

# CURRENCY

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# Reports of the Death of Cash are Greatly Exaggerated

This heading paraphrases words attributed to Mark Twain when his obituary was published while he was still alive. They seem strangely apt right now when it comes to cash.

How is it that we write long articles and run conferences about the challenges that 'less-cash' bring (maintaining cash cycle infrastructure, resilience, financial inclusion etc.) and understanding the 'cash paradox' (rising cash in circulation volumes when cash usage is declining), when banknote printing presses around the world are flat out, central banks and printers are investing in cash production and distribution left, right and centre, and the industry around the circulation of cash (cash management companies, ATM providers etc) is booming?

How can both be true? What is going on?

#### Riding a rollercoaster

Data on cash use at the point of sale (POS) suggests that it is in decline as a percentage of all payments. As examples, in the Netherlands cash was used for 22% of transactions in 2024, 10% in Sweden in 2025 and 9% in the UK. For South Africa, Mexico and Vietnam the corresponding figures for 2023 were 35%, 39%, and 38%.

Part of this story is, no doubt, due to the explosion in digital payments which means cash is used relatively less rather than in absolute numbers. The Federal Reserve's payment diary, for example, shows that the number of weekly payments made in cash has not changed since 2020.

So, how does this explain the figures recently presented by De La Rue at the High Security Printing conference in Asia, where the average increase in the volume of cash in circulation

globally over the last five years has been 5.5% per year?

#### Cash growth drivers

Cash in circulation is generally agreed to be driven by key factors such as growth in population and inflation. Globally these have increased by 3.1%, 1%, and 4% respectively. If one looks at the developing world, where banknote usage remains strong, the GDP growth rates are even higher. Africa's GDP growth in 2025 was 4.2% and Asia's 4.5%. In contrast Europe's was 1.2% and the US 1.8%.

The focus on and fascination with digital payments has masked the fact that - whether for transactions in some parts of the world or for storing value in others - cash is still doing just fine. It may comprise a smaller share of the metaphorical payments pie, but that pie is growing. So in real, ie. volume, terms (which is the metric that matters most in our industry), cash continues to grow.

#### Cash production

There are six private and 53 state printing works (SPW). Currently a third of them are investing in new capacity or capability. A banknote printing line will last for 20-30 years.

Added to this, a number of countries are investing in high security print capability for passports and other government documents that could be extended to include banknotes down the line - among them Ethiopia, Kyrgyzstan, Nepal, Saudi Arabia and Uganda.



#### **Investing in Cash Production**

Below are some of the central banks, printworks, and substrate makers that have either recently concluded major investments in expansion or new facilities, are in the process, or planning to do so.

#### **Commercial producers:**

- Canadian Bank Note upgrading
- De La Rue expanding
- Giesecke+Devrient expanding
- Oberthur Fiduciaire expanding
- Q&T HiTech new polymer plant

#### State producers:

- Banque de France new printworks with 2 full lines (completion 2027)
- Bangko Sentral ng Pilipinas new greenfield printworks and mint under construction
- Bank of Mexico second line for printworks in Guadalajara
- Casa da Moeda do Brasil upgrading
- Central Bank of Egypt new printworks and cash centre (completed 2022)
- Central Bank of Türkiye Banknote Printing Plant – 2 new lines, new printworks planned
- China Banknote Printing and Minting (CBPM) - new printworks and polymer facility (completed)
- Hotel des Monnaie, Algeria new printworks in progress, foundations built
- Hotel des Monnaie, Dem Rep of Congo new line being installed
- Nigeria Security Printing and Minting Corporation (NSPMC) - upgrading existing equipment in Abuja and Lagos; a new printworks has been proposed
- Banknote Paper Mill India currently tendering for two new paper lines
- IMBISA (Spain) a new SPW entrant
- Pakistan Security Printing Corporation new printworks on greenfield site
- PWPW new greenfield site proposed; in meantime, existing facility being upgraded.
- Security Printing and Minting Corporation of India (SPMCIL) - expansion and upgrade
- South African Bank Note upgrade
- National Banknote Printing Plant (Vietnam) - new printworks under construction
- US Bureau of Engraving and Printing (BEP) - new intaglio and offset lines being installed at Fort Worth and Washington DC facilities. New greenfield site in Maryland on hold
- Valora (Portugal) upgrade.

#### ... Death of cash exaggerated

Moreover, a number of central banks have invested, or are investing, in new cash centres (Angola, Belgium, Egypt, the Federal Reserve, Netherlands, Rwanda, Switzerland, Sweden, Thailand, to name a few), whilst expansion of or new substrate production facilities are also being undertaken.

Clearly, the industry thinks there is enough demand now, and for the lifetime of these investments, to justify them. But are they right?

Banknote orders do not follow issue volumes for a variety of reasons. For example:

- The Uppsala Conflict Data Program recorded 61 conflicts around the world today. The instability these bring often drives exceptional demand for banknotes, even if not for the currency of the countries involved.
- Crises such as the Y2K (the Millennium Bug that never was), the global financial crisis, COVID and the Ukraine war create cash surges that deplete central bank strategic stocks. At the moment at least two major central banks are restocking their strategic reserves.
- The timing and approach to changing banknote designs also plays a major part. Historically countries tended to change of all of the denominational designs simultaneously. Since the launch of the second series of the euro, central banks have tended to follow this sequential launch programme spread over time. Whether a 'big bang', or sequential, new families create 'lumpy' production requirements.

The impact of unexpected increases in production orders can cause central banks to have to get additional orders printed, whether they have an SPW or not. This is known as 'overspill' in the industry. To our knowledge, there are at least two major countries with large volume requirements that are mopping up any spare capacity in the commercial sector.

Overspill orders tend to be large and take up the spare capacity in the printing community, taking away much of the commercial pressure on printers and generating funds for investment. A potential downside of overspill orders is that if they are sustained over a number of years, for example at the time of the break-up of the Soviet Union, the industry will invest in capacity without regard

to long term volume requirements, leading to future problems.

New production equipment is, invariably, more productive than earlier versions, increasing capacity even when equipment is only being replaced or upgraded.

30 years ago, a banknote printing 'line', needing about six different production processes plus finishing equipment, produced 1 billion notes a shift. Today it will produce up to 1.4 billion banknotes a year on a one shift basis, enough cotton banknotes for a population 50-55 million people depending on usage.

In 2025 the ECB ordered 3.4 billion banknotes for the roughly 360 million people in the Eurosystem member states. The Federal Reserve ordered 5.8 billion in 2024 for its 342 million people. India produced 30.3 billion notes for 2024-25 for its 1.46 billion people.

#### The case for investment

Investment for new or better capabilities is a straightforward business decision; the need is either there or not.

Investment to be able to produce your own currency, a sovereignty decision, is a political decision, which makes sense so long as there is realism about the cost.

However, investing for the long term is difficult in less-cash regions such as Europe and North America, particularly if the country has adopted polymer as a substrate. Vietnam, which is not a less-cash country, has adopted polymer and seen their banknote volume requirement fall sharply.

Equally, justifying investment on the basis that you will start exporting to fill capacity seems unwise when you consider the number of banknote printing works that already exist.

#### Final word

Clearly cash is alive and well. Importantly it is going to be a widely used, at volume product for many decades to come.

Will it tail off? Yes. Will it tail off 'fast'? No.

In the meantime 2025 has ended on a high for the banknote community, and – with order books full for most companies - this will continue for the next 12-18 months. On that note, we would like to wish all our readers the very best for the festive season and continuing good fortune in 2026.

#### **SPMCIL Reports Record Revenue**

Security Printing & Minting Corporation of India Ltd (SPMCIL) recently published its 2024/25 Annual Report, showing a 15.84% increase in revenue to Rs 58.84 billion. Costs increased by 19.9% to Rs 43.96 billion.

During the year, SPMCIL, which is owned by the Ministry of Finance, produced 12.06 billion banknotes, up by 24.28% compared to FY 2023/24.

SPMCIL consists of nine units, including two banknote printworks, Currency Note Press (CNP) in Nashik and Bank Note Press (BNP) in Dewas, two security presses for passport and tax stamps, the Security Paper Mill (SPM) in Narmadapuram, an ink factory (also in Dewas), and four mints (Mumbai, Kolkata, Hyderabad, and Noida). Currently, it produces c. 40% of India's banknotes (the rest is produced by Bharatiya Reserve Bank Note Mudran Pvt Ltd, BRBNMPL, owned by the Reserve Bank of India).

In addition, SPMCIL and BRBNMPL have a joint venture – Bank Note Paper Mill India Private Ltd (BNPMIPL), which also had a record year (see CN October 2025), producing 16,651 tonnes against a nominal capacity of 12,000 tonnes per year. It is planning a further two lines to increase this capacity.

For coins, SPMCIL is India's sole supplier. During the year, it produced 1.47 billion circulation coins and supplied 1.5 billion coins to the RBI.

Production rose by 23% and supply by 24.42% (the figures for 2023/24 were around 1.2 billion each respectively). Security paper production increased by 7.70%, reaching 7,661 tonnes, while the production of security inks increased to 601.31 tonnes.

During FY 2024/25, SPMCIL commissioned several machines across its production units. At CNP in Nashik, installations included three offset banknote printing machines, one intaglio banknote printing machine, two banknote numbering machines, and two banknote finishing machines. BNP in Dewas received one offset banknote printing machine and one banknote finishing machine.

