LafargeHolcim

Iventory Management User Manual

MOBISYS

Author: EBM Manufacturing Core Team
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Referred documents and references

Document / Reference	Storage
EBM Business Blueprint Manufacturing	
MAN7-EBM Inventory Management Mobisys	**https://docs.google.com/a/lafargeholcim.com/presentation/d/1-Rqa9CC_pagJsmy1fIjqT6dV-CJx_r-PVIXHj-uVNZE/edit?usp=sharing**
Manufacturing Inventory Training Materials: form **MAN1 to MAN11**	**https://drive.google.com/a/holcim.com/#folders/0B8ML4_Kt9PXkNzZUTkhidlBDODA**

Distribution List

Function / Role	Company

Table of Contents

1. Introduction

This is the document that provides all the necessary information to enable the End User to perform their activities of SAP and no SAP systems, related with Inventory Management, on the respective go-life date, in line with the following criteria:

- Speed of execution of tasks
- Quality of data entry
- Compliance with management rules
- Maximum user ease

Throughout this document explains in detail each of the activities necessary to carry out the processes in Inventory Management.

2. Glossary & Abbreviations

The table below lists all the abbreviations used in the document with their complete description.

| Abbreviation	Description
CEM	Cement
AFR	Alternative Fuels and Raw Materials
RMX	Ready mix
MIC	Mineral components
EMEA	Europe, Middle East and Africa
EBM	European Business Model
LHARP	LafargeHolcim Accounting and Reporting Principles
LHAC	LafargeHolcim Asset Coding
TIS	Technical Information System
BOM	Bill of Material
MRP	Material Requirements Planning
CKD	Clinker Kiln Dust
MEC	Month End Closing
MM	Material Management
IM	Inventory Management
MOBISYS	Mobile application (Barcoding; Scanner)

3. Mobisys Solution

3.1 Background

Mobisys has been selected as the standard software to support the EBM Barcode Solution in the EMEA Region. The EBM Barcode Solution helps to optimize the inventory management processes in the LafargeHolcim warehouses as follows:

- **Improves accuracy and reliability of stock data**
- **Reduces effort to maintain inventory information in SAP**
- **Reduces risks of errors**
- **Improves speed in processing movements and data in storage locations**
- **Stock management in real time**
- **It is a tool that allows mobility in the storage locations**

3.2 Mobisys MSB (Mobisys Solution Builder)

MSB generates ABAP function modules by the screen-information entered in MSB Screen Builder. The related function modules can be changed and you can include your own individual ABAP coding to realise any logic. With Mobisys MSB you are able to:

- **Direct connection of RF-Terminals (Scanner) to SAP**
- **No additional Server needed**
- **Development of the mobile solution directly in SAP**
- **Mobile terminals ful under control of SAP**
- **Use of different device types in the same project**
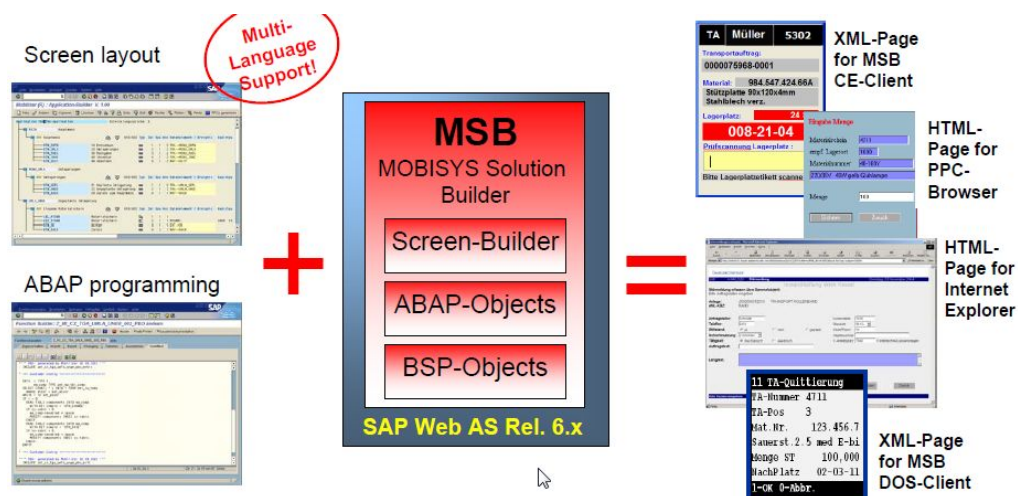
3.3 Mobisys Screen Designer

With the help of the Mobisys Screen Designer („MSD") it is possible to create the application masks for the mobile terminals in SAP. The MDS is directly connected to the MSB on the SAP Web application server and the mask layouts are stored directly on the SAP Server and are available for all connected terminals. With this functionality it is possible to change and enhance the EBM Barcode Solution according to our needs at LafargeHolcim.
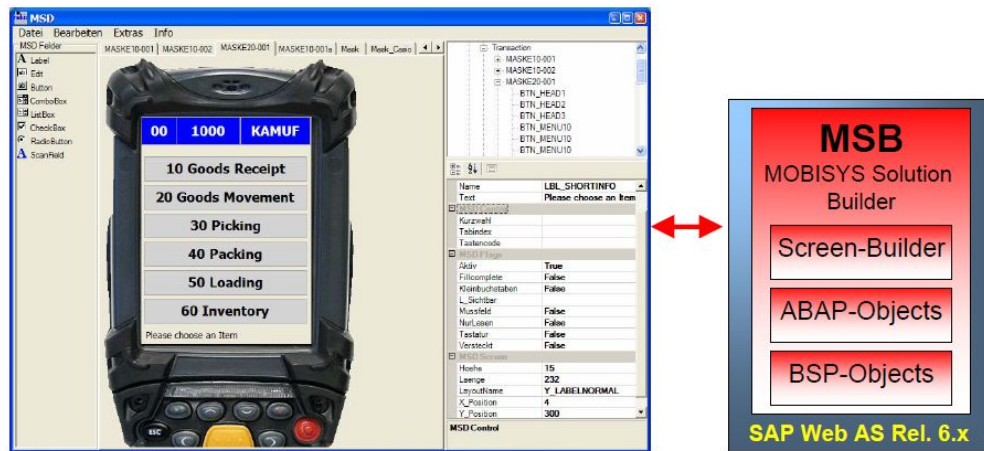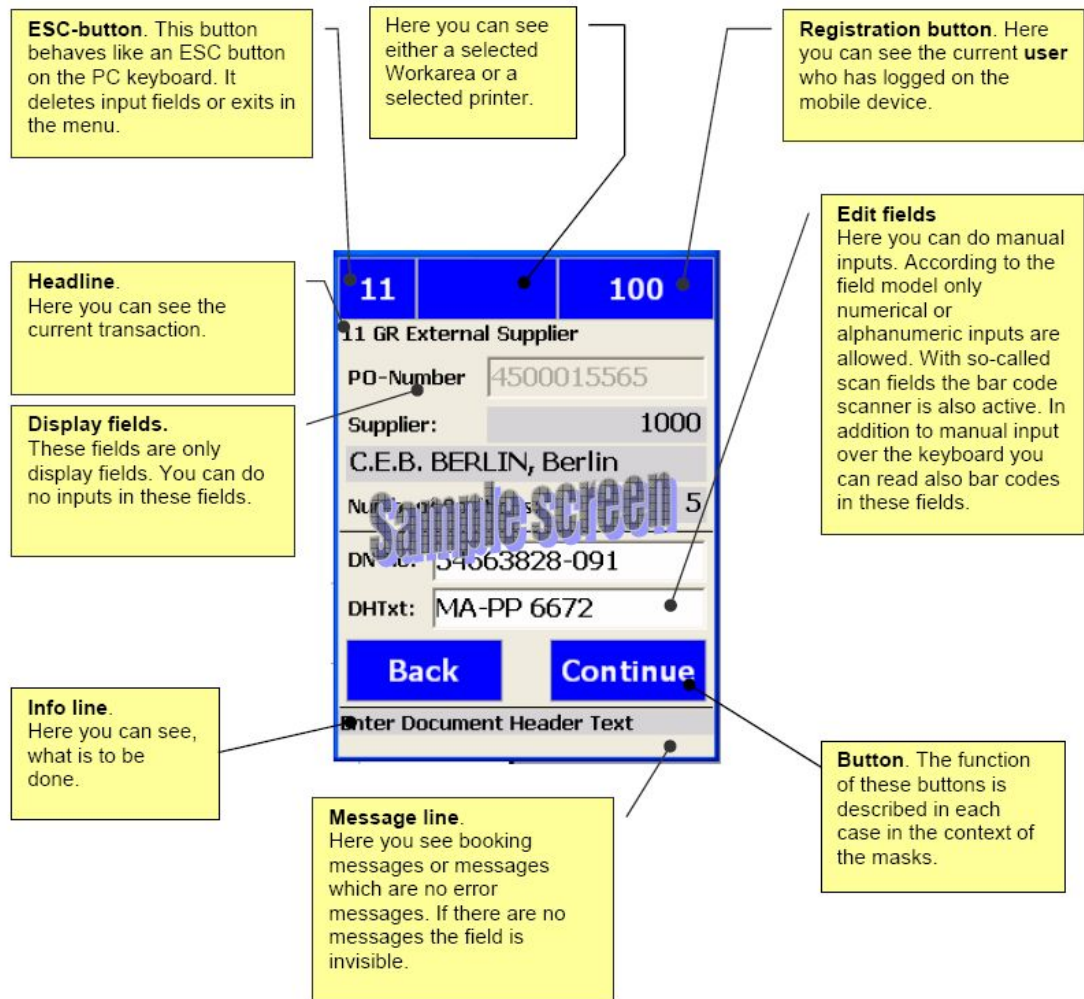
The EBM Barcode Solution covers all the critical processes in the warehouses, with automatic transfer of data from the barcode readers to SAP MM, PM, PS:

- **Goods receipts from vendor**
- **Goods issues to WO orders, cost centers, projects…**
- **Transfers of goods between different storage locations**
- **Physical inventory**
- **Print out of labels with material information in barcode format**
- **Relabel the Warehouse**

3.4 Overview of the application screen

ESC-button. This button behaves like an ESC button on the PC keyboard. It deletes input fields or exits in the menu.

Here you can see either a selected Workarea or a selected printer.

Registration button. Here you can see the current **user** who has logged on the mobile device.

Headline. Here you can see the current transaction.

Display fields. These fields are only display fields. You can do no inputs in these fields.

Edit fields Here you can do manual inputs. According to the field model only numerical or alphanumeric inputs are allowed. With so-called scan fields the bar code scanner is also active. In addition to manual input over the keyboard you can read also bar codes in these fields.

Info line. Here you can see, what is to be done.

Message line. Here you see booking messages or messages which are no error messages. If there are no messages the field is invisible.

Button. The function of these buttons is described in each case in the context of the masks.

NOTE: in case that the material number has to be entered manually on the material Screen, the Codification of the Material should follow the same Naming convention that the one used in the barcode, that should be:

> **Option 1: Materials do not managed by Split valuation (N/R/U)**
>
> **Material code + Storage location**
>
> *Example:* 30000231G200 (material "30000231" of storage location "G200")
>
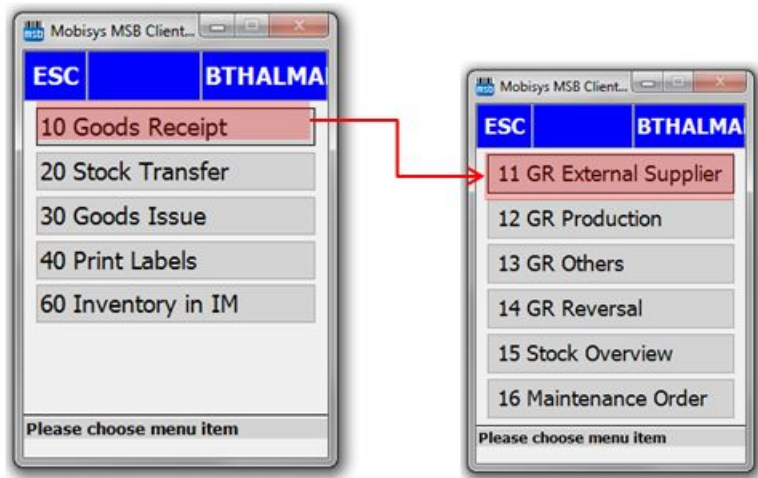> **Option 2: Materials managed by Split valuation (N/R/U)**
>
> **Material code + Split Valuation + Storage location**
>
> *Example*: 30003451NG200 (material "30003451" with Split valuation "N" of storage location "G200")

4. MOBISYS Processes

4.1 Goods Receipt

4.1.1 Goods Receipt external Supplier

4.1.2 Process flow

	Scan or enter the PO-Number manually.

