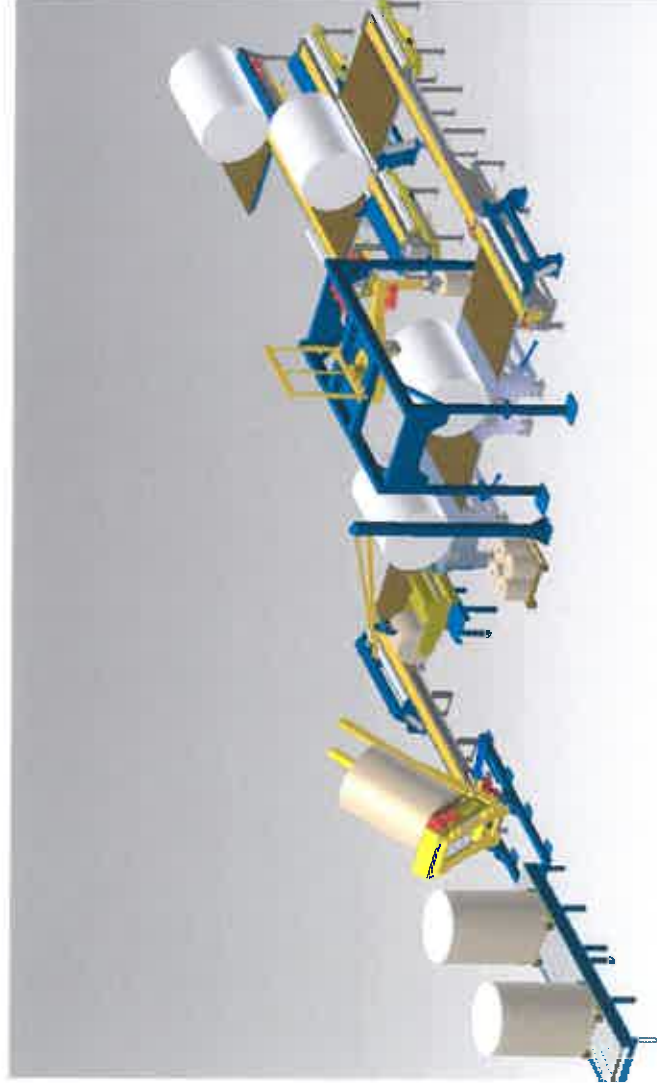


Pesmel Material Flow How Product Presentation Paper Industry

MATERIAL FLOW HOW **PESMEL**



- Highly or fully automated systems
- High capacity
- Designed according customer needs
- High safety level
- Completely tested in Pessel workshop

Conveying



CONVEYING:

- Chain conveyors
- Roller conveyors
- Turning devices
- Receivers/Pushers
- Lifting scoops
- Roll ramps
- Warehouse conveyors
- Transfer carriages
- Sorting Bins

FEATURES:

- Fully automated
- Loads up to 8 tn
- Designed and manufactured by Pesmel

Chain conveyors



MATERIAL FLOW HOW
FESMEL

- For pallets, sheets, pulp bales etc.
- Several chain types
- Designed according to customer needs

Roller conveyors

- For pallets, sheets etc.
- Several roll and drive types
- Designed according to customer needs



Crossing devices



- Chain crossings
- Roller crossings
- Different lifting methods
(pneumatic, electric, hydraulic)
- Designed according to customer

Turnign devices



MATERIAL FLOW HQW
FESMEL

- Available for all conveyor types
- Smooth overgoings
- Electrical turnign with chain or toothed circle

Wide lamella conveyor



- For roll transportation vertically
- Minimize the roll damages
- Flat bar lamellas
- Smooth overgoing
- Square tube lamellas for heavy loads

