

CURRENCY NEWS™

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Currency Fast Forward – Shaping the Future of Money

What do you get when an industry leader, Giesecke+Devrient (G+D), brings together 175 central bankers / print works and 150 cash cycle experts from commercial banks and CITs into one room? A collective of knowledge, experience and focused thought that is willing to listen, challenge and reflect on the big issues affecting the sector.



The Currency Technology Symposium (CTS), a biennial event, celebrated the topic 'Currency Fast Forward', a perfect fit for envisioning the future of money together. The agenda expressed the story that while cash remains a 'given', a lynchpin of economies and people that is enduring and consistent, digital payments and forms of digital cash are a natural extension of cash, rather than a replacement.

A story in three parts

The programme started with some big topics – an overview of the G+D group and then the future of money, followed by a panel discussion considering the evolving role of cash and the cash cycle. The panel represented the entire cash cycle, consisting of Steve Som (US Federal Reserve Financial Services), Jelena Stapf (German Bundesbank), Sebastião Bangaga (Central Bank of Angola), Bridgit Chayt (Fifth Third Bank, US) and

Guillaume Nonain (European Security Transport Association).

The second part kicked off with a new initiative being led by Prof Dr Julia Pitters, Program Director of Business Psychology at the International University of Applied Science. Prof Pitters is working on a study commissioned by the International Currency Association to quantify the value of cash for society. Other than existing studies on the value of cash or the cost of cash, this research is planned to develop a model to measure the monetary value of cash for society, highlighting economical and political and psychological effects of cash on a country's people. The results of the study will be presented during the Global Currency Forum in April 2026.

Three workshops followed, each with three elements. Delegates could choose between:

Uniting a Nation – the Challenges of a New Series

■ By Astrid Mitchell

The Bank of England (BOE) and the European Central Bank (ECB) have both started the process of designing new banknote series. With counterfeiting levels low, the rationale for these new series seems to lie in a wish to 'renew' and 'reinvigorate' people and the idea of the nation (UK) or community (Europe). To deliver this, playing it 'safe' risks failure. Can the designers rise to the challenge?



The ECB is further ahead in its process and has invited designers to apply to take part in a design contest, having already selected two themes – 'European Culture' and 'Rivers and Birds' (see page 3).

The BOE is a step earlier in the process and is inviting public ideas on potential themes, which include notable historical figures; nature; architecture and landmarks; arts, culture and sport; noteworthy milestones; and innovation.

Designing for 'unity'

At the launch of the BOE consultation, Victoria Cleland, the Bank's Chief Cashier, said that 'banknotes are more than just an important means of payment. They serve as a symbolic representation of our collective national identity and an opportunity to celebrate the UK'. A much used phrase is that a banknote is the 'calling card of the nation'.

All very earnest (and true). But it also hides a challenging task at a time when politics around the world seem to face increasingly fragmented societies with entrenched views and little appetite for compromise. Because despite statements to the contrary, banknotes are – essentially – political.

The US, for example, started planning a new series in 2011, with one denomination in particular causing problems. A decision had been made to put the portrait of former slave and renowned abolitionist Harriet Tubman on the \$20 banknote in place of President Jackson, which would make her the first woman and first African-American on a US note. President Trump's first administration delayed the planned issue date, and it is now planned for around 2030.

Political and societal tensions over race and gender (by no means unique to the US) are being played out in the debate over this banknote.

The problems are compounded when more than one country is involved. The ECB avoided imagery relating to specific people or places in the first series, going instead for abstract bridges and windows, at a time (in the 1990s) when national figures held sway on most countries' banknotes. This time round, if the Europe Culture theme is selected, it begs the question – is there such a thing as a pan-European culture (and if so, what)? Or will the banknotes seek to engender that sense of culture? Both scenarios are political. Rivers and birds not so much.

Link between design and usage

But there is a broader question than just design: namely, in the context of a rise in payment by card, contactless and mobile wallet, why redesign new series at all? Is there a link between design and usage? In the UK cash use has fallen to 12% of transactions – it was 51% ten years ago – but the BOE says it is committed to providing cash for those who wish to use it.

The ECB's 2024 Study on the Payment Attitude of Consumers in the Euro Area (SPACE) showed strong support for being able to pay with cash (62% saw this as very or fairly important).

It is impossible to know how much of this is down to a fondness for the design and physical product itself, but there is evidence that the public won't use a design or denomination that they don't like. In the US, the \$2 banknote is seldom used; similarly in

Japan, the 2,000 yen note. In the UK, most people turn their noses up at the £50.

From consultation to success... or not!

Consultation is a useful tool to engage and educate the public about and with a planned new design. As the process proceeds, it can also be useful to know that the aesthetics of the project are on track.

A great design is good for the country, good for the central bank and vital for the currency itself.

But, and there is always a but, public consultations haven't always gone well in the past.

In 2016, the UK's Natural Environment Research Council asked the public to name a new polar research vessel. On the internet the public overwhelmingly voted for 'Boaty McBoatface.' The name was unsurprisingly rejected for the ship itself (which became RRS Sir David Attenborough after the famous naturalist), but the name lives on in a submersible robot.

It isn't just in the UK that these things happen. A police department in Kansas asked the public to vote on a new mascot, and the people chose a goat named 'Officer Billy.' On that occasion the department embraced the chaos, and it now uses the goat in community outreach.

The Central Bank of Curaçao and Sint Maarten has recently created a new series of banknotes. In fact, it was the launch of an entirely new currency. Interestingly, it expressly chose not to run a consultation, stating that introducing a currency for two separate countries within a tight timeline, against a background of scepticism about the need for a new currency at all, was already complicated enough.

And there is much to be said for avoiding 'design by committee' (or, in this context, design by country or even community), pejorative phrases for a process that seldom works. The ideals of collaboration, democratic expression and stakeholder engagement are all very well, but design is both creative and subjective, and over-involvement by multiple parties takes time, involves compromise and does not necessarily produce the best results.

In the case of the Caribbean guilder, a small design team involving the central bank and the suppliers (Crane and the Royal Canadian Mint), ended with a beautiful, evocative and meaningful series of notes and coins that won the approval of the people and Best New Series at the HSP Latin America awards in June. The public was involved in the run-up to the launch, and afterwards. But not before that.

Perhaps they are the sensible ones? After all, if the public does what the public tends to do, and the powers-that-be listen to them, we could end up with Notey McNoteface.

Building a Better World, One Banknote at a Time

Oberthur Fiduciaire was early to the environmental protection movement, having put in place its Earth365 strategy over 15 years ago, long before sustainability catapulted to the top of the cash industry's agenda. The Earth365 strategy has provided a roadmap for everything the company does to minimise its impact, and that of its products, on the environment and, says the company, is now embedded in its corporate DNA.

The latest initiative from the company to ensure a greener future for banknotes is its 'Sustainable Banknote Program', which integrates 100% renewable fibres into every cotton banknote. This initiative, it says, represents a major leap forward in the security printing industry's transition to sustainable practices.

Both cotton and alternative vegetal fibres (eg. sisal or abaca) will be used – which not only provide exceptional durability, withstanding rigorous use across the lifecycle of a note, but also drastically reduce environmental impact.

This approach aligns with and is a continuation of the Earth365 Strategy, which has involved a comprehensive series of measures, from reducing Oberthur's carbon footprint to promoting responsible resource management.

Supporting this latest transformation is Oberthur Fiduciaire's new signature ring logo, which will appear across all company materials. It describes this as a powerful emblem of its enduring commitment to sustainability and innovation, and reflects its pledge to lead the industry in responsible production practices.

Oberthur's new generation of banknotes serves more than an economic function, says the company. 'They are a symbol of environmental responsibility. We believe that currency should do more than represent value; it should help preserve the planet for future generations.'

As one very recent example of this approach, the company has introduced Green Highlink™, a more environmentally-friendly version of its Highlink™ substrate. Highlink is a strong and highly durable 100% cotton banknote paper with greater mechanical strength than standard paper. This is provided by a patented process involving the addition of a flocculated latex solution to the substrate, which catalyses the bonding process and acts as a glue, increasing cohesion and strengthening the bonds between the cotton fibres.

In and of itself, Highlink already promotes sustainability since banknotes printed on it last longer in circulation. But the green version, which acts in the same way, has the added benefit that the latex is combined with biorenewable elements.

A recent application of this can be found in the new Rio house note produced by Casa da Moeda do Brasil (CMB) for the

HSP Latin America conference which took place in Rio de Janeiro last month. The house note is the third in a series from CMB designed to show how innovative sustainable technologies can reduce the environmental impact of banknote production. The substrate was Highlink banknote paper of which 15% comprised Brazilian sisal fibres (which require less water and fewer agricultural inputs than cotton) and 15% recycled fibres. 90% of the Highlink solution, meanwhile, was plant-based.

Join the Movement

Oberthur Fiduciaire is inviting all stakeholders – from policymakers to industry partners – to join its journey toward a more sustainable tomorrow, with the message 'Let's build a better world, one banknote at a time.'