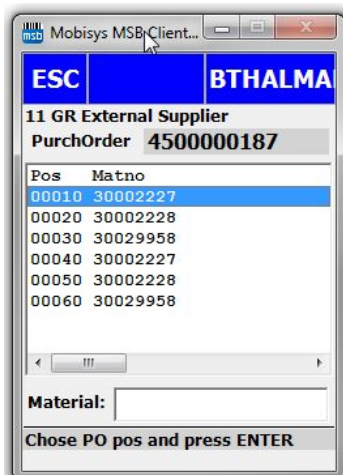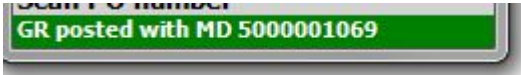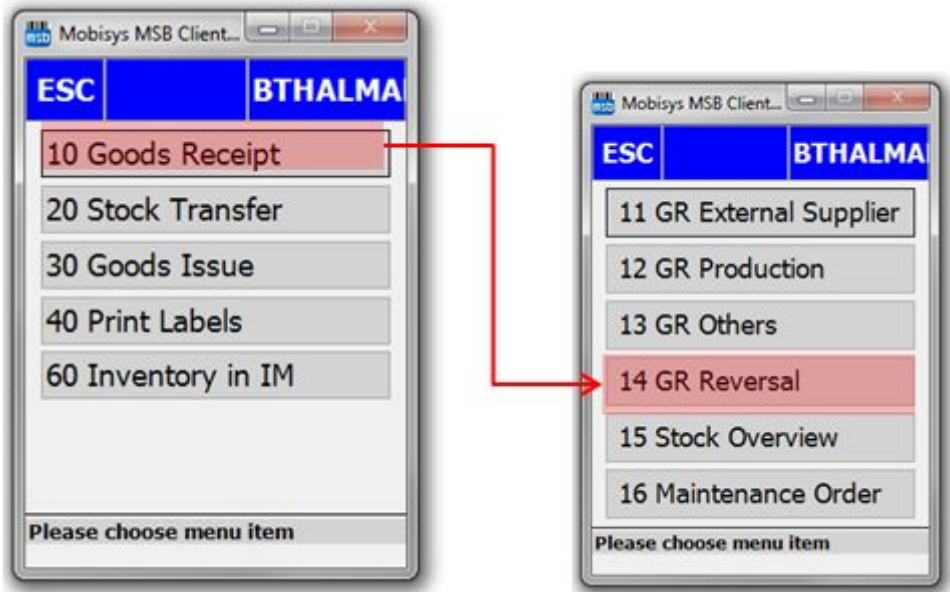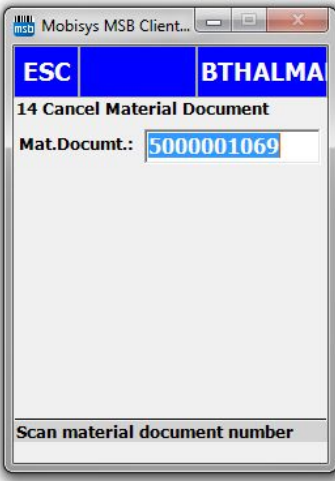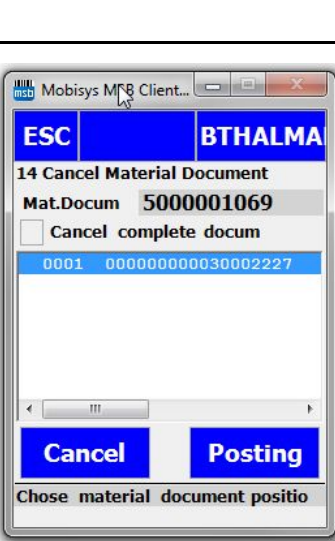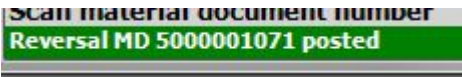| Screen	Instructions
Mobisys MSB Client... **ESC BTHALMA** 11 GR External Supplier PO-Number 4500000187 Supplier: 1006552 **PARDUYNS SA, LEUZE EN** Date: 26.01.2012 DN-No: 123 9584 DHTxt: HEADER TEXT **Back Continue** Button: Continue	**Date:** Posting Date (can be changed) **DN-No:** Delivery note **DHTxt:** Document Header text Hit **"Continue"** to proceed
Mobisys MSB Client... **ESC BTHALMA** 11 GR External Supplier PurchOrder 4500000187 Pos Matno 00010 30002227 00020 30002228 00030 30029958 00040 30002227 00050 30002228 00060 30029958 Material: Chose PO pos and press ENTER	All "open items" for GR are shown. Select the item to post or scan a material label Press **"Enter"** to proceed
Mobisys MSB Client... **ESC BTHALMA** 11 GR External Supplier POrd. 4500000187 00010 Mat.: 0000000000300022 **RLT A BILLE REF 16020 G1** PO Quantity 10 PC Open Qty. 0 PC Plant B100 StLoc. G200 GR Quantit 10 PC **Overview >** Button: >	Enter the Goods Receipt Quantity Hit **"Overview"** to proceed with the next position

Post the **Goods Receipt** or select an option how you want to continue

After posting the GR the following message appears:

4.1.3   Goods Receipt Reversal
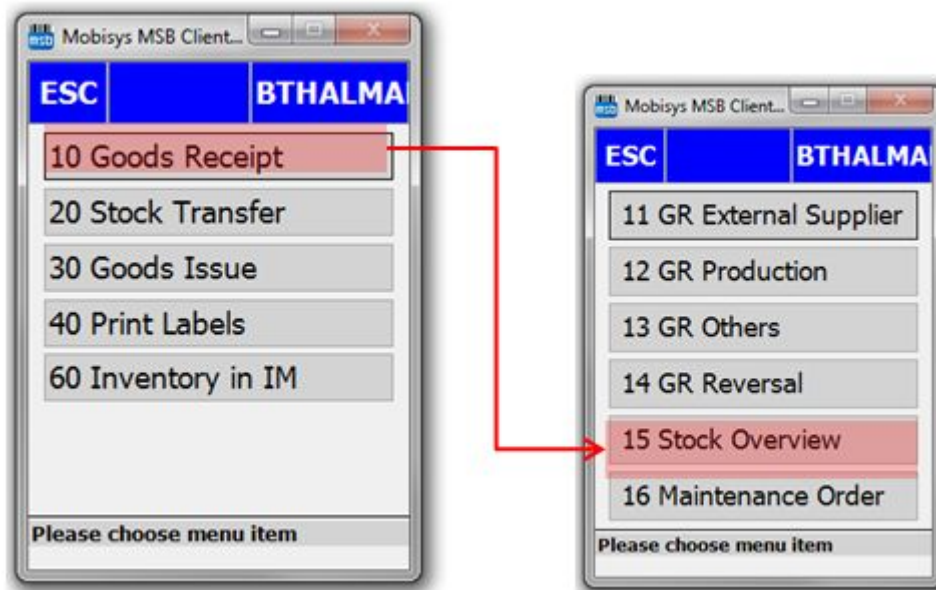
4.1.4 Process flow

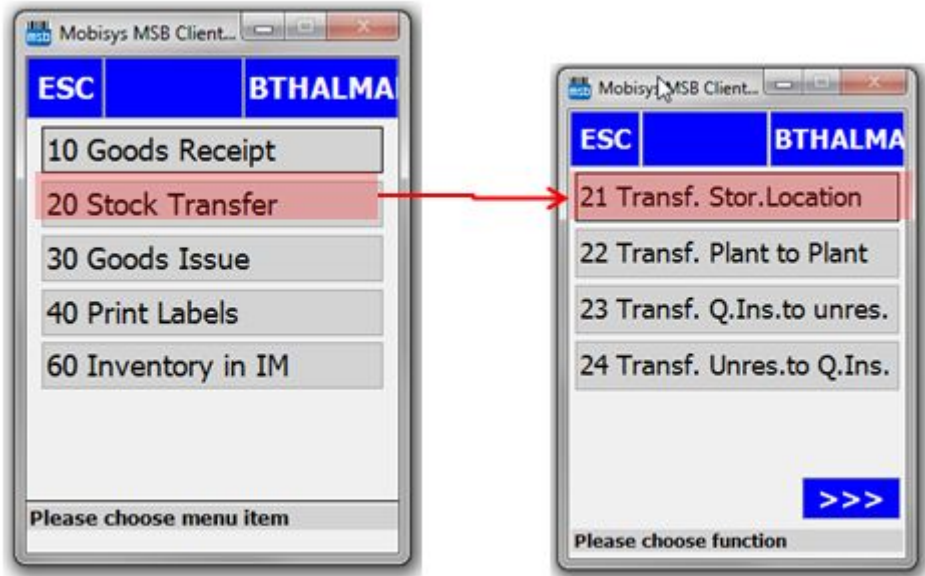|	
	Enter the "Material Document Number" Press **"Enter"** to proceed
	Possibility to change posting date Hit **"Continue"** to proceed
	Cancel selected items or a complete document Hit **"Posting"** to cancel the document The following message appears:

4.1.5   Stock Overview
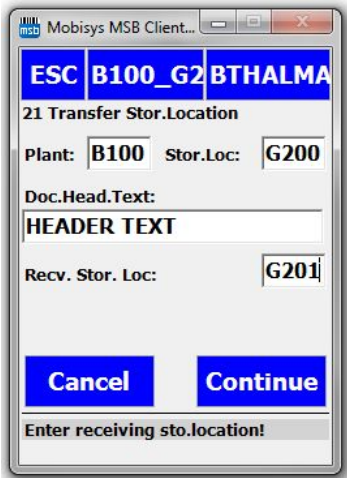

4.1.6   Process flow

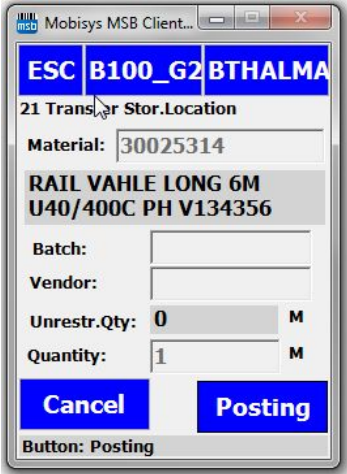|	
	Scan the material label ● Stock per Plant and Storage Location ● Information about storage bin / Batch / Vendor / Project Stock

