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## TIME TO WAKE UP TO THE SST SECURITY RISKS

TED DEVEREUX | SPEARPOINT SECURITY GROUP



In a number of Asia Pacific countries, we are seeing a move by banks from the deployment of ATM's to the deployment of recyclers. This change has resulted in fewer machines being deployed and fewer replenishments, but not necessarily fewer First Line Maintenance (FLM) and Second Line Maintenance (SLM) calls, nor does it reduce the security risk. It is interesting to note where in an effort to increase efficiencies as well, some countries have moved to Single Line Maintenance (training staff to facilitate both FLM and SLM calls), and it is interesting to note that the number of callouts per machine per month has reduced to less than one. Australia and the UK are prime examples.

In most Asian countries, FLM / SLM calls are an average of 6 per machine per month. Why is this? In my view, partly due to poor or none existent preventive maintenance, poorly trained

replenishment and FLM / SLM personnel, quality of notes packed due to poor fitness checks and the way cassettes are organized and moved. Every time a machine is opened for an FLM or SLM check, it puts the machine at risk. Especially where banks do not pay for lockable purge bins allowing notes to be removed. It should be remembered that notes not taken when presented and then retracted are not counted when dropped into the purge bin. It allows a person to take part of what is presented and allow the balance to be retracted and their account credited. But in reality, this is only a minor matter when considering the security of the cash in the machine. But easily solvable by removing the retract function. Where the retract has been removed, shortages at the machine have dropped by half! India is a prime example. I just cannot understand why commercial banks do not remove the retract function or why some central

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banks prevent this from being implemented.

But for me, the issue is more around the lack of engagement between the manufacturers, the estate owners, and the cash management businesses that service the machines and shoulder the responsibility for cash shortages. We know about the security risks, but it seems we are reluctant to design or build in measures to reduce the risks (both physical and logical). Or if available, it is an optional item at a cost.

Why, I ask myself! We know the risks. Are we just not prepared to pay for them? Or is it because the risk can simply be outsourced to a third party? Having been associated with the cash management industry for over 45 years and with ATM's since 1984, it is clear that the channel owners and operators know and understand the security risks. But the purchase of the machines is left to the Purchasing Department, who are only interested in the lowest possible price. This puts pressure on the manufacturer to consider the materials used in the build, and leave what we would consider to be necessary security measures, as options. Or not at all.

Most logical attacks are made through the top compartment or the cabinet where the modem is located, usually located above the machine(s). Why is the top compartment and the electronics box only fitted with key locks where the key can readily be copied?! Why, given that one-time code locks are now the common lock of use by the cash management industry, are they not fitted at the factory as a standard? Key and combination locks are used which are then removed and replaced by one-time code locks. Is it just about the purchase price knowing full well that the cash management businesses will replace it at their own cost and accept the risk.

A number of manufacturers are making trackable locks suitable for the top

compartment and the electronics cabinet which ensures access is controlled with audit trail. If we make the machines secure and able to control and audit access, attacks and pilferage can be greatly reduced.

It is the same story with card skimming. Why is skimming protection not built in as a standard, or contactless readers not fitted as a standard? It also makes good sense to verify the person making the withdrawal against the transaction record. This can be easily done, but not a common practice. Again, I ask myself why? Is it simply cost and the ability to pass-on the risk and liability to a third party?



**The situation with SST security is similar to the phenomenon of card skimming. Solutions have not widely been put in place perhaps due to cost and the ability to pass risk - and liability - to a third party.**

In a few places, Hong Kong and Macau for example, ATM's are now being fitted with biometrics or facial recognition to link the card user to his or hers' account. To prevent skimming, some banks have introduced a QR code linked to the account owners on-line banking application which allows for contactless transactions.

Making provisions to fit CCTV cameras strategically within the machine housing, is another important requirement.

I could go on and list many other security issues, but feel the case has been made for the manufacturers, the estate owners / operators and the cash management industry to form a working committee to discuss how the security of the ATM's can be improved to prevent physical and fraudulent attacks which impact all the stakeholders.

