GS1 BEST PRACTICE MANUAL FOR CASH LOGISTICS

(VERSION: 2.0, APRIL 2015)

OVERVIEW

1 Preamble

GS1 Standards include globally used Auto-ID and EDI communication systems to operate the cash supply chain more secure and efficient. Central Banks in Europe adopt the GS1 Standards to organize their cash handling processes with connected banks, retailers and CiTs. In future the commercial players will profit by implementing the GS1 Standards to their cash cycle end to end. GS1 Standards will be state-of-the-art and key element supporting automation technologies and IT systems.

This GS1 Best Practice Manual for Cash Logistics outlines an enhancement to the Harmonized European Message Guides for Cash Handling by GS1 Europe. Interoperability principals along the cash supply chain will be completed and assured.

This GS1 Germany document is based on the GS1 XML Standards Version 3.2 issued by GS1 Global Office.

1.1 Disclaimer

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Producer: GS1 Germany GmbH

1.2 Version and Change Management

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1.3 Participants

This GS1 Best Practice Manual for Cash Logistics was developed and agreed within the GS1 Cash Community; following CashCOM members contribute content to the document:

ALVARA Cash Management Group AG
Commerzbank AG
DB Vertrieb GmbH
Deutsche Bundesbank
dm-drogerie markt GmbH + Co. KG
Giesecke & Devrient GmbH
Gunnebo Nederland B.V.
it kompetenz GmbH
KÖTTER Geld- & Wertdienste GmbH & Co. KG
Lock Your World GmbH & Co.KG
METRO AG
NCR Corporation Ltd.
Planfocus software AG
Prosegur GmbH
REWE Zentralfinanz eG
SOLTRX Transaction Services GmbH
Unicredit Bank AG
Wincor Nixdorf International GmbH

2 Target Group

GS1 Standards supports the E2E cash cycle and the GS1 Best Practice Manual leads to benefits for professional cash handlers, such as

- Financial institutions
  - National Banks incl. their Cash Centers, printing plants, mints
  - Commercial banks
  - Savings banks (Sparkassen)
  - Cooperative banks (Peoples' banks, rural banks)
  - Their bank branches
  - Their Cash Centers

- CIT/ Cash Centers
  - CiT companies including Cash Centers
  - CiT companies with transport services only
  - Logistic service sellers, who manage and/or supervise and subcontract carrier and Cash Center services
  - Cash processing Centers
  - Public transport and postal services with integrated Cash Centers

- Retail
  - Shops
  - Supermarkets
  - Wholesale, Cash & Carry
  - Petrol stations

- Other
  - Casino
  - Leisure industry, fun parks
  - Gaming
  - Vending
  - Public services and government administration
  - Parking
  - Hotel and touristic

- Technical solution providers/ integrators
  - ATM manufacturers
  - Cash handling solution manufacturers
  - IT/Software providers
  - Manufacturers of packages and consumables

3 Process design (best practice) in cash logistics

3.1 General

3.1.1 Best practice and scenarios

The process in cash logistics describes the best practice processes using GS1 Standards for auto-ID and EDI communication.

The document focuses the major business processes widely established in all markets, i.e.

- Cash delivery to branches, in retail or bank
- Coin delivery to retail branches, enhancement for coin exchange
- Cash deposit of branches for further cash processing and balancing
- ATM replenishment

The document describes scenarios, using processes and/or messages, which are required, dependent or optional. In HTML documentation of process charts, the user can click on the fields of EDI messages to link to specific message description.

The best practice process outlines required process steps and EDI messages marked with

R1 Service Order
R2 Transport Instruction
R3 Cash Center Outbound Instruction
R4 Despatch Advice
R5 Receiving Advice
R6 Deposit Report (new in version 2.0)
R7 Invoice Report (content of version 2.x)

Dependent messages are marked with D1 ... Dx and may be required by special business situations.

D1 CiT Outbound Instruction

Optional messages are marked with O1 ... Ox and may be used in alternative scenarios.

O1 Order Response (new in version 2.0)
O2 Despatch Advice 1
O3 CiT Inbound Instruction (new in version 2.0)
O4 Inventory Report (new in version 2.0)
O5 eLock messages for opening procedures (new)
O6 eLock messages for closing procedures (new)
O7 Credit Request
O8 Credit Confirmation
O9: Cash Handling Machine (new)

Separated manuals are designed as enhancements of this basic document and issued by GS1 Germany/ GS1 in Europe:

(1) EDI communication for eLocks.
(2) EDI guideline for Cash Handling Machines

Scenarios will be explained at the end of each process chapter.

The outlined business processes are defined as best practice; a user organization will be not limited by adapting the processes and/or EDI messages step by step according to his own roadmap.

Other relevant business processes e.g. ATM maintenance and foreign exchange orders will be added on a later document version.

3.1.2 Methodology of process definition

Each process description defines a list of roles, activities, messages and goods. The EDI messages ensure the informational link between the main process steps for each business process.

3.1.3 Separation of processes

A stop at branch or ATM will be mostly a connection point between 2 different processes:
- Cash delivery to the branch and
- Cash pick up at branch for deposit processing in a different place/ Cash Center

The two processes contain separate shipments, destinations, activities and result in different orders. Even if both activities are executed by the same tour and messenger. ATM and/or TCD delivery and pickup are separate processes as well with special work flows.

3.1.4 Roles within business processes

The involved parties within the business processes can take different roles, i.e. contractor (Logistics Service Buyer), service provider (Logistics Service Seller), carrier and cash Center. These roles can be taken over by different organizations depending on the business model and degree of outsourcing.

LSB (Logistics service buyer) of each specific business process will always be a bank branch (with or without an ATM) or a retail shop, which need cash or want their cash to be picked up.

LSS (Logistics service seller) will be the organization, which does manage the order.
LSS can be

- CIT company, who executes transportation as well as cash processing
- CIT company, who makes transportation only (carrier). Cash processing is done by a separate Cash Center
- Organization or company, which dispatches orders and subcontract orders to different parties for cash processing and transportation.

Carrier of cash will be the CiT defined for transport services.
Cash Center will be the central role used for services of cash processing, consignment and storage.

Carrier and/ or Cash Center can be part of the LSS organization, i.e. outsourcing partner or department within a bank.

In case of coin delivery to retail branches, two additional roles are involved: Retail and a corresponding bank, as retail normally has no Central Bank account and CiT/LSS are not allowed to act as a financial institution. The corresponding bank has to deposit the value of the requested coins on their CB (Central bank) account on behalf of the retailer. The bank will invoice this service to the retailer.

3.1.5 Activities

All processes are split into different activity areas, which can require activities and data input of one or more of the above mentioned business partners

- Order input: originator of the process, usually orders are issued by customer as LSB;
- Order despatch incl. planning and routing of orders, usually managed by the LSS;
- Consignment and storage of cash, usually organized in a Cash Center;
- Cash processing including receiving, counting and reconciliation in a Cash Center;
- Transport of cash by CiT organization;
- Handover of cash, e.g. bank or retail branch to CIT, CIT to bank or retail branch, CIT to and from ATM within on-site replenishment, CIT with Cash Center;
- Administration considers order control of the specific business processes, usually managed by the LSS;
- Inventory clearing and balancing of differences means the reconciliation process and investigation in case of discrepancies.

3.1.6 Master data

Business partners need a contract, which defines the agreed services, service levels (SLA) and a set of master data for each location with all relevant information, e.g.

- Location ID with addresses, opening hours, handling instructions, limits for location or pavement risk;
- ATM locations consist in addition configuration, cassette/ container set up, sensor configurations;
- CiT/ Cash Center locations consist in addition handling instructions for processing and storage, connected lists for tour ID and messenger ID;

Master data concerns also

- Contact agreements between LSB and LSS with defined service portfolio, service conditions, service calendar like stop frequencies, service levels, accounting data and additional handling instructions;
- Common defined articles and orderable services, agreed between the LSB and LSS;
- Cassette or container data in use with defined cassette or container type and manufacture classification.

The master data have to be exchanged in advance and updated if necessary.
Master data can include also the pricing for the GTIN of cash services.

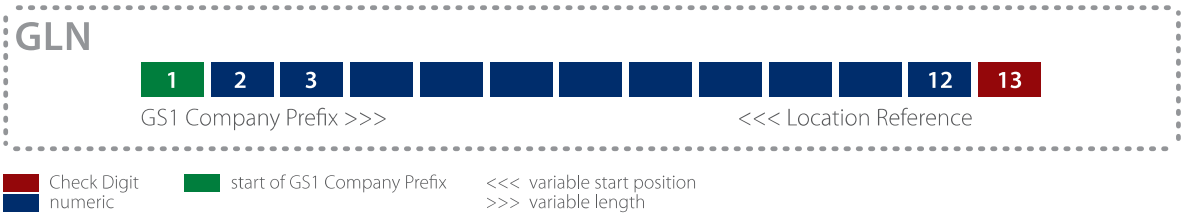
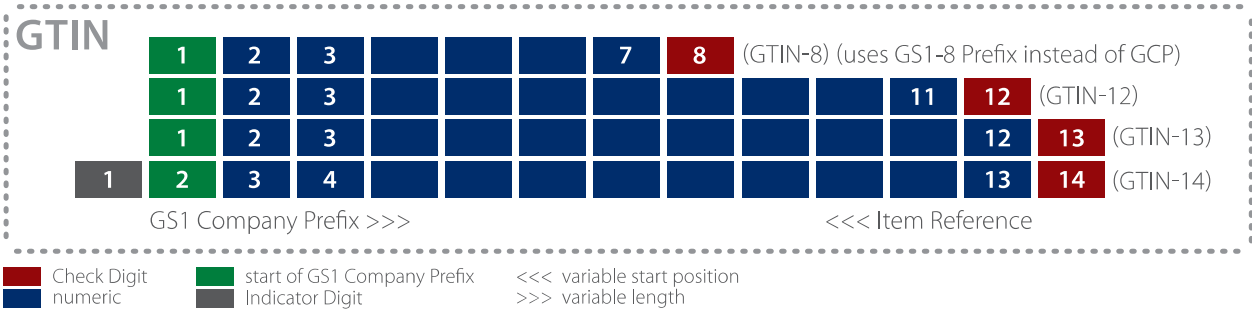
3.2 Auto-ID for cash logistics

3.2.1 Enabling interoperability

Banks and retailers deploy more and more automated systems to improve cash supply chain. As a consequence the cash handlers changed their organization to more centralized use of monitoring and optimization software. IT systems are installed to transfer business information quickly and correctly. Next improvement step for process optimization will follow interoperability principals. These processes need data analytics and information exchange (EDI) to ensure interoperability between involved parties along cash supply chain. In future commercial players will profit by implementing global standards for Auto-ID and EDI communication to their cash cycle processes.

3.2.2 GS1 identifier for cash logistics

Specific data formats, communication protocols are fundamental for open IT interfaces. GS1 Standards in EDI communication base on unique and not overlapping identifiers (ID). These identifiers are the information carrier between two contractual and/ or logistical partners and referring to agreed master data. So both parties use the same vocabulary within the EDI language. To manage cash supply chain successfully the following data keys are essential:

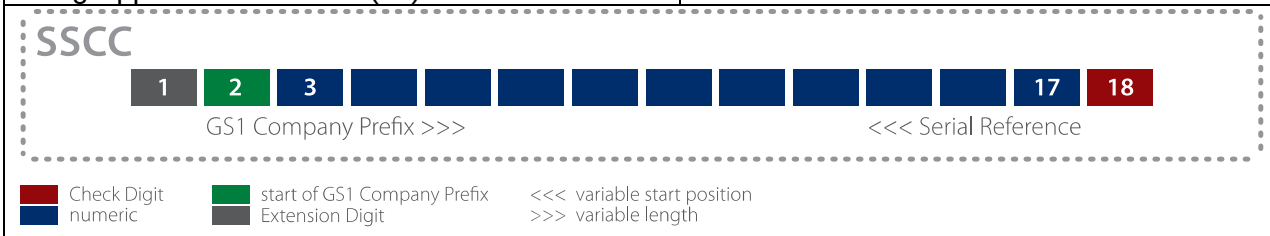
GS1 Identification keys	Relevance for cash cycle
1. GLN (Global Location Number) The GLN is the GS1 Identification Key for Locations. The GLN can be used to identify physical locations and legal entities where is a need to retrieve pre-defined information to improve the efficiency of communication with the supply-chain.	The GLN identifies professional cash handlers, banks, retailers as LSB, LSS, CiTs, Cash Center organizations. The GLN identifies each branch, cash point, ATM, working places and processing systems. The GLN structure depends on clients' needs and business organization.
	
2. GTIN (Global Trade Item Number) The GTIN helps automate the trading process – basically buying and selling. GTINs are therefore assigned to any item (product or service) that may be priced, or ordered, or invoiced at any point in any supply chain. The GTIN is then used to retrieve pre-defined information about the item. The key benefit is that information about the item can be retrieved about the product from the GTIN whether it is read in a GS1 BarCodes symbol using Application Identifier (01).	National Central Banks (NCB) assigns GTINs for currency products. Banknote and coin products and packages with different status, such as denomination, series, condition or packaging unit shall be identified by GTINs. GTINs may also be used for the identification of transport and Cash Center services.
	

Remark: GTIN-13 is in use for cash logistics.

3. SSCC (Serial Shipping Container Code)

The SSCC is the GS1 Identification Key for an item of any composition established for transport and/or storage which needs to be managed through the supply chain. The SSCC is assigned for the life time of the transport item and is a mandatory element on the GS1 Logistic Label using Application Identifier (00)

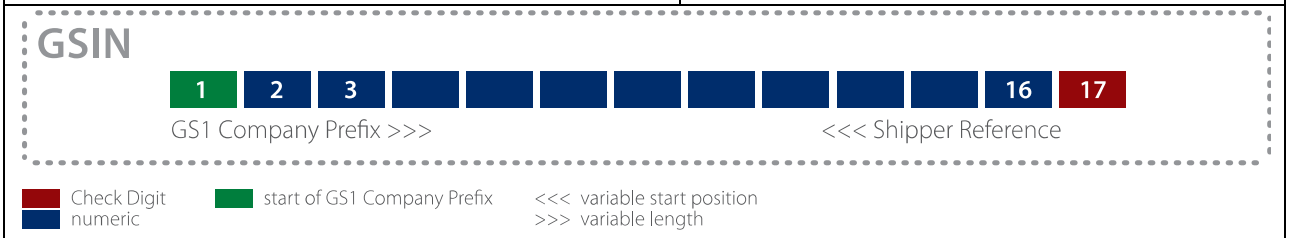
The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.



4. GSIN (Global Shipment Identification Number)

The GSIN is the GS1 Identification Key used to identify a grouping of logistics units that comprise a shipment from one consignor to one consignee (buyer) referencing a despatch advice and/or bill of lading. The Application Identifier is (402).

For shipments from branch to cash center the consignor/ shipper is able to group several logistical units with SSCC (e.g. cassettes from one or more ATMs) under one GSIN in the Despatch Advice. GSIN can group also shipments picked up by a truck at cash center for one or more branch stops in the CiT Outbound Instruction. (logistics unit will be the CiT truck)



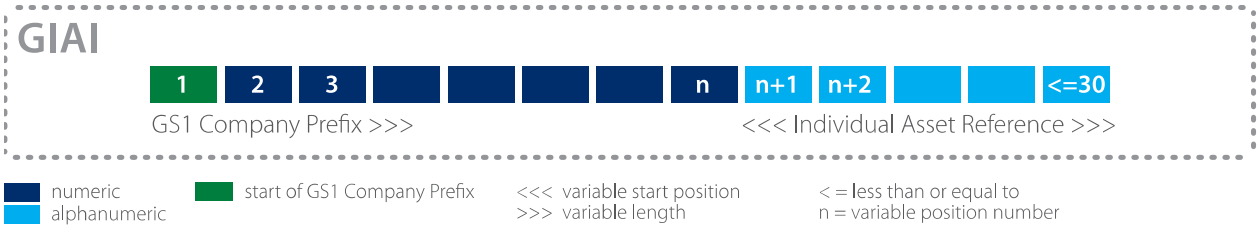
5. SSID (Security Seal ID) using GIAI format (Global Individual Asset Identifier)

The GIAI is the GS1 Identification Key used in a diverse range of business applications such as recording the life-cycle history of parts. The GIAI is assigned by the owner of the asset/ liable party of transport and may be bar coded using Application Identifier (8004).

ATM cassettes and containers are sealed with transport seals by Cash Center/CiT organization to check secured transport. Due to different life-time of SSCC and SSID for ATM replenishments by cassette exchange, the seals at ATM cassettes shall be marked with a different identifier - different from SSCC.

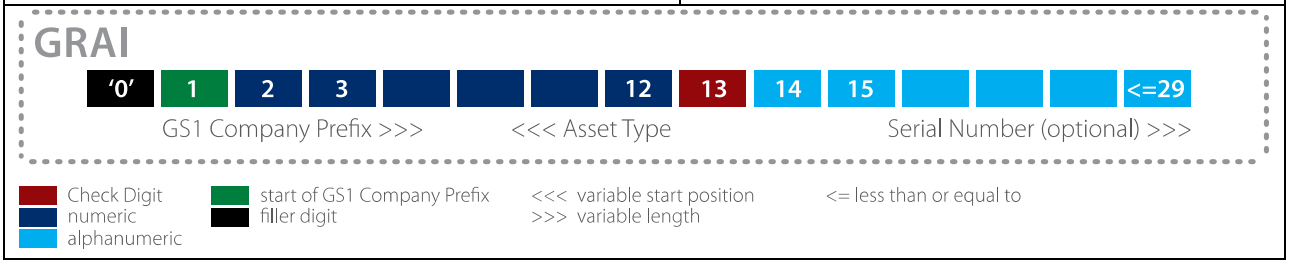
For cash logistics the SSID will be defined on basis of GIAI in GS1 XML 3.1 version. The individual reference number shall be

	limited to in total 16 digits to fulfill market requirements, i.e. length of seals with GS1 barcode 128.



Remark: length of SSID shall be limited to 18 digits including a check digit; this is not assigned to GIAI format today and shall be specified within version GS1 XML 3.2

6. GRAI (Global Returnable Asset Identifier) The GRAI is the GS1 Identification Key for types of reusable package or transport equipment that are considered an asset. It is used to enable tracking as well as recording of all relevant data associated with the individual asset or asset reference. The GRAI is assigned for the life time of the asset and may be bar coded using Application Identifier (8003).	The GRAI shall be used to identify owners of returnable ATM cassettes, banknote/ coin containers. So pooling concepts can be implemented also across multiple vendors or mandates/ customers. GRAI is valid for lifetime of the cassette. Except, when the cassette gets a new owner, then GRAI shall be updated. GRAI does not replace SSID.



3.2.3 GTIN lists for cash articles in EUR currency

The European Central Bank assigned specific GTINs for EUR currency as “issuer” of the EUR banknotes and coins. Each product and package type are defined and published by unique GTIN.

(1) GTIN for EUR cash articles by the Central Banks/ ECB in Europe. The list is valid for EUR zone and will be administrated and modified by the Central Bank GS1 User Group. http://www.bundesbank.de/Redaktion/EN/Documentation/CBUSERGROUP/HtmlDoc/publications.html

(2) GTIN for EUR cash articles – enhancement for EUR currency by NCBs in Europe for its domestic markets, e.g. of the Deutsche Bundesbank. These GTIN lists are specifying additional banknote and coin products and package types, e.g. special coinage ("Sondermünzen")
http://www.bundesbank.de/Redaktion/DE/Downloads/Aufgaben/Bargeld/Cashedi/cashedi_nummernsystematik_pdf.pdf?__blob=publicationFile

The EUR GTIN differentiates cash articles by denomination, series, condition and charge, aggregation and packaging unit.

Currency orders or deposits can be exactly defined by GTIN and item quantity in number of banknotes and coins.

Orders shall execute following rules:
- Each order has a content of one position/ article (GTIN) in minimum;
- Each position/ article (GTIN) may occur only one time per package/ package type;
- Each article (GTIN) shall have an item quantity >0, negative item quantities are not allowed.

Deposits shall execute following rules:
- Each package has a content, defined by one article (GTIN) in minimum;
- Each article (GTIN) may occur only one time per package;
- Each article (GTIN) shall have an item quantity >0, negative item quantities are not allowed.

For deposits of mixed banknotes and coins special GTINs can be used, there item quantities are defined in EUR, and not in number of units.

Type	Charge	Value	Currency	GTIN
Banknotes	EUR banknotes mixed	1,00	EUR	4107001000131
Banknotes	Redeemable EUR banknotes	1,00	EUR	4107001000148
Banknotes	CAT 3*	1,00	EUR	4107001000155
Coins	EUR coins mixed	0,01	EUR	4107001003941

* Cat 3 means Euro banknotes, not clearly authenticated.

The ECB and NCB define the basic GTINs for the currency. In addition commercial cash handlers, e.g. retail banks or CiTs have the need to create additional GTINs for its specific products and packaging units within the cash cycle, e.g.
- Safe/ Sealbags with loose coins, amount equivalent to coin packages of 10 units of tumbled coins;
- Special packages of loose and mixed coins for retail POS recycling systems;
- Bundles of 20 pieces for high currency denomination to fulfil orders of small bank branches.

The GS1 Cash Community (CashCOM) decided to set up additional GTINs list for these requirements, which are part of commercial cash cycle. Based on a common "company ID" assigned by GS1 Germany for the German CashCOM; the following GTIN list can be used by the market players.

(3) GTIN list - enhancement for EUR currency by GS1 CashCOM for commercial cash handlers; this GTIN list is specifying additional banknote and coin products and package types to the GTIN list of ECB and NCB. The GTIN list will be administrated and can be modified by the German CashCOM.

3.2.4 GTIN list for cash services

Cash services can be specified by GTINs, defining type (and quality level) of service.
The ECB and the NCB defined such GTINs for cash orders – withdrawals and lodgements.

