

Smart Solutions for Intralogistics Automation

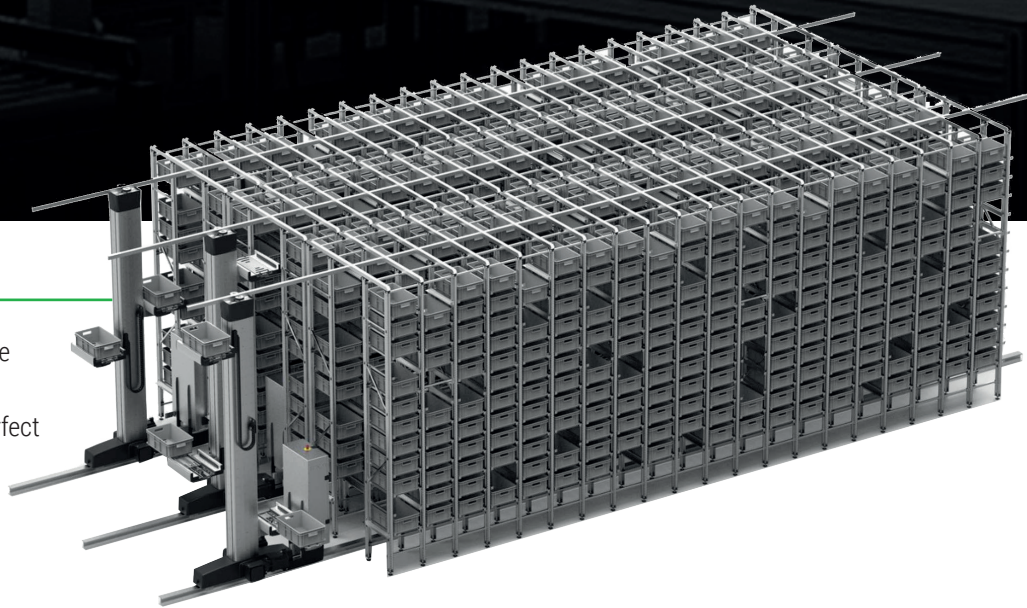
## TBWB - ASRS Miniload LT



# ASRS Miniload LT

## What does ASRS stand for?

ASRS is the abbreviation of Automatic Storage and Retrieval System storage and retrieval of goods. The TBWB ASRS Miniload LT is the perfect solution.



## Complete solution for inbound and outbound products

The automatic small product warehouse (Miniload LT) allows different items to be stored in a space-saving and efficient manner; whether it are containers, boxes or crates. The modular system of the Miniload LT consists of a racking system for storage and a crane system for transport.

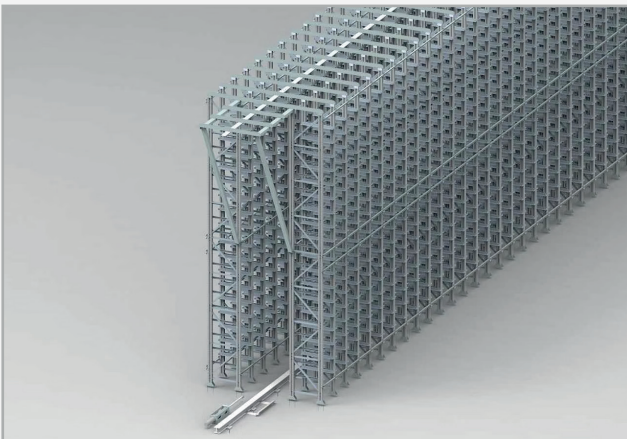
The installation of this ASRS can be expanded with a transport system and facilities for trading stored goods. Optionally, the Miniload LT can be fitted with a safety fence or a total cladding with sound-reducing material for the entire installation.

Of course, the Miniload comes standard with operating software and a location management system. TBWB provides the interface with a higher-level (ERP) system such as SAP, Microsoft Dynamics or Manhattan or your own WMS. We can also work on multiple levels to make different inputs and outputs in the miniload.