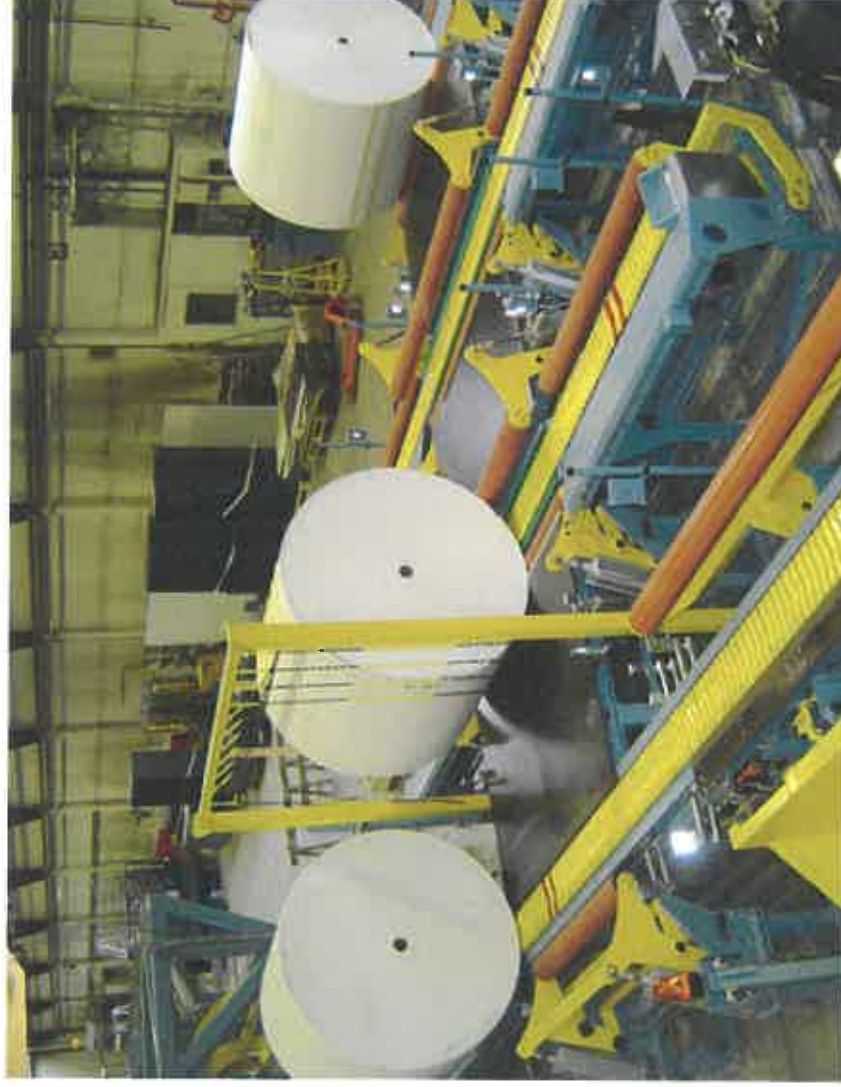
Wide lamella conveyor



MATERIAL FLOW HOW
PESMEL

- For roll transportation vertically
- Minimize the roll damages
- Flat bar lamellas
- Smooth overgoing
- Square tube lamellas for heavy loads

Slat conveyors



- For roll transportation horizontally
- Suitable for different products
- Smooth overgoing (separate overgoing conveyor)
- Minimized roll damages
- Safe construction
- For several solutions: conveying weighing, sorting

Pushers/Receivers



MATERIAL FLOW HOW
PESMEL

- For pushing and receiving
- Pneumatic, hydraulic or electric
- Smooth operation valves
(special valves for receiving)

Sorting Bins



MATERIAL FLOW HOW
PESMEL

- For sorting and buffering,
before the packing
- Pneumatic operations

4-way carriage



- Normally used as a slitter carriage
- Several accessories: roller bed, lifting, weighing, tilting
- Side movement with in floor lamella conveyor

OPTION:

- Side movement without rails with special chain drive

2-Way carriage



MATERIAL FLOW HOW
PSMEL

- Normally used as a slitter carriage
- Several accessories: roller bed, lifting, weighing, tilting
- Designed according to customer

Wrapping carriage



- Normally used in wrapping line
- Electrical movement
- Lifting hydraulic, independent unit located on carriage
- Several accessories: separator, weighing, gripper for headers
- Designed according to customer

Wrapping machines

WRAPPING:

- Axial wrapping
- Radial wrapping
- Pallet wrapping
- Kraft wrapping
- Foam wrapping
- Tissue wrapping

FEATURES:

- Fully automated
- High Capacity
- Reliable functions
- 5 film brake methods

OPTIONS:

- Automatic film changing
- Folding device
- Labelling



Axial wrapping



MATERIAL FLOW HOW
PESMEL

FEATURES:

- High capacity
- Fully automated
- Film tension by servomotor
- Large film roll
- Feed with carriage, conveyor walking beam, ramps

OPTIONS:

- Automatic film change
- Pre-stretch available
- Top press

Axial wrapping With ramps



MATERIAL FLOW HOW
PESMEL

FEATURES:

