



CURRENCY NEWS™

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More Developments in Cash Services in Europe

Sweden's Riksbank is threatening banks with the prospect of regulation to ensure business access to cash services.

In a written communication to an inquiry on cash by Sweden's Ministry of Finance, the central bank stated: 'regulation is needed to ensure that operators, who are legally obliged to accept cash, have access to functioning services for daily takings and petty cash.'

Sweden is famed as the world's first near-cashless society, and banks have largely stopped providing cash services to businesses. Instead, functional services for daily takings and petty cash are currently offered almost exclusively by the CIT company Loomis and entirely on a commercial basis. In the Riksbank's opinion, banks need to take greater responsibility to ensure long-term access to services, which provide a backstop in the event of a breakdown in digital payment systems.

There is already a legal requirement for some banks to ensure that companies and public authorities can deposit daily takings to an adequate extent. According to the Riksbank, the legal requirement needs to be tightened and clarified as the services offered by the banks are 'inadequate'.

Banks have chosen to fulfil these requirements by providing deposit machines with limits that are too low for many businesses, says the central bank. The Riksbank would also like to see urgent measures to ensure access to petty cash, saying that this service has deteriorated significantly as more and more banks have closed their manual cash services.

'The measures we propose in our written communication are necessary to enable people who

need to use cash to do so, but also to strengthen our civil preparedness regarding payments,' said Christina Wejshammar, head of the payments department at the Riksbank.

'Many businesses continue to accept cash, but without these services they would not be able to do so in practice. In addition, if there are new obligations to accept cash for operators selling essential goods, services for daily takings and petty cash will have to be maintained throughout the country. In this way, the banks contribute to a cash chain that functions under normal conditions, and thus also in crisis situations.'

Meanwhile, in Switzerland...

Another European country which, by contrast, is famed for its attachment to cash is Switzerland, but even there, access to cash is diminishing.

Part of the cause is fewer post offices, down 47% to 800, and bank branches, down 16% to 2,600, between 2015 and 2023. The number of ATMs has fallen from 7,200 at the start of the century to fewer than 640 today. The changing cash environment is putting cash supply costs under pressure, risking cash supply. Two initiatives are now underway which will determine who is best positioned to provide cash services in the country.

One is an announcement by SIX, a provider of financial market infrastructure, and Diebold Nixdorf that they are working together on cash supply and ATM operations in Switzerland. Helvetico, a high-

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People in the News

■ Laos' Parliament has removed **Bounleua Sinxayvoravong** as Governor of the Bank of the Lao PDR, a position he held since 2022. **Vathana Dalaloy**, who previously served as Deputy Governor, has been appointed Acting Governor.

■ **Washington Ribeiro**, Vice President of the Central Bank of Uruguay since 2020, has been appointed President, replacing **Diego Labat**.

■ The Taliban leadership has appointed **Noor Ahmad Agha**, a military leader who is under international sanctions for terrorism, as Governor of Da Afghanistan Bank, having served as its First Deputy Governor after the Taliban regained power in August 2021.

■ The Central Bank of Nigeria (CBN) has dismissed the top management team of Nigerian Security Printing and Minting and appointed **Abubakar Sule Minjibr** as the acting Managing Director. He replaces **Ahmed Halilu**, the company's former Managing Director and CEO, who was appointed in 2022 by the former President and is widely reported to be his brother-in-law.

■ IN Groupe – the French state-owned security and identity solutions provider and owner of SURYS and Gleitsmann Security Inks – has split the role of CEO and Chairman and appointed **Agnès Diallo** to the former position. She is already familiar with IN Groupe, having served there from 2019 to 2022 as Executive Vice President and member of the Executive Committee, and rejoins from eu-LISA, the European agency responsible for information systems within the Schengen area concerning security, borders, and judicial cooperation. The new Chairman, and former CEO, is **Didier Trutt**.

■ Schuler has announced the appointment of **Martin Drasch** as its new CEO, effective from October. He has previously worked in various management positions at Eisenmann and as Chief Operating Officer at mechanical engineering company Manz.

■ **Michel Saunders** has joined blanks manufacture Artazn as Vice President, International Sales. He was formerly Commercial Director, Americas at Crane Currency and, prior to that, International Sales Director for the Royal Canadian Mint.

■ **Sergio Sanchez**, formerly Vice President/Director Americas at Currency Research, has joined Crane Currency as Commercial Director, Latin America and the Caribbean.

Change is the Only Constant

The first Directory of Currency Suppliers™ was published in 2004. This year has seen the publication of the seventh edition. While an exact like for like comparison is not possible because of differences in groupings and uncertainty whether omission or addition is due to change or inconsistent approaches, it is possible to make some general observations about how the currency industry is changing.

In considering this we took a detailed look at changes between the sixth edition from 2018 and today, and a slightly higher level look at 2004 and today.

In no particular order, some observations are below (which represent just a sample of the changes over the years, and indeed just a sample of the broader industry).

State sector mostly unchanged

The number of state printing works and state paper mills has hardly changed. Belgium, Denmark, Finland, Sweden, Ireland and Norway and the UK have closed, sold off or leased their print works, reflecting primarily the impact of needing fewer banknotes. All the rest remain. Recently, of course, we have seen very significant investment by countries in new printworks, for example, Egypt, France, Spain, the Philippines and the US, among others.

The coin sector, which is very largely dominated by state-owned mints, has seen the Mint of Finland cease operations and the Royal Mint withdraw from exporting coins. Norway, Sweden, Belgium and Denmark have also exited coin production.

Substrate manufacturers – paper down, polymer up

The commercial paper makers have seen major suppliers – Arjo Wiggins, Fabriano and Portals – close or be absorbed by other companies since 2018 and Radece before them (although it has now re-entered the market). Blend Paper, which used to belong to Arjo Wiggins, continues to operate. Indonesia's Pura Group is now also exporting.

Whether the state sector is filling the gap or is causing the demise of commercial players, every state paper maker from 2004 is still operating today. In addition, Banknote Paper Mill India, China Banknote Printing and Minting (CBPM), Egypt's NASPS, Europafi in France and Italy's Valoricarta have entered the paper export market.

While in 2004 Securrency, now owned by CCL Industries, was the only manufacturer of polymer substrate, De La Rue, Q&T Hi-Tech Polymer and

Spectra have entered the market. The success of polymer appears to be driving these new entrants.

OVDs – vigorous and refreshing

This is another sector that has changed hugely since 2004. Five of the original 14 suppliers have left the industry, but today there are 27 suppliers. Four are state owned, compared with none in 2004.

There have been a number of acquisitions in this sector of course, for example Rolling Optics by Oberthur, Meta (who had bought Nanotech) by Authentix. But it appears new, smaller companies continue to join – IQ Structures, NASPS, Diametryx and Wavefront to name some.

Other changes – decline drives activity

While Cash Processing Solutions (CPS) continues to operate, it has stopped making high speed sorters. Cummins Allison has been bought by Crane Currency (which has, itself, been bought by Crane Co which then split into two businesses, one of which is Crane Currency).

While the number of publishers, such as Currency Publications, has hardly changed since 2004, the number of associations listed has grown from five to 16 and the number of consultants from 12 to 29. Perhaps the decline in the commercial cash sector is creating more consultants whilst also driving suppliers to form groups to champion what they do.

Final word

Capitalism is famous for creative destruction. One could argue that the change in the commercial sector reflects challenging market conditions. Some organisations are struggling while others see the opportunity for profit. Cushioned from the profit and loss account, the state sector is able to take a longer view and adapt accordingly. A few have ceased operations while others are also seeking export led growth to sustain their operations.

Change is happening across the entire cash cycle, and we can expect new winners and losers to emerge. The industry remains dynamic and vibrant, if challenged.

Hueck Folien Takes Major Strides Toward Eco-Neutral Production

Austrian-based film and foil specialist Hueck Folien, a leading supplier of security threads and foils for banknotes, is taking a number of steps to put its products at the forefront of sustainability and reach its goal of ecologically-neutral production by 2035.

One such step is its high purity recycled aluminium, which is used to produce high-gloss metallised films and was first presented at Labelexpo 2023 in Brussels.



High-gloss metallisation requires high-purity aluminium and, previously, recycled aluminium with this purity standard was not available. Hence Hueck Folien has set up a recycling circuit for industrial aluminium scrap – from collection to melting to wire drawing. It is the first company to have a supply-chain for the high quality recycled aluminium for vacuum evaporation onto films. The entire production at Hueck Folien has now been converted to high quality recycled aluminium, which is vacuum evaporated onto films.

The main benefit of this initiative, aside from the recycling of raw materials, is the reduction in CO₂ emissions. The CO₂ footprint for 1kg of standard evaporation wire from Europe is 15kg CO₂-equivalent (CO₂e), whereas the recycled aluminium wire introduced by Hueck Folien has only 2.2kg CO₂e – an 85% saving.

The company is investing €8.6 million in a new production hall at its site in Baumgartenberg in Upper Austria for its new vacuum deposition system. A ground-breaking ceremony was held on 20 September 2024 to mark the start of construction of the new hall.

The production area will be extended by 400 m². Part of the existing warehouse will be converted into a manufacturing hall and a new production facility will be built to

replace it. The direct proximity to the existing metallisation area will improve material logistics and energy supply, with metallisation of 2m wide films consuming 25% less energy than the existing system. The new vapour deposition system will go into operation in autumn 2025.