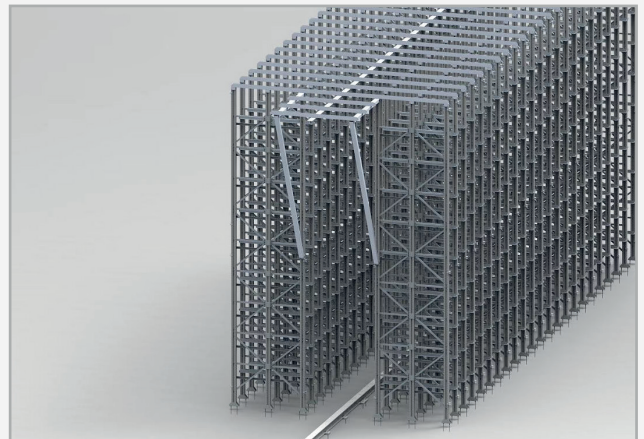
**The standard miniload is 7.5 meters high. This can be extended to a maximum height of 12 meters.**

**Note: The maximum weight per crate must not exceed 50 kg.**

### Miniload single depth



### Miniload double depth



# Miniload cranesystem

## Single or double version

The Miniload LT is supplied with an automated ASRS crane system, which moves over a rails in the racking system of the crates. One ASRS crane system is provided for each aisle in the racking system. The more aisles, the more transport cranes are needed. A crane system can be designed with a single pick-up system (OS1) or in a double version (OS2). The transport crane that is equipped with an OS1 can optionally also be prepared for a later expansion to OS2.

## Technical specifications of the crane system

### Rail system

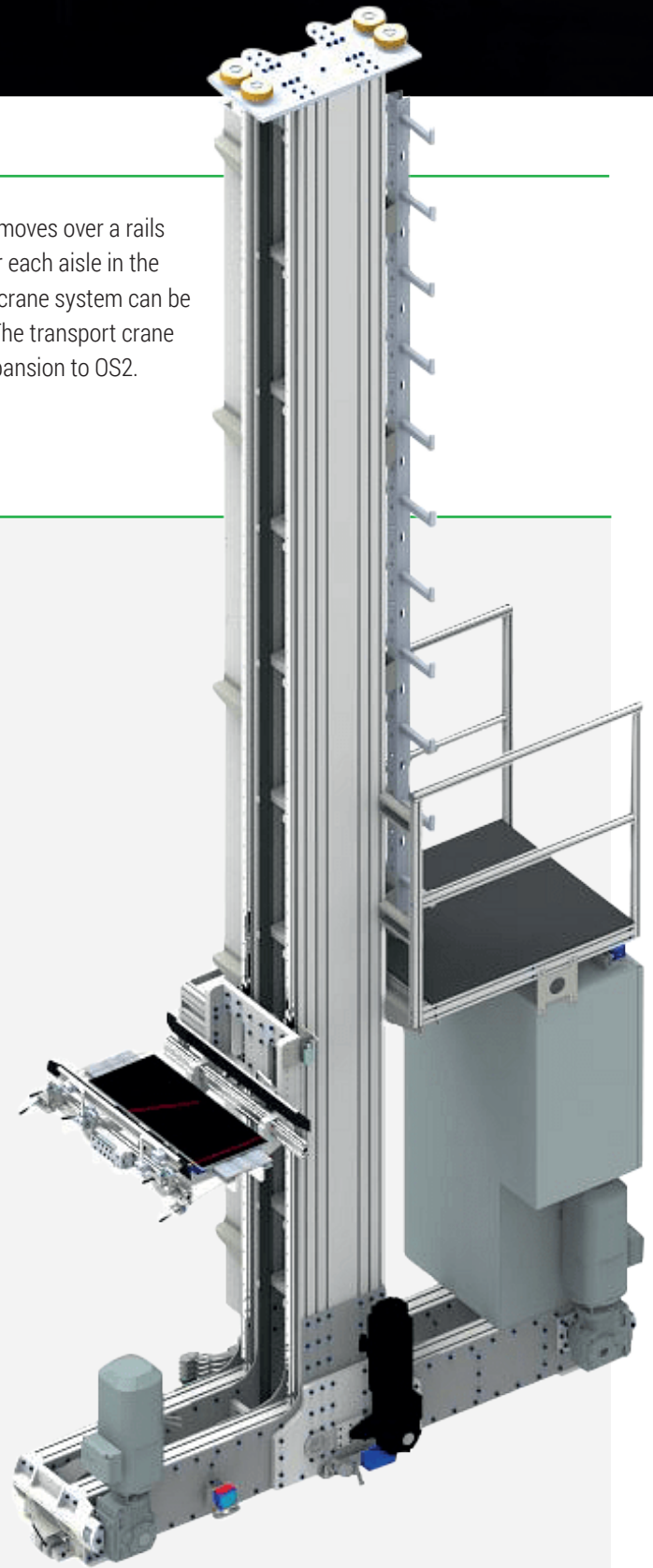
- Bottom rail (aluminium)
- Top guide rail (aluminium)
- Rail system including hydraulic shock absorbers for safety and positioning markings.

