

THE REALISATION OF A CASHLESS SOCIETY WILL BRING HUGE BENEFITS TO SOCIETY, BUT THERE ARE MANY CHALLENGES FOR THE FINANCIAL INDUSTRY TO OVERCOME FIRST, SAYS **GRAHAM MCKAY** OF ATMIA EUROPE.



THE CASHLESS SOCIETY

- To achieve a cashless society we need:
- An alternative that is as convenient as cash
 - Improved technology in ATMs
 - Debate within the financial industry on standards and direction

While the cost of cash and controlling financial crime are clear drivers towards a cashless society, developing the technology and winning consumer confidence are major challenges. The financial industry, governments and ATM producers need to discuss these challenges and develop the conditions to make a cashless society possible.

A true cashless society is still some way off and it can only be achieved as a result of cash erosion by more convenient methods of purchase.

The pre-eminence of cash

Cash provides a globally accepted, convenient, instantly recognisable and tactile means of tender, while providing anonymity for the end user. Additionally, many people can only use cash due to their age or because they do not have access to a bank account.

European Central Bank, Federal Reserve and Bank of England statistics clearly show a year-on-year increase in the cash in circulation, demonstrating consumer confidence. However, cash also carries the problems associated with anonymity, such as tax evasion, the black market and criminal and terrorist activity.

In addition, any move towards a cashless society would need to assess the impact on economic stability as countries migrate away from dollars, euros and sterling towards other cash currencies. At present, more than 20% of euro currency is held outside the EU and 50% of dollar currency outside the US.

The cost of cash

One of the major drivers towards a cashless society is the cost of cash in circulation. According to the European Payments Council, the annual cost of the euro, including production, distribution and

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collection, as well as quality checks for counterfeits and note degradation, is €50 million, of which 60% is the cost of recycling cash (collection and distribution). On average, notes are re-circulated through national central banks 3.5 times a year with an average note life of 2.5 years.

It costs 50% less to issue than to collect and recycle cash, mainly because ATMs dispense cash so efficiently. So, the ATM industry’s first major challenge is to automate cash collection and recycling to the same level of efficiency.

The note counter and verifier is the most expensive component of the ATM cash-recycling machine. To meet European legislation, ATMs have to check note quality and authenticity as well as separate and withhold suspect counterfeit notes with account holder details.

The industry needs to reduce the cost of cash, not by just addressing CIT contract costs and reducing the cost per call, but through an open debate and an end-to-end assessment of cash flows and technology. This can be achieved by reviewing cash flow in three areas (see box, right).

As simple as cash

The technology to enable efficient and cheap e-payments already exists. Touch-and-Go systems have successfully been used at mass transit locations for some time.

Chip e-purse technology has also been introduced, with varying degrees of success. Its major drawbacks are that it takes longer to make a purchase at the point of sale and for transactions below €15, cash is cheaper. It is essential that e-payments are developed to be as convenient as cash.

The technology and the method of top-up must be introduced within a secure environment. Since the infrastructure surrounding ATMs – such as technology acceptance, network security, account audit, customer accounts and proven customer confidence – are all established, they are well placed to provide a solution to mass low-value top-up/e-payment.

The majority of notes in circulation, both in terms of cash dispensed and cash deposited, are mid-range, which makes them ideal for ATM recycling. The business case for recycling ATMs will be dictated by regional cash-positive and cash-negative analysis, which could be used in conjunction with the latest predictive software systems that provide cash-flow predictions, including cash in/cash out at ATMs and branches.

Improving technology

ATM manufacturers continue to invest in research and development, and can now provide a wide range of functions. Many of these are subject to the capabilities of the switching network, and progress will require investment in conjunction with the network provider.

With multifunction cards also on trial, all the components are available for a cashless society. However, implementation costs and statutory regulation remain a challenge for pan-European/US switching networks and transaction processors.

The financial sector also needs to discuss whether to use single, multifunctional ATMs or various, separate focused-function ATMs for cash and dash, drop and deposit and other non-cash functions.

