



STOW ATLAS[®] 2D

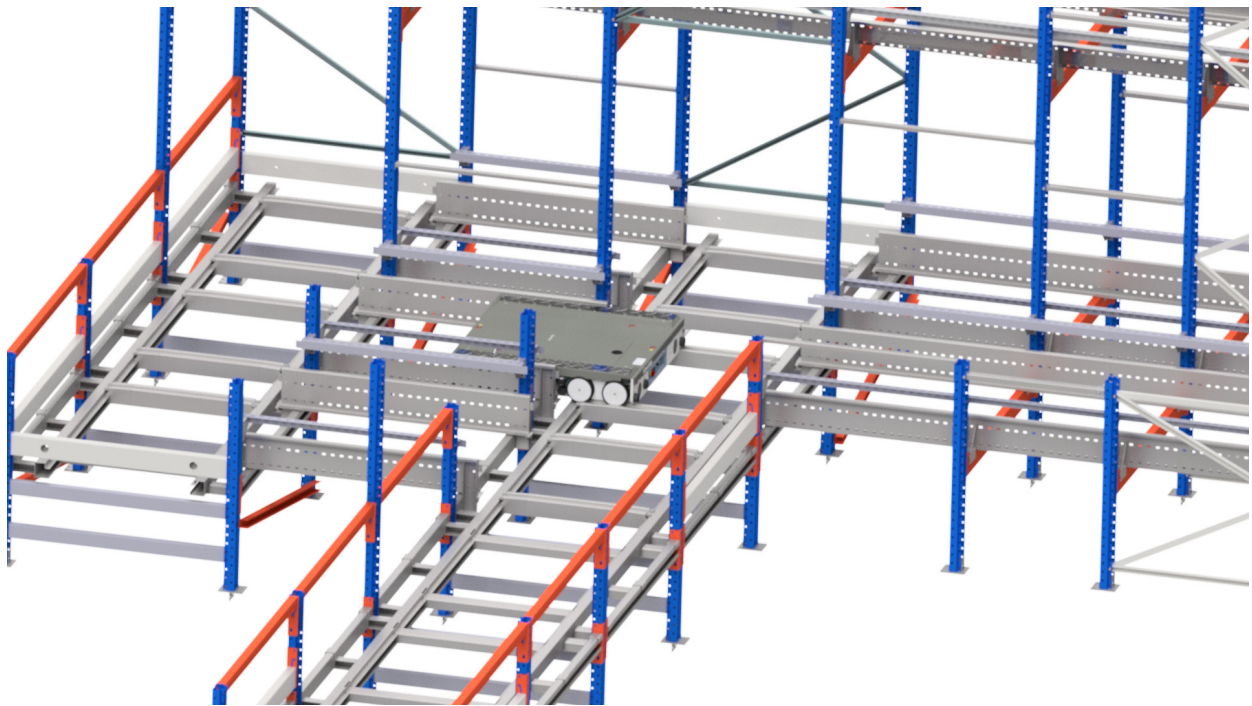
stow
one brand, one company



Pallet shuttle system

STOW ATLAS® 2D PALLET SHUTTLE

The stow Atlas® 2D shuttle system is a deep lane storage and retrieval system. The heart of the system is a carrier able to move on either the storage lanes or on one or more main lanes. In this way the shuttle may change lanes without intervention of an operator or other transporting device. This highly efficient storage system can be applied in both semi- and fully automated warehouses.



THE OPERATION

The stow Atlas® pallet shuttle system consists of a number of Atlas shuttles, the specially designed stow Shuttle-rack system and the local controlling system (STC). The stow Atlas® 2D is a self-powered pallet carrier, which may transport pallets on both the rails of the storage lanes and the rails of the main lanes. The so-called crossings or intersections between the storage lanes and the main lanes are designed for a smooth transition of the stow Atlas® 2D shuttle, unloaded but also loaded. In a semi-automated warehouse the pallets are received

and picked at the frontside of the pallet rack by means of a conventional forklift truck. The orders are issued from the client's WMS to the local warehouse control system (STC), which among others selects the stow Atlas® 2D to perform the specific task and determines its optimum path. The occupancy rate of the various storage lanes, the status and operation of each shuttle and an overview of all performed tasks can be consulted on the STC or are transferred to the client's main system.