(1) GTIN list for cash services by the Central Banks/ ECB in Europe. The list is valid for EUR zone and will be administrated and modified by the Central Bank GS1 User Group.
http://www.bundesbank.de/Redaktion/EN/Documentation/CBUSERGROUP/HtmlDoc/publications.html

(2) GTIN list for cash services by the NCBs in Europe to define specific GTINs for its domestic markets, e.g. of the Deutsche Bundesbank.
http://www.bundesbank.de/Redaktion/DE/Downloads/Aufgaben/Bargeld/Cashedi/cashedi_nummernsystematik_pdf.pdf?__blob=publicationFile

Following GTIN for cash services are used in the EUR zone:

Type	Charge	Currency	GTIN
Services	DECS lodgement	EUR	4107001000056
Services	DECS withdrawal	EUR	4107001000063
Services	Lodgement of banknotes with immediate credit	EUR	4107001000070
Services	Lodgement of banknotes with credit after expertise	EUR	4107001000087
Services	Lodgement of coins with immediate credit	EUR	4107001000094
Services	Lodgement of coins with credit after expertise	EUR	4107001000100
Services	Withdrawal of banknotes	EUR	4107001000117
Services	Withdrawal of coins	EUR	4107001000124
Services	Lodgement of banknotes in multi-denomination with credit after expertise	EUR	4048888012810 (specifically Deutsche Bundesbank)
….	….	EUR	....

GTINs may be used for the identification of transport and Cash Center services within commercial cash cycle. The EDI communication based on such GTIN to define cash services - on common or group basis or individual per company. The “company ID” as part of the numbering will be the differentiator. So CiTs are able to define its individual service GTIN, also retail banks can build up its service GTIN list as Logistics Service Buyer for tender processes and to place future service orders to its Logistics Service Seller.

The GS1 Cash Community (CashCOM) decided to set up additional GTINs list for cash services as guideline to the German cash market players. Based on a common “company ID” assigned by GS1 Germany for the German CashCOM; the following GTIN list can be used by the market players.

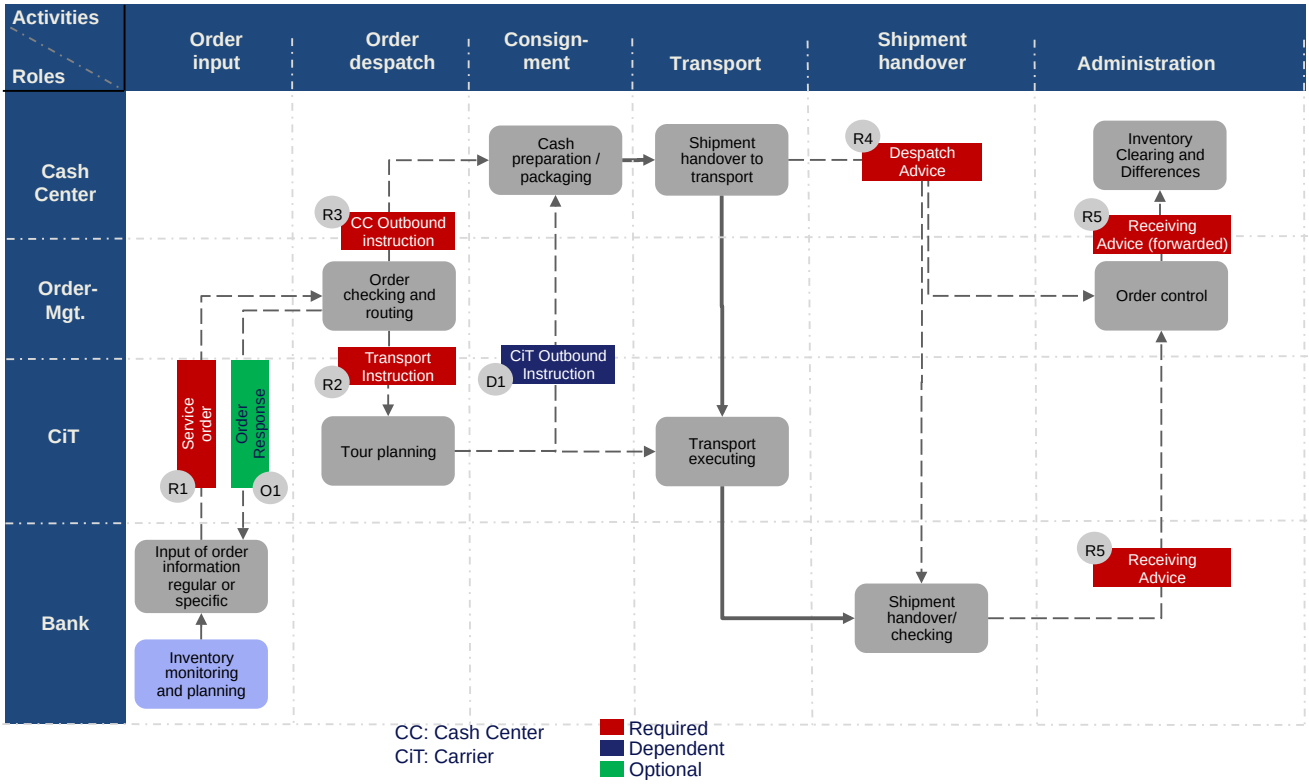
The GTIN list for cash services specifies different service products by service type for:

- Transportation (delivery services to and pickup services from branches, ATM replenishment, courier transport, truck leasing services)
- Cash processing (lodgement of coins and banknotes with credit after expertise, with immediate credit, wrapping of coins, fitness sorting of banknotes, cheque processing, balancing of discrepancy)
- Cash storage and hub services (storage of banknotes and coins, consolidation of safebags/ shipments, inventory reporting, storage of containers/ cassettes)
- Cash withdrawals of banknotes and coins (cash preparation, consignment ex works, free house)
- ATM maintenance services (First Line Maintenance, Second Line Maintenance, Third Line Maintenance, cleaning services, maintenance of ATM cassettes or containers, ink dye services)
- Extras (clearing of banking cards, cash monitoring and forecasting, cash order management)
- Additional invoice information (standby time at customer-site, additional km payoff, surcharge for Sundays and public holidays)

(3) GTIN list for cash services by GS1 CashCOM - enhancement and guideline for commercial cash handlers; the GTIN list will be administrated and can be modified by the German CashCOM.

3.3 Business process

3.3.1 Process 1: Cash Delivery to branches



Roles

- Bank branch or retail shop as Receiver
- Organization doing Order Management
- CiT as Carrier
- Cash Center as Shipper

Activities

- Order input
- Order despatch
- Consignment at Cash Center
- Transport by CiT
- Shipment handover
- Administration

Process steps:

- Input of order information, regular or specific
- Order checking and routing
- Cash preparation/packaging
- Tour planning
- Shipment handover to transport
- Transport executing
- Shipment handover/checking
- Order control
- Inventory clearing and difference management

Messages, required
- R1: Service Order
- R2: Transport Instruction for Delivery
- R3: CC Outbound Instruction
- R4: Despatch Advice
- R5: Receiving Advice

Message, dependent, based on specific business model
- D1: CIT Outbound Instruction

Message, optional for alternative scenarios
- O1: Order Response

3.3.1.1 Input of order information, regular or specific

Role: Bank branch
Activity: Order input
Message in: O1: Order Response
Message out: R1: Service Order
Goods in: None
Goods out: None

A bank branch initiates cash orders; the orders are mainly based on agreed master data in a related contract with Logistic Service Seller.

The contract parties differentiate between two types of Service Orders:

- Regular order with automated order preparation
  - Fixed weekly delivery time and date
  - Call order (Abrufauftrag) within a frame contract
  - Order by automated cash forecast system
- Special/emergency order with manual order preparation
  - Special order, e.g. emergency order, delivery outside opening hours

The data structure for regular and special Service Order will be the same. The orders differ mainly in data content, like agreed lead times, which are defined in the master data.

Data input takes place in the bank's IT ordering mask. In case of regular orders or automated cash forecast software, all data can be automatically generated, based on GLNs and GTINs. The ordered quantities and planned delivery time frame shall be defined at this stage.

In best practice an automated control of correct and complete data and structure of the Service Order is useful to avoid incomplete messages. If necessary, manual correction and/or data completion has to be done.

The Service Order will be sent to „Order checking and routing" within Order Management. The Order Response is the corresponding answer to Service Order from Order Management back to bank branch/ LSB.

3.3.1.2 Order checking and routing

Role: Order Management
Activity: Order despatch
Message in: R1: Service Order
Message out: R2: Transport Instruction for “Tour planning”
R3: CC Outbound Instruction for “Cash preparation/packaging”
O1: Order Response
Goods in: None
Goods out: None

Order Management checks, if the order is complete and can be fulfilled depending on agreed service criteria, e.g. the requested amount of cash against limits per branch or available inventory in Cash Center, transportation capacity, etc. The respective Order Response contents the check result with confirmation, modification of specific order data or with status rejected; please see also scenario 4.

Order Management will send specific messages to CiT and to the Cash Center.

- CIT will get the R2: Transport Instruction.
  All transport relevant information, such as transport service reference, transport service category, logistic service requirement codes have to be defined at this process step. Shipper and Receiver are already defined by R1: Service Order as well as delivery date and time and the quantities per article.

- CC will get the R3: CC Outbound Instruction.
  In best practices the agreed services between the parties are defined and transferred in field Consignment Service Reference (via GTIN) plus handling instructions and package type. SSCCs for the different cash units are optional at the ordering stage.

All other information, like timing and goods to be delivered are taken from R1: Service Order.

3.3.1.3 Tour Planning

Role: CiT
Activity: Order despatch
Message in: R2: Transport Instruction
Message out: D1: CiT Outbound Instruction (depending on business organization)
Goods in: None
Goods out: None

Tour planning based on Transport Instructions, outlines e.g. exact schedule, services per delivery, pick up locations for each tour. Truck ID and truck personnel are defined, if necessary, an update can take place on that specific day.

3.3.1.4 Cash preparation/packaging

Role: Cash Center
Activity: Consignment
Message in: R3: CC Outbound Instruction
D1: CiT Outbound Instruction
Message out: R4: Despatch Advice (best practice)
Goods in: None
Goods out: prepared cash unit (packages, cassettes)

Cash preparation refers to corresponding CC Outbound Instruction. In the consignment the SSCC is required to identify the ordered package/ shipment at latest. However the SSCC

can be defined also in the Order Management before and printed in consignment to label the shipments. The packages are also related to GRAI in terms of containers or cassettes, used for transport and to SSID in terms of seals at the packages.

To prepare the shipments according to CiT tour planning, the respective information are defined in CiT Outbound Instruction. Additional information is the tour ID and respective CiT messenger data (advised), also the pick-up and delivery timeframe.

All additional information are included and transferred in R4: Despatch Advice.

3.3.1.5 Shipment handover to transport

Role: Cash Center
Activity: Transport
Message in: None
Message out: R4: Despatch Advice for “Order control” and to “shipment handover”
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The activity usually takes place immediately after cash preparation; however, cash could be stored in the vault in between, e.g. over night. “Shipment handover to transport” has access to R4: Despatch Advice, as it is the same organization as “cash preparation/packaging”.

R4: Despatch Advice will have to be completed latest at this point, e.g. with advised information of the tour number and transport messenger. Despatch Advice has to be sent to “order control” and “shipment handover/checking” in the bank branch.

In addition at each handover checkpoint both parties agree on the handover protocol. Protocols are status notifications with time stamp. Handover protocols consider no additional information compared to Despatch Advice. In minimum each package with SSCC has to be scanned and confirmed.

Remark: Definition of handover protocols is under development by CashCOM.

3.3.1.6 Transport executing

Role: CiT
Activity: Transport
Message in: None
Message out: None
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

Carrier executes transport of cash. National and individual rules for handling instructions may apply here, e.g. insurance limits, weight limits as well as rules for one, two or three man logistics, already transferred in the Transport Instructions.

3.3.1.7 Shipment handover/checking

Role: Bank
Activity: Shipment handover
Message in: R4: Despatch Advice
Message out: R5: Receiving Advice for “order control”
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The transport messenger hands over the goods to the bank branch staff; data's already transferred by R4: Despatch Advice. Handover has to be documented with handover protocol (status notification).

Remark: Security check of the goods shall identify SSCC and SSID (if applicable).
R5: Receiving Advice is the confirmation of cash delivery. All content have to be checked and documented by GTIN and accepted quantity.

R5: Receiving Advice refers to R1: Service Order and R4: Despatch Advice. Additional information is time stamp of handover (delivery data and time) and shipment ID by GSIN, quantity per GTIN incl. SSCC, GRAI; SSID and package type. R5: Receiving Advice consist announced data/values and accepted data/values and also reasons for any discrepancies. Message will be sent to "order control".

3.3.1.8 Order control

Role: Order management done by CiT or Cash Center or LSS of LSB
Activity: Administration
Message in: R4: Despatch Advice
R5: Receiving Advice
Message out: R5: Receiving Advice (forwarded)
Goods in: None
Goods out: None

Order control has access to R1: Service Order. R4: Despatch Advice is received from "Shipment handover to transport" in the Cash Center and R5: Receiving Advice comes from "shipment handover/checking" in the bank. If no discrepancy is detected, goods can be booked and the invoice can be sent to the LSB.

In case of any differences, audit rules will apply.
In any case, R5: Receiving Advice will have to be forwarded to "inventory clearing and differences" for inventory management.

3.3.1.9 Inventory clearing and differences

Role: Cash Center
Activity: Administration
Message in: R5: Receiving Advice (forwarded)
Message out: None
Goods in: None
Goods out: None

Cash account management based on confirmed cash transports from one cash point to another, based on Receiving Advice the cash bookings can be triggered. In case of any differences, audit rules will apply.

3.3.1.10 Scenarios for cash delivery to branches

Scenario 1:

O1: Service Order can be confirmed via Order Response message, if the order can be fulfilled accordingly.

Scenario 2:

- In many cases, the delivery order is (automatically) created at the LSS, not at bank branch. LSS has all relevant information in case banks have outsourced their total cash operation and control (Hauptkassenfunktion) to a CiT or LSS. In this case, the optional message O1: Order Response becomes an advised message. It has to be sent to the bank to inform them about the planned transaction including details. The message has the same format as R1: Service order. The bank will confirm this Service Order with O1: Order Response, it is also advised in scenario 2.
- Shipment handover/checking: R5: Receiving Advice will use data from O1: Order Response and R4: Despatch Advice.
- Remark: Even, when the order management process is outsourced to the LSS, the final responsibility is with the LSB (bank). The SLA/master data should contain details of the agreement.

Scenario 3:

- Some LSS offers the ordering through a web based application to banks, i.e. LSB can input their order details in a browser window. In this case R1: Service Order is obsolete. In this case, an order data check is important to take care, that all necessary information are available from the master data or put in by the bank.

Scenario 4:

- If “Order checking and routing “ results in no fulfillment, the O1: Order Response contains a change request to LSB. An updated R1: Service Order is required from LSB, Message status changes from “original” to “update”. Same procedure could take place for Transport Instructions and CC Outbound Instruction to confirm/ change issued instructions by Cash Center or CiT back to Order Management.

Scenario 5:

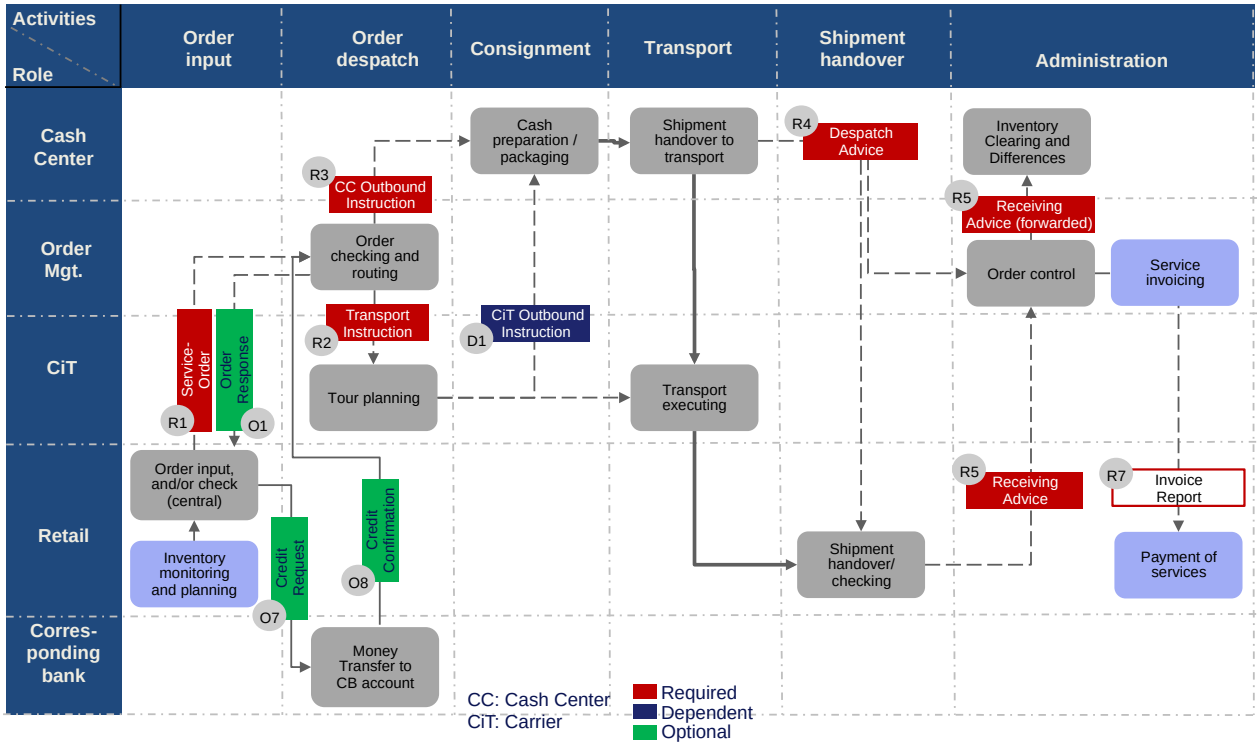
- In case CC and CiT are different organizations or operate in different locations with different IT systems, message D1: CiT Outbound Instruction is advised to transfer the tour schedule with packing list to the Cash Center. There is no confirmation message.

Scenario 6:

- Usually the Cash Center has the ordered cash available at bank stock. In case, the Cash Center cannot fulfill all orders from stock, CC has to order cash in general from the National Bank (CB). Country specific rules will apply in this case. The cash ordering from the National Bank follows exactly the same processes described above using GLNs are from CC and CB location.
- It is possible, that the bank orders its cash directly at the CB, instructing CiT as a carrier and CC for cash preparation by owned order management.

3.3.2 Process 2: Coin delivery to retail branches (variance: coin exchange in retail for Germany)

Deutsche Bundesbank does no longer manage any logistics for coins; they allow only deposits and pick-ups of standard coin containers with up to 5000 rolls. Retail, banks and CiT have developed alternative processes to ensure coin logistics for values below the contents of a standard container. Banks can have a so-called “Dotationskonto” at the Bundesbank, which is a special CB account for cash transactions. This CB accounts are reserved for banks only; so retailers have to use a corresponding bank instead. In fact, the Cash Center has “a coin storage” in alignment with and owned by the corresponding bank. This cash pool in coin allows a recirculation of coins and flexible coin management across multi retailers.



Roles:

- Retail branch as Receiver
- Corresponding bank
- CiT (Carrier)
- Organization doing Order Management
- Cash Center as Shipper

Activities:

- Order input (Retail)
- Order despatch
- Consignment at Cash Center
- Transport by CiT
- Shipment Handover (Retail)
- Administration

Process steps:

- Input of order information, regular or specific
- Money transfer to Central Bank account
- Order checking and routing

- Cash preparation/packaging
- Tour planning
- Shipment handover to transport
- Transport executing
- Shipment handover/checking
- Order control
- Inventory clearing and difference management

Messages, required
- R1: Service Order
- R2: Transport Instruction for Delivery
- R3: CC Outbound Instruction
- R4: Despatch Advice
- R5: Receiving Advice

Message, dependent, based on specific business model
- D1: CIT Outbound Instruction

Message, optional for alternative scenarios
- O1: Order Response
- O7: Credit Request
- O8: Credit Confirmation

3.3.2.1 Input of order information, regular or specific

Role: Retail branch
Activity: Order input
Message in: O1: Order Response
Message out: R1: Service Order
O7: Credit Request for corresponding bank (Best practice in Germany)
Goods in: None
Goods out: None

A retail branch initiates cash orders; the orders are mainly based on agreed master data in a related contract with Retailer (LSB) and Logistic Service Seller.

The contract parties differentiate between two types of Service Orders:

- Regular order with automated order preparation
  - Fixed weekly delivery time and date
  - Call order (Abrufauftrag) within a frame contract
  - Order by automated cash forecast system
- Special/emergency order with manual order preparation
  - Special order, e.g. emergency order, delivery outside opening hours

The data structure for regular and special Service Order will be the same. The orders differ mainly in data content, like agreed lead times, which are defined in the master data.

Data input takes place in the retailer IT ordering mask. In case of regular orders or automated cash forecast software, all data can be automatically generated, based on GLNs and GTINs. The ordered quantities and planned delivery time frame shall be defined at this stage.

In best practice an automated control of correct and complete data and structure of the Service Order is useful to avoid incomplete messages. If necessary, manual correction and/or data completion has to be done.

The Service Order will be sent to „Order checking and routing“ within Order Management. The Order Response is the corresponding answer to Service Order from Order Management back to bank branch/ LSB.

3.3.2.2 Money transfer to CB account

Role: Corresponding bank
Activity: Order despatch
Message in: O7: Credit Request (best practice)
Message out: O8: Credit Confirmation (best practice)
Goods in: None
Goods out: None

Due to financial restrictions in Germany the retailers operates their coin requests via a corresponding bank, owner of the “cash storage”. According to the Service Order the retail shop places a Credit Request to the corresponding bank. In general the retailer or an outsourcing partner (LSS) control this process within order management and consolidate the Credit Request from the different retail shops. In Germany the retailer provides cover of this account by corresponding bank.

In order to get the coins from the National Central Bank, the corresponding bank gets a O7: Credit Request from Retail and has to confirm the related credit payment to Central Bank, using message O8: Credit Confirmation. Corresponding bank provides the order related cash amount to fulfill the following cash movements via the corresponding bank account at CB.

The messages O7: Credit Request and O8: Credit Confirmation are under development.

