

## PESMEL MATERIAL FLOW HOW

Handling Systems for Tire Industry

**PESMEL**

# Pesmel Material Flow How

The idea behind the Material Flow How® -concept is to arrange production and material flows so that production efficiency is maximized and needed equipment minimized.

The implementation of Material Flow How starts by building a simulation model, by which different production procedures and material flows are examined and bottlenecks analyzed.

The main components of the concept are automated TransTire AS/RS (automated storage and retrieval system), conveying system and robots, all fully integrated to Pesmel Control system.

Our concept is completely in-house engineered, including mechanical, electrical, PLC and ICT engineering. This process results in one functional system that is easy to operate and maintain.

## Automated TransTire AS/RS

TransTire AS/RS is a new innovation based on high bay storing that simplifies tire handling in the storage area.

The key is that TransTire storage works without any pallets and storing and shipping functions are combined. This creates significant savings in investment and operational costs with less equipment and functions, not to mention 30% reduction in space usage.

TransTire can be a seamless part of factory's finishing functions or it can work as an independent distribution centre.

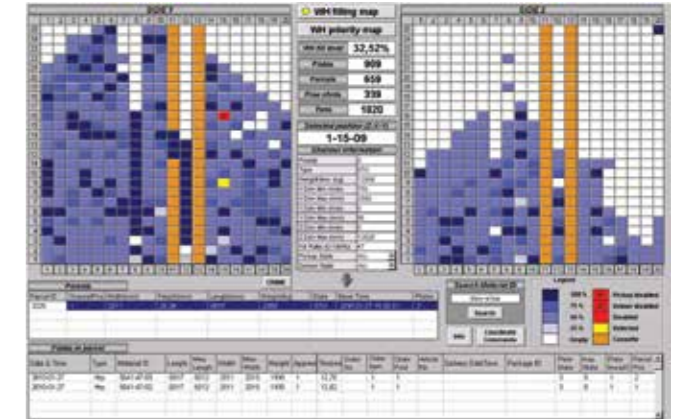
## WMS (Warehouse Management System)

Pesmel WMS integrates and controls material flows between production, storing and shipping.

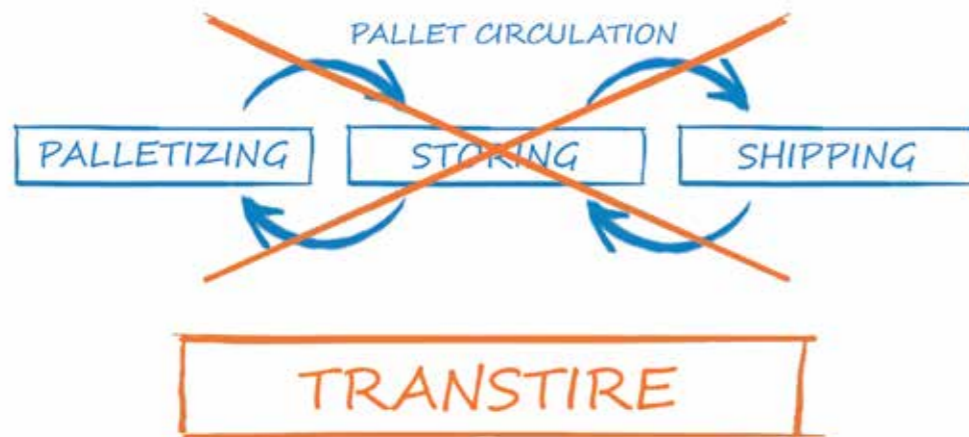
Computer control system is controlling the storage and logistic functions and can be fully integrated with the factory's existing network and upper level control systems. The control system receives internal orders for different processes or customer orders for shipment.

Main task for WMS is to control the material flows and optimize the storage and logistical functions.

This increases the total capacity of the system and decreases the operating costs. Wide range reporting and diagnostical functions are included into the system.