(CLEAR BENEFITS FOR EVERY APPLICATION)

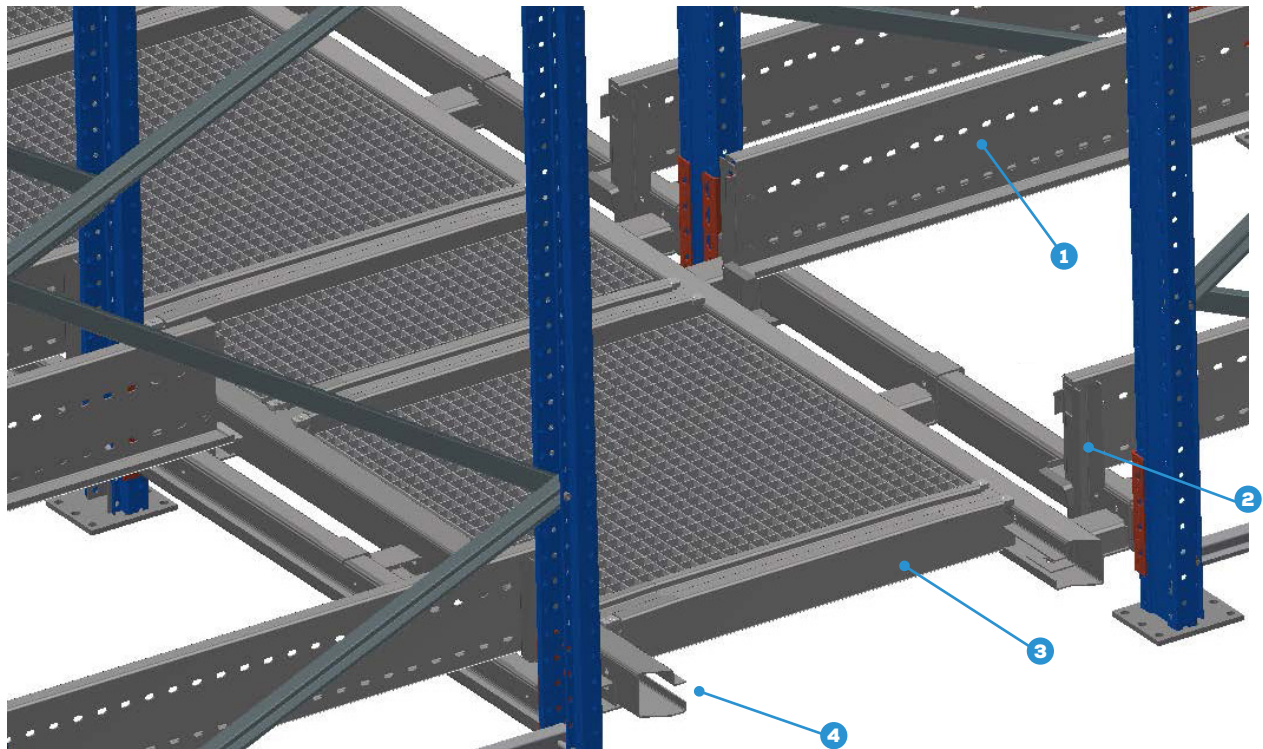
- › Complies with the European FEM and EN regulations quality assured to ISO 9001.(BQA N° 019 QMS)
- › Computer aided design ensuring the best solution for every application, including static calculation

- › All components have been thoroughly tested in specialized laboratories.
- › Fully automated production to a high quality standard and in a cost-effective way

THE RACKING CONCEPT

The racking construction is based on stow's pallet racking system, which complies with all European EN/FEM regulations. The extended range of standard profiles allows an optimized and economic design for a large variety of projects in regard to warehouse layout, pallet sizes, pallet weight,

The shuttle rails in both the storage lanes and the main lanes are fixed on the pallet racking system. The crossing at the intersection of the lane and main rails is constructed of simple galvanized components, which can be individually adjusted allowing a smooth transition of the stow Atlas® 2D shuttle when changing direction. Much attention has been given to keep the height of the entire road way as low as possible.



