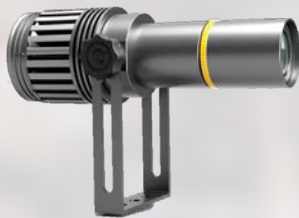


OVERVIEW CATALOG

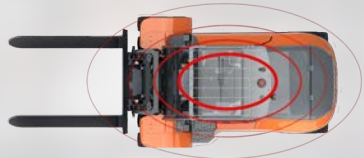
INNOVATIVE SAFETY SOLUTIONS

Catalog contents

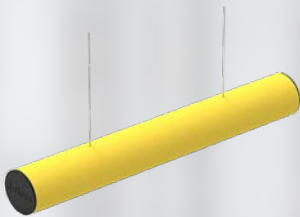
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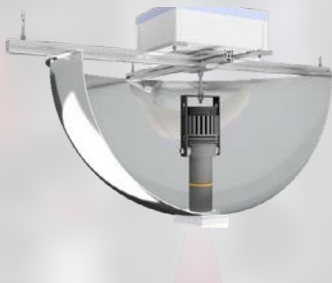
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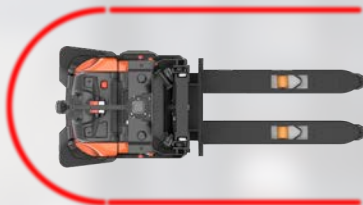
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Innovative safety solutions

LED floor marking & anti-collision system

marking of the danger zone in the immediate proximity of the crane

LED floor marking

LED technologies

Light floor marking with LED technology offers 3 possible types of projection of signs or various symbols on the floor: lighting (24/7), flashing, pulsating. In order to achieve the maximum elimination of operational blindness, LED marking can be activated for pre-defined movement (pedestrians and handling or crane equipment).



activation by movement



flashing or pulsating



non-stop lighting (24/7)



Combined symbol
Lear Corporation s.r.o.

Marking of loads carried by cranes

The marking draws attention to the movement of the transported load and visualizes its position. The increased level of safety allows the crane operator to handle the load faster, which leads to an increase in work efficiency and a reduction in human factor errors.



Moving loads
Franke Slovakia, s.r.o.

Industrial LED projector

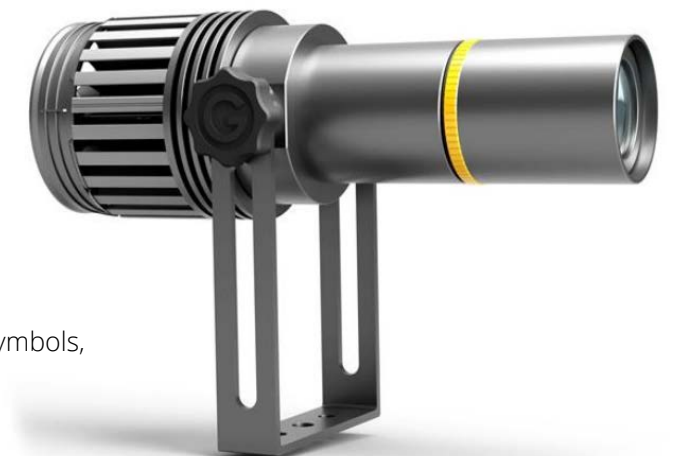
The LED light marking system is based on an industrial LED projector with an active or passive type of cooling. The projectors are dustproof with IP protection 65. Light marking is suitable for all types of industries, from automotive to food or heavy, metallurgical industry.



industrial design
suitable for all industrial environments



industrial marking
wide portfolio of signs and symbols, possibility of own design



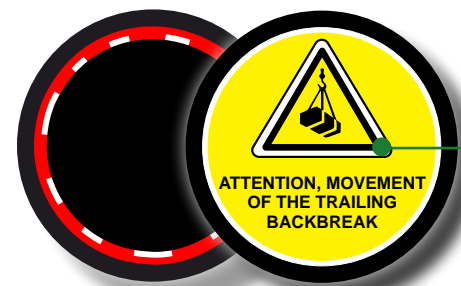
LED technologies

examples of use

01

Moving loads - industrial marking for overhead cranes

The projected sign warns against the movement of the equipment and indicates the position of the hook/load for employees and others in the proximity of the crane. The shape of the safety symbol can be either circular or rectangular - depending on the shape of the load. The projection of the danger zone around the load can be activated for the entire time the crane is activated, or, for example, if the crane is in motion.



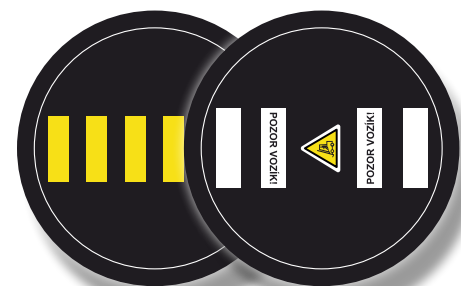
vector design
of GOBO glass

02

Large dimensional symbols - pedestrian crossing

A wide portfolio of signs offers symbols of large dimensions, for example a pedestrian crossing, or symbols composed of several signs in one. The size of the resulting symbol on the floor depends on the installation height of the projector.

