

ACTCODE	Action code, indicating the action
CHANGE	Indicates the position is changed, such as from one cell to one truck, or from one truck to one cell, or from one cell to another cell.
PROD	Producing the reels. According to the data, the reel just appears there, without specifying which truck did this. This time UBY is always 'tipseng'.
WRAP	Wrapping the reels. According to the date, OLDWHLCOCODE is always the same to NEWWHLOCODE.

OLDWHCODE	Old where code, indicating the old place
SE HAD	SE Halmstad
HYLTE	It means the reel is in HYLTE
CUSTOMER	It indicates that customers are returning the reels.

UBY	Used by
HYLTRUCKS01	Indicating that it is the TRUCKPC01 in Hylte
HYLTRUCKS02	Indicating that it is the TRUCKPC02 in Hylte
HYLTRUCKS03	Indicating that it is the TRUCKPC03 in Hylte
HYLTRUCKS05	Indicating that it is the TRUCKPC05 in Hylte
HYLTRUCKS07	Indicating that it is the TRUCKPC07 in Hylte
HYLTRUCKS08	Indicating that it is the TRUCKPC08 in Hylte
HYLTRUCKS09	Indicating that it is the TRUCKPC09 in Hylte
HYLTRUCKS10	Indicating that it is the TRUCKPC10 in Hylte
tipseng	Indicating that it is coming from the conveyor belt
pru	People who log on system, and do some modification in the office.
cki	
che	
gbe	
les	
abe	
lkr	
cli	
tme	
cha	
chb	
hge	
laf	
jcr	
fha	
rbe	

OLDWHLOCCODE	old where location code
M08	common cells inside factory. This is on the first level, which means that this is the first place reels will be placed after being produced.
M07	
M06	
M05	
M04	
M03	
M02	
M01	
M	When this reel is generated, the staff doesn't know which exact cell to use, but he or she knows the rough section, suck A, E, M etc.
K26	
K25	
K24	
K23	
K22	
K21	
K20	
K19	
K18	
K17	
K16	
K15	
K14	
K13	
K12	
K11	
K10	
K09	
K08	
K07	
K06	
K05	
K04	
K03	
K02	
K	
H08	
H07	
H06	
H05	
H04	
H03	
H02	
H01	
H00	
H	
G08	

G07
G06
G05
G04
G03
G02
G01
G
F03
F02
F01
E32
E27
E26
E25
E24
E23
E22
E21
E19
E18
E17
E16
E15
E14
E13
E12
E11
E10
E09
E08
E07
E06
E05
E04
E03
E02
E01
E
B42
B41
B40
B39
B38
B37
B36
B35
B34
B33
B32

B31
B30
B29
B28
B27
B26
B25
B24
B23
B22
B21
B20
B19
B18
B17
B16
B15
B14
B13
B12
B11
B10
B09
B08
B07
B06
B04
B03
B02
B01
B
A31
A30
A29
A28
A27
A26
A25
A24
A23
A22
A21
A20
A19
A18
A17
A16
A15
A14
A13

A12	
A11	
A10	
A09	
A08	
A07	
A06	
A05	
A04	
A03	
A02	
A01	
A	
OPL	This indicates that this reel is unplanned. Therefore, it could go anywhere.
	This is on the second level.
LU10	loading unit
LU09	
LU08	
LU07	
LU06	
LU04	
LU03	
LU02	
LU01	
	This is on the same level as LU.
KAJ07	rail way station
KAJ06	
KAJ05	
KAJ04	
KAJ03	
KAJ02	
KAJ01	
0042700002	This is on the same level as the LU indicating the robot, a virtual place. We will assume that they are all in the place of right top corner. After being packaged, it will be sent to the rail way station.
0042700001	
0042300002	
0042300001	
0042000001	
0041940003	
0041940002	
0041940001	
0041520003	
0041520002	
0041520001	

