



© CashGuard

Automated Cash Handling

Getting a handle on cash

About Us



Planet Retail is the leading provider of global retailing information, from news and analysis to market research and digital media. Covering more than 9,000 retail and foodservice operations across 211 markets around the world, many of the world's leading companies turn to Planet Retail as a definitive source of business intelligence.

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Executive Summary

Since the first version of this report was published in 2011, payment processes in retail stores have become even more complex and fragmented. Over the last couple of years, most markets have seen an increase of cashless payment shares. Issuers have begun distributing NFC-enabled cards for contactless payment. New mobile payment schemes are mushrooming with a multitude of new players aiming to grab a piece of the potentially huge and highly lucrative business. Many expect the imminent introduction of Apple Pay to become a catalyst for mass adoption of mobile payment, in a similar vein to what the iPhone did for smartphone distribution. However, it has to be recognised that consumers are reluctant to embrace the new schemes - not at least due to security and privacy concerns.

It is safe to say that cash will continue to play a significant role at retailers' checkouts for many years to come. And even if less notes and coins have to be processed over time, their handling will rather put more strain on operations in the future as central banks are cutting down on service and handling costs are increasing. Personnel costs make for the lion's share of the spending involved in cash handling but expenditure on logistics, insurance and tied-up capital also has to be considered. According to industry experts, for each euro of revenue, retailers have to pay one cent for cash handling.

There are more factors adding to the bill. Physical handling of money involves a number of risks, such as theft, robberies, cheating shoppers or fraud by dishonest employees. To cope with these challenges, technology vendors have been developing solutions to automate cash handling. The portfolio of systems and applications retailers can choose from is increasing and comprises technologies both for the checkout and the cash office. Available hardware includes coin and note recyclers of different types and sizes, machines which collect coins from shoppers and others which provide cashiers with coins and notes for change. There are software solutions on the market that can monitor the movement of cash through the workflow and track its current position.

From automating cash processes and ultimately closing the cash cycle, retailers expect to cut costs in the process and reduce, if not eliminate, the risks involved. This report will take a closer look at the technologies leading retailers are applying, comment on their practices and provide an overview on the technology providers to watch.

The war on cash

Governments and banks have long been trying to eliminate cash, sharing the future vision of a cashless society. While their goal is similar, motivation stems from different interests. State authorities require gaining full transparency on financial transactions striving to fight black money and prevent tax evasion. Financial institutes are interested in reducing or even eliminating the costs related to distribution and handling of notes and coins.

In the words of renowned economist Joseph Salerno, this is a 'war on cash'. It is highly doubtful whether this war can be won as consumers continue to rely on their beloved and trusted cash. This notion is supported by the following statistics:

Total amount of cash in circulation is ever-growing:

9% per year
Increase in number
of euro notes

(Source: European Central Bank)

10 years
Time when number
of dollars doubled

(Source: US Federal Reserve)

Top 5 advantages of cash in consumers' eyes

> SECURITY

Many consumers prefer cash as they fear misuse of their cards or card data. Recent reports on data breaches have further fuelled these worries.

> COST

Paying with cash comes without fees and often entitles shoppers for discounts.

> SPEED

Card payments are often perceived as slowing down the checkout process.

> ANONYMITY

Cash payments are anonymous and cannot be tracked and traced.

> SELF-GOVERNANCE

Many consumers use the amount of cash in their purses to manage their spending.

Key Findings

- Payment processes at retailers' tills are becoming more fragmented and complex.
- Despite substantial efforts from governments as well as financial institutions to eliminate cash, the amount of notes and coins in circulation has been increasing. Cash payments will remain popular with consumers and represent a significant share of checkout transactions for many years to come.
- Handling of cash is a challenge for retailers as it creates high workload as well as security risks for staff.
- Automation technologies can be instrumental in reducing if not eliminating these risks, help to improve the shopping experience for customers as well as job satisfaction for store employees, making store processes more efficient.
- Cash recycling systems deployed at the back office are an investment priority for large store formats and have shown fast return on investment.
- Smaller stores primarily benefit from front-store implementation of cash recycling technology. Particularly bakeries, pharmacies, convenience or forecourt stores increasingly opt for automated cash handling systems at their checkouts.
- Modern cash handling systems enable retailers to provide shoppers with banking services such as withdrawals, cash deposits, balance inquiries or bank transfers – leveraging on their store network and making up for the decreasing number of bank outlets.
- Ultimately, retailers can benefit from closing the instore cash cycle, completely eliminating manual handling of cash.
- However, the future vision of a fully-closed cash cycle between banks, CIT companies and retailers is still far from becoming a reality and requires substantial standardisation efforts of both technology and processes.

Cash payments will remain popular with consumers and represent a significant share of checkout transactions for many years to come.

On the way to a closed cash cycle

In the mid-90s, when Swedish cash automation pioneer CashGuard started to implement its first cash handling systems at local supermarket checkouts, deployment was mainly motivated by security reasons. In the Nordic countries, particularly smaller supermarkets, convenience stores and petrol stations had been subject to sometimes brutal robberies. Retailers were also losing significant amounts of cash at their tills through theft and fraud by shoppers and their own employees.

Cash management solutions have an even longer tradition in Japan. Over the last 30 years, market leader Glory has installed more than 200,000 systems in its home country. However, deployment of the technology stems from a different motivation. Investment from Japanese retailers is strongly driven by the notion of providing customers excellent service.

Cash recyclers at retailers' tills can be operated with the assistance of cashiers or self-service. Coin payment is typically executed in self-service while note payment has initially predominantly been handled through the cashier.

