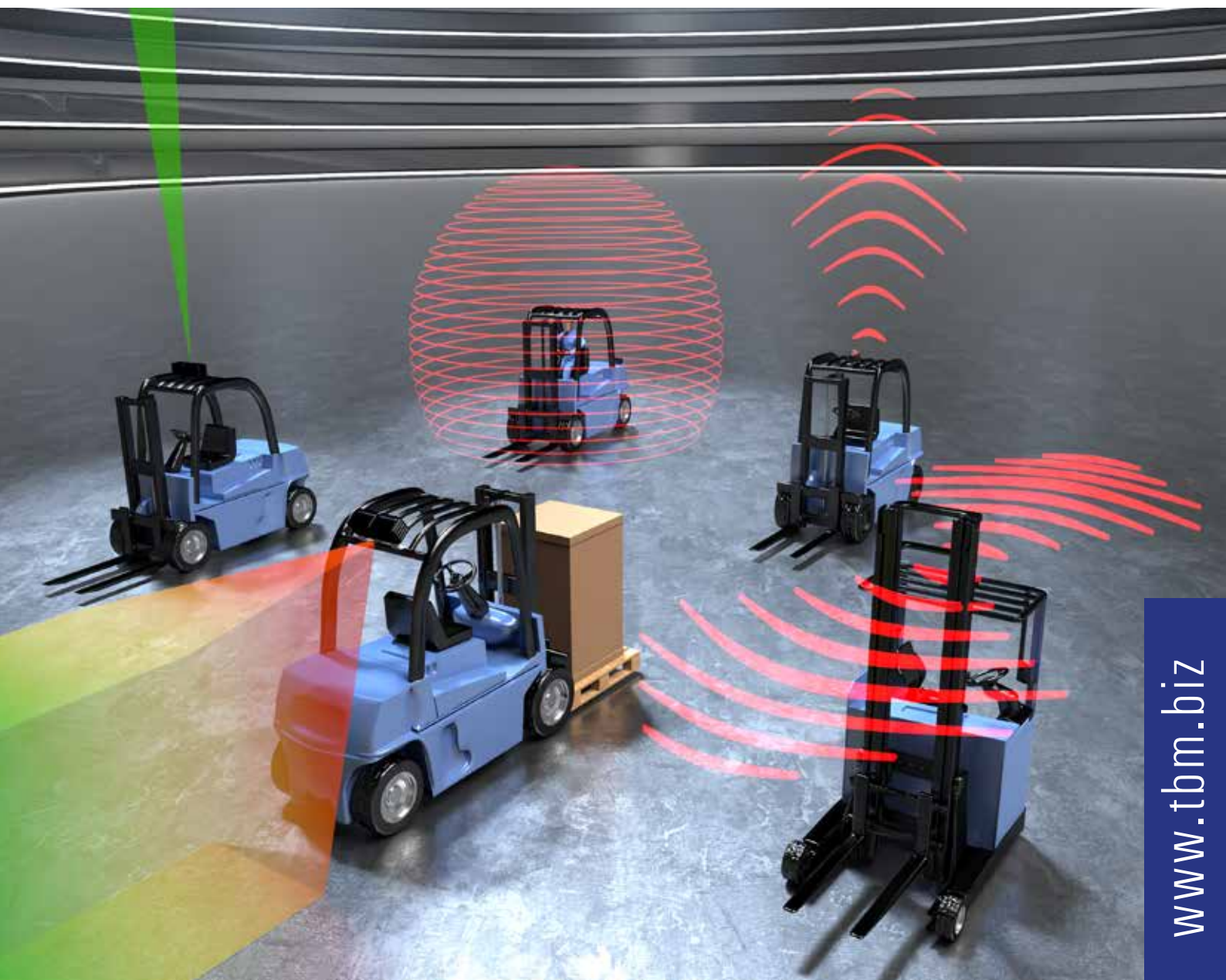


Range of products Driver assistance systems



tbm hightech control GmbH

a company with a long history and an exciting future

We have been the specialist for technical protective equipment in logistics for 30 years. Our work always follows the guidelines of Vision Zero. This is both an incentive and an obligation for us.

The strength and ideas we create come from daily contact with our customers, their trust and ever new challenges.



Innovative solutions and excellent products

characterise our path and have become tradition and common practice in many cases.

Satisfied customers

is our ultimate goal. Their appreciation validates our multiple award-winning products, which ensure safety in logistics.



Made in Germany/Supply Chain Management

is another maxim that we foster and maintain (pursue) and manufacture and distribute in our own production facilities. In doing so, we ensure compliance with the principles laid down in our business guidelines (code of conduct), e.g. on occupational health and safety, environmental protection, and sustainability.