- High capacity
- Fully automated
- Film tension by servomotor
- Large film roll
- Feed with carriage, conveyor walking beam, ramps

OPTIONS:

- Automatic film change
- Pre-stretch available
- Top press

Wrapping lines

WRAPPING LINES:

- Axial wrapping with 2-wrapping heads
- Fully automated
- Radial wrapping equipped with folding device and labelling
- Large film rolls
- Feed with ramps

OPTIONS:

- Automatic film change
- Pre-stretch available
- Top press



Radial wrapping



FEATURES:

- High capacity
- Fully automated
- Film tension by frequency controlled gearmotor
- Possible to use large film roll
- Feed with carriage, conveyor walking beam, ramps

OPTIONS:

- Folding device
- Labelling
- Pre-stretch available
- Top press
- Side press

Radial wrapping With Folder



FILM FOLDER FEATURES:

- Pneumatically operated
- 3 layers of film by one round

FILM FOLDER ADVANTEGES:

- Gives excellent protection, for roll corners
- Edge protection with same wrapping film
- Cost effectice investment
- Cost effective operating costs

Header applicators



- To protect the roll end
- Designed according to customer
- Several solutions

Pallet wrapping



MATERIAL FLOW HOW
PSMEL

FEATURES:

- High capacity
- Fully automated
- Film tension by servomotor
- Large film roll
- Cutting and seaming pneumatically
- Feed with carriage, conveyor

OPTIONS:

- Automatic film change
- Pre-stretch available
- Top sheet applicator
- Top press
- Pallet lifter to wrap the roll on pallet

Automatic film changing



MATERIAL FLOW HOW
PESMEL

- Available for all machines
- Possibility to load during wrapping
- Recommended for unmanned high capacity lines

Kraft paper wrapping



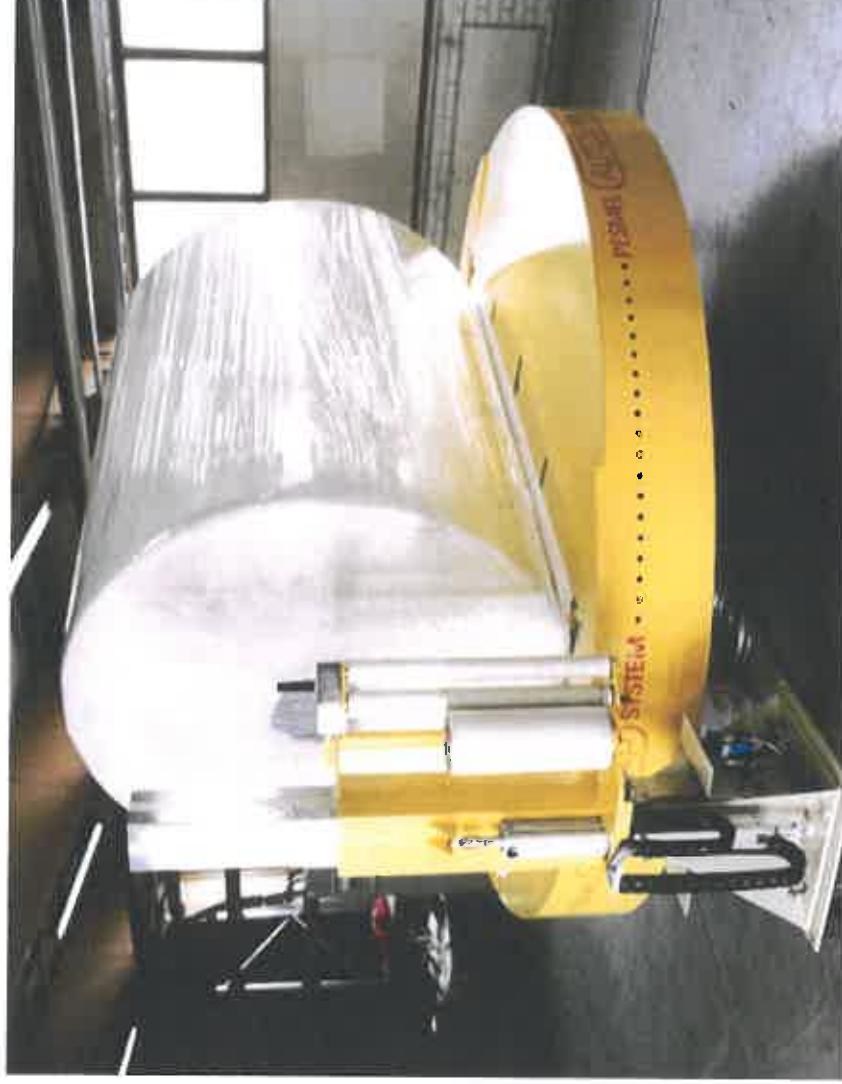
- Radial wrapping with kraft paper
- Gives more protection for mantle
- Normally used before radial stretch wrapping