Many grocery retailers, such as Norges Gruppen in Norway - one of the pioneers of the technology - have implemented it in this way. In a similar vein, Shell's German petrol station and convenience store operation has set up the coin unit to be accessible to customers while the cashier still handles the notes.

Cash Recycling

Cash recycling units are able to dispense money from the stock of coins and notes that it previously collected. The main benefit of this type of machinery is that it requires fewer service interventions and binds less capital. Simple cash handling systems, without cash recyclers, give change from a separate stock that needs to be frequently refilled while the money collected is stored in a different place.

As cash recyclers dispense the same notes or coins that have been fed to the machine, there needs to be even more secure methods to identify denominations and verify the authenticity of the money. A number of different security features are being checked to make sure that no counterfeit money will be accepted or dispensed.

At many cash recyclers, users can throw copper and silver unsorted into a funnel. The machine will then verify, sort and count denominations and finally store each of those in tubes or hoppers. From these, the machine can later dispense change. Fake coins, buttons or other objects will be automatically detected and rejected.

Normally, retailers require more coins for handing out change than they collect from customers. The machine keeps track of its content and sends a message if it is running low on certain denominations. Staff can then feed the system using the funnel; in this way, the system does not have to be opened during operation.

Even though they use different technology, note recyclers work in a similar way. Typically, a sufficient number of notes, often limited to some of the smaller denominations, will be stored temporarily inside a mechanism which is able to also dispense the bills. The remaining ones will be stored in a surplus stock to be collected later. Vendors are offering solutions with different specifications according to the requirements of different markets and applications.

Automated cash handling systems typically can save 30 minutes administration time per shift and lane. © CashGuard



More recently, there is a trend towards self-service for notes. Improvements in note handling technology have encouraged more and more retailers to deploy cash recyclers which are fully self-service. For example, French grocery retailers Auchan and Carrefour have mounted their recyclers at the end of the belt in a way that customers operate payment both by coins and notes in self-service. In this way hidden manipulation, which would still be possible if a cashier handled the money, are eliminated.

Another advantage is the improved security against counterfeit money, which is a threat to retailers. Authentication of notes and coins is automatically executed inside the machine, different security features are checked and false notes and coins are sorted. Surplus notes are stored either in cassettes or so-called sealed safe bags.

Once inside the machine the money cannot be reached which eliminates manipulation completely. Outlets deploying the technology are no longer so vulnerable to theft since only authorised persons holding a key can access the money.

Speaking with Planet Retail, Kurt Thomassen, Head of Security at Norges Gruppen, said that after the CashGuard system was implemented shrinkage immediately went down to zero. Meanwhile, the number of staff that had to be made redundant because of fraudulent activity or theft has been cut by 30%. The technology has also significantly reduced the risk of theft or robbery at Norges Gruppen stores.

Return on Investment

Return on investment for automated cash handling technology can vary according to type of store and operation as well as the level of wages in different markets. Evaluating case studies from diverse front-store and back office implementation projects, Planet Retail learned that typical ROI times range between 15 and 24 months and can even be as low as 12 months.

These security improvements are extremely relevant but difficult to measure in a return on investment calculation and, therefore, are often seen as soft benefits. More hard savings can be scored when looking at the reduction of labour costs.

Cash recyclers help save labour costs

Deploying a cash recycling system at the checkout saves a lot of administration time. Before each shift, the cashier has to pick up a money cassette from the cash office and count the amount of exchange stock. At the end of the shift, the cashier brings the cassette back to the cash office and the money has to be counted, usually at least twice, and compared to the revenue booked at the POS system. For security reasons, counting always requires two people. For each shift, the efforts related to cash retrieval and disposal can add up to 30 minutes per checkout lane.

Depending on store type, revenue and opening hours, eliminating this process through automation could save labour costs of 30-90 minutes per day per checkout. Longer opening hours contribute to the business case due to the higher number of shifts. What's more, there are additional time savings as less training is required - particularly in retail, with its high percentage of part-time workers and frequent fluctuations of staff, training efforts must not be underestimated.



Customers feed notes into the recycling system at this Leclerc Store in Freyming Merlebach, France.

The cashier's role is changing

Freed from cash handling, the role of a cashier changes significantly. He or she is no longer responsible for the money. This means less stress for employees as they don't have to worry if their cash balance is correct at the end of the shift. Cashiers also have more time for serving customers although some may argue that the reduced responsibility may diminish their role. In fact, in some countries, such as in France, employees who are not entitled to handle cash can be placed in a lower wage group. This will help the business case but may cause discussions with labour unions.

Contrary to POS systems with traditional cash drawers, tills equipped with cash recyclers can be opened and closed very quickly. Since cashiers are freed from cash handling, no preparations are needed to open a lane. This strongly improves the ability of retailers to flexibly adapt to peaks and troughs in customer frequency.

Self-service payment can be slower

While there are definitely time savings in preparing, organising and administering the cash process, self-service cash payment is often perceived as slower. Particularly, those customers who are not familiar with the system may need longer to feed notes into the machine.

Retailers deploying cash recyclers report that the practice only takes a few seconds more but the perceived time is longer. This is because customers cannot see what is going on inside the machine. When interacting with a cashier, customers can actually observe what the cashier is doing such as checking the authenticity of notes, counting cash and giving change.

Nevertheless, best-in-class implementations have shown that cash automation can facilitate a faster throughput at the POS. A Conad merchant in Palermo, Italy, stated that checkout times significantly improved since Glory's CashInfinity recyclers were installed. Also, Swedish specialist CashGuard reports that it measured savings of up to 50% transaction time. To achieve this, not only does the equipment have to be capable of operating quickly and smoothly, the flow of the checkout operation also has to be optimised.