Design Contest is Next Step for New Euro Banknotes

The European Central Bank (ECB) has launched a public contest for the design of future euro banknotes – the next step in the euro banknote redesign process which will culminate in a decision in 2026.

The ECB first announced plans for a new design – the first in over two decades – in December 2021. In July 2023 it published a shortlist of six possible design themes, drawn up from an original list of 29 themes by the Theme Advisory Council (TAG) – an independent group established in 2021 with members drawn from fields such as history, natural and social sciences, the visual arts and technology. These six themes were put to a public survey, and the two frontrunners – European Culture, and Rivers and Birds – were announced in November 2023.

The motifs for these themes, chosen by the Governing Council of the ECB, were announced this January. For European Culture, they focus on shared cultural

spaces and prominent Europeans (among them opera singer Maria Callas, Beethoven, Marie Curie, Leonardo da Vinci, the novelist and Nobel laureate Bertha von Suttner, and the novelist and playwright Miguel de Cervantes). The other – Rivers and Birds – focuses on the resilience and diversity of the natural world, with images of the main European institutions on the reverse.

The contest is open to professional graphic designers who reside in the European Union and is structured in two phases.

In the first phase (the application round), designers must submit their credentials and portfolios by 18 August, and will be assessed on their artistic track record and experience.

In the second phase (the design round), those who make the shortlist will be invited to put forward their creative proposals.

An independent jury of design and art experts (comprising one representative from each of the Eurozone countries) will evaluate the submissions. For each of the two themes, a maximum of five designs will be selected to go through to the next stage. In this stage, the ECB will open up the process to public feedback, so everyone across the Eurozone can have their say on which notes best capture the spirit of Europe.

Commenting on this latest phase, ECB President Christine Lagarde said: 'the euro is more than a currency – it symbolises European unity and diversity. Through this contest, we invite designers across Europe to shape the future of our banknotes to reflect our shared cultural identity and natural heritage.'

According to the ECB, a final decision on the new design will come before the end of 2026, but that it will be several more years before the new notes are produced and issued.

... Currency Fast Forward – Shaping the Future of Money

- **Currency Cycle Excellence** – a panel looking at the critical success factors for resilience, modernising infrastructure and CBDC
- **Banknote Excellence** – experiencing designs that work, learning by doing, what is nano and why is it important, and how to achieve cleaner notes in circulation
- **Cash Centre Excellence** – how to optimise cash handling and achieve efficient cash centre management, the role and importance of standards and data driven decision making, and two technology systems delivering best-in-class processing.

The third, and final, part of the event was a visit to the Papierfabrik Louisenenthal paper mill and technology centre. The visit comprised a series of workshops packaged into highly innovative formats, involving a 'treasure hunt' in which delegates had to solve problems in order to 'save' the site from imaginary villains.

Themes covered were:

- Why cotton and sustainable materials offer an excellent medium for achieving security, durability and sustainability
- How to integrate security features into a substrate and design in order to enable reliable public authentication
- Understanding nano-technology and how it creates both high security and vivid effects
- How the Banknote Fiber Extractor is creating new opportunities for recycling and repurposing old banknotes (see page 9).

Key themes across the CTS

Across such a varied agenda a number of themes emerged.

- **G+D is thinking deeply about the future and is investing in it.**

From identity to payments to cyber-security of cards, phones, the 'cloud' and all things digital, and to CBDC, G+D has increased its activities in the digital space with a

successfully managed transformation in recent years. Thinking ahead has always been a core strength of G+D, engaging in new technology ahead of the curve; for example, it started its work on CBDC over 12 years ago.

G+D sees itself as combining tradition, innovation and teamwork to ride the waves of digital technology, creating and building digital twins and always creating added customer value.

- **The DNA of currency drives who G+D is and where it is going.**

G+D is now a global security tech company offering digital security, financial platforms and currency technology, both physical (banknotes) and digital (CBDC). The supply of cutting edge technology, reliable partnerships and a growth mindset span all parts of the business.

While currency now generates just a third of G+D's overall income, it was clear that this heritage remains at the core of the company's culture. Wolfram Seidemann, CEO of Currency Technology, laid out the importance of cash access, availability, acceptance, authentication and affection (a sixth 'A' was offered by another speaker, 'affordability'). The panel on resilience and the research outlined by Prof Pitters, underlined G+D's interconnectedness with, and commitment to, the future of cash.

- **G+D is striving for continuous improvement in banknotes, the efficiency of the cash cycle and cash itself.**

Modelling the differences in the cash in transaction ratio, G+D models the world in three groups of countries: the countries where cash in transaction is still very high, countries where the cash in transaction is moderately reducing and the more digital countries, where digital payment means are dominating at the point of sale.

According to G+D Currency Technology, recommendations on how to improve the cash cycle for more resilience, efficiency and sustainability depend strongly on

which segment a country belongs to. Also the effects of digital public currency differ depending on its segment.

Therefore a common theme across the workshops was the attention to the particular requirement of the customers and the customisation of the right solution.

New technologies, such as digitalization and AI support the right solution and the excellence in execution, eg. of services solutions by turning information and data into recommendations and the right offering.

- **G+D aims for future excellence, whilst being humble and 'human'.**

The reach and market position of G+D is clear when so many central bankers join an event. However, the incremental continuous improvement approach shown in the workshops reflects the effort put into focusing on turning that into knowledge to do better.

At the same time the investment in innovations such as nano-technology and the Banknote Fiber Extractor demonstrates a willingness to be bold and solve today's and tomorrow's challenges.

Each workshop team had clearly been tasked to make sure that their subject was presented in a lively and memorable way – software sold as the answer to a manager's holiday stress, playing cards made from recycled banknote material, Lego used to explain nano-technology, actors representing Super Heroes to guide the tours, etc. This innovative, human approach worked well.

Final word

Whatever your role, whatever your level within your organisation, the CTS delivered an end to end overview of cash and the cash industry, some bold new thinking and some detailed incremental improvement. And fun too.

The next CTS in two years time coincides with G+D's 175th anniversary. A challenge for the organisers and, no doubt, an event not to miss!

People in the News

- The Bank of Thailand has appointed **Vitai Ratanakorn**, the head of Thailand's state-owned Government Savings Bank, as its next Governor, succeeding **Sethaput Suthiwartnarueput**.
- President Trump has nominated **Paul Hollis** for the position of 41st Director of the United States Mint, replacing **Ventris Gibson** who stepped down earlier this year. Until last year a Republican member

of the Louisiana House of Representatives, he is a lifelong coin enthusiast and numismatist, and spent his earlier career working in the rare coin and precious metal sector. His nomination hearings before the Senate will take place later this year, but he is not expected to face any resistance.

- The Royal Dutch Mint (RDM) has announced a key management change within the organisation. Managing Director **Susan van Wijk** is stepping down and will be replaced by **Bert van Ravenswaaij**. He joined RDM (now owned by HM Precious

Metals) as Chief Financial Officer in 2017, and was appointed Mint Master in 2022.

- **Manfred Durstberger** has stepped down as from the Management Board of Hueck Folien, concluding 14 years as Managing Director of Production and Technology. Hueck Folien's CEO **Dr Martin Bergsmann** and CFO **Hartmuth Pelger** have taken over his responsibilities.

- **Joe Skipper** has joined Luminescence Sun Chemical Security as International Sales Manager. He was previously with papermaker Portals.

News in Brief

■ New Cash Centre for Switzerland

Following hard on the heels of the National Bank of Belgium's inauguration of its new cash centre (see CN June 2025), the Swiss National Bank has announced that it too will be moving its cash logistics from the current city centre location to a modern new purpose-built greenfield site.

A parcel of land has been acquired in Bülach, in the Canton of Zurich, and the new cash centre is set to open in the early 2030s, replacing the current location at the SNB's headquarters in the city of Zurich.

According to the SNB, the move is part of the SNB's ongoing efforts to ensure a secure and efficient supply and distribution of cash for the Swiss population, which overwhelmingly (95%) still values cash as a payment method. For this, it says, it needs modern buildings and cutting-edge infrastructure.

The plans for the new cash centre will run alongside the development of the tenth series of Swiss banknotes, which is currently on the drawing board.

■ Oberthur and Feerica Join Forces

Oberthur Cash Protection (OCP) and Feerica have signed a Memorandum of Understanding (MoU), announcing their intent to join forces and offer a comprehensive range of ATM security services and new products.

French company OCP, founded in 1985 (under the name of Axytrans), is a subsidiary of Oberthur Fiduciaire and specialises in solutions for the protection of cash in transit or at ATMs through intelligent cash boxes.

Feerica, founded in 1982 and based in Portugal, is also a key player in ATM and CIT protection. Its portfolio includes the widely-used SmartStain, an indelible ink used for staining banknotes during the course of attempted theft and opening of cash boxes and ATMs.

According to the two companies, this MOU reflects the intent of two leading players in intelligent valuables protection to create an undisputed leader capable of meeting the demand for new products and services in a constantly evolving and rapidly growing market.