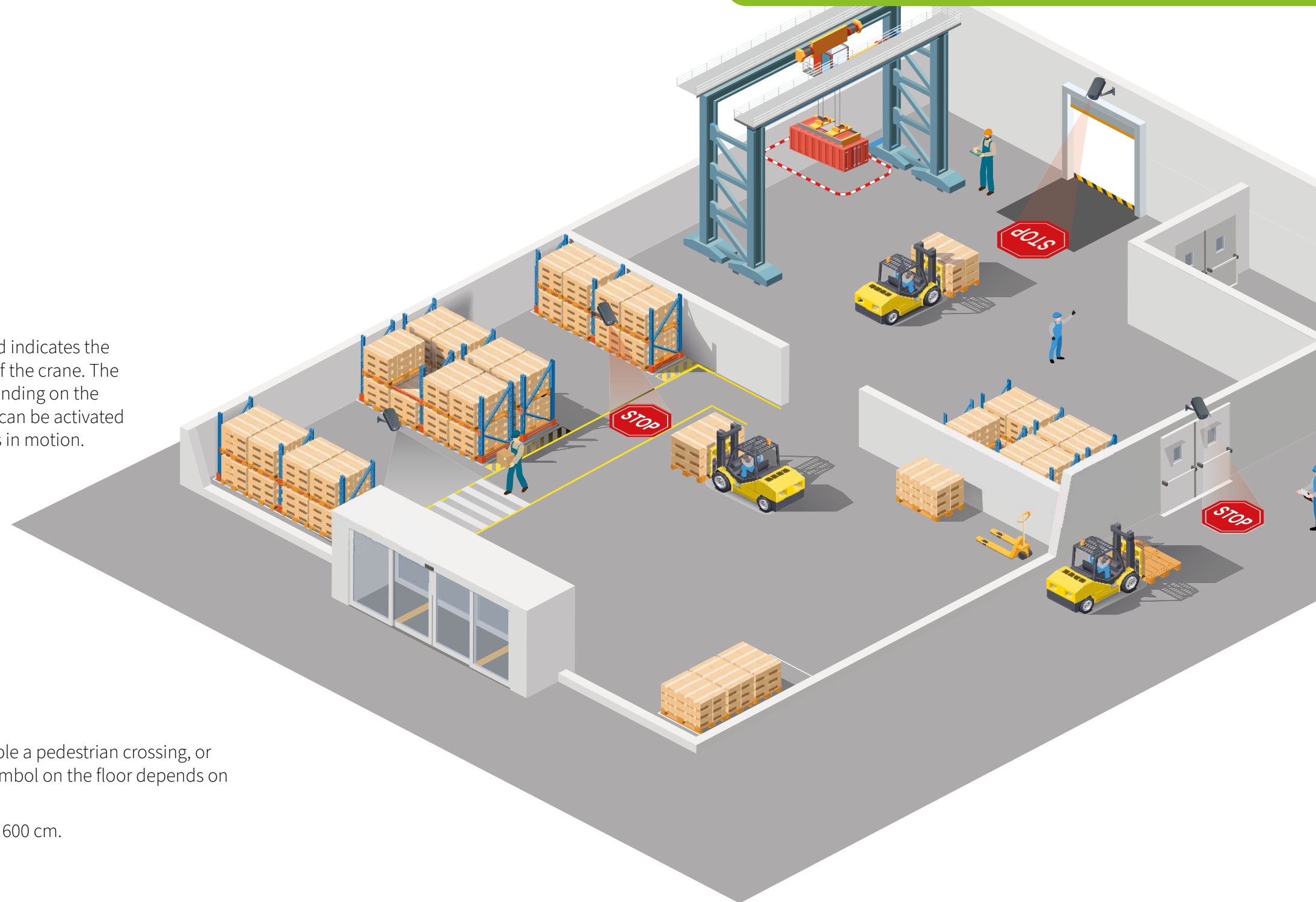
For example: 10 m installation height - symbol size (ø) for 1 projector - 600 cm.



03

Standard ISO symbols and design to order

It is possible to choose from all kinds of standard ISO symbols and symbols according to customer's own design to order, for example a company logo or a combination of selected standard symbols in one.



Frequently used types of symbols



entrance ban



STOP symbol



forklift symbol



multi symbol

Smart controlled intersections

dynamic floor marking

Dynamic floor marking increases safety in workplaces with a high frequency of movement of handling equipment. The LED projection of the crossing for pedestrians with a warning symbol is controlled based on the presence of handling equipment in the dangerous zone of the crossing.



pedestrian crossing
visible during safe operation =
forklift is not in reach



STOP symbol
visible in case of danger of
collision = forklift in reach



UWB/senzorics
detection of the presence of
forklift to the intersection



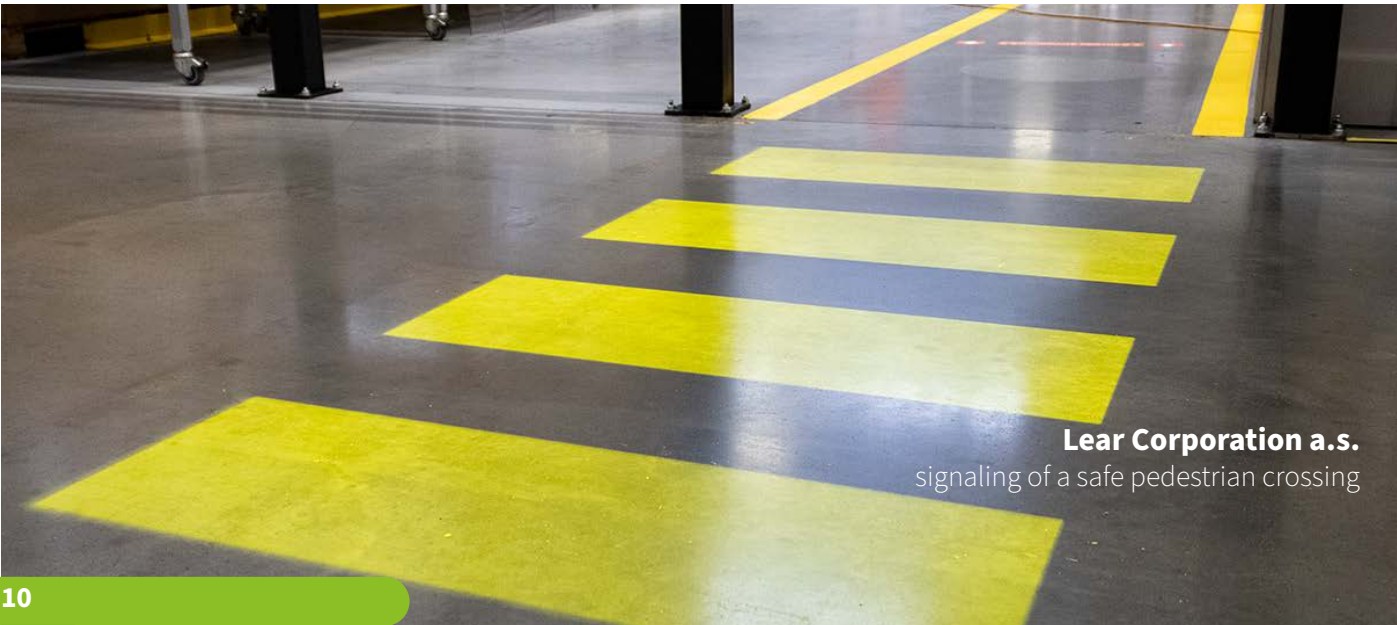
Lear Corporation a.s.
Signaling of danger of collision with forklift

CHARACTERISTICS OF INTELLIGENTLY CONTROLLED INTERSECTIONS

ROI	return on investment 1.25 years, depending on the frequency of renewal of markings
technologies	intersection control using a motion sensor or through the UWB anti-collision system
interactivity	dynamic switching of symbols depending on the movement of the manipulation technique
to order	choice of symbols and colors according to the customer's individual wishes

Automatic gate locking

When the handling equipment approaches, the gate automatically locks and prevents pedestrians from colliding with the handling equipment.



