



# AUTONOMOUS MOBILE ROBOTS

Another step towards automating your production.

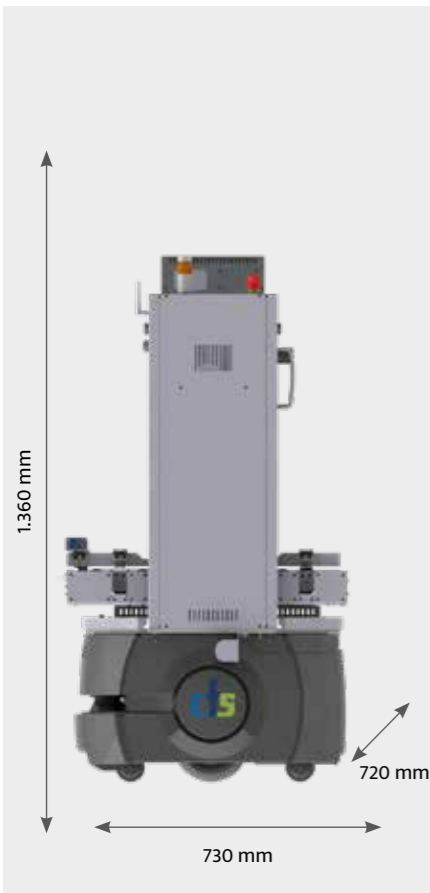
Fast. Flexible. Effective.



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**Dimension**



**Roller conveyor, with lift function, frontal transfer**

- Free navigation without aids
- Load capacity up to 30 kg, max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: KLT 600x 400 mm/ KLT 2x 300 x 400 mm
- Lifting speed 10 Sek.
- Transfer height: 550 - 1.000 mm

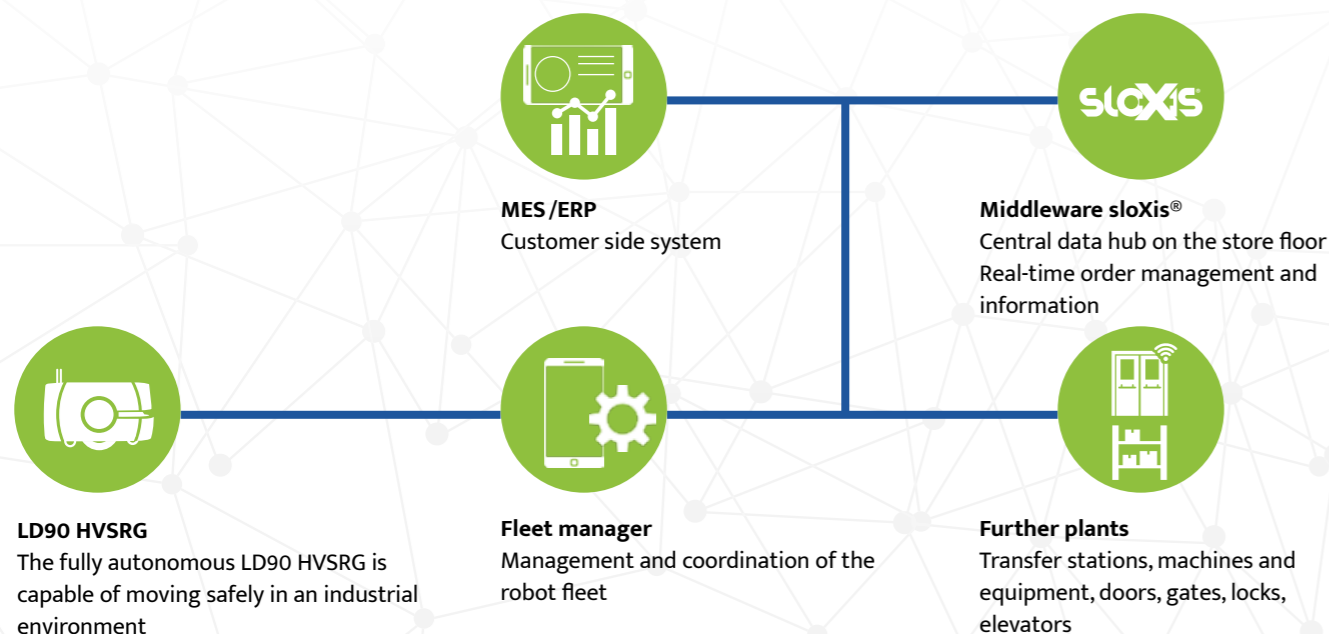


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar

**Areas of application**

KLT box, tray, blister transport  
Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side
	Warning light	2 round LED strips, top signal lamp
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal
	Manual mode	Backlight To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- 2. Orientation laser
- ESD-version

**Battery**

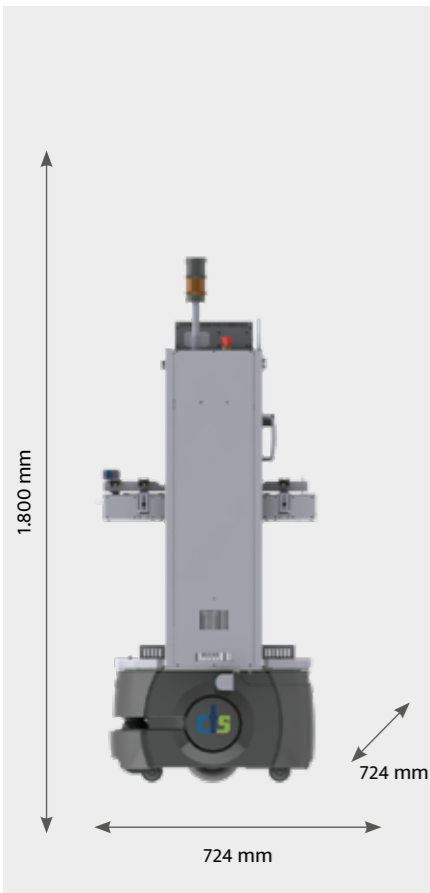
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roller conveyor with lift function**

- Free navigation without aids
- Load capacity up to 25 kg, max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: KLT 600 x 400 mm
- Lifting speed 10 Sek.
- Transfer height: 800 - 900 mm

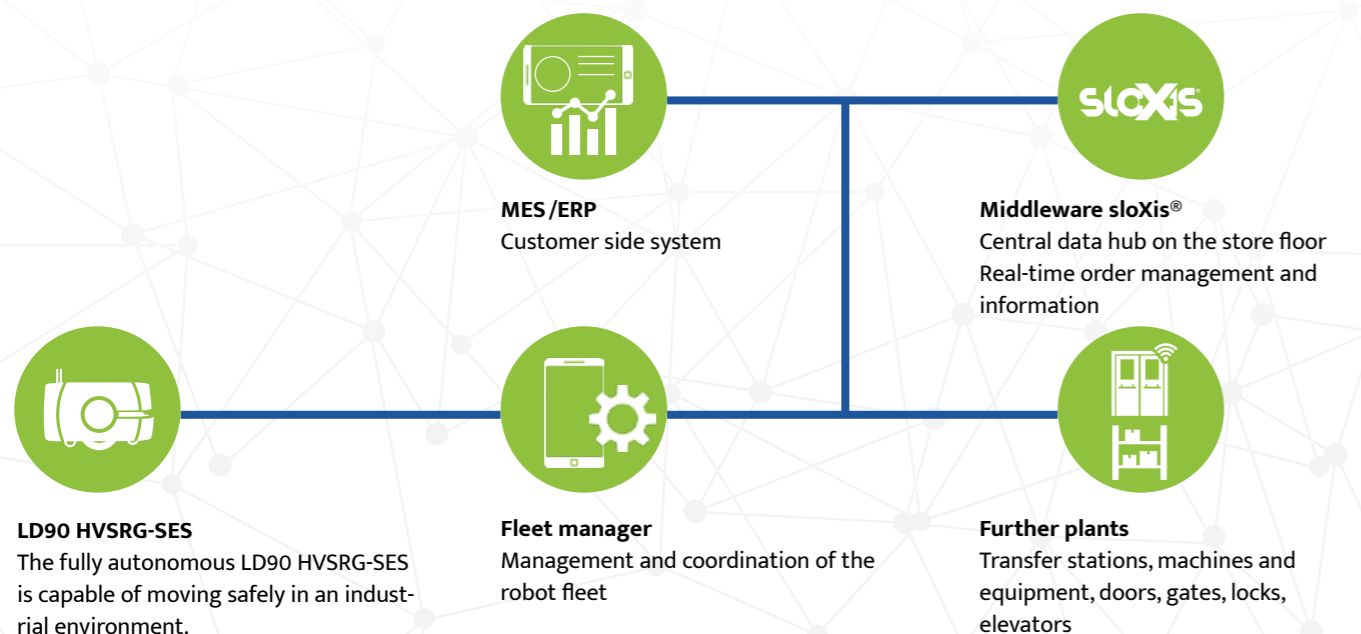


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar

**Areas of application**

KLT boxes of different types | collection of individual boxes at different locations, delivery as a stack to one destination or separately to different destinations.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- 2. Orientation laser
- ESD-version

**Battery**

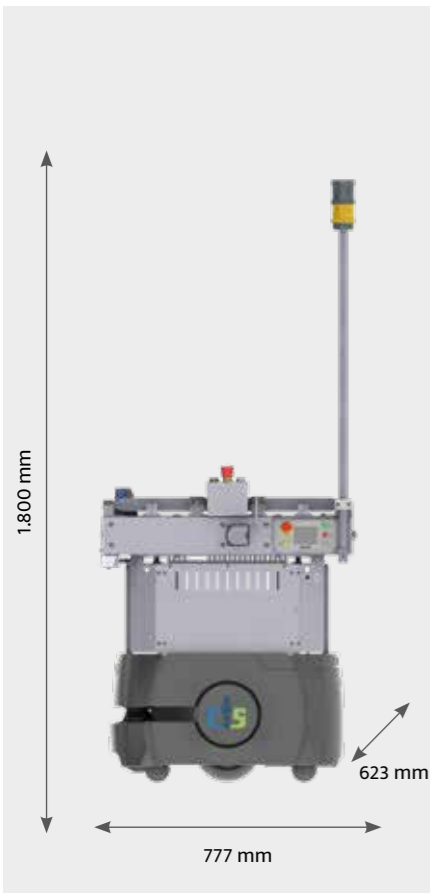
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roller based front loader**

- Free navigation without aids
- Load capacity up to 50 kg, max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods:  
KLT 600 x 400 mm  
KLT 2x 300 x 400 mm
- Transfer height: 800 mm

- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar



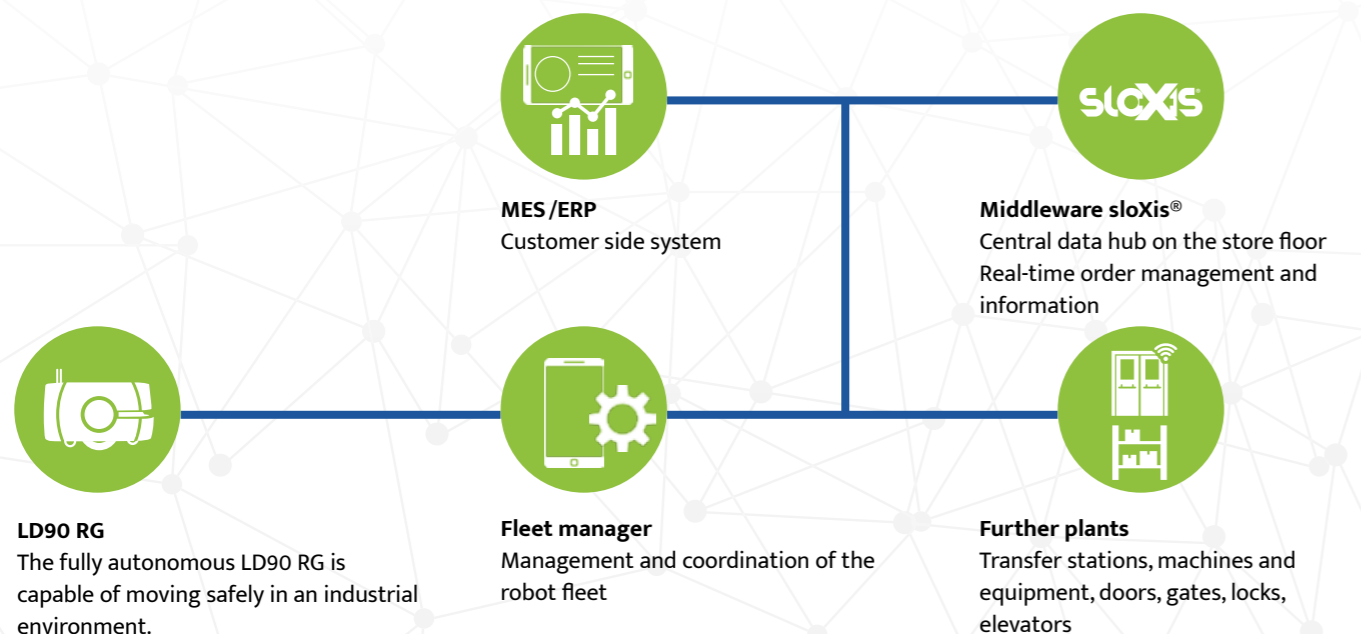
**Details**

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	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Areas of application**

KLT box, blister, tray, workpiece carrier transport, e.g. SMT reels to the lines, SEMI goods to the back-end, finished goods to the warehouse.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- 2. Orientation laser
- ESD-version

**Battery**

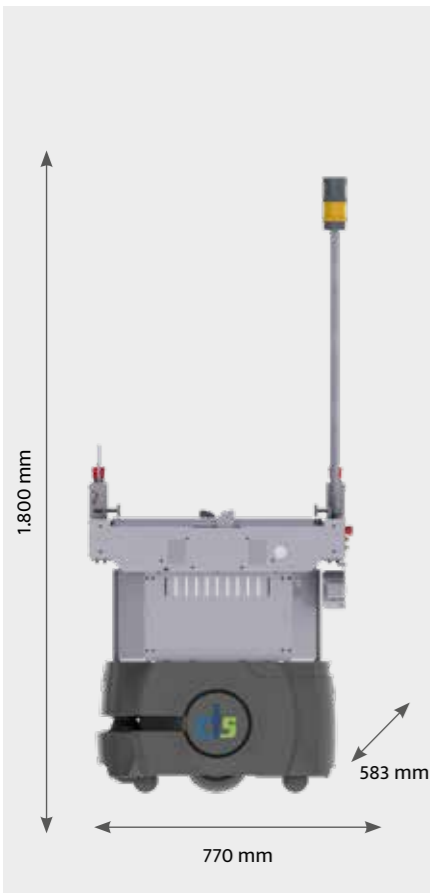
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roll-based side loader (L/R)**

- Free navigation without aids
- Load capacity up to 45 kg, max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: KLT 600 x 400 mm
- Transfer height: 800 mm

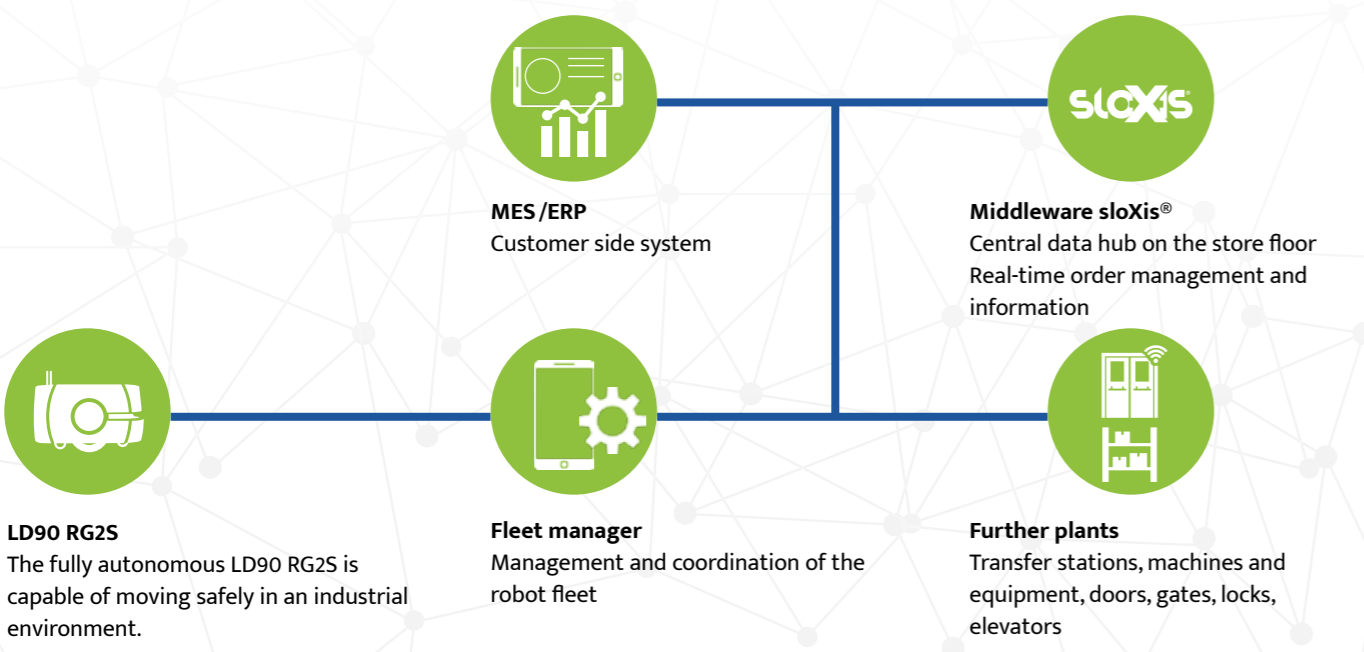


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar

**Areas of application**

KLT box, tray, blister, workpiece carrier transport.  
Simultaneous transfer from/to machine, perfect for machine rows in parallel arrangement.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- 2. Orientation laser
- ESD-version

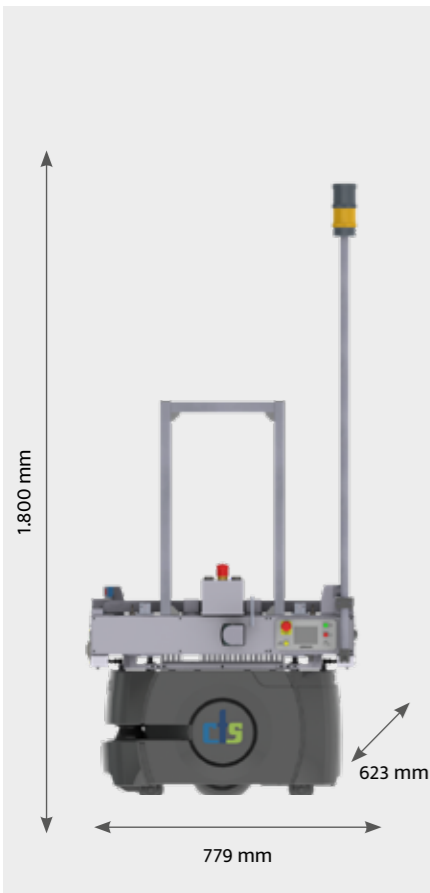
**Battery**

- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Roller based front and rear loader**

