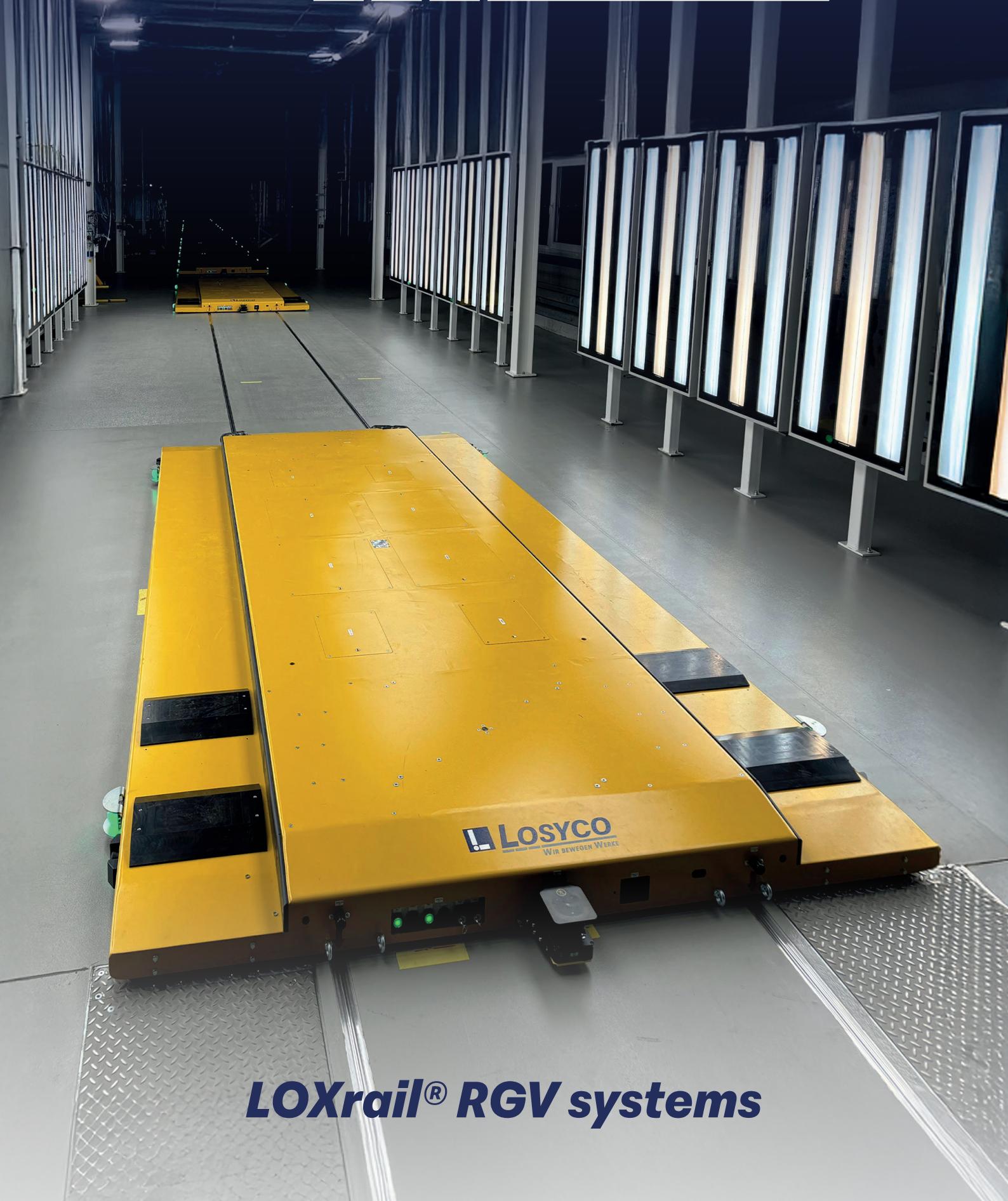


!- LOSYCO

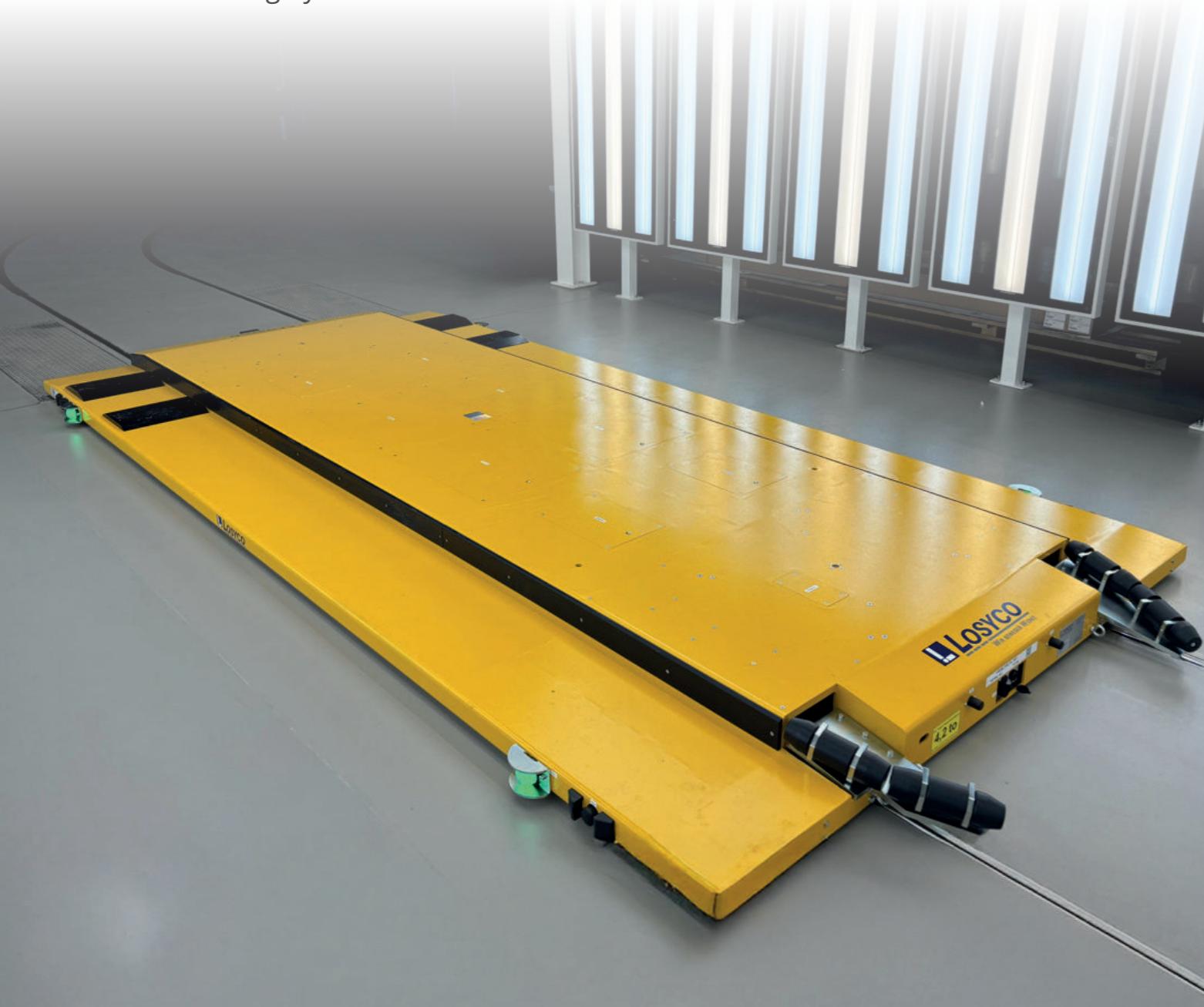


LOXrail® RGV systems

LOXrail® RGV system

Individual systems for moving loads in production lines highly automated.