**“ WE KNOW ABOUT THE SECURITY RISKS, BUT IT SEEMS WE ARE RELUCTANT TO DESIGN OR BUILD IN MEASURES TO REDUCE THE RISKS (BOTH PHYSICAL AND LOGICAL). ”**



**Most logical attacks on ATMs are carried out via the top compartment which houses the modem. These are often poorly protected, only with key locks.**

# OP-ED: WHEN THE WORLD IS FIGHTING COVID-19, E-PAYMENT OPERATORS USE IT FOR THE PROMOTION OF A CASHLESS SOCIETY

THIERRY LEBEAUX | ESTA



The dire situation of cash in Sweden has been the wake-up call for a number of governments in Europe to review the situation of cash and look at its sustainability in the future. A number of countries, especially in Nordic countries, have adopted legislation to protect cash. However, the sanitary crisis starting in 2020 in Europe and the rest of the world has taken it additional toll on cash. Based on fake allegations that cash might be a contaminating factor for COVID19, a number of calls for contactless paying have been made, and the public, both retailers and consumers, have been scared off cash. Cash transactions have fallen by 39% in France, and 25% in Germany in 2020, and one would argue for no reason.

A number of organisations have called for contactless paying on the grounds of the risks of contaminated cash.

In March and April 2020, whilst the entire world was fighting COVID19, the European Banking Authority in Paris and the European Commission in Brussels received two position papers from the two world-leading card operators. The papers were advocating the increase of contactless limits, both arguing reasons of public health. The message in the position paper of MasterCard was crystal clear: 'Using cash is *extremely risky!*' (Picture 1). Visa's paper was more prudent, although as misleading, in

stating that contactless payment should be used in order to limit the spread of the virus.

Some central banks were very rapid to react to the devastating health messages on cash and COVID19 and rebutted allegations that cash might be a factor spreading the virus. But the damage was done. The European Central Bank, notably, commissioned a survey with some laboratories in Europe and came to the 'initial conclusion' that a virus would only survive on porous surfaces such as that of a banknote for around 30 minutes – the time needed for droplets on the note to dry. It also concluded that the time a virus would remain active on

surfaces such as PVC is much longer – and that includes "plastic money". However, the public communication from the ECB on these results to reassure cash users is still awaited....

The EU, possibly overlooking the fact that contactless *paying* was not meaning *shopping* contactless, accepted the argument presented by the card companies and granted the increase of the contactless limit from €30 to €50. Much less known is that, at the same time, both card companies called for the postponement of the deadline for the implementation of the Strong Customer Authentication (SCA): in other words,

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## Contactless limits virus spreading

**Using cash is extremely risky.** Handling and exchanging banknotes and coins help virus spreading. The virus may survive several hours on surfaces. During this period, the same banknotes and coins may be handled and exchanged multiple times. Central banks are enacting measures to sanitize cash. It is, however, impossible to sanitize all the cash in circulation. This is why merchants are increasingly becoming cashless.

**Contactless is safest payment method.** Contactless payments may limit virus spreading by ensuring social distancing. The cashier does not need to touch the card. The cardholder does not need to touch the POS terminal. Often, these terminals are touched by thousands of people on the same day (e.g., groceries, pharmacies, healthcare). The cardholder and the cashier can remain at a safe distance. Less physical contact means less virus spreading.

**Less physical contact with POS terminal.** Contactless transactions limit virus spreading as long as the cardholder does not need to digit the PIN on the terminal. This is what already happens with mobile NFC payments, for which

Picture 1: Source - Covid-19 Contactless ad SCA transition, position paper 15 April 2020.