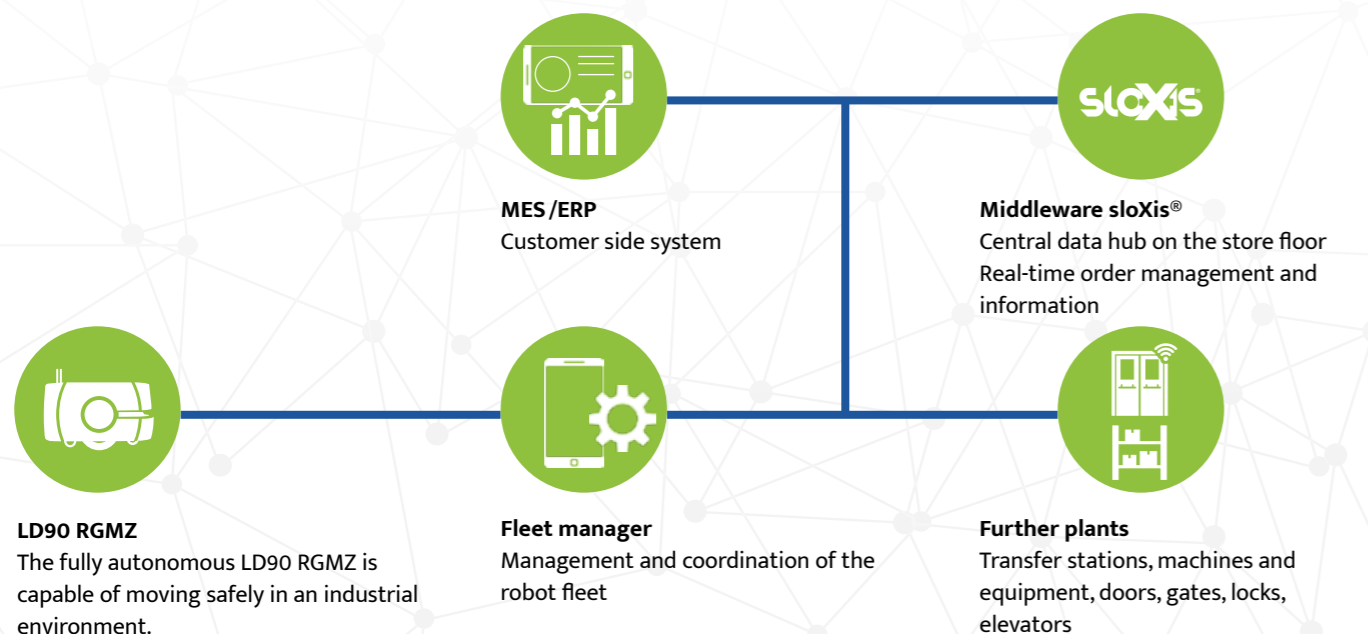
- Free navigation without aids
- Load capacity up to 45 kg, max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: 2 PCB magazines 320 x 355 mm
- Transfer height: 550 mm



**Areas of application**

Designed for the transport of PCB magazines. Automatic feeding to SMT lines, transports for inspection/back-end assembly, delivery of magazines from/to the warehouse. Front and rear transfer ensures correct product alignment.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
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	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side round LED strips, top signal lamp
	Warning light	Onboard speaker, buzzer on top signal light
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Magazine centering
- 2. Orientation laser
- ESD-version

**Battery**

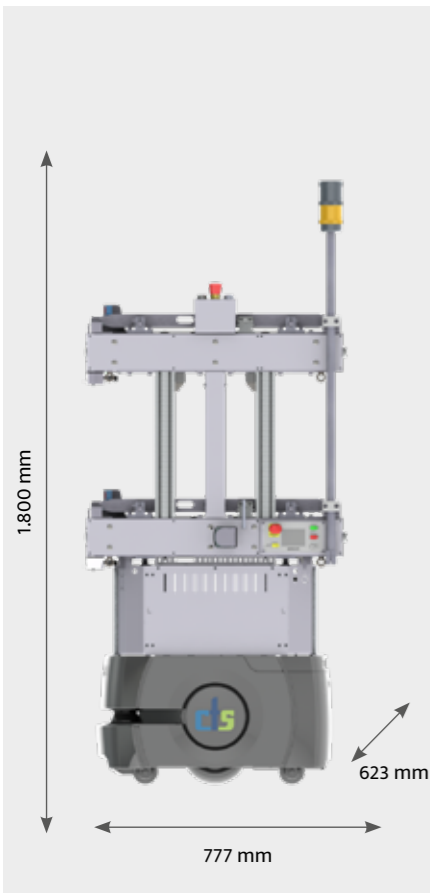
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**2-level roller based front loader**

- Free navigation without aids
- Load capacity up to 25 kg, max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: KLT 600 x 400 mm
- Transfer height: 600/1.000 mm

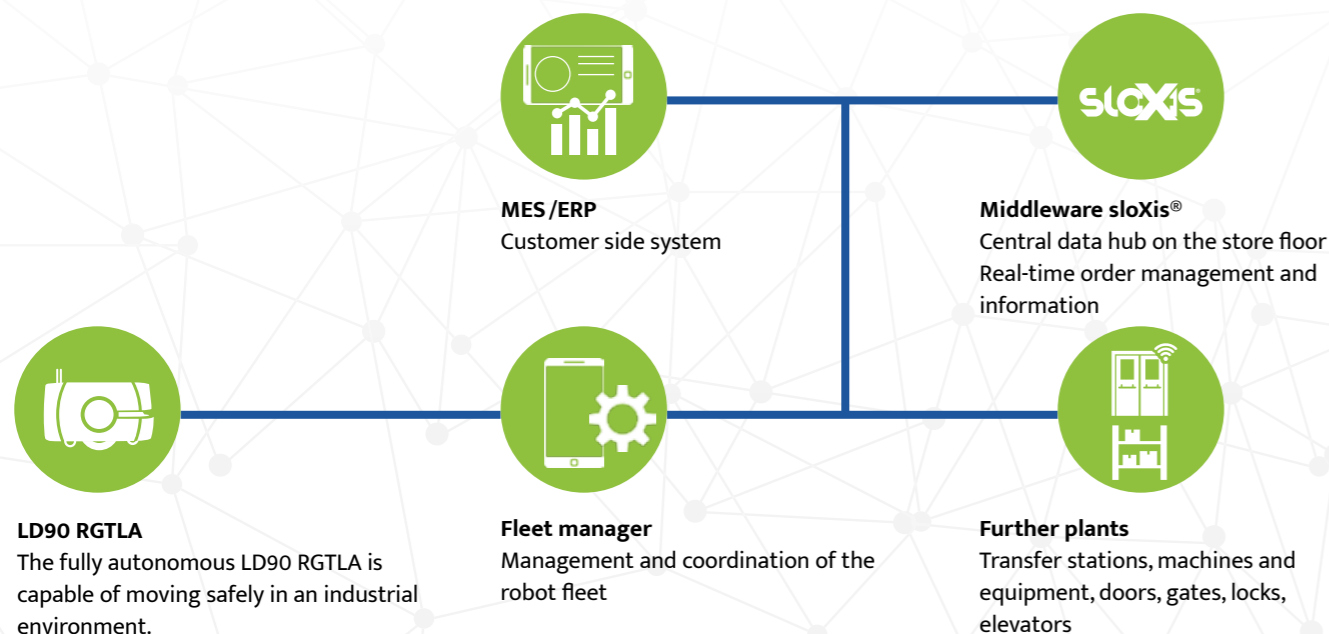


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar

**Areas of application**

Perfect for feeding assembly lines with KLT box/trays/blisters while picking up the empty container and vice versa.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side round LED strips, top signal lamp
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- 2. Orientation laser
- ESD-version

**Battery**

- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

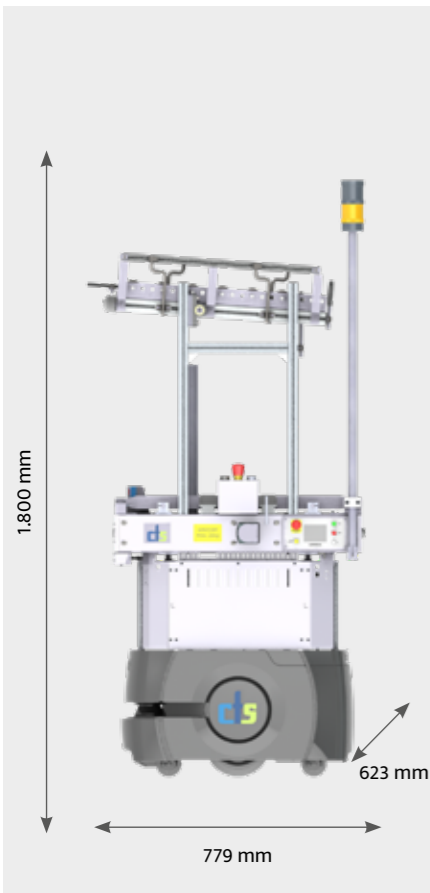
**Charging station**

- 100-240VAC

All data without guarantee.



**Dimension**



**2-level roller based front loader**

- Free navigation without aids
- Load capacity up to 26 kg lower level, up to 4 kg upper (empty) level max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: KLT 600 x 400 mm
- Transfer height: 800/1.500 mm

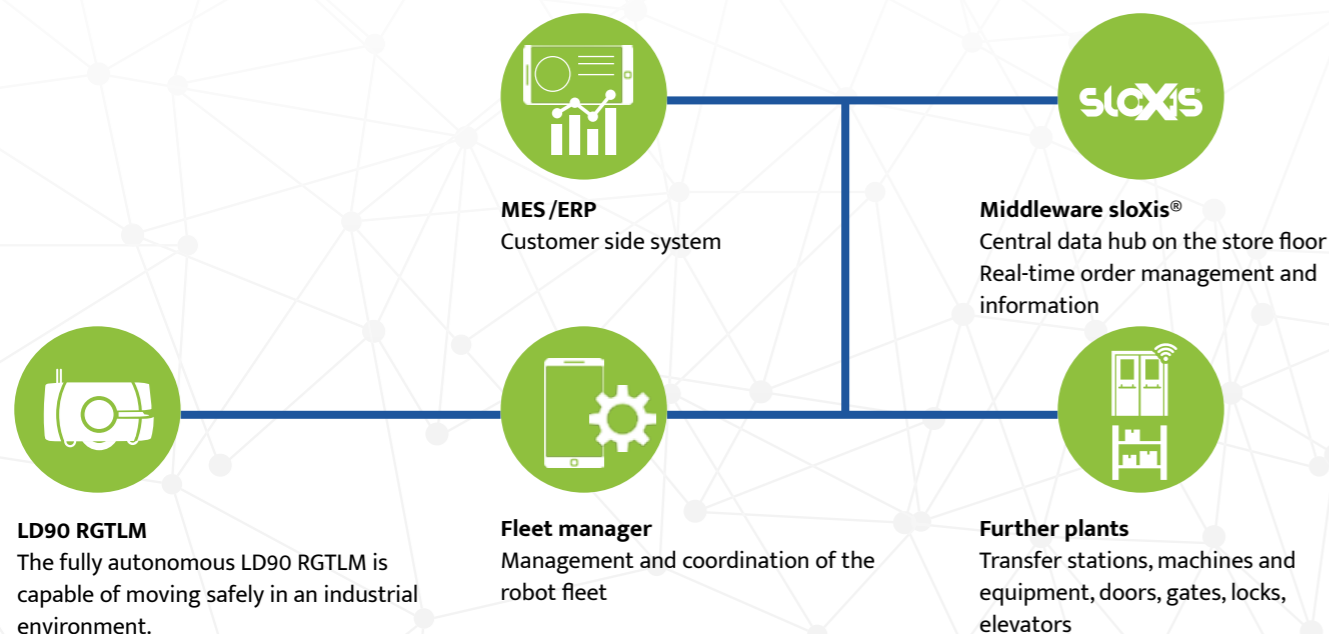


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar

**Areas of application**

Perfect for supplying production and SMT lines with raw/SEMI material with automatic return of empty boxes (e. g. SMT reels for line supply).

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
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	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
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	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side round LED strips, top signal lamp
	Warning light	Onboard speaker, buzzer on top signal light
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- 2. Orientation laser
- ESD-version

**Battery**

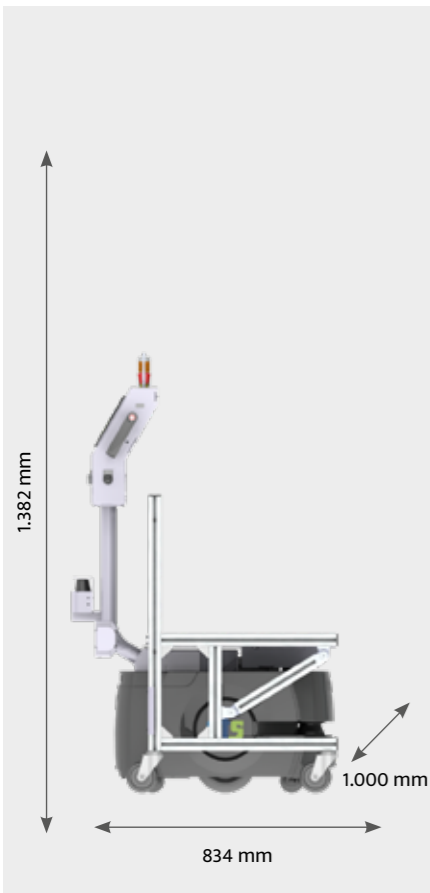
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

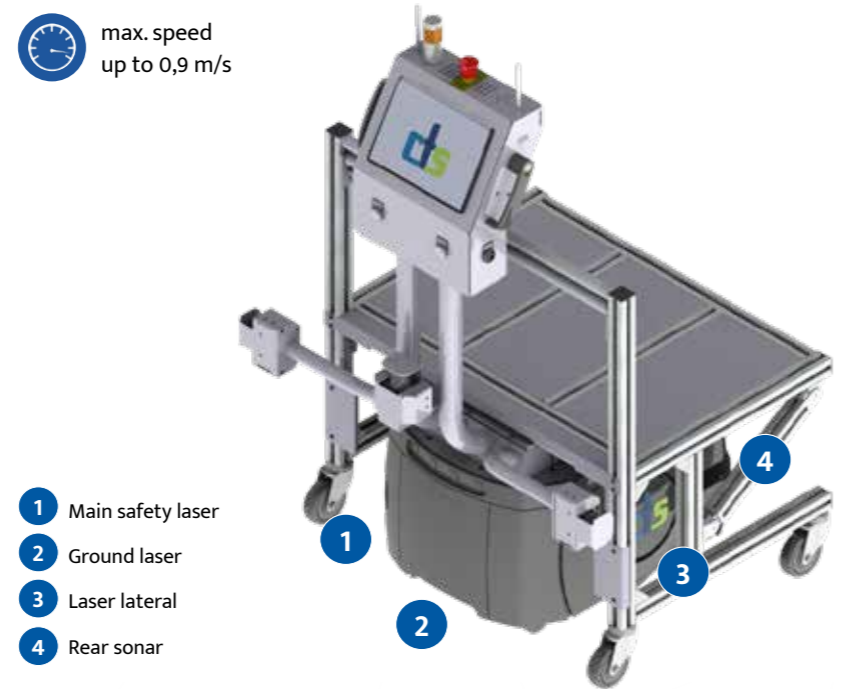
All data without guarantee.

**Dimension**



**Trolley to move up to 130 kg**

- Free navigation without aids
- Transport goods: Depending on the trolley body
- Load capacity up to 130 kg
- Transfer height/platform height trolley: 500 mm
- max. speed up to 0,9 m/s



- 1 Main safety laser
- 2 Ground laser
- 3 Laser lateral
- 4 Rear sonar

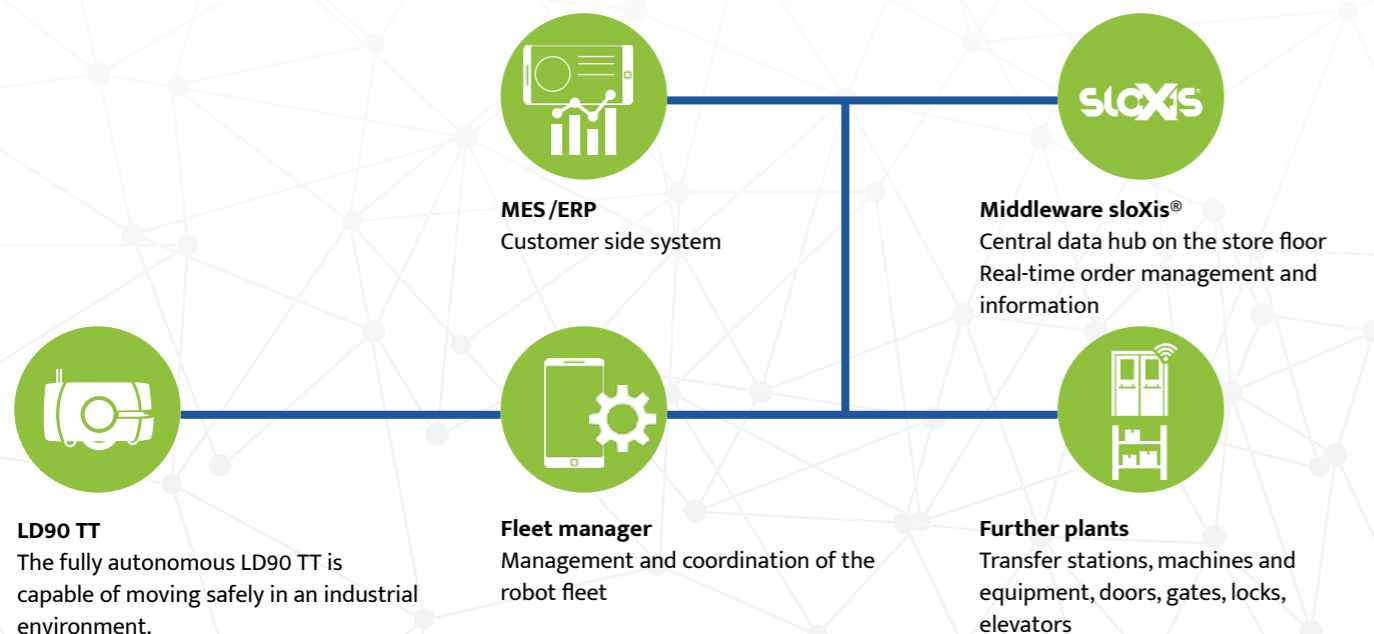
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
<b>Interface</b>	HMI	10" Touchpanel
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>F</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Areas of application**

The AMR drives under the trolley and engages it through a locking mechanism and pushes the trolley to its destination where it unlocks it. We achieve the variety of application possibilities through the customer-specific superstructures.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- ESD-version