4.2 Stock Transfer

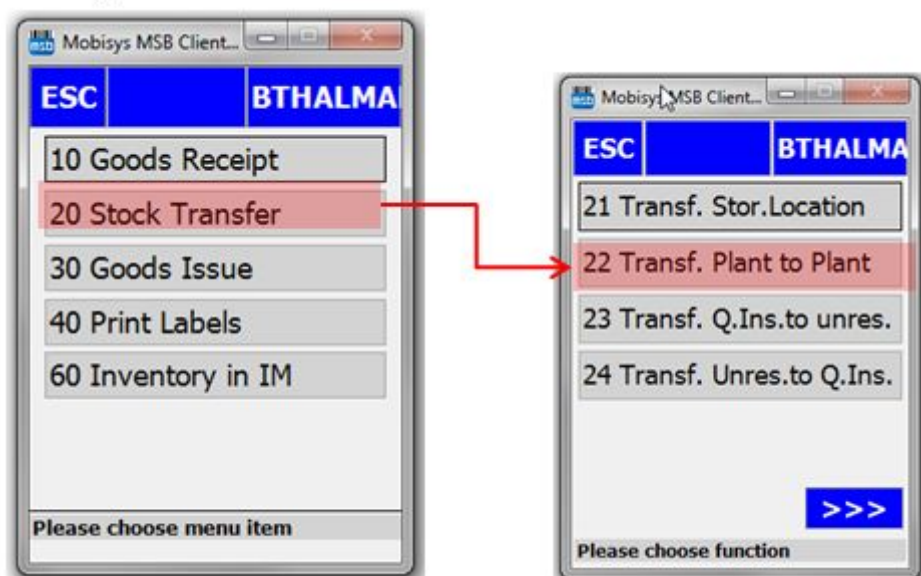### 4.2.1 Transfer Storage Location to Storage Location

4.2.2 Process flow

	Enter **Document Header Text** Enter the **Receiving Storage Location** Hit **"Continue"** to proceed

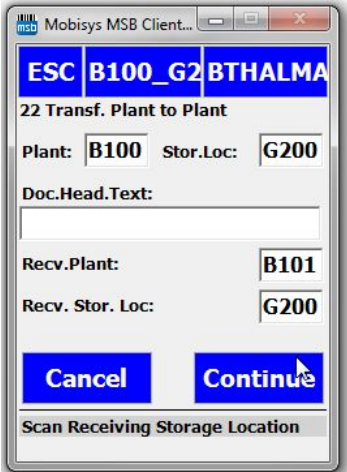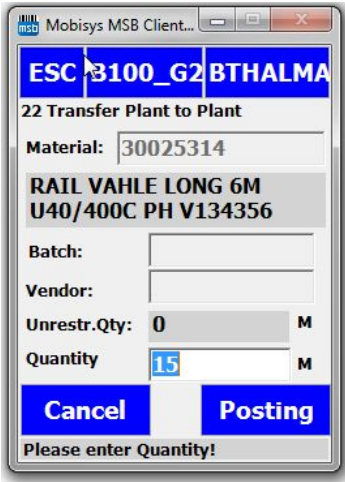|	
	Scan the Material Label Enter Batch (for Material with Split Valuation) Enter Vendor (for Vendor consignment stock) Enter the Quantity and post the document

4.2.3 Transfer Plant to Plant

4.2.4 Process flow

	Enter **Document Header Text** Enter the **Receiving Plant** Enter the **Receiving Storage Location** Hit **"Continue"** to proceed

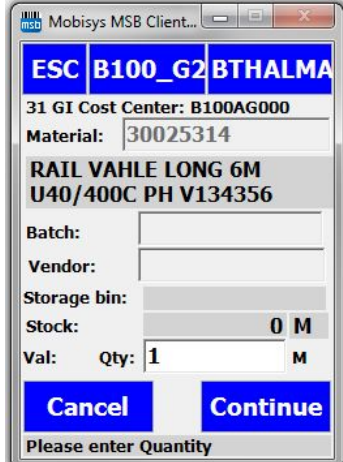|	
Mobisys MSB Client... **ESC 3100_G2 BTHALMA** **22 Transfer Plant to Plant** **Material:** 30025314 **RAIL VAHLE LONG 6M** **U40/400C PH V134356** **Batch:** **Vendor:** **Unrestr.Qty:** 0 **M** **Quantity** 15 **M** **Cancel** **Posting** **Please enter Quantity!**	Scan the Material Label Enter Batch (for Material with Split Valuation) Enter Vendor (for Vendor consignment stock) Enter the Quantity and **post the document**

4.3 Goods Issue

4.3.1 Goods Issue for Cost Center

4.3.2 Process flow

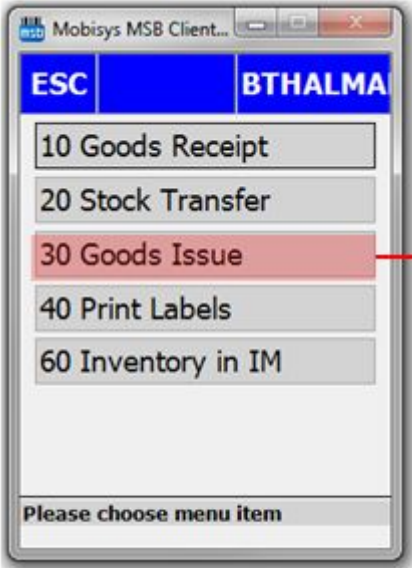|	
	Posting Date (can be changed) Enter **Document Header Text** Enter the **Goods Recipient** Enter the **Cost Center** (it can be scanned) Hit **"Continue"** to proceed
	Scan the Material Label Enter **Batch** (for Material with Split Valuation) Enter **Vendor** (for Vendor consignment stock) Enter the **Quantity** Hit **"Continue"** to proceed The following message appears: **Data have been saved!**

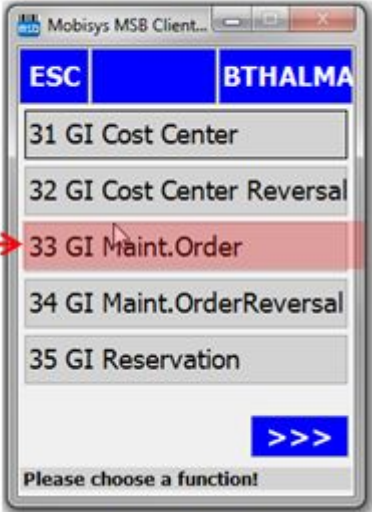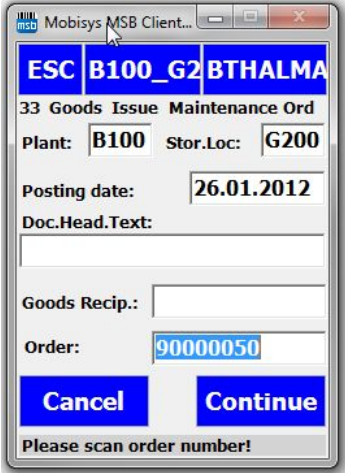|	
	Press "ESC" Possibility to delete, change or post the document