SPMCIL also strengthened its R&D capabilities. Key initiatives included mass production of Colour Shift Intaglio (CSI) at the Dewas Ink Factory to support import substitution and self-reliance, and a collaboration between the Corporate R&D Centre in Nashik and Bhabha Atomic Research Centre (BARC) of Mumbai to develop ink taggants for enhanced security in banknotes and travel documents. The R&D Centre also partnered with National Chemical Laboratory (NCL), Pune to develop an anti-soiling overprint varnish for banknotes for improved durability.

#### **Increased Demand for Coins in Australia**

The Royal Australian Mint (RAM), which celebrated its 60th anniversary this year, sent over 131 million circulating coins with a face value of A\$75.37 million into the Australian economy during FY 2024/25, nearly three times the 47.7 million coins issued the previous year.

In its annual report, RAM detailed a returned seigniorage of \$26.13 million against a target of \$9 million for circulating coinage. The increased sales reflected increased ordering, with RAM reporting a rise in circulating coin demand from the major commercial banks.

RAM also produced 47.8 million circulating coins for five other nations in the Asia Pacific – including two denominations for Papua New Guinea, five denominations for Timor Leste, one denomination for the Solomon Islands, four denominations for Vanuatu, and three denominations for Tonga.

Circulating coin purchases for 2024/25 came to \$75.43 million, with just over 47% (\$35.8 million) of this comprising \$2 coin sales.

In 2024-25, total own-source revenue was \$136.68 million, a reduction from the figure of \$167.77 in the previous year. Revenue from customer contracts totalled \$132.47 million (compared to \$165.13 million in 2023/24), including \$60.88 million (\$87.66 million in 2023/24) from numismatic coin sales.

RAM also received \$250,000 for circulating coin supply chain management and \$318,000 (\$905,000 in 2023/24) for other services, including customised minting and royalty revenue.

RAM reported a \$4.67 million after-tax surplus on continuing operations for the financial year.

#### No banknotes for 2024/25

By contrast, no Australian banknotes were produced in the financial year, according to the Reserve Bank of Australia's annual report, a first for its wholly-owned subsidiary Note Printing Australia

However, NPA did produce around 2.4 million passports during the year, along with 1.5 million civil certificates for Australian states. It also delivered approximately 800 million banknotes to overseas central banks, including those of the Philippines, Solomon Islands and Papua New Guinea.

# Cash Security Leaders Join Forces

Following a Letter of Intent signed in July, Oberthur Cash Protection and Feerica have completed their strategic merger, forming Oberthur Feerica. This follows the acquisition of Feerica from its owner, the holding company Zelosodisseia. Financial terms of the deal were not disclosed.

According to the two companies, the combination creates a global force in the fight against ATM physical attacks and cashin-transit crime, and brings decades of innovation in IBNS (Intelligent Banknote Neutralisation Systems) together with advanced manufacturing capabilities.

Oberthur Cash Protection, based in Dijon, France started out in life in 1983 as Axytrans, part of the French tech firm Axytel. It developed one of the earliest IBNS systems to protect cash in transit by using indelible ink to mark banknotes if a theft attempt occurred. It was sold in 1993 to François-Charles Oberthur and, in 2007, acquired Fluiditi, a cash protection specialist previously part of NCR. That same year it changed its name to Oberthur Cash Protection.

Feerica was founded in 1982 in Mafra, Portugal, starting out as a technology company focussed on security solutions for commercial banks, including physical access control systems, security doors and cash deposit machines for financial institutions. In the mid-2000s it introduced ATM dyestaining protection systems, and in 2010 began work on its own IBNS technology, which developed into the market-leading SmartStain IBNS portfolio.

According to both companies, they have highly complementary technologies in IBNS, ATM protection, CIT boxes, smart safes and digital supervision, with systems designed to deter physical attacks on ATMs and CIT vehicles.

They also how have a multinational industrial footprint, including a production facility in Portugal and technology centres in both France and Portugal, reinforced capacity for R&D and engineering, and a global commercial presence.

### **News In Brief**

## ■ G+D Strengthens Payments Portfolio

Giesecke+Devrient is continuing its business transformation strategy with the acquisition of critical German payment infrastructure in the form of the Payments & Banking Services business of Bank-Verlag. A subsidiary of the Association of German Banks, the business processes one in four card and internet-based payment transactions in Germany.

G+D states that, with this acquisition, it is expanding its Financial Platforms segment with a central building block. The end-to-end offering in digital payments and banking will now range from electronic payment systems through digital banking, digital wallets and authentication to transaction authorisation.

As a leading provider of security technology, G+D says it combines the necessary experience in payment solutions and authentication with proven expertise in digital security and protection of critical infrastructures. This enables it to operate the payment processing business in a regulatory environment as an owner.

The newly acquired business will be integrated into G+D Netcetera, G+D's subsidiary specialising in financial software.

The completion of the merger is still subject to clearance by the antitrust authorities.

#### ■ Partnership Between Indonesian and Sudanese Banknote Printers

Perum Peruri (PERURI), Indonesia's stateowned banknote and security printer – has signed an MOU with Sudan Currency Printing Press, the Sudanese government's currency printer owned by the Central Bank of Sudan.

The agreement, which was signed at PERURI's head office in Jakarta, formalises cooperation in banknote printing, security documents, and commercial printed products.

According to PERURI President Director, Dwina Septiani Wijaya, international cooperation is a strategic step that not only strengthens the capacity of the security printing industry but also opens opportunities for sharing knowledge and technology.

The main focus of the cooperation is capacity building and infrastructure development in the field of banknote and other high security document printing, utilising advanced technology and ensuring

the best security standards in the printing process, said the two companies.

#### ■ India Takes Issue with Nepal's New Notes

Nepal Rastra Bank has issued a new 100 rupee (Rs) note featuring a revised map of the country that includes three territories also claimed by India, reviving political tensions between the two countries.

The Indian government has criticised the move as a 'unilateral act' and maintained that such design decisions 'do not change the ground reality of the border'. Traders near the border have also indicated they may refuse to accept the note in cross-border trade because of the issue.

The notes have been printed by China Banknote Printing and Minting Corporation under a contract worth \$9 million. This year CBPM has also been awarded contracts to print Rs 1,000, Rs 500 and Rs 50 banknotes to the combined value of US\$37 million.

#### **■ Final Pennies Raise Millions**

As reported in the November issue of Currency News™, the final US pennies rolled off the production line last month, and into the record books for the money they have raised.

A three-coin set of the final pennies minted for circulation, which included the original dies, sold at auction for \$800,000. Another set sold for \$180,000. All told the final pennies sold for nearly \$17 million.

The auction was organised by Stack's Bowers Galleries, and the available sets represented the 232 years since the penny was first minted in 1793. Each historic set included two circulating pennies, one from each of the Mint's production facilities in Denver and Philadelphia and, for the first time, a 99.99% 24-karat gold uncirculated penny, also minted in Philadelphia.

Each coin bears a unique omega symbol  $(\Omega)$ , marking the end of the penny.

#### Cuba Opens Up to Foreign Currency

The Cuban government has published a new law and related regulations that legalise the use of foreign currencies — such as the US dollar, euro, and others — alongside the Cuban peso (CUP) for certain transactions within the country. This represents a move toward partial dollarisation and is meant to help stabilise the economy.

The changes break with Cuba's previous policy, dating from 2021, that abolished the convertible peso (a separate currency for foreign visitors, which entitled them to

shop from exclusive hard currency stores), and made the Cuban peso (used by the Cuban population) the only valid currency for internal transactions.

The use of foreign currencies began to expand in 2024, when the government announced several measures to partially dollarise the economy to help compensate for its own lack of resources. These measures included the creation of state stores that accept only dollars and the implementation of dollar-based fees for some administrative procedures.

The US dollar and the euro have played an increasingly important role in cash transactions on the island for years due to high inflation, the peso's significant depreciation, and the economy's dependence on imports (which account for 80% of consumption).

The regulations emphasise, however, that the measures are temporary' until 'existing macroeconomic imbalances are resolved', and the Cuban peso can resume its role as the sole legal tender in the country.

#### Coinstar Introduces a Debit Card and Digital Wallet

Coinstar is best known for the provision of self-service kiosks for enabling loose change to be converted into paper currency, charitable donations, gift cards and even cryptocurrency, or transferred to bank accounts, via coin deposit kiosks which deduct a fee for the conversion.

The company is now planning a new general purpose reloadable product, the CINQ by Coinstar Debit Card, for people who want to put the value of their coin deposits into a digital form.

Cash and coins can be loaded at more than 10,000 participating Coinstar kiosks. Customers have the choice of a physical or virtual card, both of which will integrate with Coinstar's digital wallet.

#### Kyrgyzstan Advances Self-Reliance

According to local reports, although not verified by the central bank, Kyrgyzstan will shortly begin domestic production of 20 and 50 som banknotes. Larger denominations, including up to 5,000 som, are expected to follow next year.

The shift to local printing marks a significant transition from long-standing reliance on international suppliers. The most recent series, introduced in 2023–2024, already features holographic stripes, colour-shifting elements, and micro-optics.

Local manufacturing will now support wider use of these technologies across future issues.

# 30 Years of Doing the Right Thing: KURZ Marks Three Decades of Security-Foil Production at Sulzbach-Rosenberg

# ■ By Francis Tuffy, Optical & Authentication Technologies Consultant, Reconnaissance

When LEONHARD KURZ GmbH & Co KG (KURZ) opened its optical film facility in Sulzbach-Rosenberg, few could have predicted how profoundly it would shape the global security feature industry. To this day, the site remains one of the company's strategic production centres — and an example of industrial renewal, where a region built on coal and steel turned to optics and precision engineering.