Foam wrapping

- Radial wrapping with foam
- Gives excellent protection on mantle
- For sensitive materials
- Normally used before stretch wrapping



Wrapping with rotating table



- Normally used as a stand alone wrapping machine
- Rotating rollers or belt cradle to soft rolls
- Possibility to have radial wrapping in same head

Axial wrapping for Tissue rolls



MATERIAL FLOW HOW
PESMEL

- Based on Pesimal std. wrapping machine
- Rotating with cradle
- Feed with wide belt conveyor

OPTION:

- Automatic film change
- Pre-strech available
- Top press
- Rotating cradle with belt

Palletizing



PALLETIZING:

- Pallet magazines
- Pallet/lid manipulators
- Vertical palletizers
- Horizontal palletizing
- Up-Enders

FEATURES:

- Fully automated
- Reliable functions
- Flexible palletizing patterns

Pallet magazine



MATERIAL FLOW HOW
PSMEL

- Adjustable for different pallets
 - Electrical lifting
 - Pneumatic gripping
- OPTION:
- Buffer conveyor for pallet stack's
 - Automatic pallet size change

Pallet/Lid manipulator



- For pallets and lids
 - Gives flexibility for pallet and lid handling
- OPTION:
- Multiple head's (for high capacity)
 - 2-floor possibilities (for wide pallet or lid variation)
 - Suction grippers for cardboards

Pallet/Lid manipulator with 2-floors

- For pallets and lids
- Gives flexibility for pallet and lid handling

OPTION:

- Multiple head's (for high capacity)
- 2-floor possibilities (for wide pallet or lid variation)
- Suction grippers for cardboards



Vertical palletizer

MATERIAL FLOW HOW
PESMEL

- For vertical palletizing
- Multiple palletizing patterns
- Feeding with pallet magazine or Manipulator



Box Palletizer

MATERIAL FLOW HOW
PESMEL

- Same principal than in vertical palletizer
- Several palletizing patterns



Horizontal palletizing



MATERIAL FLOW HOW
PESMEL

- Suitable for different rolls (packed, unpacked)
- Synchronised drives

OPTION:

- Automatic wedge feed (allows to standard pallets)

Up-ender



MATERIAL FLOW HOW
PESMEL

- For roll turning
- Several conveyor possibilities
- Pallet centralizing

OPTION:

- Palletizing
- Stacking (wrapping carriage)

Accessories and other products



ACCESSORIES AND OTHER PRODUCTS:

- Strapping
- Labeling
- Robots
- Lid applicators
- Taping devices
- Shaft pullers
- Core handling
- Automatic warehouse
- AutoLoad
- New products for customer needs

FEATURES:

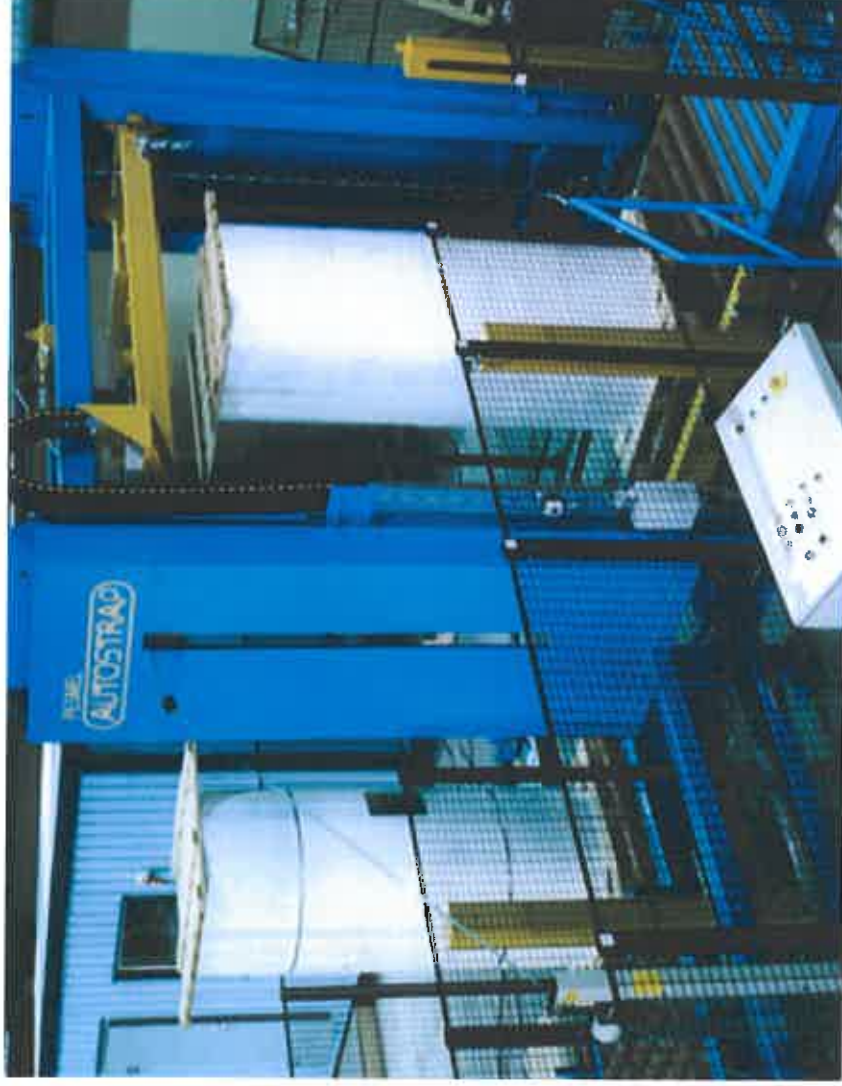
- Fully automated
- Integrated to main system



Strapping

MATERIAL FLOW HOW
PESMEL

- For plastic and steel straps
- Integrated to main system



Shaft puller



MATERIAL FLOW HOW
PESMEL

- Fully automated
- Electrical pulling movement
- Pneumatic locking
- Automatic Inflate/Deflate possibility
- Max. shaft load 1 t

Shaft puller for tambour shafts



MATERIAL FLOW HOW
PESMEL

- Fully automated
- Electrical lifting
- Pneumatic locking
- Pulling with carriage
- Automatic Inflate/Deflate possibility
- Max. shaft load 3 t

Robot cells



MATERIAL FLOW HQW
PESMEL

- For several solutions (headers, lids, labels.. etc.)
- Integrated to main system
- Software and tools designed and manufactured by Pesimal

Robot cells



MATERIAL FLOW HOW
PESMEL

- For several solutions (headers, lids, labels.. etc.)
- Integrated to main system
- Software and tools designed and manufactured by Pessel

Automatic Warehouses

MATERIAL FLOW HOW
PESMEL

- For rolls, pallet or combinations
- Sorting and storing the products
- Warehouse management system