Lear Corporation a.s.
signaling of a safe pedestrian crossing





LED floor marking

illumination of warning symbol when forklift is approaching

Anti-collision systems

forklift vs forklift, forklift vs human

The autonomous anti-collision system prevents work accidents associated with operational blindness, blind spots in operation, movement of forklifts, crane and other handling equipment. The systems eliminate the risk of human error and warn both parties in time of the potential danger of a collision (optically, acoustically, opto-acoustically).

premium distributor



from fleet to fleet
compatible with all
manufacturers of handling
equipment



connectable with floor markings
activation of LED light marking by
movement of handling equipment or a
pedestrian

ANTI-COLLISION SYSTEM FUNCTIONS

forklift-forklift	autonomous deceleration of a forklift against a forklift in two predefined zones
forklift - pedestrian	autonomous forklift deceleration against a pedestrian, interactive warning of the pedestrian by vibrations
deceleration of the forklift in circular zones	autonomous adjustment of the maximum speed of the forklift in critical places (zones), e.g.: slowing down the forklift to a maximum of 4 km/h
deceleration of the forklift according to the direction of a ride	autonomous adjustment of the maximum forklift speed when entering halls and separate areas, e.g.: maximum forklift speed 6 km/h in the entire production hall (the system is deactivated when exiting)
forklift - LED floor marking	intelligent control of the LED floor marking according to the presence of a forklift in the proximity

Diagnostic station

Diagnostic station for immediate checkout of the battery status and the functionality of the personal tag.



TECHNICAL SPECIFICATIONS

technologies	UWB / Wi-Fi / BLE / RFID / combinations
communication	peer-to-peer between two tags
number of zones	safe / warning / dangerous
signaling in the cabin	optical / acoustic / opto-acoustic signaling



autonomous forklift deceleration in predefined zones or towards another forklift/pedestrian

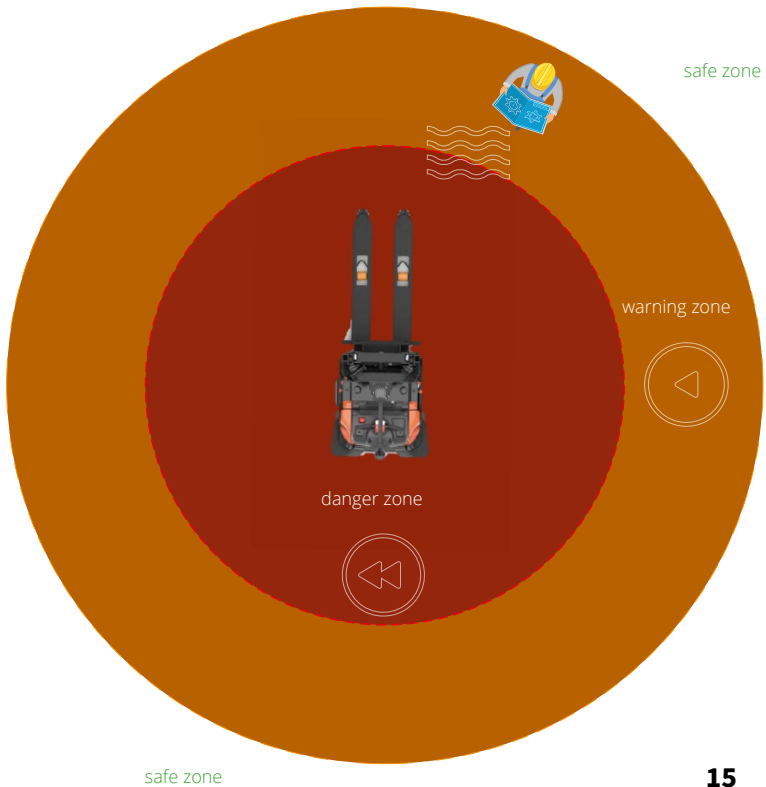
Two-phase deceleration of handling technique

Direct communication (peer-to-peer) between the tags installed on handling equipment and the tags equipped with pedestrians ensures the protection of forklifts and employees from accidents caused by lack of visibility and inattention in blind spots of operation. Wireless communication triggers predefined actions, which can be: slowing down the forklift, starting or switching the LED light marking, vibrating the personal tag, light signaling of danger in the forklift driver's cabin and others.