'With the installation of the new, highly modern system, we are setting a new benchmark in production! This leading-edge technology will strengthen our competitiveness and secure the Baumgartenberg site in the long term,' said Dr Martin Bergsmann, CEO of Hueck Folien.

New eco-banknote concept

Demonstrating its eco-friendly commitment and credentials, Hueck Folien has developed a banknote concept for presentation at the Global Currency forum which includes recycled components.

Inspired by the hidden depths of the ocean, the note utilises recycled aluminium, paper and PET, enabling central banks to meet the highest security standards while embracing environmental responsibility, says the company.

The Optomove® security thread uses unique micro-optical elements, ensuring brilliant visibility in any light and from any angle. Made from recycled PET and recycled aluminium, Optomove® achieves 53% CO₂ savings through the raw material used.

The Reef foil design, featuring optical nanostructures and Trilumic®, is crafted from recycled PET and recycled aluminium. The foil achieves 26% CO₂ savings through the raw material used.

The substrate, EcoBreath® paper, is an innovative solution developed by BP Security in partnership with Casa da Moeda do Brasil. It allows the recovery and reuse of fibres from banknote waste to produce recycled security papers for banknotes and passports, and is fully compatible with conventional security features including multi-tone watermarks, fibres and security threads.

US Mutilated Coin Program Abolished

Earlier this year, the US Mint published a proposal to abolish its Mutilated Coin Redemption Program, relating to the face value exchange of bent, partial and fused coins (see CN May 2024).

According to the Mint, not only does the program operate at a loss, but it is too cumbersome to manage because the sheer volume of coins submitted for replacement. Previous submissions have included numerous counterfeit US coins, resulting in lawsuits and an indefinite suspension of the programme.

As part of the announcement in the Federal Register, the Mint sought public comment on the proposal, noting that the number of organisations affected by the cessation of the program were likely to be small.

The US government established the program in 1911 to enable the redemption of small amounts of damaged coin and for 100 years it rolled along, with most coins submitted in small quantities from private citizens. In recent years, however, it has been overwhelmed by large submissions from commercial entities, including recyclers from China who flooded the program with coins totalling millions of dollars in face value, including counterfeits.

The program was suspended in 2015, reinstated in 2018 and then suspended again in 2019. A consultation on its future, in 2021, came up with a number of options to limit deposits by weight or origin. Many of the responses to this latest consultation were from those involved in metal recycling, including the Recycled Materials Association (ReMA) and Reserve Management Group. Other respondents included the National Armored Car Association (comprised of Brink's, Garda, and Loomis), Coinstar, and Reworld Waste, amongst others. The response to the proposed closure was largely negative, in some cases vehemently so. Regardless, the abolition will go ahead.

The US Mint has noted that there is no statutory or regulatory prohibition on melting dimes, quarters, half-dollar, and dollar coins when done without fraudulent intent, suggesting that the commercial sector could in future undertake the recycling of these for their metal value. The melting of pennies and nickels is however, prohibited – based in part on the fact that the cost of producing these coins currently exceed their face value. It remains to be seen what happens to those coins now.

News in Brief

■ Belgium Seeks More Coin Circulation

Belgium is one of many countries with a coin circulation problem, and the Treasury has launched a social media campaign – #spendyourchange – encouraging citizens to use their loose change.

There are currently more than 4.2 billion coins in circulation in Belgium, with an estimated value of more than €1.5 billion. Belgium has been rounding prices to the nearest five cents since 2014 and made this rounding obligatory for cash purposes in 2019, leading to the end of production of Belgian 1 and 2 cent euro coins. Businesses still have to accept the two lowest coin denominations as legal tender.

The #spendyourchange campaign comes after warnings of coin shortages from a number of key trade federations in Belgium, who issued a joint statement back in 2022 on the hoarding of 5, 10 and 20 cent coins, stating that they weren't (and evidently still aren't) circulating enough – a situation exacerbated by the pandemic that has not subsequently recovered.

Ironically the coin campaign was launched on 8 July, just a week after the 1 July Digital Payment Day, part of a campaign in Belgium to encourage electronic payments.

■ Barrier to Bitcoin Usage Addressed

NCR Atleos has launched a way of selling bitcoin and picking up cash at ATMs. The new feature taps into LibertyX, a provider of cryptocurrency software for ATMs, point-of-sale systems and kiosks, which NCR acquired in early 2022.

Called LibertyX Bitcoin Cashout, enrolled customers can sell bitcoin and receive cash at ATMs across the US. Once LibertyX has been rolled out across all participating ATMs, the process will be available at merchant locations within five miles of more than three-quarters of Americans.

Customers use the Atleos ReadyCode API suite, a one-time use code system developed to complete everyday transactions without the use of cards and traditional networks. They use the mobile app to locate an ATM that participates in LibertyX and is ReadyCode enabled and then set up a transaction. This is a similar process to a pre-staged purchase experience.

This solution removes one of the remaining barriers to greater bitcoin adoption, ie. how to move easily and effortlessly from bitcoin to cash without waiting days for transfers

facilitated by Automated Clearing House networks or dealing with the complexity of wire transfers.

According to Stuart Mackinnon, COO of NCR Atleos, 'adding an offramp for LibertyX users to convert digital assets to physical cash enhances the value proposition of LibertyX, grows foot traffic at participating merchants, and increases the productivity of our ATMs.'

■ Royal Mint Opens New E-Waste Recovery Plant

The Royal Mint (TRM) has officially opened its new gold recovery factory at its site in Llantrisant, South Wales. The 3,700m² facility uses world-first patented chemistry from Canadian company Excir, extracting gold from printed circuit boards (PCBs) found in everyday items, in minutes. Excir's chemistry works at room temperature, creating a more energy efficient and cost-effective method of gold recovery.

The new factory has the capacity to process up to 4,000 tonnes of PCBs from e-waste every year, equivalent to the printed circuit boards from 1.2 million servers. It has been designed to ensure that valuable finite resources are recovered and other materials appropriately treated for onward processing.

Recovered, high purity gold will reduce the dependence on traditional mining activity and encourage more sustainable industry practices, said TRM. It is already using recovered gold in its jewellery business, 886, in addition to silver recovered from medical and industry x-ray films.

■ Israel Denies Plans to Remove 200 Shekel

The Bank of Israel says there is no justification for a proposal to cancel 200 shekel (NIS) banknotes as part of an effort to combat tax evasion.

The statement follows a directive issued by Prime Minister Benjamin Netanyahu to the central bank and government ministries last week to examine the possibility of abolishing the highest denomination note (worth c. \$50), as a measure to combat 'black money' and money laundering.

'Even though the matter has been raised, no sufficiently established professional justification to cancel any banknote has been presented,' the central bank said in a statement. 'The Governor of the Bank of Israel does not intend to use his authority to work toward cancelling any banknote or to change the mix of banknotes in circulation.'

■ First Acquisition for MTC Since Split

Mauquoy Token Company (MTC) has announced the acquisition of International Token Distributors (ITD), an established

distributor in the metal and plastic token sector since 1998.

According to Vincent Van Hecke, Managing Director of MTC, 'since we split off from our sister companies, the Royal Dutch Mint and Osborne Coinage, following the sale to precious metals group Heimerle + Meule in January, we have been able to fully focus on the tokens and blanks market. This acquisition is the first milestone in our new growth strategy. In the coming months and years, we will continue to invest through acquisitions and expansion of our machinery.'

MTC is Europe's largest producer of metal tokens and also supplies blanks for circulation and commemorative coins to mints worldwide. Operating under the trade names Mauquoy Token Company and Royal Blanking International, MTC serves thousands of clients in nearly 100 countries and over 40 sovereign mints.

■ De La Rue Acquisition Talks Progress

De La Rue has said that discussions with an unspecified number of parties interested in acquiring some of the company's divisions have progressed significantly, and it expects to provide an update within the next few weeks.

The statement was provided at the company's recent AGM, where it said that talks have advanced considerably since the end of July, and it has started work on the physical and legal separation of its currency and authentication units.

At the end of July, concerns were raised over the company's ability to pay a credit facility that is due to expire next July.

At the AGM, the Board said that nature and timing of the sale of either of its divisions would impact the group's performance in fiscal 2025. It expects adjusted operating profit to be significantly ahead of last year, in the mid-to-high £20 million range. For the first half of the current financial year, adjusted operating profit should be in the low-single-digit range, it said.



Central Banks and Cash Round-Up

In this periodic series of articles covering cash information in central bank annual reports, this month it is the turn of Malaysia, Thailand and Tunisia.

■ Central Bank of Tunisia (CBT)

Cash in circulation: the value of banknotes and coins in circulation, which has been on the rise for several years, recorded an annual increase of 10.7% to TND 20.84 billion in 2023, compared with TND 18.8 billion in 2022. Banknotes accounted for 97.6%.

The 20 dinar banknotes are the most widely used (TND 12.3 billion), followed by 50 dinar banknotes (TND 3.9 billion) and 10 dinar banknotes (TND 3.8 billion).

As far as coins are concerned, the 1 dinar coin was the most widely used by Tunisians (TND 164 million) by the end of 2023. This was followed by the 5 dinar coin, worth an overall value of TND 139.7 million, the 500 millime coin (TND 61.7 million) and the 2 dinar coin (TND 58.7 million).