'This operation marks a major milestone in Oberthur Cash Protection's international development strategy. It significantly strengthens our offer in the ATM protection market and increases our capacity for innovation through industrial and

technological synergies with FEERICA', said Patrice Rullier, OCP Managing Director.

■ Remerger of Pakistan Security Printers Complete

Pakistan Security Printing Corporation (PSPC) has announced the successful amalgamation of its wholly owned subsidiary, the National Security Printing Company (NSPC), with effect from 1 July.

The re-merger of the two entities was first announced last year (see CN August 2024). PSPC, which is owned by the State Bank of Pakistan, was established in 1949 to print strategically important documents, such as banknotes. It is the majority owner in the banknote papermaker Security Papers, set up in 1965, and also has a joint venture with SICPA for inks, established in 1995.

In 2017, the government separated the printing of banknotes from other security documents, hiving off NSPC under the ownership of the Ministry of Finance to produce the country's national ID cards, passports, motor vehicle registration books, stamps, land revenue record forms, electoral and census forms, cheque books and certificates.

Eight years later, they are back together again. According to the State Bank, the acquisition has been carried out in order to achieve operational synergies, enhance service and value for the customers, and deliver more innovative products.

■ Austria's Central Bank Ensures Access to Cash

Austria's central bank Oesterreichische Nationalbank (OeNB) is installing up to 120 ATMs in 'cashless' rural areas to serve up to 330,000 Austrians with no local access to cash. The first have already been opened, and they will all be deployed over the next two years.

According to 2024 OeNB data, about 4% of the population live in municipalities without a single ATM. In total, 342 municipalities are affected, either lacking both a bank branch and ATM (328) or having only a branch with limited opening hours and no ATM (14). Of these municipalities, 87 lack an ATM within a 5km radius, and in six of them, the closest ATM is over 10km away.

Cash usage remains high in Austria, and the OeNB has been one of the most proactive central banks in Europe to support the use of cash. This latest concrete move to preserve cash infrastructure comes amid concerns over payment resilience following major card outages in Spain and Portugal, and frustration over the European Commission's delayed plans to enshrine the legal tender status of euro cash.

■ G+D Places €250 Million Promissory Note Loan

Giesecke+Devrient has further built on its recent successes with promissory note issuances by securing its latest loan totalling €250 million, marking the largest promissory note loan in its history.

Due to strong demand for the transaction, the first in three years, the term sheet volume was significantly oversubscribed multiple times. The proceeds will be used to support the company's growth strategy across its three segments – Digital Security, Financial Platform, and Currency Technology – in addition to refinancing existing agreements.

■ Tenders, Contracts and MOUs

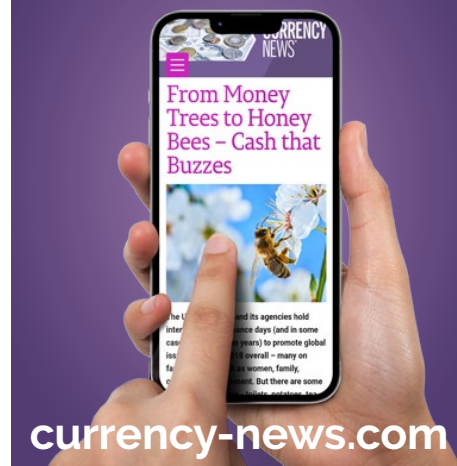
■ The winners of the recent banknote tender issue by the Central Bank of Dominican Republic were Casa de Moneda de Chile for the RD\$50, PWPW for the RD\$500, and Giesecke+Devrient for the RD\$100, RD\$200, RD\$1,000 and RD\$2,000 denominations.

■ In Guatemala, the winners of the Bank of Guatemala's (Banguat's) recent banknote tender were PWPW for the Q5, Q10 and Q100 banknotes, and FNMT for the Q20 and Q50.

■ A consortium of Q&T Hi-Tech Polymer and TFS have signed a contract with the National Banknote Printing Plant (NBPP), Vietnam's state printer, for the supply of polymer substate. This is the fourth contract that Q&T has secured with NBPP this year.

■ Bharatiya Reserve Bank Note Mudran Pvt Ltd (BRBNMPL) has issued a pre-qualification bid (PQB) inviting solicitations from eligible manufacturers of colour shift pigment to produce colour shift intaglio security ink suitable for Indian banknotes. The deadline is 22 August 2025.

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Banque de France Doubles Down on Cash

At a time when central banks in many European countries are distancing themselves from the business of banknote production, and/or focusing on digital alternatives to cash, the Banque de France (BdF) is going in the opposite direction – doubling down not just on printing but also substrate production through major investments. It has also restructured and bolstered the cash distribution infrastructure, taking proactive steps to ensure that French citizens have access its products!



Adrien Zarantonello (left), Export Sales and Marketing Manager and Emmanuel Devaux, BdF's Commercial Director

Currency News™ spoke to Emmanuel Devaux, BdF's Commercial Director who has been with the institution since 1997, and Adrien Zarantonello, Export Sales and Marketing Manager, about recent developments, why the Bank is investing so much in technology and infrastructure, and its position at the intersection between state and citizens for cash, not just in France, but in the international arena as well.

Q: First, can you provide some background to BdF – history, employees and its activities regarding cash?

A: The Banque de France, founded in 1800, is a pillar of the French and European financial system. As part of the Eurosystem, it contributes to monetary policy implementation, financial stability, and services to the French economy. One of its unique strengths is its full integration in the cash cycle: from research and design to production and distribution.

We employ around 9,000 people across France, including around 800 professionals involved in banknote and security paper manufacturing, and related R&D. Our main industrial sites are located in Chamalières (our historic printing facility) and Vic-le-Comte (the EuropaFi paper mill), in the middle of France, around 400km from Paris.

Q: You are currently building a new printworks, which is due for completion in 2027. Can you describe this project – the rationale, the investment, the capacity?

A: Our current printworks is over 100 years old. When it was built, it was in the middle of fields, but urban development has meant that it is now more or less in the middle of Clermont Ferrand, which is not optimal for efficiency.

Our new printworks in Vic-le-Comte, on a greenfield site next to our paper mill, is due for completion in early 2027. This €250 million project represents a major step in our transformation. It aims to modernise and streamline our production to meet the growing and evolving needs of central banks.

The facility will offer a production capacity of around 3 billion banknotes per year, compared with the current capacity of 2.4-2.6 billion, and will incorporate state-of-the-art technologies in production, automation, quality control, and environmental management. It reflects our long-term industrial vision for cash.

Q: Are you taking the opportunity with the new printworks to do things differently? If so, what?

A: Definitely. This project is an opportunity to reinvent our industrial model. We are introducing more automation, agile production lines, improved

tracking, and enhanced environmental standards (including a very high level of energy savings).

Sustainability is central: the new site is designed to minimise its carbon footprint and meet the highest international standards for energy and water efficiency. An important point to underline is that this new printing plant is being built on the same site as the paper mill, improving security and reducing logistics between the two entities, whereas currently the two sites are 25km apart.

Q: Presumably, under euro procurement rules, you can only produce the French indent of the euro. How much of your production is for non-euro banknotes? And are you looking to expand this?

A: Correct. Under Eurosystem rules, our euro banknote production is dedicated to the French national quota (roughly 20% of the total need). However, approximately 50-60% of our overall production is dedicated to export markets.

As a central bank, we do not seek commercial expansion in the conventional sense. However, we aim to responsibly share our expertise and capabilities by contributing to the stability and resilience of the global cash cycle – through selective, trust-based collaborations with like-minded institutions. We are therefore open to building new partnerships with central banks that share our values and quality standards, with a focus on long-term cooperation and mutual trust.

Q: In the last few years you upgraded your paper production and spun this out as a separate subsidiary. Can you describe this project and the involvement now of other players?

A: Yes, our banknote paper production was reorganised under a new subsidiary status, with the creation of EuropaFi, in 2015. It has three additional shareholders, namely OeNB, Banco de Portugal and Banca d'Italia. This allows the paper mill to serve the Banque de France, Valora, OeBS and Banca d'Italia printing works in euro paper.

We invested significantly in modernising the Vic-le-Comte site (€75 million), improving quality, process control, and environmental performance. EuropaFi now supplies high-quality substrates to several national and private printers globally.

Q: What is the range of products that are now produced there?

A: EuropaFi produces a full range of banknote papers, from traditional cotton-based substrates to high-durability solutions. The EverFit® range, including EverFit® and EverFit® Enhanced, is one of our flagship product families, offering improved durability without compromising banknote security or machine readability. EverFit is a composite banknote and not a

substrate by itself; the paper is produced at EuropaFi, and lamination is performed during the finishing step at the Banque de France Printing Works.

EuropaFi also manufactures LongerFit®, our high-durability paper solution. It uses a dedicated in-line sizing process which greatly improves the banknote's resistance to physical, mechanical, and chemical stress from the circulating environment. It is fully compatible with any paper-based security feature and preserves the natural feel of the substrate.