Based on LOXrail® - the floor even rail system for heavy loads – we realize systems for the transport of various loads. The fully automated LOXrail® RGV system opens new options in the material flow of your products – reliable, robust and highly efficient.

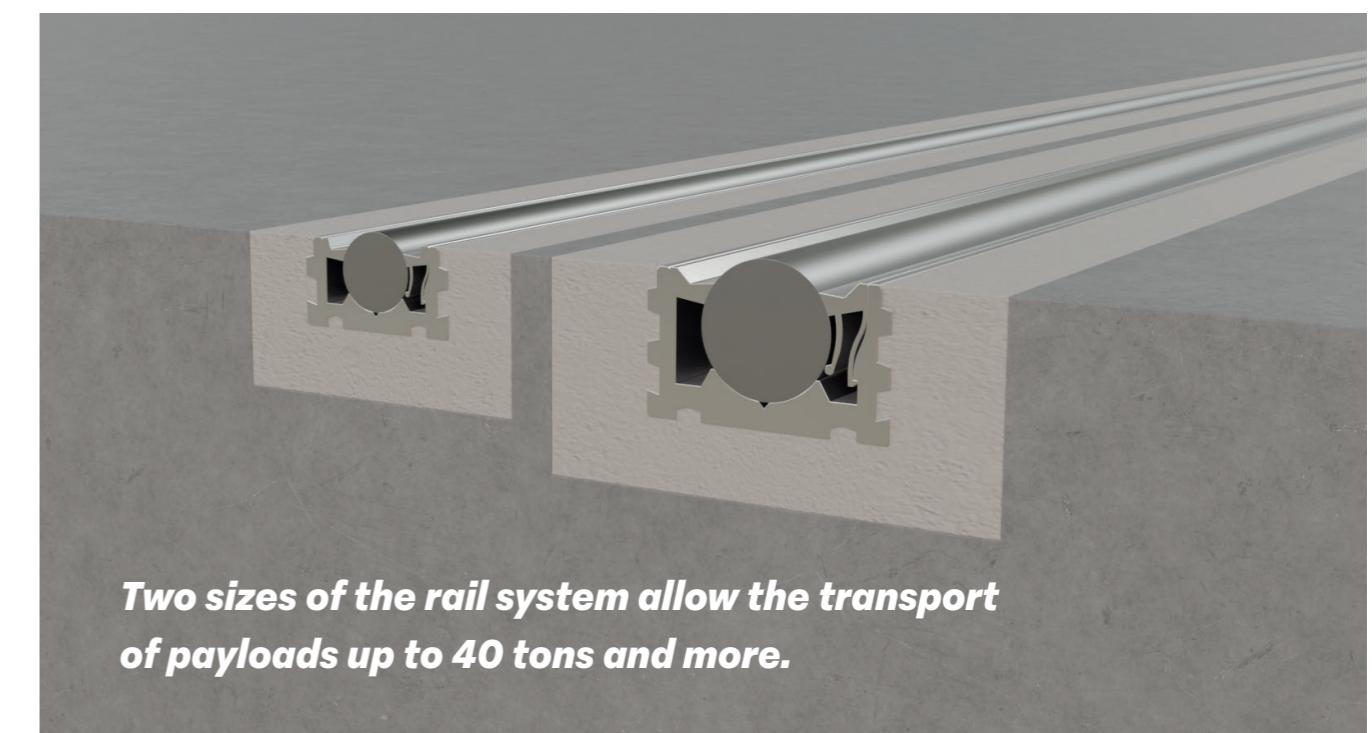


Floor even rail system

in two sizes for different loads

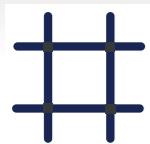
The basis of LOSYCO RGV systems is the innovative LOXrail® floor rail system. Quickly integrated in the floor, the rail system enables a precise positioning and an easy moving of heavy loads without damaging the concrete floor.