*Rack construction at crossing
European patent pending*

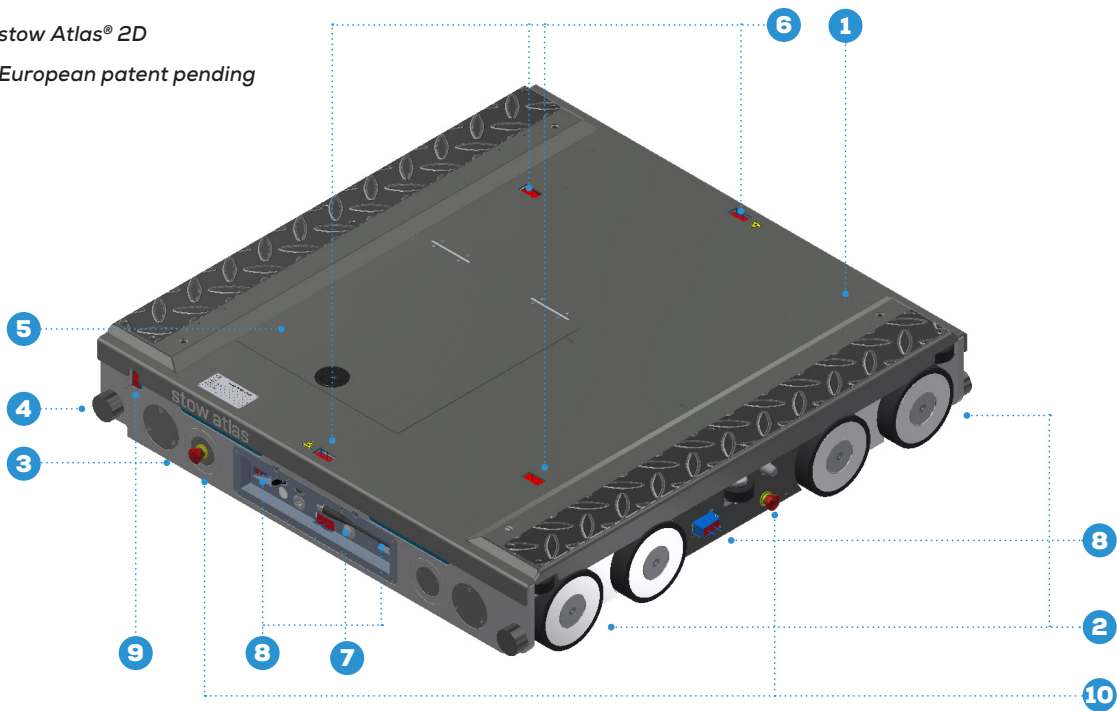
- 1/ Rail system in the storage lane
- 2/ Rail system in the main lane
- 3/ Crossing profile with integrated guidance
- 4/ Grating on the main lane for service access

STOW ATLAS® 2D SHUTTLE DESIGN

The stow Atlas® 2D design is based on the proven technology of the third generation of the stow Atlas® pallet shuttle.



stow Atlas® 2D
European patent pending



- 1/ Platform
- 2/ 8 running wheels storage aisle
- 3/ 4 running wheels main aisle (liftable)
- 4/ End stop bumper
- 5/ Battery cover

- 6/ Vertical pallet detection sensors
- 7/ Inclined stored pallet detection sensor
- 8/ Object and positioning detection system
- 9/ End stop sensor
- 10/ Emergency stop button (all 4 sides)

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TECHNICAL FEATURES

BASED ON THE PROVEN TECHNOLOGY OF THE THIRD GENERATION OF THE STOW ATLAS® PALLET SHUTTLE.