In addition, we are fully open to integrating alternative natural fibres into our substrates, as we already have with hemp, wood or abaca for instance. These fibres offer both environmental and technical advantages, allowing us to deliver customised and forward-looking solutions to central banks.

Q: *You launched EverFit Enhanced in Milan earlier this year. How successful has EverFit been in the market? Do you reserve its use for the banknotes that you produce, or do you sell it to other banknote printers as well? And if so, how, given that it is finished in your own printworks?*

A: EverFit has been very well received since its launch. It has demonstrated a significant extension in banknote lifespan in circulation (x 4), which translates into operational and environmental savings. We do not reserve it exclusively for our own printworks. EverFit is available to central banks, banknote printers, and papermakers seeking a proven, paper-based high-durability solution.

And that is the point, as Everfit is not just a substrate, it's a complete solution, whose flexibility and compatibility make it suitable for integration at different stages of the value chain. It comprises a low grammage substrate (c. 72-74 gsm), a special proprietary polymer coating and lamination equipment. Our model is to grant licenses to other printers for both the paper and the lamination process.

In the meantime, several countries already use it in their circulating series (for example, BEAC, Comoros). This mature technology has been used to produce 1 billion-plus banknotes now in circulation, which provide excellent durability in quite extreme conditions.

Q: *Can EverFit Enhanced be recycled? How do you recommend central banks dispose of unfit notes?*

A: Yes, EverFit Enhanced is recyclable as EverFit is. The EverFit range is fully compatible with standard disposal methods such as incineration with energy recovery.

We can even go further with upcycling processes thanks to the unique characteristics of the EverFit range. EverFit shreds are ready made for a second life, without the addition of any other material;

thus making 100% recycled banknote objects possible, such as furniture.

The first application, the stool Billex, is already available on the website from our partner Maximum. This application is based on production waste, but it can be extended to unfit notes depending on their quality.

Q: *In addition to print and substrate, are you planning to move into providing security features as well?*

A: Our core expertise lies in paper and print. However, we continuously collaborate with security feature suppliers and also develop proprietary solutions in-house for integration into substrate and print.

Our approach is integrative rather than competitive. For example, we co-developed TwinUV® with SICPA, Trilumic® with Hueck Folien, and Se@lgnature® with ATT. These partnerships allow us to offer innovative features that are seamlessly integrated into the substrate or the finished banknote.

Q: *Are the printworks and mill standalone businesses? And can the printworks buy substrate from any supplier (including polymer)?*

A: Yes, both entities are autonomous. The printworks sources cotton based paper from EuropaFi but can also buy substrate from other qualified suppliers, including polymer producers.

Q: *What is your competitive advantage? Why would other central banks buy from you?*

A: We combine the credibility of a central bank with the agility of an industrial player. Our clients value our neutrality, our perfect knowledge of the role/behaviour of banknotes in the cash cycle, our commitment to confidentiality, our quality and our long-term vision, all this at market prices.

Moreover, we provide end-to-end services, from substrate to print, with in-house R&D and a strong culture of partnership. Sustainability, innovation, and operational excellence are at the heart of our value proposition.

Q: *Some other central banks have moved out of banknote production, seeing it as non-core. BdF is moving in the opposite direction. Why?*

A: We believe that cash remains a public good and a sovereignty issue. Producing banknotes is not just an industrial activity; it's a strategic responsibility. As a central bank, we believe in the importance and resilience of cash in the foreseeable future.

By keeping full control of production, we ensure supply security, quality standards, and the ability to innovate. This positioning is consistent with our role as a central bank and a long-term partner of the Eurosystem and other central banks worldwide.

Q: *In addition to production, BdF has invested heavily in cash distribution as well in recent years. Can you describe these investments, the benefits and how cash (banknotes and coins) is now managed in France?*

A: Indeed, we operate a national network of 14 cash centres, strategically located to ensure optimal coverage and security across France. These centres are the backbone of our distribution model and are equipped with advanced processing and monitoring systems.

Two of our cash centres – located near Paris and in the North of France – are fully automated. These state-of-the-art facilities enhance the speed, security, and reliability of high-volume operations, allowing us to meet demand with greater precision. Full automation also improves working conditions by limiting manual handling and enabling real-time tracking.

We have implemented in France a modern cash cycle based on an NHTO model involving strong collaboration with commercial banks and cash-in-transit (CIT) companies. This model ensures high availability, efficiency, and traceability of cash flows, and allows for real-time data-driven decision making.

These combined investments improve cost-efficiency, operational resilience, and inclusiveness – ensuring that cash remains accessible, trusted, and integrated into the daily lives of citizens and businesses.

Q: *How has the use of cash evolved in France in recent years?*

A: Cash is no longer the dominant payment method in France, but it hasn't disappeared either. Like in many countries, the rise of contactless cards and mobile payments has changed everyday habits.

In 2016, cash was used for two out of three point-of-sale transactions. Today, it represents just over four in ten. That's a significant drop, and for the first time, card payments have overtaken cash in terms of number of transactions.

But it's important to keep some perspective. While the overall trend is clear, cash remains a widely used and necessary payment method for many daily purchases especially in certain regions or for small-value transactions.

Q: *Despite this decline in usage, is there still a strong attachment to cash among French citizens?*

A: Absolutely! And that's one of the most interesting things. Even though people are using it less often, their preference for cash has remained stable. Around 14% of French citizens still say they prefer cash to other means of payment, which is remarkable considering the shift to digital.

... Banque de France Doubles Down on Cash

What's even more telling is that 60% of people believe it's important – or even very important – to be able to pay in cash. That sense of choice really matters. For many, cash offers privacy, control over spending, and immediate settlement without technical issues.

So, while cash may not be the first choice at checkout anymore, it remains a deeply valued option. And that's why maintaining access to it is such a priority – for inclusion, for resilience, and for trust.

Q: *Are you doing work / thinking about the future of cash?*

A: Very much so. We have worked hard to ensure access to cash. It is one of the five pillars of the National Cash Management Policy, drawn up in 2019 and updated in 2024 to make sure that banknotes and coins circulate effectively and are always of good quality, while also guaranteeing that consumers are free to choose how they wish to pay. The other four pillars are acceptance, quality, robustness and efficiency of the cash cycle.

As an example of this, it is now possible to withdraw cash from retailers, and not just banks and ATMs, and last year nearly 80% of the population was five minutes (by car) from a cash withdrawal point. 98% of the population is within 15 minutes.

Q: *And what about the use of technology? For example whether banknotes can interact with POS devices, Smartsafes and tills, digital wallets, collection of data out into the cash cycle etc.?*

A: Yes, we actively explore how cash can better integrate into a digital society. That includes smart banknote concepts – banknotes that can carry secure machine-readable digital identifiers to enable authentication, traceability, and interaction with connected devices across the cash cycle. Our Sealgn@ture®

solution is an example of this approach – a secure marker fully integrated into the banknote's design.

We also follow closely innovations like cash-to-account solutions – which allow citizens to deposit banknotes directly into their bank account at retail locations or ATMs without needing to visit a branch – and we participate in several working groups on the future of payments within the Eurosystem.

Q: *Do you see a role for central banks to promote the use of cash (particularly since, in your case, you produce it as well)?*

A: Central banks must guarantee freedom of choice. Promoting access to and acceptance of cash is part of this mandate – hence our National Cash Management Policy.

In France, we support awareness campaigns, stakeholder engagement, and initiatives to maintain cash availability in rural or underserved areas. Cash is inclusive, resilient and trusted. Its continued use should remain a policy priority.

Q: *Where do you think the focus should be for sustainability in the cash cycle, and for the banknote itself?*

A: Sustainability must be addressed holistically: from raw materials to end-of-life. For banknotes, this means improving durability, recyclability, and reducing the environmental impact of production. For the cash cycle, it involves optimising transport, storage, distribution, and destruction, with a focus on reducing emissions and energy consumption.

We are investing in greener industrial processes, renewable energy sources, and comprehensive life-cycle analysis to guide our decisions. EuropaFi and the new printworks are examples of this commitment, both designed to significantly

reduce the environmental footprint of our activities (with a target of -50%).

Beyond these efforts, we have also launched an internal initiative called 'Banknote Life®', which brings together our R&D, operations and sustainability teams to reimagine the environmental trajectory of a banknote throughout its life cycle. This program focuses on four key dimensions: responsible sourcing of raw materials, production with reduced impact, extended durability in circulation, and meaningful end-of-life valorisation.

Through Banknote Life®, we aim to push the boundaries of circularity and transparency – so that each banknote we produce contributes to a more sustainable cash cycle, from cradle to grave.

Q: *If we were to sit down and have this same conversation in ten years time, what do you think you would be saying then?*

A: That cash is still here, because it remains relevant – not only as a mean of payment, but as a symbol of trust, resilience, and financial inclusion. But that it has evolved: more secure, more sustainable, more connected, and better integrated into an increasingly digital ecosystem.

