# **RFID @ C&A** Merchandise Visibility

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## About C&A (Europe)



- Founded by Clemens and August Brenninkmeijer
- C&A was one of the first companies offered ready-to-wear clothes in different sizes
- Family members are leading C&A in sixth generation
- C&A is to date a family business and is owned by COFRA Holding plc with business activities in different industries
  - Retail
  - Real Estate
  - Corp. Investments

**Only Private Brands** 

#### Annual Sales

- 5.5 bn €
- 500 m pcs

#### HQ in Düsseldorf and Brussels

- Palomino: Palomino: CLOCKHOUSE @ CANDAG CANDAG Yessica @
- RCCEC & Angelo Litrico &



• 1841

• 1890's

• 1911

store opens

store opens

C&A starts in Sneek, Netherlands

1st major expansion: Amsterdam

1st international expansion: Berlin

China





- ~1.500 Stores in Europe
- 2 m Visitors per Day
- 21 Countries in Europe
- Online Shops in 8 Countries
- 35.000 Employees
- 400 Suppliers

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#### RFID @C&A

The level of of stock accuracy and transparency will improve significantly by using RFID along the whole supply chain. This will lead to a much higher merchandise availability on color/size level on the sales floor due to improved replenishment as well as in-store replenishment.



#### **Business Problem**

No purchase was made because	%
Price to high	6.9
Price too low	0.2
Product quality did not convince	7.5
Size not available	26.7
Merchandise did not fit	13.2

≻56 k customer in France were asked

#### **Root Cause Analysis**

- Out of Stock (OOS)
  - Real OOS
  - <u>Stock Data Inaccuracy</u>
    - Wrong Stock Data (Stock of SKU in System is different than physically (+/-))
    - Frozen Stock Data (SKU available in System but not physically)

# Not On Shelf But On Stock (NOSBOS)

- Drawer Availability
- -<u>Stockroom Availability</u>

#### Wrong Stock Data

2016									
Country	Admin qty	Diff	% value	NEGATIVE	% value	POSITIVE	% value	Total Error	Share of correct data
Germany	32437038	-2098296	-6,5%	-5.807.234	-17,9%	3.708.938	11,4%	29,3%	70,7%
Austria	7689357	-325521	-4,2%	-887.598	-11,5%	562.077	7,3%	18,9%	81,1%
Swiss	4139560	-148145	-3,6%	-468.582	-11,3%	320.437	7,7%	19,1%	80,9%
Belgium	4732104	-13056	-0,3%	-575.415	-12,2%	562.359	11,9%	24,0%	76,0%
France	6494127	-735922	-11,3%	-1.911.892	-29,4%	1.175.970	18,1%	47,5%	52,5%
Spain	5892045	-523788	-8,9%	-1.426.148	-24,2%	902.360	15,3%	39,5%	60,5%
Netherland	4418593	-166477	-3,8%	-534.930	-12,1%	368.453	8,3%	20,4%	79,6%
Slovakia	5053722	-21181	-0,4%	-737.275	-14,6%	716.094	14,2%	28,8%	71,2%
Turkey	1385859	-90271	-6,5%	-255.659	-18,4%	165.388	11,9%	30,4%	69,6%
Europe ex. OL	72242405	-4122657	-5,7%	-12.604.733	-17,4%	8.482.076	11,7%	29,2%	70,8%

#### Lowest share of correct data is 52.5% - avg. 70.8%

#### **Stock Data Accuracy**

2018 Sommer										
Country	Admin qty	TOTAL	% value	NEGATIVE	% value	POSITIVE	% value	Total Error	Share of correct data	Improve mentvs 2016
Germany	34384229	-1929960	-5,6%	-4.949.332	-14,4%	3.019.372	8,8%	23,2%	76,8%	8,7%
Austria	8363937	-253751	-3,0%	-745.906	-8,9%	492.155	5,9%	14,8%	85,2%	5,0%
Swiss*										
Belgium	4925476	-119743	-2,4%	-529.141	-10,7%	409.398	8,3%	19,1%	80,9%	6,6%
France	6420539	-275670	-4,3%	-884.086	-13,8%	608.416	9,5%	23,2%	76,8%	46,3%
Spain	5848459	-341009	-5,8%	-1.005.146	-17,2%	664.137	11,4%	28,5%	71,5%	18,2%
Netherland	155918	-13725	-8,8%	-39.051	-25,0%	25.326	16,2%	41,3%	58,7%	-26,2%
Slovakia	5492252	-177810	-3,2%	-548.133	-10,0%	370.323	6,7%	16,7%	83,3%	16,9%
TR Out										
Europe ex. OL	65590810	-3111668	-4,7%	-8.700.795	-13,3%	5.589.127	8,5%	21,8%	78,2%	10,5%
*not counted										
<b>*ONLY PARTL</b>	Y COUNTED									

• 46.3% improvement (76,8% vs. 52.5%)

• But only 50% of all products tagged

#### **Stock Accuracy Disappears**



• In 3 weeks the stock accuracy decreases from 100.0% to 73.9% in stock holding system

#### Frozen Stock - NOS stock out after inventory



		21.02.2018	22.02.2018	Delta in %
Total	Shopping Options	136.528	137.782	0,92%
Total	Stock Out	10.898	20.780	90,68%
Total	Stock Out %	8,0%	15,1%	88,94%



After stocktaking correction, 20.780 shopping options instead of 10.898 have 0 AM stock