0041440001
0041430002
0041430001
0041380001
0041350005
0041350004
0041350003
0041350002
0041350001
0041200005
0041200004
0041200003
0041200002
0041200001
0040740005
0040740004
0040740003
0040740002
0040740001
0040660004
0040660003
0040660002
0040660001
0040490004
0040490003
0040490002
0040490001
0040370006
0040370005
0040370004
0040370003
0040370002
0040370001
0040360004
0040360003
0040360002
0040360001
0039620006
0039620005
0039620004
0039620003
0039620002
0039620001
0039520006
0039520005
0039520004
0039520003
0039520002
0039520001
0039320007

0039320006
0039320005
0039320004
0039320003
0039320002
0039320001
0039030001
0038840006
0038840005
0038840004
0038840003
0038840002
0038840001
0038780003
0038780002
0038780001
0038050010
0038050009
0038050008
0038050007
0038050006
0038050005
0038050004
0038050003
0038050002
0038050001
0037570003
0037570002
0037570001

This is on the same level as CUSTOMER.
the name of the container. Where?

838027459000
838027458440
838027458382
838027458358
838027458200
838027458143
838027458127
838027458069
838027458036
838027457681
838027457632
838027457616
838027457590
838027457533
838027457152
838027457137
838027457111
838027456857
838027456733

838027456667
838027456519
838027456501
838027456428
838027456345
838027453854
838027453680
838027453516
838027453482
838027453409
838027453375
838027453367
838027453318
838027453136
838027453102
838027452880
838027452849
838027452823
838027452807
838027452617
838027452526
838027452500
838027452377
838027452310
338527403251
338027443179
338027423700
338027422280
238029423866
217422623207

YMLU8524841

YMLU8513220
YMLU8418006
YMLU8416148
YMLU8406598
YMLU8398091
YMLU8335112
YMLU8263178
YMLU8250231
YMLU8215652
YMLU8095794
YMLU8086391
YMLU8012249
YMLU5109507
YMLU4994148
YMLU4896692
YMLU4803977

This belongs to CUSTOMER.
containers outside of the LU. Reels are placed in LU firstly, then
they are put in the containers.

YMLU4789713	
YMLU4752186	
YMLU4721797	
YMLU4594033	
YMLU4534380	
XINU8184498	
XINU8155930	
XINU8143077	
XINU8053395	
XINU4014066	
UESU4763755	
UESU4355748	
UESU4349302	
UESU4248009	
UESU4206030	
TTNU9377101	
TTNU9193716	
TTNU5870146	
TTNU5570597	
TTNU5213115	
TTNU5208206	
TTNU4968550	
TRLU7036234	
TRLU6367480	
TRIU5116716	
TRIU5073002	
TRIU4685071	
TOIU3718626	
TGHU8791749	
TGHU4940361	
TGHU4325341	
TGHU4210281	
TGHU4090289	
TEXU4767047	
TCNU8560917	
TCNU8134022	
TCKU9751240	
TCKU9076965	
SEPL1007463	
SEPL1007416	
SEPL1007360	
SEPL1007062	
SEPL1007057	
SEPL1006929	
SEPL1006913	
SEPL1006831	
SEPL1006810	
SEPL1006791	
SEPL1006750	
SEPL1006739	

SEPL1006575
SEPL1006364
SEPL1006298
SEPL1006256
SEPL1006195
SEPL1006169
SEPL1006071
SEPL1006019
SEPL1005990
SEPL1005882
SEPL1005861
SEPL1005835
SEPL1005814
SEPL1005769
SEPL1005727
SEPL1005687
SEPL1005603
SEPL1005286
SEPL1005223
SEPL1005028
SEPL1004700
SEPL1004485
SEPL1004470
SEPL1004464
SEPL1004422
SEPL1004377
SEPL1004248
SEPL1004227
SEPL1004187
SEPL1004103
SEPL1004084
SEPL1003869
SEPL1003853
SEPL1003848
SEPL1003745
SEPL1003581
SEPL1003529
SEPL1003426
SEPL1003196
SEPL1002923
SEPL1002899
SEPL1002841
SEPL1002728
SEPL1002564
SEPL1002543
SEPL1002538
SEPL1002287
SEPL1002250
SEPL1002224
SEPL1002137