Sulzbach-Rosenberg, in the Amberg-Sulzbach district of northern Bavaria, was once defined by heavy industry. Iron ore mining and the Maxhütte steelworks dominated local life for over a century, employing thousands and fuelling the post-war German economy. At its peak, Maxhütte was among Bavaria's largest industrial employers, producing pig iron and steel for domestic and export markets.

By the 1980s, however, the picture had changed. Global competition, lower-grade ore, and soaring energy and environmental costs rendered local steel production unviable. The coal mines closed in the 1960s–70s, and Maxhütte began winding down in the mid-1980s.

The Bavarian Ministry of Economic Affairs, with the Amberg-Sulzbach district council, responded through an ambitious 'Strukturwandelprogramm' – a structural-change initiative designed to replace declining heavy-industry jobs with new, clean, export-oriented technologies.

#### A calculated leap

Founded in 1899 in Fürth, near Nuremberg, KURZ had long been a global name in hot-stamping foils for decorative, automotive and packaging applications. But by the 1980s, the company was eyeing a different kind of product: optical security features for banknotes and identity documents.

Thin-film coatings, metallisation and optical-variable structures offered an enticing intersection of material science and security. The company's leadership saw Sulzbach-Rosenberg – with its skilled industrial workforce and good infrastructure – as an ideal location for a purpose-built high-tech manufacturing site.

The new facility opened in 1986, establishing the foundation of what would become the group's Security Business Area. Within a few years, the site was producing advanced optical foils for use in banknotes, passports and brand protection applications worldwide.

KURZ's market breakthrough moment came, in 1988, when it placed KINEGRAM® optical foil on Austria's 5,000 schilling note —the first mainstream

application of the technology on a circulating banknote.

It was a bold step. At the time, holography was still seen by many as decorative rather than secure. An alternative approach, a machine-readable barcode, was under serious consideration as the main antifraud device. KURZ's micro-structured optical devices changed that perception by offering bright, copy-proof effects that could be mass-produced with consistency and have the visual impact to engage the public.

#### A disruptive innovator

Within the industry, KURZ occupies a distinctive position. The company has always refused to describe KINEGRAM® as 'another diffractive device' — for very good marketing reasons. Its scientists and marketers have long argued that the design and replication principles behind the KINEGRAM® differ fundamentally from standard holography.

That independent stance has defined KURZ's character as a company: focused, confident, and committed to maintaining the integrity of its technologies.

KURZ's business model differs from that of traditional security printers, as it supplies optical components directly to central banks and issuing authorities worldwide. Its technical rigour, consistency, and customer support are well recognised across the industry, and its close relationships with clients reflect its reputation for reliability and trust.

As one long-time observer in the industry put it: 'they are commercially formidable in every market. Hats off to them.'

#### **Beyond materials**

KURZ has never been content merely to sell films and foils. It moved into the sale of application machinery – enabling paper mills to apply foil stripes or patches inline – so that it would better understand the application regimes for its materials.

That decision positioned KURZ among the leading machinery suppliers, such as Koenig & Bauer, with whom they cooperated on the development of the OptiNota system, and Gietz. When the

company's stripe features were adopted for the euro series, it meant that every European paper mill had the chance to acquire compatible KURZ equipment.

This strategy demonstrated both KURZ's vertical integration and its commercial shrewdness: controlling not just the component, but also the process by which it is applied. It also underscored its independence from the established supply chain of printers and equipment makers.

KURZ has also invested heavily in partnerships across the industry.

Despite the fierce competition, it has always collaborated on banknote issues and technology trials with a range of organisations, which in turn demonstrate compatibility of its products with a variety of substrates and production methods.

#### A culture of quality

Inside the Sulzbach-Rosenberg plant, the production philosophy is defined by quality, precision and care. Marko May, Head of Business Area Security – Manufacturing, explains:

'Quality is the key. Yes, we have camera and sensor inspections throughout the supply and production process, but we also have 100% visual inspection. Machines can't be taught to care about the beautiful images we produce.'

The independent thinking that goes into KURZ's commercial decisions extends into the way it handles its policies on operational resilience and recovery. Marko explained how KURZ gives confidence to its customers to avoid disruption to the supply of vital security elements in the event of an operational catastrophe.

'Rather than having a partner facility that is ready to swing into action in the event of such an event, we have arranged groups of equipment, with each group capable of full production. The groups are arranged across separate zones within the plant. The zones are connected by tunnels/fire walls which isolate each zone in the event of fire, explosion or spill, thankfully there has been no major calamity in the past 30 years.'



Aerial view of the Sulzbach-Rosenberg plant (© KURZ).

Behind each patch, thread and stripe of security foil lies an intricate marriage of physics and chemistry. Sulzbach-



#### GCF Focuses on Cash in the 21st Century

The International Currency Association has (ICA) has shared preliminary details of the third edition of the Global Currency forum, which takes place 27-30 April in Antalya, Turkey.

The theme of the conference is 'Managing Cash in the 21st Century – Building Resilience in an Uncertain World' and the agenda is constructed around this theme, with plenary and highlight panel sessions setting the tone for the entire forum, featuring renowned speakers and thought leaders in the currency and financial sectors. They include Thierry Breton, France's former Minister of Economy, Finance and Industry, who will deliver the Opening Keynote.

Each of the main three days of the conference will have a specific focus – namely, 'Future Vision – Cash as a Strategic Asset' (Tuesday 28 April), 'Foundations of Resilience – Security, Continuity & Efficiency' (Wednesday 29 April), and 'Cash in Society – Acceptance, Inclusion, Affection (Thursday 30 April).

The themes of the nine plenary sessions are:

- The Value of Cash Global Evidence & Strategic Arguments
- Sovereign Payment Ecosystems Cash & Digital Solutions
- Reframing Cash Perception, Innovation & Communication
- Crisis-Proof Payments: Why Cash Matters
- Security & Counterfeit Risks Innovations for Authentication
- Cash Cycle Resilience & Affordability Efficiency, Cost, Collaboration
- Spotlight High Volume Economies Cash, Inclusion & Growth
- Designing Infrastructure for a Modern Cash Cycle in the 21st Century
- Anchoring Cash as a Positive Value in Modern Life.

The programme will be complemented with multi-stream interactive technology

workshops from GCF partners covering the latest innovations in currency technology, including digital payment systems, blockchain applications, security features, and sustainable production methods.

And on the opening afternoon of the conference (Monday 27 April) will be meetings on two ICA initiatives – namely cash promotion and sustainability.

In a new development, the ICA has also partnered with the International Association of Currency Affairs to host two of its 2026 Excellence in Currency Awards. One is the Best Environmental Sustainability Award. The other is a new category – Best Cash Cycle Resilience Award, which ties in both with the theme of the GCF, and also the work that IACA has been doing on the topic over the past year.

An interview with France Mareovic, ICA Director General, on plans for the GCF, among other topics, will feature in the feature in the January 2026 issue of Currency News. In the meantime, visit globalcurrencyforum.net for more information.

#### ... 30 Years of Doing the Right Thing

Rosenberg is where optical originations from OVD Kinegram (OVDK) in Switzerland become industrial reality.

Dr Christian Schulz, Head of R&D Banknotes at KURZ, describes the interface: 'I am a chemist by training, but I like the challenge of working with the optical physicists at OVDK. It's my job to make sure that the complex features they come up with are replicated as faithfully as possible into billions of documents—and that they remain bright and readable throughout the document's lifecycle.'

The replication challenge is enormous: producing structures at sub-micron scale over kilometres of film, ensuring consistency, adhesion and durability through the life of the image.

After working together on many projects, KURZ acquired OVDK in 1999, creating a fully integrated value chain — from optical origination through to roll production and application equipment.

This vertical model allows KURZ to innovate quickly and maintain tight control over feature integrity. Technologies such as KINEGRAM COLORS®, KINEGRAM ZERO. ZERO® and KINEGRAM REVIEW® illustrate the success of that approach – offering combinations of kinetic, colour-shifting and machine-readable properties tailored to paper, composite and polymer substrates.

#### Sustainability

Environmental responsibility has become one of the defining themes of modern manufacturing and for KURZ it is a responsibility it takes seriously.

'I've been with KURZ for two years, and I can honestly say it is a company that lives by its values. We make excellent products, that's for sure, but we also try to be good to the environment, and we are an active part of the local community,' Gerben van Wijk, Head of Business Area Security Banknotes, summarises: 'We will be going beyond down-cycling the PET we use into garden chairs and trashcans and into true recycling – to reuse the spent PET as carrier films.'

True PET recycling – re-using recovered carrier film for subsequent production – remains technically demanding, but it represents a real shift toward circular manufacturing. Combined with renewable-energy investments, reducing still further the use of volatile organic compounds and improved filtration to reduce hazardous waste, KURZ's environmental credentials are among the strongest in the sector.

And as Christian Schulz puts it, 'I'm increasingly working on ways to further reduce our impact on the environment. I like that!'

#### 30 years and still growing

To mark its three decades of production at Sulzbach-Rosenberg, KURZ and OVDK produced a commemorative Tree of Life note series. Each design interprets the tree motif through different materials and processes — from metallic brilliance to translucent pastel colours (see CN September 2025).







Tree of Life (© KURZ).

The project also showcased Sulzbach-Rosenberg's technical breadth — combining complex optical structures, perfect registration and precision finishing within a single production line. Talking about the capabilities that he can call on at the Sulzbach-Rosenberg plant, Marko May put it this way: 'we have all of the deposition and coating equipment you would expect. But we continue to invest in other specialist techniques that you might not.'