3.3.2.3 Order checking and routing

Role: Order Management
Activity: Order despatch
Message in: R1: Service order
O8: Credit confirmation (best practice)
Message out: R2: Transport instruction for “Tour planning”
R3: CC outbound instruction for “Cash preparation/packaging”
O1: Order Response
Goods in: None
Goods out: None

Order Management checks, if the order is complete and can be fulfilled depending on agreed service criteria, e.g. the requested amount of cash against limits per branch or available inventory in Cash Center, transportation capacity, etc. The respective Order Response contents the check result with confirmation, modification of specific order data or with status rejected; please see also scenario 4.

Order Management will send specific messages to CiT and to the Cash Center.

- CIT will get the R2: Transport Instruction.
  All transport relevant information, such as transport service reference, transport service category, logistic service requirement code have to be defined at this process step. Shipper and Receiver are already defined by R1: Service Order as well as delivery date and time and the quantities per article.

- CC will get the R3: CC Outbound Instruction.
  In best practices the agreed services between the parties are defined and transferred in field Consignment Service Reference (via GTIN) plus handling instructions and

package type. SSCCs for the different cash units are optional at the ordering stage.

All other information, like timing and goods to be delivered are taken from R1: Service Order.

3.3.2.4 Tour Planning

Role: CiT
Activity: Order despatch
Message in: R2: Transport Instruction
Message out: D1: CiT Outbound Instruction (depending on business organization)
Goods in: None
Goods out: None

Tour planning based on Transport Instructions, outlines e.g. exact schedule, services per delivery, pick up locations for each tour. Truck ID and truck personnel are defined, if necessary, an update can take place on that specific day.

3.3.2.5 Cash preparation/packaging

Role: Cash Center
Activity: Consignment
Message in: R3: CC Outbound Instruction
D1: CiT Outbound Instruction
Message out: R4: Despatch Advice (best practice)
Goods in: None
Goods out: prepared cash unit (packages, cassettes)

Cash preparation refers to corresponding CC Outbound Instruction. In the consignment the SSCC is required to identify the ordered package/ shipment at latest. However the SSCC can be defined also in the Order Management before and printed in consignment to label the shipments. The packages are also related to GRAI in terms of containers or cassettes, used for transport and to SSID in terms of seals at the packages.

To prepare the shipments according to CiT tours planning the respective information are defined in CiT Outbound Instruction. Additional information is the tour ID and respective CiT messenger data (advised), also the pick-up and delivery timeframe.

All additional information are included and transferred in R4: Despatch Advice.

Remark:

- Coins could be sent to the retail branch within standard P-Boxes (Germany) identified by SSCC (package unit), GRAI (transport boxes)
- The Boxes will be sealed using a SSID to ensure the transport security

3.3.2.6 Shipment handover to transport

Role: Cash Center
Activity: Transport
Message in: None
Message out: R4: Despatch Advice for “Order control” and to “shipment handover”
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The activity usually takes place immediately after cash preparation; however, cash could be stored in the vault in between, e.g. over night. “Shipment handover to transport” has access to R4: Despatch Advice, as it is the same organization as “cash preparation/packaging”.

R4: Despatch Advice will have to be completed latest at this point, e.g. with advised information of the tour number and transport messenger. Despatch Advice has to be sent to “order control” and “shipment handover/checking” in the bank branch.

In addition at each handover checkpoint both parties agree on the handover protocol. Protocols are status notifications with time stamp. Handover protocols consider no additional information compared to Despatch Advice. In minimum each package with SSCC has to be scanned and confirmed.

Remark: Definition of handover protocols is under development by CashCOM.

3.3.2.7 Transport executing

Role: CiT
Activity: Transport
Message in: None
Message out: None
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

Carrier executes transport of cash. National and individual rules for handling instructions may apply here, e.g. insurance limits, weight limits as well as rules for one, two or three man logistics, already transferred in the Transport Instructions.

3.3.2.8 Shipment handover/checking

Role: Retail
Activity: Shipment handover
Message in: R4: Despatch Advice
Message out: R5: Receiving Advice for “order control”
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The transport messenger hands over the goods to the retail staff; data’s already transferred by R4: Despatch Advice. Handover has to be documented with handover protocol (status notification).

Remark: Security check of the goods shall identify SSCC and SSID (if applicable).
R5: Receiving Advice is the confirmation of cash delivery. All content have to be checked and documented by GTIN and accepted quantity.

R5: Receiving Advice refers to R1: Service Order and R4: Despatch Advice. Additional information is time stamp of handover (delivery data and time) and shipment ID by GSIN, quantity per GTIN incl. SSCC, GRAI, SSID and package type. R5: Receiving advice consist announced data/values and accepted data/values and also reasons for any discrepancies. Message will be sent to “order control”.

3.3.2.9 Order control

Role: Order management done by CiT or Cash Center or LSS of LSB
Activity: Administration
Message in: R4: Despatch Advice
R5: Receiving Advice
Message out: R5: Receiving Advice (forwarded)
Goods in: None
Goods out: None

Order control has access to R1: Service Order. R4: Despatch Advice is received from "Shipment handover to transport" in the Cash Center and R5: Receiving Advice comes from "shipment handover/checking" in the bank. If no discrepancy is detected, goods can be booked and the invoice can be sent to the LSB.

In case of any differences, audit rules will apply.
In any case, R5: Receiving Advice will have to be forwarded to "inventory clearing and differences" for inventory management.

Order control also prepares following service invoicing to the retailer.

3.3.2.10 Inventory clearing and differences

Role: Cash Center
Activity: Administration
Message in: R5: Receiving Advice (forwarded)
Message out: None
Goods in: None
Goods out: None

Cash account management based on confirmed cash transports from one cash point to another, based on Receiving Advice the cash bookings can be triggered. In case of any differences, audit rules will apply.

3.3.2.11 Scenarios for coin delivery to retail branches

Scenario 1:

O1: Service Order can be confirmed via Order Response message, if the order can be fulfilled accordingly.

Scenario 2:

- In many cases, the delivery order is (automatically) created at the LSS, not at retail store. LSS has all relevant information in case banks have outsourced their total cash operation and control (Hauptkassenfunktion) to a CiT or LSS. In this case, the optional message O1: Order Response becomes an advised message. It has to be sent to the retailer to inform them about the planned transaction including details. The message has the same format as R1: Service Order. The retailer will confirm this Service Order with an O1: Order Response, it is also advised in scenario 2.
- Shipment handover/checking: R5: Receiving Advice will use data from O1: Order Response and R4: Despatch Advice.
- Remark: Even, when the order management process is outsourced to the LSS, the final responsibility is with the LSB (bank). The SLA/master data should contain details of the agreement.

Scenario 3:

- Some LSS offers the ordering through a web-based application to retailer, i.e. LSB can input their order detail in a browser window. In this case R1: Service Order is obsolete. In this case, an order data check is important to take care, that all necessary information are available from the master data or put in by the retailer.

Scenario 4:

- If “Order checking and routing “ results in no fulfillment, the O1: Order Response contains a change request to LSB. An updated R1: Service Order is required from LSB, Message status changes from “original” to “update”. Same procedure could take place for Transport Instructions and CC Outbound Instruction to confirm/ change issued instructions by Cash Center or CiT carrier back to Order Management.

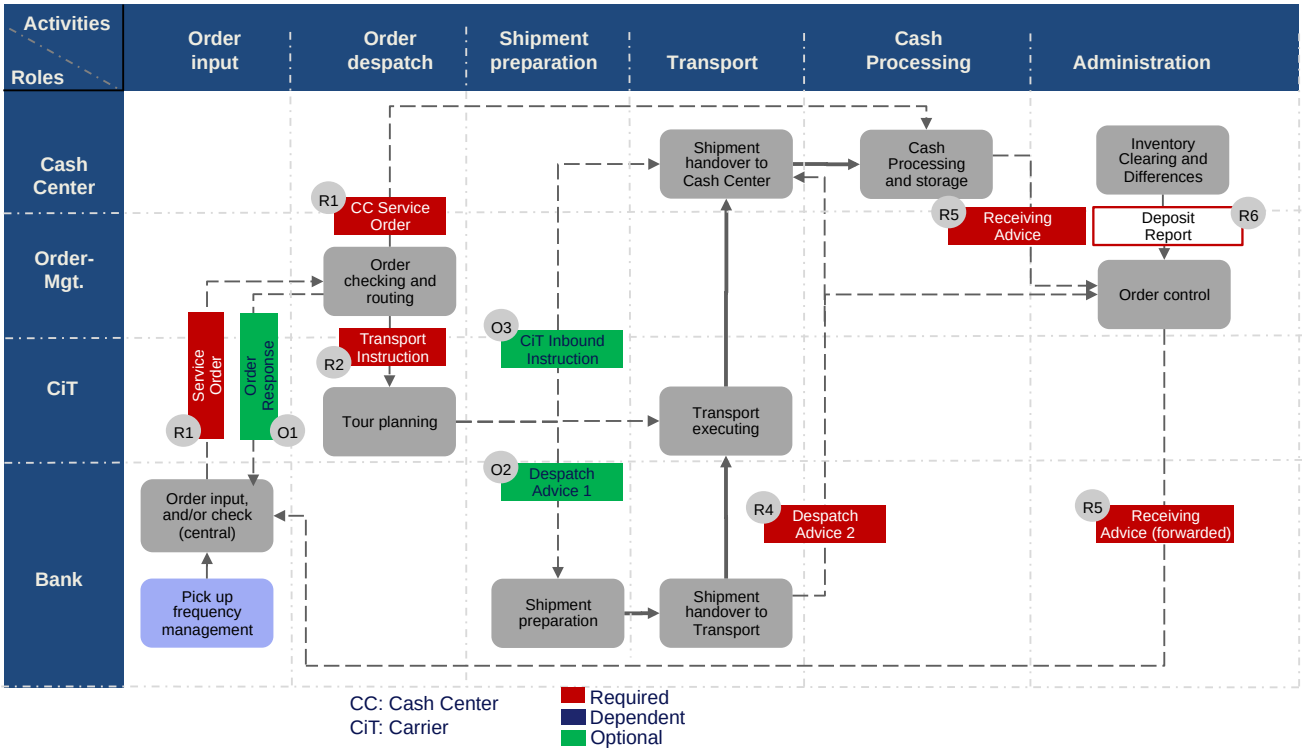
Scenario 5:

- In case CC and CiT are different organizations or operate in different locations with different IT systems, message D1: CiT Outbound Instruction is advised to transfer the tour schedule with packing list to the Cash Center. There is no confirmation message.

Scenario 6:

- Usually the Cash Center has the ordered cash available at bank stock. In case, the Cash Center cannot fulfill all orders from stock, CC has to order cash in general from the National Bank (CB). Country specific rules will apply in this case. The cash ordering from the National Bank follows exactly the same processes described above using GLNs are from CC and CB location.
- It is possible, that the bank orders its cash directly at the CB, instructing CiT as a carrier and CC for cash preparation by owned order management.

3.3.3 Process 3: Cash deposit of branches



Roles

- Bank branch or retail shop as Shipper
- Organization doing Order Management
- CiT as Carrier
- Cash Center as Receiver

Activities

- Order input
- Order despatch
- Shipment preparation
- Transport by CiT
- Cash Processing at Cash Center
- Administration

Process steps:

- Order Input and/or check (central)
- Order checking and routing
- Tour planning
- Shipment preparation
- Shipment handover to transport
- Transport executing
- Shipment handover to Cash Center
- Cash processing and storage
- Order control
- Inventory clearing and difference management

Messages, required
- R1: Service Order/ CC Service Order
- R2: Transport Instruction for Deposit
- R4: Despatch Advice 2
- R5: Receiving Advice
- R6: Deposit Report

Message, dependent
- None

Messages, optional
- O1: Order Response
- O2: Despatch Advice 1
- O3: CiT Inbound Instruction

3.3.3.1 Order input and/or check (central)

Role: Bank branch/ retail shop
Activity: Order input
Message in: O1: Order Response
Message out: R1: Service Order
Goods in: None
Goods out: None

The bank branch orders a pick up at certain date and time for cash for further processing; the orders are mainly based on agreed master data in a related contract between the retail organization (LSB) and the Logistic Service Seller.

The contract parties differentiate between two types of Service Orders:

- Regular order with automated order preparation
  - Fixed weekly pick up time and date
  - Call order (Abrufauftrag) within a frame contract
  - Order by automated cash forecast system
- Special/emergency order with manual order preparation
  - Special order, e.g. emergency order, delivery outside opening hours

The data structure for regular and special Service Order will be the same. The orders differ mainly in data content, like agreed lead times, which are defined in the master data.

Data input takes place in the bank's IT ordering mask. In case of regular orders or automated cash forecast software, all data can be automatically generated, based on GLNs and GTINs. The ordered quantities and planned delivery time frame shall be defined at this stage. In case, the deposit amount is not known at order time

In best practice an automated control of correct and complete data and structure of the Service Order is useful to avoid incomplete messages. If necessary, manual correction and/or data completion has to be done.

The Service Order will be sent to „Order checking and routing" within Order Management. The Order Response is the corresponding answer to Service Order from Order Management back to bank branch/ LSB.

3.3.3.2 Order checking and routing

Role: Order management
Activity: Order despatch
Message in: R1: Service order
Message out: R1: CC Service Order for “Cash processing”
R2: Transport Instruction for “Tour planning”
O1: Order Response
Goods in: None
Goods out: None

Order Management checks, if the order is complete and can be fulfilled depending on agreed service criteria, e.g. transportation capacity. The respective Order Response contents the check result with confirmation, modification of specific order data or with status rejected; please see also scenario 1.

Order Management will send specific messages to CiT and to the Cash Center.

- CIT will get the R2: Transport Instruction.
  All transport relevant information, such as transport service reference, transport service category, logistic service requirement code have to be defined at this process step. Shipper and Receiver are already defined by R1: Service Order as well as delivery date and time and the quantities per article.

- CC will get the R3: CC Outbound Instruction.
  In best practices the agreed services between the parties are defined and transferred in field Consignment/ Processing Service Reference (via GTIN) plus handling instructions and package type. SSCCs for the different cash units are optional at the ordering stage.

All other information, like timing and goods to be delivered are taken from R1: Service Order.

3.3.3.3 Tour planning

Role: CiT
Activity: Order despatch
Message in: R2: Transport Instruction
Message out: O2: Despatch Advice 1 (best practice)
O3: CiT Inbound Instruction (depending on business organization)
Goods in: None
Goods out: None

Tour planning based on Transport Instructions, outlines e.g. exact schedule, services per delivery, pick up locations for each tour. Truck ID and truck personnel are defined, if necessary, an update can take place on day of transport.

The Despatch Advice 1 ensures correct information of branches about the planned pick-up, incl. despatch date and time, tour-ID and messenger. Information of tour data is allocated by GSIN, a tour group of several logistical units with SSCC. Manuals check with paper based lists within later shipment handover to transport can be eliminated.

The CiT Inbound Instruction delivers information about Carrier and planned despatch date and time at receiving station of Cash Center. In addition processing volume (quantity per GTIN), packages per type and SSCC’s are allocated by GSIN per tour, so proven shipment check at handover from transport to Cash Center can be established and automated. Manuals check with paper based lists within later shipment handover to transport can be eliminated.

3.3.3.4 Shipment preparation

Role: Bank
Activity: Shipment preparation
Message in: O2: Despatch Advice 1
Message out: R4: Despatch Advice 2 (best practice)
Goods in: None
Goods out: prepared cash unit (packages, cassettes)

Cash preparation in the branch defines the amount of packages and type based on banknote and coin deposit (could be also mixed= GTIN: unprocessed cash). At this stage the shipment ID/ SSCC, GRAI for containers and SSID for sealed containers are added to the information from Service Order.

In case the bank branch receives a Despatch Advice 1, the Despatch Advice 2 considers also the logistical data, e.g. GSIN, Tour ID, personnel for handover, planned pickup date and time; all additional information are included and transferred in R4: Despatch Advice 2 from branch to Cash Center and/or Order Control.

3.3.3.5 Shipment handover to transport

Role: Bank
Activity: Transport
Message in: R4: Despatch Advice 2
Message out: R4: Despatch Advice 2 (updated information)
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

According to agreed handover process the respective goods are handed over to the announced CiT messenger by bank staff; data transferred already in R4: Despatch Advice. Handover has to be documented with handover protocol (status notification). Handover protocols consider no additional information compared to Despatch Advice 2.

Remark: Definition of handover protocols is under development by CashCOM.

3.3.3.6 Transport executing

Role: CiT
Activity: Transport
Message in: none (transport execution according to CIT Inbound Instruction)
Message out: none
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

Carrier executes transport of cash. National and individual rules for handling instructions may apply here, e.g. insurance limits, weight limits as well as rules for one, two or three man logistics, already transferred in the Transport Instructions.

3.3.3.7 Shipment handover to cash Center

Role: Cash Center
Activity: Transport
Message in: R4: Despatch Advice 2
O3: CiT Inbound Instruction (best practice)
Message out: none

Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The complete batch of security bags or cassettes (allocated under GSIN) has to be handed over and confirmed by Cash Center. Each package unit shall be checked by SSCC and if applicable by SSID. In best case CiT Inbound Instruction is available per tour, so complete handover checks per truck can be noted and stated also in handover protocol.

At each handover checkpoint both parties agree on the handover protocol. This is a status notification with time stamp, no message. Handover protocols consider no additional information compared to O3: CiT Inbound Instruction.

Remark: Definition of handover protocols is under development by CashCOM.

3.3.3.8 Cash processing and storage

Role: Cash Center
Activity: Cash processing
Message in: R1: CC Service Order
R4: Despatch Advice 2 via “shipment handover to cash Center”
Message out: R5: Receiving advice
Goods in: prepared cash unit (packages, cassettes)
Goods out: None (storage within vault)

After handover process in receiving area of the Cash Center the deposit unit are prepared for processing according to policies and procedures within Cash Center organization. Each cash unit/ package, identified by SSCC will be dispatched to a processing station for cash verification, counting and sorting. Leading item shall be SSCC. In case of header card process the header card ID will be linked to the SSCC to assure end to end tracking & tracing.

Results of cash processing incl. reconciliation per unit will be outlined in a Deposit Report. The announced amount of cash within Despatch Advice 2 will be validated by processing results, reported by quantity per GTIN.

In case of differences between announced value (Said-to-contain) and processed value the reasons shall be noted for auditing. Further reconciliation steps and cash processing activities depend on SLAs with the customers and internal business rules of the Cash Center.

For the Shipper (bank branch) a confirmation per shipment is beneficial to assure the order finalization and internal accounting on branch level. Receiving Advice fulfills this topic for branches as well as within order control.

3.3.3.9 Order control

Role: Order management
Activity: Administration
Message in: R4: Despatch Advice 2
R5: Receiving Advice
R6: Deposit Report
Message out: R5: Receiving Advice (forwarded) for the bank branch
Goods in: None
Goods out: None

Order control is the supervising instance in the process of cash deposit from branches, controlling the order status and finalization.

Order control has access to R1: Cash Center Service Order, R4: Despatch Advice is received from brank branch and R5: Receiving Advice from Cash Center.

3.3.3.10 Inventory clearing and differences

Role: Cash Center
Activity: Administration
Message in: none (information to processing data)
Message out: Deposit Report
Goods in: None
Goods out: None

Inventory clearing and difference auditing is a general part within Cash Centers. Difference clarification will be based on information from Despatch Advice 2 and verified processing results. In case of any differences, audit rules will apply.

3.3.3.11 Scenarios for cash deposit of branches

Scenario 1:

- O1: Service Order can be confirmed via Order Response message, if the order can be fulfilled accordingly. Same procedure could take place for Transport Instructions and CC Outbound Instruction to confirm/ change issued instructions by Cash Center or CiT back to Order Management.

Scenario 2:

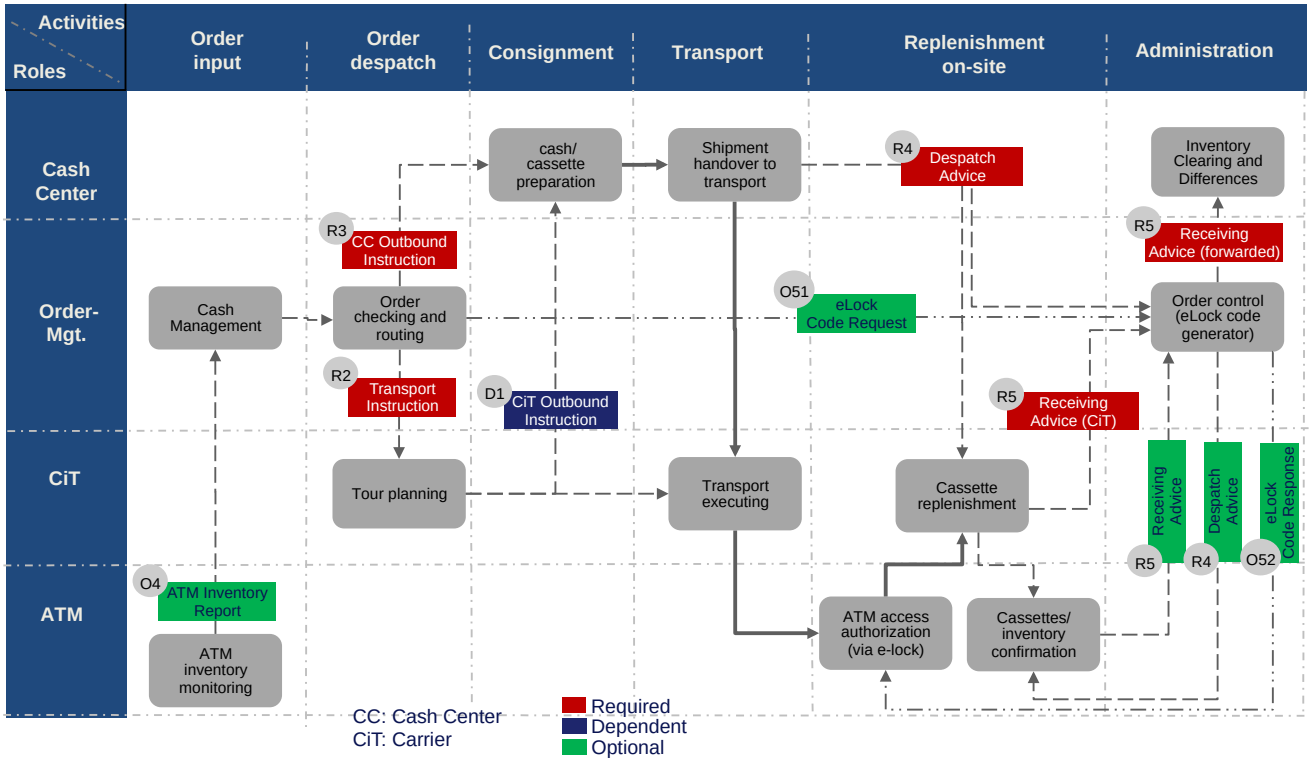
- In many cases, the pick-up order is (automatically) created at the LSS, not at bank branch. LSS has all relevant information in case banks have outsourced their total cash operation and control (Hauptkassenfunktion) to a CiT or LSS. In this case, the optional message O1: Order Response becomes an advised message. It has to be sent to the bank to inform them about the planned transaction including details. The message has the same format as R1: Service Order. The bank will confirm this Service Order with an O1: Order Response, it is also advised in scenario 2.
- Remark: Even, when the order management process is outsourced to the LSS, the final responsibility is with the LSB (bank). The SLA/master data should contain details of the agreement.