I hope we will also say that Banque de France continues to play a key role in supporting resilient, sovereign, and innovative cash systems worldwide – thanks to our investments in technology, our commitment to sustainability, and our ability to adapt to central banks' evolving needs.

And that we have successfully built bridges between physical and digital currency, ensuring that cash remains a viable, inclusive, and future-proof option for all.



Aerial view of EuropaFi paper mill.



An artist's impression of Banque de France's new printworks.

Recycling Banknote Fibres – Again and Again (and Again...)

One of the highlights of the Currency Technology Symposium was the tour of Louisenthal's paper mill and features production centre just south of Munich, and in particular the chance to see its award-winning Banknote Fiber Extraction (BFE) system in action.

The BFE was first launched in 2023, at the previous Currency Technology Symposium, and last year G+D announced the successful first real-life test case of converting fibres from old banknotes into high quality cardboard at an industrial scale. Last month, it won the award for Best Environmental Project at the HSP Latin America conference in Brazil.



BFE products at Currency Symposium

As previously noted, G+D's BFE decomposes paper banknotes, regardless of the format – whether it's an entire banknote, only a part of it or shreds, right

down to the fibres, unlike conventional banknote destruction techniques, which only shred the banknotes.

The mechanical technique for the BFE, which uses no water or chemicals but pure physics, decomposes the material using pressure shear stress, pressure changes and air turbulence/microturbulence. The solution offers the same throughput rates as G+D's banknote destruction systems – starting from less than 100kg/h to almost unlimited volumes with the combination of multiple systems.

The output from the BFE machines can be formed into briquettes for transportation without the need for additional packaging materials. More importantly, the resulting pulp can be used to make other non-banknote paper or to create moulded products, for example using natural fibre injection. It can also be used for nearly all types of packaging – not just cartons for storage and logistics, but even aesthetically pleasing product packaging.

In fact, G+D put BFE-based products to good use at the Symposium almost

everywhere. Official guest badges, menu cards, postcards, bags and many more items showed the practicality of the technology. Additionally, visitors could also check on products which could be used specifically in the cash cycle, eg. coin boxes, transport boxes and business stationery.

It seems that almost any paper-based product can be made with a large share of BFE material and it can even be recycled multiple times. This is possible because the fibres extracted by this technique retain their length and structural integrity and they can be reused up to 16 times in commercial paper and board products (versus polymer, which can only be repurposed the once).

The intention is not for the banknote waste to go back into banknote paper but to work with commercial papermakers and carton manufacturers, who simply add the pulp into their papermaking or board production process as they would with pulp from any other source. The company proved this point with the earlier mentioned provision of name badges for delegates made from BFE fibres by a neighbouring paper mill in Tegernsee.

G+D has already proven the technology at industrial scale for cardboard, and has secured its first customer with the unit capable of processing 500kg per hour due to become operational in 2026.

Security Gets a Breath of Fresh Air with cBreeze

Crane Currency has added yet another iteration of its micro-optics technology to its portfolio of security features – cBREEZE™. Engineered for high volume, lower value notes, it is designed with durability and cost-efficiency in mind, bringing the same visual dynamism and security as its sibling technology RAPID® HD, but in a simplified, more accessible and lower cost form.

Crane Currency first launched its predecessor, BREEZE™, in 2020, and this has already been used in a number of denominations. BREEZE offers a choice of four high contrast colour and three distinct movement effects but, beyond those parameters, is not customisable.

In order to allow an element of customisation, as requested by many central banks, cBREEZE (the 'c' stands for customisation) can incorporate static text or elements (such as the name of the central bank, currency code or denomination), thereby adding to the vivid colour and movement effects with a degree of individualisation. Moreover, the familiar and recognisable text is more legible at a glance compared with demetallised text, which requires the banknote to be held up to the light to be read.

cBREEZE offers six vivid colours (red, blue, violet, aqua, brown, and green) and three

distinct movement effects (Cubic, Ripple, and Stellar), which offer high contrast visuals that remain clear and fluid, even in low lighting conditions.

cBREEZE also supports machine readability with Detect – a secure, infrared-based layer for high-speed verification in automated cash processing.

And in a further development, cBREEZE security thread has an advanced encapsulated lens layer, so it's thinner than BREEZE, has an improved image quality and, like RAPID threads, can be over-varnished.

'We designed cBREEZE to meet the realities of modern circulation,' said Karin Como, Senior Product Manager at Crane Currency. 'We've seen many central banks retain commoditised features like colour-shifting thread in low denomination banknotes for lack of modern, effective alternatives. cBREEZE addresses this

problem. It's tough, machine-readable, and instantly recognisable – and it performs wherever the note goes, in any pocket and every lighting condition.'

According to Crane, one of cBREEZE's most powerful advantages is how seamlessly it fits into a modern, harmonised banknote series. cBREEZE on lower denomination notes can be paired with Crane's more customisable features such as its MOTION SURFACE® stripe and/or RAPID® Vision thread on higher denominations, enabling central banks to achieve a unified design language of public security and a consistent experience across all values.

The first banknote to incorporate a cBREEZE security thread will be issued later this year.



Supporting Central Banks to Embrace Recycling in Latin America

■ By Gustavo Ascenzo, Director Business Development – LATAM, CCL Secure

At the recent HSP Latin America conference in Rio de Janeiro, a new category was introduced to the Regional Banknote of the Year Awards, namely – Best Environmental Project. CCL Secure received a special commendation for its Banknote Waste Management programme. This article gives the background and detail of the initiative.

The environmental harms caused by burning or burying end-of-life banknotes are well known by now, but for many central banks, the path towards more sustainable solutions remains somewhat unclear.



Both the European Central Bank and Waste International have concluded that composting or recycling are the best alternatives. The question is how this can be achieved. CCL Secure believes suppliers should play a role in finding solutions, and that's exactly what we've done in Latin America.

There are billions of GUARDIAN™ banknotes circulating throughout the region, and every one of them will be recycled. That's more than half a billion banknotes per year. The outlook was radically different just one decade ago, when only a handful of central banks were recycling. At that time, the vast majority of polymer banknotes were instead being sent to languish in landfill. So, what changed?

In 2015, CCL Secure's team in Latin America launched the circular banknote waste management program. It offers a systemic solution for central banks to transition towards a more circular model, and away from the linear 'take-make-dispose' model of managing polymer banknote waste.

The program is underpinned by CCL Secure's adoption of the UN Environment Program's concept of extended producer responsibility. In simple terms, this means we take an active role in supporting stronger environmental outcomes throughout the product life, and especially at the post-consumer stage.

While it has been possible to recycle polymer banknotes since their inception decades ago, uptake was slow, with central banks generally impeded by a lack of awareness, information and infrastructure. This could be compounded by legal and administrative bottlenecks, and for some smaller nations, issues with scale.

CCL Secure has helped overcome these challenges by catalysing a cultural shift that's powering the push towards zero waste, with comprehensive support services and knowledge sharing.

Support for central banks

The first step on the road to recycling is to assess the availability of recycling options – domestically, regionally or overseas. The reality is that not every market will have a suitable local recycling industry.

CCL Secure's staff are available to support central banks in understanding the technical requirements for processing end-of-life banknotes. In Latin America, we have also invested through our sister company, Innovia Films, in establishing a specialised recycling facility at their plant in Zacapu, Mexico.

The Zacapu plant has become a key hub, used by several central banks in the region, and capable of processing up to 700 million polymer banknotes per year – but it is just one part of a broader network. CCL Secure has been connecting central banks with recycling partners for more than two decades.

Once a recycling partner has been identified, CCL Secure can support central banks to undertake small batch testing trials that will help confirm the viability of a facility. This process also provides opportunities to share information about the range of second-life products recycled banknotes can be used to produce. Optimal long-term outcomes will be achieved with highly durable products like plastic wood, which lasts several decades, because it maximizes the productive life of polypropylene as a raw material.

Finally, CCL Secure is also available to assist with the logistical and administrative aspects of transporting the banknotes at end-of-life. This includes shredding, storage, and handling protocols.

Real results

Between 2017 and 2023, the global average rate of recycling for GUARDIAN banknotes was 85%. Latin America stood out as a regional leader, achieving the higher rate of 90% – but even this is an underestimate. The true figure is closer to 100%, because some central banks with smaller volumes were storing end-of-life notes to be recycled in batches that are more economical.

This achievement reflects the results of our circular banknote waste management program. One decade since adopting the extended producer responsibility model in Latin America, every central bank using GUARDIAN is recycling their polymer banknotes into durable second-life products. Over 500 million banknotes are being recycled each year, with many processed at the Zacapu plant.

When we drill down into this data, it shows more than 750,000kg of CO2 is being prevented from polluting the environment annually through the reuse of plastic. On top of this, when polymer banknotes are used to produce plastic wood, it prevents the felling of around 5,000 trees every year. They can continue to act as carbon sinks, with capacity to absorb 140,000kg of CO2 annually.