- Merchandise will not be replenished if assumed stock =1 and push parameter = 1
  - 25,1 % of shopping options got push parameter = 1
    25,8 % of shopping options got push parameter = 2

		21.02.2018	22.02.2018	Delta in %
Total	Shopping Options	170.649	171.937	0,75%
Total	Stock Out	19.308	19.327	0,10%
Total	Stock Out %	11,3%	11,2%	-0,65%



After stocktaking correction, only 19 additional shopping options have 0 AM stock

- Difference caused by delivery time or planning availability
- Stock in store is 'real' stock

\*Shopping Option: Store-Style-Color-Size combination

#### NOSBOS



w/ MV



- Max. NOSBOS Rate reduction is 95.3%
- Avg. reduction is 81.7%

#### **Sales Uplift Results**

Additional Benefits:

- Stocktaking with RFID reduces OPEX p.a.
- RFID processes and data is the basis for additional activities and qualitative improvements in the future





- Key Performance Indicators (KPI) like increased turnover display the overall success of the project, but are not manageable, i.e. have no direct connection to the activities necessary to achieve them
- Key Performance Drivers (KPD) are actively monitored by the stores and the country management, and enable them to improve and keep operational excellence at a high level and thereby achieve the KPIs

KPD	Target	What?	Why?
NOSBOS %	<=2%	Share of SKUs with stock in backroom but not on sales floor	Provide maximum merchandise availability to customer to increase sales and satisfaction
CC Accuracy %	>=93%	Items read in RFID processes vs expected quantity	Keep data accuracy at consistent level to guarantee high quality of instore and DC replenishment
POS missed %	<= 10%	Quantity deviation between RFID sales QTY and POS sales QTY	If items are not directly read at the time of sale, replenishment is triggered too late, i.e. missed sales in the meantime
Receiving accuracy %	>= 95%	Items with RFID receiving as first reading event in the store	If items are not directly read at receiving, additional replenishment can be triggered

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#### Instore Merchandise Flow – General Overview



- Source Tagging
- Initial Tagging DC and Stores
- QCC Process
- Error Handling DC and Stores



# Merchandise Flow – (1) Transport

## Merchandise Flow – (2) Correction/Adjustment

Process	Description	Why?	
ycle Count	Physical verification of all SGTINs with status "in store". The goal is that 93% or more of the stores inventory is read every week.	Verify that expected items are still present in the store. Correct missreads or errors of other RFID processes.	Charac
anual Retiremer	Damaged items, loose tags and extraordinarily removed merchandise (e.g. by authorities) are retired from the store stock with Manual Retirement. A reason code is to be selected to allow nt tracking and reporting.	Reduce store stock to trigger according replenishment.	Store
ultiretirement	Items that haven't been ready in any RFID process for a certain number of days, are individually retired by a store manager by selection from a list.	Reduce store stock to trigger according replenishment.	
	Items whithout RFID (price) tag need to retagged. The RFID tag is created by encoding a GIAI tag with Retagging in HALO; the price info and item barcode		
etagging	are created in CARS.	Increase stock to reflect higher inventory	

## Merchandise Flow – (3) Sales Availability

Process	Description	Why?
Pick Merchandise from Backroom	Picking is supported by replenishment reports: Replenishment QTY is displayed on GTIN level following the Sell1-Replenish1 logic. Lists can be printed or be displayed in HALOmobile.	Ensure Sales Availability of every shopping option (=SKU in a store)
Putaway	Every item that is moved between back room and sales floor has to be read with the putaway process in HALOmobile, submitting the correct target location.	Ensure data accuracy on sublocation level to make working with refill lists possible



## Merchandise Flow – (4) Customer Interaction

Process	Description	Why?		
	Items that are put on the cash desk while a store		I	
	employee is actively logged into the POS system w	ill		
	be read by the RFID reader that is activated by the			
	user login and deactivated by the logout. Actual	in	Store	
	TP net store staff has to follow the regular sales	Reduce store stock to trigger according		4
Sale (RFID)	process.	replenishment.		
	•	•		Out
	Items returned by a customer and suitable for sale			
	have to be retagged if necessary as "Customer			<b></b>
	Return" or read with "Customer Return" if the tag	is		In
Customer Return	still attached to the merchandise.	Increase stock to reflect higher inventory		

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#### Training

- The whole selling and logistics organisation has to be trainined regarding
  - RFID processes
  - Hardware and software
  - Data structure
  - KPD generation and interpretation
  - Overall concept of merchandise visibility
- Germany and France used a train-the-trainer concept, but other approaches are also possible
- Proven concepts of other projects (e.g. ePOS) can also be adapted for RFID
- Final training in stores will be done with the PROD systems and the stores' own hardware and marks the start of RFID store operations

#### **Stabilization Phase**

After the training, a stabilization phase will enable a gradual rampup of operations to a avoid a potentially risky "hard cutover"

During the stabilization phase....

- sales associates are performing all RFID processes at full scale.
- head office project management team is actively supporting with questions, monitoring and report generation.

Goal of the stabilization phase is to...

- establish RFID processes as daily business and build confidence with the store staff
- train the whole country team (stores, central) "on the job" as extension of the training sessions to achieve a consistent operational excellence and build confidence
- build up the RFID stock data base to a sufficient accuracy for data integration into ERA
- make responsible managers familiar with the KPDs and teach them how to interprete them and deduce the correct actions

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#### Requirements for the MV Solution



#### **EPCIS Solution Set-Up**

MV/RFID Initial Phase EPCIS Events and Accessing Applications Overview



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