- Heavy loads easy to move due to low rolling friction
- No obstacle on the floor
- No risk of tripping
- Can be easily crossed
- Easy to clean
- Extensibility and flexibility through crossings
- Wear-resistant & replaceable rolling surfaces



Flexible and individual layouts

To ensure a individual transport of loads in different layouts there are different systems for changing the driving direction, turning or highly flexible curve elements. With these options nearly every material flow path can be realized.



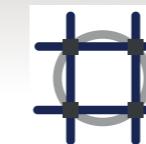
LOXrail® Crossing

- Crossing elements in the floor
- Changing the direction of travel in the cart or trolley



LOXrail® Turnstile

- Turntables for turning the trolleys or carts
- Change of direction of travel stationary embedded in the floor to keep the trolleys or carts more simple



LOXrail® Allrounder

- Change of direction of travel in the trolley or cart
- All-rounder crossing elements in the floor
- Extension to include rotations easy to implement



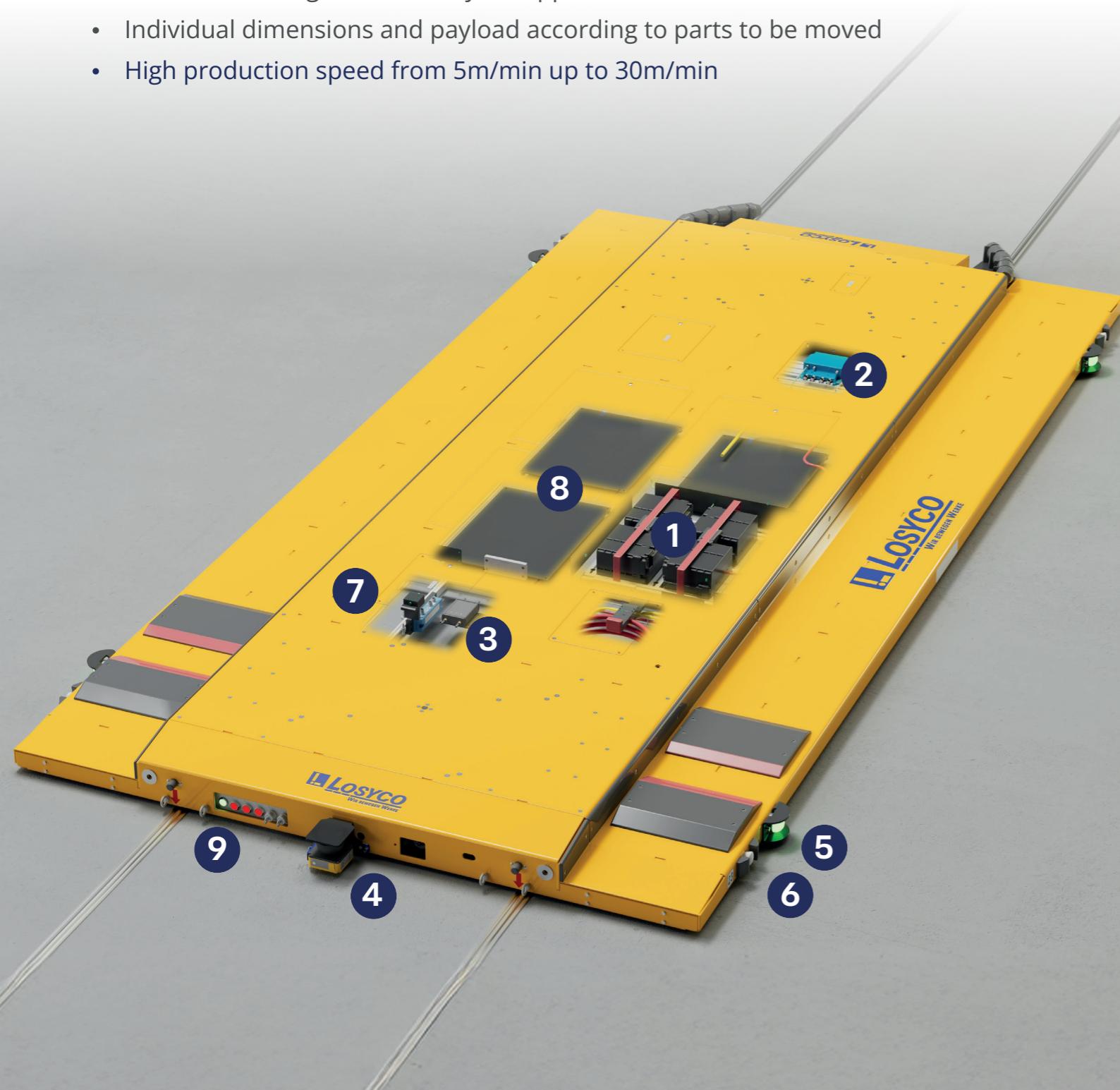
LOXrail® Curve

- Curve elements with optional switches
- Trolley with steering chassis

The LOXrail® RGV shuttle

Your Application is our Motivation

- Flat chassis design tailored to your application
- Individual dimensions and payload according to parts to be moved
- High production speed from 5m/min up to 30m/min



Intelligent battery packs

Scalable Lithium battery system
Ready for fast-charging applications
Various capacities of system due to
modular battery modules



wireless charging

Charging pads integrated in the floor
Wireless quick charging of batteries
Number of charging pads and
size of batteries based on project
requirements



industrial WiFi

Innovative, continuous wireless network
connection to ensure an uninterrupted
communication and transmission
of safety signals even in challenging
industrial environment



laser safety scanner

Laser scanners for obstacle detection and
scan of environment. In-line change of
scanfield to avoid detection of permanently
present pillars and structures nearby, or
to pass doors or gates



status lights

Combined multi-color light and acoustic
signal elements indicate status of RGV
Additional announcement of start of
movement or if an obstacle is detected
in warning field of safety scanners



Emergency stop switch

Additional hardware e-stop buttons
allow a maximum of safety and stop
the RGV immediately



RFID transmitter

Transmitter and receiver system for
locating vehicles in a circular route
on the rail system



integrated switch cabinets

Components of control system fully
integrated in RGV structure
Adapted to individual installation space
Fully accessible from the top



Control unit and service point

Basic control panel for starting and
stopping the RGV
Interface for mobile panel
Switch for service mode