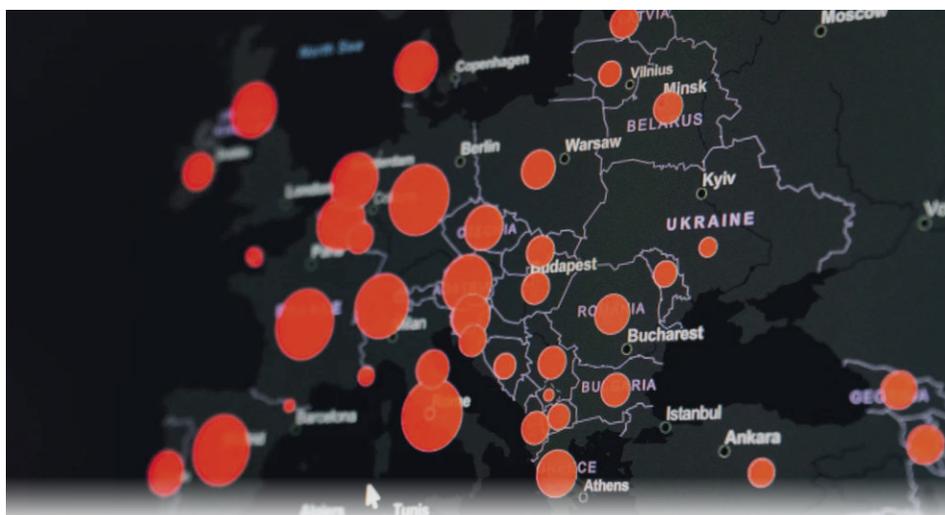
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increase paying limits today and we'll increase security tomorrow!

Discussions are going on to increase the contactless limit further: in the UK for example, talks are ongoing for a £100 limit. Very few card holders know, however, that under EU rules, any NFC-enabled payment function requiring no specific identification such as a PIN or a signature is deemed an 'anonymised' payment – meaning that the *initiator* of the payment is not identified. This is not without consequences for the card holder: because it is 'anonymised', the liability in case of fraud is that ... of the card holders, and for as many contactless payments will be made until a card is reported stolen or lost. For this reason, some consumer organisations request that card holders are asked to agree on the limit of their card.

The outcome of these cashless campaigns was unfortunately as expected: contactless payments increased sharply ... as did contaminations. No miracle happened and the promised trade off 'contactless rather than COVID' (the implicit deal behind the increase of the contactless limit) never occurred. So contactless was not, and never will be, the "safest payment method limiting virus spreading". Instead, Europe experienced a very severe pandemic and the way we paid in shops was not enough to prevent the people in Europe going through painstaking governmental measures of restrictions of public and individual liberties to contain the disease.

Much worse, however, is the impact of the crisis, and the development of contactless, in relation to the acceptance of cash in retail. In countries where acceptance is mandatory, such as Belgium, a 'tolerance' was provided for refusing cash due to sanitary reasons. In



**Despite steps taken to increase uptake of contactless payments, Europe experienced a severe pandemic continent-wide.**

France, the authorities had to threaten retailers with fines for refusing cash as it is illegal. The main consequences for cash are likely to be long lasting. People unlikely to use contactless have now got used to it. And micropayments, where cash had its quasi-monopoly, are now largely open to card operators. The bonus, and not the least, for e-payment operators is the huge data mining offered on a big chunk of very low payments from their customers on which they knew, before COVID19, nothing!

Clearly, when the world is fighting COVID19, some were obviously using it for their commercial advantage.

The future of cash in Europe (and elsewhere) can now be defined: mandatory acceptance and what the notion of legal tender should mean. The European Central Bank set up in February 2021 a working group to review the issue of access to and acceptance of cash, which ESTA was invited to join. The working group, however, is essentially composed of banking and payment services providers' organisations, possibly not be the best type of forum to address obstacles to cash when those around the table are driving the war on cash. And indeed, it was not possible to raise within this forum factors as critical as the reduction of cash services by banks, or the nudging of retailers towards

cashless by some powerful PSPs, to address the phase out of cash.