Achieving cultural change

The success of the circular banknote waste management program has largely been driven by cultural change, as central banks place increasing importance on sustainable outcomes, in line with the expectations of governments, consumers and the corporate community. Through our recycling program, CCL Secure has also been active in communicating the success of these important initiatives.

In Costa Rica, for example, we have collaborated with the Costa Rican Chamber of the Plastics Industry, a local recycler called Producol, and the ProParques Association – installing signs and building trails in wilderness areas using plastic timber that has been produced using unfit banknotes.

Recycled plastic walkways have also been installed on beaches to allow wheelchair users to access the ocean, this time in collaboration with Producol and the Costa Rican Plastics Industry Association (see image).

Finally, CCL Secure sponsored visual artist Monica Lizano to create over 100 works on recycled plastic wood, with a focus on marine motifs. These works have helped raise awareness and educate stakeholders on the availability of sustainable solutions for banknote waste – because ultimately, the push to recycle is underpinned by a shared commitment to protecting our natural environment for generations to come.

Good Luck as Spectra Systems Fusion™ Debuts in New House Note

As noted in last month's issue of Currency News, Ian Bringham of Spectra Systems Corporation presented their unique security feature's contribution to the Casa de Moeda do Brasil's new house note, the 'Boa Sorte' (or Good Luck). The note incorporates a level 3 taggant unique to Spectra's Fusion™ polymer banknote substrate, as well as Kryptonome™, Oberthur Fiduciare's new level 1 polymer-specific optical security feature (see CN June 2025).



The Boa Sorte house note was first conceptualised in 2024 but it quickly progressed, with the substrate requirements being defined along with the integration of Kryptonome in custom-designed window areas. In addition to level 1 and 3 security, the note has a reduced environmental impact through a sustainably-sourced supply chain for the manufacture of the substrate.

A key objective of this house note was to further enhance the attributes of polymer compared with those of paper by providing polymer with a substrate-integrated security feature equivalent to those in paper such as ENIGMA™ from De La Rue, Giesecke+Devrient's M-Feature® and Jewel™ from Authentix.

By 2019, Spectra was already a proven supplier to the banknote industry through its level 3 taggants and sensors for cotton substrate banknotes, indirectly supplied through a major banknote printing company. It also supplied its level 3 taggants and sensors directly to one customer, as well as phosphors to customers for use in security threads and banknote ink.

That same year, it announced a long-term renewable supply agreement with Toray Plastics America Inc, a large multinational global supplier of high-quality biaxially oriented polypropylene (BOPP). Its intension was to supply a print-ready polymer substrate with the unique property of being machine readable through the inclusion of a covert (level 3) substance in the substrate.

The development work conducted by Spectra and Toray was driven by

key requirements for the BOPP film which included:

1. all mechanical properties of the film must remain unchanged with the added taggant
2. surface energy of the substrate must be > 38 dyne/cm.
3. interrogation of the substrate with conventional optical instruments must yield null results
4. there must be no easily detectable absorption or emission
5. window must remain extremely clear with a haze of less than 2.5%.

After confirming achievement of the requisite properties of the clear BOPP film, Spectra partnered with, and subsequently acquired, Cartor Security Printers (CSP), who carried out the conductive treatment and opacification of the film to meet the high-quality specifications required for banknote printing. Tested by third party

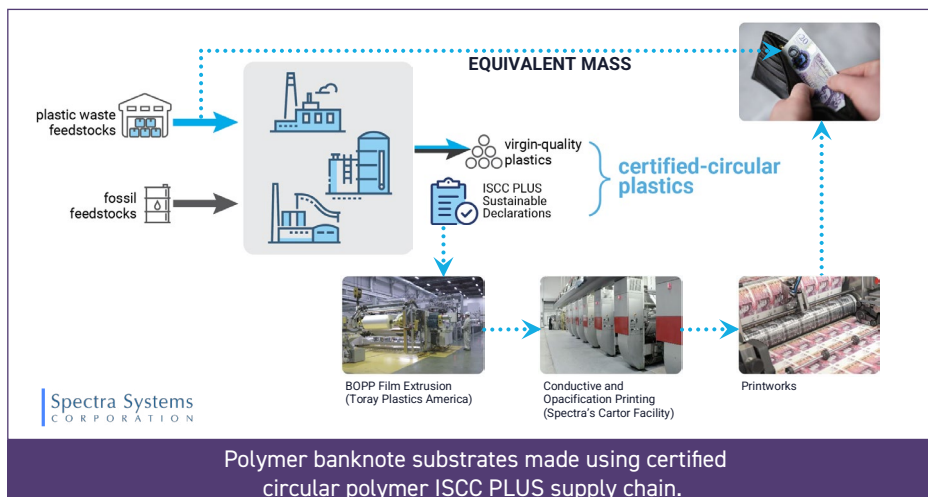
labs, banknote printers, and central banks, the substrate was validated against industry standards for resistance to light exposure, chemical and physical wear, abrasion, crumpling and laundering by security printers and is undergoing qualification by central banks.

In 2022 Spectra launched Fusion, noting it as a natural development of its core expertise in the covert, machine-read protection of banknotes against counterfeiting. And unlike other polymer substrates supplied to the banknote industry, Fusion would have a machine-readable level 3 taggant embedded in the substrate rather than this being incorporated in the ink, protective lacquer or as part of a security feature.

Sustainability was also a key objective for the production of Fusion. The focus involved both carbon footprint reduction in the manufacturing process and the production of BOPP film using certified circular polymer (ISCC Plus) supply chain. Some of the developments to reduce their carbon footprint involved extracting energy from renewable sources including wind turbines and solar panels, and improved waste processing by utilising shredded unfit notes and recycling of solvent ink waste.

Ian Bringham noted that the recycling of polymers is not an easy task, the approach being highly dependent on the final application requirements. However, he concluded, the use of Certified-Circular Polymer, adopted for the production and use of Fusion, and based on advanced recycling of plastics, has many positive points of environmental impact, including:

- Using plastic waste as an alternative to fossil fuels
- Additional end of life options for plastic waste
- Diversion of significant amounts of plastic waste from landfills to incineration
- Expanding the range of plastic waste that can be recycled.



IOTA's First Webinar: Seeing is Believing

The recent webinar 'Seeing is Believing: Optical Features for High-Stakes Security', held on 25 June, was the International Optical Technologies Association's (IOTA) first public event under its new identity.

Over 200 professionals from more than 48 countries participated in the session, the purpose of which was clear – to show how light, when shaped by science, becomes protection.

Session highlights

Dr Mark Deakes, Chairman of IOTA, opened the session by highlighting the association's transition to include not only diffractive OVDs but all optical technologies delivering motion, colour, and dynamic recognition. This was followed by a series of captivating showcases.

Alexandre Noizet (IN GROUPE) presented on the colour shifting zero order device DID™, Moov™ – an animated colour-shifting feature based on micro- and nano-structures, and Plasmogram™ Reversal, a feature for polymer substrates that shows three distinct colours on the front, back, and in transmission.

Jim Keller (CRANE Authentication) focused on volume holograms and micro-optics.

Robert Dvořák (IQ Structures) highlighted innovations based on the company's nanoDOVID technology, demonstrating optical effects such as pastel bas-relief, deep floor, deep space, and deep rotation, all of which provide elegant and secure visual identifiers.

The audience remained engaged throughout, with numerous questions directed at the speakers right up to the end. One stood out: 'What is the future of optical security'? The speakers responded in unison – the future lies in deeper personalisation, smarter integration with sensors, and richer user experiences.

Cash Cycle Seminars to Focus on Resilience, Sustainability

Currency Research's (CR) regionally focused Cash Cycle Seminars are returning the second half of this year with stops in Bali and Miami. Established in 1995, the Cash Cycle Seminars bring global best practices around commercial cash management, distribution, and circulation to address key issues in regional markets, providing a holistic view of the cash cycle and the challenges and opportunities confronting the entire range of industry stakeholders.

Taking stock of the dynamic global and regional trends impacting cash, this year's Seminars will be built around a single, unified theme – 'Cash Cycle 360: Redefining Resilience with Technology & Trust'.

■ Asia Seminar

First up is the Asia Cash Cycle Seminar, which will take place in Bali, Indonesia from 22–24 September. Key agenda topics include:

- Regional Trends in the Cash Cycle and Payment Methods
- Cash Infrastructure Resilience: Ensuring Access and Availability
- Cash in Crisis Situations and its Role in Financial Inclusion
- The Future of Cash Logistics and Sustainability
- Innovations in Cash Processing and Automation
- The Role of Cash-in-Transit in a Changing Landscape
- Advancements in Cash Technology
- Securing the Future of Cash Distribution: Strategies for Long-Term Viability.

Also highlighting the program are a pair of pre-Seminar workshops.

One, the Central Bank Summit (open to central banks only), will provide a forum for central bankers to collaborate and share insights on the critical issues impacting their jurisdictions.

The other, hosted by the Asian Cash Management Association (ACMA), will explore ways to ensure that cash services remain available and efficient, examining avenues for industry-wide collaboration to promote the use of cash and to develop innovative approaches to the various challenges threatening cash's long-term sustainability.