The branch strategy for self-service is also a key factor in ATM design and production. With a strategy to follow, manufacturers would be better placed to focus their research, development and production, and reduce product lines and manufacture costs.

An essential requirement for a cashless society will be a convenient multifunction card providing contactless touch and go for low-value transactions, together with debit chip and PIN for higher-value transactions. This card would then be the catalyst for a move towards reducing cash in circulation, which will need to go hand-in-hand with secure technology to enable convenient top-up charging and use.

The level of infrastructure investment and education for banks, retailers and customers will make the move towards a cashless society prohibitive for many developing countries.

Beating the criminals

By adding value to a card, the criminal world will try to exploit weaknesses in the technology. To mitigate potential security issues, the technology should be introduced in conjunction with the financial industry, which has experience of the necessary controls, monitoring and audit for transaction-processing security.

International criminal organisations target three main regions – the UK, Europe and the US. By introducing e-currency, international policing can focus on one main technology across all borders. It is therefore paramount that the introduction of cashless technology is based on an international risk assessment and is not driven solely by competition between vendors.

The commercial sector tends to move faster to embrace technology than other sectors. Perhaps within the ATM environment, independent ATM deployers may be more inclined to adopt a new business model for increasing transaction flow by introducing card top-up for low-value transactions.

The main obstacles to introducing a globally accepted cashless concept will be the challenges of converting a technology innovation into a secure customer-accepted reality and providing end-to-end risk assessment. FBA

Analysing cash flow

Coinage and low-value notes (€5 and £5)

Cash notes and coinage are frequently used for lower-value transactions because they are cheap, reliable and tangible. Replacing the smaller denominations will require customer trust and an equally efficient method of transaction speed.

Although touch-and-go mass transit systems have been successful, top-up security and the cost of low transaction services will need to be addressed before this is accepted as a cash replacement.

Mid-range high-usage notes (€10, €20, €50, €100 and £10, £20)

The tables below provide information on the major notes in circulation for the UK and eurozone. (Similar patterns have been noted for the dollar.)

The euro		Sterling	
<ul style="list-style-type: none"> • 10 billion euro notes in circulation • Value in excess of €550 billion • 25% increase in five years • Seven denominations at 12 national central banks 		<ul style="list-style-type: none"> • Two billion sterling notes in circulation • Value >£35 billion • 25% increase over five years 	
Notes in circulation:		Notes in circulation:	
€5	1%	£5	11%
€10	8%	£10	30%
€20	20%	£20	53%
€50	50%	£50	6%
€100	18%		
€200	2%		
€500	1%		
Mid-range notes represent 96% of notes in circulation		Mid-range notes represent 83% of notes in circulation	

The mid-range notes in circulation are predominantly issued by ATMs, and they also represent the majority of cash deposited by retailers and small/medium business enterprises.

By analysing the geographic distribution of cash deposits and dispensing, it is clear that automated local cash recycling would offer the following advantages:

- Reduction in ATM cash-fill requirements
- Immediate interest on customer deposits
- Withdrawal of suspect notes and poor quality notes before bank acceptance
- Reduction in teller cost
- Better utilisation of bank staff
- Improved speed of deposit and account credit for customers
- Reduction in CIT risk (fewer calls)
- Reduction in the cost of cash recycling through national central banks
- 24/7 automated deposit (improved customer convenience)

High-value denomination (€200, €500 and £50)

The high-value notes tend to be withdrawn/deposited directly from a bank branch, and represent a minority of notes in circulation. However, the ECB has noted that €500 notes represent approximately 30% of the total value of notes in circulation.

Graham McKay

Graham McKay has been the executive director of ATMIA Europe since 2004. He previously worked for 11 years as the sales and marketing manager EMEA for Diebold International. He is a leading expert on security technology, responsible for implementing multimillion-dollar projects. He has a degree in electronics, is a chartered engineer and has an MSc in criminology.