Raising the COVID19 experience and the continuous, though spurious, calls for contactless paying as a prophylactic measure also proved not possible in the group, as if it had ever existed! What is the point dissenting with organisations about obstacles to cash when those around the table continue to act against it outside? So ESTA took the decision to leave the group and submit its own independent report, bypassing taboos on the reasons for the phase out of cash in Europe.

The group hosted by the ECB is only set up to "take stock" of the problems encountered by cash, but will not propose any solutions. Probably, the possible solutions which could be offered are rather simple to define: those primarily responsible to make cash available to the public should stop acting against it because they have more profitable products and payments instruments to offer. They should stop making disparaging statements about cash as "filthy and risky". They should invest in cash to make cash profitable in its own right. That will probably not happen. Legislation adopted in Nordic states imposes cash-service obligations on banking institutions: this means that in

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In Sweden, reluctance to accept cash is in part caused by the long drives required to deposit cash at the bank.

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essence, they still leave cash in control of its worst enemy! But no measures are proposed meant to make cash operate smoothly. No measures are provided to facilitate the acceptance of cash by retailers. In Sweden, for example, there are two main reasons why retailers are reluctant to accept cash. First they often have to drive long distances to deposit their cash in the nearest bank branch accepting cash deposits. And second, it has proven difficult to obtain change money: if one wants to make cash payment as cumbersome as possible, there is no better way to do it than suppressing retailers from change money.

In a speech in 28 November 2018, Tuomas Välimäki, a Board Member of the

Central Bank of Finland addressed a number of issues that the phase out of cash would raise. As part of the argument, he made this unexpected, but critical comment: *“As a personal aside, I was struck with amazement when I discovered how much of a church’s collection plate can end up disappearing into a bank’s service fees”.*

This should remind anyone that a cashless environment will be a transparency nightmare. Indeed, our bank will know, among other things, which of their customers are going to religious offices (and which religion), how often, and how much they donate each time they go.

Is that really what we wish for? Cash? Use it or lose it!

“  
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**Tuomas Välimäki,**  
 Central Bank of Finland.

## Spearpoint Security Group

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# LESS TECHNOLOGY DEBATE, LESS COST FOCUS, BETTER CASH HANDLING

STORY COURTESY OF CASH & PAYMENT NEWS



“  
**THE CHALLENGE CHS COMPANIES FACE IS BRINGING TOGETHER TECHNOLOGY AND SYSTEMS TO DELIVER THROUGHPUT EFFICIENTLY AT THE LOWEST COST.**  
 ”

Levent Kocbiyik presented at the Cash Cycle Seminar (ICCOS) last year on behalf of the Turkish cash management company Bantas\* about achieving the right mix of technology in cash handling. He argues that ‘craft’ continues to play a core role as well.

Cash Handling Services (CHS) are a combination of logistics and security services. There are three component parts – the actual task of moving cash securely carried out by cash-in-transit (CIT) companies, cash processing and the management and provision of services to ATMs, including smart safes in retail outlets. The challenge CHS companies face is bringing together technology and systems to deliver throughput efficiently and at the lowest cost.

Operations management is at the centre of all these areas, with the goal of increasing processing speeds and throughput while reducing human intervention and errors. It has to balance external drivers such as meeting regulatory and insurance requirements, as well as the risks and threats brought by criminals, along with changing market conditions and constant pricing pressures.

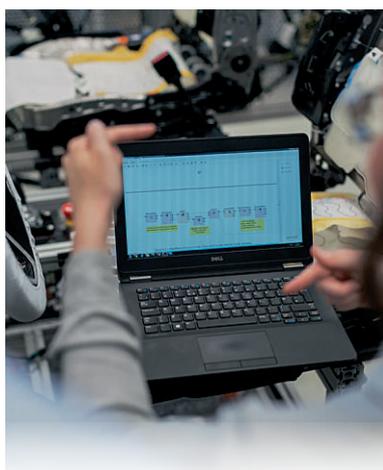
## Information and communication technologies

ICT includes the full gamut from managing portals to Enterprise Resource Planning (ERP) to all of the different communication channels available and needed. Increasingly, this includes cyber security.