immunity RGB button



opto-acoustic RGB beacon



Anti-collision systems

examples of use

01

Forklift anti-collision system

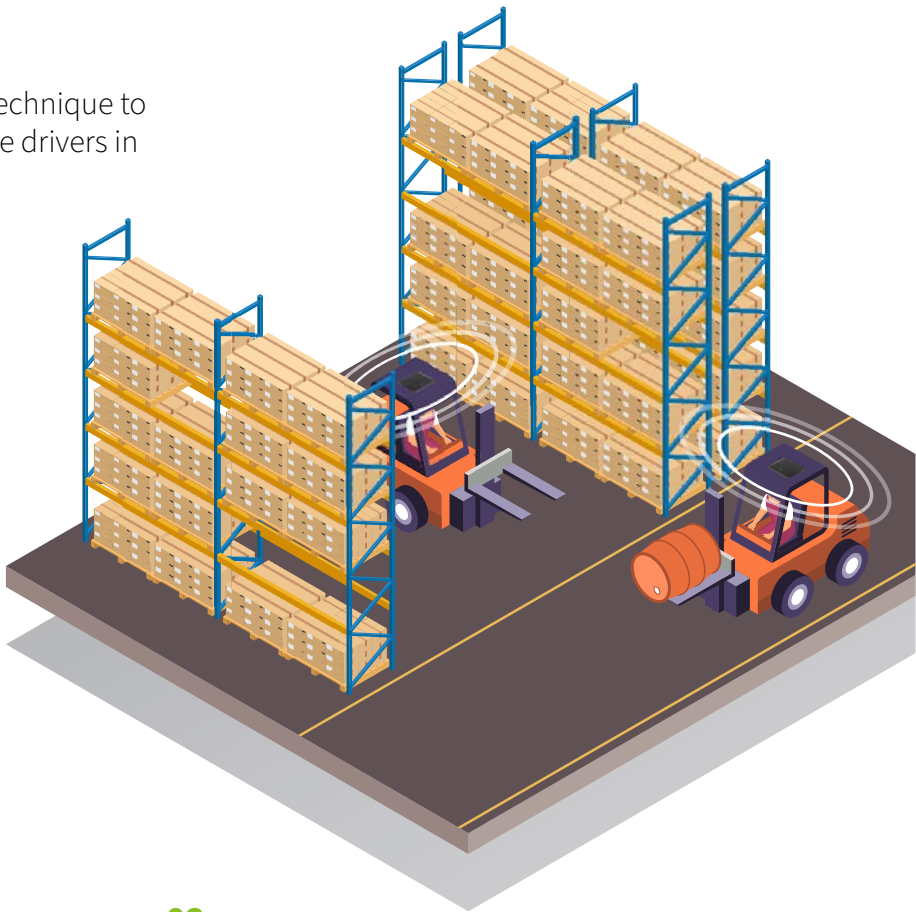
Autonomous slowing down of the handling technique to the minimum possible speed. It is warning the drivers in the cabin using opto-acoustic signaling.



portable from
fleet to fleet



autonomous forklift
slowing down



02

System against collision with pedestrians

Autonomous reduction of the speed of handling equipment in the dangerous proximity of pedestrians. Active warning to driver about pedestrians using a personal tag using opto-acoustic signaling inside the cabin.



interactive protection
for pedestrians



elimination of operational
blindness



03

Smart management of floor markings

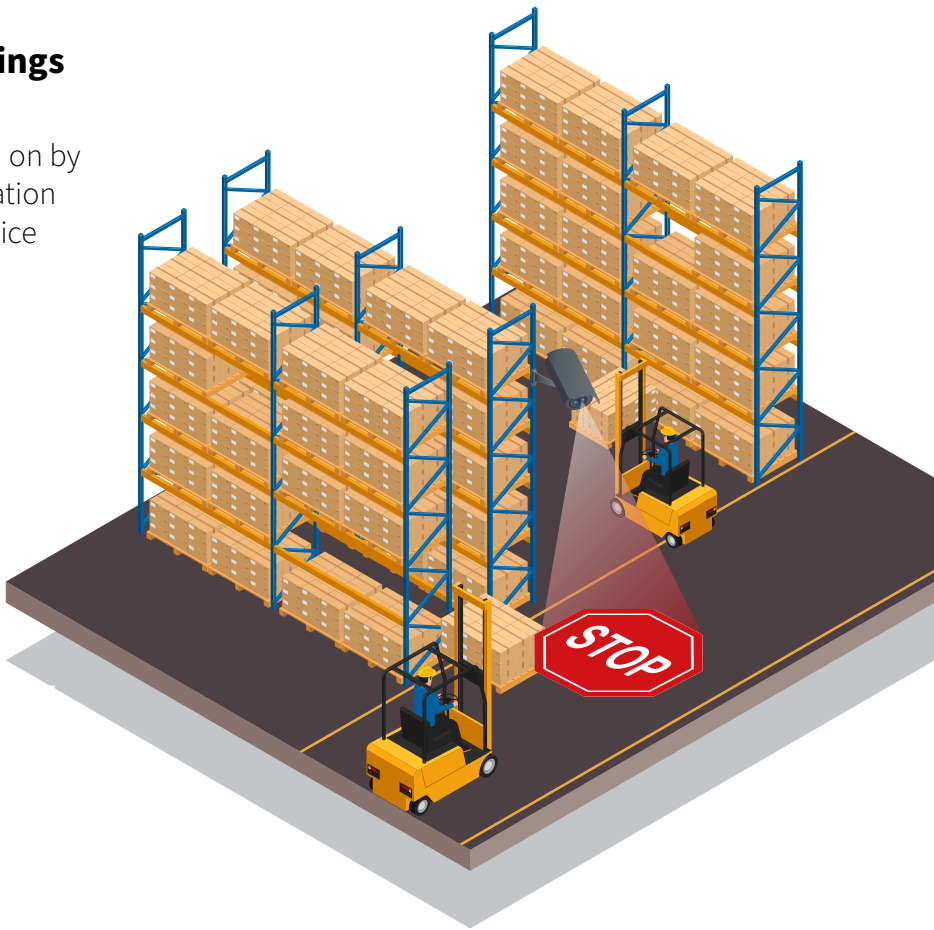
Projection of safety floor markings switched on by forklift movement. Peer-to-peer communication between the forklift tag and the reading device connected to the LED projector.