PALLET

- Pallet sizes 1200 x 1000 and/or 1200 x 800
- Pallet weight max. 1500kg

ENVIRONMENT

- Temperature Normal temperature: +5 to +45°C
Cold-store: -25 to +5°C

TECHNICAL DATA

- Travelling motors 1 BLDC-motor with integrated drive per direction
- Lifting motor 1 BLDC-motor with integrated drive
- Max. speed 1.2 m/s in both directions, in loaded condition
- Change direction 6 sec
- Controller Embedded PC with safe I/O link
- Batteries MNC-lithium battery 30Ah/48V for 8 hours autonomy
On-board charging or quick exchange of batteries
- Sensoring Analog laser sensors for pallet detection and positioning

CONNECTIVITY

- Remote control Tablet or smartphone
- STC Local industrial PC communicates with the shuttles through safe RF
- WMS Various types of connections provided
- Remote access Remote diagnostics and software upload

TRANSPORT

- Cradle

In case the shuttle must be retrieved or placed into the rack a dedicated cradle prevents fall or damage during transport

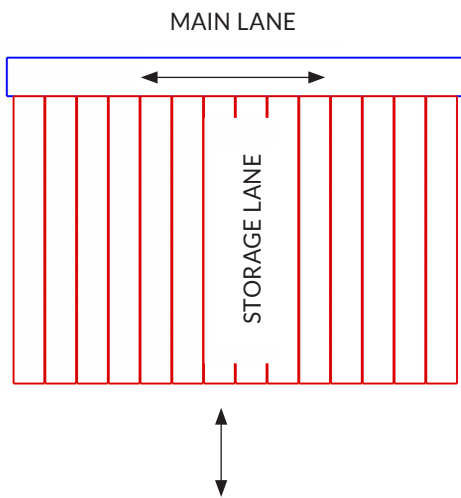
PROCESS

- Scalable throughput The throughput can evolve in accordance with future needs:
 - One Atlas on multiple levels – lift moves shuttle from level to level
 - One Atlas per level
 - Per level more than one stow Atlas® 2D shuttle operating simultaneously
- Receiving/picking Various strategies and solutions possible:
 - FIFO or LIFO
 - Receiving and/ or picking on dedicated lanes (shuttle lanes, gravity - or powered conveyors)
 - Consolidation and order preparation on dedicated
- Layout/applications
The Atlas system can be used in a wide variety of applications. Some examples are shown hereafter.

EXAMPLES OF APPLICATIONS

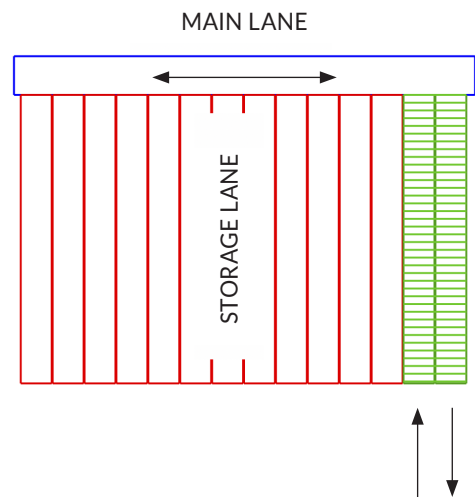


SEMI-AUTOMATED WAREHOUSE – LIFO



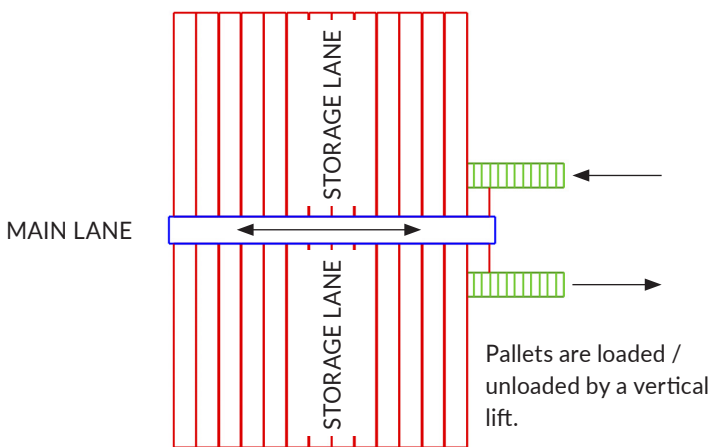
Pallets are loaded / unloaded by forklift-truck at front of each lane.

stow Atlas® 2D changes lanes via the main lane



Pallets are loaded / unloaded by forklift-truck at input / output conveyors or gravity roller tracks.