Scenario 3:

- GTINs and quantity are not exactly known/ forecasted in the bank in advance of shipment preparation
- Within order input the GTIN: unprocessed cash can be used and may be replaced at a time, when the information about amount of cash is available, latest in Despatch Advice 2.

3.3.4 Process 4: ATM replenishment – cassette delivery

Banks and retailers deploy more and more automated systems (ATM, CRS, ATS) to improve cash supply chain. As a consequence the cash handlers changed their organization of ATM management to more centralized use of monitoring and optimization software. IT systems are installed to transfer business information quickly and correctly. Next improvement step for process optimization will follow interoperability principals. Advanced ATM processes need data analytics and information exchange (EDI) to ensure interoperability between involved parties along cash supply chain. These processes are shown as best practice for delivery of ATM cassettes.



Roles:

- ATM as Receiver
- CiT as Carrier
- Organization doing Order Management
- Cash Center as Shipper

Activities:

- Order input
- Order despatch
- Consignment at Cash Center
- Transport by CiT
- Replenishment on-site by CiT, supported by ATM
- Administration

Process steps:

- ATM inventory monitoring
- Cash Management
- Order checking and routing
- Tour planning
- Cash/cassette preparation
- Shipment handover to transport

- Transport executing
- ATM access authorization
- Cassette replenishment
- Cassettes inventory confirmation
- Order control
- Inventory clearing and differences

Messages, required
- R1: Service Order
- R2: Transport Instruction for Delivery
- R3: CC Outbound Instruction
- R4: Despatch Advice
- R5: Receiving Advice (by CiT)

Message, dependent
- D1: CIT Outbound Instruction

Messages, optional
- R4: Despatch Advice (in best practice forwarded directly to IT agent at ATM)
- R5: Receiving Advice (in best practice IT agent at ATM returns a confirmation)
- O1: Order Response
- O4: Cash Inventory Report (for ATM)
- O5: eLock Code Request/ eLock Code Response

3.3.4.1 ATM inventory monitoring

Role: ATM
Activity: Order input (inventory monitoring)
Message in: none
Message out: O4: Cash Inventory Report (best practice)
Goods in: none
Goods out: none

Cash monitoring functionality is basis for ongoing forecasting and replenishment planning. ATMs are capable to send EDI messages, in particular O4: Cash Inventory Report for ATMs. In general the report is created on regular clocking frequency and send the absolute inventory amounts per machine (reporting party) to corresponding monitoring party, mainly organization doing Order Management. In best practice the ATM generates an additional O4: Cash Inventory Report also before and after the replenishment event, with the aim to support ATM balancing. So an offline monitoring of ATM inventory by bank staff can be eliminated.

3.3.4.2 Cash management

Role: Order Management
Activity: Order input
Message in: O1: Order Response
O4: Cash Inventory Report (best practice)
Message out: R1: Service Order
Goods in: none
Goods out: none

Functionality of Cash Management is the forecasting of ATM inventory and replenishment scheduling per ATM with the aim to optimize ATM's Total Cost of Ownership. The methods could be automated by software or manual within Order Management process. The process results in a defined R1: Service Order. Usually the process continues with the further process step "Order checking and routing".

3.3.4.3 Order checking and routing

Role: Order Management
Activity: Order despatch
Message in: R1: Service Order
Message out: R2: Transport Instruction
R3: CC Outbound Instruction
O1: Order Response
Goods in: None
Goods out: None

The process step follows-up Cash Management and consider the verification of the Service Order information, if the order is complete and can be fulfilled depending on agreed service criteria, e.g. the requested amount of cash against limits per ATM or available inventory in Cash Center, transportation capacity, etc. The check of Service Order results in confirmed, modified or rejected order response status in O1: Order Response.

Clarified Service Orders will be dispatched to CiT via R2: Transport Instruction for “tour planning” and to Cash Center via R3: CC Outbound Instruction for “cash/ cassette preparation”.

Order Management will send specific messages to CiT and to the Cash Center.

- CIT will get the R2: Transport Instruction.
  All transport relevant information, such as transport service reference, transport service category, logistic service requirement code have to be defined at this process step. Cash Center as Shipper and ATM as Receiver are already defined as well as delivery date and time and the quantities per article.

- CC will get the R3: CC Outbound Instruction.
  In best practices the agreed services between the parties are defined and transferred in field Consignment Service Reference (via GTIN) plus handling instructions and package type. SSCCs for the different cash units are optional at the ordering stage.

3.3.4.4 Tour planning

Role: CiT
Activity: Order despatch
Message in: R2: Transport Instruction
Message out: D1: CiT Outbound Instruction (depending on business organization)
Goods in: None
Goods out: None

Tour planning based on R2: Transport Instructions, outline, e.g. exact schedule, services per delivery, pick-up locations for each tour. Truck ID and truck personnel are defined, if necessary, an update can take place on that specific day.

3.3.4.5 Cash/cassette preparation

Role: Cash Center
Activity: Consignment
Message in: R3: CC Outbound Instruction
D1: CiT Outbound Instruction
Message out: R4: Despatch Advice (best practice)
Goods in: None
Goods out: prepared cash unit (packages, cassettes)

Cash preparation refers to corresponding R3: CC Outbound Instruction. In the consignment the SSCC is required to identify the ordered package/ shipment at latest. However the SSCC can be defined also in the Order Management before and printed in consignment to label the shipments. The packages are also related to GRAI in terms of containers or cassettes, used for transport and to SSID in terms of seals at the packages.

To prepare the shipments according to CiT tours planning the respective information are defined in D1: CiT Outbound Instruction. Additional information is the tour ID and respective CiT messenger data (advised), also the pick-up and delivery timeframe.

All additional information are included and transferred in R4: Despatch Advice.

3.3.4.6 Shipment handover to transport

Role: Cash Center
Activity: Transport
Message in: R4: Despatch Advice
Message out: R4: Despatch Advice
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The activity usually takes place immediately after cash preparation; however, cash could be stored in the vault in between, e.g. over night. “Shipment handover to transport” has access to R4: Despatch Advice, as it is the same organization as “cash/ cassette preparation”.

R4: Despatch Advice will have to be completed latest at this point, e.g. with advised information of the tour number and transport messenger. Despatch Advice has to be sent to “order control” and to CiT for “Cassette replenishment”.

In addition at each handover checkpoint both parties agree on the handover protocol. Protocols are status notifications with time stamp. Handover protocols consider no additional information compared to Despatch Advice. In minimum each package with SSCC has to be scanned and confirmed.

Remark: Definition of handover protocols is under development by CashCOM.

3.3.4.7 Transport executing

Role: CiT
Activity: Transport
Message in: None
Message out: None
Goods in: prepared cash unit (packages, cassettes)
Goods out: prepared cash unit (packages, cassettes)

The Carrier executes transport of cash. National and individual rules for handling instructions may apply here, e.g. insurance limits, weight limits as well as rules for one, two or three man logistics, already transferred in the Transport Instructions. As part of the CiT organization the truck has access to these data via D1: CiT Outbound Instruction.

3.3.4.8 ATM authorization (via e-lock)

Role: ATM
Activity: Replenishment on-site
Message in: O5: eLock Code Request/ eLock Code Response
Message out: none
Goods in: none
Goods out: none

Due to liability items the access to the ATM vault are secured. In case of installed eLocks the opening of the locks can be triggered for the ATM (identified by GLN) by the authorization of specific replenishment order, dispatched to defined CiT messenger.

The optional message O5.1: eLock Code Request (Type of GS1 Despatch Advice) contains the relevant information for one-time code generation. After identification of the right GLN of ATM, the electronic code for the lock can be dispatched to the right messenger by O5.2: eLock Code Response (compare scenario 7, additional GS1 manual: EDI communication for eLocks).

3.3.4.9 Cassette replenishment

Role: CiT
Activity: Replenishment on-site
Message in: R4: Despatch Advice
Message out: R5: Receiving Advice (CiT)
Goods in: prepared cash unit (packages, cassettes)
Goods out: None (cassette return is defined in a separate process)

For replenishment the respective ATM cassette/ package has to be identified by SSCC and SSID in case of cassettes are sealed. Respective information is delivered by R4: Despatch Advice to CiT messenger, depending on the replenishment method he has to put in the respective information at ATM operator panel, e.g. denomination and banknote quantity per cassette, package. The messenger confirms this performance within R5: Receiving Advice via the PDA.

3.3.4.10 Cassette inventory confirmation

Role: ATM
Activity: Replenishment on-site
Message in: R4: Despatch Advice (best practice)
Message out: R5: Receiving advice (best practice)
Goods in: None
Goods out: None

For the replenishment processes an ATM is able to receive and Despatch Advices concerning expected cassette shipment, especially SSCC, GRAI, SSID and the content per cassette by GTIN and quantity. In case the cassette carries the control data: SSCC and GRAI, the ATM system can control this information against data received by R4: Despatch Advice and can upload the approved data automatically. After successful replenishment the ATM system sends a R5: Receiving Advice to “order control” center.

This procedure eliminates the manual input of replenishment data at ATM operator panel. Process time per replenishment will be reduced, human mistakes can be avoided, quick and correct data transfer from and to Cash Center operations assured.

3.3.4.11 Order control

Role: Order Management
Activity: Administration
Message in: R4: Despatch Advice
R5: Receiving Advice
Message out: R5: Receiving Advice (forwarded)
Goods in: None
Goods out: None

Order control has access to R1: Service Order. R4: Despatch Advice is received from "Shipment handover to transport" in the Cash Center and R5: Receiving Advice.

In case of any differences, audit rules will apply.
In any case, R5: Receiving Advice will have to be forwarded to "inventory clearing and differences" for inventory management.

Order control also prepares following service invoicing to the LSB.

3.3.4.12 Inventory clearing and differences

Role: Cash Center
Activity: Administration
Message in: R5: Receiving Advice (forwarded)
Message out: None
Goods in: None
Goods out: None

Cash account management based on confirmed cash transports from one cash point to another, based on R5: Receiving Advice the cash bookings can be triggered. In case of any differences, audit rules will apply.

3.3.4.13 Scenarios for ATM replenishment – cassette delivery

Scenario 1:

- "Cash Management" based on regular input from O4: Cash Inventory Report for ATM is best practice. Based on forecasting systems the orders for ATM replenishment, incl. R2: Transport Instruction and R3: CC Outbound Instruction are generated centrally in Order Management.
- Otherwise the scheduling of ATM replenishment has to be done manually by Order Management staff, also resulting in respective orders. R2: Transport Instruction and R3: CC Outbound Instruction are generated locally at branch.

Scenario 2:

- Cash Management takes place locally or centrally in the bank/ outsourcing partner and will be not combined in organization with "Order checking and routing".
- Optional messages are R1: Service Order and O1: Order Response; both messages are advised for data exchange between different parties.

Scenario 3:

- In case CC and CiT are different organizations or operate in different locations, the message D1: CiT outbound instruction has to be sent to CC in order to make sure, the goods are prepared on schedule. There is no confirmation message. All relevant information is taken from R2: Transport Instruction.

Scenario 4:

- “Cassette replenishment” per ATM can be organized by different methods. Cassette swap is recommended and shown in best practice. Implemented IT agents within ATM software receiving and sending advices, enables the system for automated checking of the cassette exchange process.
- Required key data for each replenishment process are the SSCC, GTIN and quantity per GRAI (cassette), these data can be uploaded and compared to information from R4: Despatch Advice.
- The SSID is an optional identifier to track & trace the cassettes through the cassette delivery and return process due to liability requirements. In case the SSID will be also read out/ scanned at “cassette replenishment”, the data can be stored within transaction file and transferred within R4: Despatch Advice and R5: Receiving Advice.

Scenario 5:

- “Cassette replenishment” following top-up method considers the same process steps, using safe bags/ seal bags as cash package type instead of cassettes.
- Required key data for each replenishment process are the SSCC (at safe bags) and quantity per GTIN; in comparison to cassette swapping the loading of the cassettes has to be done on site by staff; a confirmation of the exercise is necessary by the responsible person. An ATM based checking procedure depends still on R4: Despatch Advice plus additional input from replenishment staff.
- Top-up method are often realized in case of cassette replenishments within bank branches, using cash from vault and done by branch staff. Further reconciliation is reduced to balancing of the reject box.

Scenario 6:

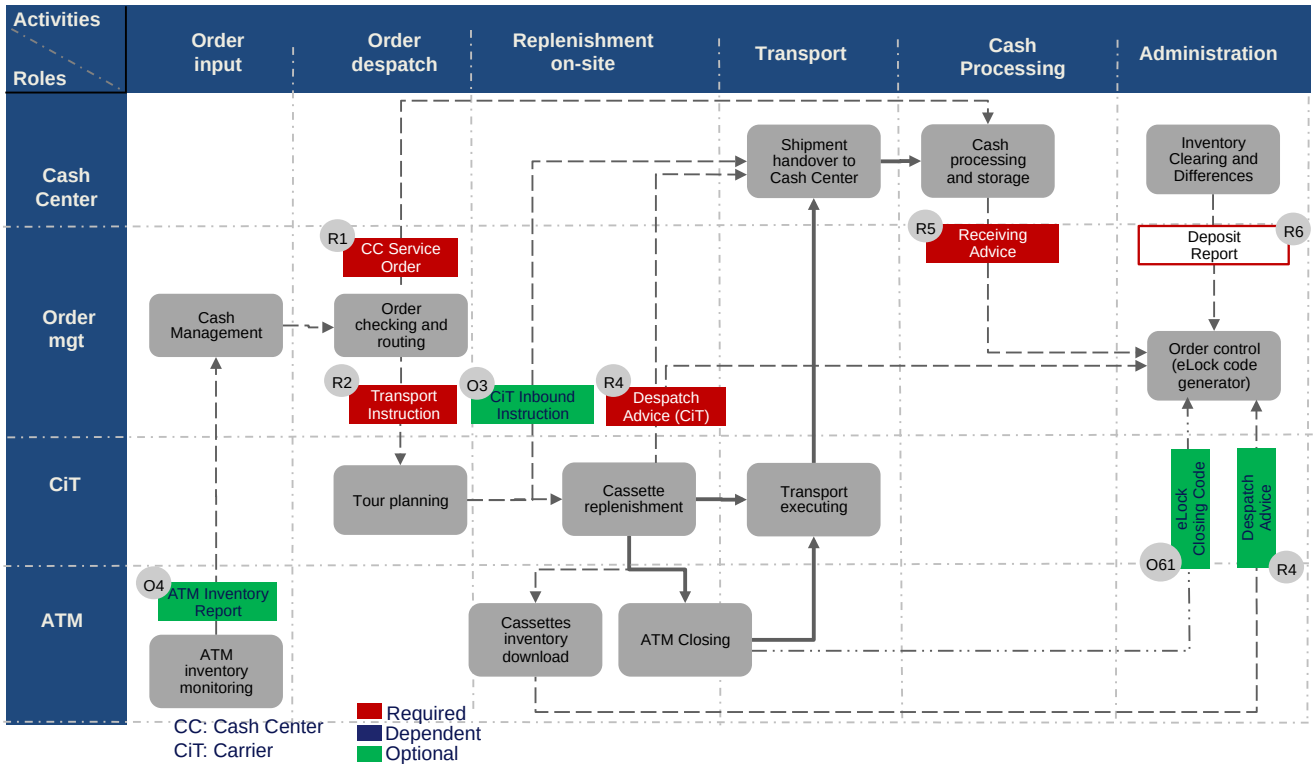
- “Cassette replenishment” following cash swapping on site considers the same processes like cassette swapping, using safe bags/ seal bags as cash package type instead of cassettes.
- Required key data for each replenishment process are the SSCC (at safe bags) and quantity per GTIN; in comparison to cassette swapping the loading of the cassettes has to be done on site by staff; a confirmation of the exercise is necessary by the responsible person. An ATM based checking procedure depends still on R4: Despatch Advice plus additional input from replenishment staff.

Scenario 7:

- Access to ATM via special electronic lock with one-time codes is recommended as best practice. In this case an interaction between Service Order and creation of opening code is secured by O5.1 eLock Code Request. The respective response to open ATM vault by the CiT messenger considers O5.2: eLock Code Response.
- For more information, compare additional GS1 Manual: EDI communication for eLocks.
- In case of installed combination locks and keys (without one-time codes), the authorization of each CiT messenger has to be at “transport execution”. The messenger can be instructed within the D1: CiT Outbound Instruction.

3.3.5 Process 5: ATM replenishment – cassette return

Banks and retailers deploy more and more automated systems (ATM, CRS, ATS) to improve cash supply chain. As a consequence the cash handlers changed their organization of ATM management to more centralized use of monitoring and optimization software. IT systems are installed to transfer business information quickly and correctly. Next improvement step for process optimization will follow interoperability principals. Advanced ATM processes need data analytics and information exchange (EDI) to ensure interoperability between involved parties along cash supply chain. These processes are shown as best practice for pick-up of ATM cassettes and for return to/ balancing at Cash Center.



Roles:

- ATM as Shipper
- CiT as Carrier
- Organization doing Order Management
- Cash Center as Receiver

Activities:

- Order input
- Order despatch
- Replenishment on-site by CiT, supported by ATM
- Transport by CiT
- Cash processing at Cash Center
- Administration

Process steps:

- ATM inventory monitoring
- Cash Management
- Order checking and routing
- Tour planning

- Cassette replenishment
- Cassettes inventory download
- ATM closing
- Transport executing
- Shipment handover to Cash Center
- Cash Processing and storage
- Order control
- Inventory clearing and differences

Messages, required
- R1: Service Order/ CC Service Order
- R2: Transport Instruction for Deposit
- R4: Despatch Advice (by CiT)
- R5: Receiving Advice
- R6: Deposit Report

Messages, optional
- R4: Despatch Advice (in best practice IT agent at ATM sends the EDI message)
- O1: Order Response
- O3: CiT Inbound Instruction
- O4: Cash Inventory Report (for ATM)
- O6: eLock Closing Code/ eLock Closing Code Response (if applicable)

3.3.5.1 ATM inventory monitoring

Role: ATM
Activity: Order input (inventory monitoring)
Message in: none
Message out: O4: Cash Inventory Report (best practice)
Goods in: none
Goods out: none

Cash monitoring functionality is basis for ongoing forecasting and replenishment planning. ATMs are capable to send EDI messages, in particular O4: Cash Inventory Report for ATMs. In general the report is created on regular clocking frequency and send the absolute inventory amounts per machine (reporting party) to corresponding monitoring party, mainly organization doing Order Management. In best practice the ATM generates an additional O4: Cash Inventory Report also before and after the replenishment event, with the aim to support ATM balancing. So an offline monitoring of ATM inventory by bank staff can be eliminated.

3.3.5.2 Cash management

Role: Order Management
Activity: Order input
Message in: O1: Order Response
O4: Cash inventory report (best practice)
Message out: R1: Service Order
Goods in: none
Goods out: none

Functionality of Cash Management is the forecasting of ATM inventory and replenishment scheduling per ATM with the aim to optimize ATM's Total Cost of Ownership. The methods could be automated by software or manual within Order Management process. The process results in a defined Service Order message. Usually the process continues with the further process step "Order checking and routing".

3.3.5.3 Order checking and routing

Role: Order Management
Activity: Order despatch
Message in: R1: Service Order
Message out: R1: CC Service Order
R2: Transport Instruction
O1: Order Response
Goods in: None
Goods out: None

The process step follows-up Cash Management and consider the verification of the Service Order information, if the order is complete and can be fulfilled depending on agreed service criteria, e.g. transportation capacity, etc. The check of Service Order results in confirmed, modified or rejected order response status in O1: Order Response.

Clarified Service Orders will be dispatched to CiT via R2: Transport Instruction for “tour planning” and to Cash Center via R3: CC Outbound Instruction for “cash/ cassette preparation”.

Order Management will send specific messages to CiT and to the Cash Center.

- CIT will get the R2: Transport Instruction.
  All transport relevant information, such as transport service reference, transport service category, logistic service requirement code have to be defined at this process step. Cash Center as Receiver and ATM as Shipper are already defined as well as pick-up date and time and the quantities per article.

- CC will get the R1: CC Service Order.
  In best practices the agreed services between the parties are defined and transferred in field Consignment Service Reference (via GTIN) plus handling instructions and package type. SSCC for the different ATM cassettes can be defined at this ordering stage.

3.3.5.4 Tour planning

Role: CiT
Activity: Order despatch
Message in: R2: Transport Instruction
Message out: O3: CiT Inbound Instruction (depending on business organization)
Goods in: None
Goods out: None

Tour planning based on R2: Transport Instructions; outline, e.g. exact schedule, services per delivery, pick-up locations for each tour. Truck ID and truck personnel are defined, if necessary, an update can take place on day of transport.

The CiT Inbound Instruction delivers information about Carrier and planned despatch date and time at receiving station of Cash Center. In addition processing volume (quantity per GTIN), packages per type and SSCC’s are allocated by GSIN per tour, so proven shipment check at handover from transport to Cash Center can be established and automated. Manuals check with paper based lists within later shipment handover to transport can be eliminated.

3.3.5.5 Cassette replenishment

Role: CiT
Activity: Replenishment on-site
Message in: O3: CiT Inbound Instruction
Message out: R4: Despatch Advice (CiT)
Goods in: None (cassette return is defined in a separate process)
Goods out: ATM cassettes

ATM is still opened (compare process 4: ATM replenishment – cassette delivery). For replenishment the respective ATM cassette/ package has to be identified by GRAI and SSID, in case of cassettes are sealed. The SSCC shall be confirmed. Respective information is delivered by O3: CiT Inbound Instruction. The CiT messenger has to note additional information per cassette into the PDA, e.g. residual cash per denomination and quantity; i.e. to complete the information request for R4: Despatch Advice.