■ Bank Negara Malaysia (BNM)

Cash in circulation: despite the rapid adoption of digital payments, cash remains vital to Malaysia's economy. In 2023, cash in circulation CIC decreased slightly by 0.2% to MYR161.8 billion, a rare decline since 2001. Cash accounted for 8.9% of Malaysia's GDP, highlighting its continued importance despite growing alternatives. BNM is focused on modernising currency management to ensure efficiency and sustainability.

Counterfeiting: the counterfeit index rose to 1.6 parts per million (ppm) in 2023 due to a single major incident. However, BNM's counterfeit rate remains lower than that of benchmark countries. BNM conducted 53 education programs targeting small traders, retailers, and financial institutions to combat counterfeiting and promote currency integrity.

Sustainability: in line with Malaysia's goal of achieving net-zero carbon emissions by 2050, BNM implemented several green initiatives:

- **Waste-to-energy:** Shredded currency waste is now converted into combustion material for electricity generation.
- **Polymer recycling:** polymer banknotes are recycled into plastic pellets for new products.
- **Fit note distribution:** prioritizing the recirculation of fit banknotes during high-demand periods, such as festive seasons, to reduce carbon emissions

from producing new notes.

Coin production: BNM's new mint, MyMint, was launched on 19 October 2023 – the name reflecting the position of this facility as the country's only national mint, which was founded in 1971. MyMint is a smart coin operation facility that uses state-of-the-art Industry elements to automate processes and has a dozen presses for striking coins.

The commencement of the MyMint operation in 2023 marked another milestone in BNM's efforts to modernise currency operations in Malaysia, following the successful operationalisation of the Automated Cash Centre in 2016.

Looking ahead: in 2024, BNM will focus on collaborating with industry stakeholders to optimise the currency ecosystem. This includes promoting cash recirculation among financial institutions and integrating sustainable practices across currency operations.

■ Bank of Thailand (BoT)

Cash remains popular in Thailand, especially for vulnerable groups and small transactions. BoT estimates that 1.2-1.8 billion banknotes will be needed annually for the next decade. To reduce costs and choose environmentally friendly raw materials, BoT has switched to using polymer banknotes, starting with the 20 baht note. BoT is committed to continuously developing longer-lasting banknotes in other denominations and selecting more environmentally friendly raw materials.

Sustainability: BoT is committed to sustainable banknote production, following international standards for quality, safety, and environmental impact. In 2023, the BOT improved its banknote production by using clean energy, increasing efficiency, and choosing eco-friendly materials. The introduction of 20 baht polymer notes, which last 2.75 times longer than paper notes, is part of this effort to extend the lifespan of banknotes.

Consolidated cash centres (CCCs): to improve the efficiency of the cash cycle, the BOT has set up CCCs in partnership with financial institutions, reducing sorting costs by 20%. There are currently seven CCCs nationwide, which ensure the public has access to high-quality banknotes and maintains confidence in cash as a payment method.

Counterfeit Corner

■ By Kerre Corbin, Currency Counterfeit Specialist

€11 million sophisticated counterfeiting print shop dismantled in Naples

On 14 August 2024, a sophisticated operation producing high-quality counterfeit €20, €50, and €100 banknotes was dismantled in Naples, Italy. The counterfeiter arrested was a notorious money forger and had printed and sold €8 million worth of fake banknotes across the Europe, with an additional €3 million seized at the print shop.

31 digital printers were used to print the counterfeit banknotes, which contained high quality simulations of the security features. The shop was hidden behind his garage; concealed behind a cabinet was a moveable wall which allowed access to the production facility.

This is an example of a professional counterfeiter, one who was mass-producing high-quality counterfeit banknotes. It is apparent that some professional counterfeiters are moving from traditional offset printing to digital printing methods and are still able to produce significant quantities of counterfeits.

These types of investigations typically take years to eventually catch the counterfeiter in action. This investigation started in 2022 and led to at least 10 countries reporting seizures of these counterfeits, which indicates a wide international distribution network to sell his fakes.

Of the 467,000 counterfeit euro banknotes withdrawn from circulation in 2023, this counterfeiter is believed to be responsible for over 27%, which is approximately 126,000 counterfeits. If all 31 printers were being used equally, this would total just over 4,000 counterfeits per printer.

However, he was printing three counterfeits per sheet, which would be about 1,300 sheets of paper (less than 3 reams of paper!). If we divide this up into 12 months of the year, he was producing just over 100 sheets per month, per printer – which actually doesn't sound like much!

It only takes one committed counterfeiter to really impact the counterfeiting rates for a nation. We must continue providing public education campaigns on banknotes and investigating those counterfeits that are discovered.

Update on the Global Demand for Banknotes

■ **By Antti Heinonen, External advisor, Bank of Finland, former Director, Banknotes of the ECB**

Currency News™ began to publish global annual updates on banknote demand in 2017. The first years provided no major surprises. Normally, a few currencies (less than 10%) had a negative annual growth rate by value of banknotes in circulation and similarly a few currencies (again less than 10%) had a high annual growth rate of more than 25%. The growth rates of the great majority of currencies varied between 0% and 15%, and their distributions were nicely shaped, tending towards a normal distribution. All this changed in 2020, and since then the situation hasn't stabilised.

In 2020 more than 75% of the currencies had a double-digit growth rate, which exceeded 25% in the case of more than 22% of the currencies. It was evident that this exceptional development related to the outbreak of the COVID-19 pandemic would be later counteracted. That didn't happen in 2021.

However, the pandemic disrupted global supply chains and inflated food and energy prices, which were further accelerated by the geopolitical tensions created by the Russian attack on Ukraine. Global inflation, which during the period 2013–2020 was less than 4% per year, grew to 4.7% in 2021 and jumped to 8.3% in 2022¹. To suppress inflation, central banks began to raise interest rates. The measures increased the opportunity costs of cash balances and led gradually to their withdrawal.

The last mile is the most demanding and despite the recent downward trend of inflation, the steps by central banks to decrease interest rates have been still moderate. Therefore, in spite of the great uncertainty, which normally increases cash demand, the level of interest rates still limits the precautionary demand for cash.

Hence it is too early to draw any conclusions about the medium-term development of banknote demand.

This update will start with an analysis of the development of banknote circulation in value terms during recent years. After that, developments in banknote volume terms are studied and, before some concluding observations, the most recent developments are addressed by considering the annual growth rates in June 2024.

Banknote circulation in value terms

In the course of these annual updates one of the objectives has been to improve the consistency of the data. For some central banks, the financial year is not the calendar year and the figures used previously have, in some cases, referred to the end of the financial year. However, now in the respective charts, the figures refer to the end of the calendar year. Only in the case of two currencies do the figures refer to an earlier month of the year because the corresponding central banks haven't yet published the figures at the end of 2023.

In the charts which address the growth rates by the volume of banknotes in circulation, some figures still refer to the end of the financial year, not the end of the

calendar year. The reason is that those central banks publish the volume figures only at the end of their financial year.

Using statistics and various publications available on central bank websites, a slightly varying number (between 139 and 142) of currencies have been addressed in the chart below (Fig 1), relating to the growth rates by value of banknotes in circulation for 2020–2023.

The pandemic year, 2020, clearly stands out. It characterises the paradoxical development of the two motives to use cash. While the transactional use of cash was constrained because of lockdowns and travel restrictions, the precautionary demand reached record growth rates.

The distribution in 2021 indicated a return to normality, and the higher-than-normal cash balances accumulated during the pandemic were not given away. The public's behaviour changed in this respect in 2022. Even if the uncertainties continued and still justified the precautionary demand for cash, the growing opportunity cost motivated the public to reduce their cash balances.

At the same, the number of currencies which had an annual growth rate higher than 25% increased, because in countries where inflation rate was very high people needed more banknotes just for their daily needs.

The situation didn't change significantly in 2023. Because of continuing high interest rates, more than 22% of the currencies had a negative growth rate by value of banknotes in circulation. This was only two percentage points less than in 2022. Even so, it meant that 78% of the currencies had a positive growth rate. The figure draws a different picture from common media reporting.

Banknote circulation in volume terms

Even though most studies related to banknote circulation analyse its

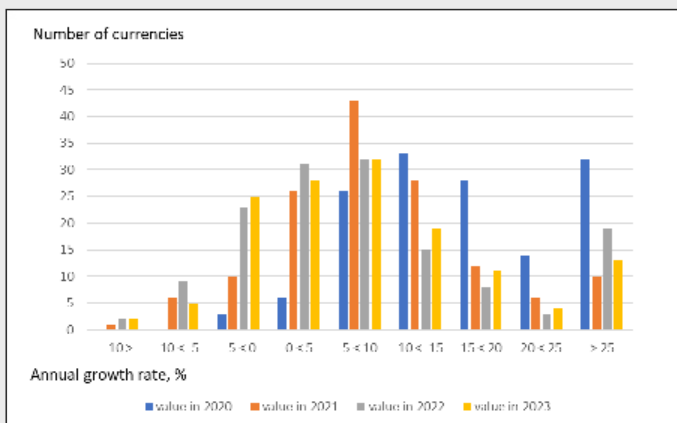


Fig. 1: Annual growth rates by value of banknotes in circulation in 2020, 2021, 2022 and 2023 (139–142 currencies)

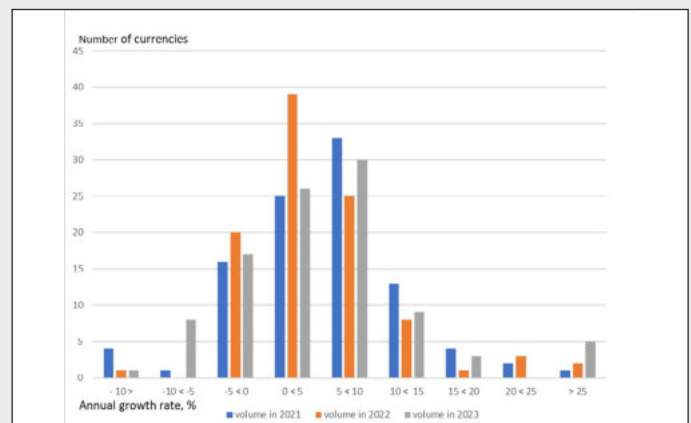


Fig 2: Annual growth rate by the number of banknotes in circulation of 99 currencies in 2021, 2022 and 2023.