Few companies in the banknote industry are as commercially disciplined as KURZ. Its market coverage is genuinely global, and it has a deep understanding of both technical and commercial dynamics.

# 2025 Summarised: That Was the Year That Was...

#### **■ JANUARY**

The first issue of 2025 explored opportunities for a digital transformation in currency management through the use of data and analytics.

Counterfeit specialist Duncan Reid challenged the traditional parts per million (ppm) metric for measuring counterfeits, suggesting it is flawed and proposing a new approach based on the number of banknotes actually used in transactions.

The Royal Canadian Mint partnered with enim Technologies, a company that extracts precious metals from electronic waste, to examine whether these recovered materials could be incorporated into future coin production.

Other news included an enhanced acquisition offer for De La Rue, an upgrade by Pakistan's Security Papers Ltd to support a new banknote series, and the Dutch National Bank's return to its headquarters following a five year renovation. Inorcoat announced a new coating plant in Poland, while ATMIA and the ATM Security Association announced their merger.

Komori released its Integrated Report 2024, outlining its longterm strategy for innovation, sustainability, and global expansion.

On the Record featured Luong Ngoc Anh of Q&T HiTech Polymer, discussing the company's development of its POLYSECURE® polymer substrate, a new factory, and its contracts for three Vietnamese denominations as it pursues wider international markets.

The issue concluded with updates on new banknotes and coins from Macau, Belize, the Falkland Islands, Kazakhstan, Namibia, and Belarus.

#### **■ FEBRUARY**

A new Federal Reserve report showed that counterfeit US dollar circulation is lower than previously estimated, along with analysis of its economic effects. In contrast, the ECB's annual statistics indicated a renewed rise in euro counterfeits. Responding to January's discussion of flaws in the ppm counterfeit ratio metric, Antti Heinonen offered alternative measurement approaches.

Latest news included President Trump's call to end penny production, Applied DNA Sciences' withdrawal from the authentication sector, Saudi Arabia's launch of a new riyal currency symbol, and

partnerships between ATMIA, EURICPA and ESTA.

Annual results from major cash production and management companies showed continued post-pandemic recovery. Our global central bank round-up covered annual reports from Korea, Uruguay, and Venezuela.

In On the Record, Wolfram Seidemann of Giesecke+Devrient discussed how the company's CBDC initiatives allow it to operate across two potentially competing public payment markets.



Covestro named its new banknote polymer substrate Autentium, and a Reconnaissance white paper highlighted how optimised cash management can cut financial and environmental costs.

Winners of the HSP EMEA Regional Banknote Awards included the UAE, Kenya, Eswatini, and, for their house notes, Hueck Folien, Oberthur Fiduciaire, and BNB Corp.

Updates also covered China's Year of the Snake commemorative note and developments from several countries including the Bahamas, Zambia, Pakistan, Armenia, Zimbabwe, Russia, Trinidad and Tobago, and Libya.

#### MARCH

Marking International Women's Day, we wrote that – despite progress in central banks and producers – gender parity in the currency industry still lags.

Antti Heinonen examined how global crises and digitisation are reshaping banknote stocks and flows.

A new state-of-the-art cash centre opened in Angola, while construction began on a new Federal Reserve cash centre in New York.

Pakistan's state papermaker is partnering with G+D on expansion, and Oberthur joined with Giriraj Foils to supply security threads and features for India.

We continued our review of annual results from listed sector companies, which painted a broadly positive picture,

with mints also reporting strong 2024 performances. In contrast, we explored the causes for the decline of India's AGS Transact Technologies – once praised for innovation but now facing insolvency.

The UAE introduced a new currency symbol for the dirham, Germany's Cash Forum backed cash rounding, potentially paving the way to drop 1 and 2 cent coins, and Schuler rebranded as ANDRITZ Schuler.

Sustainability developments included Biobanknote's planned comparative LCA, JET's sustainability-focused procurement for euro banknotes, and the Bank of Korea's efforts to recycle banknote waste.

Technological advances featured colourchanging smart materials from the University of Manchester and Security Fibres, and new digital security features from Orell Füssli and Koenig & Bauer Banknote Solutions.

We also spotlighted notable women on banknotes and reported note and coin updates from Namibia, the UAE, Solomon Islands, Iran, Thailand, Australia, and Libya.

#### **■** APRIL

In 2025, Microsoft reached its 50th anniversary, highlighting how tech giants are still comparatively young compared to long-established mints, banknote papermakers, and security printers.

De La Rue's long period of uncertainty ended when it agreed to a £263 million acquisition by US-based Atlas, marking its exit from public markets.

Elsewhere, Tuvalu installed its first ATM, while the Royal Mint invested in precious metal recovery firm Excir. Cash management company GardaWorld completed the largest private buyout in Canadian history, and Spain became the latest country to discuss introducing cash rounding policies.

A series of central bank report summaries covered developments in Belize, Denmark, Ecuador, the ECB, Paraguay, and Peru.

The On the Record interview featured Michael Kasch of Orell Füssli, discussing the Swiss banknote printer's expansion into digital security. Koenig & Bauer also advanced its digital authentication capabilities with a new division, Vision and Protection.

A study of Kyrgyz commercial bank cashiers suggested the ideal banknote blends multiple security features.

Updates on banknotes and coins included new or upcoming issues in Kazakhstan, Bermuda, BCEAO, Guernsey, Papua New Guinea, Belarus, Lebanon, Ukraine, Cape Verde, and Russia. Coverage of the MDC Coin Awards noted the US Mint winning best circulating coin, with Monnaie de Paris and the Bavarian Mint as runners up.



#### ... That Was the Year That Was...

#### **■** MAY

'A Riddle, Wrapped in a Mystery, Inside an Enigma' is how we described the differences in production and circulation volumes between the euro and the US dollar.

Antti Heinonen questioned the commonly quoted estimate of 900 billion notes in circulation globally and proposed his own calculation.

On the Record introduced Dr Aleta Richards, Crane Currency's new President, who shared her early impressions of both the company and the fast evolving currency industry.

The global news round-up covered the US Treasury's decision, finally, to discontinue the penny, Lithuania's introduction of coin rounding, and new momentum toward an African Monetary Union. It also included discussions in the Philippines on reintroducing abaca in polymer form to banknotes, and a financial boost to Swiss cantons from unreturned legacy banknotes.

A review of central bank and cash related reports spanned Germany, Hong Kong, Korea, Spain, Sri Lanka and Portugal.

Industry developments included sustainability initiatives from Koenig & Bauer Banknote Solutions and Authentix's launch of the GemVision™ Camera System, a CDI2 fitness solution aimed at reducing currency management costs and combating counterfeiting.

The IACA Excellence in Currency Awards 2025 recognised Bangko Sentral Pilipinas, Monnaie de Paris, the South African Reserve Bank and Glory, alongside two new Currency Hall of Fame inductees—Richard Haycock and Antti Heinonen.

The new Caribbean guilder featured as Banknote and Coin of the Month, with further updates from Kazakhstan, Thailand, Guinea, Bangladesh and Syria. And to mark World Bee Day, the issue also showcased recent notes and coins depicting the stripey stingers.

#### **JUNE**

The Currency Conference keynote by Mark Gould, Chief Payments Executive at Federal Reserve Financial Services, described cash as a 'handshake', highlighting the human connection absent from digital payments. Nikki Strickland of De La Rue noted that rising global uncertainty continues to drive increased cash demand.

The National Bank of Belgium inaugurated its new cash centre, while De La Rue confirmed stable operations and renewed

confidence following its acquisition by Atlas and delisting from the Stock Exchange.

Industry movements included a strengthened Nanovista collaboration between Hueck Folien and IQ Structures, Loomis' acquisition of payment services company Burroughs, and Brinks' strategic investment in KAL ATM Software.

The central banks of Montenegro and Croatia signed a banknote exchange agreement, and the Royal Canadian Mint was again recognised as a Good Corporate Citizen. Bulgaria cleared its final hurdle to adopt the euro, becoming the 21st euro area member.

Following a strong year driven by Japan's new series, Glory reported a sales dip. Bank Indonesia found an innovative use for shredded banknotes by turning them into medals.

Central bank updates covered Canada, Chile, Costa Rica, and India.

Q&T unveiled POLYSECURE® SHIELD, in which OVDs are embedded into the layers of polymer. Fusion™ polymer from Spectra Systems made its market debut in a new house note from Casa da Moeda do Brasil, which is also the first to feature a new digital watermark feature – Kryptonome™ – from Oberthur.

New themes are being sought for Bank of England notes. Other note and coin news covered Mauritius, Boliva, Bangladesh, and Trinidad and Tobago. Winners of the Regional Excellence in Banknote Awards for Latin America included Bermuda, Curaçao and Sint Maarten, and Guatemala, while winner of the House Note Awards was Casa da Moeda do Brasil.

#### **■** JULY

We highlighted Currency Fast Forward, Giesecke+Devrient's technology symposium, exploring the future of money and G+D's role in shaping it. We also considered whether involving the public in choosing themes and designs for new banknote series, as the ECB and Bank of England are doing, is beneficial.

In the news, Oberthur Fiduciaire launched its Sustainable Banknote Program, aiming to build a better world 'one banknote at a time', the Swiss National Bank announced a new cash centre, Austria's OeNB is addressing rural cash access gaps with its own ATM fleet, and Pakistan merged its banknote and state security printers.

Emmanuel Devaux and Adrien Zarantonello of Banque de France discussed how the institution (printer and papermaker as well as central bank) is investing in the production and distribution of cash even as others scale back.