### Specifications AS/RS

- Acceleration: 3 [m/s]
- Speed: 5 [m/s]
- Electronics (SIEMENS)
- Operating system (SIEMENS/SEW)
- Drive (SIEMENS/SEW)
- Sensors (SICK)
- Pantograph (VAHLE)

### Specifications KOS1

- Version: telescope
- Acceleration: 1 [m/s]
- Speed: 1 [m/s]
- Payload: 50 [kg]
- Electronics: (SIEMENS)
- Operating system (SIEMENS/SEW)
- Drive (SIEMENS/SEW)
- Sensors (SICK)



## Rack system parts

The racking system for storage of goods consists mainly from standard components that are tailored and dimensioned to the individual requirements of the project. The racking system basically consists of a vertical frame, horizontal support corners and stability connections. The construction of the racking system is therefore extremely stable!

The standard frame of the spelling system consists of columns of 50x75 mm diagonal profiles 25x25 mm that forms one construction that is assembled. The connection of the different elements takes place through strength prestressed and secured screw connections. A later exchange of individual components (e.g. if they are damaged) can be easily exchanged at any time.

The uprights are made to length and are provided with foot plates. With a light load, the racking system can be set up freely without the need for 100% anchoring and sub-mortar. The load-bearing corners are riveted to the frame and ensure a perfect connection. This results in high accuracy and operational reliability. The support brackets are fitted with a back gauge as standard.

The parts, screw and rivet connections are made of galvanized steel as standard, but also at an additional cost available in any desired RAL color (powder coating).



## TBWB Crates and tablets for the miniload

The Miniload LT is standard suitable for crates and tablets with a base area of 600 x 400 mm. Crates measuring 400 x 300 mm can be stored double-deep (one after the other). The crates can be provided with compartments. The correct location in the crate can be selected from the control software at the iPick station - or at any desired pick or put location indicated.

The height of the crates can vary according to the desired specifications of the client and it is possible to store various heights of crates. Please note that by using different crate heights in the Miniload LT, the flexibility and interchangeability of crates in the installation could significantly reduce.



### Advantages of TBWB crates for the Miniload LT

- Ideal running properties on conveyor belts - particularly quiet and safe handling in curved areas
- With all-round closed miniload base for loads up to 50 kg
- Stable double wall in the corner and rounded edges
- Integrated partition wall system for the secure attachment of partition plates and the individual subdivision of the container (1/2 to 1/8 compartment)
- Stable and resilient with a low curb weight
- Optionally available with water drainage holes in the bottom and side walls in accordance with international fire protection regulations
- Available with closed or open handles
- Made of PP (polypropylene)