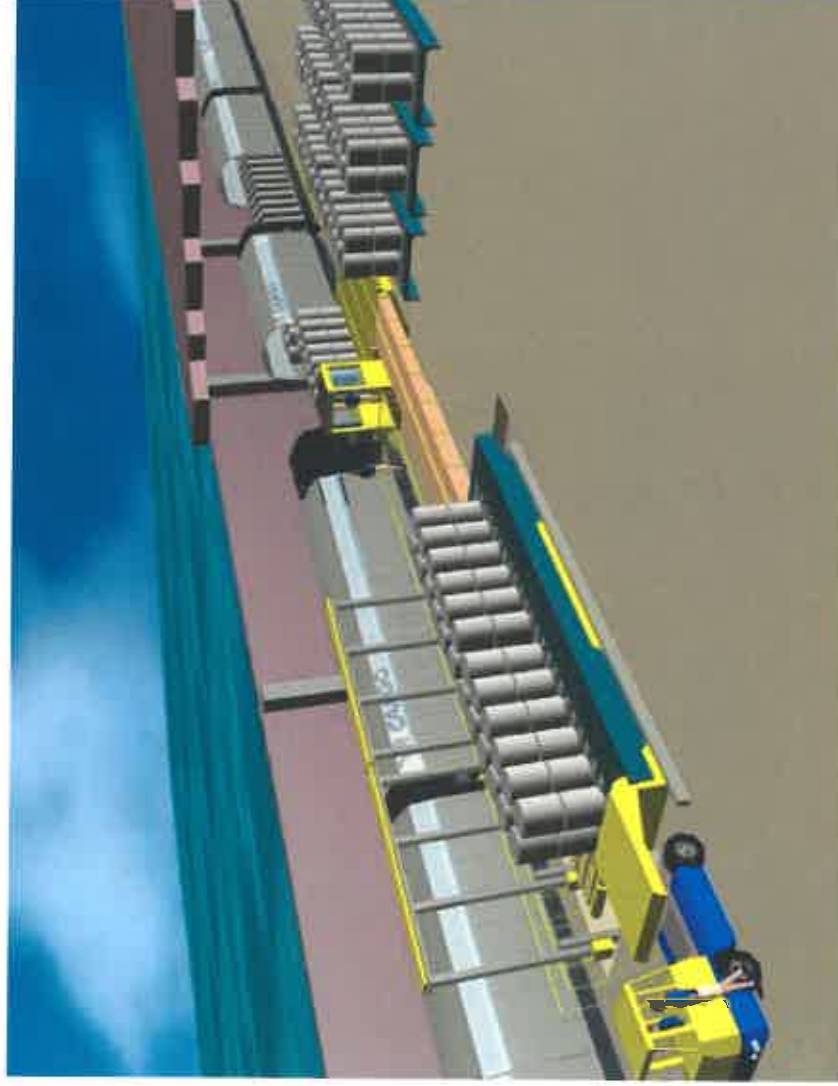
Cargo Handling



MATERIAL FLOW HOW
PESMEL

- Automatic loading systems for truck trailers
- For paper rolls, pallets, pulp bales

Railroad Cargo Handling



MATERIAL FLOW HOW
PESMEL

- Automatic loading systems for railroad wagons
- For paper rolls, pallets

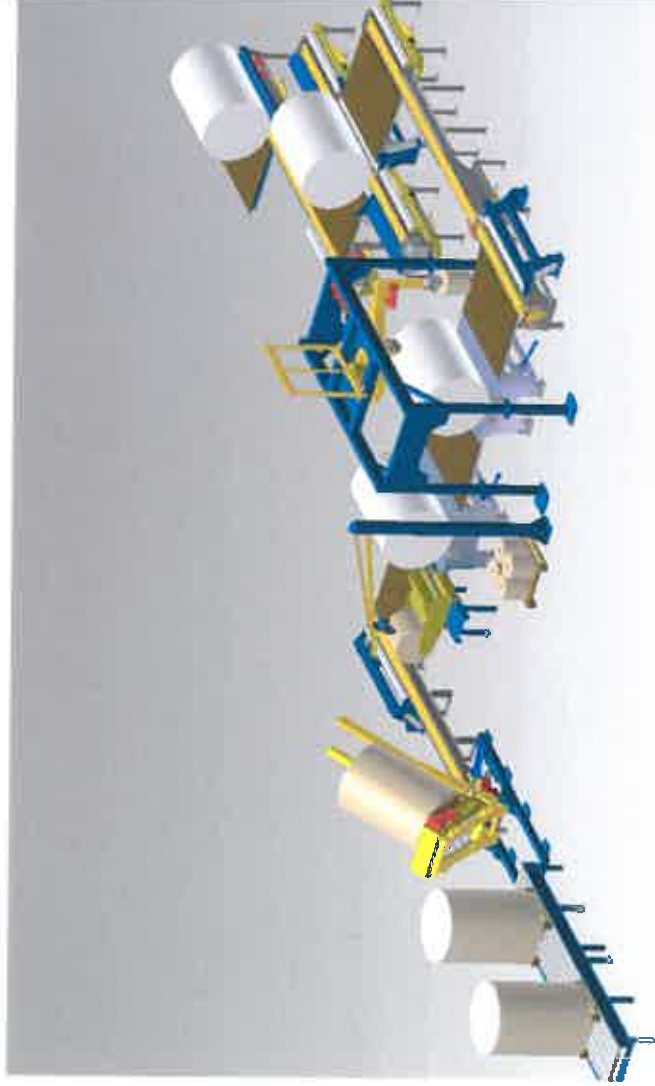
Railroad Cargo Handling



MATERIAL FLOW HOW
PESMEL

- Automatic loading systems for railroad wagons
- For paper rolls, pallets

What did we learnt?



PACKAGING LINES:

- Fully automated
- High capacity
- Designed according customer needs
- High safety level
- Completely tested in Pesmел workshop