SEPL1002034	
SEPL1001892	
SEPL1001850	
SEPL1001830	
SEPL1001634	
SEPL1001552	
SEPL1001505	
SEPL1001423	
SEPL1001254	
SEPL1001228	
SEPL1001207	
SEPL1001188	
SEPL1001085	
SEPL1000896	
SEPL1000664	
SEPL1000601	
SEPL1000598	
SEPL1000474	
SEPL1000453	
SEPL1000263	
SEPL1000216	
SEPL1000094	
SEPL1000073	
SEPL1000052	
SEPL1000026	
SCZU3234998	
PONU8124913	
PONU7668065	
PONU1855541	
PONU1749410	
PONU1668200	
PONU1389551	
POCU1149618	
PGRU9130544	
PGRU4158744	
OOLU8722063	
OOLU8692556	
OOLU8609222	
OOLU8607425	
OOLU8352284	
OOLU8346569	
OOLU8305620	
OOLU8215677	
OOLU8194764	
OOLU8191214	
OOLU8184107	
OOLU8178064	
OOLU8119903	
OOLU8114964	
OOLU8091030	

OOLU8087302
OOLU8061144
OOLU7767033
OOLU7708961
OOLU7706280
OOLU5798288
MSKU8873531
MSKU8524490
MSKU8308295
MSKU6979057
MSKU6750184
MSKU6686001
MSKU6535345
MSKU6476915
MSKU6036367
MSCU9919617
MSCU9675193
MSCU8590574
MSCU8476577
MSCU5757863
MSCU5624963
MSCU5565428
MSCU5545118
MSCU5041879
MSCU5001747
MSCU4862144
MSCU4837440
MSCU4716772
MSCU4132104
MRKU0389703
MRKU0380331
MRKU0187180
MRKU0118492
MRKU0078620
MEDU8155300
MEDU8051706
MAXU4500456
MAEU6358745
LTIU8036415
LTIU8012120
LTIU6032278
KLFU1356560
KKFU1772012
KKFU1625109
KKFU1528829
KKFU1468416
KKFU1381743
KKFU1351543
KKFU1278268
KKFU1217067

KKFU1188360
KKFU1047443
ITAU4173753
INKU6748136
INBU5288178
INBU5269901
INBU5153070
INBU4949817
IMTU1088672
HMCU9073076
HMCU9063289
HLXU5230306
HLXU5227534
HLXU5171672
HLXU5097744
HLXU5086945
HLXU5051580
HLXU4450667
HLXU4339550
HLXU4216767
HLXU4096661
GVCU5242703
GVCU5046932
GVCU5014236
GVCU4145268
GVCU4141792
GVCU4117564
GVCU4110723
GVCU4083931
GVCU4083607
GLDU4055194
GLDU0989069
GLDU0544880
GCNU4647111
GCNU4030937
GATU8672000
GATU4429707
FSCU9441006
FSCU4667916
FSCU4416660
FSCU4136421
FCIU8900230
FCIU8886472
FCIU8871220
FCIU8833301
FCIU8510870
FCIU8405176
FCIU8365345
FCIU8323946
EMCU9454228

EMCU2322702
EMCU2271293
EMCU1436629
EMCU1405356
EMCU1297842
EMCU1243614
EMCU1194232
EMCU1166837
EISU9861078
EISU1798282
EISU1691231
EISU1658640
EISU1616855
EGHU1048573
EGHU1022922
EGHU1009875
ECMU9265477
ECMU9258992
ECMU9241705
ECMU9229398
ECMU9219065
ECMU9153986
ECMU9078049
DFSU4121107
DFSU4085191
DFSU4006926
CSQU4417863
CRXU4570400
CRSU9007297
CPSU4752420
CPSU4039174
CMAU8143640
CMAU5582249
CLHU8943506
CLHU8539834
CLHU8465623
CLHU8343055
CLHU8323212
CLHU8284646
CLHU8252295
CLHU8183511
CLHU8176359
CLHU4404147
CAXU9684778
CAXU9332648
CAXU9045078
CAXU9029565
CAXU7233780
CAXU4120570
CARU5746182