#### Drain hole options

1. Water drainage holes FM Worldwide standard
2. Water drainage holes VDS
3. Water drainage holes VDS (higher position)



## iPick-stations

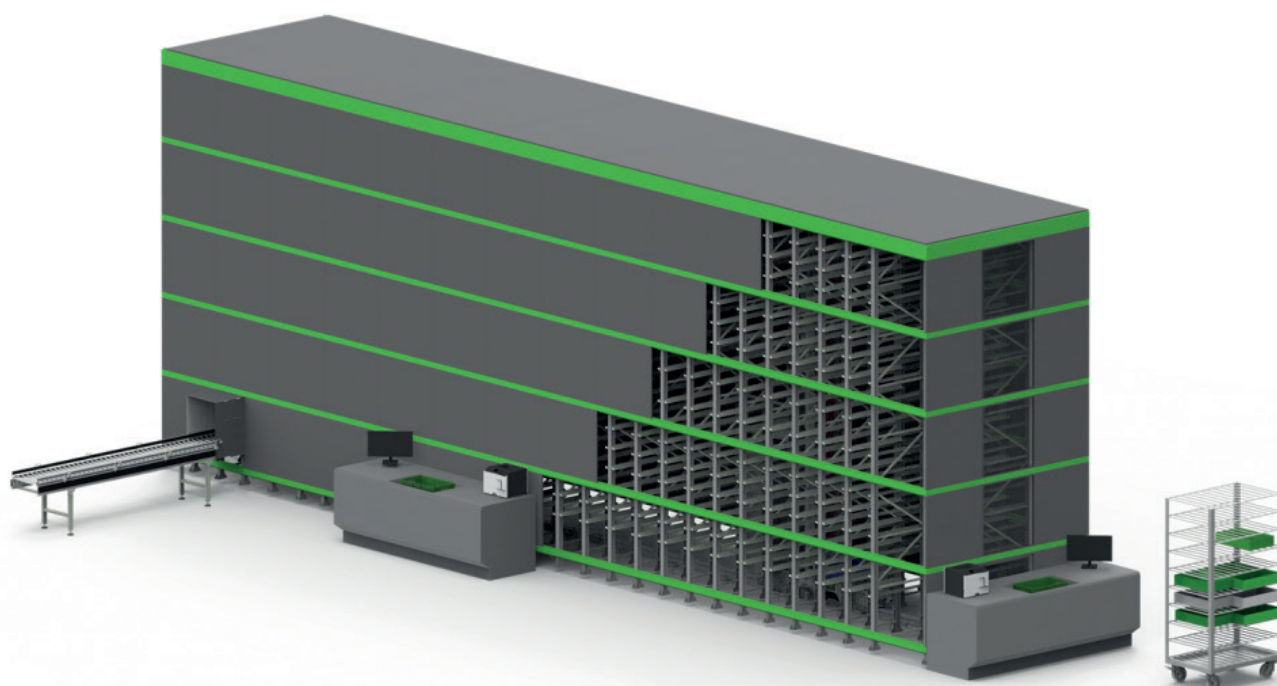
The functioning of an iPick-station is always determined together with the customer, depending on the different tasks that are on the iPick station and must be executed. By default, the iPick station already is quite complete, but the list of options are endless. By default, the iPick-station can perform the following tasks:

- Checking of products
- Order picking of the delivered products
- Request products from the Miniload LT
- Inbound of products for storage or customer orders
- Height and weight control

Optionally, the iPick-station can also be equipped with (automated) document printers and/or label applier.

The iPick-stations come standard with:

- Work table with power connections (230V)
- Ethernet connections for pairing with operational and/or administrative systems
- Workshop equipment with desktop PC, mouse, keyboard, monitor, handheld scanner and accessories
- Sensors for height control
- Weighing check installation integrated in conveyor belt



# Miniload Safety fence

To protect your miniload or for extra safety, we also supply custom-made safety fences. The standard wall system heights are from 1,400 mm to 4,250 mm. The panels are available in eight widths, from 200mm to 1,500mm, and the 150mm floor opening allows easy cleaning. Both panels and posts can be modified to create the desired dimensions.

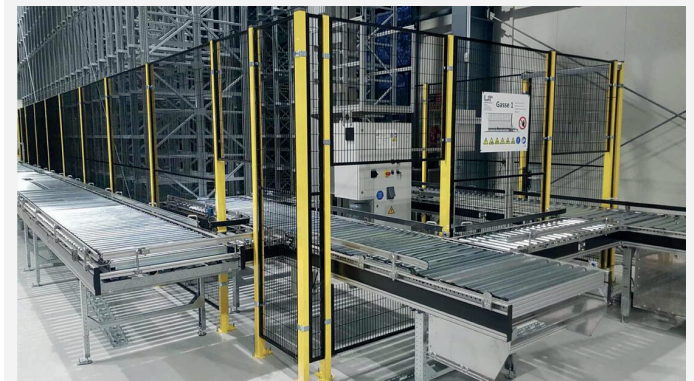
## Mesh protection

The panel design for: ST20 and ST30 mesh panels complies with ISO standards for: keeping a safe distance of 120mm from the hazard. Vertical wires on the outside of the panel make it impossible to climb them.



## Good visibility

The gray colour, RAL 7037, offers the best visibility in the entire danger zone. However, the mesh panels can: be supplied in any desired colour.



# Software , Flowcontrol en Stockcontrol

The ASRS Miniload LT is delivered including TBWB stock control, in which the user has control over all locations and stored goods in the Miniload LT. This is comparable to a small-scale WMS, but only for the Miniload LT.

## User management

- Management of user accounts and their access rights within the software.

## Order management

- Management of different types of orders, such as production orders or sales orders.
- Compilation and processing of orders for the system.
- Preparation of commissions and commission assignments as well as picking processing.

## Crate management

- Definition and management of different types of containers and their dimensions.
- Filling the containers with different items is possible.

## Warehouse Management

- Manage and edit storage locations and storage space of various crates.
- Information system for displaying the storage data, including visualization.
- Inventories per item and per batch and processing of the goods receipt.
- Management of the article master; creating and deleting item master data.