Two articles focused on sustainability: G+D's Banknote Fiber Extraction technology, allowing banknote fibres to be recycled up to 16 times, and CCL Secure's work in Latin America to recycle up to 100% of end-of-life polymer notes.



We also covered Crane Currency's new cBREEZE™ micro-optics thread technology that offers more customisation options, and Spectra Systems' integral Level 3 feature for its Fusion polymer substrate, along with news of the ECB's design competition for the next euro series, Costa Rica's ambitious issue programme for its new coins, and new issues in Namibia, Mauritania, Eswatini, Belize and Qatar.

#### AUGUST

This edition explored how the cash industry can learn from major tech disruptors such as Amazon, Netflix and TikTok by adopting inventive business models and embracing innovation.

Also, following the recent decision in the United States to stop minting the penny, Antti Heinonen reviewed worldwide shifts between coin and banknote issuance and the reasons countries choose one form over the other.

The issue also featured an interview with Alvaro Gonzalez Ricci, Governor of Banco de Guatemala, on how the award winning 1 Quetzal commemorative note has strengthened public confidence in both the central bank and the national economy.

The news round-up covered Iran's plan to remove four zeros from its currency (again), Syria's upcoming new series, Zimbabwe's progress on its monocurrency strategy, Uganda's struggle to transition the lowest value banknote to a coin, South Sudan and the UAE's cooperation on banknote printing, and Ukraine's intention to withdraw its lowest denomination coin.

On the banknote and coin front, we reported on the Swiss National Bank's public survey for its new series, and highlighted new issues from Bolivia, the UK, Falkland Islands, Pakistan and Mexico.

Technology news included Koenig & Bauer's NotaLive visualisation tool, a new Chinese technique for handling sequential banknotes, and a cryptonote range from Fastex featuring security by Authentix, alongside recent house notes from

Bundesdruckerei, PWPW, China Banknote Printing and Minting, and Casa da Moeda do Brasil.

#### **■ SEPTEMBER**

We continued our coverage of G+D's technology symposium – highlighting advances in data driven decision making, improved understanding of banknote quality, and ways to build resilience into the cash cycle by rethinking cash centre operations.

In global currency news, the US Federal Reserve released its 2026 print order, showing a slight drop from 2025 despite continued growth in cash circulation. The ECB advised the public to 'keep calm and carry cash' during crises, while the Banque de France and BCEAO hosted a seminar on combating counterfeiting.

On the corporate side, the Royal Mint reported a difficult year with rising losses. KURZ marked 30 years of banknote foil production, and JURA showcased future focused innovations in security printing.

Technology coverage included PerceptNote, an AI tool that predicts human perception of banknote features, and insights into China's green production transformation at Nanchang Banknote Printing, part of CBPM.

The Excellence in Optical Technologies Awards 2025 honoured leaders from Louisenthal, De La Rue, and the ECB, with additional awards to Crane Currency, IN Groupe/SURYS and CBPRTI.

New banknotes were reported in Thailand, Brunei, Papua New Guinea, Guatemala, and Botswana, alongside examples of charitable coins and banknotes.

The issue also explored recent innovative house notes – Crane's Beauty of Life and KURZ's Tree of Life – and reviewed vertical vs horizontal banknote trends using DataVault analysis.

#### **■ OCTOBER**

This month's issue considered whether provocative imagery and suggestive wording – as successfully used in American Eagle's Sydney Sweeney advertising campaign – could help promote cash.

It also featured Antti Heinonen's annual update on global banknote demand, and highlighted a reforestation initiative using banknote waste to help restore parts of the Amazon rainforest.

Industry news included the partnership between KURZ and Authentix to scale production of the QUANTUM security stripe, the impact of discontinuing US penny production on coin availability, and the Bank of Japan's update on its new banknote series one year after launch.

Additional developments covered India's papermaker BNPM achieving record output, an ECB–Kosovo anticounterfeiting agreement, Honeywell's spin off of its advanced materials division, the opening of the Kyrgyz central bank's new headquarters, and Switzerland's decision to enshrine cash as a constitutional right.

The issue also examined interim financial results from listed companies across the sector as a gauge of overall market health.

In our on the Record feature, Leila Matroos-Lasten and Nancy van der Wal of the Central Bank of Curaçao and Sint Maarten explained how effective communication and strong design helped build public acceptance for the new Caribbean guilder.

Finally, we reported on new and upcoming banknote and coin issues worldwide, among them Brunei, Iran, Luxembourg, Poland, Russia, South Sudan, Switzerland, Syria, Taiwan, and the UK, plus a new Galapagos-inspired house note from CCL Secure.

#### ■ NOVEMBER

We explored the decline of cheques and considered whether lessons from their disappearance might apply to the future of cash.

On the Record featured Mark Stevenson and Sina Gebroedt of Koenig & Bauer Banknote Solution discussing MoneyBox, a global financial literacy initiative developed with Aflatoun that uses banknotes as learning tools for children.

Other features included SICPA's vision for the banknote of the future and an examination of Pakistan's cash cycle as the country prepares to introduce a new banknote series.

Industry updates covered the final production of US pennies, Hueck Folien's new high throughput, energy efficient metallisation line, and SICPA's partnership with Commstack to enhance mine-to-market traceability.

Additional developments included BNPM of India's plans to expand banknote paper production, KOMSCO's launch of consumer products made from banknote waste, criticism of the Central Bank of Nigeria's reissue of unfit notes, and Indonesia's removal of three zeros from the rupiah.

Giesecke+Devrient's new BPS® Mevo® high speed processing system and the compact BPS® C7 for smaller cash centres were the technology focus.

Note and coin news focused on Namibia's currency redesign, alongside new issues

from Bhutan, Bolivia, Czech Republic, Fiji, Madagascar and Tajikistan.

The issue concluded with reviews of major November conferences, including Mint and Print, the Asia and Americas Cash Cycle Seminars, and the CashTech Awards.

#### **■ DECEMBER**

In our comment this month, we look at why demand for banknotes is currently booming, with order books full, at a time when all the talk is of the decline of cash. 'Reports of my death are greatly exaggerated' was Mark Twain's famous comment on reading his obituary. Perhaps the same could be said of cash.

We also look at the central banks, SPWs and commercial printers that have recently completed major investments in new, upgraded or expanded banknote production capability, or are in the process of doing so – roughly a third of them.

On the company front is an in-depth profile of KURZ, which this year celebrated 30 years of security foil production. Oberthur Cash Protection concluded the acquisition of Feerica, with the new merged entity to be known as Oberthur Feerica, coin demand bounced back for the Royal Australian Mint but no Australian banknote orders for Note Printing Australia, and SPMCIL reported a record year, with banknote and coin production both up.

Elsewhere, G+D strengthens its portfolio in its Financial Platforms segment with the acquisition of a payment processor in Germany, Peruri signs a cooperation agreement with Sudan Currency Printing Press, Coinstar introduces a debit card and digital wallet to which loose change can be credited, India takes issue with the map on Nepal's new banknote laying claim to disputed territory, Cuba relaxes the rules on foreign currencies, an auction of the final US pennies to roll off the presses raises \$17 million, and unverified reports suggest that Kyrgyzstan has begun to print its own banknotes.

We review the recent Future of Cash and HSP Asia conferences, along with details of the winners of the HSP Asia awards – among them the Bank of Japan, Royal Monetary Authority of Bhutan, the Bank of Thailand, the National Bank of Tajikistan and, for the house notes, KOMSCO and Peruri.

We also look more closely at Tajikistan's new commemorate banknote, along with coverage of note and coin developments in Bangladesh, Denmark, Fiji, Lesotho, Moldova, Mongolia, Paraguay, Samoa, Turkmenistan, Ukraine, and the US.



#### Resilience and Viability the at Future of Cash

The Future of Cash Conference 2025 took place from 3–5 November in Warsaw, an especially symbolic location given Poland's rapid economic growth since joining the EU in 2004 and its central role in supporting Ukraine following Russia's 2022 invasion.

This backdrop highlighted the conference's overarching theme: the resilience and future viability of the cash cycle amid global uncertainty.

#### **Rethinking ATM Business Models**

A research seminar led by Franz Seitz of the Weiden Technical University of Applied Sciences emphasised the continuing importance of ATMs in maintaining access to cash. Despite public commitments by governments and central banks, ATM numbers are declining in most mature economies. The seminar pinpointed a key structural problem: interchange fees – the primary business model for ATMs – no longer ensure economic sustainability.

Speakers including Guillaume Lepecq of Cash Essentials and Matt Sykes from CPT Group stressed that ATMs remain integral to financial access, especially for under served populations and during crises. However, interchange fees, set largely by card schemes that have limited engagement with the cash cycle, now often work against ATM operators rather than supporting them. The call for reform centred on aligning fees with actual costs, improving transparency, and restoring fairness to the system.

Several international experiences offered contrasting perspectives. Roel van Anholt of De Nederlandsche Bank described how Dutch regulation unexpectedly increased interchange fees in 2024. From India, Findi's Nicholas Smedley outlined a model in which the Reserve Bank of India raised regulated interchange fees by 27% over four years – resulting in 10-15% annual ATM growth. In the UK, LINK sets fees through board oversight and offers targeted subsidies to protect access in rural communities, while also observing a rise in average withdrawal values since the pandemic.

Marek Szafirski from Euronet illustrated Poland's journey: after 15 years of negotiation among stakeholders – including the central bank, Ministry of Finance, Visa, Mastercard, Blik, and independent ATM deployers – reforms finally took hold, offering a pathway toward a more sustainable fee structure.

