recent ESTA conference in Rome followed the presentation by Benjamin Angel, Head of Unit at the European Commission's DG ECFIN (Directorate General of Economic and Financial Affairs) on the EU's latest proposals to bring harmonisation to the CIT industry in Europe.

Previous attempts have been unsuccessful and, following intense lobbying by ESTA, were dropped from the Services Directive. This was passed by the European Parliament in 2006, and was designed to enable businesses to operate freely within the borders of the euro area irrespective of national regulations and country of origin.

The issue was merely postponed, however, rather dropped altogether (which would have been ESTA's preference) and has come back to life again with the EU's White Paper entitled *Professional Cross-Border Transportation of Euro Cash by*

Road Between Member States in the Euro Area. Mr Angel's presentation was in part a preview of this consultation document, which was published just as Currency News went to press.

The main objections of the European CIT industry are that an EU-wide harmonisation tool assumes commonality of rules, regulations and risks between member countries, which is patently not the case with CIT where rules and, critically, risks vary widely.

According to Angel, the EC is well-aware of the industry's security and safety concerns but said that, this time round, legislation in the form of a regulation will be going ahead. 'Today's situation is absurd' he commented. 'The only thing you cannot move freely within the euro area is the euro itself'.

A more detailed review of his presentation, the views of the CIT industry and the new White Paper will be feature in next month's Currency News.

Diary – Conferences and Exhibitions

Watermark

June 23-25, 2009
Kazan, Russia
www.watermark-conference.com

ICCOS EMEA

September 20-22, 2009
Amsterdam, NL
www.iccos.net

Asian High Security Printing Conference

October 13-15, 2009
Beijing, China
www.cross-conferences.com

ATM Security 2009

October 29-30, 2009
London, UK
www.atmiaconferences.com

BAI Retail Delivery 2009

November 3-5, 2009
Boston, MA, USA
www.bai.org

3rd International Conference on Cash Circulation

November 19-20, 2009
Moscow, Russia
www.cashconference.ru

Five Years Ago

The May 2004 issue was an action-packed one, following as it did the 2004 Currency Conference in Rome where a number of new technologies and initiatives were announced.

Antti Heinonen of the ECB provided a roadmap for the future of the euro, referring to the consideration of new durable substrates, the potential introduction of €1 and €2 notes and the co-circulation of these with their coin equivalents, along with plans for competitive tendering and the 'paradigm change' involved in the design, specification and issue of the second euro series.

Five years on, there is no official word on durable substrates, although it is widely assumed that these will be specified for the two lower denominations of the second series. This series, meanwhile is going ahead, one denomination at a time, although the planned 2011 introduction of the first of these – the €50 – has been put back due to

technical difficulties, with no further news as to when it will be coming out.

The issue of even lower denomination banknotes, meanwhile, has been ruled out, while the principle of competitive tendering was introduced later that year with the launch of the Single Eurosystem Tender Procedure (SETP), which takes full effect in 2012.

New Association

IACA – the International Association for Currency Affairs – was officially launched, and now numbers nearly 200 members. One of the key tasks of IACA is the Global Payments Survey, which is now going ahead under the guidance of Eugenie Foster (a summary of which will feature in the next issue of Currency News). Another has been the preparation of industry guidelines, which will be distributed this summer.

Hitachi and Omron joined forces to form Hitachi-Omron Terminal Solutions, the world's 4th largest ATM manufacturer.

New Paper Features

The first paper substrates featuring windows began to make their appearance. De La Rue launched its super-wide thread feature *Optiks*, while Kurz demonstrated its Modular Banknote Concept which included a window die-cut in the paper and overlaid with a foil.

Finally, Crane announced a tie-up with Nanoventions for the development and exclusive use of the latter's *Unison* micro-optics technology as a thread in banknotes. This resulted in *Motion*, which was launched at the next Currency Conference (in Montreal in October 2005). Motion is now, or will shortly be, in use on eight different currencies.

Late last year Crane acquired the Visual Physics subsidiary of Nanoventions, giving it full control over the technology. This has since been renamed Crane Micro-Optics Solutions.



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CURRENCY RESEARCH LTD

European CIT Crime Falls in 2008

Attacks on CIT vehicles and personnel fell marginally during 2008, according to figures released at the annual conference of the European Security Transport Association (ESTA) in Rome. They numbered 1,307 – a 4% drop over 2007 – with, as in previous years, the UK leading the way by a very long margin.

The figures were presented by Tony Smillie of G4S, who has taken over from Paul Fullicks, formerly of Loomis, as head of the ESTA Security Working Group. This group surveys the CIT industries in each country annually for information on the number and type of attacks and the resulting losses. 39 European countries responded, of which 15 experienced no attacks. The remaining 24 countries suffered 1,307 attacks between them (compared with 1,399 in 2007). Overshadowing all was the UK, where the number of attacks, 1,000, accounted for 75% of the total. The next nearest country was France, where there were 126 attacks.

Risk Rate

In addition to collating the data from each country, ESTA analyses the risk rate – dividing the number of CIT vehicles operating in each country by the number of attacks. In this context, the risk rate in the UK was 1:3 – ie each year one vehicle/crew in three is attacked. France was next with 1:6, followed by the Netherlands and Sweden with 1:8.