4.3.3 Good Issue for Cost Center reversal
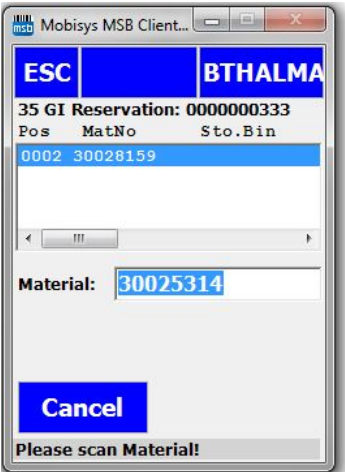
Process Flow: see **4.2.8 31 Goods Issue for Cost Center**

4.3.4 Goods Issue for Maintenance Order
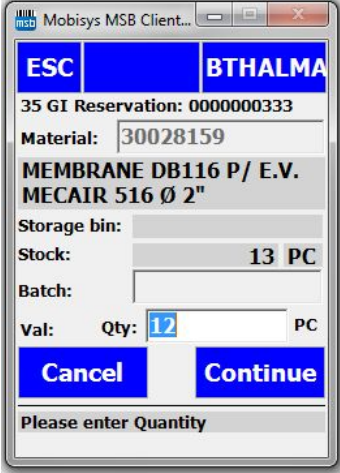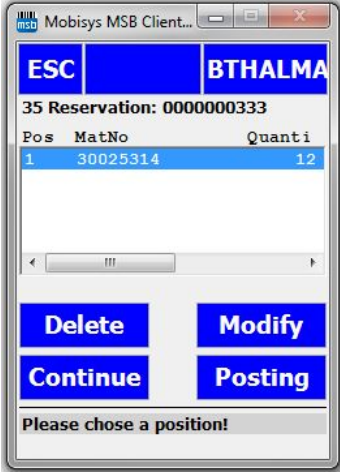
4.3.5 Process flow

	Posting Date (can be changed) Enter **Document Header Text** Enter the **Goods Recipient** Scan the **Maintenance Order Number** Hit **"Continue"** to proceed
	In case of reservations, reservation number for the WO order is displayed Hit **"Continue"** to proceed
	Select the item or scan the a material label for unplanned items Press **"Enter"** to proceed
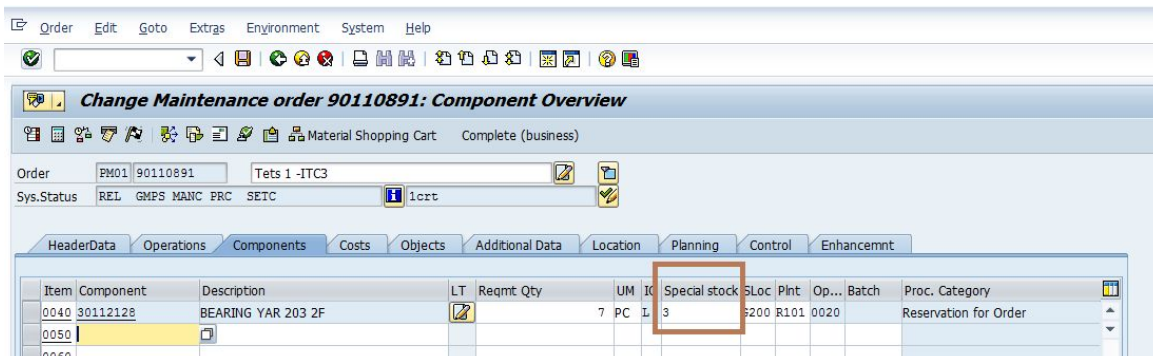
	Enter **Batch** (for Material with Split Valuation) Enter **Vendor** (for Vendor consignment stock) Enter the **Quantity** Hit **"Continue"** to proceed
	Possibility to delete, change or post the document

Note: *Good issues of Consignment Stock for a Maintenance Order*

There are some "Pre-Requisites" to can do a good movement of Consignment Stock directly for a PM order. In the PM order the material has informed:
- Special Stock: "3" (consignment)
- Vendor

If these two field are included in the component of the PM order, the good movement of the consignment stock is done following the same steps as a normal good issue stock with reservation, but when the movement it is posted, in SAP is done a movement "261 - K".
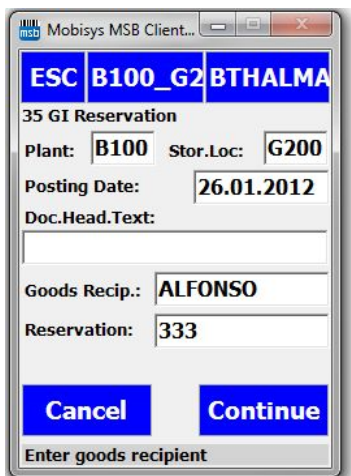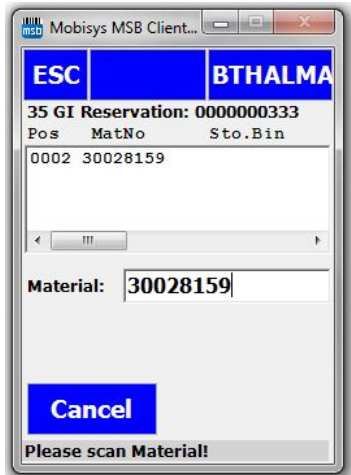
4.3.6 Good Issue for Maintenance order reversal
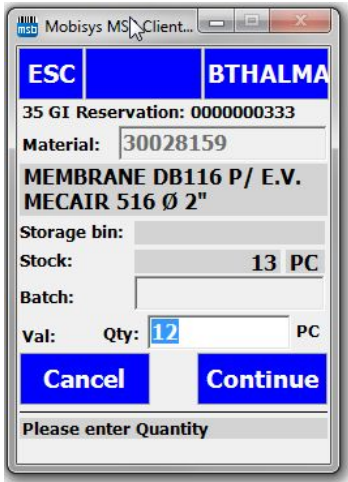
Process Flow: see **4.2.12 33 Goods Issue for Maintenance Order**

4.3.7 Goods Issue for Reservation

4.3.8 Process flow

	Posting Date (can be changed) Enter **Document Header Text** Enter the **Goods Recipient** Scan or enter the **Reservation Number** Hit **"Continue"** to proceed
	Select the item or scan the material label Press **"Enter"** to proceed

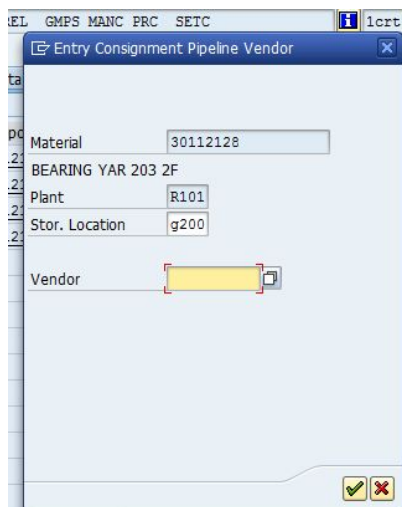|	
	Enter **Batch** (for Material with Split Valuation) Enter **Vendor** (for Vendor consignment stock) Enter the **Quantity** Hit **"Continue"** to proceed
	Possibility to delete, change or post the document