3.3.5.6 Cassette inventory download

Role: ATM
Activity: Replenishment on-site
Message in: None
Message out: R4: Despatch Advice (best practice)
Goods in: None
Goods out: None

For the replenishment processes an ATM is able to receive and Despatch Advices concerning expected cassette shipment, especially SSCC, GRAI, SSID and the content per cassette by GTIN and quantity. In case the cassette carries the control data: GRAI, the ATM system can download the approved data, GTIN and quantity per cassette automatically; also the SSCC, in case the messenger inputs the SSCC at the operator panel. After successful replenishment the ATM system sends a R4: Despatch Advice to “order control” center.

This procedure eliminates the manual input of replenishment data into PDA. Cash Center gets the respective information by R4: Despatch Advice. Process time per replenishment will be reduced, human mistakes can be avoided, and quick and correct data transfer from and to Cash Center operations assured.

3.3.5.7 ATM closing

Role: ATM
Activity: Replenishment on-site
Message in: None
Message out: O6: eLock Closing Code/ eLock Closing Code Response
Goods in: None
Goods out: None

After the removal of the cassettes and placement of delivered cassettes at the ATM, the ATM vault has to be locked again.

In case of installed eLocks the closing of the locks can be optionally documented by closing codes for the ATM (identified by GLN). The respective codes can be transferred to control center via O6.1: eLock Closing Code (compare scenario 7, additional GS1 Manual: EDI communication for eLocks).

3.3.5.8 Transport executing

Role: CiT
Activity: Transport
Message in: None
Message out: None
Goods in: ATM cassettes
Goods out: ATM cassettes

The Carrier executes transport of cash. National and individual rules for handling instructions may apply here, e.g. insurance limits, weight limits as well as rules for one, two or three man logistics, already transferred in the R2: Transport Instructions. As part of the CiT organization the truck has access to these data via O3: CiT Inbound Instruction.

3.3.5.9 Shipment handover to Cash Center

Role: Cash Center
Activity: Transport
Message in: R4: Despatch Advice
O3: CiT Inbound Instruction (best practice)
Message out: None
Goods in: ATM cassettes
Goods out: ATM cassettes

The complete batch of ATM cassettes (allocated under GSIN) has to be handed over and confirmed by Cash Center. Each cassette unit shall be checked by SSCC and if applicable by SSID. In case the information within CiT Inbound Instruction is available, complete handover per truck can be noted and stated also in handover protocol.

At each handover checkpoint both parties agree on the handover protocol. This is a status notification with time stamp, no message. Handover protocols consider no additional information compared to O3: CiT Inbound Instruction.

Remark: Definition of handover protocols is under development by CashCOM.

3.3.5.10 Cash processing and storage

Role: Cash Center
Activity: Cash processing
Message in: R1: CC Service Order
R4: Despatch Advice 2 via “shipment handover to cash Center”
Message out: R5: Receiving Advice
Goods in: ATM cassettes
Goods out: None (storage within vault)

After handover process in receiving area of the Cash Center the cassettes are prepared for processing according to policies and procedures within Cash Center organization. Each ATM cassette, identified by SSCC/ GRAI/ SSID (if applicable) will be dispatched to a processing station for cash verification, counting and sorting. Leading item shall be SSCC. In case of header card process the header card ID will be linked to the SSCC to assure end to end tracking & tracing.

Results of cash processing incl. reconciliation per ATM/ SSCC will be outlined in a Deposit Report. The announced amount of cash in R4: Despatch Advice will be validated by processing results and reported by quantity per GTIN.

In case of differences between announced value (Said-to-contain) and processed value the reasons shall be noted for auditing. Further reconciliation steps and cash processing activities depend on SLAs with the customers and internal business rules of the Cash Center.

For the Order Management a confirmation per ATM is beneficial to assure the order finalization and internal accounting on ATM level. R5: Receiving Advice fulfills this topic for ATMs within “order control” function.

3.3.5.11 Order control

Role: Order management
Activity: Administration
Message in: R4: Despatch Advice
R5: Receiving Advice
R6: Deposit Report
Message out: None
Goods in: None
Goods out: None

Order control is the supervising instance in the process of ATM replenishment, controlling the order status and finalization.

Order control has access to R1: Cash Center Service Order, R4: Despatch Advice is received from ATM, CiT messenger and R5: Receiving Advice from Cash Center.

3.3.5.12 Inventory clearing and differences

Role: Cash Center
Activity: Administration
Message in: none (access to processing data)
Message out: Deposit Report
Goods in: None
Goods out: None

Inventory clearing and difference auditing is a general part within Cash Centers. Difference clarification will be based on information from R4: Despatch Advice and verified processing results. In case of any differences, audit rules will apply.

3.3.5.13 Scenarios for ATM replenishment – cassette delivery

Scenario 1:

- “Cash Management” based on regular input from “ATM inventory monitoring” is best practice. Based on forecasting systems the orders for ATM replenishment, incl. R2: Transport Instruction and R3: CC Service Order are generated centrally in Order Management.
- Otherwise the scheduling of ATM replenishment has to be done manually by Order Management staff, also resulting in respective orders. R2: Transport Instruction and R3: CC Service Order are generated locally at branch.

Scenario 2:

- Cash Management takes place locally or centrally in the bank/ outsourcing partner and will be not combined in organization with “Order checking and routing”.
- Optional messages are R1: Service Order and O1: Order Response; both messages are advised for data exchange between parties.

Scenario 3:

- In case CC and CiT are different organizations or operate in different locations, the message O3: CiT Inbound Instruction is advised to inform CC about incoming ATM cassettes per truck. There is no confirmation message.

Scenario 4:

- “Cassette replenishment” per ATM can be organized by different methods. Cassette swap is recommended and shown in best practice. Implemented IT agents within ATM software receiving and sending advices, enables the system for automated checking of the cassette exchange process.
- Required key data for each ATM return process are the SSCC, GTIN and quantity per GRAI (cassette), these data can be downloaded to inform the Cash Center via R4: Despatch Advice.
- The SSID is an optional identifier to track & trace the cassettes through the cassette delivery and return process due to liability requirements. In case the SSID will be also read out/ scanned at “cassette replenishment”, the data can be stored within transaction file and transferred within R4: Despatch Advice and R5: Receiving Advice.

Scenario 5:

- “Cassette replenishment” following top-up method considers only the banknote of the reject box (best practice for reject note will be the transport in safe bags back to Cash Center).
- The process steps are the same like with cassettes, using safe bags/ seal bags as cash package type.
- Required key data for each replenishment process are the SSCC (at safe bags) and quantity per GTIN.

Scenario 6:

- “Cassette replenishment” following cash swapping on site considers the same processes like cassette swapping, using safe bags/ seal bags as cash package type instead of cassettes.
- Required key data for each replenishment process are the SSCC (at safe bags) and quantity per GTIN; in comparison to cassette swapping the unloading of the cassettes has to be done on site by staff; a confirmation of the exercise is necessary by the responsible person.

Scenario 7:

- Access to ATM via special electronic lock with one-time codes is recommended as best practice. The closing of ATM vault shall be also reported by ATM (best practice)
- Some manufactures installed in its lock systems the functionality of closing codes. Aim will be the control of a secured closing procedure. The closing code can be transferred between the eLocks and the corresponding control party with the IT code generator system via O6.1: eLock Closing Code. The respective response back to sender will be the O6.2: eLock Closing Code Response, content is the confirmation or reject of the closing code.
- For more information, compare additional GS1 Manual: EDI communication for eLocks.
- In case of installed combination locks and keys (without one time codes), the ATM closing is under responsibility by CiT messenger. No closing information will be send.

4 EDI messages and data model

4.1 General

4.1.1 Standard Business Document Header (SBDH)

The Standard Business Document Header (SBDH) enables integration of EDI messages between internal applications, enterprise applications, and business-to-business infrastructure by providing a consistent interface between applications. The standard header can provide semantic information needed for the routing, processing and business domain context of documents, regardless of the data format of the document in XML, classic EDI or other format. In following we refer to the GS1 XML Release 3.2. [1]

4.1.2 Guidelines for SBDH

SBDH is an integral part of the XML instance. In the GS1 XML the „StandardBusiness DocumentHeader" element MUST be included inside the root element of the message together with the GS1 eCom Business Document.

Major tags within SBDH are fulfill requirements for

- **Document Routing,** captured in the Sender and the Receiver of message. It is used to identify the message sender and message receiver using unique GLN identifiers for cash handlers (mandatory for GS1 Standards)
- **Document Identification**, captured by the Document Identification of message. It is used to identify the actual message payload content. This information will be used by the middleware to identify and route the message to the appropriate business application without opening or parsing the business document payload.
- **Document Processing Context,** captures in the [Document Type], [Creation Date And Time] and [Status Code] of message. It is used to provider parameters for processing the message in the context of a business choreography exchange.

4.1.3 Remarks for SBDH

SBDH is a simple header and does not provide a mechanism for identifying sequencing information at the header level. An example of serialization is, that a newer order in the sequence replaces the older in the message choreography between 2 trading partners. Sequencing requires business intelligence at payload level / backend application system and is a characteristic of the business process rather than transaction management at the middleware. In short Serialization is dependent on the business process and should be handled in the business document rather than the header/envelope. If requirement for serialization is to handle changes to documents exchanged earlier, it may be more appropriate to handle such changes using the document status attributes:

- Original: The original document issued by the sender
- Copy: A copy of the original document issued by the sender
- Additional Transmission:
  Message already transmitted via another communication channel.

[1] Technical Documentation:
http://www.gs1.org/sites/default/files/docs/xml/SBDH_v1_3_Technical_Implementation_Guide.pdf

Current design of GS1 XML for eCom does not allow for inclusion more than one business document type in the GS1 message, thus multiple types should always be set to „false". A Message Grouping is not possible.

In certain business processes/ messages business drivers may require the use of a specific transport protocol. SBDH is agnostic / independent of the message transport protocol used. With GS1 XML, any transport protocol may be used for messaging and this decision should be based on the business drivers within the business process, like trading partner agreements, business rules, security, non-repudiation, etc. If there is a need within any particular GS1 user community to „officially" support a particular transport protocol, then it should be expressed to GS1 with the use of its Work Request System.

4.1.4 Document Conventions

The document content is following the GS1 Standards principals and CashCOM prioritizes the data fields. The short words show such classification adapted to cash handling industry:

"R" Required; information is mandatory and cannot be eliminated
"A" Advised; information shall be outlined following best practices
"D" Dependent; information shall be outlined dependent on certain criteria
"O" Optional; information depends on business process, agreement between trading partners and quality of application
"N" Not used; in general the outlined GS1 messages conclude an adaptation to the cash handling industry and outlines only a subset of the "total message design".

4.1.5 Code lists

GS1 XML messages use code lists to communicate technical information or status.
http://apps.gs1.org/GDD/Pages/clHome.aspx

In addition the mostly used codes for cash handling are outlined at the end of each EDI message. "New" codes for cash handling are marked in red lettering.

4.2 EDI content per message (Excel sheets)

4.2.1 R1: Service Order/ CC Service Order

Message will be used in general to order services by LSB (use case 1) and in specific to order for cash deposit processing from Cash Center (use case 2).

Use Case 1:
Message will be used by customers/ LSB to order

- a specific or regular cash delivery to a customer branch or
- a specific or regular cash pick-up at a branch for further deposit processing

Business Process:	Cash Delivery to branches Coin Delivery to retail branches (coin exchange) Cash Deposit of branches ATM Replenishment – cassette return
Sender of Message:	Bank/ retail customer as Logistics Service Buyer (LSB)
Activity:	Order input
Receiver of message:	Logistics Service Seller (LSS)

Use Case 2:
The CC Service Order shall be initiated in the Order Management process to send a Service Order for cash processing to qualified Cash Center.

Business Process:	Cash Deposit of branches
Sender of message:	Organization doing Order Management (even LSB or LSS)
Activity:	Order despatch
Receiver of message:	Cash Center

One message shall be transferred for each service relation between Shipper and Receiver.

The Service Order shall be initiated by branch organization

- identified by GLN of Receiver for cash delivery to branches
- identified by GLN of Shipper for cash deposits from branches to Cash Centers

The branch organization has to define the owner of cash, LSB and LSS, shipper and receiver location, delivery date and time, alternatively the delivery time period, and the ordered/ pick-up articles by GTIN and quantity per item. For multiple articles the line 18-21 has to be repeated.

Data model for Service Order:

Message	Service Order / CC Service Order
Status:	**Required (R1)**

Remark: Message example is created as a Service Order for cash delivery to branches. For a Service Order for cash deposits of branches, shipper and receiver will be changed in comparison to delivery order.

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Order Creation Date Time		Date, when Service Order is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Order identification		Unique reference for service order by document ID of Log. Service Buyer.	R
10	Logistic Service Buyer (Receiver)	**GLN**	In general the location number of the receiver. The receiver will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "Buyer (Receiver)"	R
11	Logistic Service Seller (Shipper)	**GLN**	In general the location number of the shipper. The shipper will be identified by a GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "Seller (Shipper)" location.	R
12	Ship From (If different from Seller (Shipper) - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "Seller (Shipper)" location.	D
13	Ship To (If different from Buyer (Receiver) - Logistical View)	**GLN**	Identifies the origin location to which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "Buyer (Receiver)" location.	D
14	Planned Delivery Time Period		Planned time frame for planned delivery at receiver location. NOTE: Input required even DeliveryDateTime or DeliveryDateRange.	D
15	Planned Delivery Date/ Time		Planned delivery date and/or time at receiver location. NOTE: Input required even DeliveryDateTime or DeliveryDateRange.	D
16	Original order number of the receiver / logistic service buyer		Specify the order number of the receiver / logistic service buyer to identify the Service Order.	R
17	Owner of cash-ID	**GLN**	In general the owner of cash, identified by GLN.	R
18	Date and time of the original order number		Date and time of the original order number of the receiver.	O
19	Line Item Number			R
20	Item Quantity		The item quantity which has been requested.	R
21	Note		Additional remark associated to the Order Line Item in free text.	O
22	Article Identification	**GTIN**	Definiton of GTIN. GTIN of ECB for cash articles.	R

4.2.2 O1: Order Response

Message will be used in general to confirm, modify or reject Service Orders by LSS. The message will be send back from LSS to LSB and refers to the original Service Order placed by LSB.

Message will be used by LSS to confirm Service Order or to introduce a Service Order modification for

- a specific or regular cash delivery
- a specific or regular cash pick-up for further deposit processing

Business Process:	Cash Delivery to branches Coin Delivery to retail branches (coin exchange) Cash Deposit of branches ATM Replenishment – cassette delivery ATM Replenishment – cassette return
Sender of Message:	Logistics Service Seller (LSS)
Activity:	Order despatch
Receiver of message:	Bank/ retail customer as Logistics Service Buyer (LSB)

For each service relation between Shipper and Receiver one message shall be transferred.

The Order Management of LSS has different possibilities to answer for Service Orders,

- classified by Order Response Status Code (line 9) and
- depending on modifications or rejects by Reason Code (line 10 of line 19).

Following status codes are relevant to send a qualified Order Response:

(a) Acceptance of Service Order; in this case the Service Order is fully confirmed by the LSS, only the required fields has to send back to LSB by Order Response.

(b) Modification of Service Order; in this case the Service Order can be modified by the LSS and has to be qualified by Reason Code; modifications can concern:
   - Delays in delivery or pick up outlined by Reason Codes in line 10; reasons can be e.g. confirmed but delay expected, max. order quantity exceeded.
   - Changes in item qualities per articles (GTIN) outlined by Reason Code in line 19 (for multiple articles the line 17-21 has to be repeated); reasons can be e.g. product out of stock, item temporarily not available.

(c) Reject of Service Order; in this case the complete Service Order will be rejected by LSS and qualified by Reason Code in line 9; reasons can be e.g. incomplete message or invalid date, invalid product compared with agreed contracts.

Data model for Order Response: (new incl. code lists for cash logistics)

Message	Service Order Response / CC Service Order Response	
Status:	**Optional**	**(O1)**
	Remark:	Message example is created as an Order Response for cash delivery to branches. For an Order Response for cash deposits of branches, shipper and receiver will be changed in comparison to delivery order.

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Order Response Creation Date Time		Date, when Service Order Response is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Order Response Identification		Unique reference for service order response by document ID of Logistic Service Seller (Shipper).	R
10	Order Response Status Code		The Logistics Service Seller has the opportunity to ACCEPTED, MODIFY or to REJECT the Service order to Logistics Service Seller; in case of MODIFY or REJECT an Order Response Reason Code is necessary.	R
11	Order Response Reason Code		The Logistics Service Seller has the opportunity to outline one or multiple reason codes in case of modifications or reject of Service Order	D
12	Logistic Service Buyer (Receiver)	**GLN**	In general the bank/ retail organization/ owner of cash, identified by GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "Buyer (Receiver)" location.	R
13	Logistic Service Seller (Shipper)	**GLN**	In general the service provider with contract to Log. Service Seller, identified by GLN.	R
14	Ship To (If different from Buyer (Receiver) - Logistical View)	**GLN**	Identifies the origin location to which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "Buyer (Receiver)"	D
15	Planned/ confirmed Delivery Time Period		Planned/Confirmed Time frame for planned Delivery at Receiver location NOTE: Input required even DeliveryDateTime or DeliveryDateRange.	D
16	Planned/ confirmed Delivery Date/ Time		Planned/Confirmed Delivery Date and Time at Receiver location NOTE: Input required even DeliveryDateTime or DeliveryDateRange.	D
17	Original Order Number		Unique Order Number to identify CC Service Order.	R
18	Line Item Number			R
19	Confirmed Item Quantity		Confirmed Quantity per GTIN.	R
20	Order Response Reason Code		Reason code, if quantity of confirmed order item quantity differ from orignial order.	D
21	Note		Additional remark.	O
22	Article Identification	**GTIN**	EZB-GTIN	R

Code list for ErrorOrWarningCode (in line 11/ 20)

#	Code	Code definition
1	ARTICLE_OUT_OF_ASSORTMENT	Article (banknotes/ coins packages) normally part of a standard assortment is unavailable.
2	BLOCKED_ARTICLE	Article (banknotes/ coin packages) has been blocked by supplier, e.g. no delivery before issuing date.
3	CODE_NOT_MAPPED_TO_APPLICATION	Code Not Mapped to Application, e.g. master data missing.
4	CONFIRMED_BUT_DELAY_EXPECTED	The goods may arrive at a later point in time than requested, for example because of lack in truck capacities.
5	CUSTOMER_IDENTIFICATION_NUMBER_AND_ENTITY_NAME_DO_NOT_MATCH	Customer Identification Number and Entity Name do not match.
6	CUSTOMER_IDENTIFICATION_NUMBER_DOES_NOT_EXIST	Customer Identification Number does not exist.
7	CUSTOMER_IDENTIFICATION_NUMBER_IS_INVALID	Customer Identification Number is invalid.
8	CUSTOMER_IDENTIFICATION_NUMBER_IS_MISSING	Customer Identification Number is missing.
9	DELIVERY_SLOT_NOT_VALID_FOR_LOCATION	Requested delivery time slot not valid for that ship to location.
10	DUPLICATE	Duplicate information.
11	INCOMPLETE_MESSAGE	Incomplete message.
12	INVALID_DATE	Invalid date.
13	INVALID_PRODUCT_OR_ITEM_IDENTIFICATION	Product / Item Number does not exist, e.g. master data missing or GTIN are not agreed between the parties.
14	INVALID_SELLER_IDENTIFICATION	Seller (Trading Partner Identification) is invalid.
15	INVALID_SELLER_LOCATION_IDENTIFICATION	Invalid seller location identification number.
16	INVALID_STATUS_TRANSITION	The Status of this event has changed and does not follow the acceptable status change life cycle.
17	INVALID_TIME_PERIOD	Example: Expected weekly delivery and received daily.
18	ITEM_TEMPORARILY_NOT_AVAILABLE	Item/ Article (banknote/ coin packages) temporarily not available.
19	MAXIMUM_ORDERED_QUANTITY_EXCEEDED	Number of ordered articles (banknotes/ coin package) exceeds the maximum quantity or limits, set by seller for certain location/ for buyer.
20	MAXIMUM_TRUCK_CAPACITY_EXCEEDED	Number of ordered banknotes/ coins exceeds the maximum liability/ weight limits per truck. - NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.
21	PRODUCT_NOT_VALID_FOR_LOCATION	Requested product/ services not valid for that ship to location, e.g. not agreed in contract.
22	PRODUCT_OUT_OF_STOCK	Articles (banknotes / coin packages) out of stock.
23	RECEIVED_AFTER_CUTOFF_DATE_OR_TIME	Service Order received after cutoff date or time.

4.2.3 R2: Transport Instruction

Business Process:	Cash Delivery to branches Coin Delivery to retail branches (coin exchange) Cash Deposit of branches ATM Replenishment – cassette delivery / cash top up ATM Replenishment – cassette return
Sender of message:	Organization doing Order Management (even LSB or LSS)
Activity:	Order despatch
Receiver of message:	CiT, e.g. Carrier

Message will be used to order a regular/ on demand/ extraordinary cash transport between Shipper and Receiver, agreed between LSB and LSS. If applicable, the Carrier can be defined, in case the Carrier is different from LSS. All parties are identified by GLN.

One message shall be transferred for each transport relation between Shipper and Receiver, on logistical view the total shipment will be identified by GSIN, assigned by LSB.

The Transport Service Reference defines specific service product/ article, identified by GTIN.

In addition specific transport execution shall be defined by

- Transport Service Category, e.g. street transport;
- Logistics Service Requirement Code, e.g. direct delivery;
- Cargo Type Code, e.g. currency (new coding);
- Optional: Handling Instructions, e.g. weapons not allowed (new coding).

Value of Shipment defines the shipment value as proforma value per shipment, so the CiT is able to calculate/ check transport limits. Additional data to determine the transport planning are Planned Despatch/ Delivery Date and Time, alternatively a time period can be defined.

The carried cash articles will be defined in minimum by GTIN and quantity analog to respective Service Order, also Package Type has to be defined by code list.