elimination of
operational blindness



risk reduction of
near misses



04

Deceleration of forklifts in zones

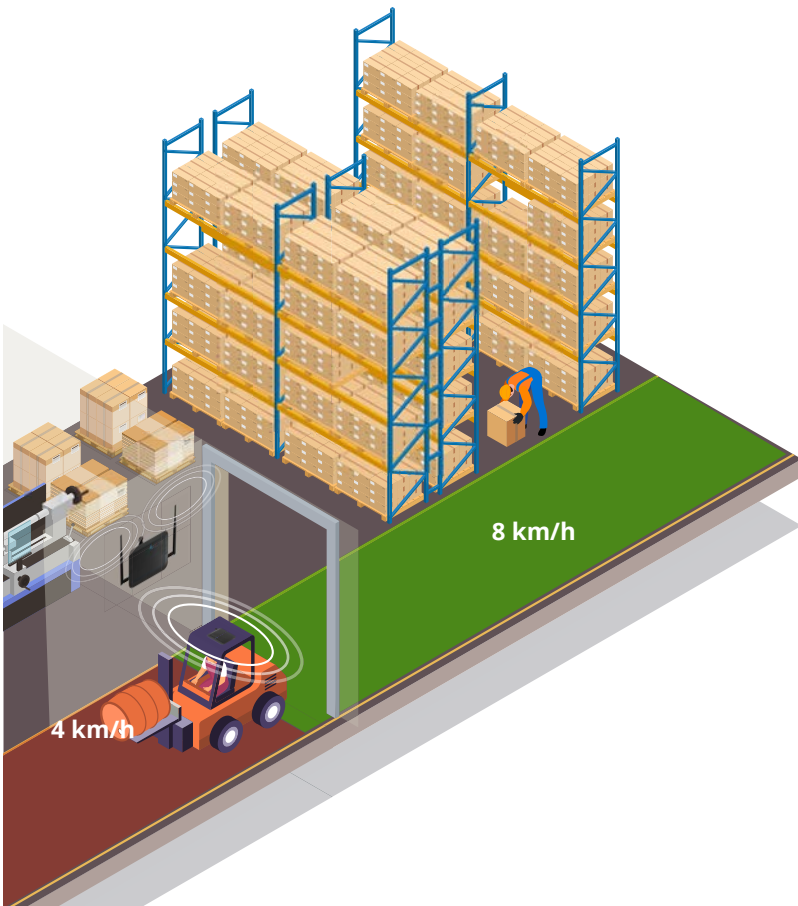
Autonomous deceleration in the zone according to the direction of the forklift to a predetermined maximum speed. Often used to slow down within selected sections and dangerous sections.



deceleration of the forklift to
maximum predefined speed



possible detection
of ride direction




Anti-collision systems


examples of use

05

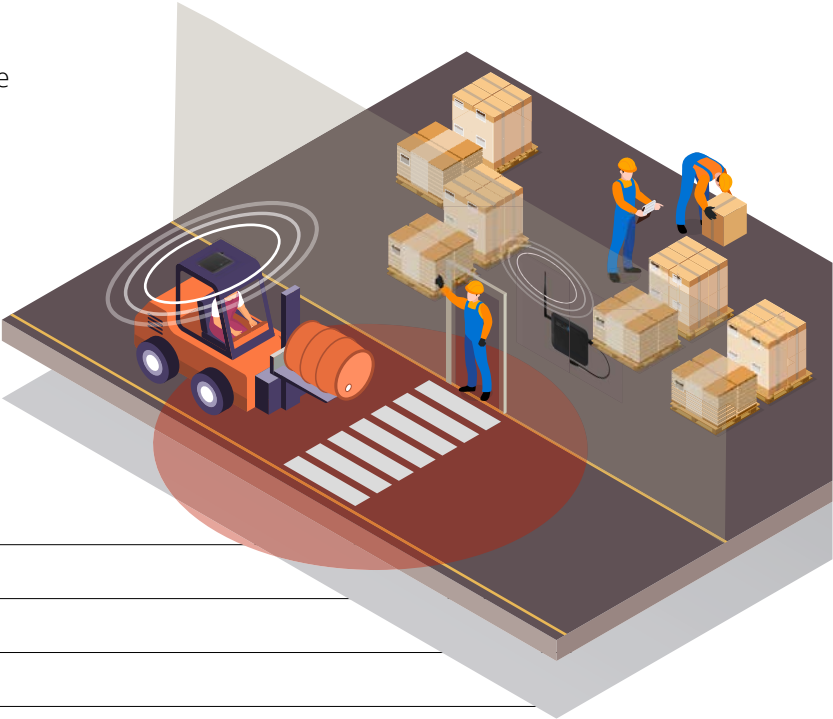
Forklift anti-collision system

Autonomous deceleration to the required speed when entering the critical zone followed by acceleration to the original speed when exiting.

- 

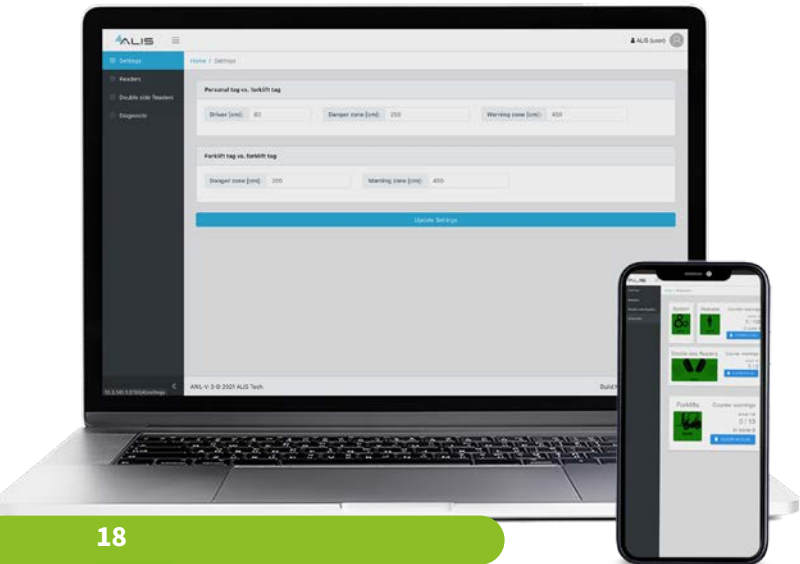
pre-setting of speed in dangerous zone
- 

reduction of near misses



CHARACTERISTICS OF ZONAL DECELERATION

zone quantity	1 reading device = 1 zone
technology	UWB wireless technology
forklift speed	according to customer´s needs
zone size	up to 20 m / 1 reading device
examples of use	at the entrance of pedestrians to the road, near toilets and offices, at risky places, in entire production halls
extension	connection to LED projection (e.g .smart controlled intersections)




Mobile and web application


Mobile and web application for easy and immediate changes in anti-collision system parameters.