The process could be improved if customers feed the machine with their notes and coins before the assistant finishes scanning. Even if they overpay the total amount, the system will always give back change in the optimal denomination. Particularly, coin handling could be accelerated if customers put coins into the system in advance without counting.



Cash recyclers can also be found at self-service restaurants. © CashGuard

The technology can motivate customers to dispose of their copper and silver. This in fact is a win-win situation. Retailers are normally in demand of coins as banks and cash in transit (CIT) companies charge them for the supply. In many markets, costs for this service are soaring. For example, in Germany, Deutsche Bundesbank (Central Bank) is only distributing and accepting coins in standard containers. The one for EUR1 coins alone contains 3,000 rolls worth EUR75,000 (USD105,027) - much more than required by any retail store.

The additional logistics necessary to solve this problem adds additional costs to coin logistics. More customers bringing in their spare coins can partly balance out the volume and reduce the amount of coins, thus cutting retailers' costs for sourcing.

In conversation with retailers using the technology, Planet Retail has learned that so far only a few shoppers take advantage of this opportunity. In fact, many still try to find the exact amount in their purses like before. Shoppers tend to try to get rid of the smallest denominations such as copper coins. Unfortunately, these are not in high demand from a retailer's perspective because they typically require more silver.

US consumers dispose of coins

In any case, the coin challenge can vary significantly with different currencies. Payments in US dollars are normally only made with notes because its smallest denomination is the one dollar note. US consumers receive large numbers of coins as change but rarely ever use those when they pay. Many retailers in the USA have implemented standalone machines, such as those from Coinstar, in the entryway at stores that allow customers to dispose of their coins. Generally, they will receive a voucher which can be used for payment at the till.

This service is well-received by US shoppers even though Coinstar charges 9.8% on average at all of their locations for this service. These machines spare shoppers a visit to a bank even though the latter offer the service for free or at a discount. Retailers benefit from this because they can use the coins to supply their tills with change and avoid at least part of the replenishment costs.

In most European countries, notably in the Euro Zone or the UK, coins are more frequently used for payments. Therefore, similar solutions have not gained much interest. However, in 2013, Tesco implemented self-service coin counters from cash handling specialist Cummins Allison at selected stores in the UK. Stephen Law, Assets & Estate Buyer at Tesco, said: "The coin counters are a great way for our customers to exchange their pennies for pounds, ensuring their pockets and purses aren't jangling with small coins."

Banking services at retailers' tills

As banks have been scaling down their net of branches continuously, some retailers began to see this as an opportunity to attract more customers by providing financial services in stores. Norwegian Norges Gruppen, which has comprehensively implemented cash automation technology at its tills, started to provide banking services in stores back in 2008. Among other facilities, customers can withdraw cash from their bank account when paying with their debit card at the retailer's checkout. The cash recycler dispenses the money in the same way as an ATM.

In co-operation with German Postbank and technology provider Wincor Nixdorf, Shell's German petrol station and convenience store operation started to implement cash recycling technology and provide withdrawal services in June 2009. The retailer has since rolled out the systems in Germany and Austria. According to the retailer, several outlets achieved a recycling rate of up to 80%.

The latest and most advanced example comes from Edeka independent store owner Gerd Grümmer who is offering its customers banking services at its four Edeka Grümme supermarkets in the north German city of Neumünster. Services here are also facilitated through a partnership with German Postbank while the cash handling technology comes from specialist Glory, implemented by the retailer's POS systems provider Micros.



At this Delhaize Group Bloom Superstore in Charlotte, USA, Shoppers can cash in surplus coins at the Coinstar kiosk.



German Shell customers can draw cash from their Postbank accounts when they pay for fuel. © Wincor Nixdorf



Edeka Grümmi in the German city of Neumünster offers customers banking services. More complex transactions can be performed at special service desks. © Glory



At this fully-automated scan portal in an Esselunga store in Italy customers scan and pay in self-service. © Glory

Basic functions such as cash deposits, withdrawals and balance checks can be executed at every till. To allow for more time-consuming transactions, the retailer has set up additional service units. Different to the cashback service, made popular by competitor Rewe Group, shoppers can take out money independently of a purchase.

Benefits for shoppers are obvious and mainly driven by convenience. Retailers profit from a number of factors. Firstly, its cash-in and cash-out transaction becomes more balanced and fewer notes have to be disposed through cash in transit (CIT). According to the technology vendors, up to 60% of CIT costs can be reduced this way.

Secondly, cash flow can be improved. When a retailer partners with a bank to provide financial services, it effectively expands the ATM network of the institute. The exact amount of cash inside the system is monitored and can be credited to the retailer's account on the same day - this normally takes two or three days.

Cash-back services at retailers' tills are becoming more and more popular. Cash recycling technology supports the process perfectly. Particularly consumers living in an area with a low penetration of banks and those travelling by car can benefit from the new service.

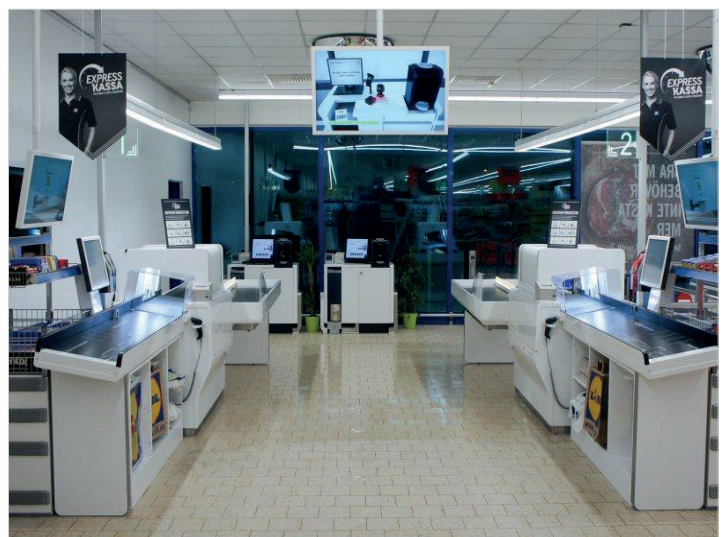
Cash recycling at self-checkouts

Cash recycling technology is not only enhancing processes at serviced tills. The latest generation of self-checkouts from major vendors such as NCR, Wincor Nixdorf, Toshiba and Fujitsu integrate recycling capabilities at least as an option.