**Battery**

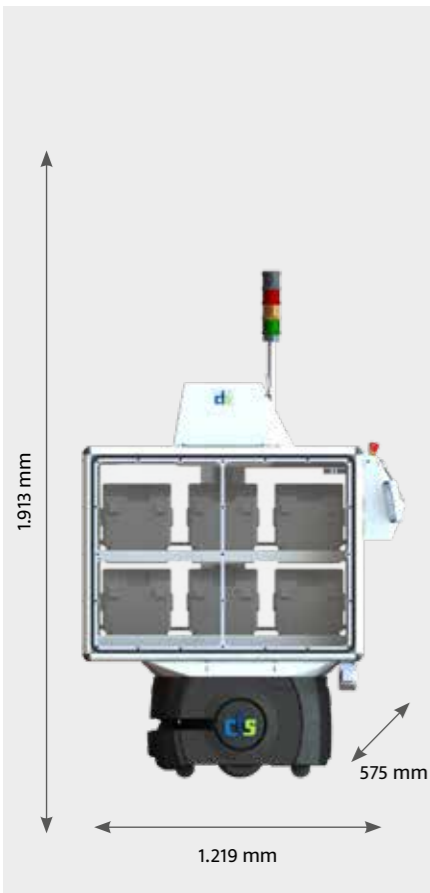
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Cleanroom Transporter/Waferbox Transporter**

- Free navigation without aids
- Load capacity up to 20 kg max. total weight 155 kg
- max. speed up to 1.35 m/s
- Transport goods: 6 pieces 200 mm Wafer boxes

- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sonar



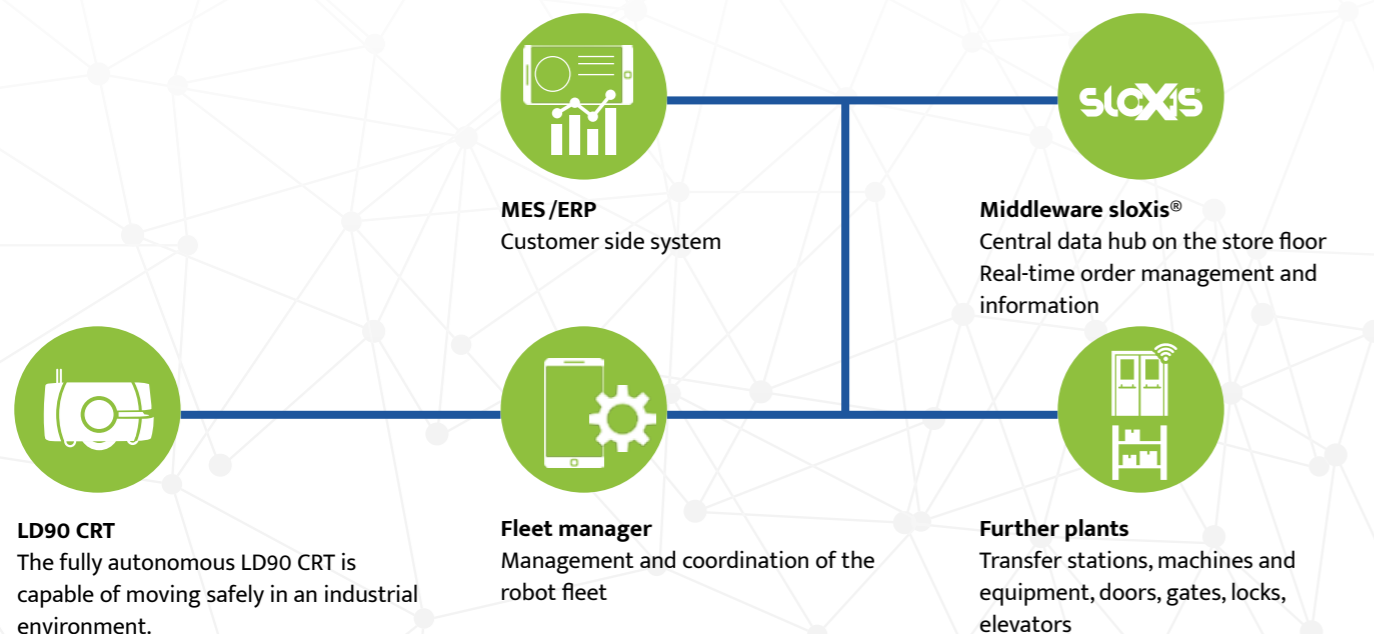
**Details**

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	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sonar	2 at the back, 2 m range
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side round LED strips, top signal lamp
	Warning light	Onboard speaker, buzzer on top signal light
<b>Interface</b>	HMI	10" Touchpanel
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>F</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Areas of application**

The AMR with cleanroom attachment can be used in semiconductor production and in the pharmaceutical sector to automatically transport goods between cleanrooms of different classes.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- 2. Orientation laser
- ESD-version
- Inlay adaptation for other transport goods

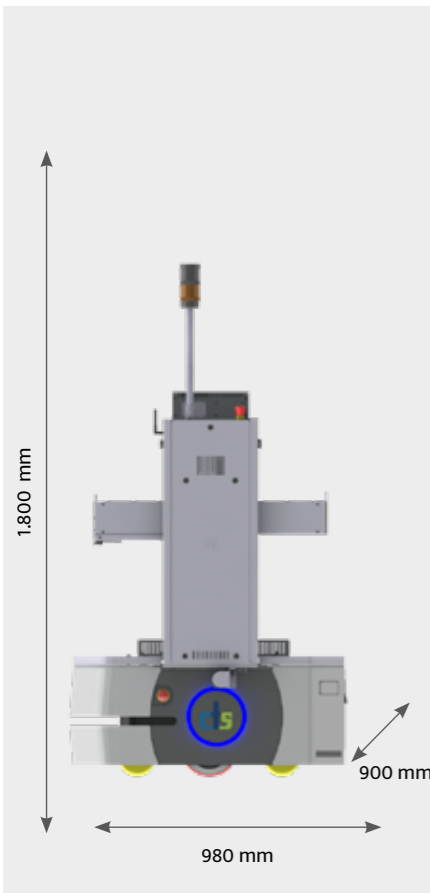
**Battery**

- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Roller conveyor, 1-sided transfer**

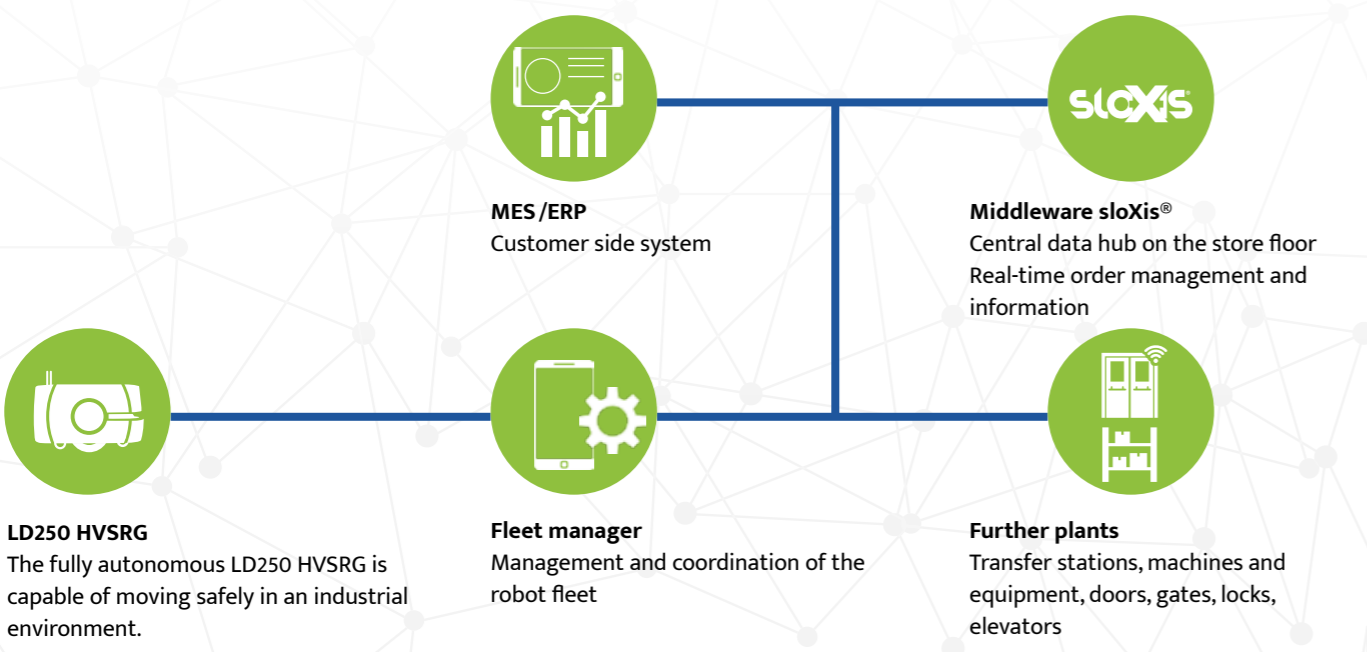
- Free navigation without aids
- Load capacity up to 100 kg, max. total weight 350 kg
- max. speed up 1,2 m/s
- Transport goods:  
KLT 800 x 600 mm  
KLT 2x 600 x 400mm
- Lifting speed 15 Sek.
- Transfer height: 800 - 1.500 mm



**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

**Communication**



**Details**

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side
	Warning light	round LED strips, top signal lamp
Interface	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- 2. Orientation laser
- ESD-version
- Extended safety package for heavy loads (>80kg)

**Battery**

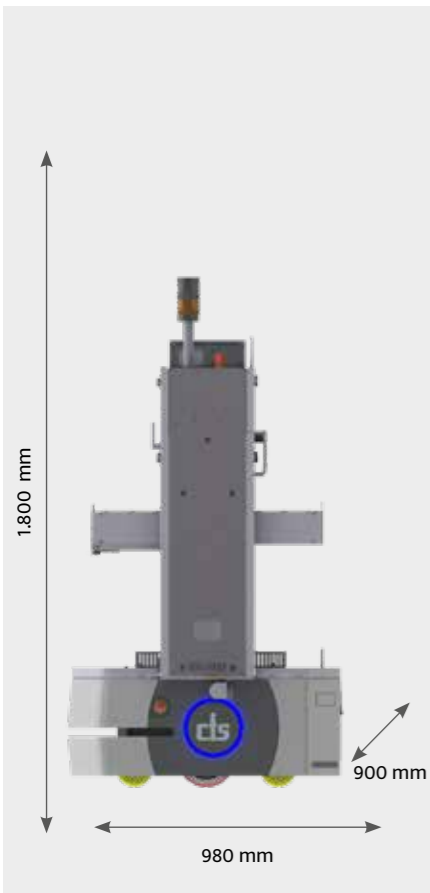
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roller conveyor, Stacker/DeStacker**

- Free navigation without aids
- Load capacity up to 50 kg, max. total weight 350 kg
- max. speed up to 1,2 m/s
- Transport goods:  
KLT (3x 800 x 600 x 220 mm)  
KLT (800 x 600 x 420mm)  
KLT (4x 800 x 600 x 120 mm)  
Tablar (7x 800 x 600 x 47 mm)
- Lifting speed 10 Sek.
- Transfer height: 800 - 900 mm

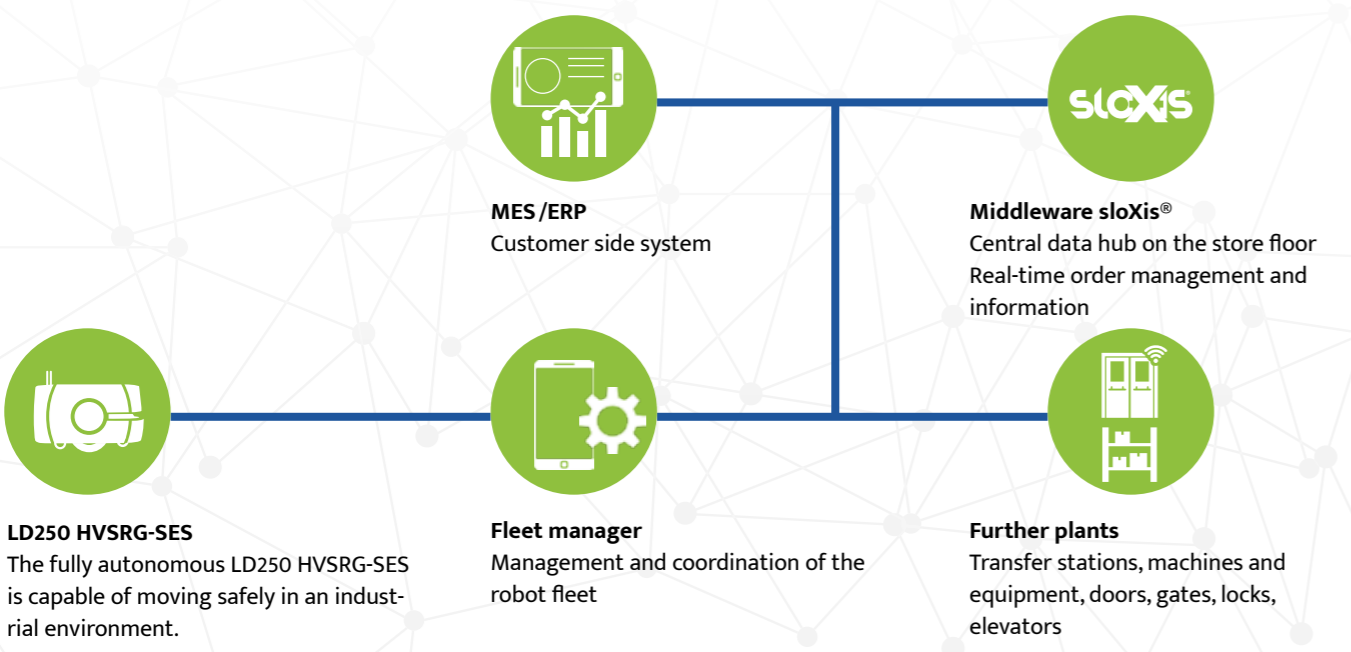


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sensor

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

**Communication**



**Details**

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
Interface	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- 2. Orientation laser
- ESD-version
- Extended safety package for heavy loads (>80kg)

**Battery**

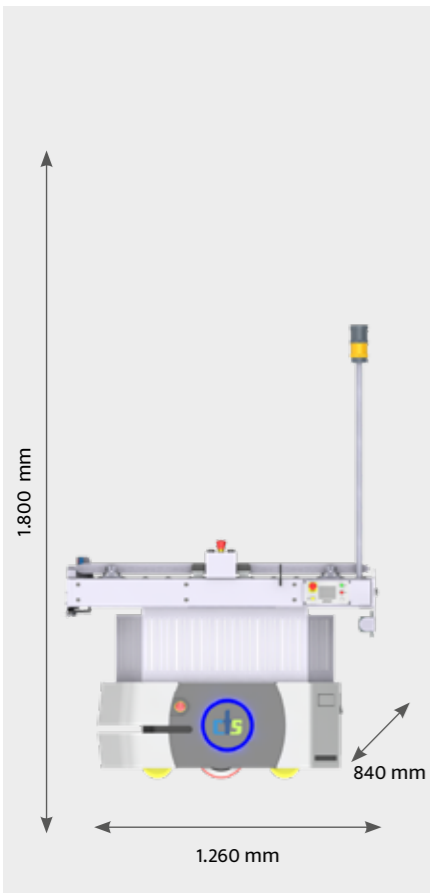
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

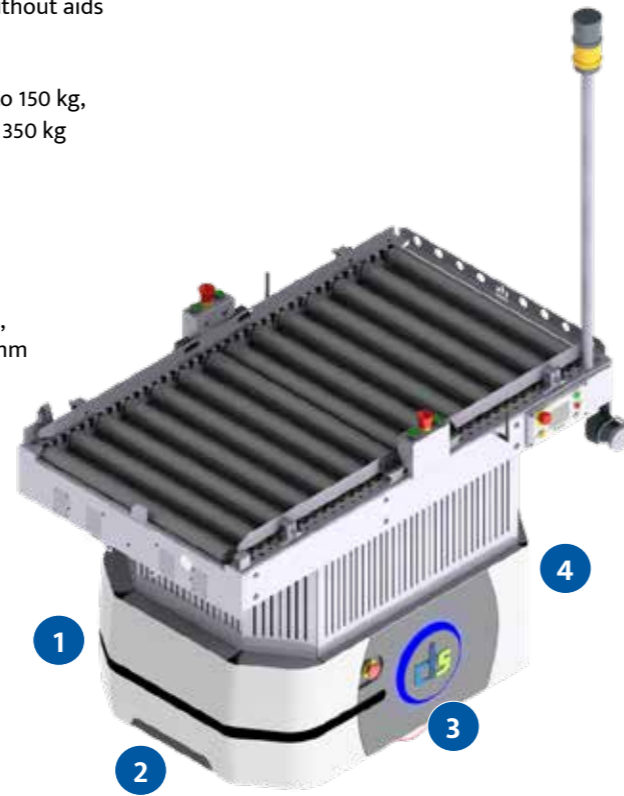
**Dimension**



**Roller conveyor**

- Free navigation without aids
- Load capacity up to 150 kg, max. total weight 350 kg
- max. speed up to 1,2 m/s
- Transport goods: KLT 800 x 600 mm, 2x KLT 600 x 400 mm
- Transfer height: 800 mm

- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sensor



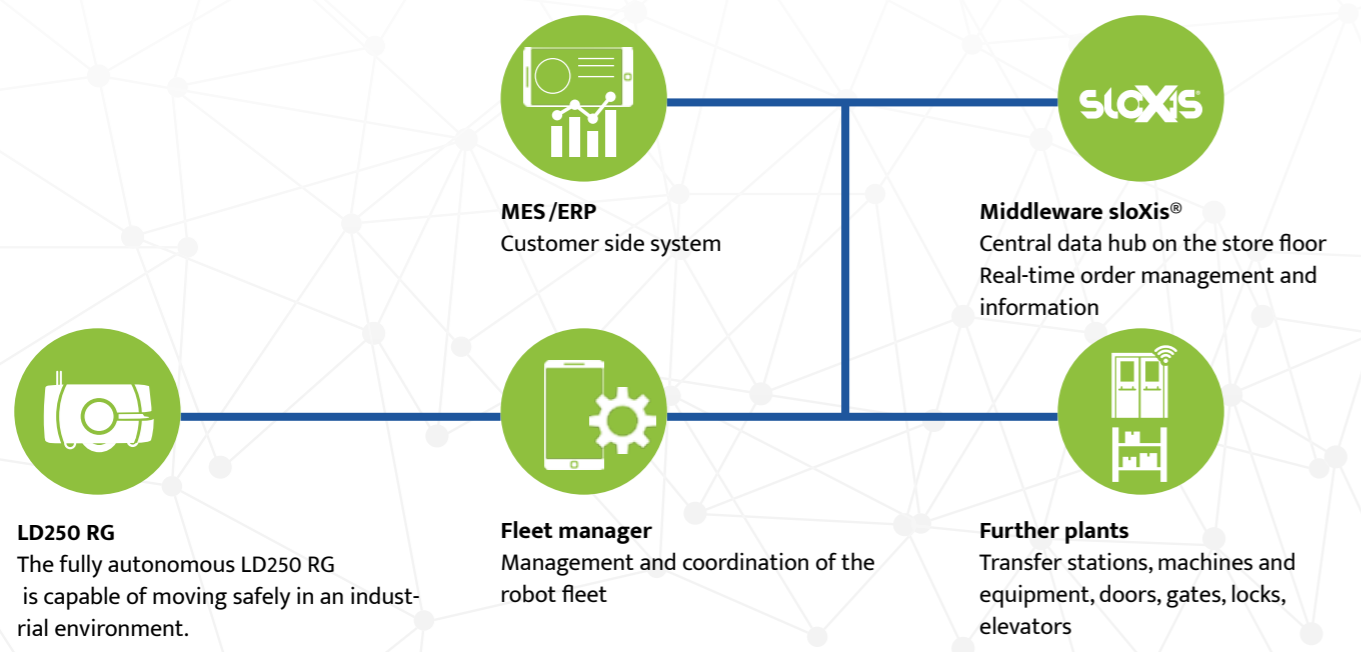
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment	
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849	
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view	
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view	
	Emergency stop	1 on the control panel, 1 on the opposite lifting column	
	Rear sensor	Time-of-flight sensors at the back	
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side	
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight	
	Manual mode	To move the robot manually, press button	
	<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
		Humidity	10 – 95% (non condensing)
Environment		For indoor use only	
IP class		IP20	
<b>Connection</b>	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)	
	Min. floor flatness	F <sub>r</sub> 25	
	Wi-Fi	IEEE 802.11 a/b/g/n/ac	

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- 2. Orientation laser
- ESD-version
- Extended safety package for heavy loads (>80kg)

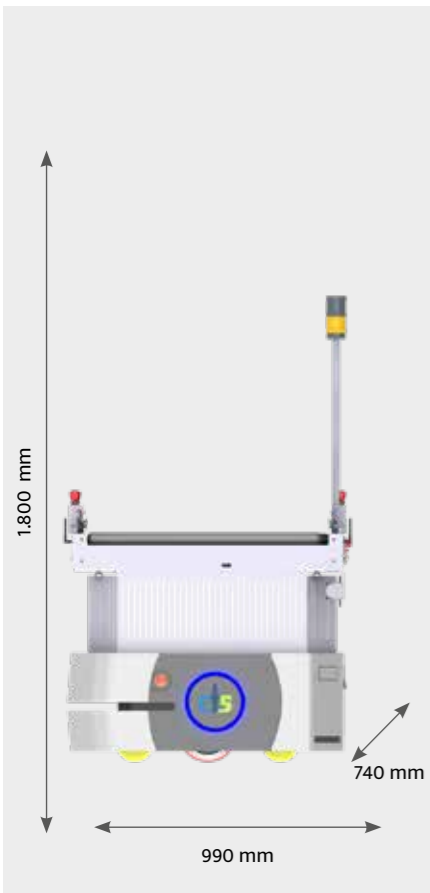
**Battery**

- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Roll-based side loader (L/R)**

- Free navigation without aids
- Load capacity up to 150 kg, max. total weight 350 kg
- max. speed up to 1,2 m/s
- Transport goods: KLT 800 x 600 mm, 2x KLT 600 x 400 mm
- Transfer height: 800 mm

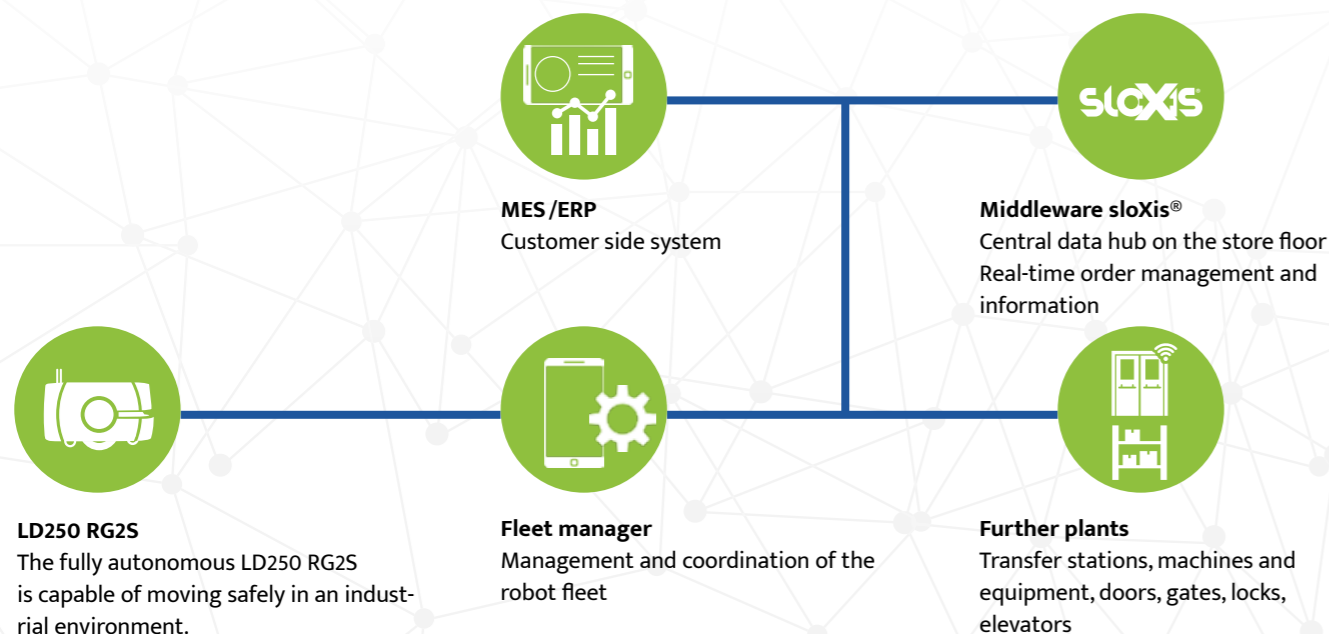


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sensor

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport. Simultaneous transfer to/from machine, perfect for rows of machines in parallel arrangement.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side
	Warning light	round LED strips, top signal lamp
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Bluespot
- 2. Orientation laser
- ESD-version
- Extended safety package for heavy loads (>80kg)

**Battery**

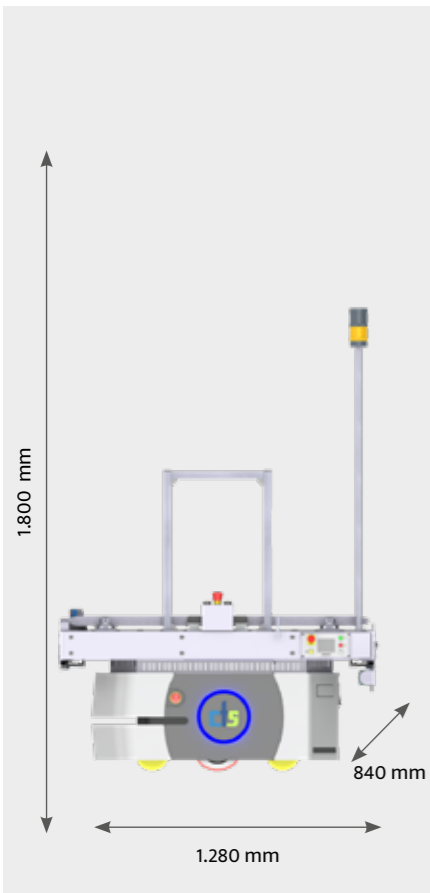
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

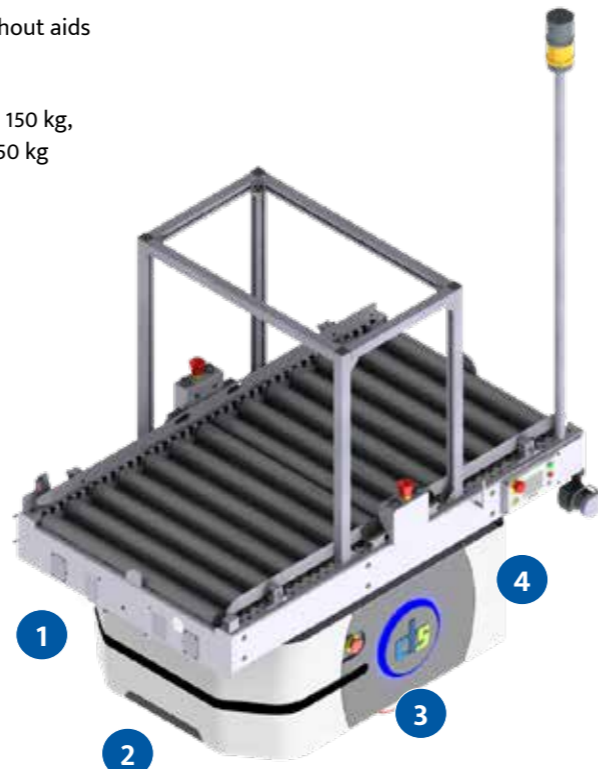
All data without guarantee.

**Dimension**



**Roller based front and rear loader**

- Free navigation without aids
- Load capacity up to 150 kg, max. total weight 350 kg
- max. speed up to 1,2 m/s
- Transport goods: 2 PCB Magazine 320 x 355 mm bis 535 x 535 mm
- Transfer height: 550 mm

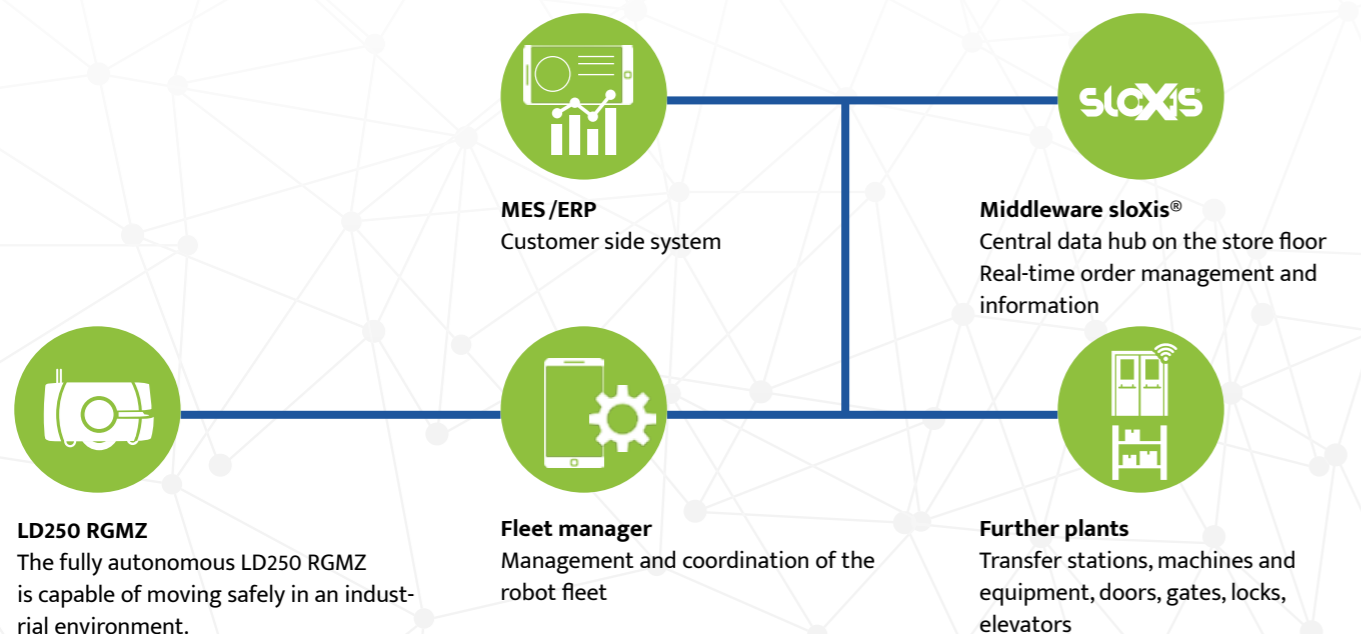


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sensor

**Areas of application**

Transport of large and heavy PCB magazines, stacks and trays. Automatic loading of SMT lines, transports for inspection/back-end assembly, magazines from/to storage, front and rear transfers ensure correct product alignment.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side round LED strips, top signal lamp
	Warning light	Onboard speaker, buzzer on top signal light
<b>Interface</b>	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- 2. Orientation laser
- ESD-version
- Extended safety package for heavy loads (>80kg)

**Battery**

- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

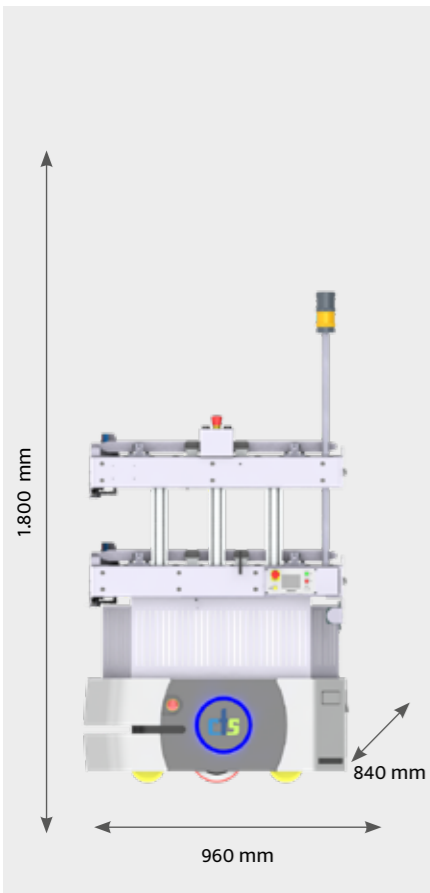
**Charging station**

- 100-240VAC

All data without guarantee.

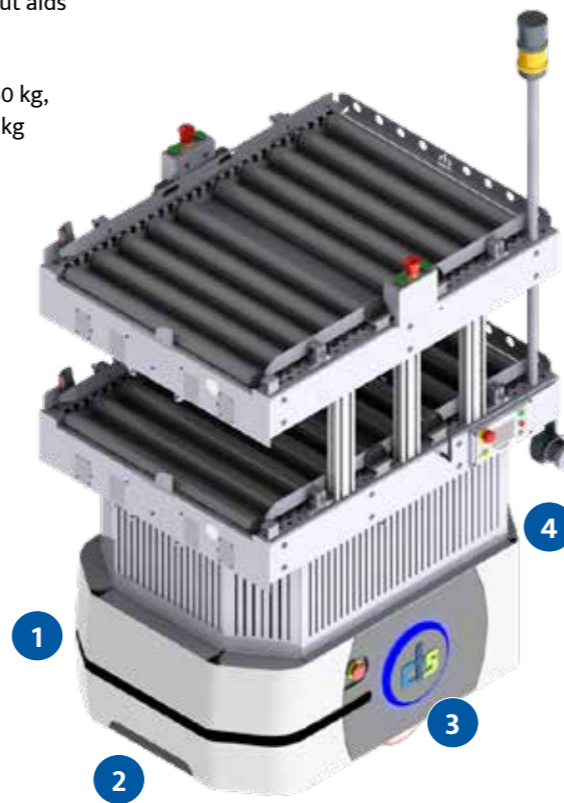


**Dimension**



**2-level roller based front loader**

- Free navigation without aids
- Load capacity up to 150 kg, max. total weight 350 kg
- max. speed up to 1,2 m/s
- Transport goods:  
KLT 800 x 600 mm  
KLT 2x 600 x 400 mm je Ebene
- Transfer height:  
600 mm/1.000 mm

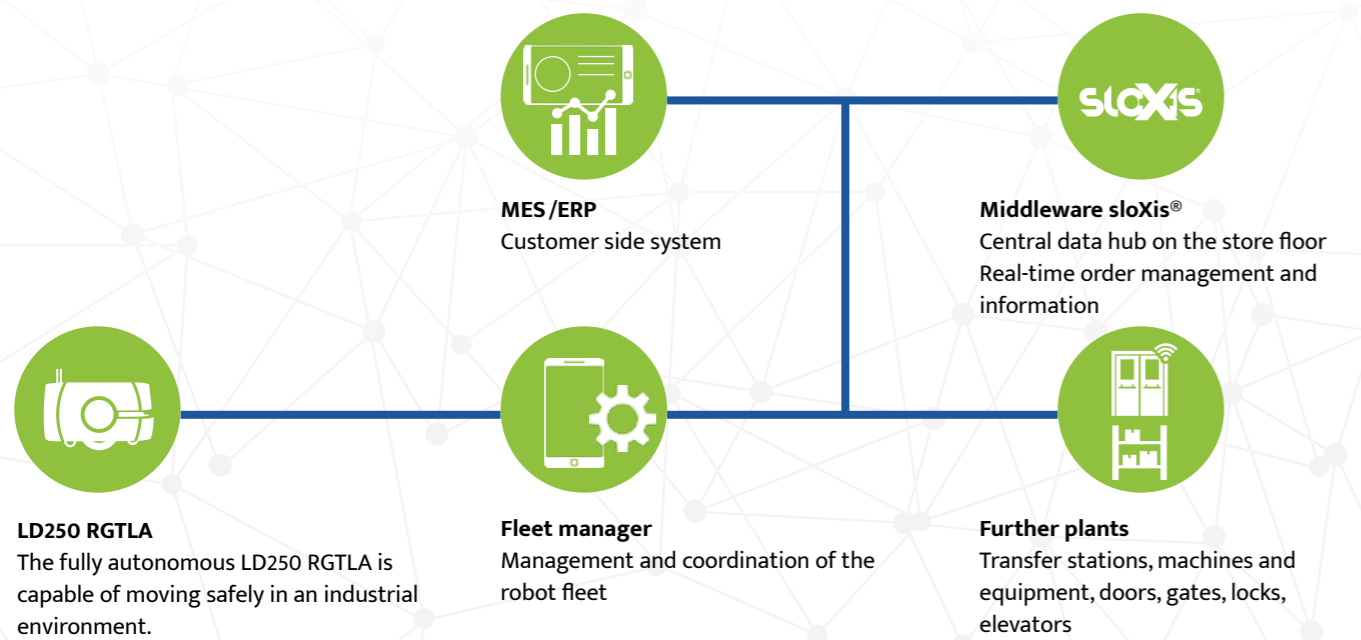


- 1** Main safety laser
- 2** Ground laser
- 3** Laser lateral
- 4** Rear sensor

**Areas of application**

Perfect for feeding assembly lines with KLT box/trays/blister stacks while picking up empty containers and vice versa.