06

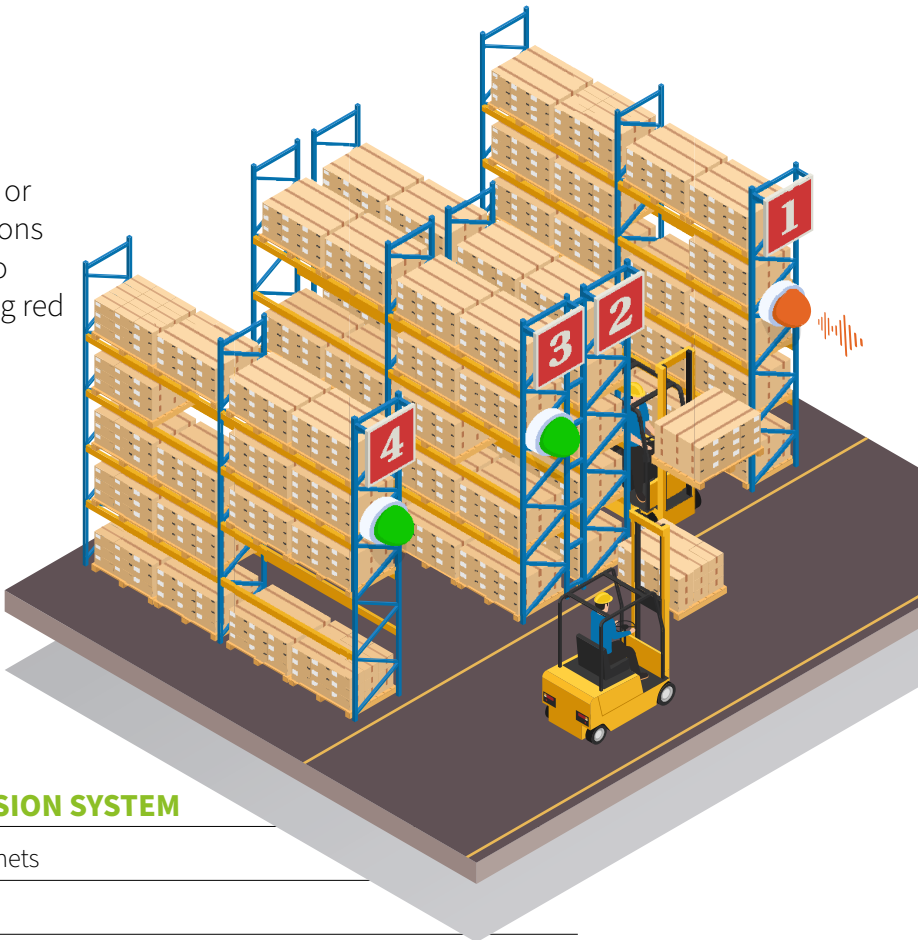
Rack anti-collision system

Collision warning system designed to reduce or eliminate accidents at blind corner intersections and in racks. The device is equipped with two forms of alarm – a visual one (a bright flashing red light) and sound (a loud audio warning).

- 

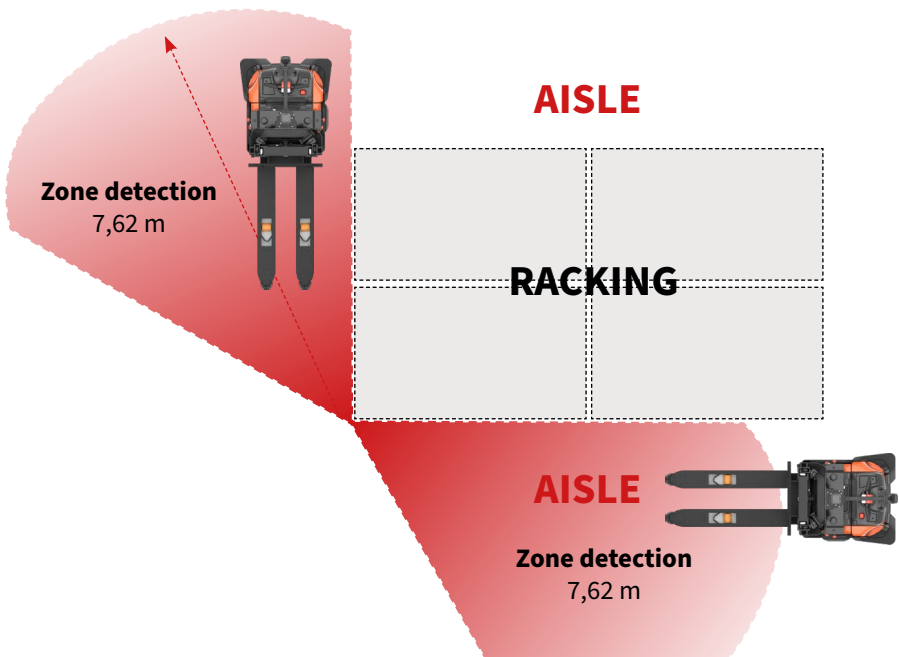
elimination of operational blindness
- 

risk reduction of near misses



CHARACTERISTICS OF RACK ANTI-COLLISION SYSTEM

installation on racks	mounted with strong magnets
danger signaling	visual and sound alert
power	self-powered (standard D-cell batteries)
size of zone detection	7,62 meters
number of zones	2 detection zones





Protection of pedestrians and visitors in operation
Signaling the danger of a collision with a forklift

1.
on-site visit

2.
solution suggestion

3.
production of a
custom-made system

4.
installation

5.
service
maintenance

customized solutions

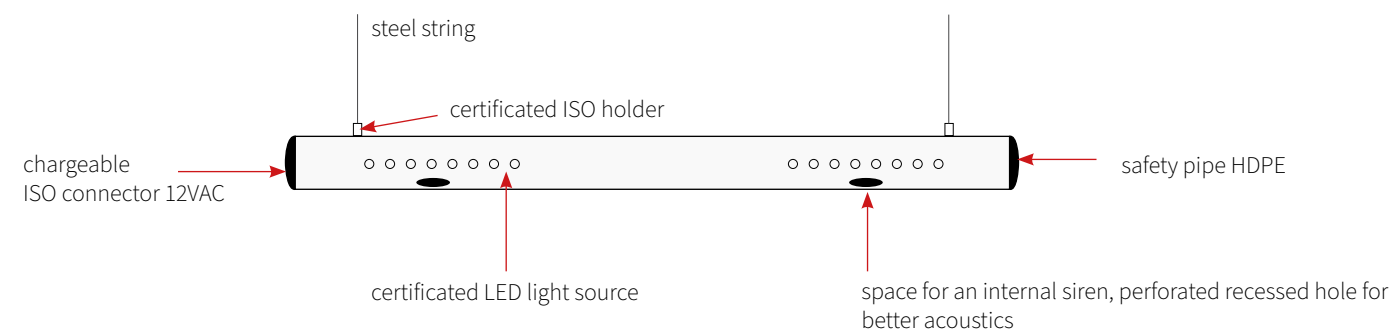


signaling barrier
tested in Maier CZ s.r.o.