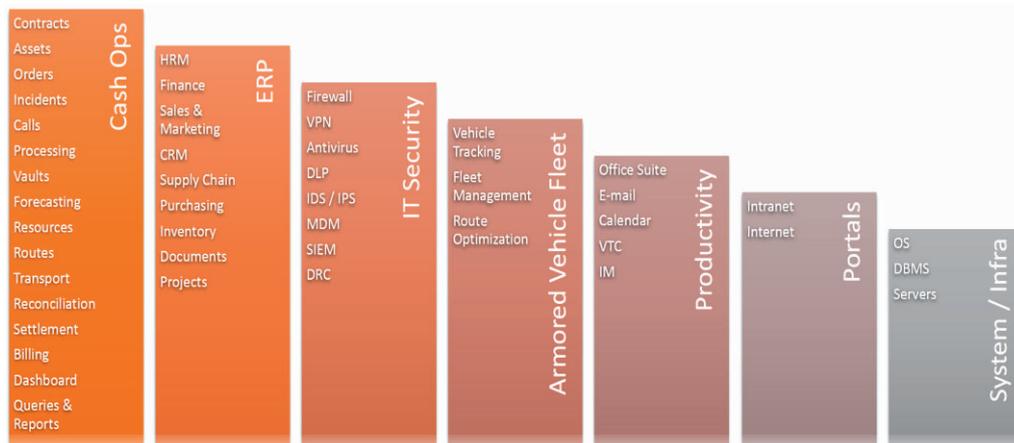
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The presentation considered technology under three headings: Information and Communication Technologies (ICT), Security and Automation.

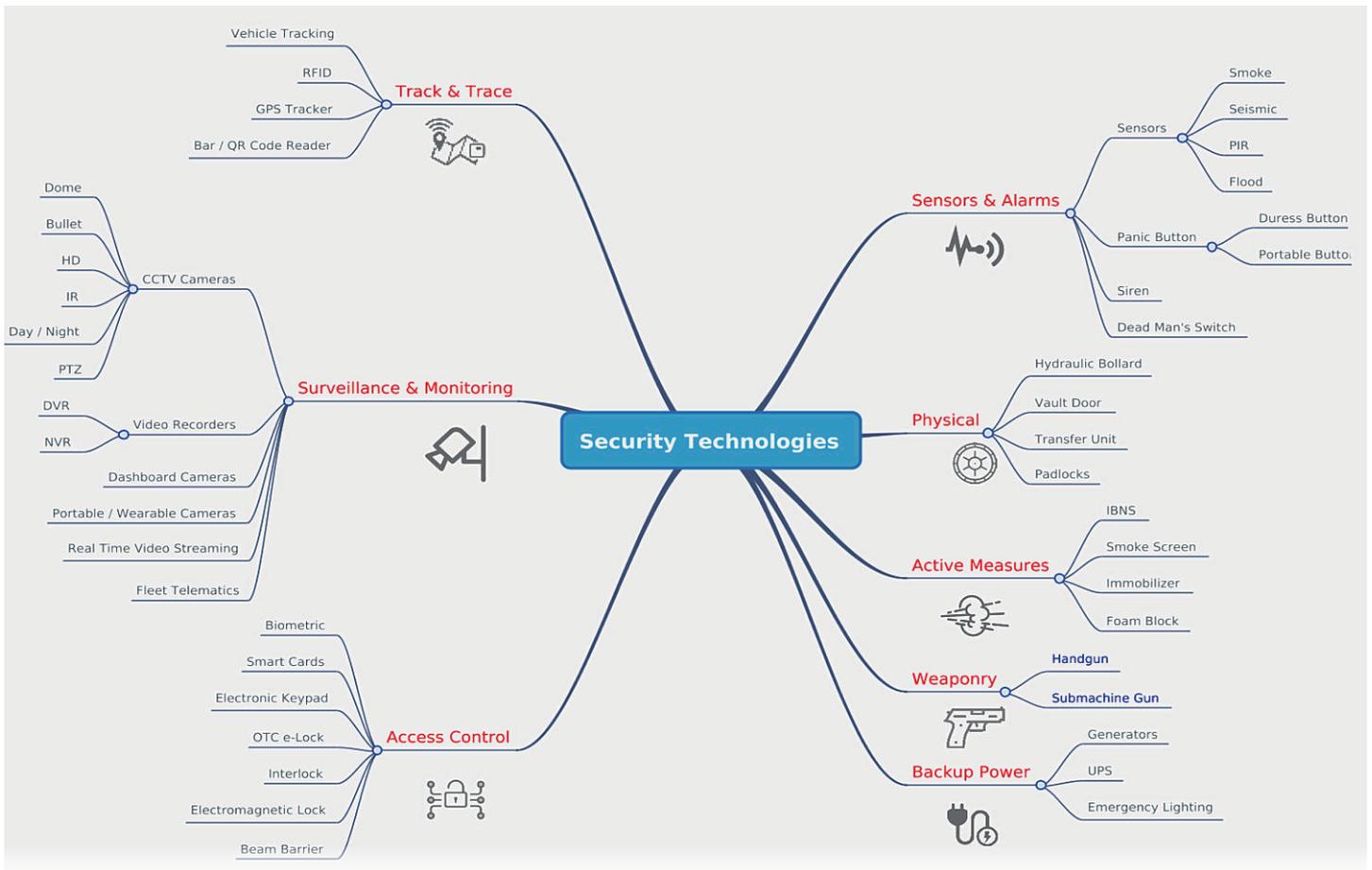
\*Bantas is a jointly-owned subsidiary of Denizbank (owned by Emirates NDB), QNB Finansbank (owned by QNB) and TEB (part of BNP Paribas) employing 1600 staff in Turkey providing a full range of cash management services.