**Communication**



**Details**

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors
	Warning light	on each side round LED strips, top signal lamp
Interface	HMI	Color TFT, 320 x 240 pixels, 8.89 cm diagonal Backlight
	Manual mode	To move the robot manually, press button
Working environment & Floor condition	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition	Linoleum, epoxy or concrete (no water, no oil, no dust)
	Min. floor flatness	F <sub>r</sub> 25
Connection	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Bluespot
- 2. Orientation laser
- ESD-version
- Extended safety package for heavy loads (>80kg)

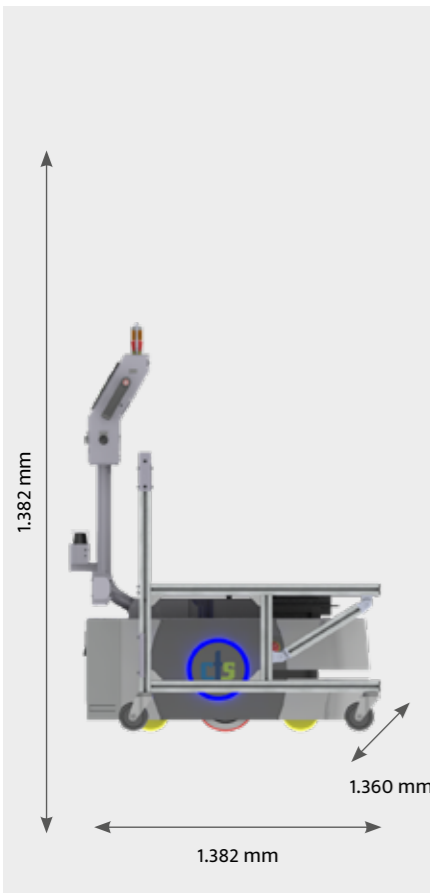
**Battery**

- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Trolley for moving up to 200 kg**

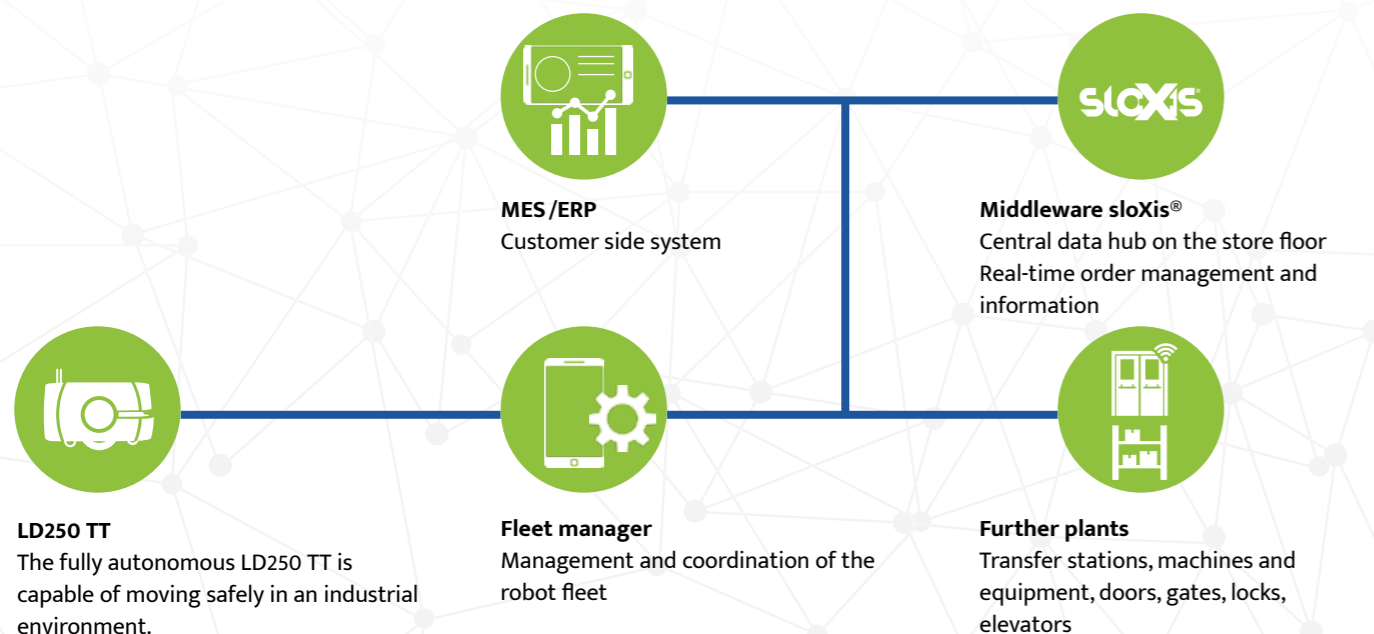
- Free navigation without aids
- Transport goods: Depending on the trolley structure
- Load capacity up to 200 kg
- Transfer height/ platform height trolley: 500 mm
- max. speed up to 0,9 m/s



**Areas of application**

The AMR drives under the trolley and engages it through a locking mechanism and pushes the trolley to its destination where it unlocks it. We achieve the variety of application possibilities through the customer-specific superstructures.

**Communication**



**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	Safety laser, 1 at front of platform, 190mm above ground, 240°, PL d safety ISO 13849
	Ground laser	1 at front, class 1, max. 4 m range, 126° field of view
	Vertical obstacle detection	Side laser on each side, class 1, max. 4 m range, 270° Field of view
	Emergency stop	1 on the control panel, 1 on the opposite lifting column
	Rear sensor	Time-of-flight sensors at the back
	Bumper	1 at the front of the platform, 2 pairs of sensors on each side round LED strips, top signal lamp
	Warning light Loudspeaker & Buzzer	Onboard speaker, buzzer on top signal light
<b>Interface</b>	HMI Manual mode	10" Touchpanel To move the robot manually, press button
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 40°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>F</sub> 25
<b>Connection</b>	Wi-Fi	IEEE 802.11 a/b/g/n/ac

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Optionen**

- 2. Orientation laser
- ESD-version

**Battery**

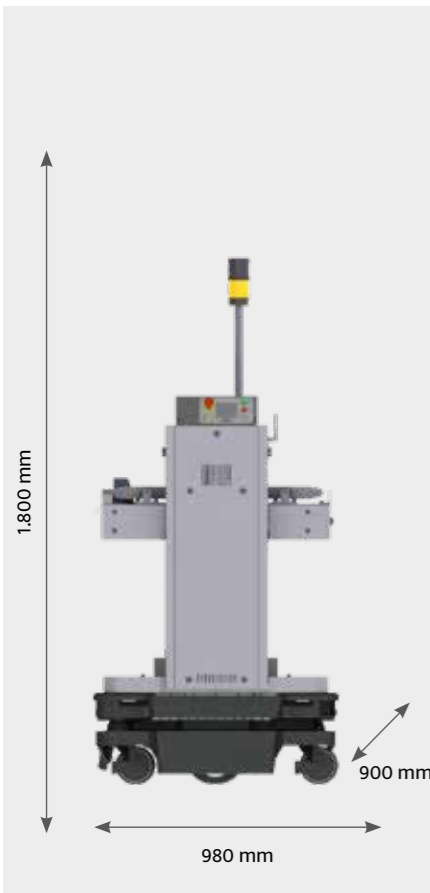
- 1-shift autonomy
- 24V LiFePO4/72Ah
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 2,000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roller conveyor, 1-sided transfer (lateral)**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods: KLT 600x 400 mm/ 2x 300 x 400 mm
- Lifting speed 10 Sek.
- Transfer height: 550 - 1.000 mm
- 1 Main safety laser
- 2 3D camera
- 3 Proximity sensor



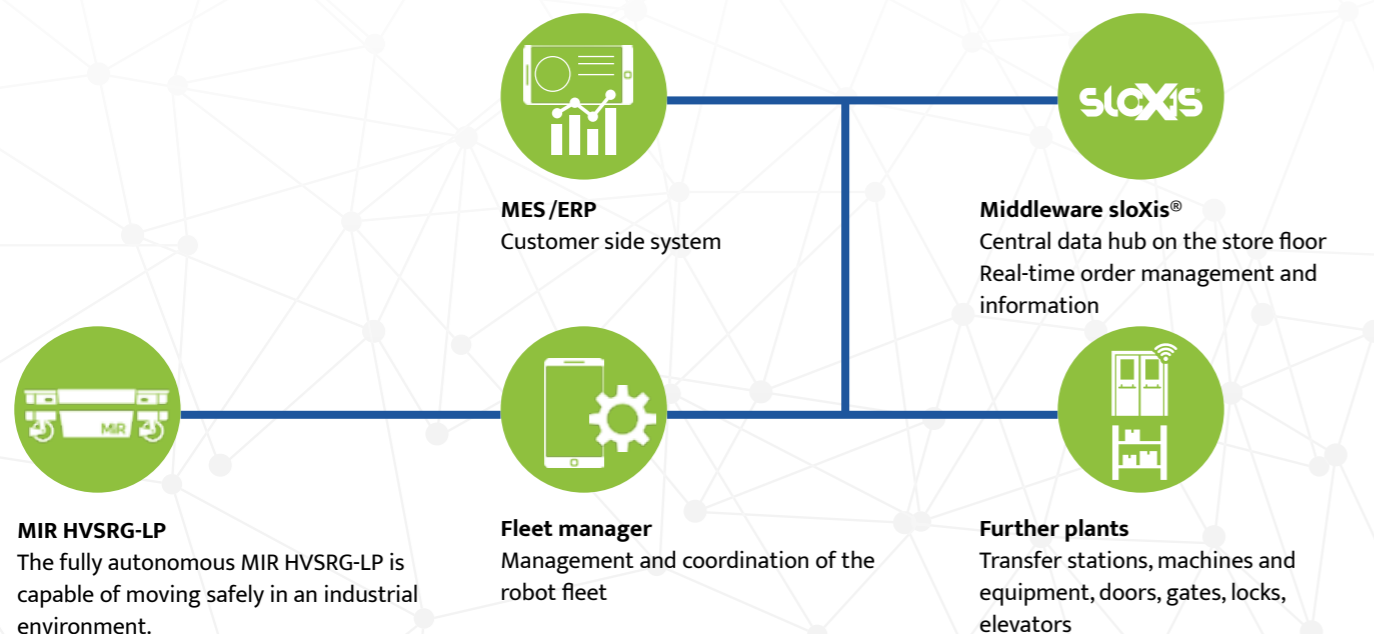
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

KLT box, tray, blister transport  
Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Kistenzentrierung
- Box centering
- ESD-version

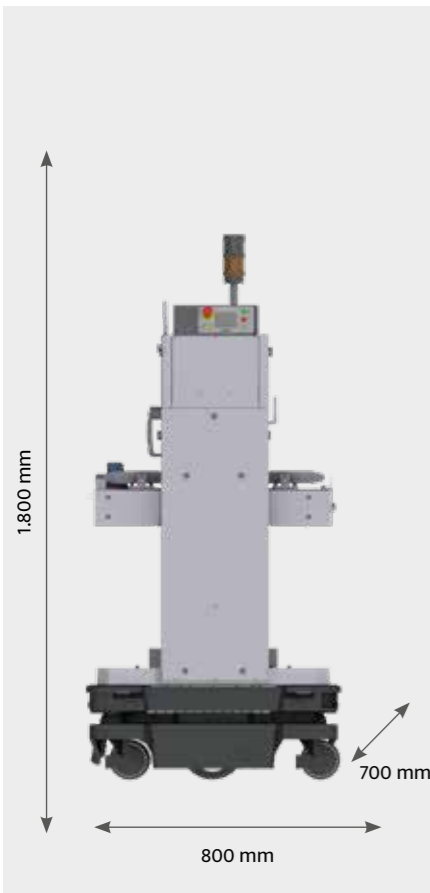
**Battery**

- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Roller conveyor with lift function**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods: KLT 600 x 400 mm
- Lifting speed 10 Sek.
- Transfer height: 800 - 900 mm
- 1 Main safety laser
- 2 3D camera
- 3 Proximity sensor



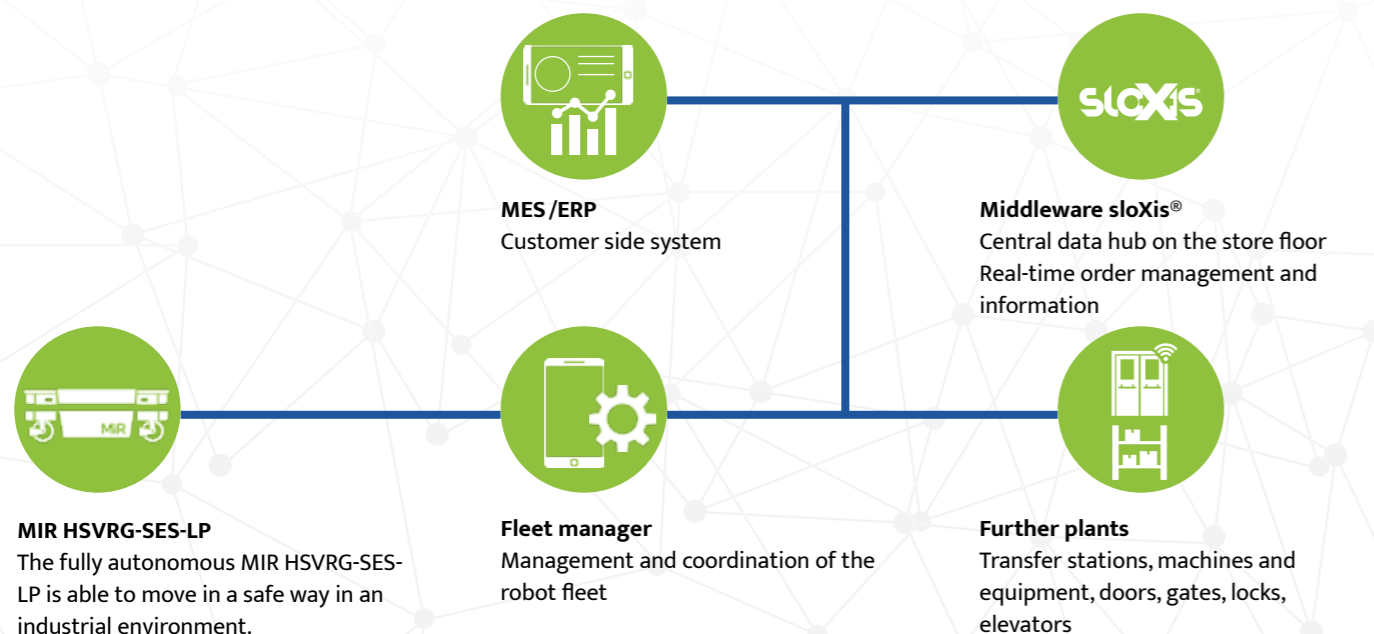
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

KLT boxes of different types | collection of individual boxes at different locations, delivery as a stack to one destination or separately to different destinations.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version

**Battery**

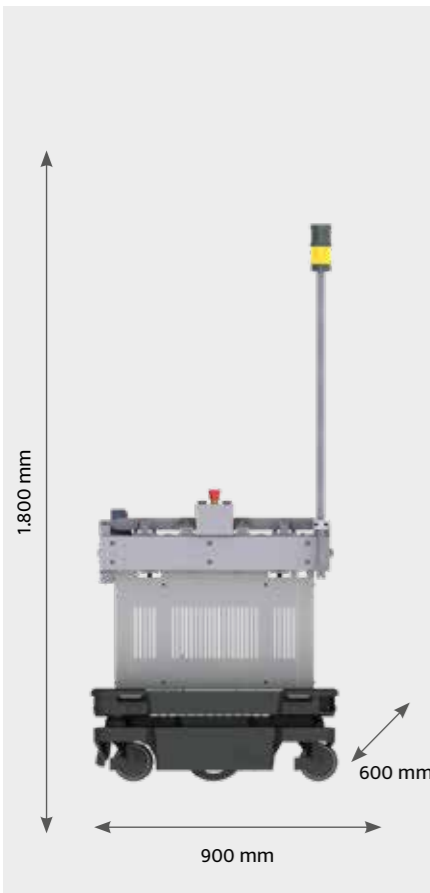
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Rollenbasierter Frontlader**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods:  
KLT 600 x 400 mm  
KLT 2x 300 x 400 mm
- Transfer height: 800 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



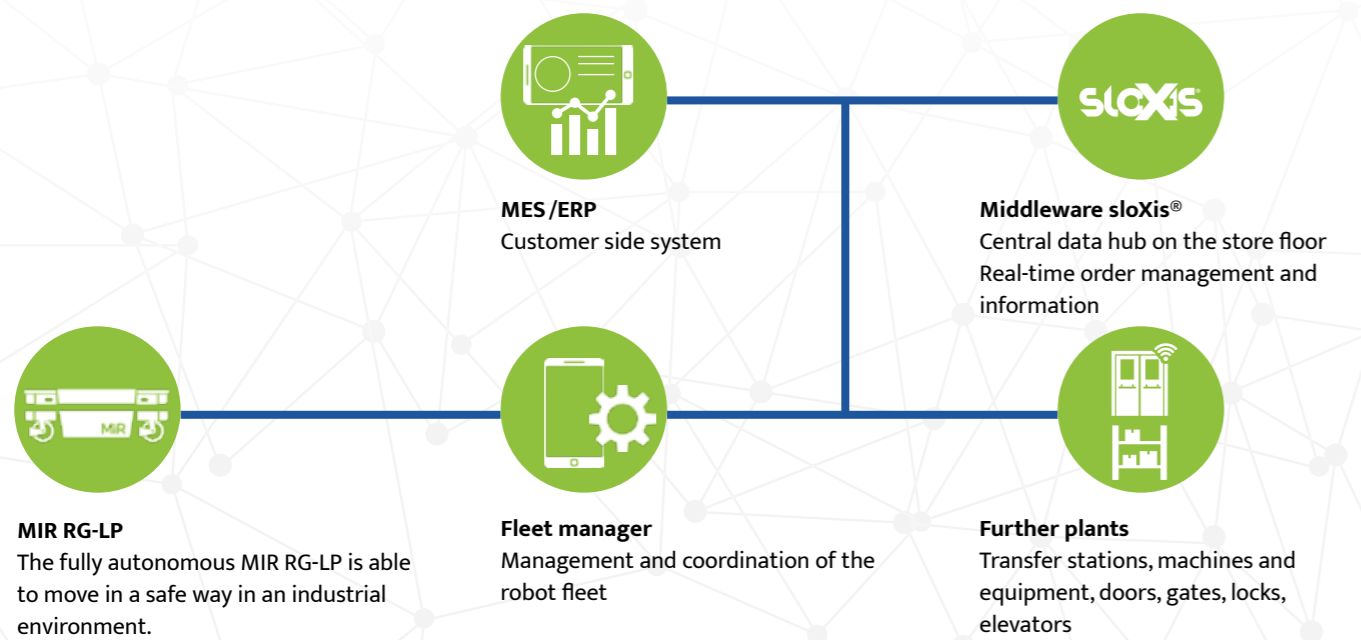
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

KLT box, blister, tray, workpiece carrier transport, e.g. SMT reels to the lines, SEMI goods to the back-end, finished goods to the warehouse.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version