Quality

We guarantee quality through our distinctive quality control before a product leaves our factory.

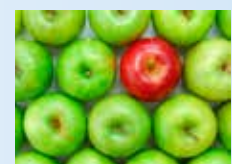


Regular production site inspection

by TÜV Bayern assures our customers of consistently high manufacturing quality in compliance with modern manufacturing standards, documented manufacturing processes and traceability. A certificate that fills us with pride.

Suitable for all systems regardless of manufacturer

this is true for all our assistance systems. They are solution-oriented and can be used with all vehicles from all manufacturers. To this end, we work together with all manufacturers and also qualify them for the benefit of our customers.



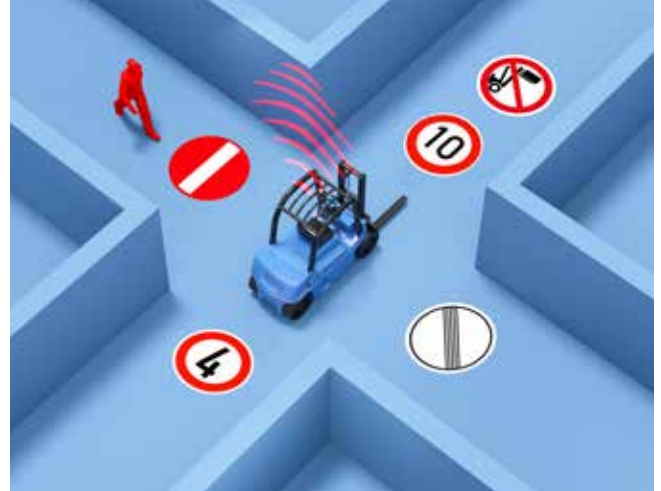
NoColl collision protection

with the NoColl Dome V2 and V3

More than 2000 vehicles and even more systems are already equipped with NoColl collision protection. That alone speaks for itself. It is a proven traditional product from the house of tbm, which proves our experience and know-how.

With the NoColl collision protection system, vehicles are adapted in terms of speed on defined traffic routes (zones) and in customer-specific danger areas. Economical and optimal.

The bidirectional communication between the sensors on the vehicle and along the traffic routes results in such a high degree of flexibility that even customer-specific wishes can be fulfilled.



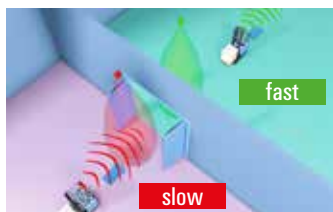
ELSA - the safety control

It manages and monitors up to 20 (matrix) sensors and displays a sensor failure in real time. At the same time, it optimises the logistics process through numerous possibilities for analysing vehicle movements.

Local area securing is thus a step towards expandable logistics control of logistics management.

Both the NoColl dome and the ELSA control unit comply with safety level PL c.

NoColl application examples



Area protection



Zone protection



Anticollision Truck - Truck



Lifting height control

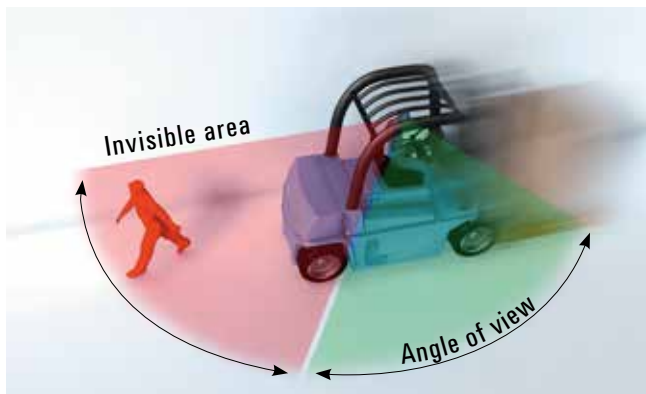
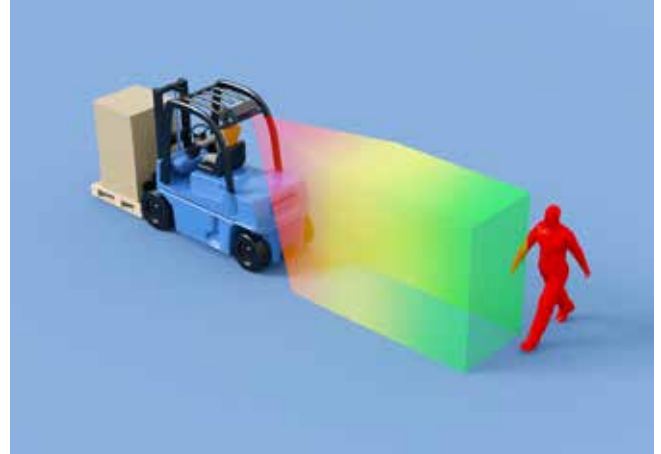
RearAreaMonitoring RAM-107

The perfect reversing safety system

The **RAM-107 rear area monitoring system** protects against accidents and damage when reversing. We equip trucks from 1-15 tonnes with this system and significantly reduce the damage rate.