1 <https://www.statista.com/statistics/256598/global-inflation-rate-compared-to-previous-year/>

development in value terms, the volume developments are much more important to the industry and cash infrastructure. The development of these two indicators (value / volume terms) deviated significantly during the pandemic because the demand for banknotes for transactions (small and medium denominations) and for savings and precautionary purposes (high denominations) evolved differently.

The denominational data on banknote circulation has, regrettably, less coverage on central bank websites than its total value. Delightfully, some central banks have recently begun to publish the denominational data, but unfortunately the opposite has also happened. It is difficult to understand why some central banks which continue to publish data on private payment solutions have discontinued to do so regarding their own product, banknotes.

Anyway, I'm very thankful for several central bank colleagues, who year after year have generously provided data for these global updates. Therefore, the publicly available data has been complemented with additional currencies.

Accordingly, the annual growth rates of the number of banknotes in circulation was available in 2023 for 99 currencies. Figure 2 addresses the distributions of these by the number of banknotes in circulation in 2021, 2022 and 2023.

It is difficult to draw any firm conclusions on the direction of the volume development. It seems, however, that the 2023 distribution is closer to that in 2021 than in 2022. In value terms the years 2021 and 2023 (see Figure 1) were quite different. This may indicate that the development of the two indicators (value / volume terms) have approached to each other in 2023. This is further analysed in Figure 3, which compares the distributions of the two indicators in 2023.

The growth rates in volume terms were in 2023 smaller than in those in value terms,

but the median growth rates of the two indicators have clearly become closer to each other. The median growth rate by value terms was 5.6% and by volume terms 4.2% in 2023. During the pandemic year 2020 they were, for these 99 currencies, 16% and 9.4% respectively. This means that in 2023 the demand for various denominations has been more balanced.

Development of the value of banknotes in circulation during the first part of 2024

The impacts of inflation and interest rates on cash demand can be further assessed by considering the most recent annual growth rates of banknote circulation. To have as comprehensive sample of currencies as possible, and in view of the fact that the publication schedules of central banks vary, the figures in the following refer to the end of June 2024.

Figure 4 depicts the distribution of annual growth rates by value of banknotes in circulation of 114 currencies compared with those one year earlier (June 2023). By using the growth rates in June in both years 2023 and 2024, any seasonal impact on banknote demand can be generally eliminated.

Even if the number of currencies that have experienced negative annual growth rates in June 2024 is still higher than before the pandemic, the situation has improved in comparison to that of one year earlier. The number of currencies having a negative growth rate has decreased from 26% to 18%. Also, the drop in inflation is indicated by the lower number of currencies having a very high annual growth rate by value of banknotes in circulation.

Concluding remarks

The main storyline of this update has been that in the current circumstances it is too early to draw any conclusions regarding the future demand for banknotes. Even if the number of currencies having a negative growth rate by the value of banknotes in

circulation has been higher than before the pandemic, it cannot be concluded that the public has permanently changed their behaviour.

Central banks are now vigorously trying to suppress inflation, and when they feel satisfied with their efforts, then interest rates will fall back to their previous low level. This will again justify the precautionary demand for banknotes in an increasingly uncertain world.

However, even if that happens, the key challenge regarding the future role of cash is the paradox referred to earlier, namely the opposite development trends of the two motives to use cash. Such development puts pressure on the maintenance of the cash infrastructure.

Central banks also need to be able to react to the behaviour of citizens in future crises. It is still an open question whether the trust in physical cash issued by a central bank is transferable during a crisis to a digital currency issued by a central bank (CBDC).

Even if this would be hypothetically possible, the limits to the funds that can be loaded onto a CBDC account would restrict the stabilising impact of the CBDC in a crisis. When doing so, the central banks may actually abolish the role of central bank money as a safe harbour in crises if their focus is only on CBDC. Hence, with good reasons, central banks are signalling that the CBDC will complement but not replace cash.

Nevertheless, it is not sufficient that central banks have adequate strategic stocks in their vaults for exceptional demand for banknotes. Central banks also need a serious plan related to the maintenance and development of the cash infrastructure. Only a well-functioning and resilient cash infrastructure in normal circumstances ensures its use and functioning in uncertain times or in a crisis. It should be understood as a critical infrastructure, which is vital for the functioning of society.

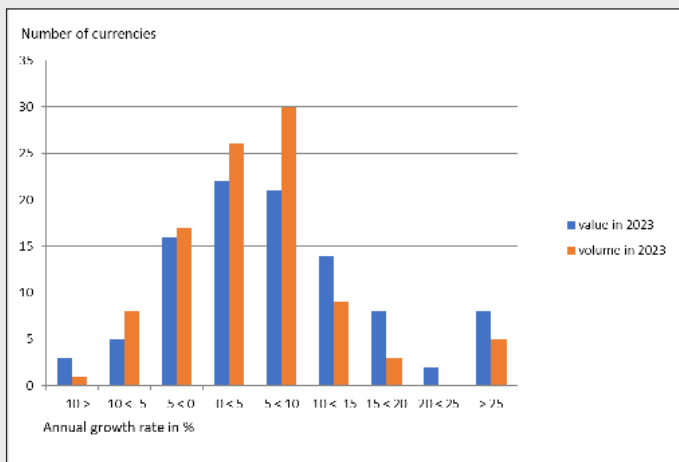


Fig 3: Annual growth rates by the value and number of banknotes in circulation of 99 currencies in 2023

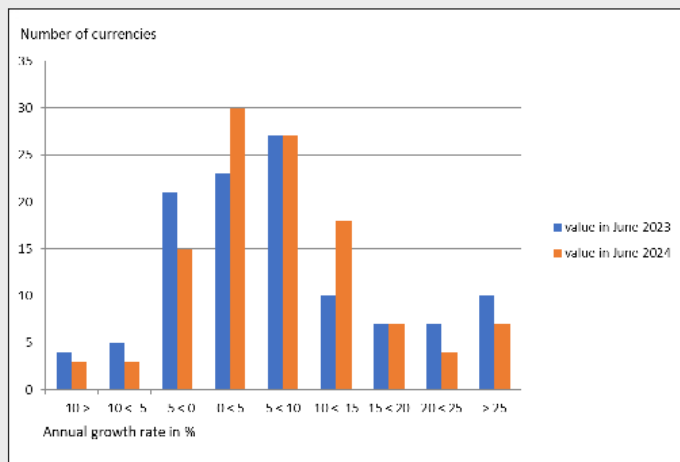


Fig 4: Annual growth rates by value of banknotes in circulation of 114 currencies at end of June 2023 and 2024.

Stopping Real Equipment from Making Fake Documents

■ By Francis Tuffy, Editor, ID & Secure Document News™

The usual picture that comes to mind of a counterfeiter's modus operandi is one of clandestine operations carried out under cover of darkness. But what happens when the illegal activities are carried out in plain sight and what is the industry doing to prevent them?



This article explores some of the key initiatives that have emerged over the past two decades to address the growing challenge of bona fide security print practitioners being duped into aiding in the unwitting production of fake documents.

Operation Genesis¹

In 2007, the UK's Metropolitan Police launched Project Genesis, one of the earliest efforts to combat the illegal use of printing equipment. Named after the patron saint of various crafts, including printing, this initiative focused on fostering partnerships between law enforcement agencies and the printing industry. It was followed two years later by a similar initiative in the US, Operation Genesis, led by the US Immigration and Customs Enforcement (ICE) agency

The primary goal of both was to enlist the cooperation of security printing industry leaders, manufacturers, and suppliers to voluntarily report suspicious transactions related to the sale or use of high-end printing equipment and materials.

These could include transactions where individuals or organisations sought to acquire materials such as paper, inks, and printing presses commonly used in the production of counterfeit currency and fraudulent documents. By creating a direct line of communication between industry stakeholders and law enforcement, Project and then Operation Genesis aimed to detect and prevent counterfeiting operations before they could cause significant harm.

The initiatives have proved to be successful in identifying criminal activities and raising awareness among legitimate businesses in the printing sector of the risks associated with their products being used illegally.

Interpol's Project S-Print²

Building on the principles of industry collaboration, Interpol runs Project S-Print on a global scale, with similar goals to Operation Genesis, supported by a network of 25 businesses in the security print sector.

If anything, Project S-Print has a bias toward digital printing, which has become a preferred method for counterfeiters due to its accessibility, affordability, and the high-quality reproductions it can produce.

One of the key features of Project S-Print is its focus on capacity building and training for law enforcement personnel in member countries. The initiative provides specialised training to identify the signs of counterfeit document production, including understanding the technologies involved in digital printing, the types of materials used, and the criminal networks that engage in these activities.