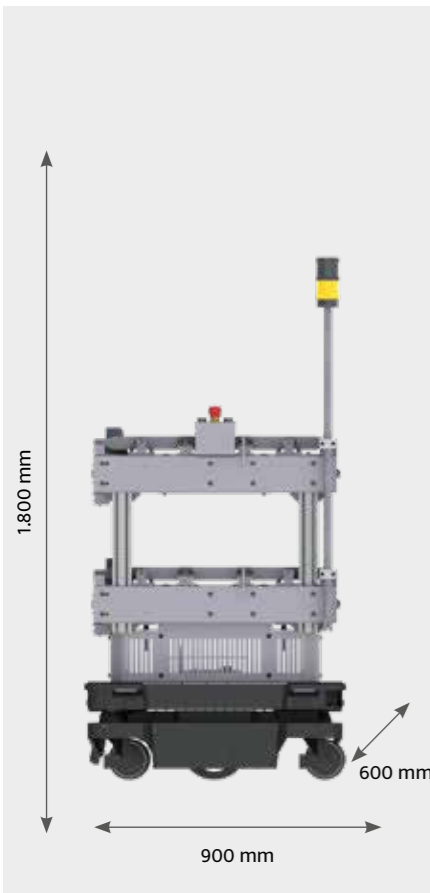
**Battery**

- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

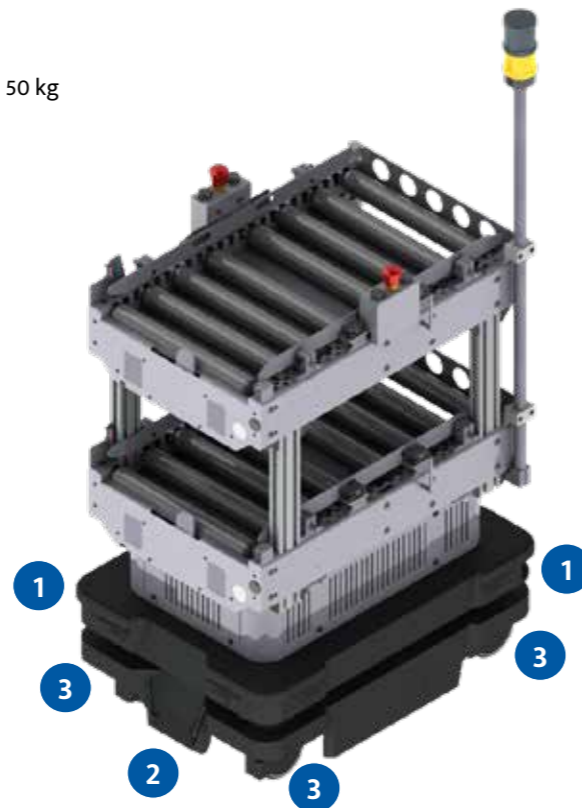
**Dimension**



**2-level roller based front loader**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods: KLT 600 x 400 mm
- Transfer height: 600/1.000 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



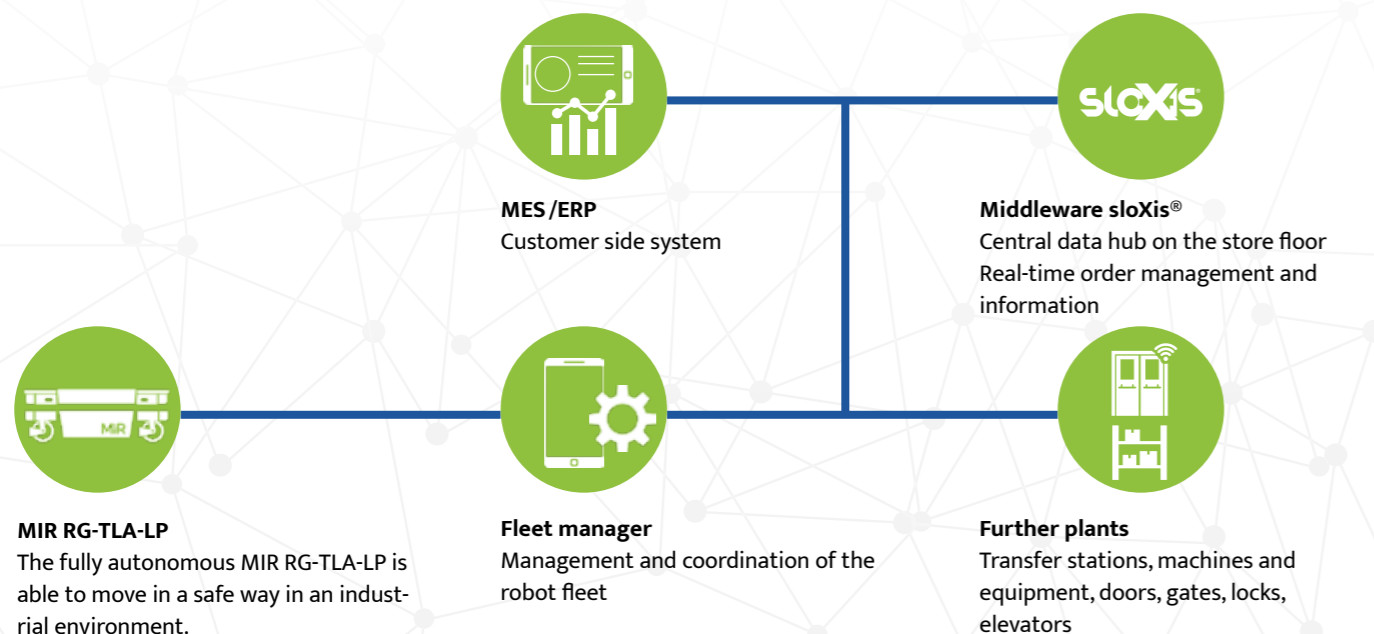
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Perfect for feeding assembly lines with KLT box/trays/blisters while picking up the empty container and vice versa.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Bluespot
- ESD-version

**Battery**

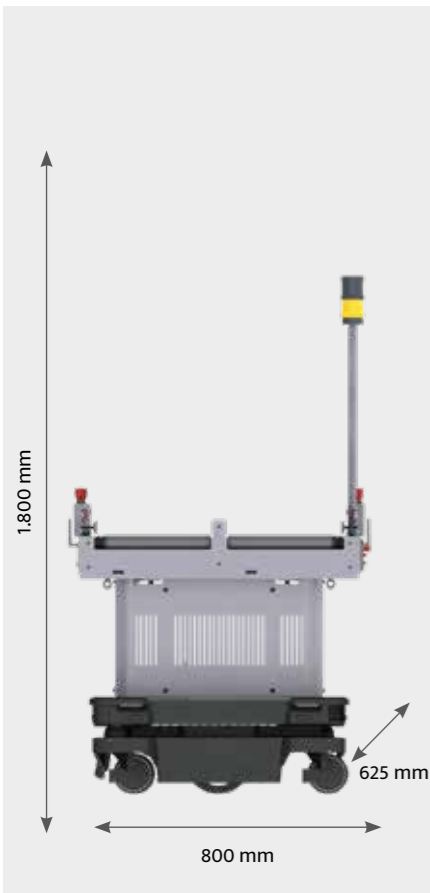
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roll-based side loader (L/R)**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods: KLT 600 x 400 mm
- Transfer height: 800 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



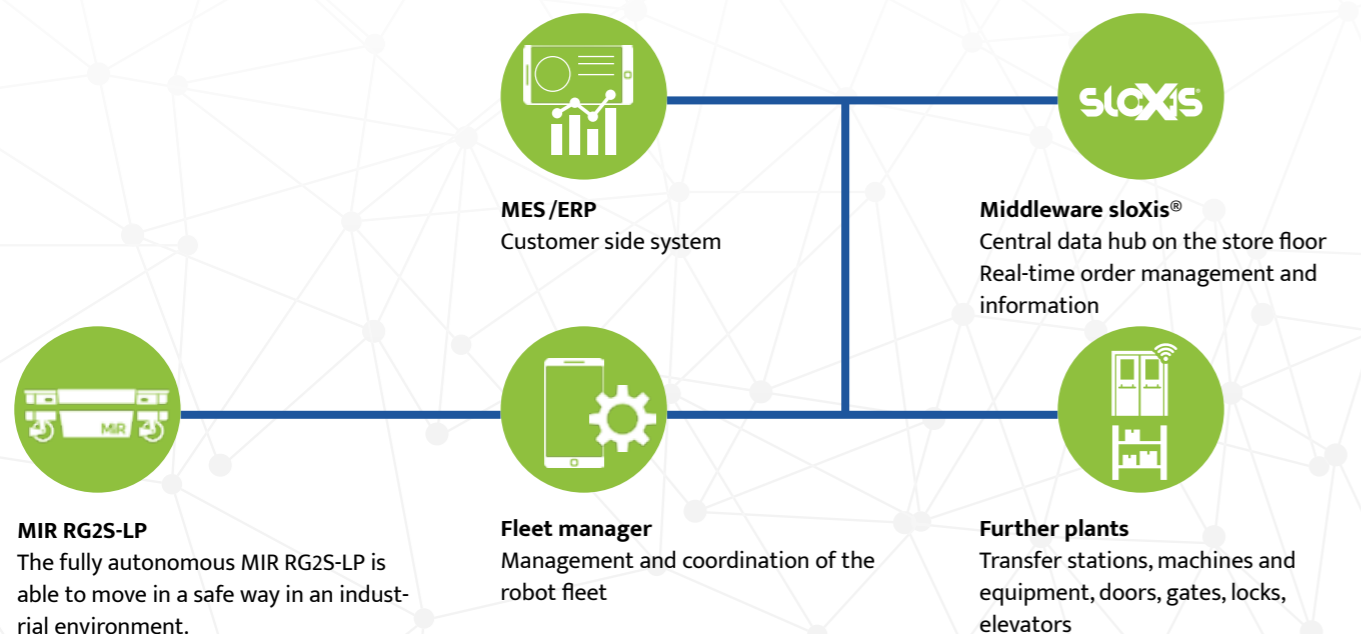
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

KLT box, tray, blister, workpiece carrier transport  
Simultaneous transfer from/to machine, perfect for machine rows in parallel arrangement.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Bluespot
- ESD-version

**Battery**

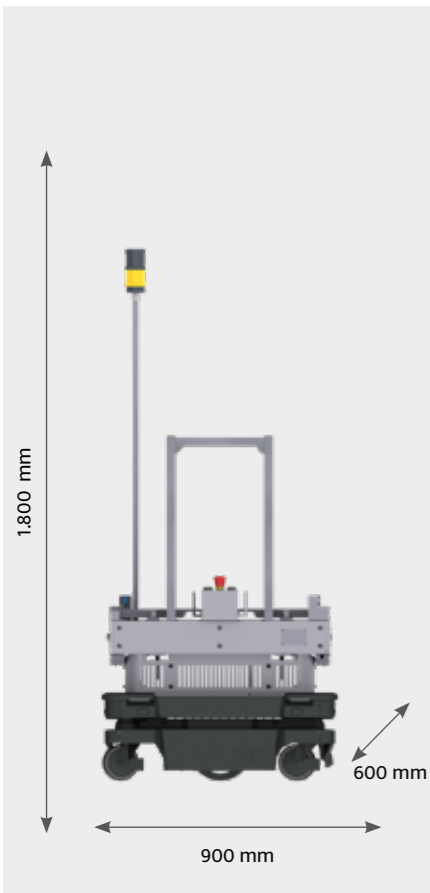
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

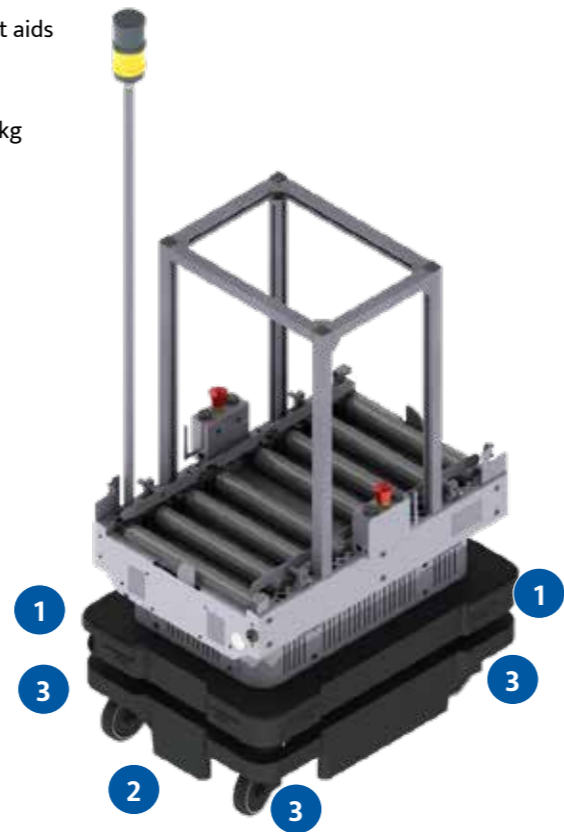
**Dimension**



**Roller based front and rear loader**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods: 2 PCB Magazines 320 x 355 mm bis 535 x 535 mm
- Transfer height: 550 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



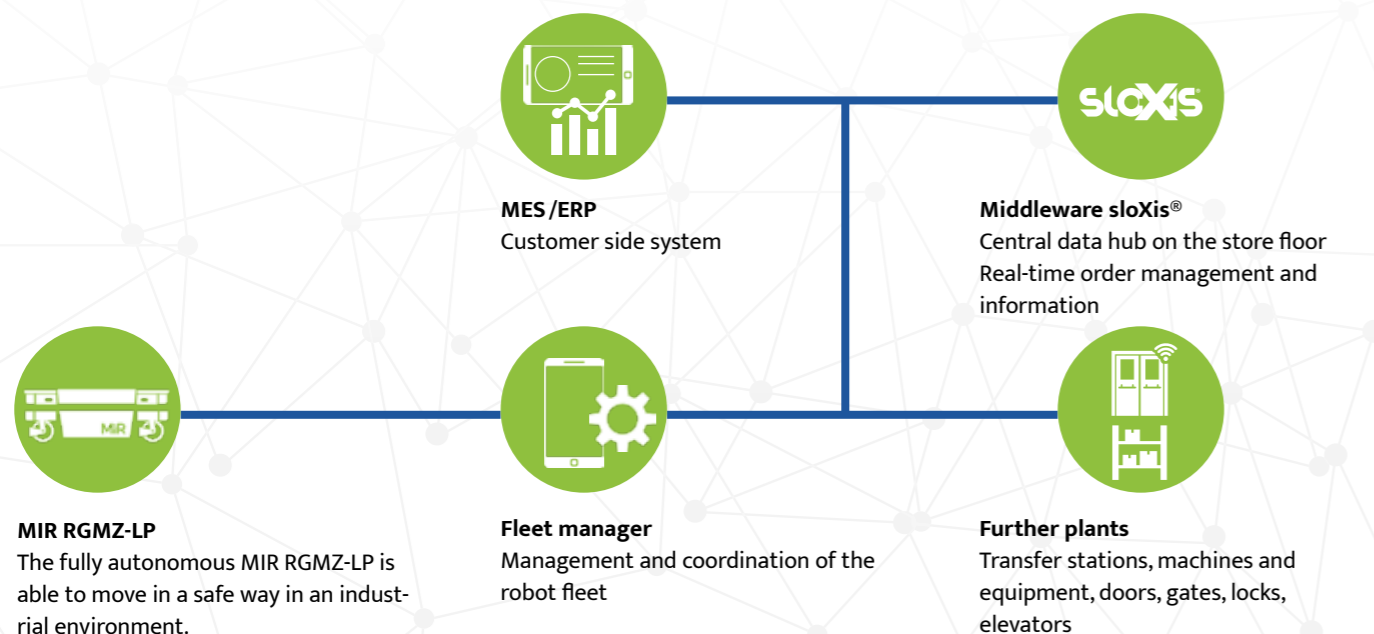
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>p</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Transport of large and heavy PCB magazines, stacks and trays. Automatic loading of SMT lines, transports for inspection/back-end assembly, magazines from/to storage, front and rear transfers ensure correct product alignment.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version

**Battery**

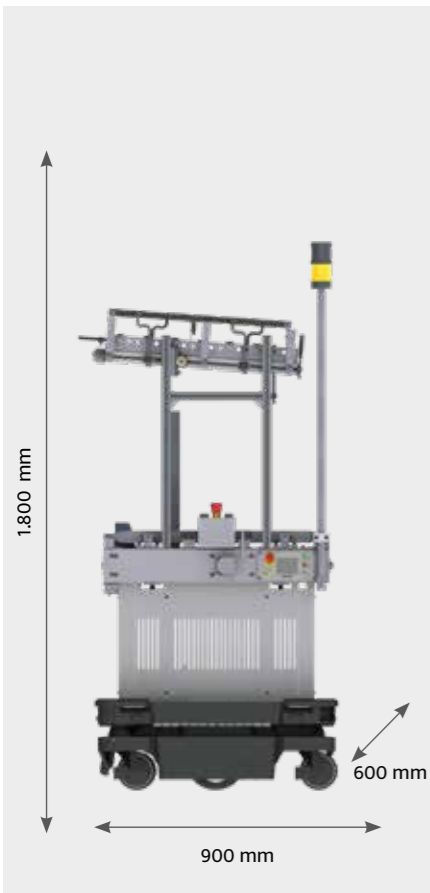
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC



**Dimension**



**Roller based front and rear loader**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 1,34 m/s
- Transport goods: 2 PCB magazines 320 x 355 mm
- Transfer height: 550 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



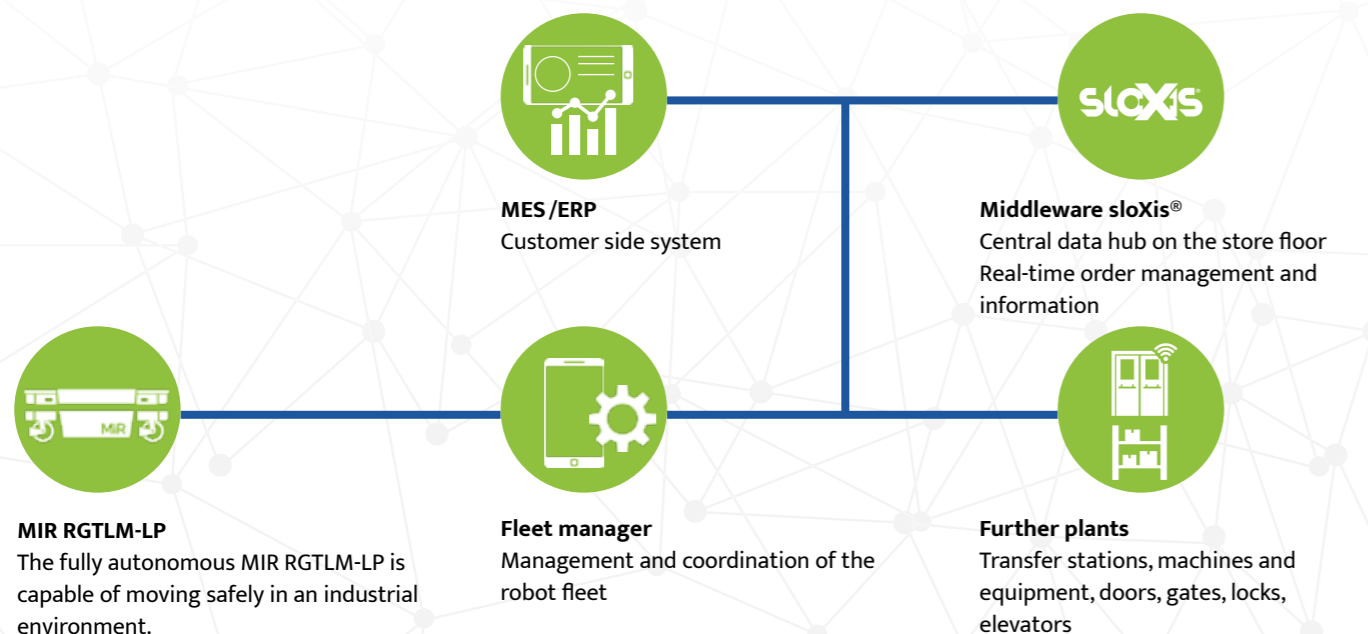
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Designed for the transport of PCB magazines. Automatic feeding to SMT lines, transports for inspection/back-end assembly, delivery of magazines from/to the warehouse. Front and rear transfer ensures correct product alignment.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version