In general the information levels to generate cash delivery to branches are higher than to generate cash deposit from branches. Depending of transport direction the status fields are addressed differently for Shipper and Receiver.

Data model for Transport Instruction: (new incl. code lists for cash logistics)

Message	**Transport Instruction for Branch Delivery**
Status:	**Required (R1)**

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Transport Instruction Creation Date Time		Date, when Transport Instruction is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Transport instruction identification		Unique document ID for transport instruction.	R
10	Instruction Function		The transport instruction function identifies whether the transport instruction is consignment-based or shipment-based. In this case SHIPMENT.	R
11	Logistic Service Seller (LSS)	**GLN**	In gerneral the contractor/ service provider tranport should be identified by GLN.	R
12	Logistic Service Buyer (LSB)	**GLN**	In gerneral the bank/retailer organization should be identified by GLN.	R
13	Shipment-ID	**GSIN**	ID for total banch of package/ shipments for this specified transport relation. For shipments from branch to cash center the consignor/ shipper is able to group several logistical units with SSCC (e.g. cassettes from one or more ATMs) under one GSIN in the Despatch Advice. GSIN can group also shipments picked up by a truck at cash center for one or more branch stops in the CiT Outbound Instruction. (logistics unit will be the CiT truck).	R
14	Reference ID of Shipper		Document order ID by Shipper.	O
15	Receiver	**GLN**	In general the location number of the receiver. The receiver (Branch) will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
16	Shipper	**GLN**	In general the location number of the shipper. The shipper (Cash Center) will be identified by a GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "shipper" location.	R
17	Carrier	**GLN**	In general the carrier (CiT) should be identified by GLN. NOTE: Input required if carrier differs from LSS.	D
18	Ship To (If different from receiver - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
19	Ship From (If different from shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
20	Transport Service Category		Type of transport (street, air, see, etc.)	R
21	Logistic Service Requirement Code		Special requirements for service by code (e.g. direct delivery).	R
22	Cargo Type Code		Nature of cargo, coded. Information about the allowed code values for this code can be found in the GS1 Global Data Dictionary	R
23	Value of Shipment		Proforma value of shipment to calculate transport limit; field define also currency, e.g. EUR.	R
24	Planned Delivery Time Period		Planned time frame for planned delivery at receiver location. NOTE: Input required even PlannedDeliveryDateTime or PlannedDeliveryDatePeriod.	D
25	Planned Delivery Date/ Time		Planned delivery date and time at receiver location. NOTE: Input required even PlannedDeliveryDateTime or PlannedDeliveryDatePeriod.	D
26	Planned Despatch Time Period		Time frame for planned pick up at shipper location. NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
27	Planned Despatch Date/ Time		Pick up date and time at shipper location. NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
28	Document-ID of the transport reference		ID of the transport reference. E. g. Refernce for original transport instruction ID in case of updates.	R
29	Order ID of Logistic Service Buyer (LSB)		Additional reference to order ID of bank/ retailer organization paying for the service. It is the reference for invoicing.	D
30	Transport Service Reference (SNR)	**GTIN**	Identification of service product by GTIN. NOTE: Temporary placeholder. A better place to identify the Transport service reference is under development and will replace this with the next Release of GS1 XML.	R
31	Reference Code of Shipper		Additional reference of shipper, e. g. Delivery note.	O
32	Handling Instruction Code		Code specifying a handling instruction. Allowed code values are specified in GS1 Code List HandlingInstructionCode.	D
33	Handling Instructions / Transport Instructions / Logistic Service		Requirement for transport handling instructions, if differ from master data, e. g. liability for transport, pavement risk, weapons, etc. in free text.	D
34	Line Item Number			R
35	Note		Special free text information. E. g. Liability limit per shipment < 100.000 EUR.	O
36	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	R
37	Gross Weight		Total gross weight per logistics unit messurement (per SSCC).	A
38	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
39	Item Quantity		Specification of the number of units of the trade item. To be applied when no other quantity information, such as the requested quantity or the billed quantity, is present.	R
40	Package Type Code		Code to identify different type of packages, e. g. safe bags, cassettes, containers. Information about the allowed code values for this code can be found on the following website: http://www.unece.org/cefact/recommendations/rec_index.html	R
41	Total Package Quantity		Quantitiy per similar package type.	R
42	Total Gross Weight		Only by handling with coins.	D
43	Handling Instruction Code		Code specifying a handling instruction. Allowed code values are specified in GS1 Code List HandlingInstructionCode.	D
44	Transport Cargo Characteristics Text		E. g. Ink dye box for cassette exchange available.	O

Message	Transport Instruction for Branch Deposit
Status:	Required (R1)

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Transport Instruction Creation Date Time		Date, when Transport Instruction is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Transport instruction identification		Unique document ID for transport instruction.	R
10	Instruction Function		The transport instruction function identifies whether the transport instruction is consignment-based or shipment-based. In this case SHIPMENT.	R
11	Logistic Service Seller (LSS)	**GLN**	In gerneral the contractor/ service provider tranport should be identified by GLN.	R
12	Logistic Service Buyer (LSB)	**GLN**	In gerneral the bank/retailer organization should be identified by GLN.	R
13	Shipment-ID	**GSIN**	ID for total banch of package/ shipments for this specified transport relation. For shipments from branch to cash center the consignor/ shipper is able to group several logistical units with SSCC (e.g. cassettes from one or more ATMs) under one GSIN in the Despatch Advice. GSIN can group also shipments picked up by a truck at cash center for one or more branch stops in the CiT Outbound Instruction. (logistics unit will be the CiT truck).	R
14	Reference ID of Shipper		Document order ID by Shipper.	O
15	Receiver	**GLN**	In general the location number of the receiver. The receiver (Cash Center) will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
16	Shipper	**GLN**	In general the location number of the shipper. The shipper (Branch) will be identified by a GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "shipper" location.	R
17	Carrier	**GLN**	In general the carrier (CiT) should be identified by GLN. NOTE: Input required if carrier differs from LSS.	D
18	Ship To (If different from receiver - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
19	Ship From (If different from shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
20	Transport Service Category		Type of transport (street, air, see, etc.)	R
21	Logistic Service Requirement Code		Special requirements for service by code (e.g. direct delivery).	R
22	Cargo Type Code		Nature of cargo, coded. Information about the allowed code values for this code can be found in the GS1 Global Data Dictionary	R
23	Value of Shipment		Proforma value of shipment to calculate transport limit; field define also currency, e.g. EUR.	R
24	Planned Delivery Time Period		Planned time frame for planned delivery at receiver location. NOTE: Input required even PlannedDeliveryDateTime or PlannedDeliveryDatePeriod.	D
25	Planned Delivery Date/ Time		Planned delivery date and time at receiver location. NOTE: Input required even PlannedDeliveryDateTime or PlannedDeliveryDatePeriod.	D
26	Planned Despatch Time Period		Time frame for planned pick up at shipper location. NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
27	Planned Despatch Date/ Time		Pick up date and time at shipper location. NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
28	Document-ID of the transport reference		ID of the transport reference. E. g. Refernce for original transport instruction ID in case of updates.	R
29	Order ID of Logistic Service Buyer (LSB)		Additional reference to order ID of bank/ retailer organization paying for the service. It is the reference for invoicing.	D
30	Transport Service Reference (SNR)	**GTIN**	Identification of service product by GTIN. NOTE: Temporary placeholder. A better place to identify the Transport service reference is under development and will replace this with the next Release of GS1 XML.	R
31	Reference Code of Shipper		Additional reference of shipper, e. g. Delivery note.	O
32	Handling Instruction Code		Code specifying a handling instruction. Allowed code values are specified in GS1 Code List HandlingInstructionCode.	D
33	Handling Instructions / Transport Instructions / Logistic Service		Requirement for transport handling instructions, if differ from master data, e. g. liability for transport, pavement risk, weapons, etc. in free text.	D
34	Line Item Number			R
35	Note		Special free text information. E. g. Liability limit per shipment < 100.000 EUR.	O
36	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	A
37	Gross Weight		Total gross weight per logistics unit messurement (per SSCC).	A
38	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
39	Item Quantity		Specification of the number of units of the trade item. To be applied when no other quantity information, such as the requested quantity or the billed quantity, is present.	A
40	Package Type Code		Code to identify different type of packages, e. g. safe bags, cassettes, containers. Information about the allowed code values for this code can be found on the following website: http://www.unece.org/cefact/recommendations/rec_index.html	R
41	Total Package Quantity		Quantitiy per similar package type.	A
42	Total Gross Weight		Only by handling with coins.	D
43	Handling Instruction Code		Code specifying a handling instruction. Allowed code values are specified in GS1 Code List HandlingInstructionCode.	D
44	Transport Cargo Characteristics Text		E. g. Ink dye box for cassette exchange available.	O

Code Lists for Transport Instruction:

Code list for Logistic Service Requirement Code (in line 21)

#	Code	Code name	Code definition
1	7	Transhipment allowed	Transshippment and storage at cash centers/ secured area are allowed.
2	8	Transhipment not allowed	Transshippment and storage at cash centers/ secured area are not allowed - direct delivery.
3	17	Exclusive usage of equipment	Exclusive usage of truck by one customer.
4	19	Direct delivery	Direct delivery.
5	20	Direct pick-up	Direct pick-up.
6	24	Check container condition	Check integrity of container.
7	29	Insure goods during transport	Insurance coverage by carrier agreed.
8	34	Check seals	Check seals by each handover from customer/ to customer.
9	36	Request for proof of delivery	Delivery has to be approved by handover protocol.
10	59	Escort	Escort of CiT truck agreed.
11	99	Ink dye protection (new - WR)	Protection of valuable corgo by ink dye technology. NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.

Code list for Cargo Type Code (in line 22)

#	Code	Code name	Code definition
1	1	Documents	Printed, typed or written matter including leaflets, pamphlets, certificates etc., which are not subject to import duties and taxes, restrictions and prohibitions.
2	12	General cargo	Cargo of a general nature, not otherwise specified.
3	98	Currencies (new - WR)	Banknotes and/or Coins. NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.

Code list for Handling Instruction Code (in line 32/43)

#	Code	Code name	Code definition
1	DDE	Direct delivery (GS1 Code)	Direct delivery (GS1 Code)
2	DES	Destroy (GS1 Code)	The identified goods are to be destroyed according to specified instructions.
3	HEA	Heavy cargo/150 kg and over per piece (GS1 Code)	Heavy cargo/150 kg and over per piece due to coins.
4	SER	Serial Number (GS1 Code)	Product managed by serial number.
5	VAL	Valuable cargo (GS1 code)	Valuable cargo - Valoren 1 or 2.
6	WNA	Weapons not allowed (new - WR)	No weapons allowed at delivery/ pick-up location (e.g. airports). NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.

Code list for Package Type Code (in line 40)

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and maintain unit integrity.
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one side, which forms an opening that may or may not be sealed after filling.
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or “bubble” and a paperboard surface or “carrier.” Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items. Commonly on wheels and primarily used in the logistical functions to deliver items such as hanging garments, or items on shelves such as dairy products and bakery items and flowers.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

4.2.4 R3: CC Outbound Instruction

Business Process:	Cash Delivery to branches Coin Delivery to retail branches (coin exchange) ATM replenishment – cassette delivery / cash top up
Sender of message:	Organization doing Order Management (even LSB or LSS)
Activity:	Order despatch
Receiver of message:	Cash Center

Message will be used to order a regular/ on demand/ extraordinary cash preparation in a Cash Center analog to respective Service Order. In this purpose the Cash Center act as Shipper and the customer branch as Receiver. In addition the respective LSB (owner of cash), LSS have to be defined. All parties are identified by GLN.

One message shall be transferred to define the consignment process for each corresponding transport relation between Shipper and Receiver, on logistical view the total shipment will be identified by GSIN.

The Cash Service Reference defines specific service product/ article, identified by GTIN.

In addition specific execution of cash services shall be defined by

- Despatch Type Code; e.g. warehouse shipment – all goods are picked from stock;
- Cash Service Condition Code, e.g. kitting – grouping of different articles in one unit;
- Optional: Handling Instruction; e.g. product managed by serial number.

The ordered cash articles will be defined by GTIN and quantity analog respective Service Order, also Package Type, e.g. seal bag or box and total packages per type has to be defined.

Remark:
The value per shipment can be calculated automatically by respective IT application via quantity per GTIN, so the value per shipment will not to be transferred within the message. The Note can be used to address additional handling request on SSCC level, e.g. Limits per shipment.

Data model for CC Outbound Instruction: (new incl. code lists for cash logistics)

Message	**CC Outbound Instruction for Cash Center**
Status:	**Required (R3)**

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	CC Warehouse Outbound Instruction Creation Date Time		Date, when CC Warehouse Outbound Instruction is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	CC Outbound Instruction Number		Unique reference to identify the warehouse outbound message/ document ID.	R
10	Logistic services buyer (LSB)	**GLN**	In gerneral the bank/retailer should be identified by GLN.	R
11	Logistic services seller (LSS)	**GLN**	In gerneral the main contractor should be identified by GLN.	R
Per Shipment				
12	Shipment-ID	**GSIN**	ID for total banch of package/ shipments.	R
13	Shipper	**GLN**	Location of Shipper (Cash Center), identified by GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "shipper" location.	R
14	Receiver	**GLN**	In general the location number of the receiver. The receiver will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
15	Ship From (If different from Shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
16	Ship To (If different from Receiver - Logistical View)	**GLN**	Identifies the origin location to which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
17	Transactional Reference-ID		NOTE: Mandatory if specify at least one of the two transactional reference information (Transactional Reference-ID or Original Order Number of Receiver). NOTE: Transactional reference-ID is used if CO is NOT used in transactionalReferenceTypeCode!	D
18	Transactional Reference Date Time		NOTE: Optional if specify a Transactional Reference-ID.	O
19	Original Order Number of Receiver		Unique order reference number from Receiver to identify original order. In best practice the order number should be the "original" one. NOTE: Mandatory if specify at least one of the two transactional reference information (Transactional Reference-ID or Original Order Number of Receiver).	D
20	Handling Instruction		Commernt for handling instructions, if different from master data: - Insurance limit per tour/ truck - Insurance limit for pavement risk - carring weight/ capacity	O
21	Warehousing Despatch Type Code		Type of shipment (WAREHOUSE_SHIPMENT)	R
22	Planned Despatch Time Period		Time frame for planned pick up NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
23	Planned Despatch Date/ Time		Planned Date of Pick up at Shipper location NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
24	Cash Service Condition Code		Code specifying the type of cash service.	R
25	Cash Service-GTIN	**GTIN**	Identification of service product by GTIN. NOTE: Temporary placeholder. A better place to identify a Cash Service-GTIN is under development and will replace this with the next Release of GS1 XML.	R
Per Shipment Item				
26	Line Item Number			R
27	Note		Special free text information. E. g. Liability limit per shipment < 100.000 EUR.	O
28	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
29	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	O
30	Package Type Code		Code to identify different type of packages, e.g. safe bags, cassettes, containers.	R
31	Total Package Quantity		Quantitiy per similar package type.	R
32	Item Quantity		Quantity per GTIN	R

Code Lists for CC Outbound Instruction:

Code list for Warehousing Despatch Type Code (in line 21)

#	Code	Code name	Code definition
1	CROSS-DOCKED_SHIPMENT	cross-docked shipment	One on one cross-dock of an incoming cross-dock shipment.
2	WAREHOUSE_CROSS-DOCK_COMBINATION	warehouse cross-dock combination	Combination of goods picked from stock and goods taken from cross-docked receipts.
3	WAREHOUSE_SHIPMENT	warehouse shipment	All goods are picked from stock.

Code list for Cash Service Condition Code (in line 24)

#	Code	Code name	Code definition
1	CHECKING_QUALITY	checking quality	Service of checking the quality of a product. NOTE: Temporary code.
2	CREATING_DOCUMENT	creating document	Creating document / deposit report - Service of creating documents that need to travel with the goods, for example a packing list or a bill of lading or deposit report.
3	CUSTOMIZING	customizing	Service of customizing a product.
4	FITNESS_SORTING	fitness sorting (new WR)	Service of fitness sorting of banknotes and coins according to Central Bank regulations. NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.
5	INSPECTING_QUALITY	inspecting quality	Service of inspecting the quality of a product.
6	KITTING	kitting	Service of grouping and packaging individually separate items that are to be supplied together as one unit.
7	MEASURING	measuring	Processing/ measuring - Service of processing / measuring a logistic unit or product.
8	REPACKING	repacking	Service of applying new packaging to a product.
9	WEIGHING	weighing	Service of weighing a product or logistic unit.
10	WRAPPING_GIFT	wrapping gift	Wrapping gift / coins - Service of enclosing a product in special coin wrapping paper or other material.

Code list for Package Type Code (in line 30)

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and maintain unit integrity.
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one side, which forms an opening that may or may not be sealed after filling.
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an enclosure. The non-joined edge provides a filling opening, which may later be closed by a gummed or adhesive flap, heat seal, tie string, metal clasp, or other methods.
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or “bubble” and a paperboard surface or “carrier.” Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

4.2.5 D1: CiT Outbound Instruction

CiT will use the message to advise the Cash Center organization in preparation of outbound shipments per truck tour. The message adds value, if Cash Center and CiT are different organizations.

Business Process: Cash Delivery to branches
Coin Delivery to retail branches (coin exchange)
ATM replenishment – cassette delivery / cash top up

Sender of message: CiT as Carrier
Activity: Order despatch

Receiver of message: Cash Center

From logistical view different trucks will fulfill the various Transport Instructions depending on tour planning. The loading list per truck can be transferred in the CiT Outbound Instruction, so the shipments can be prepared per truck at consignment area of qualified Cash Center. Cash Center organization and Transport organization shall be defined by GLN.

One message shall be transferred for each transport tour/route relation, on logistical view the total shipments per truck will be identified by GSIN. In addition Delivery Time Period, Warehouse Despatch Code shall be defined; Handling Instructions are optional.

The message will list each respective Shipper to Receiver relation per truck tour assigned to GSIN, including the ordered articles with SSCC, quantities per GTIN, and number of packages per package types.

Data model for CIT Outbound Instruction:

Message	**CiT Outbound Instruction - Tour/ Route data input to Cash Center**
Status:	**Dependent (D1)**
	Remark: Used in case transport and Cash Center organization are different; Message defines tour data for consignment process to prepare outbound shipments per truck tour

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	CiT Outbound Instruction Creation Date Time		Date, when CiT Outbound Instruction is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	CiT Outbound Instruction Number		Unique reference to identify the CiT outbound message/ document ID. Message should be exchanged between Logistic Service Buyer/ Transport organization (could be also the Carrier responsible for tour planning) and Logistics Service Seller/ Cash Center organization	R
10	Organization for Transport (CiT) (Logistic Service Buyer)	**GLN**	Logistic Service Buyer should be identified by GLN. In general the Logistic Service Buyer will be responsibel for the tranport service and should be outlined, even if identical with the Carrier.	R
11	Cash Center Organization (Logistic Service Seller)	**GLN**	Logistic Sevice Seller should be identified by GLN. In general the Logistic Service Seller will be the responsible Cash Center organization, preparing the shipments.	R

Data model for CIT Outbound Instruction: (continued)

Per Shipment				
12	Shipment-ID	**GSIN**	Number of shipment for specific order/ tour	R
13	Shipper	**GLN**	Location of Shipper (Cash Center), identified by GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "shipper" location.	R
14	Receiver	**GLN**	In general the location number of the receiver. The receiver will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
15	Ship From (If different from Shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
16	Ship To (If different from Receiver - Logistical View)	**GLN**	Identifies the origin location to which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
17	Transactional Reference-ID		NOTE: Mandatory if specify at least one of the two transactional reference information (Transactional Reference-ID or Original Order Number of Receiver). NOTE: Transactional reference-ID is used if CO is NOT used in transactionalReferenceTypeCode!	D
18	Transactional Reference Date Time		NOTE: Optional if specify a Transactional Reference-ID.	O
19	Original Order Number of Receiver		Unique order reference number from Receiver to identify original order. In best practice the order number should be the "original" one. NOTE: Mandatory if specify at least one of the two transactional reference information (Transactional Reference-ID or Original Order Number of Receiver).	D
20	Handling Instruction		Commernt for handling instructions, if different from master data: - Insurance limit per tour/ truck - Insurance limit for pavement risk - carring weight/ capacity	O
21	Warehousing Despatch Type Code		Type of shipment (WAREHOUSE_SHIPMENT)	R
22	Planned Despatch Time Period		Time frame for planned pick up NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
23	Planned Despatch Date/ Time		Planned Date of Pick up at Shipper location NOTE: Input required even PlannedDespatchDateTime or PlannedDespatchDatePeriod.	D
24	Transport Service Category		Type of transport (street, air, see, etc.)	R
25	Transport Tour-ID		ID of individual tour, e.g. truck tour ID, truck ID. For each tour the shippments will be defined by SSCC.	R
26	Carrier	**GLN**	Transport company identified by GLN.	R
Per Shipment Item				
27	Line Item Number			R
28	Note		Special free text information. E. g. Liability limit per shipment < 100.000 EUR.	O
29	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
30	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	O
31	Package Type Code		Code to identify different type of packages, e.g. safe bags, cassettes, containers.	R
32	Total Package Quantity		Quantitiy per similar package type.	R
33	Item Quantity		Quantity per GTIN	R

Code Lists for CiT Outbound Instruction:

Code list for Warehousing Despatch Type Code (in line 21)

#	Code	Code name	Code definition
1	CROSS-DOCKED_SHIPMENT	cross-docked shipment	One on one cross-dock of an incoming cross-dock shipment.
2	WAREHOUSE_CROSS-DOCK_COMBINATION	warehouse cross-dock combination	Combination of goods picked from stock and goods taken from cross-docked receipts.
3	WAREHOUSE_SHIPMENT	warehouse shipment	All goods are picked from stock.

Code list for Package Type Code (in line 31)

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an enclosure. The non-joined edge provides a filling opening, which may later be closed by a gummed or adhesive flap, heat seal, tie string, metal clasp, or other methods.
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or “bubble” and a paperboard surface or “carrier.” Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items. Commonly on wheels and primarily used in the logistical functions to deliver items such as hanging garments, or items on shelves such as dairy products and bakery items and flowers.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

4.2.6 O3: CiT Inbound Instruction

CiT will use the message to advise the Cash Center organization in delivery of inbound shipments per truck tour. The message adds value, if Cash Center and CiT are different organizations.