Swedish checkout specialist ITAB markets an advanced fully-automated self-checkout solution that integrates Glory's CashInfinity cash recycler. This solution has been successfully deployed at a Coop store in Sweden. Another fully-automated self-checkout system, comprising the CashInfinity modules and Datalogic's Jade Scan Portal, can be found at Esselunga in Italy.



Tesco's new NCR self-checkout systems at their Lincoln Extra store feature recycling technology.



Schwarz Group's Lidl store in Gothenburg features both Itab's EasyFlow automated self-checkouts as well as recyclers from Gunnebo.

The advanced technology makes these systems more expensive but the enhancement is likely to deliver a return on investment in the short term. In addition, these machines have to be serviced less frequently. Both supply with change and skimming of surplus money are reduced because amounts taken in and dispensed are balanced to a certain extent. For the same reason these systems tie up less capital.



At nine Leclerc hypermarkets, notes are collected in special interface cassettes which automatically feed into cash recyclers at the back office. © Glory



Bulk coin recycler, with the focus on high capacity and speed. © Wincor Nixdorf

Automating the cash office

Even if cash handling at the checkout has been automated, there is a large amount of manual work to be done at the retailer's cash office. Particularly, larger stores with a high number of checkouts can benefit from automating cash processes at the back office. While the technology at the checkout had initially been introduced for security reasons, the primary driver for automating processes at the cash office is efficiency. Main tasks at the cash office are to provide cashiers with change, collect surplus money from the tills, count and store the money and finally facilitate collection by the CIT company.

This again involves a number of counting procedures. Most of the larger retailers have been using mechanical and automated systems to count the money. Generally, safes are being used for storage. Depending on the arrangements with the CIT company, collection of the money is prepared by placing it into cases or bags.

Including the functionalities of collecting money, storing it and dispensing change, cash recyclers can automate all of these steps and eliminate most of the daily routines. Technology vendors claim that 40-60% of the savings from automated cash handling can be derived by applying cash recycling systems at the cash office. These solutions can either be applied as standalone systems or operate fully-integrated with cash recyclers at the front-store.

If the checkout is still operated in the traditional way, cashiers take their cash boxes to the system at the beginning of their shift and retrieve their exchange stocks. In most cases they have to do this separately for notes and coins. They also have to fill their cassettes with denominations manually. Only with some of the more advanced systems do the machines fill cash boxes automatically.

Standalone systems at the cash office

At the end of each shift, cashiers take the cash boxes with their daily revenue to the cash office and feed the money into the recyclers. Bulk coin recyclers can cope with large quantities of coins - the cashier can just empty the drawer into a funnel at the machine and the system will automatically count and sort coins by denomination. Notes can also be fed into the machines in larger bundles. A certain portion of the notes, typically related to smaller denominations, are temporarily stored inside to be recycled later. Surplus stocks of these notes as well as larger denominations are stored separately, to be retrieved later by the CIT company.

Some of the systems use cassettes for this purpose while others place the money into plastic bags that are automatically sealed - so-called safe bags. Notes in these containers are not sorted. Nevertheless, the system knows the exact amount of money inside each case. To clearly identify these bags or cases, tickets and barcode tags can be printed and attached to the containers. This helps to further monitor the flow of the money and to facilitate transfers to the CIT company.

In most cases, transport containers integrate technology to prevent unauthorised persons accessing the money. If an attempt to open the case without a key is made, an explosive device will distribute ink across the notes. Marked in this way, these notes will not be of any use for the thief but they can still be cashed by the legitimate owner. This technology will even work for money placed in safe bags. It enables the transport of money without using armoured cars and personnel.

Closing the cash cycle inside the store

Only if recycling technology is being used both at the checkout and the cash office, can the cash cycle at a retail store be fully closed and all manual money handling be eliminated. To achieve a seamless process between the front store and the back office system, the money has to be transported in a container which does not allow access to the money. This requires a transport unit that is automatically emptied at the cash office system.