Signaling barrier

Interactive safety elements

Ensuring safe passage under lowered profiles without accidents caused by excessively raised loads. The system is equipped with an intelligent touch sensor, which triggers a high-frequency sound alarm and flashes LED signaling lights in the event of an impact.



TECHNICAL SPECIFICATION

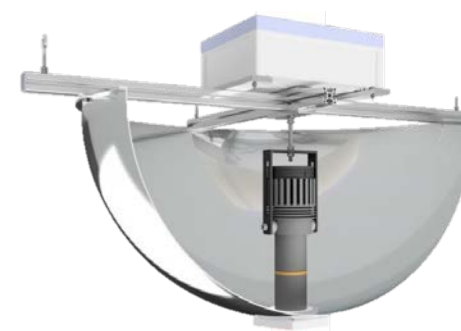
Dimensions	1 800 x 140 [mm]
Power type-standard	12 VDC - 230V AC
Siren duration	7 seconds
Siren volume	102 dB

Luminous intensity	79lm/M
Color	RAL 1021
False alarm detection	smart impact sensor false alarm proof (e.g. wind)
IP code	IP 20 standard IP 44 possible

Smart parabolic mirror

interactive OHS elements

Smart parabolic mirror with built-in intelligent LED light marking system.



TECHNICAL SPECIFICATION

mirror size	Ø 100 [cm] standard / Ø 80 [cm]
material	acrylate, polyacrylate
characteristics	pedestrian detection vs. forklift; distinguish ride direction; activation of LED floor markings (range up to 12 m)
signalization	light signaling of the ride direction
LED lights	pulsating / flashing / 24/7 lighting; activation of LED projector when the forklift approaches the cross road

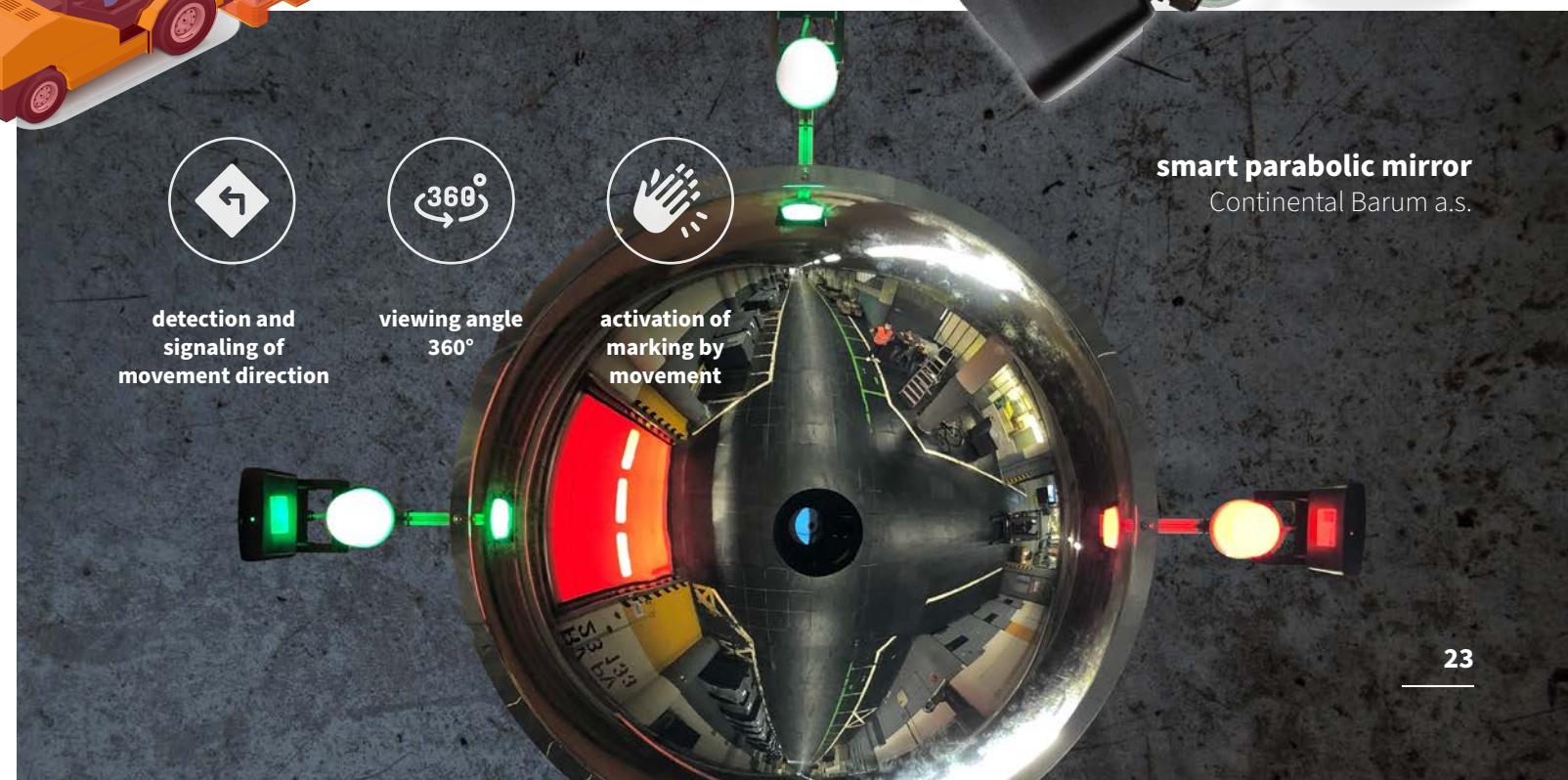


detection of the direction of arrival of the forklift to the parabolic mirror

signaling the direction of arrival of the forklift to the parabolic mirror



smart parabolic mirror
Continental Barum a.s.



