1. Functionalities Repacking

1.1. Pallets without info in WMS

a) In case of losing info in WMS assigned to pallet, user from repacking station level can send pallet from station to NOK, destination in WMS is not required. User can send pallet by pressing the button on the repacking station, or by the function in MFS. Order from MFS must be deleted, and place in the station are freed up for next pallet.

1.2. Automatic labeling.

a) Pallets after partial repacking, before storage in HB rack, must be labeled. Assigned order from WMS (label) must be printed and putt on the pallet on longer side. This process must be done automatically, without being touched by employees. The rest of process is the same as for another pallets.

b) All assigned totes to pallets must have info in WMS about tote id number and quantity assigned to tote. Automatic destacking by robots, after first scan of tote on the conveyor, must be recognized by system MFS, and send info to WMS. WMS directing totes to miniload, with assigned destination. All numbers of totes must be assigned to pallet.

1.3. Messages

a) Possibility to send message between employee and foreman. In case of a problem, employee can invoke foreman without telephone. Foreman can switch off the station for employee in case of emergency with special info e.g. “please contact with me”.

1.4. Special Prio

a) We expect possibility to set special prio to pallet. Pallet with this prio must be delivered to repacking station as soon as possible. Pallet must skip queue of waiting pallets in prezone (must be looped) of repacking area, and be delivered do repacking station.

2. Counters

2.1. Number of pallets in “prezone” of Repacking Area

a) Number of maximum pallet must be defined in MFS. Pallets must wait in prezone, until it is possible to send next pallet to repacking station. Separated counter for partial and full repacking mode.

2.2. Number of active station

a) Operator in MFS can set how many repacking stations should be active, and in which option (Full or Partial)

2.3. Maximum height of pallet after stacking

a) Pallets stacked by robots, must have counter in MFS, how many totes can be stacked on the pallet.

2.4. Number of active places on robot station

a) All of robots must have counter of maximum and minimum active places, and possibility to switch between stacking or destacking.

3. Process

3.1. Inbound - pallets, and type of repacking are selected by WMS. MFS receives info which pallets must be delivered to repacking, and how many totes are expected from pallet after repacking. The order of pallets to be delivered is controlled by the MFS. Selection from the received list. Pallets are delivered in such a way as to maximize the potential of the installation. System MFS is choosing station where pallet should be delivered by T-CAR. It depends on the settings assigned to station. In case of bigger number of pallets with partial type compared to active station, pallet must be looped in defined number of cycles in prezone. After that, if MFS still doesn't have place for pallet, type of repacking must be changed for full, and pallet must be delivered by T-Car to chosen station. Empty storage totes are delivered by conveyor to maximum of capacity of whole repacking station. Pallets to repacking area, can be directed from HB, Manual Warehouse, Inbound Area. We expect possibility to send mix of totes on one pallet from inbound to repacking. All totes have assigned destination, and pallet must be destacked by robot. Robot must destack all totes, and put totes on conveyer. The same functionality is expected for mix of cartons on the pallet, but it will be repacked by employee on the repacking station. This kind of pallet must have a "tag" in the system. All transport per article must be prepared by employee, by hand scanner.

3.2. Outbound - operators have only two options, how to send the totes with goods. By conveyor to miniload and robots, or he can put tote with goods on the empty pallet in partial repacking mode (two station are connected to one station). Empty pallets after repacking are directed to stacker.

Repacking station - data assigned to pallet are displayed on the screen, after lifting pallet by employee. Employee sees on the screen, how to locate article into storage

tote, and how many pieces must be taken from pallet to one tote. System WMS shows recipe, photo, and number of units assigned to repacked article.

3.3. NOK for totes - station must be equipment with automatic scanner for totes. In case of problem with barcode, user can use hand scanner. All errors must be displayed in one time. MFS must keep errors in statistic menu. All kinds of errors, numbers, login of employee who made error. User can download error list to file.

3.4. NIO for pallet - all errors must be displayed in one time. After removing errors by employee pallet will be checked once again by control gate. If errors are still open, pallet must be directed to NIO station once again.

3.5. Robots - this part of Repacking area has two functions. Stacking and destacking:

- Destacking totes with goods from HB
- Destacking empty storage totes from pallet to conveyer
- Stacking filled totes with goods on pallet
- Stacking excess empty storage totes on pallets
- Stacking filled totes from miniload to the pallet (out of process, only function)
- Stacking mix of totes by robots (only functionality)
- Put on/Take off clips on the top layer.

Each robot must be configurable in which mode it should operate (stacking and destacking, only stacking, only destacking)

4. MFS - we expect logical management of transport to repacking area. Delivered pallets to repacking station, must be controlled. Pallet from repacking prezone mut be selected by destination. If We have to many totes with the same destination to racks (aisle in miniload) MFS must select pallet with another destination. We don’t expect too many transports for the same part of installation miniload, but all active repacking stations including robots, must have pallet supply for work.