**Information and communication technologies can improve and optimise performance in cash handling services.**



The various roles of information and communication technologies in cash handling services.



**Security technologies deployed in cash handling services.**

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Cash operations management is an area where technology is creating new opportunities to optimise and improve performance. New technology areas, the Internet of Things, artificial intelligence, big data, cloud computing, the block chain, cyber security techniques and even augmented reality, offer new ways of doing things. For example, better and more timely data, algorithms that learn and offer more appropriate solutions, lower computing costs, more secure ledgers and record keeping and new ways to deliver training and education.

Today when security meets logistics, the technology ranges from the hand-gun through to the provision of uninterrupted power supply (UPS) systems, from vaults to portable wearable cameras, from biometrics to panic buttons. The number of areas needing to be considered and the range of options available is vast.

**Automation**

An obvious area in which to invest is in automation, and the presentation provided indicative prices for equipment alongside how much faster each was relative to smaller machines.

Automation is changing fast in every

element of CHS. Almost every step of counting, sorting, strapping, bundling, packing and accounting can include automation. Significant reductions in head count can be achieved. Autonomous robots are starting to be used in a wider range of tasks, with the benefits of less human intervention important both from a health and safety and a security basis.

Automation is not a panacea, though. It needs to be driven by factors such as both the volume throughputs required and how much they vary, can processes be standardised, what is the cost of labour, will the repair and maintenance costs of what is bought be affordable and will the unit service prices still be affordable once the investment is in place?

**Final thoughts**

Technology offers solutions but it also brings risks. Whatever is put in place needs to be backed up, to have

**Security technologies**

Equipment	Equipment cost	Throughput increase
Counters	\$1,500-2,000	
Small sorters	\$5,000-10,000	x 5
Mid-level sorters	\$25,000-50,000	x 6
High speed sorters	>\$500,000	x 20

**Various scales of automated equipment compared by cost and impact on productivity.**

processes in place for when it temporarily 'falls over' and redundancy available for either when it has insufficient capacity or it fails for a prolonged period of time. Investment in technology is not

always the right answer either because of the cost/benefit analysis or because an alternative will give a better end-user experience. Not technology for technologies sake but because it is the

best answer.