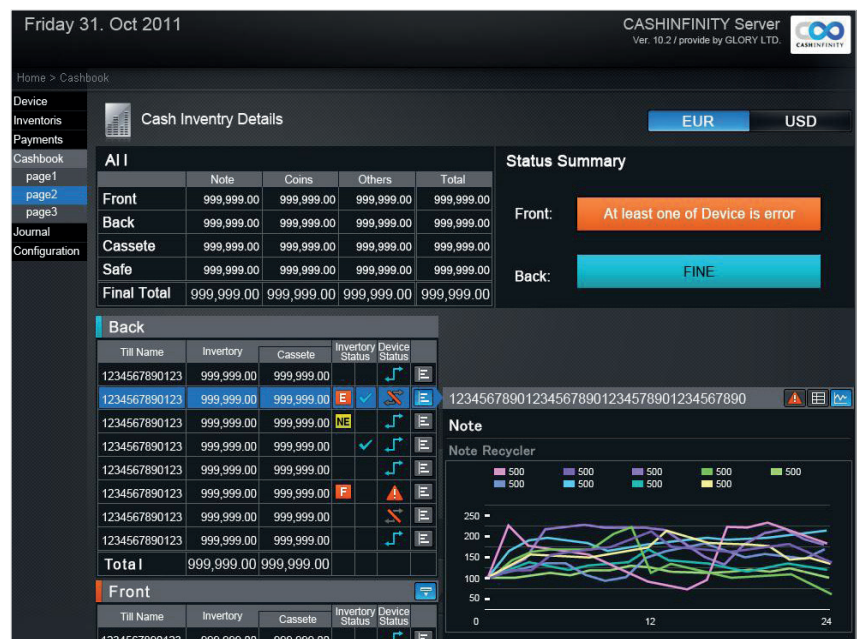
Typically, an authorised person will be equipped with a container which can be docked to the recycler at the checkout. Surplus money will be automatically retrieved from the system and stored inside the transport unit. Staff will then take it to the recycler at the cash office and again dock it to the system. Finally, it will be emptied into the cash office machine automatically. To secure the money during the transport phase, ink technology could be applied.

The role of the CIT

The final step in the retail cash cycle is interfacing with CIT companies.

Most of the technology vendors provide monitoring software that gives transparency on the exact amounts and denominations of money in each of the machines. The solutions also enable electronic tickets to be sent to the CIT to inform them about cash to be collected and supplied. In order to create a common software interface between the retailer and the CIT, some of the solution providers are working with standardisation body GS1 to adapt their solutions according to the GS1 Cash Logistics standards.

At present, standards are also missing for the transport units being used. By and large, CITs are deploying their own containers which suit the infrastructure of their vehicles. These units are mostly secured by ink technology or GPS tracking, sometimes even both.



Cash management software provides full transparency on cash inventory and processes. © Glory



CIT staff can collect notes in a secure environment from the rear of this through-the-wall mounted recycler. © Wincor Nixdorf

Safe bags can be collected and placed into these containers but cassettes used at some of the cash recyclers may not fit the CIT's infrastructure. If applied, these require additional investment which can be justified if the cassettes will also be used to supply ATM networks with new cash.

It requires huge efforts to revolutionise and harmonise the entire cycle of cash supplies not only on the retail side but also in banking. Wincor Nixdorf, a technology vendor which is active in both these sectors, has communicated its vision of a closed cash cycle across the two. Before this objective can be reached, a huge number of obstacles have to be overcome both from a technological and a political perspective.

However, retailers must first look at the processes inside their own organisations and identify areas that benefit most from the new technology. Based on the type of organisation, different approaches have to be taken to gain the best return on investment.



Pharmacy Mallol, Andorra: Increasingly, pharmacies are seeing benefits in self-service payments.
© SCAN COIN

Different formats require different solutions

To go full circle in automating the cash cycle inside a store, significant investment in sophisticated technology both at the checkout and the cash office is required. Such an investment is justified for large format stores with high revenues and a high percentage of cash payments. Italian cooperative Conad, for example, successfully, piloted Glory's CashInfinity solution in a store with 92% cash rate that processes 1,800 transactions a day resulting in EUR20,000 of revenue.

In a similar way, French cooperative Leclerc has implemented Glory's CashInfinity solution at nine of its hypermarkets. Cash recyclers are integrated into all of the store's checkout lanes and service points. Notes are collected in special interface cassettes which automatically feed into cash recyclers at the back office, thus completely eliminating exposure of the money to staff.

Surplus coins at the registers are collected in overflow trays and filled into the back office cash recycler in mixed denominations. Tills can also be replenished from bags with mixed coins. Cashiers are completely relieved from cash handling and can begin and end their shifts without spending any time for preparations or post-processing. For each shift and checkout lane approximately 30 minutes of time savings were gained.

Also other operators consider closing the cash cycle in their stores. Among them is Swedish home furniture giant IKEA which is running Wincor Nixdorf's Cineo systems in France and Germany as well as German Metro Group. Both retailers have taken a step-by-step approach starting at the back office. Others, like French hypermarket chains Auchan or Carrefour, started trials for the front-store technology in their home country but piloted cash office solutions abroad.

For some of the larger stores with a high number of checkouts but a relatively low percentage of cash payments, it may be an option to just automate cash offices and self-checkouts with recycling technology and continue to operate manned tills in the traditional way.

For smaller formats, such as superstores or supermarkets, it may well be sufficient to use less sophisticated technology at the cash office. While taking full advantage of recycling technology at tills, those stores could install machines that automatically count and store notes but lack the capability to dispense exchange stock. Due to the high demand of coins for giving change in those store types, it may still make economic sense to deploy coin recyclers.

In most cases, the number of tills at small outlets, such as neighbourhood stores, bakeries, pharmacies or convenience stores, may not justify a cash office system at all. Here, CITs can collect cash directly from recyclers at the checkout. Alternatively, retailers can equip one of the tills with a machine that provides a higher capacity and operates as a master system.

Discount stores bring a specific challenge. They usually have an extremely high volume of cash that has to be handled both at tills and at the cash office, thus building a strong case for automation technology.

Nevertheless, discounters have initially been shying away from using cash handling systems at their tills. This is due to the fact that they are very keen to avoid any slowdown of throughput at their checkouts. Early trials at the laboratories of Schwarz Group-owned Lidl in Neckarsulm, Germany, showed that systems available at this time had not been able to cope with the discounter's extreme requirements regarding efficiency and reliability. Since then, the technology has matured significantly and Lidl's checkouts in Sweden have been equipped with cash recyclers.