Project S-Print represents a comprehensive international approach, recognising that counterfeiting is a transnational crime that requires coordinated responses across borders. By focusing on both training and international collaboration, the initiative enhances the ability of law enforcement agencies to detect and prevent the illegal production of security documents, including passports, currency, and ID cards.

The Intergraf certification code³

A useful addition to the global fight against counterfeiting came with the introduction of the Intergraf certification code. This code is part of a quality standard framework for companies involved in security printing. Intergraf, an international organisation representing the printing industry, developed the CWA 15374/ISO 14298 security printing standard upon which the certification code is based.

The certification code plays a role in preventing legitimate security printers from unwittingly producing counterfeit documents. One of the central focuses of this code is to implement robust safeguards that ensure companies involved in the production of sensitive materials are fully aware of and in control of their processes to prevent exploitation by criminals.

The certification mandates a comprehensive security management system that covers all aspects of the printing process, from securing materials (like specialised inks and papers) to controlling access to production facilities. It requires companies to establish traceability protocols, ensuring that all materials used in security printing are carefully monitored and documented to prevent any unauthorised use.

Additionally, regular audits and risk assessments are conducted to evaluate the company's operations, helping identify vulnerabilities that could be exploited for counterfeiting. Furthermore, the certification ensures that staff involved in the printing process are thoroughly vetted and trained to recognise potential threats.

There are three levels of certification for security printers – fundamental, governmental and central bank – plus a category for suppliers.

By enforcing strict internal controls and fostering a culture of security awareness, the Intergraf certification code prevents security printers from becoming inadvertent participants in the production of counterfeit documents.

Central Bank Counterfeit Deterrence Group (CBCDG)⁴

Every country has legal restrictions on the reproduction of banknote images. While restrictions vary from country to country, in some countries any reproduction of banknote images – even for artistic or advertising uses – is strictly forbidden. And even in countries that allow some limited use of banknote images, there are specific rules and requirements.

A Banknote Detection System (BDS) and a Counterfeit Deterrence System (CDS)

1 www.ice.gov/sites/default/files/documents/Document/2016/operation-genesi.us.pdf

2 www.interpol.int/Crimes/Counterfeit-currency-and-security-documents/Project-S-Print

3 www.intergrafconference.com/dwl/IntergrafCertifications.pdf

4 <https://rulesforuse.org/en>

have been developed by the Central Bank Counterfeit Deterrence Group (CBCDG). The group was founded in 1998, and now comprises 36 central banks, to deter the use of personal computers, digital imaging equipment, and software in the counterfeiting of banknotes.

The BDS is a series of special marks (so-called Omron rings) printed on banknotes that are recognised by detectors in colour copies, and are designed to prevent copying of the banknotes. The CDS is a digital watermark distributed throughout the banknote(s) that is recognised by detectors in scanners and printers and is designed to prevent scanning, printing and image manipulation.

Both have been voluntarily adopted by hardware and software manufacturers and prevent personal computers and digital imaging tools from capturing or reproducing the image of a protected banknote.

Security Image Register⁵

To further enhance security in printing and counterfeiting prevention, the International Hologram Manufacturers Association (IHMA) introduced the Security Image Register (SIR) – previously known as the Hologram Image Register – to safeguard copyrights and underpin the use of optically variable devices (OVDs) in authentication and security printing.

The SIR is a secure registry of holographic images and other OVDs, and is the only system of its kind for the secure document and authentication community. The centrally held global database of secure OVDs is operated on behalf of the IHMA by the Counterfeiting Intelligence Bureau (CIB) under the strictest confidence and security that supports the previously cited ISO 14298. As part of this standard, foil producers must register all security holograms they produce in a global registry – the SIR.

The SIR enables hologram and OVD manufacturers and producers to verify, at the time a new OVD is being designed or originated, that this design, or elements of it, do not infringe copyright or allow the unintentional copy of existing OVDs. This helps to ensure that the OVD image is not already in use and is the first step for the subsequent registration of the image. The SIR is available to law enforcement agencies to check for the provenance of a design when they need information on a suspect hologram or OVD.

Over 10,000 images are now registered on the SIR.

Whilst the measures listed above may not be an absolute guarantee against fraudsters accessing professional grade machinery, supplies or services it does go some way to avoiding any security print manager’s worst nightmare – being an unwitting accessory to counterfeiting!

Intergraf’s Sustainability Initiatives

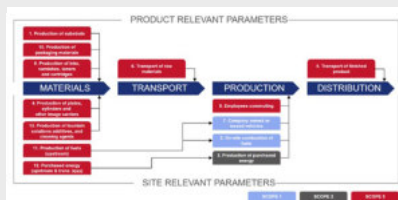
Intergraf is the European printing industry association, representing employers in the graphical sector across 21 countries. It is best known in the banknote community for its biennial conference Currency+Identity and for its certification scheme for security printers. But it provides a range of services and tools for the broader print industry, two of which have relevance to banknote printers.

For example, in its role of providing industry best practices and facilitating the sharing of information among its members, Intergraf has produced a sector base standard in line with the Greenhouse Gas Protocol for the (commercial) print industry. This was presented at the Cash Sustainability Forum by Boštjan Kolar, Security and Compliance Officer at Cetus, the Slovenian secure identity solutions provider, and has useful implications for all security printers.

Part of this initiative involves ClimateCalc, a tool that uses company and supplier specific data and draws from internationally recognised databases to calculate emissions.

The ClimateCalc calculations are in line with the GHG Protocol, ISO 16759 and ISO 14064-1, and 13 parameters defined by Intergraf as normally responsible for most CO2 emissions associated with printing activities on site, or in relation with the production of printed products. Intergraf estimates that these 13 parameters identify 95% of the total CO2 emissions within the defined scope.

This tool does not set out to capture everything; for example, business travel by employees and visitors, transport of raw materials other than the substrate, transport and treatment of production waste and wastewater, the production of other materials such as plate developing agents, blankets etc. and emissions from Volatile Organic Compounds are excluded.



Cetus has found getting data, whether from suppliers or in-house, can be challenging when using ClimateCalc. While major transport companies generally have the necessary data, minor transport companies do not. Getting substrate data can be a challenge and there is no data about waste processing.

For in-house data they have had problems with bad data from SAP, missing data for some materials and problems with getting accurate data for fields such as the weight of holograms.

For this to work, this has to be a management priority, not just a quality department project. A long term commitment is needed to keep improving it.

For Cetus the top five contributing areas were:

1. Production of the substrate (Scope 3)
2. Production of purchased energy (Scope 2)
3. On-site combustion of fuels (Scope 1)
4. Transport of raw materials (Scope 3)
5. Production of inks and varnishes (Scope 3).

Print versus digital media

In another initiative, Intergraf has published a report entitled ‘Comparing Print and Digital Media,’ which provides an extensive overview of 75 studies comparing print and digital communication tools regarding sustainability, efficiency, and consumer preferences.

Whilst the report refers to print in general, it nevertheless – again – provides some useful pointers for the banknote printing industry.

Regarding sustainability, the report challenges the common belief that digital media is inherently more sustainable than print. According to the report, the ICT sector significantly contributes to global emissions, accounting for 2-4%. The digital sector is energy-intensive and generates significant e-waste with a lower recycling rate than paper.

The report also criticises the methodology used in Life Cycle Assessments (LCAs) to compare the environmental impact of print and digital media. It argues that these studies often rely on assumptions that can bias results in favour of one medium, potentially leading to misleading conclusions.

5 <https://ihma.org/image-register/>

How SPARTAN™ Solves the 'Change' Management Challenge

■ By Tim Berridge, CCL Secure

Recent months have revealed the significant financial pressures mints face as they contend with declining demand in a competitive and crowded market characterised by oversupply.



SPARTAN is produced in one pass, combining durability with cost-efficiency to offer an alternative to coins.

In August, the Mint of Finland announced it would wind down operations by next Spring. This followed news the UK Royal Mint would exit the export market for blanks and coins.

Together, these developments have prompted anxiety, analysis and questioning across the industry.

As was noted in this publication last month, the pressures on mints are symptomatic of broader structural adjustments affecting cash cycles, and they suggest deeper challenges for central banks.

On the one hand, demand for high value denominations continues to grow, with consumers increasingly using banknotes as a store of value. On the other, low value denominations are creating cash cycle management issues for central banks as transactional cash usage declines.

This inversion of traditional demand dynamics creates significant cost and complexity for central banks as they seek to maintain efficient and cost-effective consumer access to cash.

Issuing authorities face a conundrum at the note/coin boundary. Typically, banknotes fatigue faster due to high transaction velocity, and this has traditionally positioned coins as the preferred option for low value denominations. Now coins are increasingly inefficient too.

In an over-catered market squeezed by declining demand and the rising cost of commodity metals, coins are becoming relatively more expensive to produce and process.

Many mints have had to diversify into ancillary areas like metals trading, medal making, bullion and jewellery, and central

banks increasingly struggle with negative seigniorage, even to the extent where the cost of commodity metals used to make coins can outstrip their face value.

This challenge is exacerbated by inefficiencies in circulation, with estimates suggesting up to 60% of coins are only used once before exiting the cash cycle due to 'involuntary hoarding'.

Many central banks have implemented exchange programs to support circulation efficiency, including in Canada, Hong Kong, Mexico, the Philippines, Poland, Singapore and Thailand. While this is good news for central banks and taxpayers, it will only add to the woes of mints.