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Story courtesy of Cash and Payment News.

View the original story at:

<https://cashpaymentnews.com/>

## MEMBERS' NEWSBOARD - LATEST STORIES FROM ACMA MEMBERS

### FUTURE OF ATM CASH PROTECTION

#### OBERTHUR CASH PROTECTION (OCP)

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With all the speculation about the limited future of cash, digital payment usage will undoubtedly increase - but with half the world's population without another viable option, cash will be here for some time yet.

ATM attacks were increasing before the Covid restrictions. While fraud related attacks decreased during lockdowns, physical attacks continued and in some countries increased.

The global ATM security survey undertaken by OCP with ATMMarketplace showed that just 32% of contributors expected ATM attacks to decrease post Covid.

It showed that CEN safes, especially explosive resistant models, are being widely installed. Unfortunately, experience has shown increasing the strength of armor results in attackers simply resorting to more powerful grinders or, more dangerously, greater amounts of explosives.

#### So how should ATM deployers protect their ATMs?

The answer is to deter the attack in the first place. Europol's 2019 report into ATM security identified using Intelligent Banknote Neutralization Systems, IBNS, to indelibly dye banknotes so reducing their value, or in some countries render them worthless.



ATM attacks will inevitably continue to evolve, especially in relation to types and amounts of explosives used. Deployed cash protection systems should be capable of meeting these new challenges; active IBNS is more than able to do so".

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To learn more, please view the full story on the ACMA website, [here](#).

### DLTs IN CASH IN TRANSIT

#### AURIGRAPH

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Aurigraph Distributed Ledger Technology is a mining-less protocol and platform that can deliver super scalability and zero latency, unlike conventional blockchain platforms. As the protocol is based on Triple Entry accounting principles, it can deliver Real-time Reconciliation and Track-and-Trace across value chains, thereby providing to

be the ideal platform for Financial Fraud prevention and Reconciliation.

Aurigraph DLT can reduce time and effort required for numerous rounds of counting and Reconciliation in Cash-in-Transit operations by 30-50% in both cash delivery and counting processes. Leakages and losses due to theft, fake or soiled notes can be reduced by 20-35%, hereby delivering significant value to CiT providers, while optimizing Cash

inventories significantly.

Aurigraph DLT can reduce Cash-in-Float from 21-30 days duration to under a week to help improve liquidity and cash flows and hence increase profitability of banks and retail chains by 2-4%, while reducing "dead" capital to low decimal values.

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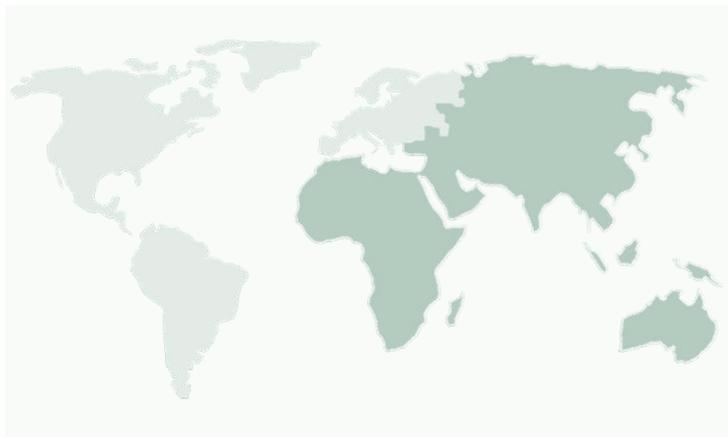
To learn more, please view the full story on the ACMA website, [here](#).



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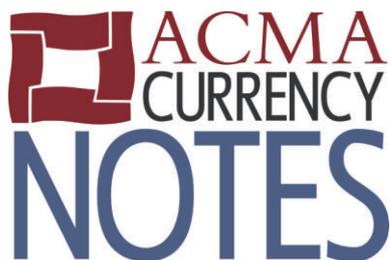
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