## Informationssystem

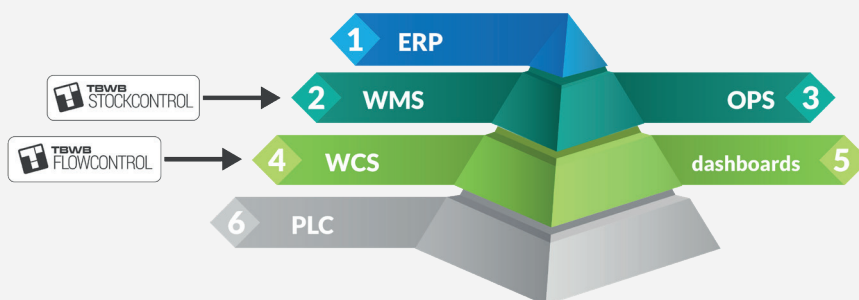
- Logging of messages and errors and printing of failure statistics.
- Reporting of predefined warehouse statistics and lists.

## TBWB flowcontrol

Our TBWB flow control software ensures optimal process management of conveyor belts and products. With TBWB Flowcontrol we control the entire automated installation of your miniload plus your control cabinet with PLC. The combination of TBWB stock and flow control ensures a complete automated warehouse.

## Connection to ERP or existing WMS and WCS

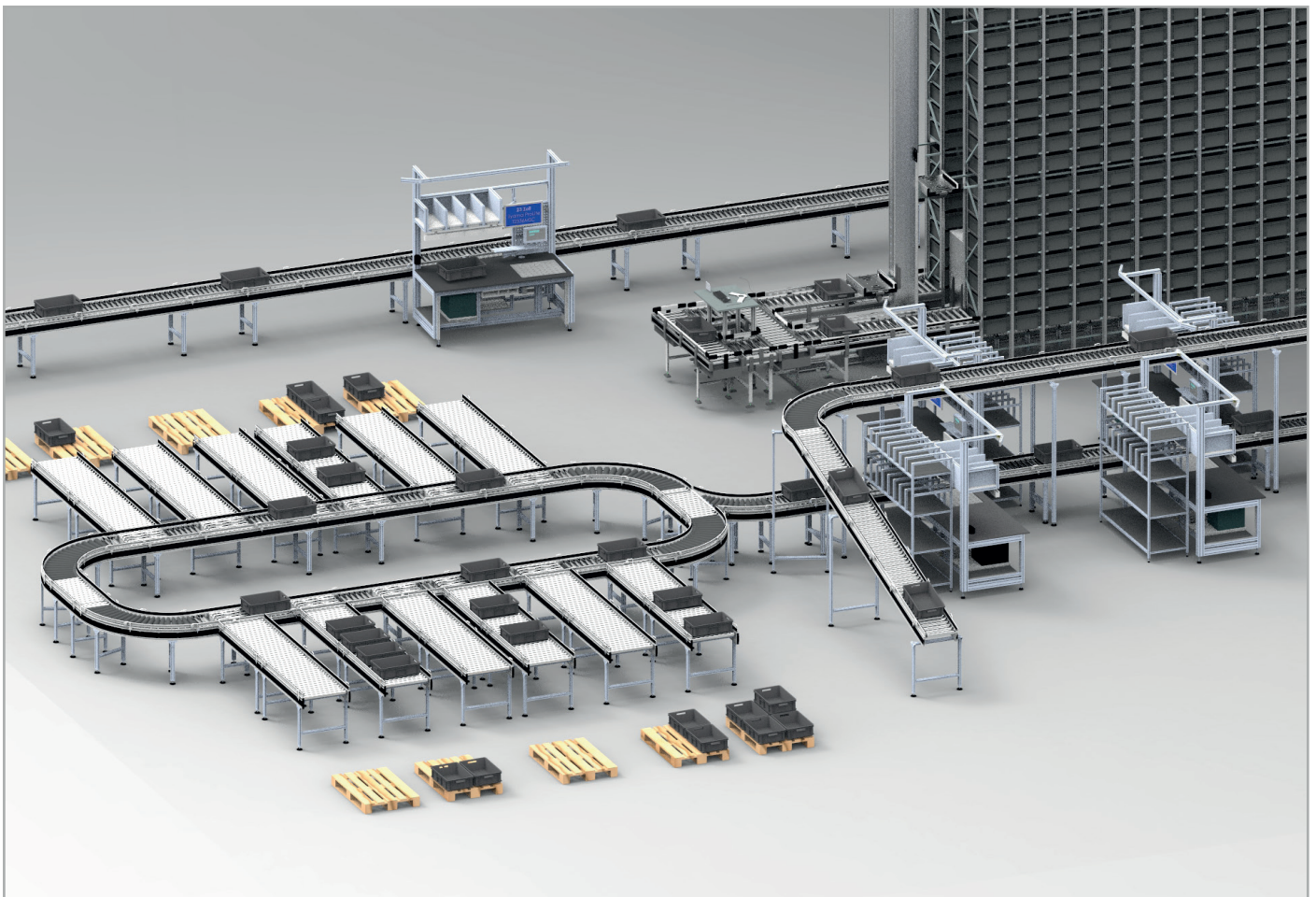
TBWB can provide the connection of the Miniload LT to the existing ERP or WMS and WCS system. With TBWB Flowcontrol and TBWB Stockcontrol we establish a direct connection between the different systems that meets the operational needs of your company.