Business Process: Cash Deposits of branches
ATM replenishment – cassette return

Sender of message: CiT as Carrier
Activity: Order despatch

Receiver of message: Cash Center

From logistical view different trucks will fulfill the various Transport Instructions depending on tour planning. The delivery list per truck can be transferred in the CiT Inbound Instruction, so the shipments can be checked per truck at receiving gate of Cash Center. Cash Center organization and Transport organization shall be defined by GLN.

One message shall be transferred for each transport tour/route relation, on logistical view the total shipments per truck will be identified by GSIN. In addition Receipt Time Period, Warehouse Receipt Type Code shall be defined; Handling Instructions are optional.

The message will list each respective Shipper to Receiver relation per truck tour assigned to GSIN, including the ordered articles with SSCC, quantities per GTIN, and number of packages per package types.

Data model for CIT Inbound Instruction:

Message	**CiT Inbound Instruction - Tour/ Route data input to Cash Center**
Status:	**Optional (O3)**
Remark:	tour data for inbound process to organize receiving area in Cash Centers per truck tour

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	CiT Inbound Instruction Creation Date Time		Date, when CiT Inbound Instruction is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	CiT Inbound Instruction Number		Unique reference to identify the CiT Inbound Instruction message/ document ID by carrier Message should be exchanged between Logistic Service Buyer/ Transport organization (could be also the Carrier responsible for tour planning) and Logistics Service Seller/ Cash Center organization	R
10	Organization for Transport (CiT) (Logistic Service Buyer)	**GLN**	Logistic Service Buyer should be identified by GLN. In general the Logistic Service Buyer will be responsibel for the tranport service and should be outlined, even if identical with the Carrier.	R
11	Cash Center Organization (Logistic Service Seller)	**GLN**	Logistic Sevice Seller should be identified by GLN. In general the Logistic Service Seller will be the responsible Cash Center organization, preparing the shipments.	R

Data model for CiT Inbound Instruction: (continued)

Per Shipment				
12	Shipment-ID	**GSIN**	Number of shipment for specific order/ tour	R
13	Shipper	**GLN**	Location of Shipper, identified by GLN. NOTE: Use the ""shipFrom""location if it is different from a logistical view to the ""shipper"" location."	R
14	Receiver	**GLN**	Location of Receiver (Cash Center), identified by GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
15	Ship From (If different from Shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
16	Ship To (If different from Receiver - Logistical View)	**GLN**	Identifies the origin location to which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
17	Handling Instruction		Commernt for handling instructions, if different from master data: - Insurance limit per tour/ truck - Insurance limit for pavement risk - carring weight/ capacity	O
18	Warehousing Receipt Type Code		Type of receipt (e.g. REGULAR_RECEIPT)	R
19	Planned Receipt Time Period		Planned Receipt Time frame for planned pick up NOTE: Input required even PlannedReceiptDateTime or PlannedReceiptDatePeriod.	D
20	Planned Receipt Date/ Time		Planned Receipt Date of Pick up at Shipper location NOTE: Input required even PlannedReceiptDateTime or PlannedReceiptDatePeriod.	D
21	Carrier	**GLN**	Transport company identified by GLN.	R
Per Shipment Item				
22	Line Item Number			R
23	Note		Special free text information. E. g. Liability limit per shipment < 100.000 EUR.	O
24	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
25	Item Quantity		Quantity per GTIN	R
26	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	O
27	Package Type Code		Code to identify different type of packages, e.g. safe bags, cassettes, containers.	R
28	Total Package Quantity		Quantitiy per similar package type.	R

Code Lists for CiT Outbound Instruction:

Code list for Warehouse /Cash Center Receipt Type Code (in line 18)

#	Code	Code name	Code definition
1	CROSS-DOCK_RECEIPT	cross-dock receipt	The instructed receipt is intended to be cross-docked.
2	PRIORITY_RECEIPT	priority receipt	The instructed receipt needs to be processed with high priority.
3	REGULAR_RECEIPT	regular receipt	Normal receipt, no special actions required.
4	REPAIR_RECEIPT	repair receipt	The instructed receipt relates to goods that were under repair, e.g. ATM cassettes.
5	RETURNS	returns	The instructed receipt is a return from customer branch.

Code list for Package Type Code (in line 27)

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and maintain unit integrity.
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one side, which forms an opening that may or may not be sealed after filling.
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an enclosure. The non-joined edge provides a filling opening, which may later be closed by a gummed or adhesive flap, heat seal, tie string, metal clasp, or other methods.
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or “bubble” and a paperboard surface or “carrier.” Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items. Commonly on wheels and primarily used in the logistical functions to deliver items such as hanging garments, or items on shelves such as dairy products and bakery items and flowers.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

4.2.7 R4: Despatch Advice

Message will be used for cash delivery (use case 1) as well as for cash deposit processes (use case 2 and 3) to advise a defined shipment between Shipper and Receiver in advance of transport execution. Depending on use cases the roles and activities are different.

Use case 1:

Business Process:	Cash Delivery to branches Coin Delivery to retail branches (coin exchange) ATM replenishment – cassette delivery / cash top up
Sender of Message:	Cash Center as Shipper
Activity:	Consignment (best practice) Shipment handover to transport
Receiver of message:	Bank branch/ retail shop as Receiver Organization doing Order Control (even LSB or LSS) CiT for cassette delivery to ATM

Use Case 2:

Business Process:	Cash Deposit of branches
Sender of message:	Bank branch/ retail shop as Shipper
Activity:	Shipment preparation in branches (best practice) Shipment handover to transport
Receiver of message:	Cash Center as Receiver Organization doing Order Control (even LSB or LSS)

Use Case 3:

Business Process:	ATM replenishment – cassette return
Sender of message:	CiT ATM (best practice, dependent on ATM capability)
Activity:	Replenishment on-site
Receiver of message:	Cash Center Organization doing Order Control (even LSB or LSS)

The message data will be transferred between Shipper and Receiver for respective shipment identified by GSIN. In the process stage where the Despatch Advice is generated all required transport data are defined, i.e.

- Planned Delivery Date And Time, alternatively a Time Period can be defined;
- Transport Tour ID of Carrier;
- Transported articles, package type and quality and the SSCC.

The value per shipment can be calculated automatically by respective IT application via quantity per GTIN, so the value per shipment has not to be transferred within the message. The gross weight per SSCC will be advised to enable checks per packages at receiver location for coin shipments.

In case of variances between Service Orders and prepared shipment the difference between ordered and commissioned quantity can be optional specified in the Despatch Advice, e.g. Out of Inventory.

The mandatory identifier for logistic transport unit will be the SSCC, used for transport of safe bags/ seal bags, containers and ATM cassettes. To identify returnable containers or cassettes, a GRAI shall be used in addition within the process. In case a seal is agreed to protect the container/ cassette, a SSID shall be used in addition to SSCC within the process. In version GS1 XML 3.1 the SSID will be defined in the GIAI format.

Depending on the package type following scenario are defined as best practice:

Package type	SSCC	GRAI	SSID
Seal bags/ safe bags	R	N	N
ATM cassettes	R	A	D
Container	R	A	A

Remark:

Many players are using the SSCC identifier also as seal ID, for seal bags this process is accepted and consistent to GS1 Standards. For ATM cassettes the SSCC - assigned for the lifetime of the transport item - differs in any case from lifetime of seal. In case a seal will be used to secure ATM cassettes a SSID will be required for seals to avoid overlapping with the SSCC, it will be advised for other containers also if lifetime of SSCC will not differ from seal ID.

Recommendation for migration path:

Depending on adaptation progress of IT application to handle different fields for Despatch Advice and Receiving Advice following scenario are accepted for containers, in case lifetime of SSCC and seal ID will not differ.

Package type	SSCC as Seal ID	GRAI	SSID in GIAI format GS1 XML 3.1
ATM cassettes	R	A	D
Container	R (used also as seal)	A	N

Data model for Despatch Advice: (new incl. code lists for cash logistics)

Nachricht:	**Despatch Advice (Lieferavis)**
Status:	**Required (R4)**

O

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Depatch Advice Creation Date Time		Date, when Despatch Advice is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Despatch Advice Identification		Unique document ID for Despatch Advise.	R
10	Notes for special conditions		Special free text information. E. g. Liability limit per shipment < 100.000 EUR.	O
11	Receiver	**GLN**	In general the location number of the receiver. The receiver will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
12	Shipper	**GLN**	In general the location number of the shipper. The shipper will be identified by a GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "shipper" location.	R
13	Ship To (If different from receiver - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
14	Ship From (If different from shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
15	Planned Delivery Date/ Time		Delvery date and time at Receiver location Datum und Zeitpunkt der Übergabe der Ware beim Empfänger	R
16	Planned Delivery Time Period (alternative)		Time frame for planned Delivery at Receiver location Angabe des geplanten Lieferzeitraums beim Empfänger	D
17	Transport Tour-ID		ID's of individual tour, e.g. truck tour ID, truck ID. For each tour the shippments will be defined by SSCC in EDI possition.	R
18	Shipment-ID	**GSIN**	For shipments from branch to cash center the consignor/ shipper is able to group several logistical units with SSCC (e.g. cassettes from one or more ATMs) under one GSIN in the Despatch Advice. GSIN can group also shipments picked up by a truck at cash center for one or more branch stops in the CiT Outbound Instruction. (logistics unit will be the CiT truck).	R
19	Driver/ Messenger-ID		ID card number of messenger picking up the shipments for defined truck tour. NOTE: Temporary placeholder. A better place to identify the Driver_Messenger-ID is under development and will replace this with the next Release of GS1 XML.	O
20	Type of driver ID card		Type of ID card used for the messenger identification. NOTE: Temporary placeholder. A better place to identify the Type of ID card is under development and will replace this with the next Release of GS1 XML.	O
21	Transport Responsible Person		Name of messanger picking up the shipments for defined truck tour.	A
22	Transport document ID (Delivery Note)		Identification of transport document created by shipper.	R
23	Delivery note number		The delivery note accompanying the shipment created by the shipper.	R
24	Date of Delivery Note		DateTime of the Delivery Note.	A
25	Original order number		Reference to the original order number.	A
26	Date of Original Order Number		DateTime of the Original order number.	A
Logistic Unit Information				
27	Package Type Code		Code to identify different type of packages, e.g. safe bags, cassettes, containers.	R
28	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	R
29	Measurement Type Code		Specification of the gross weight (only coins).	O
30	Measurement Value		Provides measurement value and an associated unit of measure code.	A
31	Packaging Quantitiy		The number of packaging units (that are returnable).	D
32	ATM cassette/ container ID	**GRAI**	The GRAI shall be used to identify owners of returnable ATM cassettes, banknote/ coin containers. So pooling concepts can be implemented also across multiple vendors or mandates/ customers. GRAI is valid for lifetime of the cassette. Except, when the cassette gets a new owner, then GRAI shall be updated. GRAI does not replace SSID.	D
33	Seal-ID	**GIAI**	Unique identification of each cassettes by seal ID, identified by GIAI (at safe bags it will be the SSCC).	D

Data model for Despatch Advice: (continued)

Line Item Information				
34	Line Item Number			R
35	Item Quantity		Quantity per GTIN.	R
36	Requested Order Quantity		The quantity that was ordered or planned to be delivered.	O
37	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
38	Variance Reason Code		Reason code, if commission quantity differ from order, e. g. no inventory.	O
39	Variance Quantity		The quantitative difference between what was ordered and what is despatched.	O

Code Lists for Despatch Advice:

Code list for Package Type Code (in line 27)

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and maintain unit integrity.
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one side, which forms an opening that may or may not be sealed after filling.
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an enclosure. The non-joined edge provides a filling opening, which may later be closed by a gummed or adhesive flap, heat seal, tie string, metal clasp, or other methods.
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or “bubble” and a paperboard surface or “carrier.” Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items. Commonly on wheels and primarily used in the logistical functions to deliver items such as hanging garments, or items on shelves such as dairy products and bakery items and flowers.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

Code list for Variance Reason Code (in line 38)

#	Code	Code name	Code definition
1	ARTICLE_CODE_UNKNOWN	Article code unknown	The article code is not known.
2	DAMAGED	Damaged	If a shipment or any part thereof, is lost or damaged in transit and so received, the person making such receipt is responsible for securing proper notation of damage or shortage from the delivering carrier, on the bill of lading, so proper claims may be filed with the carrier.
3	ITEM_NOT_ORDERED	Item not ordered	Item was not requested.
4	OUT_OF_INVENTORY	Out of inventory	Not available for sale or use.
5	PACK_DIFFERENCE	Pack difference	There is a pack deviation from the standard or norm.

4.2.8 R5: Receiving Advice

Message will be used for cash delivery (use case 1 and 2) as well as for cash deposit processes (use case 3) to confirm receiving of advised shipment content between Shipper and Receiver. Depending on use cases the roles and activities are different.

Use case 1:

Business Process:	Cash Delivery to branches Coin Delivery to retail branches (coin exchange)
Sender of Message:	Bank branch/ retail shop
Activity:	Shipment checking/ cash processing
Receiver of message:	Organization doing Order Control (even LSB or LSS) Cash Center

Use case 2:

Business Process:	ATM replenishment – cassette delivery / cash top up
Sender of Message:	CiT ATM (best practice, dependent on ATM capability)
Activity:	Replenishment on-site
Receiver of message:	Organization doing Order Control (even LSB or LSS) Cash Center

Use Case 3:

Business Process:	Cash Deposit of branches ATM replenishment – cassette return
Sender of message:	Cash Center
Activity:	Cash processing
Receiver of message:	Organization doing Order Control (even LSB or LSS) Bank branch/ retail shop

The Receiving Advice is defined as direct response to Despatch Advice. The message data will be transferred back from Receiver and Shipper for respective shipment identified by GSIN.

Receipt Reporting Code shall classify data content with:

- Confirmation; only the required data has to be documented
- Exceptions;
- Full Details.

Required data shall be i.e.

- Receiving Date and Time (time stamp);
- GSIN for shipment ID
- Transport Tour ID of Carrier, participants within handover process are advised depending on contractual agreement;
- SSCC with Package Type and announced and accepted quantity per GTIN.

In case of variances between announced and accepted delivery, the Receiver can address the reason per item (GTIN) by Receiving Condition Code, e.g. Damaged, Quantity short, Incorrect product.

The value per shipment can be calculated automatically by respective IT application via quantity per GTIN, so the value per shipment has not to be transferred within the message. The gross weight per SSCC will be advised to document measurement per packages at receiver location for coin shipments.

Data model for Receiving Advice: (new incl. code lists for cash logistics)

Nachricht:	**Receiving Advice (Empfangsavis)**
Status:	**Required (R5)**

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Receiving Advice Creation Date Time		Date, when Receiving Advice is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Receiving Advice Identification		Specification of the unique identifier of the Receiving Advice.	R
10	Receiving Date Time		Date and time of delivery at receiver location.	R
11	Reporting Code		Code specifying a type of goods receipt reporting. Allowed code values are specified in GS1 Code List GoodsReceiptReportingCode. E. g. CONFIRMATION.	R
12	Shipper	**GLN**	In general the location number of the shipper. The shipper will be identified by a GLN. NOTE: Use the "shipFrom"location if it is different from a logistical view to the "shipper" location.	R
13	Receiver	**GLN**	In general the location number of the receiver. The receiver will be identified by a GLN. NOTE: Use the "shipTo"location if it is different from a logistical view to the "receiver" location.	R
14	Receiver-ID		ID card number of messenger picking up the shipments for defined truck tour. NOTE: Temporary placeholder. A better place to identify the Receiver-ID is under development and will replace this with the next Release of GS1 XML.	O
15	Type of receiver ID card		Type of ID Card used for the messanger identification. NOTE: Temporary placeholder. A better place to identify the Type of receiver ID card is under development and will replace this with the next Release of GS1 XML.	O
16	Ship To (If different from receiver - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipTo" location is different from a logistical view to the "receiver" location.	D
17	Ship From (If different from shipper - Logistical View)	**GLN**	Identifies the origin location from which goods will be shipped. NOTE: Mandatory if the "shipFrom" location is different from a logistical view to the "shipper" location.	D
18	Transport Tour-ID		ID's of individual tour, e.g. truck tour ID, truck ID. For each tour the shippments will be defined by SSCC in EDI possition.	R
19	Transport Responsible Person		Name of messanger picking up the shipments for defined truck tour.	A
20	Responsible person at receiver location		Name of messenger picking up the shipments for defined truck tour.	A
21	Original order number		Reference to the original order number.	A
22	Date of Original Order Number		DateTime of the Original order number.	A
23	Shipment-ID	**GSIN**	For shipments from branch to cash center the consignor/ shipper is able to group several logistical units with SSCC (e.g. cassettes from one or more ATMs) under one GSIN in the Despatch Advice. GSIN can group also shipments picked up by a truck at cash center for one or more branch stops in the CiT Outbound Instruction. (logistics unit will be the CiT truck).	R
24	Driver/ Messenger-ID		ID card number of messenger picking up the shipments for defined truck tour. NOTE: Temporary placeholder. A better place to identify the Driver_Messenger-ID is under development and will replace this with the next Release of GS1 XML.	O
25	Type of driver ID card		Type of ID card used for the messenger identification. NOTE: Temporary placeholder. A better place to identify the Type of ID card is under development and will replace this with the next Release of GS1 XML.	O
Logistic Unit Information				
26	Package Type Code		Code to identify different type of packages, e.g. safe bags, cassettes, containers.	R
27	Logistic Unit ID	**SSCC**	The SSCC identifies each cash package units, e.g. safe bags, seal bags, containers. This number enables to tracking & tracing of each package unit within cash cycle from destination A to B.	R
28	Measurement Type Code		Specification of the gross weight (only coins).	O
29	Measurement Value		Provides measurement value and an associated unit of measure code.	A
30	Packaging Quantitiy		The number of packaging units (that are returnable).	D
31	ATM cassette/ container ID	**GRAI**	The GRAI shall be used to identify owners of returnable ATM cassettes, banknote/ coin containers. So pooling concepts can be implemented also across multiple vendors or mandates/ customers. GRAI is valid for lifetime of the cassette. Except, when the cassette gets a new owner, then GRAI shall be updated. GRAI does not replace SSID.	D
32	Seal-ID	**GIAI**	Unique identification of each cassettes by seal ID, identified by GIAI in GS1 XML 3.1 version (at safe bags it will be the SSCC).	D

Data model for Receiving Advice: (continued)

Line Item Information				
33	Line Item Number			R
34	Received Item Quantity		Received Quantity per GTIN.	R
35	Accepted Item Quantity		Accepted Quantity per GTIN.	R
36	Article Identification	**GTIN**	GTIN of ECB for cash articles.	R
37	Transport document ID (Delivery Note)		Identification of transport document created by shipper.	R
38	Date of Delivery Note		DateTime of the Delivery Note.	O
39	Receiving Condition Code		E. g. ACCEPTED_IN_FULL	O
40	Receiving Condition Quantity		Specification of a quantity discrepancy, for example between the quantity despatched and the quantity received.	O

Code Lists for Receiving Advice:

Code list for Variance Reason Code (in line 11)

#	Code	Code name	Code definition
1	CONFIRMATION	Confirmation	Confirmation.
2	EXCEPTIONS	Exeptions	Exeptions.
3	FULL_DETAILS	Item not orderedFull details	BEST PRACTICE for Cash Logistics!

Code list for Package Type Code (in line 26)

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and maintain unit integrity.
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one side, which forms an opening that may or may not be sealed after filling.
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an enclosure. The non-joined edge provides a filling opening, which may later be closed by a gummed or adhesive flap, heat seal, tie string, metal clasp, or other methods.
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or "bubble" and a paperboard surface or "carrier." Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items. Commonly on wheels and primarily used in the logistical functions to deliver items such as hanging garments, or items on shelves such as dairy products and bakery items and flowers.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

Code list for Receiving Condition Code (in line 39)

#	Code	Code name	Code definition
1	ACCEPTED_IN_FULL	Accepted in full	Accepted in full.
2	DAMAGED_PRODUCT_OR_CONTAINER	Damaged product or container	Damaged product or container.
3	GOOD_CONDITION	Good condition	Good condition.
4	HOLD	Hold	Hold.
5	INCORRECT_PRODUCT	Incorrect product	Incorrect product.
6	MATERIAL_SCRAPPED	Material scrapped	Material scrapped.
7	NON_STANDARD_CONTAINER	Non standard container	Non standard container.
8	NOT_RECEIVED_SERIAL_NUMBER_REQUIRED	Not received serial number required	Not received serial number required.
9	QUALITY_PROBLEM	Quality problem	Quality problem.
10	QUANTITY_OVER	Quantity over	Quantity over.
11	QUANTITY_OVER_RETURN_TO_SUPPLIER	Quantity over return to supplier	Quantity over order volume, returned to cash center.
12	QUANTITY_RECEIVED_PROCESSED_WITH_NO_MATCHING_SERIAL_NUMBER	Quantity received processed with no matching serial number	Deposit received processed but seal number not matching with despatched seal ID.
13	QUANTITY_SHORT	Quantity short	Quantity short.
14	REJECTED	Rejected	Rejected.
15	SUBSTITUTED_ITEM	Substituted item	Banknote/ coin article are substitited by others.

4.2.9 O4: Cash Inventory Report

Message will be used to report inventories of cash; i.e. banknotes or coins, always classified by GTIN. The report is organized to outline GTIN by inventory location with absolute amounts (line 8: Structure Type Code). Sender and receiver are identified always by GLN; inventory location, e.g. ATM machine or cash vault can be different.

Depending on logistical unit we differentiate between Cash Inventory Reports for ATM (use case 1) or for vaults with deposit units (use case 2).

Use Case 1:
Message will be used for ATM, i.e. with cash-out, cash-in or recycling functionalities.

Business Process:	Cash Management/ forecasting of ATM replenishment – cassette delivery ATM replenishment – cassette return
Sender of message:	ATM/ ATM host as Reporting Party
Activity:	Order input (inventory monitoring)
Receiver of message:	Order Management

The report structure per ATM location outlines the inventory by GTIN with quantity. Additional and necessary information is to specify Inventory Disposition Code (line 16). This structure allows to specify for each ATM cassette slot the functionality for cash-out, cash-in, recycling or to report rejected or retracted cash. In addition the respective cassette numbers can be transmitted by GRAI format. The sub-location inside the ATM machine can be configured by GLN or by individual location-ID.