■ Americas Seminar

After convening in New Orleans in 2024, the Americas Cash Cycle Seminar returns to Miami, Florida, 3–6 November.

As in Bali, the pre-Seminar program is highlighted by two unique agenda items. LatAm Day, a staple of the Americas Seminar, features a full day of programming devoted exclusively to Latin American markets and Spanish-speaking delegates,

while the International Association of Currency Affairs (IACA) will host a workshop on the Future of Cash.

The Seminar's main agenda will explore:

- Regional Trends in the Cash Cycle and Payment Methods
- Advancements in CashTech: Innovations in Cash Handling
- The Retail Perspective: Cash & Payment Use
- Digital Disruptors: Pushing the Payments Envelope
- Cash Center and CIT Developments
- New Notes & Coins from Around the Region
- US Currency Developments & Counterfeiting Update
- The Changing Role of the Commercial Bank
- Technology in the Cash Cycle: AI & Quantum

Celebrating 60 years of the Ghanaian cedi

In a separate development, Currency Research has announced that it is working with the Bank of Ghana to organise a three-day event from 17–20 November celebrating the 60th anniversary of Ghana's national currency, the cedi.

To be held at the International Conference Centre in Accra from 18–20 November, the conference will showcase Ghana's post-colonial independence and sovereignty, with an emphasis on rebuilding trust and confidence in the integrity and stability of the cedi.

The conference program will include sessions on cash, CBDC, stablecoins, digital payments, and Ghana's macro-economic environment. A cultural program and a tour of the Bank of Ghana's cash centre are also planned.

Representatives from central banks, local commercial banks, academia, nonprofits and think tanks, the commercial cash and payments sector, and local dignitaries are expected to join.

Registration for the event will open soon, and sponsorship opportunities are also available.

More information on the Cash Cycle seminar and the Bank of Ghana event can be found at www.currencyresearch.com.

ODDS 2025 – Where Physical, Digital and Virtual Security Intersect

Set in the historic and vibrant city of Warsaw, Poland (15–17 September), the Optical & Digital Document Security™ (ODDS) 2025 conference continues its mission of showcasing the most advanced research, innovation, and debate in the field of document protection – whether for banknotes or identification.

The event is the successor to both Optical Document Security and Digital Document Security. It is specifically led by, and developed for, product development, technology and R&D specialists from government, industry and academia. The programme for the 2025 events reaffirms its position as the definitive technical forum for physical, digital, and virtual document security.

Built by a globally respected technical committee, the agenda spans eight themed sessions and offers a balance of discovery science, applied innovation, and real-life applications.

Day one explores visual security features. Papers cover 3D light-field technologies from ZSST, zero-order diffractive structures by IN Groupe, and optically variable inks and deep sub-wavelength plasmonic OVDs. Orell Füssli and Scantrust present their joint JAGUAR digital feature, while Diametrix showcases colour-shifting nanoparticle structures.

The day concludes with the inaugural International Optical Technologies Association 'Excellence in Optical Technologies Awards'.

The second day shifts focus to digital and hybrid threats. AI's role as both a tool for authentication and a vector for attack is examined by the Institute Industrial IT, with sessions on adversarial attacks, barcode authentication, and AI-enhanced artefact verification. The editors of the forthcoming fourth edition of 'Optical Document Security' will provide an update on their progress, detailing expanded technical coverage and the inclusion of smartphone-based verification.

One of the most forward-looking aspects of the programme is its treatment of quantum security. ODDS 2025 brings together researchers and industry experts who are developing systems designed to withstand the cryptographic upheaval posed by quantum computing.

Alongside these, hybrid technologies that fuse optical, digital, and material-based security will be showcased – illustrating how layered defences can offer the most robust protection in increasingly complex threat environments.

Pre-conference seminars provide the perfect primer for the conference, addressing systemic challenges and opportunities. They include counterfeit dynamics and trends in the eurozone

from Europol, and a deep dive into optical security technologies from IOTA.

This year's programme reflects the intensifying intersection of phygital identity, with machine learning and quantum disruption altering the threat landscape. With contributions from across the spectrum of industry, academia and law enforcement, ODDS 2025 offers the perfect opportunity to meet up with old friends and make new ones!

And it also marks a new chapter, being the first ODDS conference to be led by Francis Tuffy, who brings over three decades of technical, academic and commercial expertise to the role of Programme Director. Francis succeeds Ian Lancaster, who steps into the role of Chairman Emeritus after guiding ODDS through years of innovation and remains a respected advisor and contributor to the conference.

opticaldigitalsecurity.com

IOTA Awards

ODDS will host the first 'Excellence in Optical Technologies Awards', honouring innovation and technical achievement across the field of optical security. These are the successors to the IHMA Excellence in Holography Awards, and there are seven categories:

- Best Innovation in Optically Variable Technologies
- Best Origination
- Best Disruptive Technology
- Best Integrated Technology/ Best Document Security Application
- Best Product Security Application
- Best Decorative / Packaging Product
- Lifetime Achievement Award

Any company or individual is eligible to enter – not only IOTA members. There is a cap of two nominations per organisation per category. The same nomination can be submitted for more than one category.

The nomination deadline is 8 August, and winners will be announced at a special session during ODDS on 16 September.

To submit an entry or find out more, visit: iot-association.org/excellence-in-optical-technologies-awards/

Global Cash Community

The Future of Cash Conference will unite leaders and innovators from across the global cash community, in Warsaw from 3-5 November.

In an era marked by growing uncertainty, driven by geopolitical tensions, climate change, economic instability, and demographic shifts, the role of cash in society is more critical than ever. This year's conference will focus on two pivotal themes: enhancing the resilience of cash in uncertain times, and adapting cash for Generation Z.

Building resilience

In a world where stability can no longer be taken for granted, cash remains a steadfast pillar of economic security, and the conference will delve into strategies to fortify the cash infrastructure against a backdrop of global instability.

Experts from central banks, financial institutions, and academia will share insights on redesigning the cash ecosystem, ensuring it remains robust and reliable even in the face of crises. From regulatory frameworks to innovative distribution channels, the conference will explore comprehensive approaches to maintaining the integrity and accessibility of cash.

Engaging Generation Z

As digital natives, Generation Z presents unique challenges for the cash ecosystem. This tech-savvy generation values convenience, speed, and sustainability, prompting us to rethink how cash can fit into their lives.

The conference will explore with Zoomers how to make cash more appealing and relevant to younger users. Through interactive sessions and real-world case studies, it will examine how CashTech innovations, public education campaigns, and modern communication tools can bridge the gap between cash systems and the expectations of Gen Z.

Join the conversation

The Future of Cash Conference is more than just an event; it is a movement towards a more secure, accessible, and sustainable cash ecosystem, says Conference Chair Guillaume Lepecq.

The programme and speakers can be viewed at www.thefutureofcash.com.

Form and Function for Costa Rica's New Coins

■ By Francisco Mandiola, FMA Secure

Several countries utilise one or more of their coin denominations as so-called circulating commemoratives. These are legal tender and, more often than that, produced in sufficient quantities that they do circulate (rather than being snapped up by collectors). The design of (generally) the reverse changes periodically, however, to mark special occasions or reinforce particular national priorities or themes.



The advantages to issuers, and mints, of circulating commemoratives is that they both serve as a means of payment and generate interest, pride and income (seigniorage for governments, fees for mints).

Normally, one denomination is used for this purpose – the 50 pence in the UK, the €2 in the eurozone, the 25 cent (quarter) in the US, the Mexican 20 peso. In Costa Rica, the practice is being applied to all denominations in the country's new coin series.

Costa Rica – noted for its biodiversity, environmentalism, and political stability – underwent a currency review and reform back in 2017 that saw the introduction of a new banknote series on GUARDIAN™ polymer. These were issued in 2020 and 2021.

That programme is now being followed by the issue of new coins. The Central Bank of Costa Rica (BCCR), published the schedule for the entry and exit of coins to and from circulation for the year in February. The first of these have now or will shortly be entering circulation.

The new colón coin series shows different designs that allow each denomination to be readily identified and distinguished from the old series by the public. The coins are all smaller and lighter than their predecessors, and when the coins are placed vertically on top of each other they form a geometric shape similar to a cone due to the difference in the diameter of each coin.

The update to the currency series was agreed by the BCCR Board of Directors in November 2020, with the actual re-design agreed in July 2022. In specific months, different versions of new ₡10, ₡25, ₡50, ₡100 and ₡500 circulating coins will be issued. Missing is the ₡5 coin, which was demonetised in 2020 due to inadequate

recirculation and high production costs of production.

The new coins incorporate a distribution and collector strategy as well as improvements in the security and efficiency of the currency, including the following aspects:

- **Reduction in size:** the coins are smaller (each with a reduced diameter), lighter, and easier to carry.
- **Improved metals:** the coins are made from copper-based alloys and other metals that increase security and corrosion resistance, as well as easier identification for coin-receiving equipment. The highest denomination, ₡500, is bi-metallic, with a copper-nickel centre and a zinc-nickel-brass ring.