**Battery**

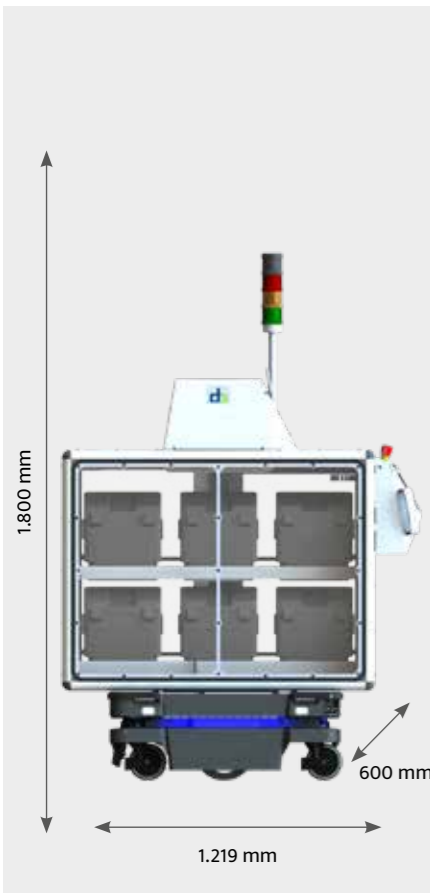
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Cleanroom Transporter/Waferbox Transporter**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods: 6 pieces 200 mm Wafer boxes

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



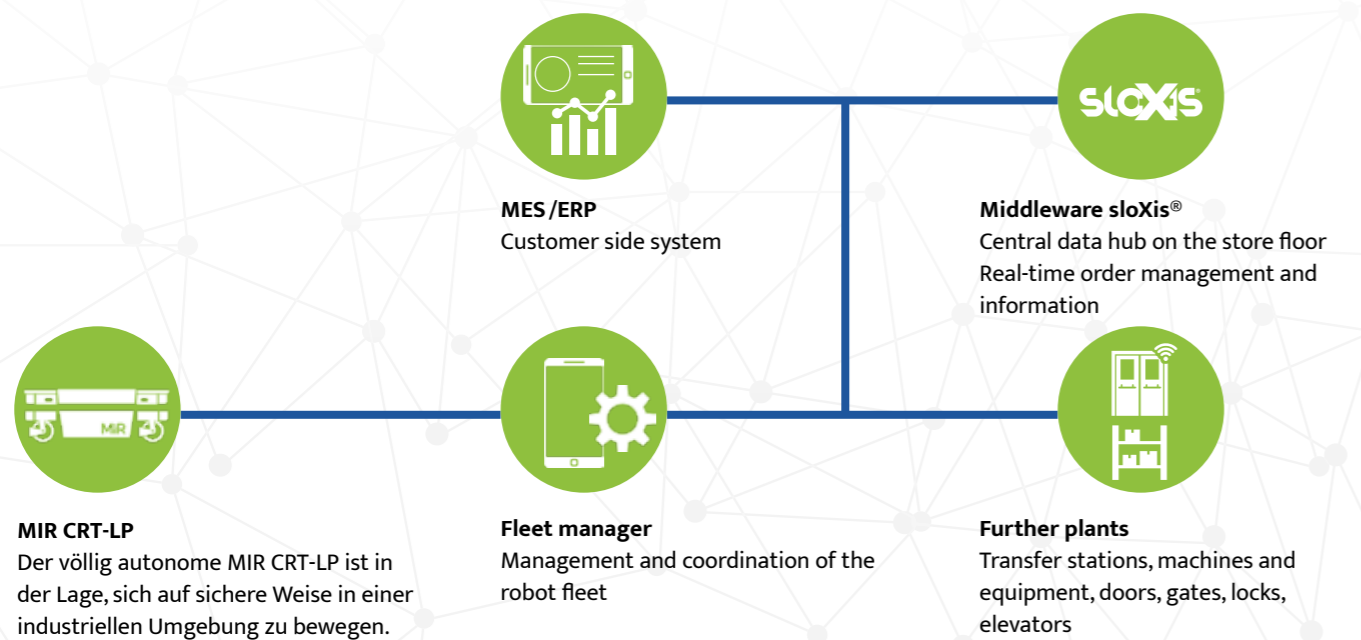
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>p</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

The AMR with cleanroom attachment can be used in semiconductor production and in the pharmaceutical sector to automatically transport goods between cleanrooms of different classes.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Bluespot
- ESD-version

**Battery**

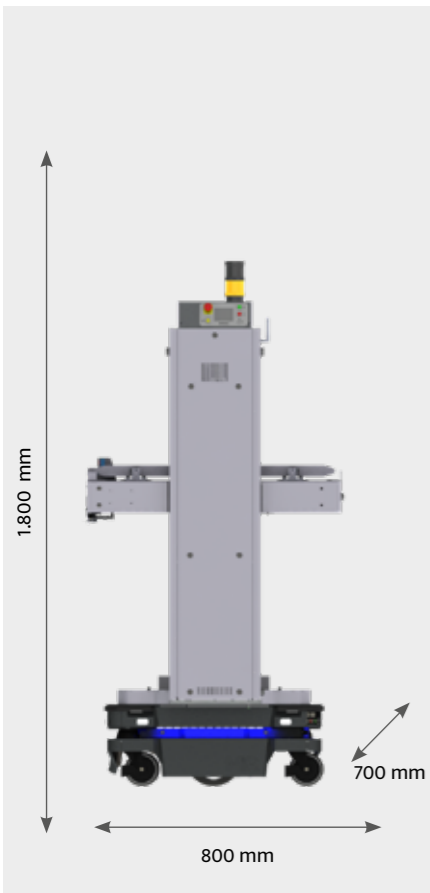
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roller conveyor, 1-sided transfer**

- Free navigation without aids
- Load capacity up to 100 kg
- max. speed up to 2,0 m/s
- Transport goods:  
KLT 800 x 600 mm  
KLT 2x 600 x 400mm
- Lifting speed 15 Sek.
- Transfer height: 800 - 1.500 mm

- 1 Main safety laser
- 2 3D camera
- 3 Proximity sensor



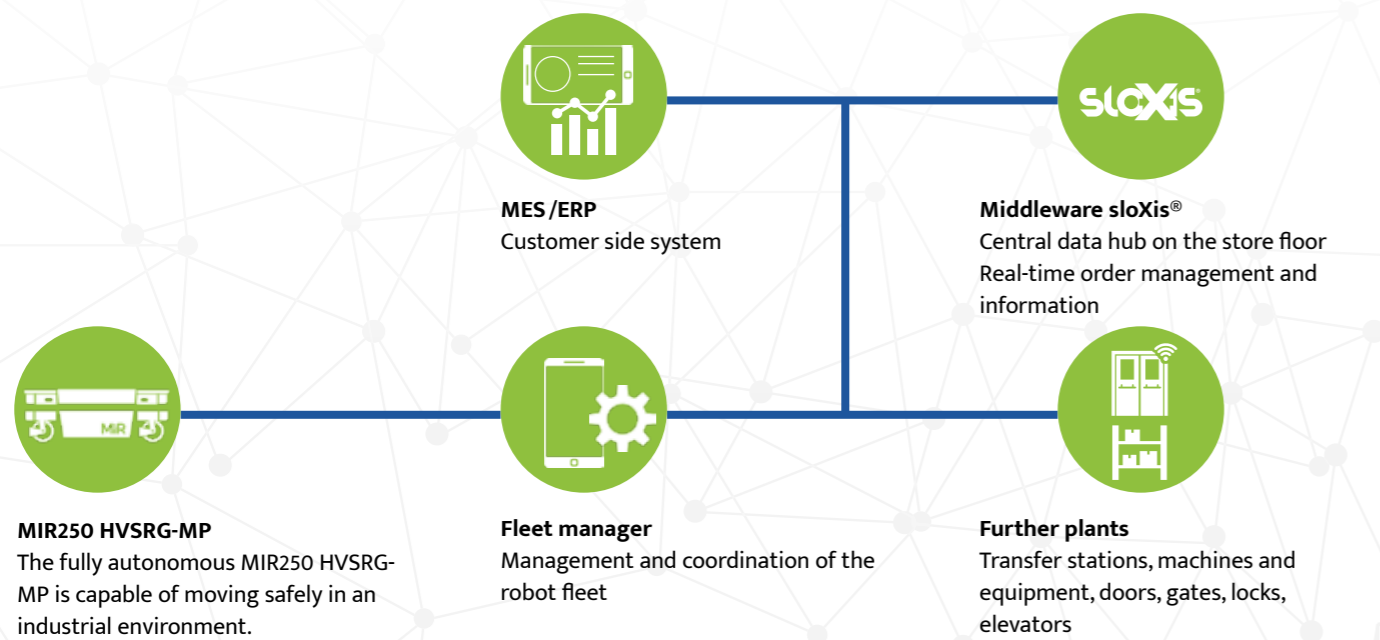
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

**Communication**



**MIR250 HVSRG-MP**  
The fully autonomous MIR250 HVSRG-MP is capable of moving safely in an industrial environment.

**Fleet manager**  
Management and coordination of the robot fleet

**Further plants**  
Transfer stations, machines and equipment, doors, gates, locks, elevators

**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version
- Extended safety package for heavy loads (>80kg)

**Battery**

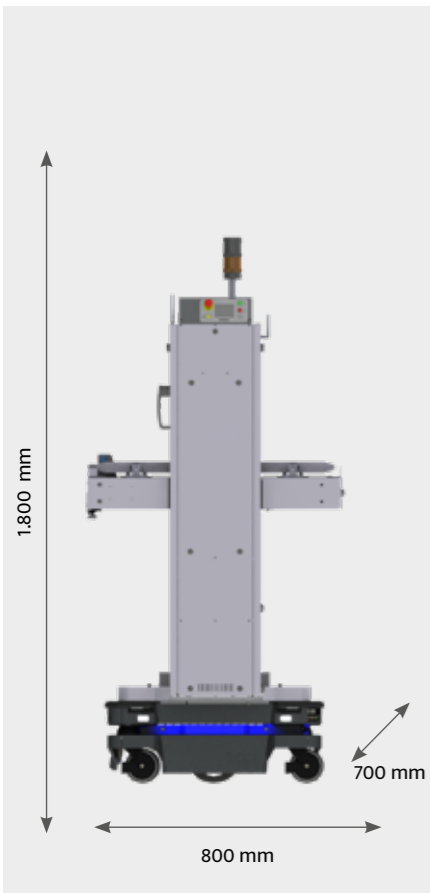
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

All data without guarantee.

**Dimension**



**Roller Conveyor, Stacker/DeStacker**

- Free navigation without aids
- Load capacity up to 50 kg
- max. speed up to 2,0 m/s
- Transport goods:  
KLT (3x 800 x 600 x 220 mm)  
KLT (800 x 600 x 420mm)  
KLT (4x 800 x 600 x 120 mm)  
Tablar (7x 800 x 600 x 47 mm)
- Lifting speed 10 Sek.
- Transfer height: 800 - 900 mm
- Main safety laser
- 3D camera
- Proximity sensor



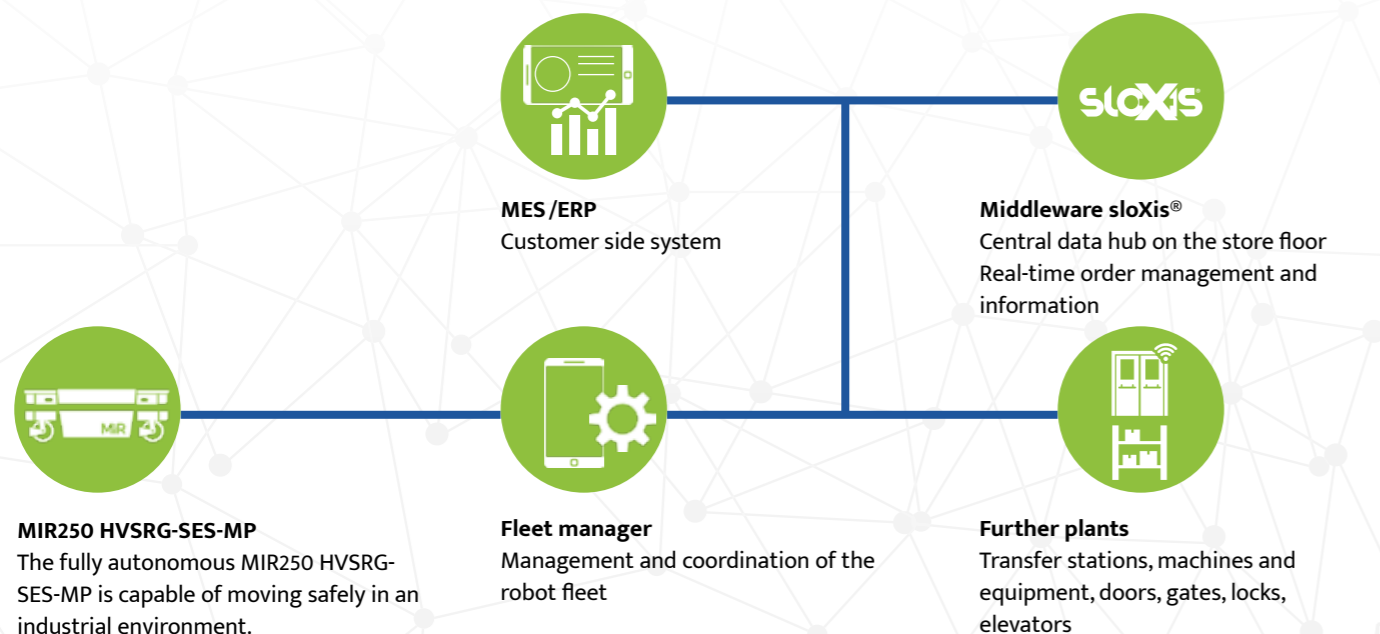
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport. Ideal for connecting machines with different transfer heights. Loading and unloading of material from multi-level racks.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- ESD-version
- Extended safety package for heavy loads (>80kg)

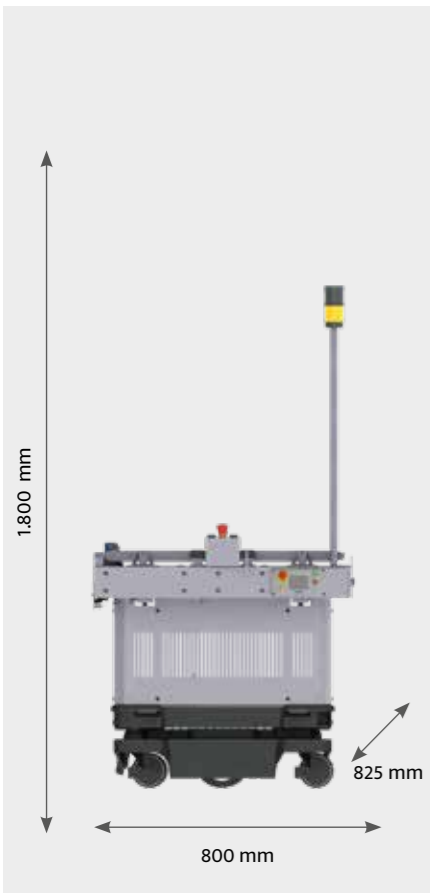
**Battery**

- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Roller conveyor**

- Free navigation without aids
- Load capacity up to 150 kg
- max. speed up to 2,0 m/s
- Transport goods: KLT 800 x 600 mm, 2x KLT 600 x 400 mm
- Transfer height: 800 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



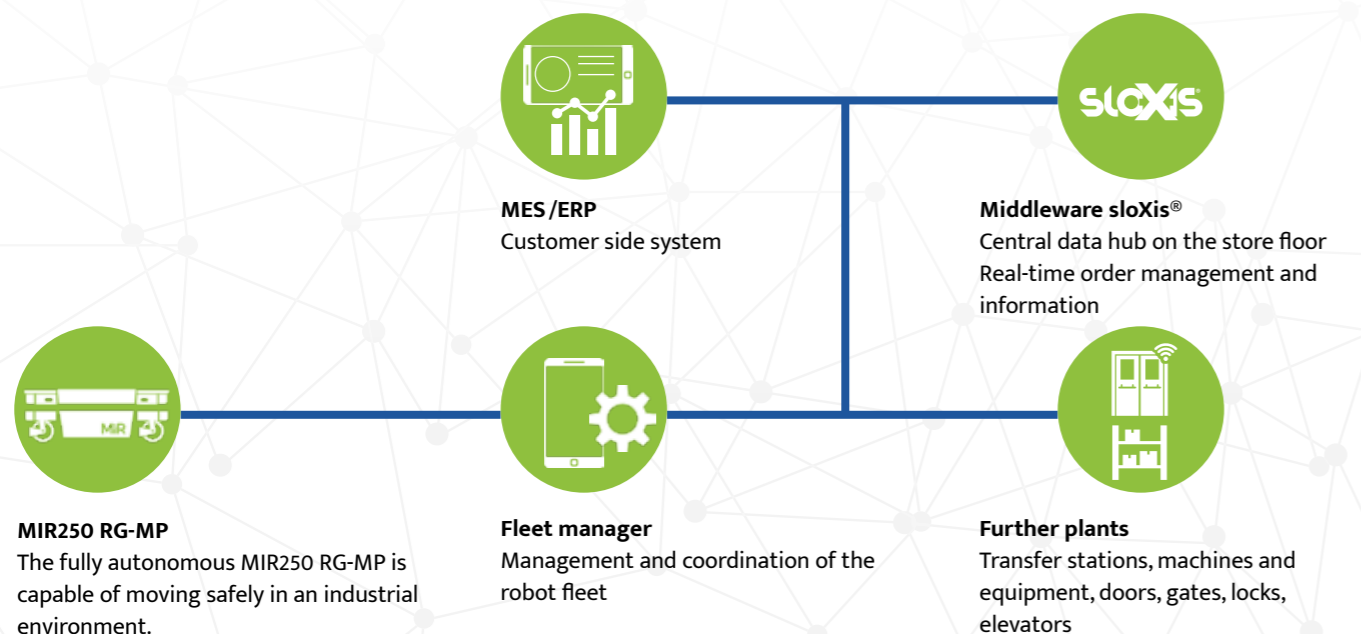
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version
- Extended safety package for heavy loads (>80kg)