The seminar concluded with a collective call to action: proven solutions exist, but raising awareness among regulators and policymakers is essential to protect ATM access.

#### The evolving role of cash

In the opening session, Olivier Strube (ECB), Shaun O'Brien (FedCash Services), and Ronan McClintock (Bank of England) explored trends in cash demand and access across Europe and the US. All three regions are experiencing a rebound in cash in circulation following a post-pandemic slowdown.

In the euro area, two key draft regulations are under parliamentary review: one to reestablish the principle of mandatory cash acceptance, and another to empower the ECB to launch a digital euro designed to complement – not replace – cash.

In the US, demand for cash remains steady, with an increase in precautionary holdings. The Federal Reserve is studying ATM recyclers to distinguish transactional demand from efficiency gains.

In the UK, the Bank of England is restructuring the wholesale cash cycle to strengthen resilience and sustainability.

#### Cash in crises

The conference devoted considerable attention to cash during crisis scenarios. Barbara Jaroszek of Narodowy Bank Polski explained Poland's extraordinary response to surging cash demand at the onset of the Ukraine war, when daily withdrawals reached 17 times their usual levels. Marc Schwartz of Monnaie de Paris contextualised this within 'new currency wars,' in which geopolitical tensions and the rise of private digital currencies are reshaping global monetary competition.

Franz Seitz introduced the '4 A's' – access, availability, acceptance, and affordability – as the pillars of cash resilience.

Discussions proposed adding a fifth A: affection, capturing the public's emotional and cultural connection to physical money.

Affordability was explored further through Malte Krüger's Bundesbank research, which examined non-monetary costs such as withdrawal time and the privacy tradeoffs associated with digital transactions.

Spain's perspective was provided by Felix Redondo (Banco de España), who shared lessons from crises including floods in Valencia and a large scale power outage – both underscoring cash's importance when digital systems fail.

ECB economist Alejandro Zamora Pérez offered a comparative analysis across four categories of shocks: health, geopolitical, infrastructure, and sovereign debt. His conclusion: during crises, efficiency

becomes secondary to resilience, making cash the 'spare tyre' of the payments system.

Innovative crisis response tools presented included tamper evident safe bags (Netherlands), cardless withdrawal platforms (from PIN4), renewed central bank control of cash logistics (Sweden), and the emergence of banking hubs as community cash anchors (UK).

#### Imagining the future of cash

Forward looking sessions highlighted technological and societal transformations shaping cash's future. Diederik Bruggink (ESBG) discussed how central bank digital currencies (CBDCs) may evolve alongside physical cash rather than replace it. Andrzej Nowak of SICPA presented radical concepts for next generation banknotes, such as personalised notes, ATM printed notes, and crisis specific designs (see CN November 2025).

Sina Grebrodt of Koenig & Bauer Banknote Solutions showcased the MoneyBox financial literacy toolkit aimed at teaching children about earning, spending, saving, borrowing, and budgeting through hands on activities (again, see CN November 2025).

GeldMaat's Matthée le Cointre shared insights from scenario planning exercises that propose four divergent futures, from government controlled utilities to heavily consolidated commercial cash networks. Barry Röhrs provided an African perspective, noting that many 'digital' fintechs in Africa actually depend on cash heavy revenue streams due to the region's economic structure; success often lies where cash and digital intersect.

#### Will Gen Z use cash?

A recurring theme throughout the conference was generational change. Pascal Wicht (SICPA) explored how Gen Z's relationship with money reflects broader cultural evolution rather than a linear decline in cash use. Young Europeans continue to use cash, but differently from earlier generations – more selectively, more purposefully, and often with a heightened awareness of privacy and autonomy.

Alejandro Zamora Pérez reinforced this through research showing that age, time period, and cohort effects can be separated when analysing euro area cash use; behaviour is shaped more by context than by a simple linear trend away from cash.

A panel discussed how industries could encourage cash use among younger adults by addressing their values – convenience, autonomy, sustainability, and trust.

The discussions highlighted that cash remains a meaningful anchor for younger people, even in increasingly digital economies.

# **HSP Asia 2025 Reaches New Heights**

High Security Printing<sup>™</sup> Asia (HSP Asia), held in Kuala Lumpur from 1-3 December 2025, delivered the strongest performance in the event's history. The conference attracted 337 delegates from 145 organisations across 51 countries, including 34 governments and central banks.



The conference was held in Malaysia for the third time (following successful editions in 2006 and 2010), and reaffirmed HSP Asia as the region's most trusted platform for innovation, insight, and partnership across currency, identity, and secure documentation.

#### **Engaging programme with key openings**

The programme opened with a workshop from De La Rue for central banks entitled 'Currency - The Banknote Balancing Act: Making Informed Currency Choices', and another on cash sustainability, hosted by Reconnaissance and the International Currency Association, that explored practical steps to reduce the environmental impact of cash and the wider cash cycle.

The main conference opened with a welcome address from Abd Rahman Abu Bakar, Assistant Governor of Bank Negara Malaysia, who explained that while e-payments may have increased at a compound annual growth rate of 17% between 2004 and 2024, there is still RM 171 billion of banknotes in circulation and that in 2024 the growth rate was 5.5%.

Faced with an increasing counterfeiting threat, BNM is focused on security and innovation. Alongside that it is working on automation and innovation, particularly integrating AI into how it is managing currency. The use cases currently being explored are predictive analytics to spot crime and to deliver smart dashboards for the management of cash in circulation. Sustainability is also an area of focus.

Following the opening address, BNM's Shangari Subramaniam Beames and Syahrir Nadzmin Zawawi presented on how the central bank is working to recycle banknotes returned from the cash cycle. While 70% can be reissued, the unfit notes are currently burnt for energy, generating the equivalent of enough to provide energy to 60 homes for a year.

BNM are now going beyond that to find ways to recycle both polymer and paper notes. Polymer can be mixed with waste from other industries to create new products. BNM has found waste companies willing to mix shredded paper waste with other paper waste to create new commercial paper. 257 tonnes of virgin polymer and 544 tonnes of virgin wood pulp have not had to be used by the substitution of recycled banknote waste, resulting in a saving of 1,561 tonnes of CO2e.

There followed presentations from Ikromi Sirjiddin Salom, Deputy Chairman of the National Bank of Tajikistan, on the new commemorative 100 somoni note (see page 12), and Ross Knight of Giesecke+Devrient on Compass Banknote Intelligence, an analytics tool which collates data from the company's processing systems and generates easy and fast data insights into how banknotes perform in circulation.

The programme then split into two parallel tracks covering currency and identity documents, before delegates came back together for a final joint closing session on Counterfeits in Currency and ID. In total, 38 presentations were delivered over the course of the two days.

#### **Currency highlights**

With the US dollar circulating so widely around the world, the US Federal Reserve Board has a dedicated Currency Education Program (CEP) that works with partners to maintain global cash users' confidence in the US currency, and insights from the

work it does across both spenders and cash handlers in Asia were shared.

The good news is that user confidence is high for 77% of consumers. Less good is wariness of accepting \$20 and \$50 notes. A mix of digital - website, online tests and training, cash assist mobile app, podcasts, online training sessions - and physical support - pamphlets, quick reference guides, quick glance cards, in-person training sessions - is available to users.

India remains a heavy user of cash. Bharatiya Reserve Bank Note Mudran Private Limited (BRBNMPL) supplies 20 billion notes a year from its two production sites at Mysore and Salboni. It is now planning to move beyond being a domestic producer with plans to bring its 'concept to cash ecosystem' to the global market by offering both module-specific services (design, inks, lab testing, consultancy) and turnkey end-to-end solutions.

De La Rue provided an overview of the 40+ countries in Asia with its 37 issuing authorities, 4.3 billion people and 233 circulating denominations. Over half of the world's banknotes are in Asia, and the traditional drivers of banknote volumes have been increasing worldwide with inflation running at 4%, population growth at 1% and GDP at 3.%. The year-on-year increase in global banknote volumes is 5.5%.

China Banknote Printing and Minting is pioneering the use of AI in banknote production through its Intelligent Banknote Quality Analytics (IBQA) programme, which aims to minimise manual inspection and optimise production. The system is designed to give immediate feedback for adjustments to be made to machines in real time, based on data both from the online quality inspection systems and the end of process single note inspection machines.

In total, the currency track featured 18 presentations, several of which are or will be covered in this and subsequent issues of Currency News™.

#### Two perspectives on counterfeiting

The final session was on counterfeiting from both a currency and an identity perspective. Kerre Corbin of Kerrency explained some of the latest trends in currency counterfeiting (including harvesting of features from low value notes to put onto high value fakes, and prop money that is beginning to flood the market). Michael van Gestel of Entrust showed a dystopian future where - thanks to Al-generated deepfakes and synthetic identify fraud - nothing is as it seems.

The next edition of HSP Asia will take place from 30 November to 2 December 2026 in Hong Kong, continuing the conference's goal to promote secure printing across the region.



# The 100 Somoni – a Page of Tajikistan History

At the recent HSP Asia conference, Tajikistan's new 100 somoni note celebrating the 25th anniversary of the national currency won the award for Best New Commemorative Banknote.



The somoni is one of the most secure currencies in the world, and this banknote follows the principle, being adorned with leading edge security features RollingStar Patch and RollingStar® Venus with both Color MotifFlip® and ColorFlip® (registered) on the back. It was printed on 100% organic cotton by Giesecke+Devrient.