The RAM-107 not only protects pedestrians, but also storage facilities, shelves, and objects against collisions

A solution with many valuable advantages for safety in daily use.



The technology

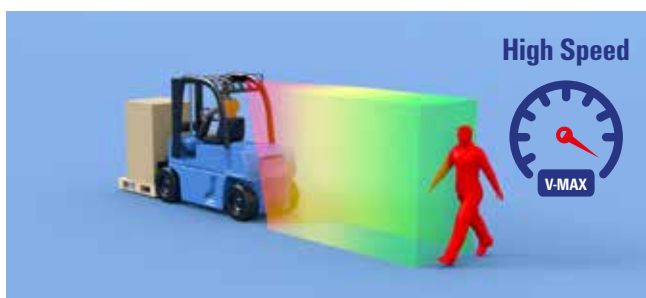
is based on reliable and precise time-of-flight measurement and fast image analysis. Unsurpassed performance features characterise the practical use of the RM- 107. This is how a test specimen (size 30 x 30 x 30 cm) is reliably detected at a distance of 3 m.

Speed-dependent protection zones

A protective system must not ,interfere' or trigger an alarm when it is not necessary. Therefore, the RAM-107 has protection zones that adapt to the speed of the truck. Only short protection fields are active during manoeuvring, storage/retrieval and slow travel in narrow areas.

Long protective fields are active on routes and in areas ifthe truck drive fast.

The technology of the RAM-107 thus ensures a high level of comfort and acceptance among drivers.

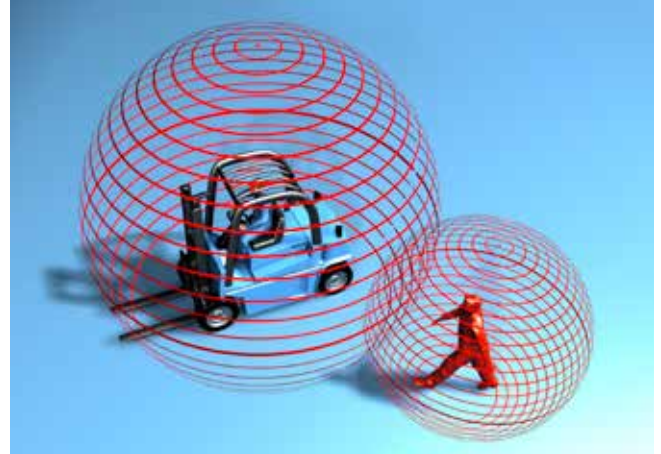


All-round protection RFID-Aura-207

For forklift trucks, wheel loaders and excavators

The RFID-Aura-207 works in the 360° environment of a vehicle. For this purpose, employees must carry a small, active RFID transponder so that they are detected and protected by the RFID Aura. This makes the aura or the aura transponder an effective protective device for pedestrians.

The driver is warned optically and/or acoustically or the speed of the truck is automatically reduced if there is danger to a pedestrian.



The technology

Sophisticated radio technology and bidirectional communication between the truck aura and the transponder is the protective basis of the RFID Aura-207.



Intelligent directional analysis

only triggers the alarm if a person approaches the truck.
No alarm if the person moves away from the truck.

The Aura Transponders

for people are handy and small. They are battery-operated and do not need to be recharged daily. The battery has a life span of about one year. Each transponder is unique and has a unique ID and yet they do not need to be scanned. The Aura recognises an unlimited number of Aura transponders (simply every transponder). This makes expansion or replacement totally easy - in unlimited numbers.