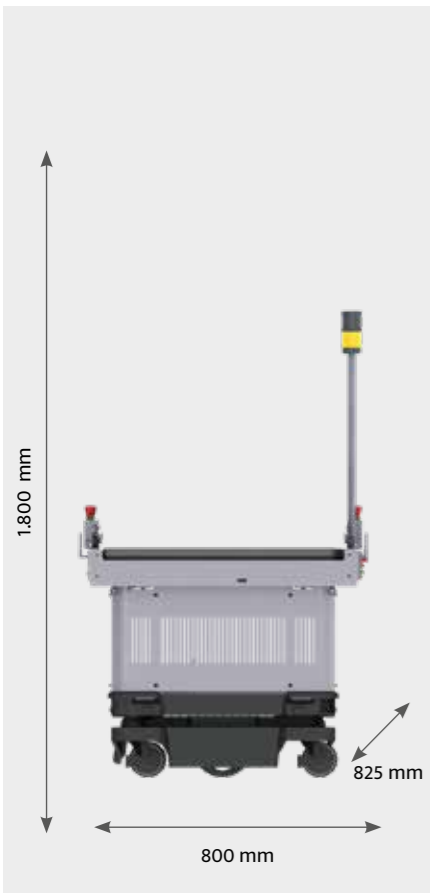
**Battery**

- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

**Dimension**



**Roll-based side loader (L/R)**

- Free navigation without aids
- Load capacity up to 150 kg
- max. speed up to 2,0 m/s
- Transport goods: KLT 800 x 600 mm, 2x KLT 600 x 400 mm
- Transfer height: 800 mm



- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor

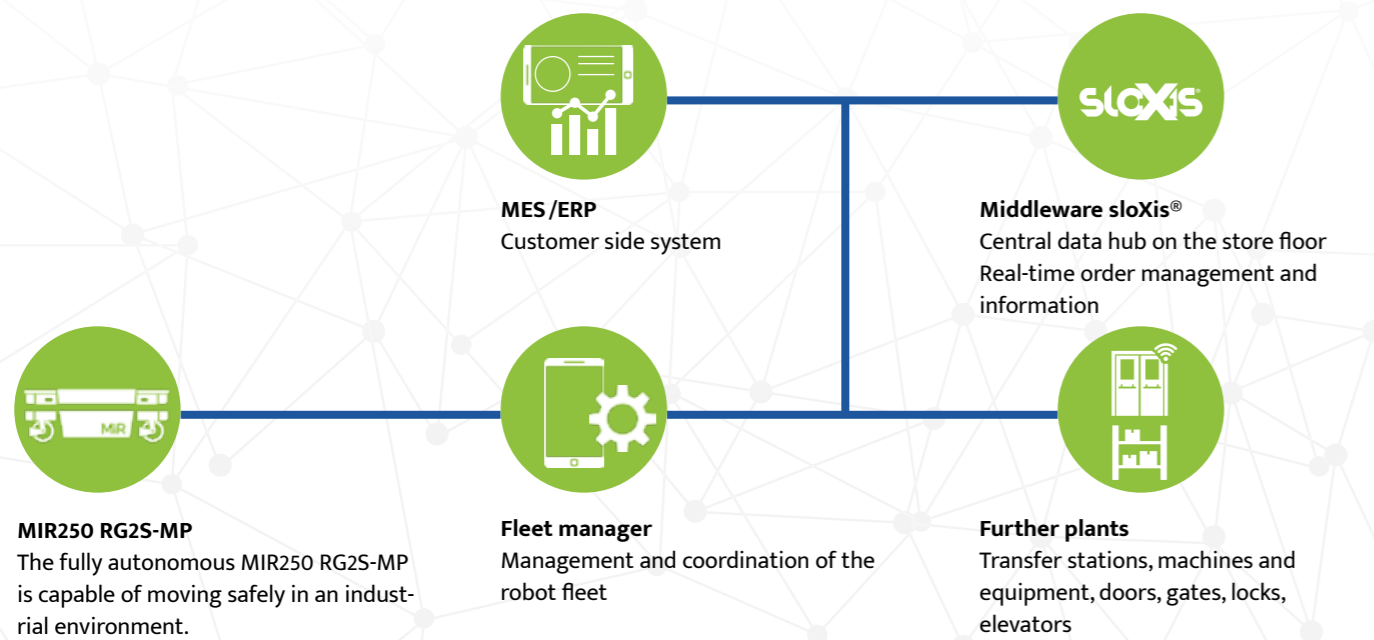
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	<b>Interface</b>	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Large trays, crate stacks, metal crate transport for raw and finished part transport.  
Simultaneous transfer to/from machine, perfect for rows of machines in parallel arrangement.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Adjustment height/width/length of conveyors for other transport goods
- Bluespot
- ESD-version
- Extended safety package for heavy loads (>80kg)

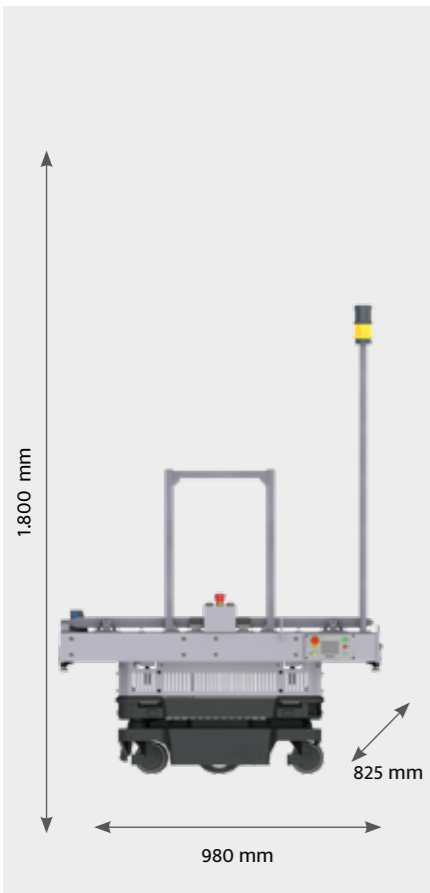
**Battery**

- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

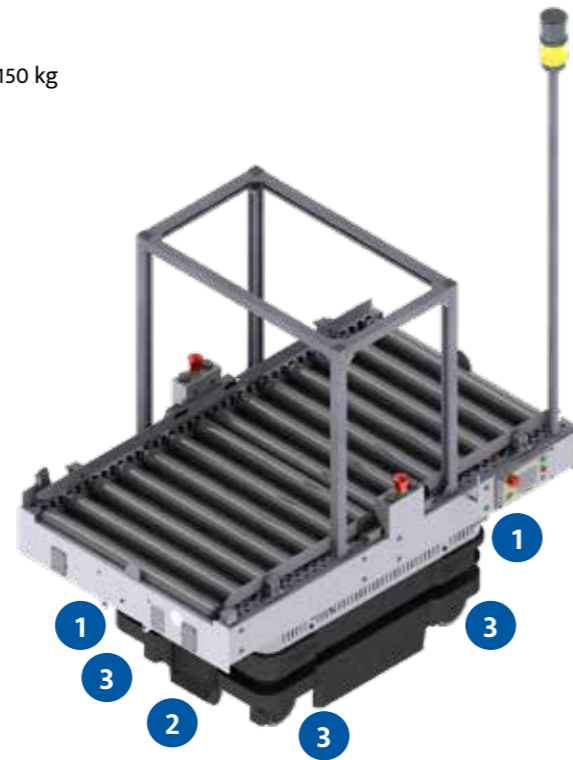
**Dimension**



**Roller based front and rear loader**

- Free navigation without aids
- Load capacity up to 150 kg
- max. speed up to 2,0 m/s
- Transport goods: 2 PCB Magazines 320 x 355 mm bis 535 x 535 mm
- Transfer height: 550 mm

- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor



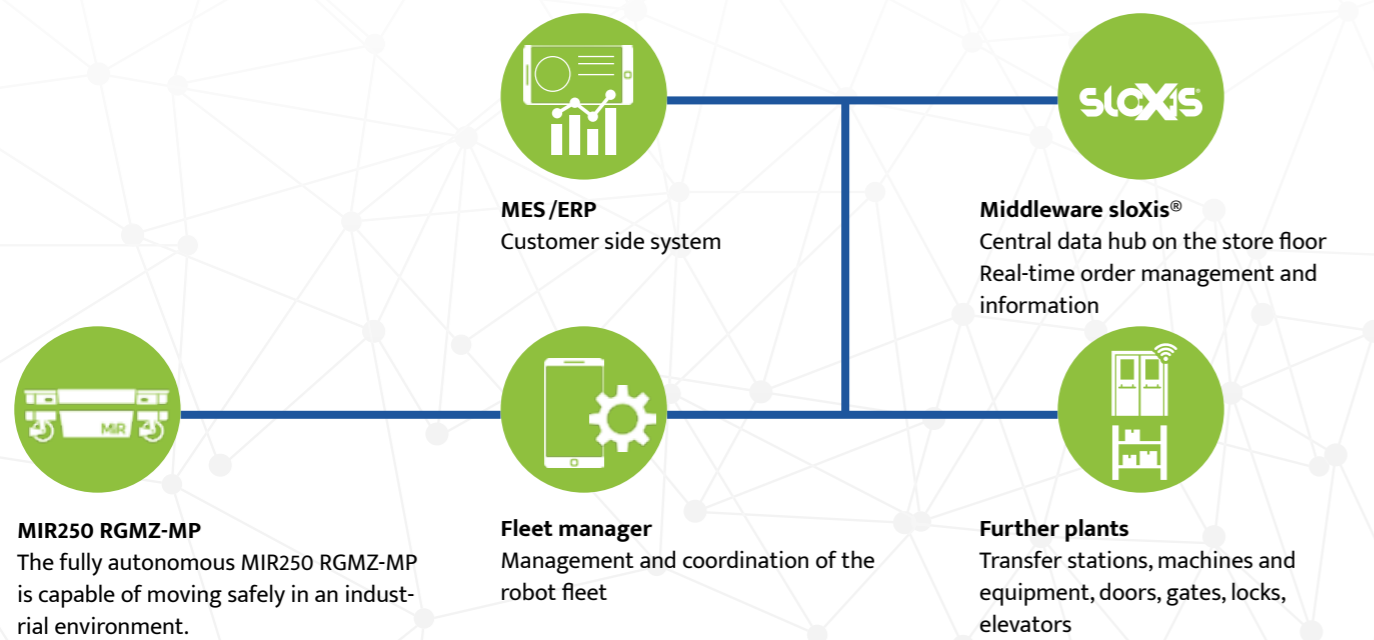
**Details**

<b>Mapping</b>	Mapping method	Scanning in which the mobile robot is guided through the environment
<b>Safety functions</b>	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
<b>Working environment &amp; Floor condition</b>	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
<b>Connection</b>	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

**Areas of application**

Transport of large and heavy PCB magazines, stacks and trays. Automatic loading of SMT lines, transports for inspection/back-end assembly, magazines from/to storage, front and rear transfers ensure correct product alignment.

**Communication**



**Advantages at a glance**

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

**Options**

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version
- Extended safety package for heavy loads (>80kg)

**Battery**

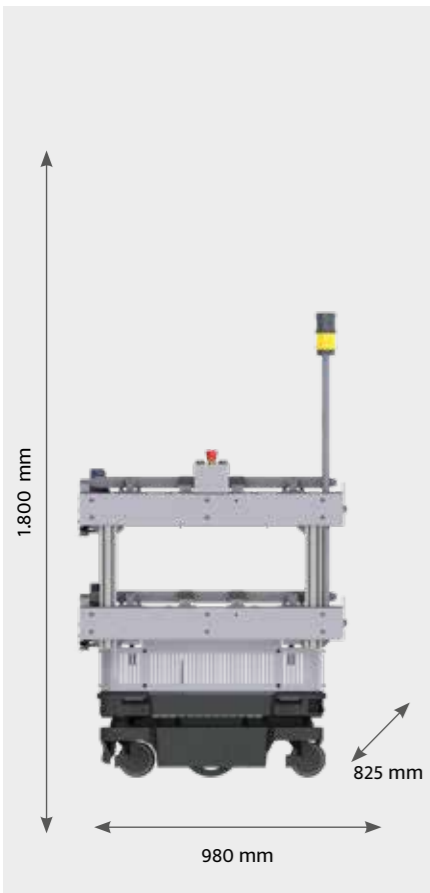
- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
- Charging time ca. 1 to 1,5 Std.
- Lifetime 3.000 charge cycles

**Charging station**

- 100-240VAC

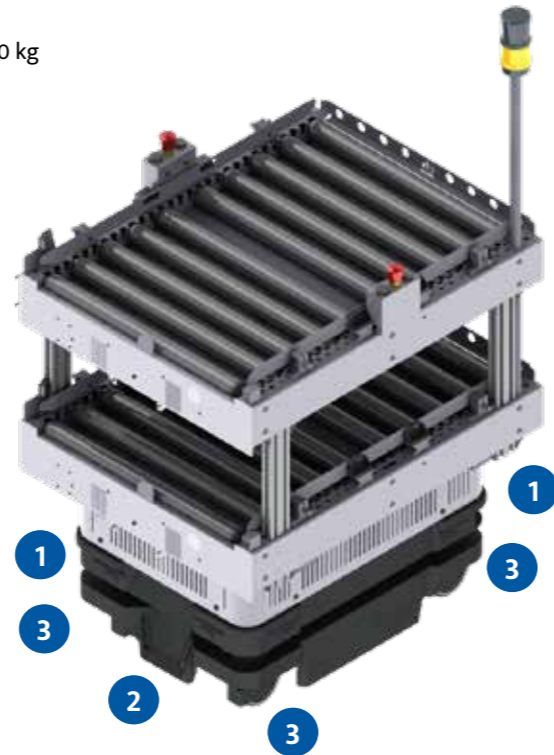
All data without guarantee.

Dimension



2-level roller based front loader

- Free navigation without aids
- Load capacity up to 150 kg
- max. speed up to 2,0 m/s
- Transport goods:  
KLT 800 x 600 mm  
KLT 2x 600 x 400 mm per level
- Transfer height:  
600 mm/1.000 mm



- 1** Main safety laser
- 2** 3D camera
- 3** Proximity sensor

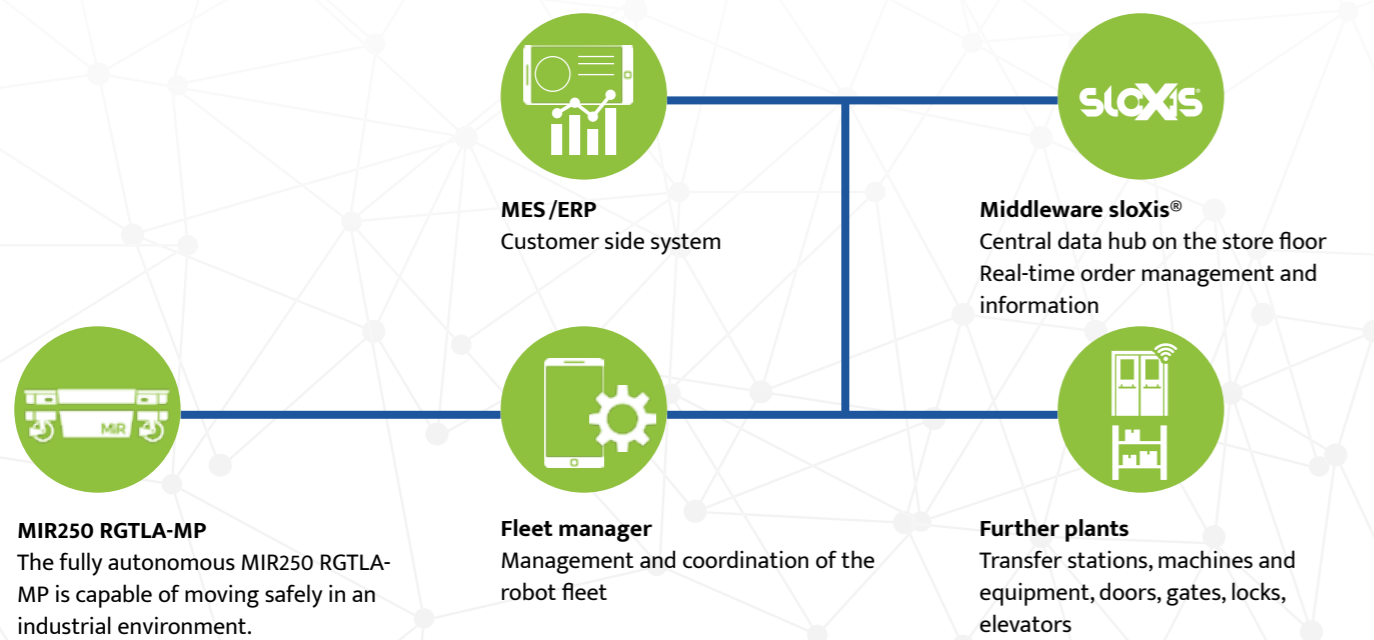
Details

Mapping	Mapping method	Scanning in which the mobile robot is guided through the environment
Safety functions	Safety laser	2 pieces detection range 360° 3D camera: object detection up to 1,800 mm up to a distance of 1.200 mm in front of the robot, 114° horizontal detection range
	Emergency stop Warning light Loudspeaker & Buzzer	2 on robot assembly Light on each side, top LED strips Onboard speaker, signal tower with traffic light and buzzer
	Interface	Manual mode
Working environment & Floor condition	Temperature range	5 – 50°C
	Humidity	10 – 95% (non condensing)
	Environment	For indoor use only
	IP class	IP20
	Floor condition Min. floor flatness	Linoleum, epoxy or concrete (no water, no oil, no dust) F <sub>r</sub> 25
Connection	Wi-Fi	2.4 GHz 802.11 g/n 5 GHz 802.11 a/n/ac

Areas of application

Perfect for feeding assembly lines with KLT box/trays/blister stacks while picking up empty containers and vice versa.

Communication



Advantages at a glance

- fully autonomous, no infrastructure change -> fast integration
- Scalable
- Adjustments possible
- Flexible to use
- ISO and CE certified

Options

- Automatic Width adjustment
- Adjustment height/width/length of conveyors for other transport goods
- Box centering
- Bluespot
- ESD-version
- Extended safety package for heavy loads (>80kg)

Battery

- 1-shift autonomy
- Li-NMC, 47.7 V
- Operating time ca. 8 Std.
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Charging station

- 100-240VAC





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