Planet Retail has also learned that another leading German discounter is one of the largest European deployers of back office cash automation with Glory CashInfinity recyclers.



CIT staff collects cash at a recycling system deployed at a German Shell petrol station. © Wincor Nixdorf

Big Opportunities in Small Store Formats

Over the last couple of years, front-store cash recycling systems have continuously gained ground in small store formats. In addition to convenience and forecourt stores, particularly pharmacies and bakeries see strong benefits in implementing the technology. Similar as for other operations, customer service, efficiency and security are seen as key reasons for automating payment processes. However, for bakeries and pharmacies another pain point can be solved using cash recycling systems.

Hygiene is of paramount importance in both sectors. Coins and notes may transport germs and viruses, therefore sales assistants working in bakeries should not touch bread or pastries before washing their hands or putting on gloves. With self-service cash payments employees can avoid touching potentially contaminated notes or coins altogether.



At this bakery in Montpellier, France, sales staff no longer handle cash. © Glory

Challenges for technology vendors

For retailers, cash handling technology is still a relatively new concept. Nevertheless, it is able to tackle a number of problems they are facing. Expectations are that the technology will significantly improve the security and efficiency of instore cash processes. However, there are a number of issues vendors will have to resolve before more retailers will be willing to roll out the technology comprehensively.

For the front-store systems, usability and speed of operation are key factors and both are closely connected. Only if shoppers are able to use these systems in an intuitive way will the payment process go smoothly and not require assistance from staff. The systems should give change at least as fast as a skilled cashier to not slow down the payment process.

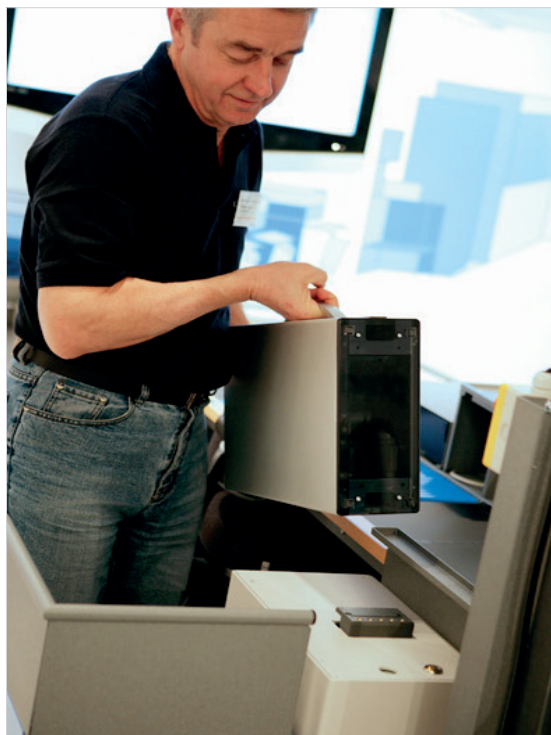
Systems at the cash office have to cope with large amounts of cash every day. Therefore, the technology needs to be extremely robust and reliable. Not every note accepted at stores is equally fit. There may be dog-ears and creases causing jams inside the machine.

If such a problem occurs, the system has to resolve it with minimal interference of staff.

Last but not least, the technology is still lacking standards. Different vendors are applying different types of cassettes that are not inter-operable. At the moment there are no standardised software interfaces facilitating communication between retailers' and CITs' systems.

To overcome this hurdle, GS1 Germany launched its working group 'Cash-Community' to develop unified industry standards for the cash cycle. The group comprises financial institutes, CIT companies and technology providers as well as retailers such as Rewe Group, Metro Group and dm. The initiative aims to speed up the processes and provide transparency and security between stores and the federal bank.

Sub-projects include transferring the GS1 numbering system to cash logistics and developing common IT interfaces. Existing cash EDI standards, already obligatory for banks, are planned to be expanded to cover the entire cash cycle.



As of today, cassette systems used for transporting cash are not standardised. Left © SCAN COIN; Right © Wincor Nixdorf

Who's doing what

Auchan

French grocery retailer Auchan has installed cash automation solutions from both Glory and SCAN COIN.

Glory's CashInfinity systems have been implemented as a back office recycling solution to automate cash offices.

Auchan installed automated cash handling systems from SCAN COIN at the checkouts of its Auchan City store in Tourcoing, Northern France. At the CashComplete recycling systems, customers pay for their purchases by inserting notes and coins into a self-service payment terminal mounted at the end of the cash desk. Auchan extended the partnership with the vendor and installed SCAN COIN back office solutions in more than 10 French stores.

Through their CIT operators, Auchan installed 30 back office solutions from SCAN COIN at outlets in Portugal. The CIT gets full control of the cash resulting in fewer but more efficient pick-up visits.

Carrefour

In November 2009, Carrefour automated the handling of cash at all 35 checkouts at its hypermarket in Cesson-Sévigné close to Rennes in France, with machines from SCAN COIN. Shoppers can easily deposit their cash at the end of the desk and get the change in return automatically.

The technology allows Carrefour's staff to transfer notes into a back office safe using a special transport unit without exposing the cash at any time. Security firm Brink's schedules the collection of notes and supply of coins for the store according to the data the SCAN COIN solution provides.

Since then, the French hypermarket operator has introduced the technology to six more outlets and also began trialling back-office cash recycling systems, for example at an outlet in Rue de Rochechouart in Paris.



SCAN COIN's CashComplete front-end solution at Carrefour's new Villeneuve hypermarket.

Conad

Italian co-operative Conad fully closed the cash cycle at a store in Palermo using Glory's CashInfinity solution and implemented recycling technology both at all checkouts and in the back office. According to the merchant, the main reasons for the move were the high level of security as well as increased productivity and customer service the system provides. He claimed that the store saw strong reduction in costs connected with processing cash. The self-service systems at the retailer's tills are well-accepted by customers as well as cashiers.