Intelligent batteries and wireless charging



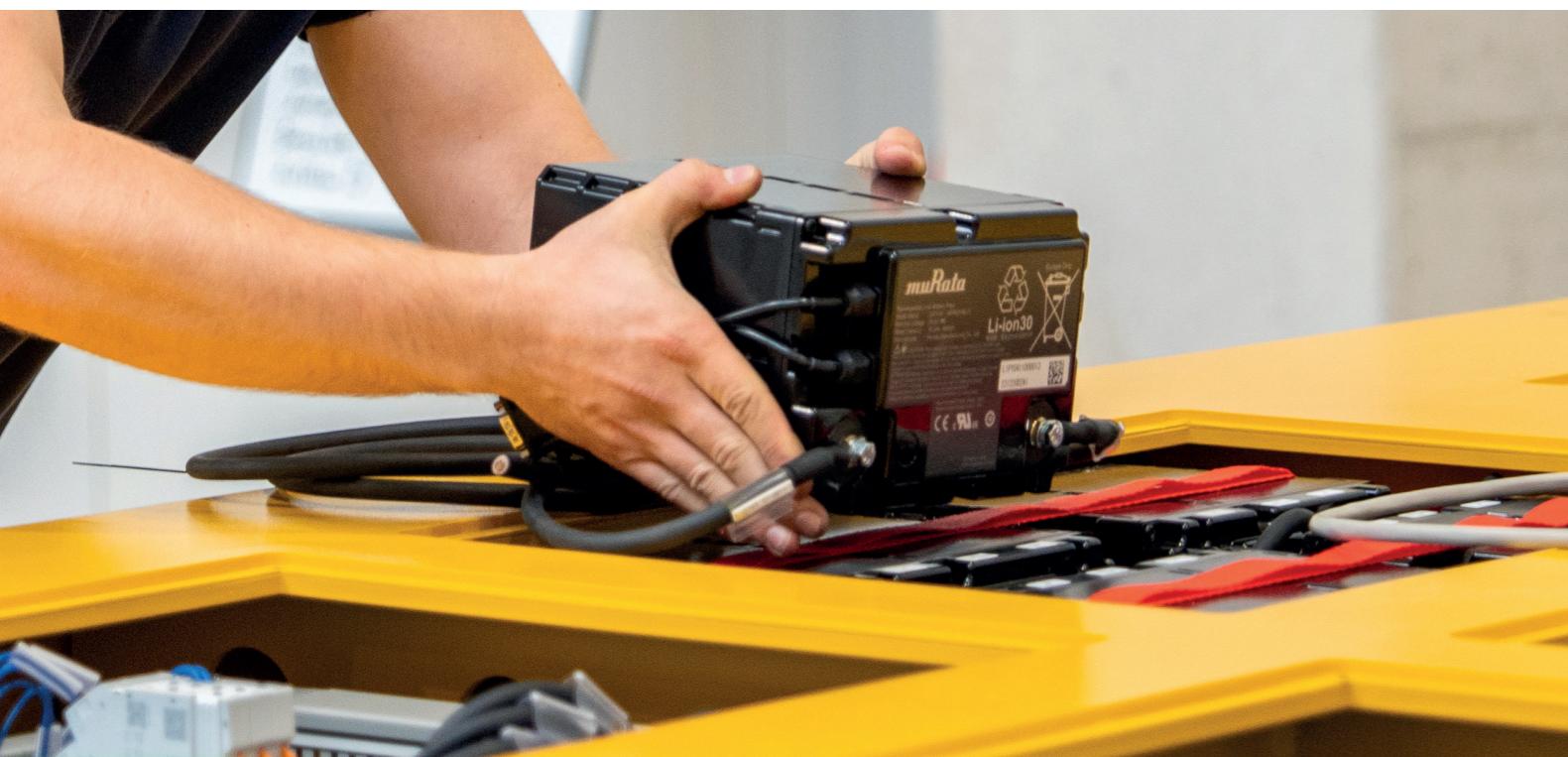
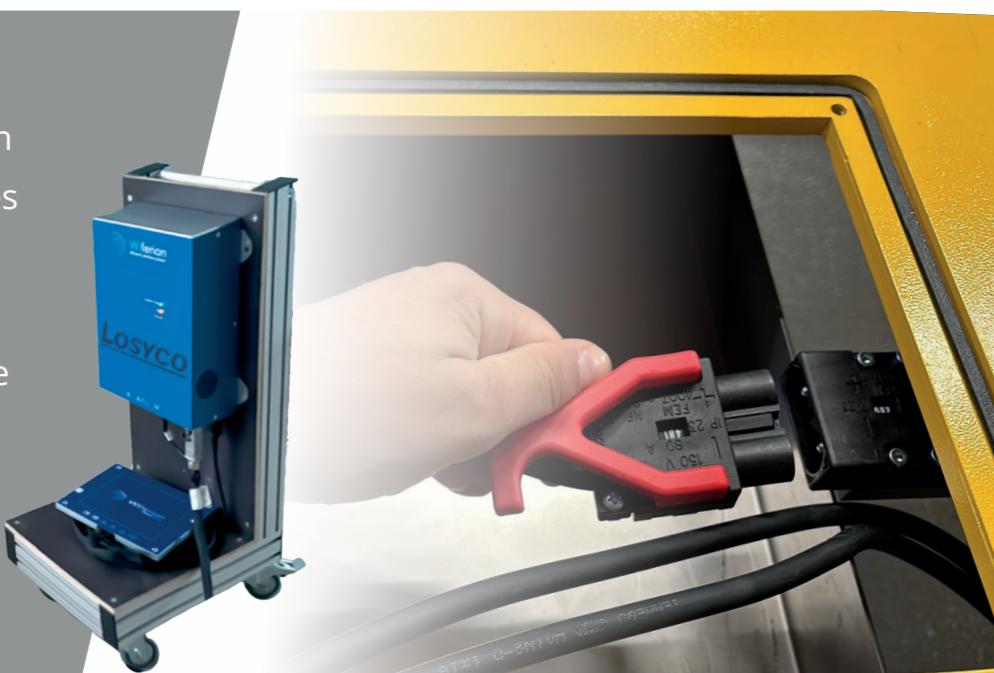
Scalable energy supply and wireless charging