BMOU3062116 ACLU2175218	
WWH621	This is on the same level as CUSTOMER. lorry. Are there any kind of other lorries? What do they do? Where are they?
WSA962 WND237 WHF355 WHF040 WHF020 TDU136 SWX787 KXU959 BMT784 BKS805 AKL707 AKA295 AJZ885	
ZKA03644/ASO681 XYO023/XNN954 XXR207/EFG186 XUS0015420 TST05588/TST0476 RZH838/RPG436 PNT06934/WL0373A LZP8489 KNS14741/FGZ576 JUE890/XKW417 FNR739/CCG708 FNR739/CCG705 FLJ214/FYW296 EUS2768/HT7945 EFW674/XNL342 DHL4427 DHL14511 BNR056/CDO264 BKP620/BUK741 BJD099/RYP592	lorry. Where is this kind of lorry?
1U65925/DAF465	This is on the same level as CUSTOMER. lorry (where?) What is the difference between this kind of lorry and the one mentioned previously? Regular expression?
JNI7707/3L72876 7S89106 6T15734/2T9729 4U14671 4U07764 3Z96768	

3U78774 3U40138/BFJ992 3U13813/4U15764 3L04847/3L40677 2Z72633 2E74238 1U65925/DAF465	
V?STER?S-TONY VLT-PETERK VLT-R?RAN VLT-BENZ VILLE-HP	This is on the same level as CUSTOMER. newspaper. Are there any other newspaper companies besides the following?
HP-HELLMAN TABLOID-GRAN GP-JONAS NS-ANDERS HP-TOM 3H2 1221 GP-TOM PKNAE21/PKN41Y7 PETER-GP TABLOID-JOHAN OLGA-LANDVETTER STELLAN ANDERS-GP HP	This is on the same level as CUSTOMER. a particular customer
What is the relation between TRUCKPC and HYLTRUCK? There is no TRUCKPC between two locations if this reel is sent to the third level, while there is the TRUCKPC, who did this operation between the two locations. And this is the same to the situation that one reel is sent back to second level. One example is 104405331316	
TRUCKPC10 TRUCKPC09 TRUCKPC08 TRUCKPC07 TRUCKPC05 TRUCKPC03 TRUCKPC02 TRUCKPC01 TRUCK114	?? The name of this truck is quite bizarre, for it is inconsistent.
LP	??

OLDRSNCODE/ NEWRSNCODE	Old / New reason code, which indicates the reason why this unit is in such state specified by OLDQUALCAT or NEWQUALCAT respectively.
00	OK
173	damaged
170	
171	
182	
177	
180	
183	

OLDQUALCAT/ NEWQUALCAT	Old / New quality category
A	Good
W	Broken

0.1 Typical flow of reels

There are three levels in this model. All three levels are defined by location:

1. First level is common storage places.
2. Second level is LU level.
3. Third level is CUSTOMER level.

This analysis is based on 101005310505.

1. ACTCODE is PROD: UBY is tipseng, OLDWHCODE is empty, OLDWHLOCCODE is empty, NEWWHLOCCODE is one typical storage place, such as A01, M03, etc. In other words, these places are on the first level.

The NEWWHLOCCODE indicates the destination of this reel.

As for these reels, that have the destination "OPL", we will just regard them as if they are in tipseng, and will be placed in the unknown destination within 15 minutes as usual. The destination can be looked up using several rows lookahead.

2. ACTCODE is CHANGE: UBY is tipseng.
3. ACTCODE is WRAP: UBY is tipseng. The reel is still on the conveyor belt.

Approximately 15 minutes from now, this reel will be placed in its destination. Since the truck can see where the destination is, no scanning is needed, and no record is generated in database as well. Therefore, we will assume that this movement is carried out by one virtual truck.

Now this reel is on first level: common storage places.

4. ACTCODE is CHANGE: UBY is (some truck name). The OLDWHLOCCODE is the same to NEWWHLOCCODE. This entry happens in the same time with next action.

This the how the application works.

5. ACTCODE is CHANGE: UBY is (some truck name). This indicates this reel is transferring to another place. In fact, in this case, it is transported to LU.

This record is generated when this action is finished. In other words, this reel has been transported to shipping area, and the driver scan this reel, last row appears, and this row appears simultaneously.

6. ACTCODE is CHANGE: UBY is some checkout staff, NEWWHCODE is CUSTOMER. This indicates that this reel qualified after checking, and shipped to some other places for selling.