Tajkistan is a mountainous landlocked country in Central Asia bordering Afghanistan to the south, Uzbekistan to the west, Kyrgyzstan to the north, and China to the east. Its capital is Dushanbe and it has a population of 10.7 million

After Tajikistan gained independence from the Soviet Union in 1991, the Soviet ruble remained in use until the end of 1993. In 1994 it was replaced by the Russian ruble, and on 6 May 1995, the Tajik ruble appeared. The current national currency - the somoni (TJS), named after the 9th century ruler Ismoil Somoni - was introduced on 30 October 2000.

The latest iteration of banknotes - issued in 2022 - is produced on sustainable substrates - the 10 somoni on G+D's Green Banknote<sup>™</sup> Hybrid and the 20, 50 and 100 somonis on Hybrid® substrate. The 200 and 500 somonis are produced on cotton substrate. All notes feature a varifeye ColorChange LEAD® stripe and RollingStar® security thread.



The new 100 somoni is Tajikistan's first commemorative banknote, and the first in the world to feature a RollingStar Venus thread.

The portrait on the obverse shows Ismoil Somoni (849-907) of the Samanid dynasty, under whose leadership Tajikistan embarked on a national and cultural revival. He concentrated on art and the well-being of the people, community improvements, science, and cultural development. In particular, he showed commitment to the most important pillar of the Aryan state the responsibility of the state to provide the necessary conditions for the development of the country.

It was the Samanids who laid the foundations for the revival of the nation and culture, preserving the native language, and protecting national identity and cultural values. Today, the culture and civilization of the Samanids dynasty is not only the historical heritage of the Tajik people but all the peoples of Central Asia. Ismoil Somoni was buried in the Samanid Mausoleum (the building next to his portrait) in Bukhara (which is now in neighboring Uzbekistan, but which has significant Tajik heritage).

The reverse of the banknote depicts the new parliament building in Dushanbe. The fountains in the square in front of it and the base of the nearby Istiklol Monument (opened in 2022 and a tribute to Tajikistean's independence and culture) are octagonal, like many ornaments in the country. This shape forms the basis for the design of the note's frame, some underlying structures, and even the signs for the visually impaired.

In terms of security features, RollingStar Venus is a registered 6mm micro-mirror security thread in orange and violet. Its middle window features a Color MotifFlip® with striking change of color and motif; the orange 100 (the denomination) disappears

into the violet background while a second motif 'БМТ' (which stand for 'Бонки Миллии Точикистон', ie. National Bank of Tajikistan) appears out of the violet background in orange in the same area.



The upper and lower windows feature ColorFlip - an eye-catcher in which ornaments typical of Taiik culture show dynamic effects and flipping colour (orange and violet).

Similar ornaments can be also observed in the window grille on the 'corners' of the new parliament building, as well as on the Qubbas (domed structures) above them. The same ornament surrounds the flipping motifs in the middle window, creating a connection between all three windows.

The RollingStar Patch, meanwhile, features demetallisation and a ColorShift effect from violet-to-green. The background shows a dynamic pattern. In the centre can be seen a clear flip effect from '100' to '5MT'.



Chairman of the National Bank of Tajikistan, Tolibzoda Firdavs Nazrimad, celebrating the 25th anniversary of the national currency.

The National Bank of Tajikistan placed paramount importance on integrating advanced security technologies and ensuring the superior quality of the national currency for this particular banknote.

'From the moment it entered circulation, this banknote was warmly embraced by the Tajik community', commented the Bank. 'We can confidently assert that the somoni will perpetually embody the unity, pride, and developmental progress of the independent Republic of Tajikistan.'

'Commemorative banknotes are not just money, but pages of our history that we hold in our hands' it added.

## **Note and Coin News**

#### Turkmenistan's New Banknotes Symbolise Peace

The Central Bank of Turkmenistan has unveiled a new series of banknotes, designed and printed by De La Rue on SAFEGUARD® polymer, to coincide with 30th anniversary of Turkmenistan's recognition as a permanently neutral state. Included in the upgrade are the three lowest denominations - the 1, 5, 10 manats - along with a new high denomination 200 manat. The previous highest denomination was the 100 manat, and the series also includes 20 and 50 manats.



The design of Turkmenistan's banknotes dates to 2009, when - following a currency revaluation – the new manat was introduced, but there have been several subsequent modifications, the most recent being in 2020.

The new 1, 5, and 10 manat notes retain the existing designs and colour schemes, but each now includes the emblem of the International Year of Peace and Trust. The newly introduced 200 manat note depicts the Arkadag Monument (a gold statue standing as a tribute to Turkmenistan's President Gurbanguly Berdimuhamedow) on the front and Arkadag City's mayoral office on the reverse.

The window of the 200 manat showcases an optical security stripe, visible on both sides, on the top of which the SPOTLIGHT® feature displays two stars that float in opposite directions when tilted. The centre of the stripe highlights the Arkdag monument, surrounded by dynamic PUREIMAGE™ animated colour effects. At the bottom, the crescent and stars exhibit an achromatic colour shift between silver and black when moved.

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As noted in the November issue of Currency News™, the Reserve Bank of Fiji (RBF) is issuing a new family of Fijian dollar banknotes, which was officially launched at a special ceremony in Suva, the capital of the Pacific Island nation, on 2 December.

The notes – in denominations of \$5, \$10, \$20, \$50 and \$100 - were designed and printed by Crane Currency, and have all been printed on CCL Secure's GUARDIAN™ polymer. They retain the familiar colours of Fiji's existing banknotes to maintain familiarity and avoid confusion, while incorporating accessibility features for the vision-impaired, as well as advanced security in the form of GUARDIAN-specific features such as GSWITCH™, CAMEO™ and IRISSWITCH™, along with a MOTION SURFACE® stripe from Crane.



HE President Ratu Naigama Lalabalavu of Fiji (left), and RFF Governor Ariff Ali with the new banknotes (source: Reserve Bank of Fiji).

The front of the notes continues to showcase Fiii's flora and fauna, while the reverse has been redesigned to highlight Fiji's national heritage.

The new series will feature as subject of the Banknote of the Month in the January 2026 issue, which is when the notes will be issued into circulation.

■ The Central Bank of Paraguay will introduce a new family of guaraní (Gs) banknotes in 2026 to mark the currency's 80th anniversary, featuring Guarani culture on the front and Paraguay's ecosystems (flora/fauna) on the back. The Guarani are a group of culturally-related Indigenous peoples of South America, and Guarani is one of Paraguay's two official languages. It is also the name of the currency.

The new notes will be in different sizes with features for the visually-impaired, upgraded security and increased durability. They are currently denominated in Gs 2,000, 5,000, 10,000, 20,000, 50,000 and 100,000.

The current designs date back to the mid-2000s, although there have been subsequent upgrades to the security features. Moreover, a polymer Gs 2,000 was introduced in 2009 and a polymer Gs 5,000 in 2013. It is understood that the Gs 10,000 of the upcoming new series will also be produced on polymer.

■ The Central Bank of Samoa has completed its currency modernisation program, issuing new \$50 and \$100 tālā banknotes, which mark the second and final stage of its transition to polymer banknotes.

Following the successful issue of a commemorative \$10 polymer note in 2019, CBS's modernisation program began in December 2023 with the conversion of the \$5, \$10, and \$20 tālā banknotes to De La Rue's SAFEGUARD®. De La Rue also designed and printed the new notes.



The new banknotes feature a clear window, GEMINI™ and BLINK™ (which, under UV light, reveal fluorescent colours and a prominent denomination number in a phosphorescent green block).

They also include ARGENTUM™ - a specialist silver ink - and IILLUMINATE™, a combination of matte and iridescent inks which injects vivid colour and unique texture into the polymer window, along with a tactile feature in the form of embossed raised dots in a pattern unique to each denomination.

■ Danmarks Nationalbank (DNB) has begun issuing Denmark's new coins featuring the effigy or monogram of the current reigning monarch, King Frederik X. Development of the new coins began in January 2024, following the abdication of his mother Queen Margrethe II and his subsequent accession to the throne, and were produced by Fábrica Nacional de Moneda y Timbre.

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© DNB.

The 20, 10, 5, 2, and 1 krone coins have been redesigned, while the 50 øre coin retains its current appearance as it does not bear any symbols referring to the current monarch. The five new coins are a continuation of the existing sequence of coins and have the same sizes, designs and materials. The 5, 2, and 1 krone coins also continue to feature a hole in the centre, with DNB one of only four issuing authorities in the world to include such a design element.

The obverse of the 20 and 10 krone coins feature the King's effigy, whilst the reverse depicts the shield and crown from the royal coat of arms. The obverse of the 5, 2, and 1 krone coins feature the King's monogram, while the reverse depicts the face value of each coin and the text 'Danmark'.

The reverse of the three redesigned lower denomination coins also portrays a new icon consisting of four octagons joined into a single shape. This icon pays homage to the four palaces situated around the central octagonal courtyard of the Amalienborg, the official residence of the Danish royal family.

■ The National Bank of Moldova (NBM) is gradually withdrawing the 1, 5, and 10 lei banknotes from circulation as they become worn, replacing them with coins of the same value.

The NBM introduced the coins in 2018, as well as a 2 lei coin, for which there is no corresponding banknote. It currently issues nine denominations of banknotes, and nine of coins - among the highest number of any issuing authority in the world.

Bangladesh Bank has introduced new 500 taka banknotes with enhanced security features, part of the country's redesigned currency series that has already seen the issue of new 20, 50, 100, and 1,000 taka notes. New versions of the 2, 5, 10 and 200 taka notes are yet to come.