4.3.9 Good Issue for Reservation reversal

Process Flow: see **4.2.15 35 Goods Issue for Reservation**

4.3.10 Goods Issue for WBS Element / Project Stock
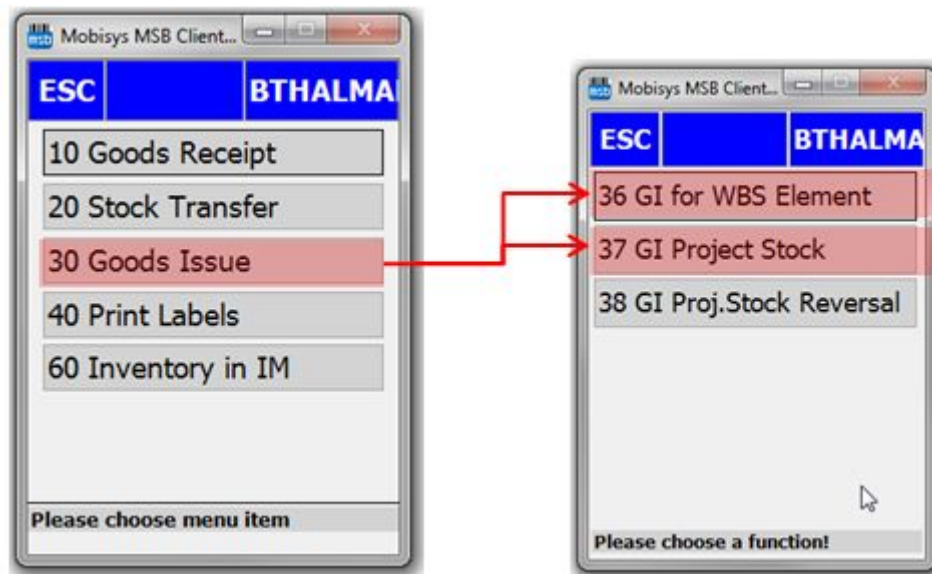
4.3.11 Process flow GI for WBS Element

See 4.2.12 33 Goods Issue for Maintenance Order.

Instead of scanning the Maintenance Order the WBS-Element must be entered.

4.3.12 Process flow GI for Project Stock

See 4.2.12 33 Goods Issue for Maintenance Order.

After scanning the material number the WBS-Element must be entered.
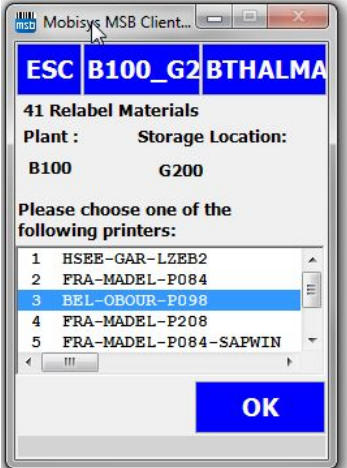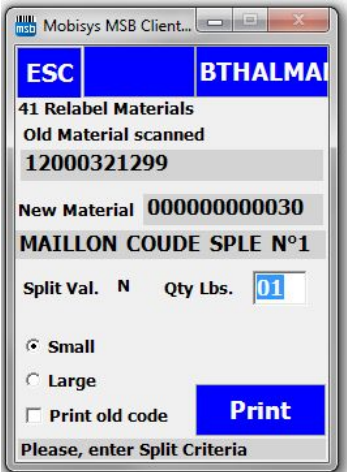
4.4 Print Labels

4.4.1   Relabel Materials

4.4.2   Process flow

	Enter **Plant** and **Storage Location** (can be changed) Select **Printer** Hit **"OK"** to proceed
	● Scan the **old** material label ● Enter the Split Valuation ● Enter the number of labels (if more than one is needed) ● Chose the Label-Format ● "mark" Print old code" to print the old material number on the label Press **"Print"** to print the label Continue with **"ESC"** to scan the next label
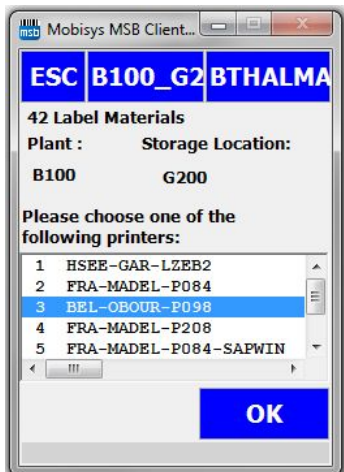
4.4.3 Labels printed
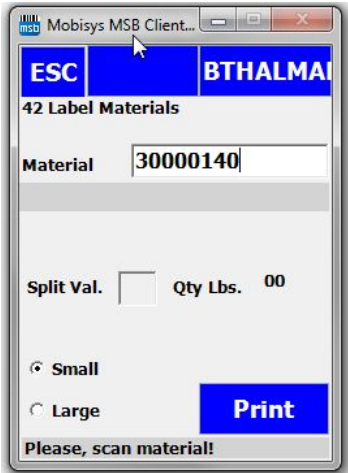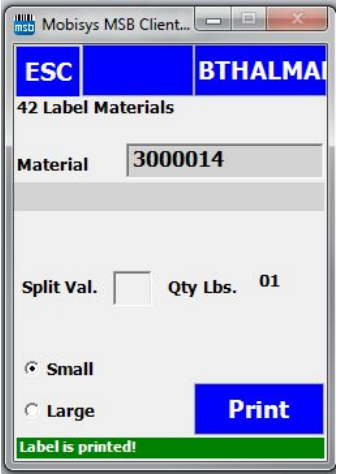
Small Label	Large Label

4.4.4 Print Material Labels

4.4.5 Process flow

	Enter **Plant** and **Storage Location** (can be changed) Select **Printer** Hit **"OK"** to proceed

	● Scan the material label ● Enter the Split Valuation ● Enter the number of labels (if more than one) ● Chose the Label-Format Press **"Print"** to proceed
	        Press **"Enter"** to print the material labels

4.5 Inventory in IM

4.5.1 Load Inventory Document

The physical inventory process with the barcode reader can be divided in the following phases:

```
┌─────────────────────────────────────────────────┐
│         CREATE THE INVENTORY DOCUMENT           │
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
│   LOAD THE INVENTORY DOCUMENT IN THE HANDHELDS  │
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
│                 INVENTORY COUNT                 │
└─────────────────────────────────────────────────┘
                      │
                      ▼
┌─────────────────────────────────────────────────┐
│            POST INVENTORY DIFFERENCES           │
└─────────────────────────────────────────────────┘
```
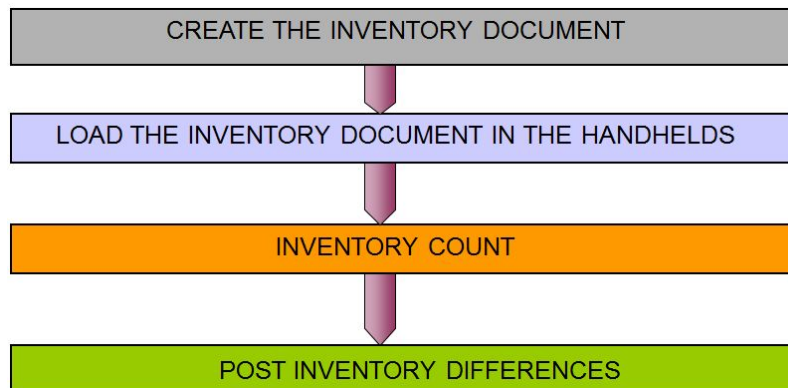
Before you can start with the Inventory management with MOBISYS (Load Inv. Document), an Inventory Document has to be created in SAP.
The process to create an Inventory Document is described in the Document:

MAN-18 EBM Inventory Management Training User Manual_0_1.docx

Example of Inventory Document in SAP

4.5.2 Process flow

	Enter the **Fiscal Year** and **Physical Inventory Document Number** Hit **"Continue"** to proceed
	The application show the number of uncounted positions for this inventory document Press **"OK"** to proceed with another inventory document Press **"Back"** to go one step back and to start inventory counting
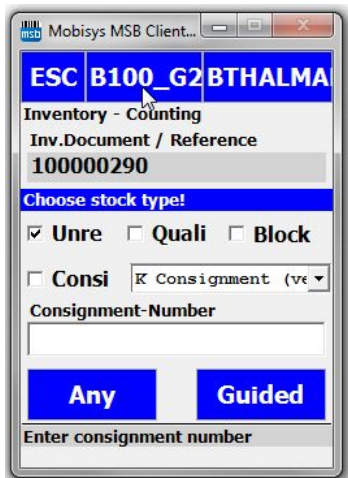
4.5.3   Enter Inventory Counting
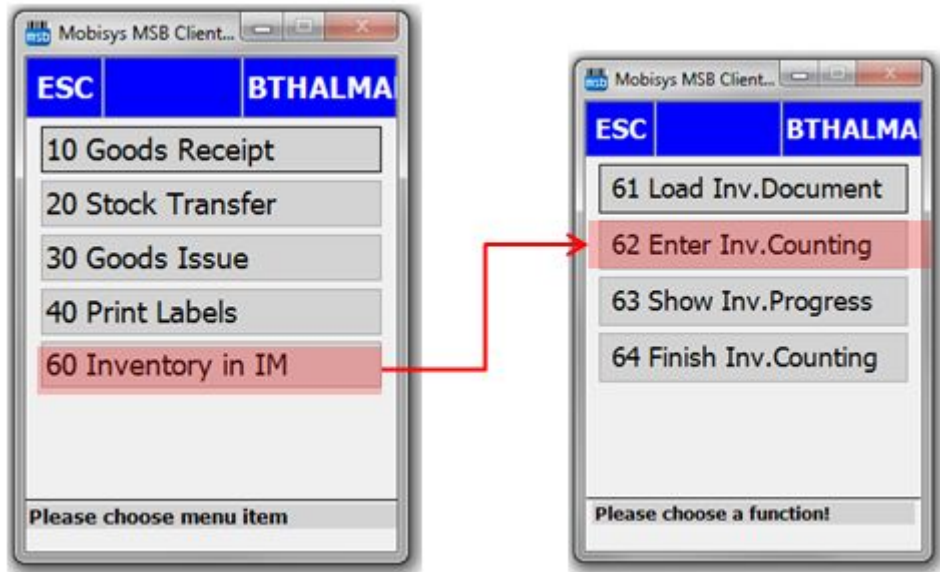
4.5.4   Process flow

	Enter **Plant** and **Storage Location** Enter **Fiscal Year** and **Count date** Enter the **Inventory Document Number** Hit **"Continue"** to proceed

msb Mobisys MSB Client... — ▢ ✕ **ESC** **B100_G2** **BTHALMA** **Inventory - Counting** **Inv.Document / Reference** **100000290** **Choose stock type!** ☑ **Unre** ☐ **Quali** ☐ **Block** ☐ **Consi** [K Consignment (ve ▾] **Consignment-Number** [_____] **Any** **Guided** Enter consignment number	Mark the requested **stock type** Press **"Any"** or **"Guided"** to start the counting
msb Mobisys MSB Client... — ▢ ✕ **ESC** **B100_G2** **BTHALMA** **Inventory - Counting** **Material-Barcode:** [_____] **Continue** Enter material number	**Any** If you choose **"Any"** you scan the material labels in an unguided sequence. Press **"Continue"** to enter the counting's
msb Mobisys MSB Client... — ▢ ✕ **ESC** **B100_G2** **BTHALMA** **Inventory - Counting** **Inv.Document / Refer** **PosCnt** **100000290** **8** **Chose sorting!** ⦿ **Uncounted** ○ **Material number** ○ **Material short text** ○ **Storage Bin** **Start at:** [_____] **Continue** Scan Starting Point	**Guided** If you choose **"Guided"** you select the scanning sequence: ● **Uncounted** (only the uncounted items) ● Sort by **Material number** ● Sort by **Material Short Text** ● Sort by **Storage Bin** Press **"Continue"** to enter the counting's
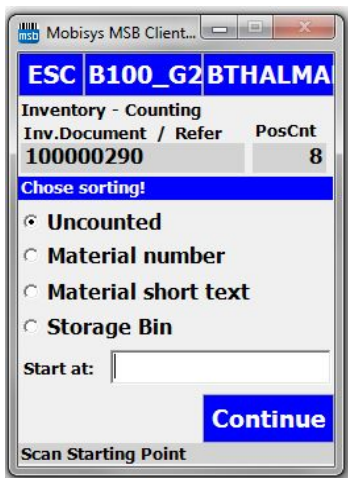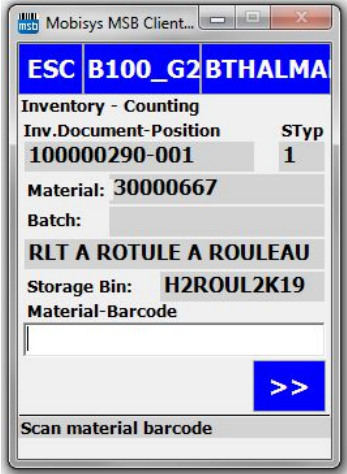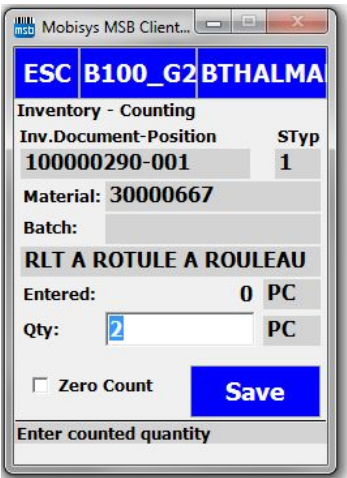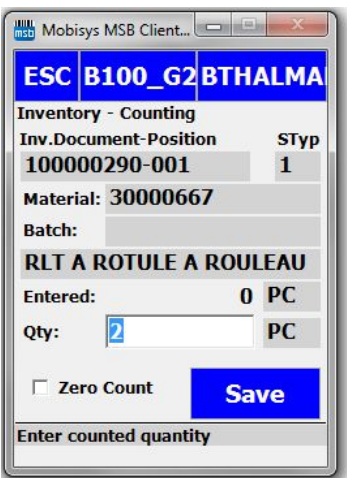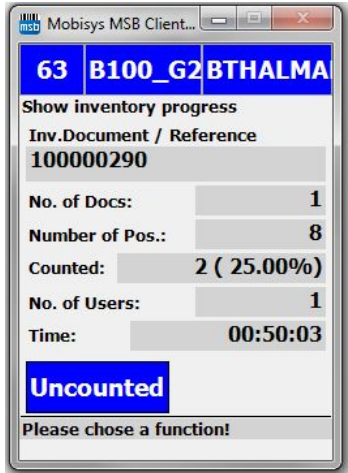
	Scan the proposed material label
	Enter the **counted quantity** If the stock level is zero mark **"Zero Count"** Press **"Save"** to store the data.
	Enter the **counted quantity** If the stock level is zero mark **"Zero Count"** Press **"Save"** to store the data.
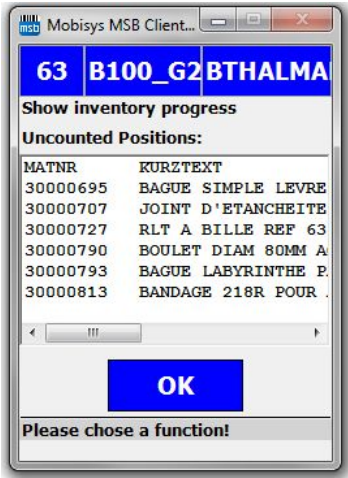
Continue now with scanning all the materials on the inventory document and entering their counted quantity.