Coop (DE) in Germany

Coop Germany chose to automate the cash handling in four of their "Plaza" stores with SCAN COIN's back office solutions. By streamlining their cash administration and verification procedures, the system enables faster and more efficient cashier routines for collecting cash floats and depositing the day's revenues.

Coop Norge

Coop Trading - the inter-Nordic procurement company of Norwegian Coop Norge, Swedish KF Gruppen and Danish Society Coop Denmark (FDB) - deploys SafePay cash handling systems from Gunnebo. The solution handles the cash process in a closed loop from tills to CIT without staff needing to handle the money at all.

"A safe store and a safe environment for our staff and customers are high priorities for Coop," said Anders Gruvfors, Manager of the Swedish Coop Nära chain. "The new SafePay with ink protection provides a closed system all the way from the store to the counting centre."

Coop retailers in the Nordics have been deploying Gunnebo systems since 2003 but are also using CashGuard's solutions, Gunnebo's competitor.

Delhaize Group

In 2010, AB Vassilopoulos started to deploy back office cash recycling systems from Wincor Nixdorf in all of its stores in Greece

Edeka

A number of independent store owners from German co-operative group Edeka implemented automated cash handling solutions from different vendors at their checkouts. While former Advisory Board Chairman, Peter Simmel, opted for Gunnebo, Heinz-Wilhelm Paschmann implemented cash recycling technology from Wincor Nixdorf in all of its nine stores located in Mülheim, Oberhausen, Moers and Düsseldorf.

Edeka Paschmann's Proxy Holder Markus Trenkner told Planet Retail that customers benefit from the solution due to the fact that cashiers are less stressed and are free to provide better service. "We can now deploy personnel more flexibly," he continued, pointing out that the system requires no log on or log off from cashiers and that tills can be immediately opened or closed without any preparation.

The retailer explained that increased security and efficiency have been the main reasons to invest in the technology. Shop owner Rüdiger Zurheide also relies on the Wincor Nixdorf solution at its Düsseldorf flagship store. Edeka shop owner Rørup in Rockenberg, Germany, installed Toshiba's cash management solution at the checkout. The vendor implemented CashInfinity recycling components from its partner Glory together with its own POS hardware and software. Customers feed coins into the system while notes are handed over to the cashier who places them into the machine.

In October 2012, Gerd Grümmer started offering banking services at his four Edeka stores also using Glory's CashInfinity systems, in this case supplied by Oracle-owned Micros Retail. Edeka Nord's independent store owner Martin Ziegler in Germany also equipped his new outlet in Hamburg-Wilhelmsburg with POS systems from Micros and CashInfinity recyclers from Japanese specialist Glory. Two other co-operative members have implemented the rival SCAN COIN's cash recycling technology at the checkouts.

Another store from the Edeka Nord co-operative automated its back office with cash handling systems from Gunnebo.

"A safe store and a safe environment for our staff and customers are high priorities for Coop."

Anders Gruvfors, Manager of Coop Nära



Cash automation at an ICA store in Sweden. © CashGuard

ICA

ICA deploys cash recycling technology predominately from Swedish specialist CashGuard at the retailer's stores across its different banners.

IKEA

In January 2012, IKEA selected Wincor Nixdorf's Cineo line of cash recycling systems to automate cash handling across its international operations. The decision followed successful pilot installations in France and Germany. Initially, the retailer is rolling out the technology to all of its cash offices. In 2014, more than 300 IKEA stores were equipped with the solution. In a second step, IKEA will also implement recycling technology at its manned checkouts.

Leclerc

Ten independent shop owners from French Leclerc group have automated the handling of cash at all checkouts in their stores. The Leclerc stores in Étampes and Rueil-Malmaison are equipped with the Cash Complete solution from Swedish specialist SCAN COIN. Some stores have lately also installed the vendor's back office solutions.

Starting in one of its hypermarkets near Paris, Leclerc implemented Glory's CashInfinity solution aiming to close the instore cash cycle. Cash recyclers are integrated into all of the store's checkout lanes and service points. Notes are collected in special interface cassettes which automatically feed into cash recyclers at the back office. Surplus coins at the registers are collected in overflow trays and filled into the back office cash recycler in mixed denominations. Cashiers are completely relieved from cash handling and can begin and end their shifts without spending any time on preparations or post-processing. The solution has so far been rolled out to nine of the retailer's stores.

Metro Group

Real

Real in Germany installed recycling technology from Swedish specialist Gunnebo in 27 of its stores in Germany. With SafeCash Retail Stations installed in the back office of the stores' cashiers can fill, refill and empty their tills. At the start of the day they are allotted a float consisting of standardised amount of coins and notes and at the day's end the cash is re-deposited using the system. The station counts and authenticates the notes and coins then issues a receipt.

Metro Cash & Carry - Germany

Metro is piloting cash recycling systems at checkout of some of its cash & carry stores in Germany, using technology both from SCAN COIN and Gunnebo.

Metro - Denmark

In August 2010, Metro implemented Wincor Nixdorf's cash recycling solution at the back office of its outlet in Glostrup. The store is equipped with two iCash 50 note recyclers featuring ink technology and four iCash 15 coin handling systems. The retailer plans to implement the technology in five of its stores.



SPAR Norway. © CashGuard

Migros

Migros so far installed more than 150 cash handling solutions from SCAN COIN across stores in Switzerland to automate its cash offices. With its RetailOne software, which is part of the back-office solution, Migros gets online data on transactions, machine content, operational status and machine events in real time. The software also provides CIT operator with information of the cash flow and when to collect the sealed cash packages.