Then there is the trend towards 'rounding' which has accelerated alongside inflation. Following six other EU countries, Lithuania legislated in March to start phasing out 1 and 2 cent coins.

The Falkland Islands may soon follow suit. Survey results indicate 70% of consumers favour the removal of 1p and 2p coins, with 62% stating they rarely or never use them.

Yet clearly, a key part of protecting access to cash involves retaining low value denominations that facilitate settlement. Innovation is needed to strike a better balance between procurement cost, durability, and desirability among consumers, who prefer banknotes to bulky, heavy coins.

A solution for the note/coin boundary

While change management challenges at the note/coin boundary have become more acute, they're not unexpected or new, and CCL Secure has invested significantly to create a solution.

That solution is SPARTAN™ – a finished banknote designed to deliver extreme durability at the note/coin boundary and arrest the slide in seigniorage afflicting low denominations and coins.

Independent testing has shown SPARTAN is far more hard-wearing than existing polymer, paper or hybrid notes, thanks to an innovative and bespoke base film called Propanote™ Opacity W.

Developed by our sister company, Innovia Films, it provides an optimum platform for protective varnishes and bespoke inks that work with the polymer core to create a more durable banknote.

This longer note life reduces the need for replacements to boost seigniorage for central banks.

The Opacity W film also enables efficiencies in the production process as it's fully opaque. This eliminates the need for opacification layers and supports a single-pass printing process that is unique to SPARTAN.

Our streamlined production process covers every element of the finished note, including all design layers, serial numbers, and security features that are compatible with machine reading.

The SPARTAN banknotes are sheeted, guillotined, packed and delivered with a full manifest, ready for issuance by central banks, which creates a single source for procurement that cuts out the cost and complexity associated with minting coins.

SPARTAN also overcomes the inefficiencies arising from involuntary hoarding of coins, not only by enabling denominations to be issued in banknote format as the public prefers, but also through specialised inks and gravure printing techniques that create a 'paper-like' finish.

This ensures SPARTAN feels like a traditional cotton-paper banknote to aid public acceptance.

Structural change demands innovation

The recent ructions in coin markets are indicative of fundamental, structural changes that highlight the imperative of innovation at the low-value end of the denominational mix.

CCL Secure is a company built on innovation, which pioneered polymer banknotes. We continue to harness a history of experience and expertise to meet new challenges as they arise.

Right now, low-value denominations are the biggest pain point for central banks seeking to maintain an efficient and cost-effective cash cycle. We have engineered the solution.

Currency departments can contact CCL Secure for independent durability testing results, cost-benefit analyses, and information to support the seamless integration of SPARTAN banknotes.

I'm Your Venus

According to the hit single I'm Your Venus (from the Dutch rock band Shocking Blue in 1969 and then again from the UK girl band Bananarama in 1986), 'Venus is the name of the game'.

It's also the name of Louisenthal's latest security feature – specifically RollingStar® Venus, an upgrade on the company's portfolio of threads based on its micro-mirror technology.



RollingStar® was first introduced in 2011, taking its name from the shaped light reflection that travels, or 'rolls' along the thread. The thread combines micro-mirror with ColourShift technology, which act in concert to provide a defined movement sequence and striking colour change when the banknote is tilted.

This was followed by Galaxy™ in 2017, an advancement on the micro-mirror technology that provides 3D effects along with movement. And then, in 2021, Louisenthal brought out RollingStar® i+, with a clearer colour gradient, more design opportunities and the ability to assign different motifs to each thread window (see CN May 2021).

Now, in 2024, the company is launching RollingStar Venus, which will make its debut at the Global Currency Forum in Oman. The main technological advance is the use of innovative nanotechnology to generate vivid optical effects and colours. When viewed straight on, these effects provide a precise two-colour appearance. When tilted, however, they display completely different effects, through the synchronisation of colour change and movement (ColorFlip™) and the distinctive Color MotifFlip™.

In addition to their visual properties, RollingStar Venus threads are compatible with a range of magnetic properties, including MultiCode™. And they can be combined with demetallised text (ClearText) to create customised designs, including denomination or country-specific elements, thereby providing additional security through showing different information in reflected and transmitted light.

To launch the new feature, Louisenthal has produced two house notes – one themed on a Night of Magic (in a concert hall) incorporating a RollingStar Venus thread with both ColorFlip and Color MotifFlip, and the other themed on nature, demonstrating a thread with ColorFlip.

More information on the technology will be provided in a subsequent issue of Currency News™, following the upcoming launch of RollingStar Venus to the industry.

Summertime for KURZ

Another company launching a new house note during the Global Currency Forum is KURZ. The note, dubbed Meadow, has been designed to promote the company's 'KURZ THREADS with KINEGRAM COLORS®' portfolio.



This new sample banknote is as diverse and colourful as a summery meadow, says the company. Utilising KURZ technology, it showcases the latest ways to secure banknotes in vibrantly colourful ways! The sample banknote features a combination of registered KURZ THREADS and KINEGRAM COLORS®, the former with multiple windows characterised by both colour and diffraction.

The new sample banknote has been created in collaboration with and produced by long-standing industry partner PWPW.

Oberthur Celebrates the Art of Butterflies

Oberthur Fiduciaire is introducing a new family house notes at the Global Currency Forum (GCF), on the theme of 'The Art of Butterflies'.

The theme, says Oberthur, was chosen as it symbolises the spirit of Jean-Pierre Savare, who took over the company 40 years ago and transformed it into the successful group it is today. And the new notes are not just an honour to the legacy of Mr Savare – but also demonstrate once more its unique skills and know-how, while the butterfly carries a message of change and joy.

The butterflies presented represent five species of the famous collection of François-Charles Oberthur visible in the British Museum in London.

The five notes were printed in one sheet with five different designs and five different security threads.

'Through this creation we offer different printing techniques: The intensity of the colours, the finesse, the registration, the effects, the relief, the security of the printed elements and the technical innovation of the printing processes on an eco-responsible quality product are the major assets of this high quality technical work', says the company.

For the launch, Oberthur is organising a raffle at the GCF to offer full size sheets of the house notes to 10 lucky winners.

'For this new series, we have chosen the theme of butterflies, which symbolise the spirit of our founder, transformation and beauty. For four decades, our family business has been a leader in the fiduciary sector, combining innovation and expertise. This new series not only celebrates our rich history, it also illustrates the artistic mastery and advanced techniques that define our work', commented Thomas Savare, the company's Chairman and son of the founder.



HSP Asia Heads to Thailand this December

Reconnaissance, the High Security Printing™ (HSP) conference organiser, has announced that registration is now open for the upcoming HSP Asia event, scheduled for December 2-4, 2024, in Bangkok, Thailand.

Details of the programme – which will comprise a tour of the Bank of Thailand’s printworks and two days of plenary sessions – will be published shortly.

In the meantime, the exhibition which accompanies the event has now sold out.

HSP Asia typically attracts an audience of around 300, and will bring together issuers, suppliers, and integrators involved in producing, protecting, and personalising fiduciary and secure documents across Asia and beyond, offering a global platform for innovation and collaboration.

Submit your award entries now.

A key highlight of the annual HSP conferences is the presentation of regional awards for the best banknotes and ID documents. The banknote awards are divided into three categories – Best New Banknote, Best New Series, and Best New Commemorative Banknotes – with the winners be revealed during the conference dinner.

The nomination deadline is 5 October 2024. Participants are encouraged to submit their entries promptly. For more details on last year’s winners and to access the nomination form, visit hsp-asia.com/awards/.

HSP Asia is part of a trio of regional events organised by Reconnaissance, alongside its sister conferences: High Security Printing™ EMEA (3-5 February 2025, Basel, Switzerland) and High Security Printing™ Latin America (9-11 June 2025, Rio de Janeiro, Brazil). These events serve their respective regions and are essential for those involved in the security printing industry.

Currency Conference Announces Dates and Topics for 2025

Described as the cash industry’s pre-eminent gathering since its inception in 1992, for more than 30 years the Currency Conference has provided a unique platform for senior-level central bankers, representatives of printworks, and leading industry suppliers to deliberate and engage with peers on the most vital topics impacting currency policy and the issue function.

The 2025 Currency Conference is also heading to Bangkok, taking place 26-29 May 2025.

Steeped in tradition yet firmly focused on the present and future realities of the cash industry, the theme for the 2025 Currency Conference is ‘Currency in a Digital World: How Technology Informs and Transforms Currency Policy’.

Topics to be explored include:

- **Cash Visibility:** this session will address the critical elements of cash visibility in the modern economy.

- **Cash Cycle Infrastructure:** the focus will be on the infrastructure required to support the efficient flow of cash, including the roles of key stakeholders.

- **Cash Cycle Resiliency:** this session will explore the crucial role of cash in ensuring economic stability and financial inclusion, especially during times of crisis or technological disruptions.

- **Securing Access and Acceptance of Cash:** this session will delve into the current state of cash accessibility, exploring the challenges, innovations, and policy measures necessary to maintain cash as a viable option for all segments of society.

- **Technical Innovation in Currency:** delivered by conference sponsors, these sessions explore the forefront of technical innovations in currency, highlighting the advancements that are revolutionising the design, production, and security of physical money.

- **The Changing Roles of Cash Cycle Participants:** as the role of key cash stakeholders evolves, existing commercial models are increasingly coming under stress. This session will highlight the economic burden placed on different stakeholders such as central banks, commercial banks, cash management companies and retailers.