- Battery packs selected based on the project requirements
- application specific designed charging stations embedded in the floor
- Fast charging points enable complete charging during the assembly process



Optional mobile charging trolley

- Mobile charging trolley for a uninterrupted production process in emergency cases
- Wake-up function to wake-up batteries in case of an unforeseen deep discharge
- For the optional wired charging option the unit can be quickly plugged to battery system

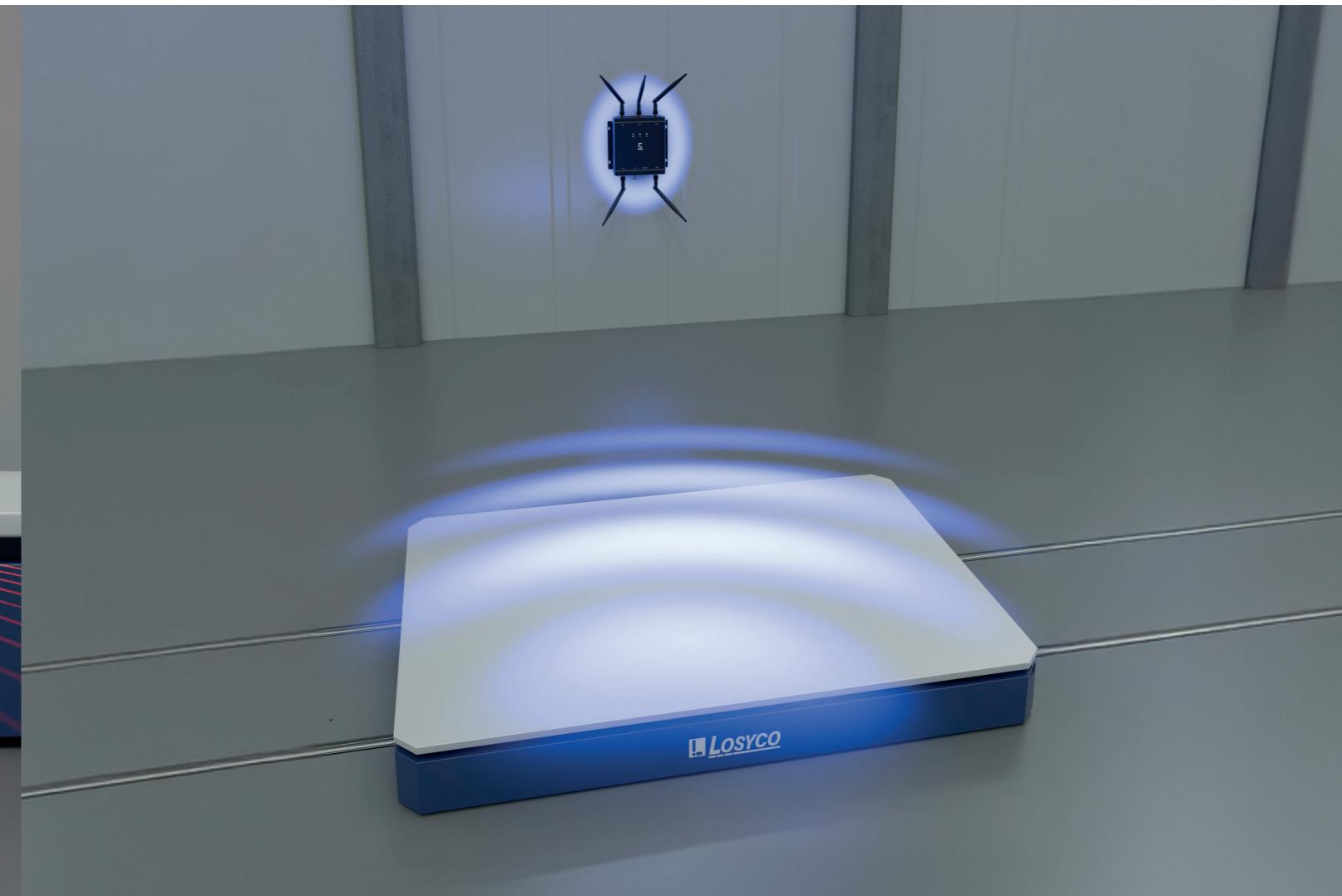


Safety scanner for obstacle detection

- Safety scanner for monitoring the driving area detects obstacles and stops the RGV before a collision occurs
- Scan area is freely programmable and divided into two sections (warning field and stop field)
- Together with the safe positioning system the scan areas can be switched in the process to fade out gates or pillars

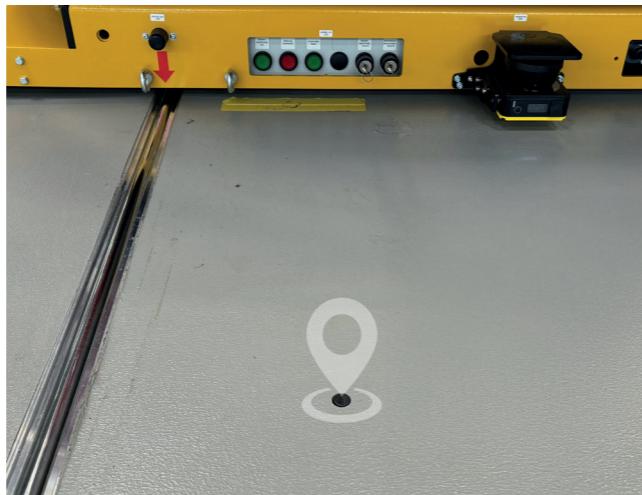
**Safe industrial WI-FI for challenging environments**

- Access points and mobile clients in the RGV ensure safe communication and signal transmission between the RGVs and main control system
- Virtually latency-free roaming between multiple access points ensures signal transmission at all times - even for safety signals.



RFID positioning system

- Wireless positioning sensors to identify the position of the RGV along the tracks
- Programmable RFID tags in the floor and antenna in RGV
- Positioning accuracy of less than +/- 2mm possible



Control unit and service point

- Basic functions can be operated directly at the RGV
- For service and maintenance operations the RGV can be set in a service mode
- Disconnection of batteries to set the shuttle in a safe transport mode



Integrated controls system

The PLC manages the functions of the RGV and communicates permanently with the main control (position on the track, status of batteries, driving speed or safety signals). The electrical components are fully integrated in the chassis frame and can be accessed from the top.



mobile panel

Although all RGV information can be viewed at the main stationary control stations, each vehicle has the option of connecting a mobile panel to fully control the vehicle. In addition to the driving commands in manual mode, the following information can be displayed directly:

- status of batteries (SoC, temperature)
- status of drives and configuration of parameters
- status of all internal sensors
- RFID system
- safety scanner status





! **Losyco**