Cross pavement attacks accounted for 57% of the total and ATM replenishment for 36% (compared with 67% and 28% respectively in 2007). Attacks

on vehicles accounted for 6% and on cash centres for 1%.

The decrease over 2007 appears, at first glance, to refute the received wisdom that in times of recession, crime rises. More up to date information from the UK, however, tells a different story – with the number of attacks in the first quarter of 2009 44% higher than in the comparable period in 2008.

According to ESTA, there are a variety of factors behind the vast discrepancies between countries' attack rates. One, for example, is whether or not crews are armed – the absence of weapons in countries such as the UK resulting in many more opportunistic attacks than in those countries (ie the majority) that do allow, or even mandate, them.

Tough Enforcement Key

But the key, according to ESTA's General Secretary Francis Ravez, is the approach taken by the state, with a clear link between tough enforcement and sentencing policies and lower incidents of crime. This point was reinforced by the presentation from Harald Olschok of the German CIT association BDGW. In Germany there were just six incidents in 2008 and the risk rate of 1:32 is well below the average of 1:11. He cited high security standards coupled with active police engagement (resulting in a near-100% crime clear-up rate) as key factors

It is presumably an example that other countries would do well to follow since, in the words of Ravez, 'We are unlikely to witness any reduction until the police and judiciary do their job to protect people and businesses.'

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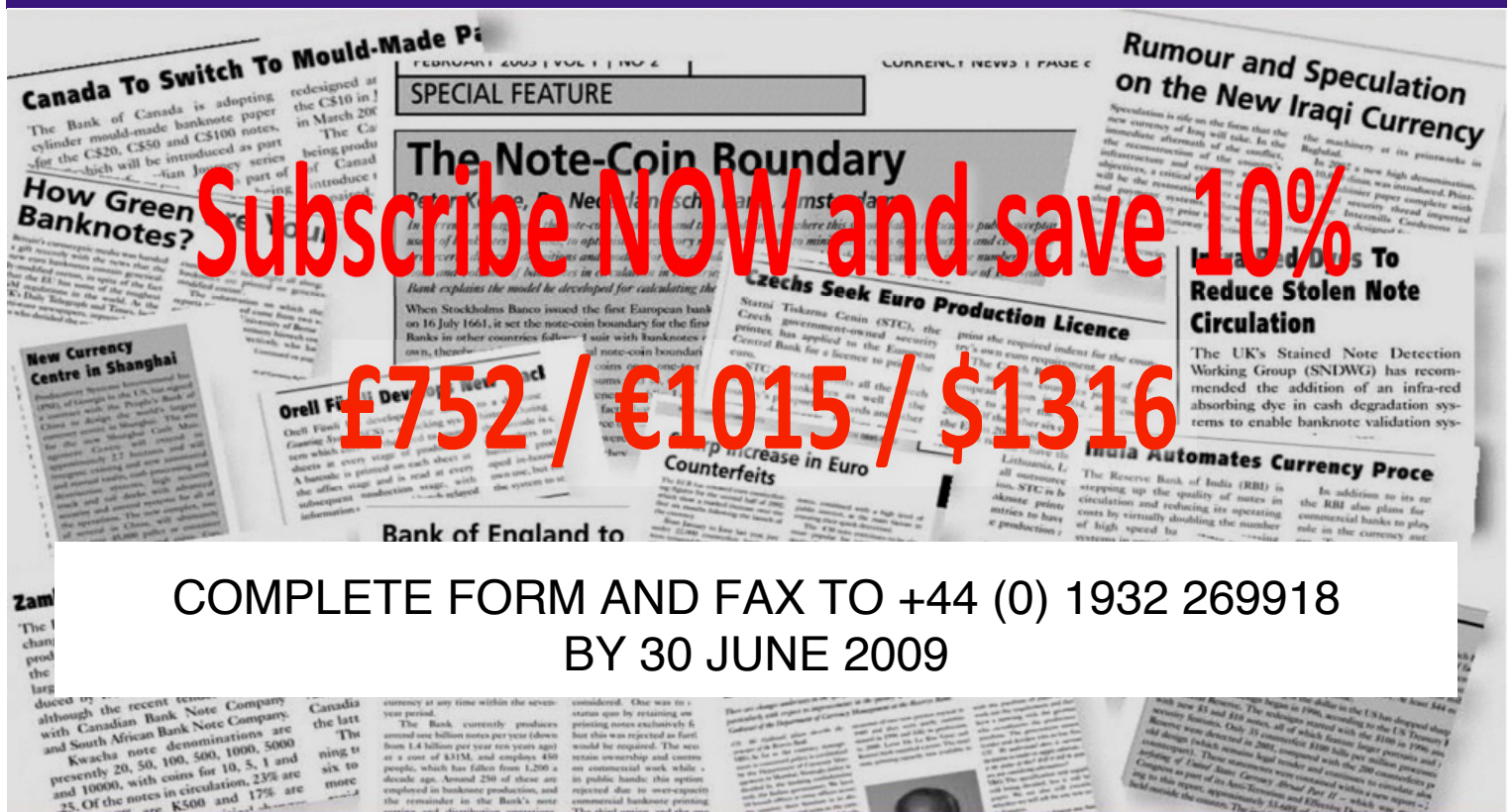
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