- **Cash Sustainability Pt 1: Policy Considerations in Production and Destruction:** this session will explore current policies and emerging trends aimed at minimising the ecological footprint of currency.

- **Cash Sustainability Pt 2: Improving Cash Circulation:** following on, this session will explore strategies to reduce the environmental impact of cash circulation.

- **Digital Currencies and Cash — How to Coexist:** this session will explore the intricate relationship between digital currencies and traditional cash systems.

In addition to the main program, there will be a pre-event executive roundtable meeting for central banks on the subject of ‘Ensuring the Resilience and Integrity of the Cash Cycle’. This closed-door session will gather decision-makers to discuss how the continued resilient and efficient provision of cash services to the public can be ensured.

CR has developed the 2025 program through close coordination with its Currency Conference Advisory Committee, featuring some of the industry’s most highly regarded individuals:

- **Doris Schneeberger**, European Central Bank
- **Stefan Hardt**, Deutsche Bundesbank
- **Susan Kumar**, Reserve Bank of Fiji
- **Isabel Morales**, Banco de México
- **Paul K Wanyagi**, Central Bank of Kenya
- **Pearl Kgalegi**, South African Reserve Bank
- **Richard Wall**, IACA
- **Jens Seidl**, Currency Research.

The Currency Conference is one of two global events organized by Currency Research in the cash space, the other being the Banknote Conference, and they are held alternately every two years.

The Banknote Conference, traditionally held in the US, has more of a technological focus, with central banks, printworks and industry suppliers coming together to discuss emerging trends, technologies, and innovation. The Currency Conference, by contrast, has more of a strategic focus covering policy, regulation and innovation for the whole cash cycle.

At the 2023 Currency Conference in Mexico City, CR welcomed nearly 330 delegates from 135 organisations and 54 countries, including senior representatives from 45 central banks and 20 printworks. These figures, say Currency Research, reflect its three decades of relationship building with the individuals and organisations at the centre of the currency industry, and a similar turnout is expected in 2025.

www.currencyresearch.com

Success for the First Security Designers Forum – Creating Value for the Design Community

The inaugural Security Designers Forum (SDF) was held in Warsaw, Poland, from 10-13 September 2024. An initiative of the security design community, it was the successor to the International Banknote Designers Conference and was a full-capacity event, attracting 176 delegates from 82 organisations spanning 32 countries.

The issues addressed went way beyond the physical design, exploring a wide range of design-related themes for many secure documents, but principally banknotes and passports. Designers and technical experts haven't had a chance to meet each other since before COVID, and the sell-out attendance clearly demonstrated the need for a forum run by the industry for the industry to work together and share experiences, ideas and know-how to enhance the aesthetics, functionality and security of secure documents.



What became clear early on in the forum was that there is a wide range of knowledge, engagement, and cooperation across the whole design process, coupled with a real desire to improve collaboration by bringing the community together through events such as the SDF.

Something for everybody

The SDF ran over two and a half days, with 36 presentations in eight different sessions, ranging from aesthetics and design inspiration to digital print, AI and apps. It also had a panel discussion which heard from the customers (ie. the central banks). As such, it was full of content and had something for everybody.

The SDF was opened by Barbara Jaroszek, Director of Cash & Issue Department, Narodowy Bank Polski (NBP), who welcomed all to Warsaw and Poland. She outlined the importance of banknotes as national symbols, stating that 57% of Polish citizens claim to be emotionally attached to their banknotes. This attachment can also form a challenge when introducing new banknotes or series.

She highlighted the importance of relationships between the issuers and suppliers. 'In order to choose a partner for ourselves, we must try to understand them well,' she said. 'In most cases, this is a very difficult task because central banks are staffed by economists, while artists and engineers work on the other side. We talk about denominations and cash circulation, and they talk about the composition and absorption of paint.'

Some of the other key highlights across the two and a half days included perspectives from freelance designers and engravers, along with industry designers who live and breathe design.

The first session heard from De La Rue, Giesecke+Devrient, freelance designer Andreas Iten, Thales and legendary engraver and intaglio designer Gunnar Nehls, who took the audience through a designer and engraver's perspective and journey.

In the second session covering holistic design, speakers outlined the design journey from beginning to end, including aesthetics, functional layout, cost, security, quality control, and third-party suppliers.

Hearing from the customers

An important aspect of the SDF was the panel discussion 'Let's Hear from the Customers', with contributions from Bank of Mexico, NBP and Casa da Moeda do Brasil on their experiences with designing and managing new note issues, both positive and negative. All emphasised how understanding of countries' cultures and close collaboration with stakeholders are key to successful projects, even when time is of the essence.

In the session covering substrates, passports and authentication, freelance designer Lukas Schuler captivated the audience with details of and images from a research project to combine art with security printing and cryptography. He established a partnership with key stakeholders from the banknote industry to enable the project to materialise, with its potential to become what he termed a game changer in secure document design.

In another session entitled 'Production Considerations', several speakers outlined how technology helps the designers, looking at pre-press, substrates, ink, and inspection. SICPA and Luminescence Sun Chemical shared insights and best practices on how to create appealing yet functional designs that leverage the full potential of printing technologies. SICPA also showcased their new library of offset digital inks, with around 1,302 shades of ink to support designers throughout the creation process.

In the final session, panellists from Orell Füssli Security Printing, OVD Kinegram, IQ Structures and Crane Currency outlined what specifically needs to be considered as a designer when making a good level 1 feature and what the potential stumbling blocks are when starting out.

Technologies of the future

Orell Füssli announced two new projects that revolve around smartphones, AI, and storytelling. Together with an external partner, Orell Füssli Security Printing has developed a handy smartphone feature for banknotes. A sample note was developed to assess its functionality and to explore the integration options and the storyline and feature design, which are intricately linked.

They also looked at how designers can use AI to drive design excellence through facial expressions, and to make portraits on banknotes more attractive.

Also on the theme of AI, Rafael Müller from Supercomputing Systems in Switzerland gave a presentation entitled 'AI is Not Intelligent... Yet Useful'. With a background in life sciences and bioinformatics, he has applied AI to solve complex problems across multiple projects, providing an interesting perspective into this potential design tool of the future for the banknote and passport communities.

The hot topic of digital printing and how it is increasingly being used in the security printing industry was also covered, not only for personalisation, but also for printing the core design, understanding what is possible and what is not, in order to produce quality security products.

The Security Designers Forum has created real value for the design community by addressing the current issues, challenges and opportunities, and providing new insights into making sure banknote and passport designs are a success. Its value was demonstrated by a poll of delegates, which resulted in a clear view that it should become a regular event.

Taking place every two years, therefore, and maintaining its central mission as a collaborative event created by the secure design community to serve the whole community, the next Security Designers Forum will be held in September 2026, in a location to be confirmed.

And the (Coin) Finalists Are...

The finalists for the 2024 IACA Excellence in Currency Awards for Coins have been announced, with the presentation of the winning submissions scheduled to take place at this year's Coin Conference in Lisbon, Portugal.

Best New Commemorative/ Limited Circulation Coin

Banco de México – 20 peso coin commemorating the bicentennial of diplomatic relations between Mexico and the United States

Central Bank of Eswatini – E50 coin produced to celebrate the Bank's 50th anniversary.

Central Bank of The Bahamas – 25 cent coin coloured on both sides, produced by the Royal Canadian Mint to celebrate the Bank's 50th anniversary

National Bank of Kazakhstan – 1,000 tenge commemorating the 30th anniversary of Kazakhstan's national currency.

Best New Coin Product, Process or Manufacturing Innovation

Royal Canadian Mint (RCM) – environmentally friendly plating process for bronze-plated circulation coins.

US Mint – circulating blank annealing furnace retrofit that has reduced the output of harmful pollutants.

Monnaie de Paris – NFC-enabled silver €25, produced to commemorate the centenary of the death of Gustave Eiffel.

Best Recirculation/ Distribution Initiative or Innovation

Bangko Sentral ng Pilipinas (BSP) – for its Coin Recirculation Program.

Central Bank of Eswatini – Coin Management Efficiencies Project aimed at enhancing coin recirculation and reducing hoarding.

US Mint – Bill of Lading Automation System, which automates the bill of lading documents used to ship coins to the Federal Reserve

The shortlist was drawn up by a panel of expert judges, and the winners are being chosen by IACA members via an online vote.

More information about each of the projects will be published in future issues of Currency News™ and its sister publication Coin & Mint News™, both of which are award sponsors.

thecoinconference.com

Guatemala Celebrates 100 Years of Quetzal

The Guatemalan currency, the quetzal, was introduced in 1924, and is named after the Resplendent Quetzal, the Central American country's national bird (the tail feathers of which were used as currency in ancient Mayan culture). The Q1 commemorative banknote, released in September 2024, is only the second commemorative banknote in the history of Banco de Guatemala (Banguat), and commemorates the 100th anniversary of the adoption of the quetzal as the national monetary unit.

The note also celebrates General José María Orellana, President of Guatemala 1921-1926. Under his mandate, the first monetary reform of the country took place, with a fixed monetary unit and a central banking system; it was during his government that the quetzal monetary unit was created.



This banknote maintains similarity to the design of the last editions of this denomination in terms of its dominant green. Unlike its predecessor, it has been produced on paper rather than polymer. And significantly, it also features a varifeye® ColourChange security patch. Its dimensions are 156mm x 67mm.