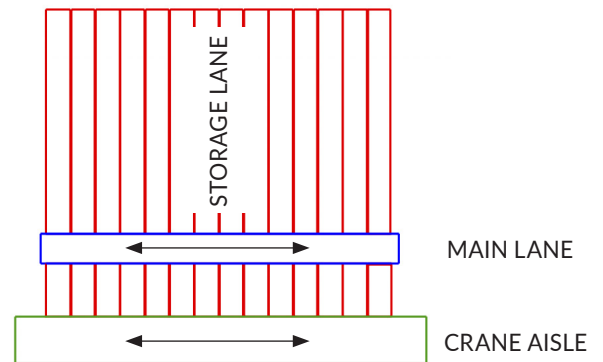
FULLY AUTOMATED WAREHOUSE



Pallets are stored and picked by the stow Atlas® 2D.

Pallets are loaded / unloaded by a vertical lift.

Pallets are picked by the stow Atlas® 2D and placed at the stacker crane or satellite aisle



Pallets are loaded / unloaded by a stacker cranes or satellite system.

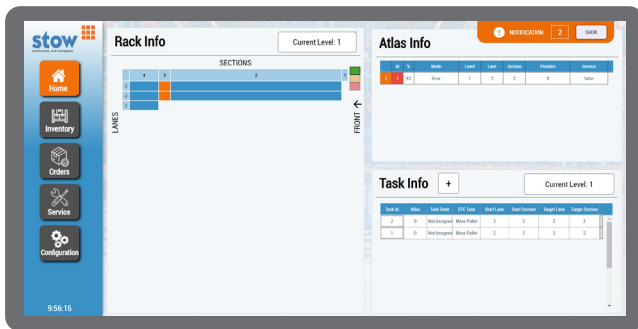
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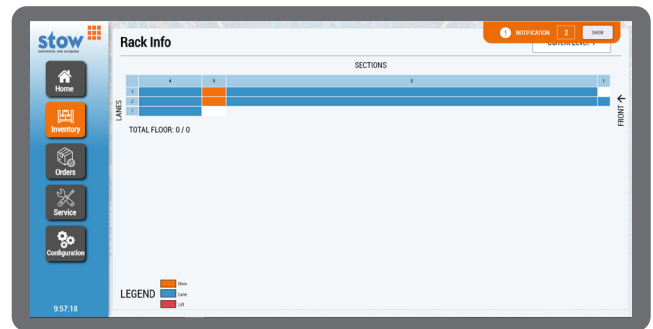
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STOW LOCAL WAREHOUSE ATLAS CONTROLLER (STC)

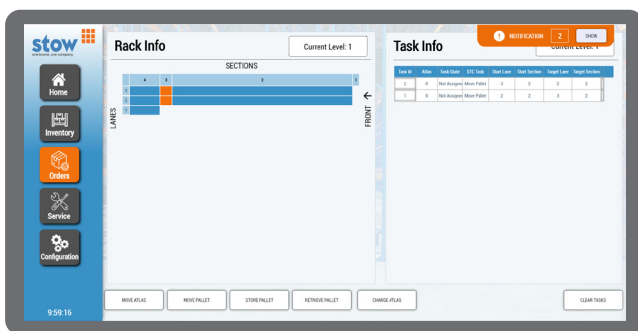
The STC offers a wide range of functions:



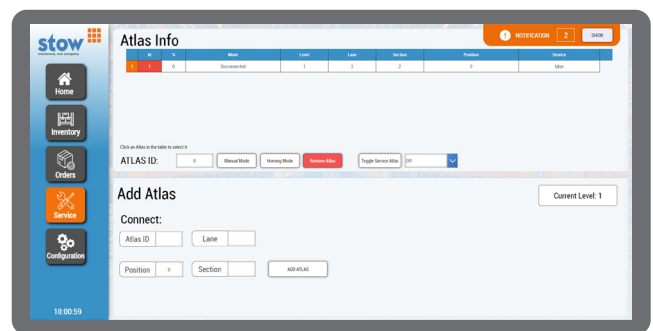
stow Atlas® 2D info and status



Storage lane occupancy rate



stow Atlas® 2D orders in process



stow Atlas® 2D and pallet move commands



we rack the world

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