TECHNICAL SPECIFICATION

Lifetime	up to 200 000 cycles
Power	battery AA (3.6V / 2 500 mAh)
Variants	handle-handle, handle-knob
Cerification	EN 196/2010
Fire resistance	B
Material	stainless steel



LED safety handle
interactive safety solutions



durable shield forging
knob handle - handle shape L



shield forging
knob handle - handle shape J



durable shield forging
handle shape L - handle shape L



durable rosette forging
handle shape L - knob handle



durable forging
handle shape L - handle shape L

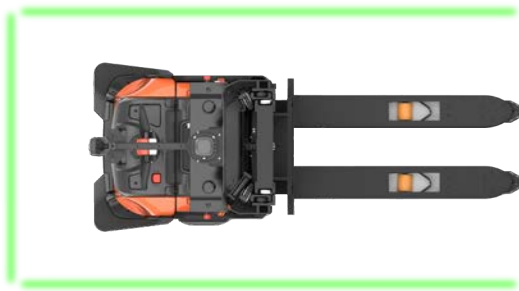


rosette forging
knob handle – handle shape J

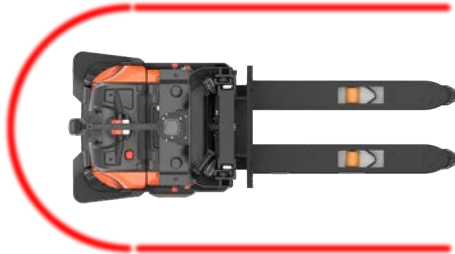


Forklift safety lights
protection when forklift moving

The light zone effectively signals to pedestrians a safe distance from the work space of the forklift truck. LED technology or laser light displays a red or green line on the floor and thus creates a „safe“ zone around the forklifts.



line -line



semicircle + line



LINE
with adjustable length



LINE
side installation to a forklift



SEMICIRCLE
back installation to a forklift



ALEDO S.R.O.

experts for innovative safety

Aledo has been operating on the European market since 2011. Our mission is to protect human lives and handling equipment in the busy working environment of medium and large enterprises.

We transform dangerous places in operation into safe workplaces without serious accidents and near misses, with the help of autonomous systems built on the latest technologies on the market.

Among our satisfied customers, we count a large manufacturing company from the automotive and food industries and the logistics sector.



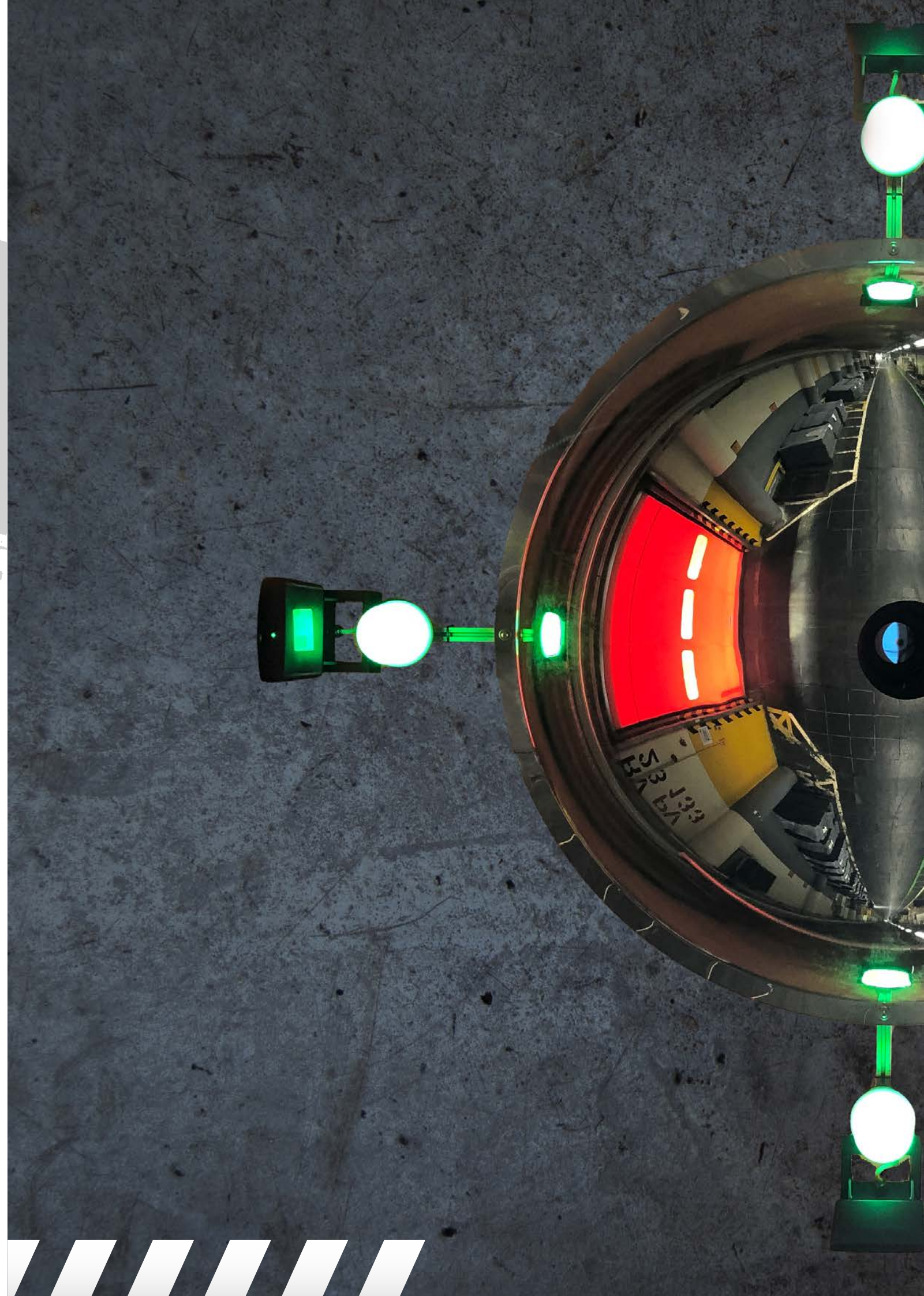
800+

REALIZED
PROJECTS

400+

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