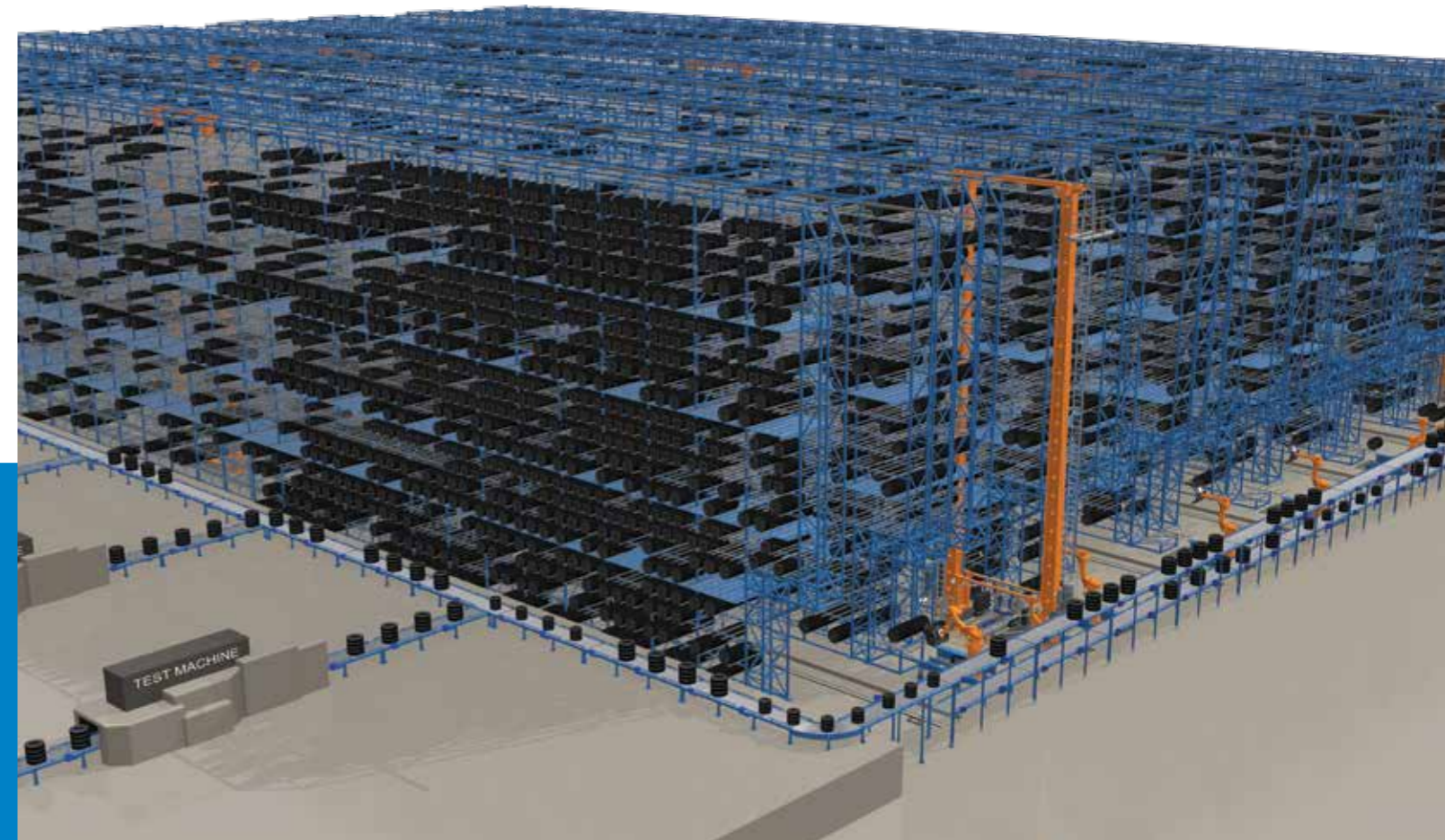
*Pesmel storage systems are controlled automatically and unmanned by Pesmel's own server PC-based WMS with the necessary number of client PCs for operator terminals.*



*In TransTire storage, the traditional palletizing, storing and shipping functions are replaced by one system.*

*Pesmel is a solution provider specialized in internal logistics. Our Material Flow How -concept has a long history among industries like paper, converting and metal. Our Trans -storage systems have been used to store, sort and dispatch rolls, bales, coils, sheets and pallets already four decades.*

*In tire industry we have more than 20 years' of experience in material handling. Now we are introducing a new innovation to tires, which is based on our high bay storing technology, TransTire AS/RS.*



# TransTire AS/RS- new innovation for tire handling

## Unbeatable features:

- Highest storing density, smallest footprint
- Order picking integrated to storage
- Operation without pallets
- Simplified layout with minimal number of equipment
- Faultless deliveries
- Savings in investment
- Savings in operation

## The system has only four components:

- Conveying system
- Racking
- TransTire Stacker crane
- Robots

# Simplicity with efficiency

Our Material Flow How -concept for tires has a simple and reliable structure with only four components:

## Conveying system

Conveyors are the connecting link, which integrate the system to the production lines and transfer the tires all the way to the transporting vehicle. Conveyors are carefully chosen according to specific customer needs.

## Racking

The special feature in the racking is that the tires are stored without pallets, which brings efficiency to the handling by saving time, space and machines. The racking can be implemented as a free standing or as a rack supported building.

## Stacker Crane

The ingenuity of the system is based on TransTire stacker crane (patent pending), which combines storing and order picking and is able to function without pallets.

## Robots

Robots and TransTire are working as a two-machine team by preparing the tires to storage and to shipping. Robots are the link between conveyor lines and TransTire storage, making also the necessary pre-sorting tasks.



“Abandon the pallets and pick the orders directly from the storage.”

*Material Flow How®*

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