- **Design update:** the coins incorporate numismatic highlights that promote the cultural and historical value of Costa Rica, with the front depicting the denomination, and a commemorative reverse
- **Security update:** the coins feature alloys and complex, state-of-the-art engraving techniques, striking a balance between artistic design and security, thereby mitigating counterfeiting as well as a

differentiating from previous coins that will lose their value as legal tender.

Coin issuance in 2025

The first coin to be issued is the ₡500 (earlier versions lost their legal value at the start of July). 25 million circulating coins are being issued under the collector theme of 'Milestones in Our History' with the following distribution:

- 18 million commemorating 200 years of Costa Rica's independence
- 2.5 million commemorating the 175th anniversary of the founding of the republic
- 2.5 million marking the 75th anniversary of the abolition of the national army
- 2 million commemorating the 200th anniversary of the Nicoya region.

An 'Intangible Cultural Heritage' ₡100 coin with six different designs will also be released. Designs include Creole swing, Limón calypso, Liberian bullfighting, the manufacture of ceramic objects with Chorotega motifs, traditional Costa Rican cimarrona music, and the boyeo and carreta traditions of Costa Rica.

The first two motifs of these will be issued in July and October 2025.

The ₡50 coin will be issued under the 'Fauna of Ecosystems' theme. This denomination also consists of six motifs: morpho butterfly (tropical cloud forest), calzonuda frog (tropical rainforest), hawksbill turtle (coral reef), lizard or anole (tropical dry forest), fiddler crab (mangrove) and wild rabbit (páramo).

5.8 million ₡50 coins featuring the morpho butterfly have already been in circulation since November 2024, with the next four designs issued or scheduled for issue in February, May, August and October 2025. The last design, featuring the wild rabbit, is scheduled for issue in January 2026. Earlier versions of the ₡50 have already been demonetised.

For the ₡25 coin, the theme is 'Emblematic Sites of the Provinces', with seven designs, each representing one of the provinces. The first four designs (Limón, Puntarenas, Guanacaste and Heredia) have been scheduled for issue in March, June, September and December 2025, respectively; and the other three will be issued during 2026.

Finally, the ₡10 coin will be issued with a new design for the National Coat of Arms. The coin has been in circulation from March 2025 and will be distributed according to demand.

All in all, if the programme goes top to plan, a total of 30 different designs will complete the series between last year and 2026. To add to the complexity (and interest), limited mintages will be available for some in coloured versions, albeit that these are for collectors purposes only, not circulation.

Meet the Next Generation of the Namibia Dollar

The Bank of Namibia has officially launched its upgraded Namibia dollar (N\$) banknote series alongside a fully redesigned new Namibian coinage series, under the theme 'Our Currency, Our Heritage, Our Pride – Meet the Next Generation of the Namibia Dollar'.

According to the Bank the new series, unveiled at a special ceremony presided over by Namibian President Dr Netumbo Nandi-Ndaitwah, celebrates both continuity and innovation in the evolution of Namibian currency, and the aim of its introduction is to modernise Namibia's currency in line with international standards, while

reinforcing the country's national identity and purpose.

The second-generation coinage series is the first complete redesign since the Namibia dollar's introduction in 1993. The coins are lighter, smaller, and more durable than their predecessors and, instead of depicting Namibia's fauna and flora, the new coins now symbolically

represent the five key sectors that anchor Namibia's economy (namely agriculture, manufacturing, tourism, retail and mining). In addition to the N\$5, N\$1, 50 and 10 cent coins, a new 20 cent is being introduced.

The banknotes, meanwhile, are the third generation since 1993. The last redesign was in 2011. The new notes have the same motifs as the notes they are replacing (namely portraits of founding father Dr Sam Shafishuna Nujoma and freedom fighter Kaptein Hendrik Witbooi on the front, and celebrations of Namibia's wildlife on the back). But, according to the Bank, they feature 'a refined, modern aesthetic with richer colours, cleaner lines, and enhanced security features that provide robust protection against counterfeiting'.

The two lowest denominations, the N\$10 and N\$20, are printed on Landqart's Durasafe paper-polymer composite substrate and the others – the N\$50, N\$100 and N\$200 – on cotton paper. All the notes feature tactile marks for the visually impaired.

They were designed and printed by De La Rue. Security features include De La Rue's IGNITE® and PUREIMAGE™ security threads, as well as the Enhanced GEMINI® UV print feature.

The new series – both notes and coins – will be issued in August, accompanied by an extensive publicity campaign to educate the public about the features and how to handle and check their new currency.



In Other News...

■ The Central Bank of Mauritania has issued an upgraded new 50 ouguiya note celebrating the 50th anniversary of the currency, which was introduced in 1973 to replace the CFA franc (ouguiya is the Hassaniya Arabic pronunciation of ugiyyah, meaning 'ounce').



Mauritania's current series, introduced in 2018, is all-polymer. But in 2023, it carried out a trial of three different commemorative 50 ouguiya (MRU) notes on paper or composite substrates – one on Louisenthal's Hybrid ADDvance®, one on Landqart's Durasafe, and one on Highlink™ Sisal from Oberthur Fiduciaire.

Security features common to all three were a watermark with electrotape, Galaxy®

micro-mirror thread from Louisenthal and SICPA's SPARK Flow® DIMENSION. The design was the same for all three – including the Ibn Abbass mosque and a traditional teapot featuring a star and crescent on the front, and musical instruments on the back, supplemented with images of the central bank headquarters, wind turbines and solar panels.

The notes were designed and originated by Koenig & Bauer Banknote Solutions, and printed by Oberthur Fiduciaire and Giesecke+Devrient. 30 million were produced – 10 million of each substrate – with the objective of comparing them over time to determine the most suitable in terms of security and durability for future banknotes.

In the end, none of the above were chosen. Instead, the new MRU 50 was printed by Crane Currency on its ultra-durable ENDURANCE™ cotton paper. And whilst the overall design has been retained, the security thread has been replaced with a green MOTION SURFACE® stripe, the effects of which include circles representing the Eye of the Desert, the pages of a book that turn in symbolism of the Holy Qur'an,

and the number '50', which appears to float in a unique water scene.

According to the Bank, the new paper note represents a balance between the past and the future, between heritage and progress, and embodies a renewed spirit of hope in Mauritania's rising economy.

■ The Bank of Mauritius has completed the introduction of its all-polymer series with the issue of a new Rs 200 banknote. Similar to its paper predecessor in design, it has the same polymer-specific features as the Rs 100 note issued last month, including an egg-shaped transparent window and an image of a dodo with a Swing™ element. And again, like the Rs 200, it was printed by Oberthur Fiduciaire on CCL Secure's GUARDIAN™.

■ Qatar Central Bank has announced updates to the 1 riyal banknote, which forms part of the country's fifth series of banknotes, issued in 2020. The new version will include changes in the official state emblem, Arabic numerals, and issue date. The previous version will remain in circulation.

... Note and Coin News

The Bank has confirmed that the changes will be applied to the other denominations in the series as well in due course.

■ The Central Bank of Eswatini has issued updated 10 and 20 emalangeni banknotes. Both denominations replace Swaziland with the country's new name of Eswatini (a change which took place in 2018) and include an enhanced security thread in the form of Louisenthal RollingStar® i+. The portrait on the front of HM King Mswati III has been updated but the design, colour, size and substrate (Hybrid™), otherwise remain the same.



Just one denomination in the series now remains to be upgraded – the E100 (a new E50 was issued in 2021 and a new E200 in 2023). The current version of the E100 was introduced in 2017 – one of the first notes ever on Hybrid – and features both the updated portrait of the king and a RollingStar® thread. However, it still carries the name Central Bank of Swaziland instead of Eswatini.

■ The Central Bank of Belize has announced that the new 2025 banknote series will enter circulation on 4 August. The new banknotes, printed on paper by De La Rue, include enhanced security features, among them PUREIMAGE™ holographic thread on the front of \$2 and \$5, a holographic stripe on the front of the \$10, \$20, \$50 & \$100, and an IGNITE® thread on the reverse), updated themes, and new portraits. In place of the monarch (the notes they replace feature the portrait of Queen Elizabeth II), national heroes George Cadle Price and Philip Goldson, both instrumental in security the country's independent from Britain, will be depicted.

Events

9–11 SEPTEMBER 2025

CBDC CONFERENCE

Nassau, Bahamas

cbdc-conference.com

15–17 SEPTEMBER 2025

**OPTICAL & DIGITAL
DOCUMENT SECURITY**

Warsaw, Poland

opticaldigitalsecurity.com

22–24 SEPTEMBER 2025

THE ASIA CASH CYCLE SEMINAR

Bali, Indonesia

currencyresearch.com

3–5 NOVEMBER 2025

THE FUTURE OF CASH

Warsaw, Poland

thefutureofcash.com

10–14 NOVEMBER 2025

MINT AND PRINT

Istanbul, Turkey

mintandprint.com

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