In general, inventory reports are scheduled regularly. ATM monitoring tools require additional functionalities to balance inventories and forecast replenishment schedule. So event triggered reports are necessary. By Inventor Report Type specific service transaction shall differentiated from regular reports.

Following report types (per code list) shall be addressed to receiver software, e.g. ATM monitoring software:

- Inventory scheduled: report is generated on regular schedule, e.g. each 4h, each 8h, each 24h.
- Inventory event triggered_before service: inventory report is generated and marked as event triggered before service event starts. Service event can be a cash replenishment or service & maintenance event, with or without change of inventory.
- Inventory event triggered_after service: inventory report is generated and marked as event triggered after service is finalized. Service event can be a cash replenishment or service & maintenance event, with or without change of inventory.

Use Case 2:
Message will be used for vaults with deposits, identified by SSCC.

Business Process: Cash Management/ forecasting of Deposit ATM/ Night Safes

Sender of message: Night Safe/ Cash Hub/ ATM host as Reporting Party
Activity: Order input (inventory monitoring)

Receiver of message: Order Management

The report structure per vault location outlines the inventory by GTIN with quantity. Additional and necessary information is to specify Inventory Disposition code (line 16) and logistical unit by SSCC including packaging type. This structure allows specifying for each vault sub-area the functionality for cash-out, cash-in, recycling cash. In addition the gross weight for the vault areas can be transmitted, relevant e.g. for coin storage. The sub-location inside the vault can be configured by GLN (best practice) or by individual location-ID.

Data model for Cash Inventory Report: (new incl. code lists for cash logistics)

Nachricht:	**Cash Inventory Report**
Status:	**Optional (O4)**
Remark:	Report outline cash inventories, e.g. for ATMs, cash vault rooms, other safes or cash inventories to monitor.

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message	**GLN**	Organization which creates the standard business document.	R
4	Reciever of message	**GLN**	Organization which receives the standard business document.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Cash Inventory Report Creation Date Time		Date, when Cash Inventory Report is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Type Of Service Transaction		Special Cash Trigger Reporting Context Type Code, e. g. AFTER_SERVICE, BEFORE_SERVICE, SCHEDULED. NOTE: Only one code has to be used. NOTE: Temporary placeholder. A better place is under development and will replace this with the next Release of GS1 XML.	R
10	Cash Inventory Report Identification		Unique document ID for Cash Inventory Report	R
11	Structure Type Code		In general, the reporting for inventory reports is ITEM_BY_LOCATION	R
12	Inventory Reporting Party (Creater of message (Sender))	**GLN**	In general the reponsible organization preparing the report, identified by GLN.	R
13	Inventory Report To Party (Report organization)	**GLN**	In general the organization receiving the report, identified by GLN.	R
14	Start/End of Reporting		Start/End of reporting period defined by Date/ Time stamp.	R

Data model for Inventory Report: (continued)

	ATM Inventory Report (alternative 1)			
15	Inventory Location	**GLN**	Machine/ Location number, identified by GLN	R
16	Article Identification	**GTIN**	Identification of ITEM by GTIN per location	R
17	Item Quantity		Quantity per GTIN (article), outline item quantity	R
18a	Inventory Disposition Code		Definiton of operational mode per cassette/ ATM slot, e.g. withdrawal, deposit, recycling;	R
19	Inventory Sub Location	**GLN**	The inventory sub location where the inventory is located, e.g. ATM cassette NOTE: Input required if "Inventory Sub Location" is identified by GLN. Then a "Additional Inventory Sub Location-ID" is not to use.	A
20	Additional Inventory Sub Location-ID		Inventory sub location of cassette slots. NOTE: "Additional Inventory Sub Location-ID" is to use if "Inventory Sub Location" has no GLN.	D
21	Packaging quantitiy		The number of packaging units/casettes (that are returnable). NOTE: Mandatory when using GRAI.	D
22	Cassette identification	**GRAI**	Individual Identification of ATM cassette incl. serial number. NOTE: When using a GRAI-ID the Packaging Quantity, the Inventory Disposition Code and the Inventory Sublocation is MANDATORY.	O
23	Inventory Disposition Code		Definiton of operational mode per cassette/ ATM slot, e.g. withdrawal, deposit, recycling; NOTE: Mandatory when using GRAI.	D
24	Inventory Sub Location	**GLN**	The inventory sub location where the inventory is located, e.g. ATM cassette NOTE: Mandatory when using GRAI. NOTE: Input required if "Inventory Sub Location" is identified by GLN. Then a "Additional Inventory Sub Location-ID" is not to use.	D
25	Additional Inventory Sub Location-ID		Inventory sub location of cassette slots. NOTE: Mandatory when using GRAI. NOTE: "Additional Inventory Sub Location-ID" is to use if "Inventory Sub Location" has no GLN.	D
	Vault Inventory Report (alternative 2)			
15	Inventory Location	**GLN**	Machine/ Location number, identified by GLN	R
16	Article Identification	**GTIN**	Identification by GTIN per location for mixed bank notes/coins please use according ECB-GTIN	R
17	Item Quantity		Quantity per GTIN (article), for mixed bank notes/coins please use according GTIN list of ECB	R
18b	Inventory Disposition Code		Definiton of operational mode per Vault slot.	R
19	Inventory Sub Location	**GLN**	The inventory sub location where the inventory is located. NOTE: Input required if "Inventory Sub Location" is identified by GLN. Then a "Additional Inventory Sub Location-ID" is not to use.	A
20	Additional Inventory Sub Location-ID		Inventory sub location of cassette slots. NOTE: "Additional Inventory Sub Location-ID" is to use if "Inventory Sub Location" has no GLN.	D
21	Logistical unit ID	**SSCC**	Identification of storage unit/ shipments within vaults or seal bag deposit devices (night safes, safe bag deposit systems)	R
22	Gross Weight		Gross Weight of logistical unit-ID (SSCC)	O
23	Package typ code		Spezification of store values by type, e.g. cassettes, safebags, boxes, closed/ open shelf; in case a SSCC is opted.	D
24	Inventory Disposition Code		Definiton of operational mode per Vault slot	R
25	Inventory Sub Location	**GLN**	The inventory sub location where the inventory is located. NOTE: Input required if "Inventory Sub Location" is identified by GLN. Then a "Additional Inventory Sub Location-ID" is not to use.	A
26	Additional Inventory Sub Location-ID		Inventory sub location of cassette slots. NOTE: "Additional Inventory Sub Location-ID" is to use if "Inventory Sub Location" has no GLN.	D

Code Lists for Inventory Report:

Code list for Type Of Service Transaction (AVP solution in line 9)

#	Code	Code name	Code definition
1	AFTER_SERVICE	After service	Generated after service is done. - Inventory report is generated and marked as event triggered after service is finalized. Service event can be a cash replenishment or service and maintenance event, with or without change of inventory. NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.
2	BEFORE_SERVICE	Before service	Generated before service is done. - Inventory report is generated and marked as event triggered before service event starts. Service event can be a cash replenishment or service and maintenance event, with or without change of inventory. NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.
3	SCHEDULED	Sheduled	Generated on regular basis. - Report is generated on regular schedule, e.g. each 4h, each 8h, each 24h. NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.

Code list for Inventory Disposition Code (in line 18a/18b/23/24)

#	Code	Code name	Code definition
1	active	active	active (cassette in function) - Product (ATM slot, shipment, cassette) is in function.
2	inactive	inactive	inactive (cassette out of order) - Product (ATM slot, shipment, cassette) is in function: "out-of-order"; decommissioned object that may be reintroduced to the supply chain after inspection services.
3	non_sellable_disposed	non sellable disposed	non_sellable_disposed (cash-in only) - Product (ATM slot, shipment, cassette) is in function: "cash-in only"; articles (banknote/ coin) are non-sellable because its has been returned to Cash Center for processing.
4	non_sellable_quarantined	non sellable quarantined	non_sellable_quarantined (reject) - Product has been "rejected"; articles are non-sellable because it has been quarantined, for example awaiting quality inspection.
5	returned	returned	returned (retract) - Object (product, shipment, asset, or container) has been sent back for various reasons. It may or may not be sellable.
6	sellable_accessible	sellable accessible	sellable_accessible (cash-out only) - Product (ATM slot, shipment, cassette) is in function: "cash-out only"; articles (banknote/ coin) can be dispensed to customers.
7	sellable_recirculation	sellable recirculation	sellable_recirculation (cash recycling) - Product (ATM slot, cassette) is in function: "reycling"; articles (banknote/ coin) are payed-in and payed-out (sellable). NOTE: Temporary code. A better code is under development and will replace this with the next Release of GS1 XML codelists.

Code list for Package Type Code (in line 23 (Vault))

#	Code	Code name	Code definition
1	BE	Bundle	Banded package - Something used to bind, tie, or encircle the item or its packaging to secure and maintain unit integrity.
2	BG	Bag	A preformed, flexible container or bag, e.g. seal bags, safe bags; generally enclosed on all but one side, which forms an opening that may or may not be sealed after filling.
3	BX	Box	A non-specific term used to refer to a rigid, three- dimensional container with closed faces that completely enclose its contents and may be made out of any material. Even though some boxes might be reused or become resealed they could also be disposable depending on the product hierarchy.
4	CT	Carton	A non-specific term for an open or re-closable container.
5	CY	Cylinder	A rigid cylindrical container with straight sides and circular ends of equal size - for coin rolls packed in paper.
6	EN	Envelope	A predominantly flat container of flexible material having only two faces, and joined at three edges to form an enclosure. The non-joined edge provides a filling opening, which may later be closed by a gummed or adhesive flap, heat seal, tie string, metal clasp, or other methods.
7	IC	Package, display, plastic	Blister pack - A type of packaging in which the item is secured between a preformed (usually transparent plastic) dome or "bubble" and a paperboard surface or "carrier." Attachment may be by stapling, heat- sealing, gluing, or other means. In other instances, the blister folds over the product in clam-shell fashion to form an enclosing container. Blisters are most usually thermoformed from polyvinyl chloride; however, almost any thermoplastic can be thermoformed into a blister.
8	NA	Not available	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Work Request is approved for the proper packaging type.
9	NE	Unpacked or unpackaged	The item is provided without packaging.
10	PB	Pallet Box	A three-dimensional container which either has a pallet platform permanently attached at its base or alternatively requires a platform for its handling and storage as due to its constitution it cannot be handled without it. The characteristics of the platform should be specified using the pallet type code list; for coin containers.
11	PO	Pouch	A preformed, flexible containe or bag, generally enclosed with a gusset seal at the bottom of the pack, e.g. for starter kits.
12	PU	Tray	A shallow container, which may or may not have a cover, used for displaying or carrying items.
13	PX	Pallet	A platform used to hold or transport unit loads.
14	RK	Rack	A non specific term identifying a framework or stand for carrying, holding, or storing items.
15	SW	Shrinkwrapped	In packaging, a plastic film around an item or group of items which is heated causing the film to shrink, securing the unit integrity. The use of shrunken film to tightly wrap a package or a unit load in order to bind, protect and immobilize it for further handling or shipping.
16	TU	Tube	A cylindrical container sealed on one end that could be closed with a cap or dispenser on the other end.; e.g. for retail tube systems.
17	ZZ	Mutually defined	Packed, unspecified - Packaging of the product (or products) is currently not on the list. Use this code when no suitable options are available and only while a Change Request is approved for the proper packaging type.

4.2.10 R6: Deposit Report

Message will be used to report cash processing results mainly between the vault management systems of Cash Center organizations (Logistics Service Seller) and order management platform of Logistics Service Buyer.

Business Process:	Cash deposit of branches ATM replenishment – cassette return
Sender of message:	Cash Center
Activity:	Administration
Receiver of message:	Order Management

One message per shift/ per day shall be transferred to each from Reporting Party, e.g. Cash Center organization to Logistics Service Buyer relation, each party shall be identify by GLN. Processing Machine/ Area can be identified in addition by GLN.

Cash Count Type shall classify content of the messages:
- Discrepancy Report;
- Processing of Single- or Multi-Denomination Deposit;
- Shredding Report.

Report Period defines specific reporting times. The report presents optional data with up to 3 operators or supervisor and Operating Mode of processing to fulfill audit requirements.

The counting results will be reported on deposit level, identified by Header Card (internal ID) and/ or SSCC in best practices.

Required processing data are the Quantity Accepted per GTIN and the start and end time stamp of deposit processing.

Optional can be added the following reporting data:
- Quantity Despatched; said-to-contain amount of deposit;
- Amount Accepted; verified amount of deposit;
- Amount Variance; value of discrepancy between verified and said-to-contain amount.

Processing Flag Code can classify the reason of variances, e.g. not identified currency, counterfeits.

Remark:
The Deposit Report message is a version of the Cash Count Notification message; there the cash counting results are transmitted from Cash Handling/ Processing Machines to vault management system of Cash Center.

For more information, compare additional GS1 Manual: Cash Handling Machine messages (under development by Central Bank GS1 User Group)

Data model for Deposit Report: (new incl. code lists for cash logistics)

Nachricht:	**Deposit Report (Cash Count Notification)**
Status:	**Required (R6)**

#	Data	GS1 Ident	Comment	Status
1	Standard business document header			R
2	Header version			R
3	Sender of message (Log. Service Seller/ Cash Center)	**GLN**	Organization which creates the standard business document. Identification of the CHM.	R
4	Reciever of message (Log. Service Buyer)	**GLN**	Organization which receives the standard business document. Identification of the back end system.	R
5	Document creation date time		Date and time of the SBDH creation.	R
6	Deposit Report Creation Date Time		Date, when Deposit Report is generated.	R
7	Document Status		Status should be "original".	R
8	Document Structure Version		Specification of the version of the GS1 XML standard.	R
9	Report-ID		ID number of the report.	R
10	Report period		Provides the start and finish of the reporting period.	R
11	Location of Cash Center	**GLN**	Identification of Cash Center location by GLN.	R
12	Location of cash processor	**GLN**	Identification of the location, where the reporting is done. e.g. workstation for reconciliation, processing unit.	O
13	Operation mode		Identification of the operation mode, e. g. online-counting, offline/header card counting, wrapping.	O
14	Line Item Number			R
15	Report period of the processed deposit unit		Start and end of processing per deposit unit defined by Date/ Time stamp.	R
16	Header Card ID		NOTE: Header Card ID is mandatory and set to "0" if no header card is used.	R
17	Header Card ID Type		NOTE: Header Card ID Type is mandatory and filled up with "0" if no header card is used.	R
18	Logistic Unit ID	**SSCC**	SSCC identifies each package unit, e.g. seal bags, safe bags, containers. This number enables to tracking & tracing of each package unit until processing.	R
19	Logistic Unit ID Type		SSCC	R
20	Said to contain value		Announced value of deposit/ SSCC, calculated from Despatch Advice.	O
21	Amount, accepted		Accepted, verified amount of deposit/ SSCC.	O
22	Value of discrepancy		Variance between (Said to contain amount) - (accepted amount) per deposit/ SSCC.	O
23	Processing Flag Code		Multiple flags per deposit can occur (e.g. counterfeit, said-to-contain amount not available/ wrong, said-to-contain amount wrong, deposit with no cash, banknotes exchanges, coins exchanged).	O
24	Number of items with the processing flag.		Item number per flag type. NOTE: Mandatory if using a Processing Flag Code.	D
25	Quantity, accepted		Quantity per GTIN (units).	R
26	Article being processed	**GTIN**	Identification of the verified banknote or coin article by GTIN.	R

Code List for Deposit Report:

Code list for Processing Flag Type (in line 23)

#	Code	Code name	Code definition
1	BANKNOTES_EXCHANGES	Banknotes exchanges	Qualtity of total banknotes/ coins are correct, but denomination are exchanged due to wrong denomination recognition.
2	COINS_EXCHANGED	Coins exchanged	Coins exchanged.
3	COUNTERFEIT	Counterfeit	Counterfeit.
4	DEPOSIT_WITH_NO_CASH	Deposit with no cash	Deposit with no cash.
5	SAID_TO_CONTAIN_AMOUNT_NOT_AVAIABLE	Said-to-contain amount not available	Said-to-contain amount not available.
6	SAID_TO_CONTAIN_AMOUNT_WRONG	Said-to-contain amount wrong	Said-to-contain amount wrong.

5 Glossary

5.1 Glossary GS1

EDI	Electronic Data Interchange.
EDIFACT	Electronic Data Interchange for Administration, Commerce and Transport; international, cross-industry standard for exchanging electronic business data.
EPC	Electronic Product Code in RFID technology; builds on the EAN standard; also common: EPC/RFID.
GIAI	Global Individual Asset Identifier; EAN object or container number.
GLN	Global Location Number (previously ILN). A numbering structure which is valid worldwide for unambiguous identification of physical, functional or legal units in companies and/or parts of companies, for example warehouse or goods receipt ramps.
GPC	Global Product Classification, an international classification system.
GRAI	Global Returnable Asset Identifier; identifier for reusable transport packaging.
GS1 DataMatrix	Two-dimensional code from the GS1 portfolio which encodes a great deal of information in a very small space.
GS1-128	International standard for encoding basic and additional logistical information (e.g. batch numbers, best before date, GTIN of the retail unit)
GTIN	Global Trade Item Number (international designation of the EAN). ID number which is unique worldwide which identifies an article or retail unit in its specific version.
ILN	International Location Number (= GLN, Global Location Number).
NVE	Number of the shipping container (English = SSCC, Serial Shipping Container Code). An internationally agreed, uniform 18-character number for shipping containers which is unique worldwide.
POS	Point of Sale.
RFID	Radio Frequency Identification. Technology for automatic recording of products and objects by means of radio.
sGTIN	serialized GTIN to identify serialized products/ articles
XML	Extensible Markup Language; markup language for presenting hierarchically structured data in the form of text files.

5.2 Glossary cash

ACDP	Advanced Commercial Deposit Processing, also called header card process. A single pass process for counting and reconciliation of commercial deposits using high-speed banknote processing machines. Banknotes from different tills/shops/tellers are separated by header cards marked with specific barcodes. Developed and patented by CSI, later De La Rue. Also running with some modifications on G&D sorters.
ATM	Automated teller machine. An electronic device that enables the clients of a financial institution to perform financial transactions without the need for a cashier, human clerk or bank teller. Other names are cash dispenser, Bankomat (Eastern Europe and Austria), ABM (Canada: automated banking machine), cash machine, cashpoint, cashline or hole in the wall. In Germany: GAA (Geldausgabeautomat)
Cash processing	Physical counting, sorting and packing of bank notes and coins in a cash Center using dedicated machinery for each step. In most cases, cash processing includes counting and comparison with expected values, e.g. security bags or cassettes from retail or bank branches, reconciliation of a business unit (e.g. customer) or the cash Center or its vault.
Cash recycling	Cash recycling simply means to bring used bank notes and coins back into the cash cycle. As this a sensitive subject, ECB and other national banks (Bank of England, etc.) have defined strict rules in order to ensure authenticity and physical quality of cash in circulation. Also special national rules can apply. All technical equipment in use for cash recycling requires national bank approvals and regular tests. For the whole EURO zone, ECB has defined the “Banknote Recycling Framework”, which defines the conditions for professional cash handlers to bring cash back into circulation.
Cash replenishment	ATM and TCD filling with cash. Three different methods can apply: cassette swap/ top up/ cash swap.
Cash swap	Partly empty cassettes will be opened on site, remaining cash will be removed and the cassette will be filled with a pre ordered and well defined number of bank notes. The removed cash will be stored in a security bag and later counted in the cash Center.
Cassette swap	Partly empty cassettes will be removed by full cassettes, or by cassettes with a well defined number of bank notes. Partly empty cassettes will be opened and counted in the cash Center.
CB	Central Bank or National Central Bank.
CC	Cash Center. Location for cash processing. Can be owned by a bank, by a CIT or a national bank. Can also be a separate organisation as well as a joint operation of the national bank together with public or private banks. (e.g. GSA and GSN). Where some cash Centers do also provide CiT services and first level maintenance for ATMs. This part is not subject of this document. In this document CC stands for cash processing only.

CiT	Cash in transit. Cash or value shipment company. They transport physical cash, such as banknotes and/or coins between national banks, cash Centers and bank branches or ATMs
CRS	Cash recycling system. An ATM that can dispense and accept cash, where the accepted cash is checked for authenticity, as it will be re-used and dispensed to one of the next clients (recycling of cash). Other names are Recycling ATM, KEGA (kombinierter Aus- und Einzahlungs-Geldautomat)
ECB	European Central Bank
LSB	Logistic Service buyer. Bank or bank branch or retail branch, who require cash service. Usually the initiator of each cash process.
LSS	Logistic Service Seller. The LSB's contract partner. LSS can provide CC and/or CiT services by themselves or outsource these service to 3rd party.
NCB	Central Bank or National Central Bank.
Reconciliation	In accounting, reconciliation is the process of ensuring, that two sets of records or balances of two accounts are in agreement. In cash Centers reconciliation is the process of ensuring, that the expected amount of cash (declared amount = STC) is in agreement with the actual amount. The first step of reconciliation in a cash Center is the opening and counting of a container (cassette or security bag). Where the declared amount will be transferred to the cash Center electronically with standard messages. The container identification code (SSCC or GIAI) refers to the expected amount. Cash is usually counted with a cash counter or sorter and automatically compared with the declared amount. Reconciliation often takes place at the end of the day or end of the shift one more time or when the total of cash for one customer is handed over to the vault or the next operational unit in the CC. Details are subject to internal business processes of each cash Center. Counting desks count each single deposit of one customer without sorting. The reconciliation step recounts the whole cash of this customer with a cash sorter. ACDP or header card process does not allow a re-count; therefore reconciliation takes place immediately.
STC	"said to contain" = declared amount. This is the expected value of the cash in a container, which usually comes from the bank's or retailer's IT. In cash processing the real (counted) value will be compared with STC. In case of discrepancies the difference management has to take place.
TCD	Teller cash dispenser, which is used by bank clients and tellers. Others name TAM (teller assist machine), AKT (automatischer Kassen Tresor)
TCR	Teller cash recycler with cash recycling function similar to CRS.
Top-up	Partly empty cassettes will be opened on site and a predefined number of banknotes will be added on top of the remaining cash in the cassette. A physical inventory check has to take place in regular intervals.