Norges Gruppen

Norges Gruppen has been deploying cash handling technology from Swedish specialist CashGuard at the checkout since 2003. Initial drivers for the decision were security reasons. The retailer had been subjected to theft and robberies in addition to fraud from its own staff. The retailer achieved time savings of at least 20 minutes for each cashier due to the fact that they no longer have to deal with the money. Norges Gruppen reported that employees and unions commented positively on the solution. Cashiers feel more secure and have more time to spend with customers. Shoppers can also draw cash from their accounts at Norges Gruppen's tills.

Rewe Group

Since 2003, Rewe Group in Germany has been running several tests with cash handling machines from CashGuard. The tests have taken place in Rewe's Hungen and West regions. Independent shop owners are testing the system as well as Rewe Group-owned outlets. In 2006, Rewe launched another test with CashGuard's competitor Gunnebo at a supermarket in Donzdorf near Stuttgart. In 2012, the retailer also announced plans to test a cash recycling system in the back office of one of its stores.

Schwarz Group

Schwarz Group-owned discounter Lidl deploys Gunnebo's closed cash handling solution, Safepay, in 21 stores in Sweden. The decision follows a pilot in one store in Akalla.

SPAR International

SPAR implemented a total of around 1,000 CashGuard front-store automated cash handling systems across stores in Denmark, Norway, Ireland, France, Austria and South Africa.

Top solution providers to watch



CASHGUARD specialises in cash management solutions for the retail industry. The company was founded in 1991 and has since then grown into a market leader for retail cash management with more than 25,000 systems operating in 25 countries around the world. CashGuard is headquartered in Stockholm, Sweden and is a wholly-owned subsidiary of PSI Group.

Solution Portfolio:

- Coin recyclers, note recyclers and note collectors, movers and deposits as well as application software.

Customers include:

Axfood, ICA, McDonald's, Norges Gruppen, Monoprix, SPAR, Statoil and Systembolaget.

> CEO:

Roine Gabrielsson

> Country of origin:

Sweden

> Interesting fact:

CashGuard's products are developed and manufactured in Sweden.



GLORY is the global leader in cash automation solutions for the banking, retail and gaming sectors with a total of more than 1 million systems installed worldwide, and thereof 300,000 cash recyclers. It has been marketing cash automation solutions to Japanese retailers since 1985.

In addition to deploying standalone devices, Glory partners with ITAB, Micros and Toshiba to deliver integrated POS and self-checkout solutions to retail customers around the world.

Solution Portfolio:

- The CashInfinity® solution portfolio provides automation for both front and back office environments independently or integrated to deliver closed loop cash management across the store.

The modular solution includes coin recyclers, note recyclers, middleware and management software designed to meet the needs of all store formats from boutiques to hypermarkets.

Customers include:

Auchan, Bauhaus, Conad, Coop Italia, Edeka and Leclerc.

> President:

Hirokazu Onoe

> Country of origin:

Japan

> Interesting fact:

Glory derives from the Kokuei Machinery Manufacturing company which was formed in 1918.



GUNNEBO is a global provider of security products, services and solutions with an offering covering cash handling, safes and vaults, entrance security and electronic security for banks, retail, CIT, mass transit as well as public, commercial and industrial sites.

The Gunnebo Security Group has sales companies in 33 countries across Europe, the Middle East, Africa, Asia-Pacific and the Americas as well as Channel Partners on over 100 additional markets.

Solution Portfolio:

- SafePay range comprising coin and note recyclers for POS and back office, cassettes and transfer units.
- SafeCash retail recyclers.
- SafeCoin (Self-service coin roll dispense).
- Management software.

Customers include:

Coop Norge, Coop Sweden, Edeka, Lidl Sweden, Metro Group, Shell Denmark.

> CEO:

Per Borgvall

> Country of origin:

Sweden

> Interesting fact:

Gunnebo started life as an engineering company producing nails and chains for ships in the 1700s.

SCAN COIN

SCAN COIN has been in the market for more than 40 years and is a specialist in cash handling solutions for retail, banking, public transport, cash in transit (CIT) and cash centres.

Solution Portfolio:

- Retail Cash System for the back office, comprising coin and note recyclers, note dispensers and bag deposit.
- 'Cash Complete' system for POS, comprising coin and note recyclers, transport and docking units, and management software.
- Cash Deposit System, Coin solutions, Bank note solutions, central cash processing, software solutions.

Customers include:

Auchan, Carrefour, Coop (DE) in Germany, Leclerc, Metro Group and Migros.

> CEO:

Andreas Renuf

> Country of origin:

Sweden

> Interesting fact:

The 'Scan' in the company name was thought up to emphasise its Scandinavian heritage.

WINCOR NIXDORF

WINCOR NIXDORF is a leading provider of IT solutions and services to retail banks and the retail industry with focus process optimisation, especially in the branch operations of both sectors. It has established a presence in around 130 countries around the globe with subsidiaries in 42 countries.

Wincor Nixdorf previously marketed cash handling products from OEM partners but introduced its own Cineo line to the market in 2009.

Solution Portfolio:

- Cineo line of products, comprising coin and note recyclers for POS and back office in addition to transport units and its TPCash management software.

Customers include:

Coop Denmark, IKEA, Metro Group, Reitan, Shell in Germany and Austria

> CEO:

Eckard Heidloff

> Country of origin:

Germany

> Interesting fact:

Wincor Nixdorf traces back to Nixdorf Computer AG, founded in 1952 by Heinz Nixdorf. He was a computer pioneer described as being "ahead of his time".

PlanetRetail



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