4.5.5 Show Inventory Progress

4.5.6 Process flow

	Enter **Fiscal Year** Enter the **Inventory Document Number** Hit **"Continue"** to proceed
	The following information are shown: Inventory Document Number Number of Documents Total number of items in document Counted items Number of users Duration for counting Press **"uncounted"** to list all open items
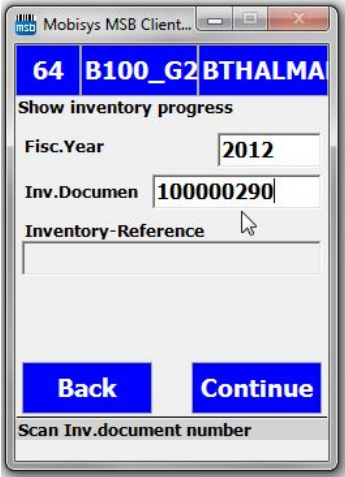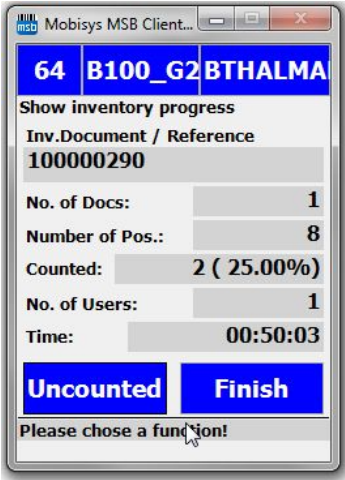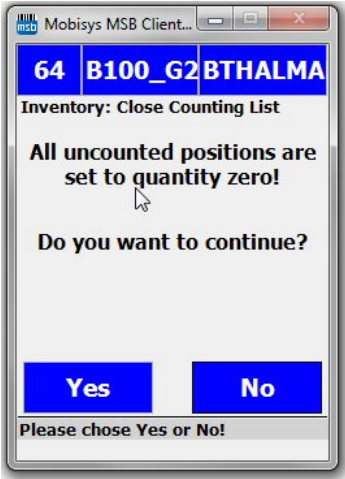
	  List of all **"uncounted"** positions. Press **"OK"** to go back

4.5.7 Finish Inventory Counting

4.5.8 Process flow

Mobisys MSB Client... **64 B100_G2 BTHALMA** Show inventory progress Fisc.Year 2012 Inv.Documen 100000290 Inventory-Reference **Back** **Continue** Scan Inv.document number	Enter **Fiscal Year** Enter the **Inventory Document Number** Hit **"Continue"** to proceed
Mobisys MSB Client... **64 B100_G2 BTHALMA** Show inventory progress Inv.Document / Reference 100000290 No. of Docs: 1 Number of Pos.: 8 Counted: 2 (25.00%) No. of Users: 1 Time: 00:50:03 **Uncounted** **Finish** Please chose a function!	An overview of the **Inventory Progress is** shown Hit **"Finish"** to proceed
Mobisys MSB Client... **64 B100_G2 BTHALMA** Inventory: Close Counting List **All uncounted positions are set to quantity zero!** **Do you want to continue?** **Yes** **No** Please chose Yes or No!	If the counting is correct (all uncounted positions are set to zero) the data will be transferred to SAP by hitting "Yes". The following message is shown: Scan Inv.document number Counting finished successfully!

The Data are now in SAP and can be checked and processed (recount / posted).

Process Performance Indicators

For the PPI indicator point of view the indicator that are more affected are the ones highlight in green of the following lilist of Inventory management indicators

PPI notation	Functional definition	Priority	UoM	Business objective
Non-standard material movements [count]	Number of non-standard material movements The categorization of the goods movement is completed and delivered as per the attached document. This is a combination of the input from the workstreams, a precaution principle was applied and the highest criticality was allocated in case of conflict. It includes as well the movements not identified by the workstreams but existing in the system in configuration and/or used in the movement extraction from 2012 available (to which the highest criticality was applied). Some arbitrage were done after review with the various team members in accordance with the best practices.	1	#	Inventory management exceptions (inventory differences, scrapping, reversals, transfers) should be minimized

Note:
- *The Standard movement types (regular business process) are as following :*
  101, 102, 161, 162, 201, 202, 221, 222, 231, 241, 242, 251, 252, 261, 262, 291, 292,
  301, 302, 303, 304, 305, 306, 309, 310, 311, 312, 313, 314, 315, 316, 321, 322, 323,
  324, 325, 326, 341, 342, 343, 344, 351, 352, 411, 412, 541, 542, 543, 544, 601, 602,

631, 632, 633, 634, 641, 642, 643, 644, 647,648, 653, 654, 655, 656, 703, 704, Z01, Z02

- *The Critical movement types (foreseen but monitoring required) are as following :*
  103, 105, 122, 511, 512, 531, 532, 551, 552, 553, 554, 555, 556, 701, 702
- *The Exeptional movement types (not foreseen but configured and not blocked by the system and/or used despite not foreseen) are as following :*
  141, 142, 232, 281, 282, 317, 318, 319, 320, 331, 332, 333, 334, 335, 336, 340, 349, 350, 413, 414, 415, 416, 441, 442, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 501, 502, 503, 504, 505, 506, 521, 522, 523, 524, 525, 526, 557, 558, 561, 562, 563, 564, 565, 566, 571, 572, 573, 574, 575, 576, 581, 582, 603, 604, 606, 621, 622, 646, 651, 661, 662, 671, 672, 6A5, 6A6, 6B5, 6B6, 6W5, 6W6, 707, 708, 711, 712, 713, 714, 715, 716, 717, 718, 721, 722, 731, 732

PPI notation	Functional definition	Priority	UoM	Business objective
Slow moving stock (no consumption within last 365 days) [value ratio]	Materials for which no goods movements were posted within the period of analysis. This analysis is based on quantity managed material master records that have a positive stock quantity at the moment of analysis and no client or plant deletion indicator set. Slow or non moving stock is defined as materials for which no goods movements were posted within the period of analysis or the latest goods movement is more than 365 days ago.	1	%	Slow / non moving inventory PPI will help identifying inadequate inventory management / materials planning procedures. (eg: materials used in a maintenance process but not decreased from inventory in connection to a work order, materials stored but never used in any process). Slow / non moving inventory may result in write-offs and as a result, capital loss (not driven by the PPI but by LHARP process). Therefore, due to the impact on costs, un necessary funds immobilization, slow moving stock should be limited as much as possible.
MRP usage	Nr of PCS03 &PCS04 in MRP vs total number of PCS03 & PCS04 It measures the ratio of purchase requisitions created through the MRP to the total of created purchase requisitions (for the PCS 03* and 04*) .	2	%	
Use of bar coding system	Nr of WH activities w/ bar coding vs total material documents This measures the usage of the Bar Coding system: Goods Issue , Goods Receipt and physical inventory(for the PCS 03* and 04*)	2	%	Optimice the GI posting by using the tool and saving time avoiding manual tasks
Reversal material movements	Number of reversed material documents	2	%	Material movement reversals should be minimized

	In a good process there should not be reversals of goods movements			
Material inactive with pending open items (Count)	Volume of material flagged for deletion or inactive with existing inventory To be detailed : Materials can be flagged for deletion but having existing stock registered and valuated. The stock level is not allowed for transfer, sell, usage in production hence should be disposed.	tbd	#	To be detailed : The aim is to avoid managing inventory level of items that cannot be used for any business purpose and still need to be inventoried, physically handled on a regular basis.

LafargeHolcim - European IT Services S.L.
C/ Albasanz 14
Madrid, Spain
info@lafargeholcim.com
www.lafargeholcim.com
Phone +34 91.410.1412
Fax +34 91.410.1450