Centenary celebrated with return to banknote

Guatemala's currency is currently denominated in banknotes of 5, 10, 20, 50, 100 and 200 quetzals, and in coins of 5, 10, 25 and 50 centavos and 1 quetzal.

Interestingly, Banguat ceased the issuance of the Q1 banknote back in 2012, changing it to a coin. However, given that the Q1 banknote represents the institution of the quetzal as a national monetary unit, it was deemed appropriate to issue this commemorative edition as a banknote to mark this celebration. The banknotes were printed by Giesecke+Devrient.

Design and special features

The banknote combines a fine integration of print and substrate-embedded security.

On the front, the centre of the banknote features an artistic circular design that evokes the historical event, and contains the phrases (*we take the opportunity to translate to English*) 'One hundred years of the Quetzal Monetary Unit' and 'A century accompanying a nation', along with the years 1924 and 2024. The number '1' in the centre of the banknote includes segments of the murals of the central building of the Banco de Guatemala.

The right of the note also features a portrait of General José María Orellana. To the left, the quetzal bird is perched on a column, which represents the stability shown by the monetary unit during a century.

It also incorporates a varifeye® ColourChange security patch, which shows the iconic arch of Santa Catalina, located in the city of Antigua Guatemala, witness of the evolution of that city and a reference of strength in the face of adversity.

The patch is an octagonal shape in shiny gold in reflected light, with a window appearing on the reverse. The window is visible on both sides, and appears in a transparent blue when held up to the light. When the banknote is rotated, a change between the years 1924 and 2024 is optically visible, alluding to the centenary of the Quetzal monetary unit.

The back of the banknote features the current Banco de Guatemala building to the left, seen from its western facade, where the recognized mural by the master Roberto González Goyri stands out. To the right side of the building, the title 'One hundred years of the Quetzal monetary unit' can be seen. In the lower part, a perfect printing register is observed, consisting of an image of the national flag in stylised form, in both obverse and reverse, accompanied by the phrase 'A century accompanying a nation'.

In addition to the commemorative note, which is reported to have been very well-received by the public, Banco de Guatemala has also issued 10,000 silver commemorative Q1 coins.

Note and Coin News

A Security Step-Up for Guyana

In last months' **Currency News™**, we reference the Bank of Guyana's upgrade of its \$500 and \$1,000 banknotes with Rolling Star® LEAD Pure security foil from Louisenthal on the former, and Crane's RAPID® Vision security thread on the latter. In this article, we provide more details of the \$500.



The LEAD Pure stripe replaces the holographic stripe that formerly appeared on the front of the \$500. This 10mm wide micro-mirror foil features a macaw (which has featured on Guyana's banknote since 1998), with a shift from magenta-to-green when tilted, offering enhanced anti-counterfeiting protection.

The LEAD Pure foil is an advanced micro-mirror technology feature for banknotes that is very intuitive and ensures immediate recognition. The visual appeal of the macaw is enhanced by the surface relief effects on its elements, and in the foil's background, the leaves appear to be moving on two different levels. Moreover, the letters 'BOG' show a 'pumping effect' that adds an additional layer of security.

The \$500 banknote features a sophisticated design that blends intricate vignettes of national symbols and landmark, namely the Bank's logo and a map of the country on the front, along with the Parliament Building on the reverse. It has a colour palette of purple, blue, and green, enhanced by intaglio printing for a tactile feel.

In addition to the security foil, other key security features include a security thread with micro-text, microprinting, fine-line background patterns, ultraviolet elements, and dual-font serial numbers.



In Other News...

■ Danmarks Nationalbank has provided details of the themes for its new banknotes series, which will consist of four denominations – 50, 100, 200 and 500 krone – and will be issued from 2028 onwards, replacing the current 2009 series featuring Danish bridges and ancient artefacts.

The notes will be smaller in size than the existing series and the watermark, which the Bank says is the most important security feature, will have a more prominent role.

The motifs on one side of the new banknotes will be important achievements and the people behind them. They include fairy tales and Hans Christian Andersen, astronomy and Tycho Brahe, the Earth's core and Inge Lehmann, and the Thule Expedition and Arnarulunnguaq. The motifs on the other side will have the sea as a recurring theme.

The decision on the theme and motifs was made by external experts and the Bank based on suggestions from museums, research and educational institutions within the arts, culture and natural sciences, and the results of a questionnaire survey with Danish and Greenlandic citizens.

In the coming months, the Bank will work on illustrating the different elements, as well as determining the overall graphic expression and aesthetics of the banknotes so that the overall appearance

is coherent. The concept will then be handed to an external printing company for finalisation and production. The design process is expected to be concluded by early 2026.

■ The National Bank of Rwanda has issued new 2,000 and 5,000 Rwandan franc (FRW) banknotes. These new banknotes, designed and manufactured on paper by De La Rue, will co-circulate with the existing FRW 2,000 and FRW 5,000 denominations.

The notes were last issued in 2014, albeit that their designs date back to the mid 2000s. The new notes retain the same colours, but have different motifs on the front as well as an overall fresher and more modern appearance.

The FRW 2,000 is predominantly violet, featuring Lake Kivu on the front in place of a radio aerial and satellite dish, and coffee beans on the back. The FRW 5,000 is lilac, and the Kigali Convention Centre on the front replaces the image of a mountain gorilla. Traditional Rwandan woven baskets are depicted on the back.

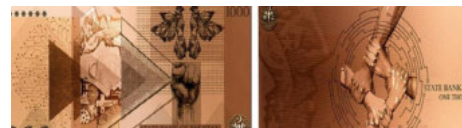
The security features of both notes have been upgraded and now include De La Rue's dynamic colour shifting IGNITE® thread on the reverse, along with the level 2 security feature GEMINI™ that depicts vivid and detailed pattern work under ultra-violet light. The notes also feature a gold-to-green SPARK® live, in the shape of a gorilla

on the FRW 5,000 and a woven basket on the FRW 2000. The watermarks in each depict the national coat-of-arms along with electrotype, and have been moved from the left to the right of the notes.

■ The State Bank of Pakistan (SBP) has announced the conclusion of its art competition, announced in March and held to collect design ideas for its new banknote series. Designs were submitted for all six denominations – the Rs10, 50, 100, 500, 1000 and 5,000 – with prizes awarded to nine designers as winners or runners-up.

The ideas are described as being suggestive in nature and are being shared with international designers who have been shortlisted to work with SBP and finalise the designs for the new series. These designers, while drawing inspiration from the local art submissions, will, however, be free to employ their own design expertise and imagination to create final designs for the new series, which will be unveiled towards the end of the year.

Details of all the winning designs can be found on the SBP website.



The winner of the Rs100 note designed by Noureen Aslam.

... More Developments in Cash Services in Europe

security logistics provider, is also working with them.

SIX operates the largest ATM network in Switzerland under the Bancomat brand, and defines and manages common standards and requirements for each network, as well as processing interbank and internal bank transactions.

The aim of both companies is to achieve efficient cash management by offering all relevant operating and management services from a sole source, from site selection, preparation and commissioning to ensuring high availability and smooth transaction processing. Part of the plans include, potentially, ATM pooling – as

Geldmaat does in the Netherland and Batopin does in Belgium. An event has been planned for Swiss banks and ATM operators to discuss the concept and requirements.

The leadership of the Swiss ATM network is being challenged, however, by Swiss Post, which has launched its own 'Cash Rescue Plan'. Swiss Post wants a single provider to guarantee the quality, security and high availability of cash in the future, and for it to be that provider.

Swiss Post already provides financial services through its subsidiary Postfinance, providing over-the-counter banking services through its network. It is

proposing to transfer the cash business of Postfinance, to take over all the banks' cash and teller activities, in addition to ATM transactions, and provide a unified ATM network.

In its analysis, CashEssentials states that Swiss Post and Six/Diebold Nixdorf are fighting for the same goal: more business, more use of the existing infrastructure and a secure future. For the banks they are after, it is the economic solutions that count first. The fact that pooling ATMs could create a more efficient cash system is 'hardly a bold prognosis' – but could nevertheless be a useful one to address better access to and availability of cash.

Events

30 SEPT – 3 OCT 2024
GLOBAL CURRENCY FORUM
 Muscat, Oman
globalcurrencyforum.com

8–10 OCTOBER 2024
ATMIA EUROPE
 London, UK
atmia.com/conferences/europe

28–30 OCTOBER 2024
THE COIN CONFERENCE
 Lisbon, Portugal
thecoinconference.com

4–5 NOVEMBER 2024
THE AMERICAS CASH CYCLE & PAYMENTS SEMINAR
 Louisiana, USA
currencyresearch.com

25–27 NOVEMBER 2024
THE EMEA CASH CYCLE SEMINAR
 Cape Town, South Africa
currencyresearch.com

2–4 DECEMBER 2024
HIGH SECURITY PRINTING ASIA
 Bangkok, Thailand
hsp-asia.com

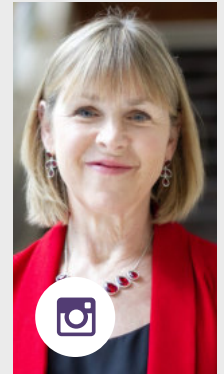
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Currency Publications Ltd

2.4 The Beacon, Beaufront Park, Anick Road, Hexham, Northumberland, NE46 4TU, UK
 Tel +44 (0)1932 785 680 Email: info@currency-news.com