The theme of the series is 'Historical and Archaeological Architecture of Bangladesh'. The notes of the previous series, introduced in 2011, feature the first President of Bangladesh, Sheikh Mujibur Rahman. The change is the result of the

overthrow of the Prime Minister Sheik Hasina, his daughter, in 2024.

His portrait has been replaced with an image of the Central Shaheed Minar (a national monument commemorating the Bengali Language Movement) on the front, and the Bangladesh Supreme Court on the reverse. The face of a Royal Bengal Tiger appears in the watermark, along with an electrotype of the denomination numeral.

Other security features include SPARK, a 4mm wide colour shifting thread, UV features, and raised intaglio dots for the visually-impaired.

■ The Bank of Mongolia has issued a 100,000 tugrik banknote to mark the 100th anniversary of the introduction of the national currency. A portrait of Genghis Kahan, Mongolia's most iconic historical figures, appears on the front, and images of warriors on the back, celebrating the country's struggle for independence and the People's Revolution on the reverse.





Security features include a colour shifting windowed thread, mould-made watermark, SPARK Live and 10 diagonal raised lines for the visually-impaired.

The 100,000 is not legal tender and is intended only as a commemorative souvenir for the public to collect.

■ The Central Bank of Lesotho has unveiled a new maloti (M) banknote series, that will go into circulation in January. The new notes will, says CBL, have enhanced security and durability.

The M50, M100, and M200 denominations have been printed on Hybrid® composite substrate, and the M10 and M20 on cotton reinforced with sisal. The three higher notes feature Louisenthal's RollingStar® security thread, shifting between the letters 'CBL' and the banknote's denomination when tilted. The lower denominations feature Oberthur's Anima™ micro-lens thread.

The design of the notes dates back to 2010, and they were last upgraded in 2021. The new notes will continue to showcase important national symbols such as the portrait of the Kings, representing national unity, and the Mokorotlo hat, which embodies Lesotho's rich heritage.

■ The National Bank of Ukraine is issuing a new series of new circulating commemorative 10 hryvnia (UAH) coins on the theme of 'We Are Strong - We Are Together', dedicated to the unity and indivisibility of Ukraine, its people, territorial integrity and its administrative structure.

Ukraine is divided into 24 oblasts or, regions as well as Crimea (an autonomous republic), and two cities with special status (Kyiv and Sevastopol), making a total of 27 first-level administrative divisions. The first three coins are dedicated to Crimea (annexed by Russia in 2014), Donetsk and Luhansk (under Russian occupation since 2022).

The front of the coins features a map of Ukraine with all 54 administrative borders, and the relevant region or oblast is matte to contrast with the others. The reverse of the coins is the same as the existing circulating version, issued in 2018. Their size (23.5mm diameter) and composition (nickelplated zinc) are also the same as the 2018 circulating coin.

Available from 3 December, 2 million coins of each design will be introduced into circulation. The NBU plans to continue issuing commemorative coins as part of this series over the next two years, dedicating them to each region of Ukraine. A total of 54 million coins will be released into circulation.

■ The US Mint is issuing new one-year-only designs on some common circulating coins in 2026 celebrating the 250th anniversary (or semiguincentennial.) of the Declaration of Independence:

There will be five new quarter dollar coin designs, on themes that include:

- The Declaration of Independence
- The US Constitution
- Revolutionary War imagery
- The Mayflower Compact
- The Gettysburg Address.

The dime (10 cent) meanwhile, will feature a new depiction of Liberty, representing the fight for independence. The reverse retains the US eagle, updated for the anniversary

The design of the nickel (5 cents) will remain unchanged, but it will carry the dual dates '1776 ~ 2026' to mark the semiquincentennial.

The coins will be issued throughout 2026, before the designs return to normal the following year.

Draft designs for a special \$1 coin featuring President Donald Trump have also been prepared, although a sitting US president appearing on a coin would be illegal under current law and policy, unless Congress explicitly changes the rules.





# **Design and Innovation in Banknotes Recognised** at HSP Asia 2025

The Regional Banknote of the Year Awards form part of the industry's High Security Printing (HSP) Asia conference. This year's awards were presented at a special ceremony during the conference dinner on 2 December.

Awards were made in the three traditional categories for the Banknote awards - Best New Banknote, Best New Series, and Best New Commemorative Banknote - with Japan, Bhutan, Thailand, and Tajikistan all receiving recognition. A fourth category, Best House Note, was introduced earlier this year at the HSP EMEA conference, with KOMSCO and Perum Peruri both awarded in this category at HSP Asia.

■ Best New Series

The Bank of Japan and Royal Monetary Authority of Bhutan jointly received awards in the Best New Series category.

The Bank of Japan received the award for its new yen banknote series. Issuance of the new 10,000, 5,000, and 1,000 yen notes began in July 2024, marking the first time in 20 years that a new series of banknotes had been introduced.

The front of the notes feature portraits of historical figures who shaped modern Japan and the back aspects of Japan's culture and nature.



The notes also feature upgraded security features, including 3D holograms that rotate when tilted, and high-definition watermark patterns embedded in the background of the portrait watermarks.

The Royal Monetary Authority of Bhutan (RMA) received the award for its new ngultrum banknote series. It recently unveiled the designs for the first three notes in the series - the 100, 500, and 1,000 ngultrum (see CN November 2025). Designed and printed by De La Rue on SAFEGUARD® polymer, they represent a significant upgrade in durability, sustainability, and public authentication. Both the RMA and De La Rue have commented that the banknotes embody Bhutan's commitment to innovation,

inclusivity, and the enduring values of its monarchy.

The banknotes feature ARGENTUM™, ROTATE™, enhanced GEMINI™, tactile emboss, and a sophisticated holographic stripe with DEPTH<sup>™</sup> and SPOTLIGHT® effects on the two higher denominations, depicting a dynamic dragon grasping jewels.



#### ■ Best New Banknotes

The award for Best New Banknotes was presented to the Bank of Thailand for its new 50 and 100 bahts, which entered circulation in November. The notes have been printed on polymer and their release follows that of the updated 20 baht note, which was issued in 2022. Studies by the Bank have shown that the new polymer banknote is four times more durable than its paper counterpart. This is projected to save 350 million banknotes per year over the eight years that the notes are expected to last, reducing production, transport and resource costs.



The new notes retain the familiar designs of the current paper versions while incorporating advanced security features. The substrate for the 50 baht is De La Rue's SAFEGUARD™, featuring colour changing, iridescent, and hide and reveal security features.

The substrate for the 100 baht is CCL Secure's GUARDIAN™. It incorporates a complex window, a GSWITCH™ dynamic colour-shifting feature that makes a flower on the note change from purple to orange when tilted, and a secondary window containing a METALIX™ pentagon with a brilliant metallic sheen and a lustrous gold finish.

Both notes also include raised diagonal lines to support individuals with visual impairments.

#### **■** Best New Commemorative Banknote

The National Bank of Tajikistan was awarded Best New Commemorative Banknote for its new 100 somoni banknote, issued to mark the 25th anniversary of the national currency. This is also the first commemorative banknote introduced since the creation of the somoni (see page 13).

#### ■ Best New House Notes

Korea Minting, Security Printing & ID Card Operating Corporation (KOMSCO) and Perum Peruri jointly received awards in the Best New House Note category.

KOMSCO received the award for its '80th Anniversary of Liberation' house note, developed to showcase its advanced security printing capabilities and commemorate a historic milestone for the Republic of Korea.





The house note prominently features iconic national symbols. It also integrates a barrier-free design, with tactile elements and a digital voice-guidance code.

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13 high-level security elements are incorporated, integrating KOMSCO's proprietary technologies with those from its selected partners. Its multi-colour fluorescent ink Fluotune®, the latent image Hiddenface®, and the voice-guided Divo-Code sit alongside Louisenthal's RollingStar® i+ security thread as well as SICPA's SPARK Flow® and NEOMAG® (Hard Magnetic Variant) ink. The use of NEOMAG ink marks the first application of a light-coloured magnetic machinereadable ink, enabling bright designs.

Perum Peruri received the award for its 'Housenote 4.0', developed with the core message of sustainability and environmental awareness, blending secure printing with a vision of a greener, more harmonious future. The house note features elements developed in

collaboration with SICPA, including SPARK® Stream, an optically variable ink that delivers dynamic colourshifting effects.





Produced on a hybrid paper substrate, the design of Housenote 4.0 aims to embody the theme of sustainability, where the reverse side illustrates the pressing realities of metropolitan life dense urban landscape, congestion, and limited green spaces - reflecting the environmental and social challenges faced by modern cities. In contrast, the obverse side symbolises renewal and balance through scenes of greenery and clean air, conveying hope for a more sustainable and liveable future.

Together, both designs portray Jakarta, one of the oldest continuously inhabited cities in Southeast Asia, as one transitioning towards a calmer, more organised, and natureconnected metropolis.

#### **Events**

#### 9-11 FEBRUARY 2026

HIGH SECURITY PRINTING EMEA

Rabat, Morocco hsp-emea.com

#### 23-25 MARCH 2026

**CENTRAL BANK PAYMENTS SUMMIT** Istanbul, Turkey currencyresearch.com

27-30 APRIL 2026

**GLOBAL CURRENCY FORUM** Antalya, Turkey globalcurrencyforum.net

11–14 MAY 2026

THE BANKNOTE CONFERENCE Washington DC, USA currencyresearch.com

1-3 JUNE 2026

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Advisors: Lahcen Hadouni, Antti Heinonen, Concha Jiménez, Michael Lambert,

Tsuyoshi Uematsu, Richard Wall, Lydia Yip.

Contributors: Francis Tuffy, Alex Sadler, John Winchcombe.

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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