## Advantages of a miniload warehouse

- Very compact storage.
- Faster, more efficient and more reliable order picking.
- Constant registration in WMS.
- Flexible to adapt, modular and to fit into existing installations.
- Automatic registration of incoming and outgoing products.
- Space saving in the warehouse due to optimal space utilization.
- Preventing errors that occur with manual warehouse management.
- Inventory control and updates.
- Ability to be operational 365 days a year.
- Improved customer service.
- You quickly earn back your investment.



## Project and Engineering

### Part of the logistics chain

The Miniload LT can be easily integrated within existing logistic installations. TBWB's engineers ensure that the Miniload LT can always be integrated within existing or new to be realized intra logistics systems, such as roller conveyor systems, robot picking systems or packaging installations. This way the crates for processing, in and out of the Miniload can be done to all locations and installations in the warehouse or production transport.

### Software

With the advanced software solutions for Warehouse Control Systems (also known as WMS) the Miniload LT is a perfect solution in the total automated logistics chain. With a customer-specific interface from TBWB, the Miniload can also be connected stand-alone to the ERP or WMS system. We can always inform you about the possibilities.



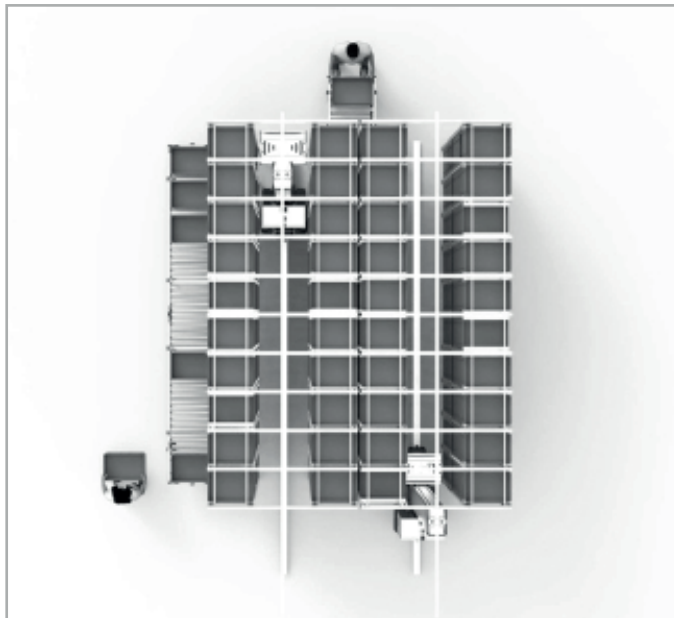
## How does TBWB work?

### Project management

TBWB takes care of project management from A-Z. Our qualified and experienced project managers guide the process from planning to delivery. During the installation, they monitor the progress of the work and report this to the client.

### Delivery and installation

The components for the racking and crane system of the Miniload LT are delivered in parts and are mounted on location. This way we can also install the Miniload LT at places that are not easy accessible.



### Would you like to know more about the TBWB ASRS Miniload LT?

We are happy to inform you in a personal conversation about the possibilities and integration of the ASRS Miniload LT, and how we can tailor it to your wishes and specifications.

Contact us today!

### Installation

The placement and installation of the Miniload LT and connection of the electrical components is carried out under the supervision of TBWB. The commissioning and delivery of the entire installation is in accordance with CE protocol and also in accordance with CE approval. The entire installation is, of course, in accordance with the established functional specifications tested.



**Smart Solutions for Intralogistics Automation**

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