Transponder for persons

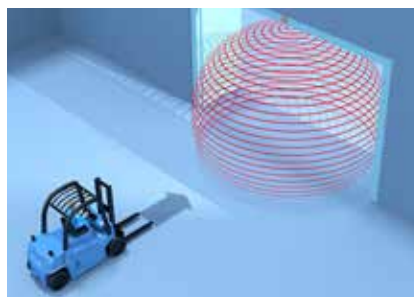


Driver transponder

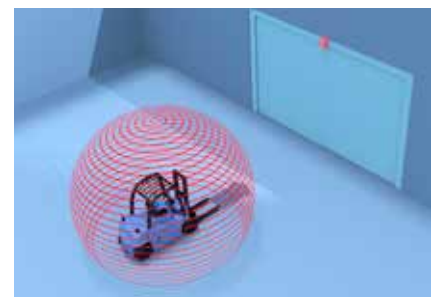
Card transponder

Other areas of application for the RFID Aura-207

- Automatic door opener
- Access authorisation for special areas for selected persons
- Driver authorisation for assigned trucks



Passageways



Reduced speed in passageways

InDoor/OutDoor Sensor IOG

Speed controller for InDoor/OutDoor speed

InDoor/OutDoor sensors detect a hall ceiling and thus limit the vehicle speed. They are therefore also called "ceiling sensors". If no hall ceiling is detected, the vehicle drives fast.

An IOG is often used to technically support the basic company instruction "drive slowly indoors!" It is an inexpensive solution and easy to implement.



No gate equipment required

The IOG's permanent upward view automatically limits the speed when it detects something. It is not necessary to equip the gates. The simple and quick mounting on the vehicle cabin roof is sufficient.

It's all about the technology!

Different technologies deliver different results. Radar sensors are often used as ceiling sensors. We also use these as IOG-107Ro. However, we also use the lesser-known infrared technology, which sends coded IR signals to the ceiling and receives these coded signals again. This is the InDoor/OutDoor sensor IOG-207V3 developed by us.

Distinguishing features

	IOG-107	IOG 207
Tamper-proof:	✓	✓
Driving in rain, snow and fog Reduces speed:	✓	✓
Driving under skylights and roof slopes Reduces speed:	✓	✓
Driving next to walls Reduces speed:	✓	✓

We know the differences between the individual sensors. We have them in our programme as well.

We know the strengths and weaknesses and we talk to you about them so that you can choose the one that is optimal for your use.

Our experience is your direct advantage, because not every IOG "fits" everywhere.

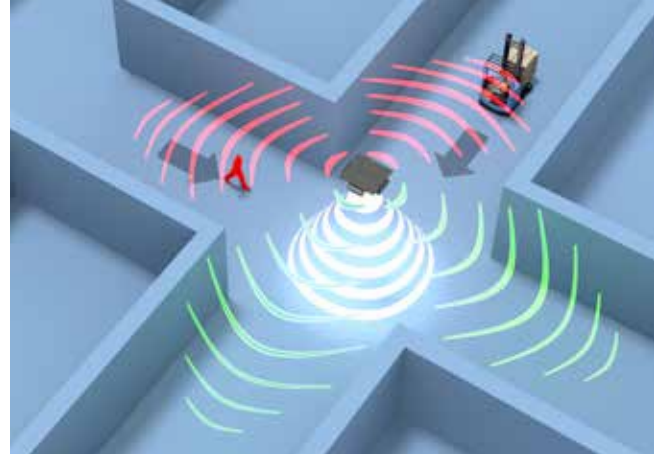
Sometimes we have to go unusual ways to help our customers in the best possible way.

Hazardous Situation Indicator GSA-107

For intersections of all kinds

The GSA-107 Hazardous Situation Indicator detects dangerous situations at intersections, crossings or pedestrian walkways at an early stage and warns people on the road actively and clearly. Long before the danger becomes threatening. A warning device that significantly reduces accidents.

The GSA-107 monitors individual traffic routes from a bird's eye view and detects pedestrians and vehicles approaching or driving towards an intersection and it distinguishes between pedestrians and vehicles.

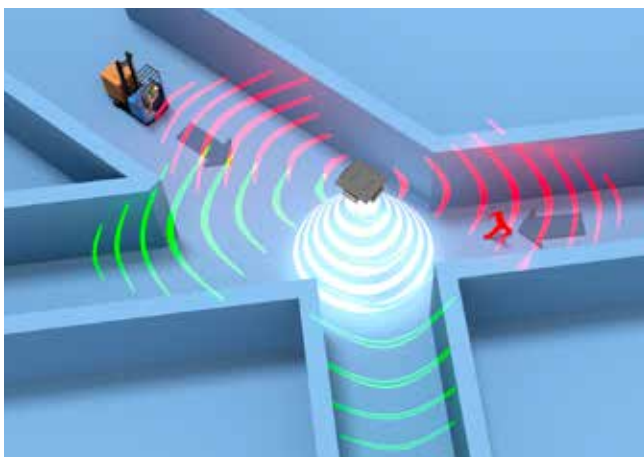


Intelligent sensors and electronics

Pedestrians moving alone in the intersections do not trigger an alarm! They do not pose a danger. Only when a pedestrian and a truck are detected in the intersection area is the alarm actively triggered. This prevents information overload.

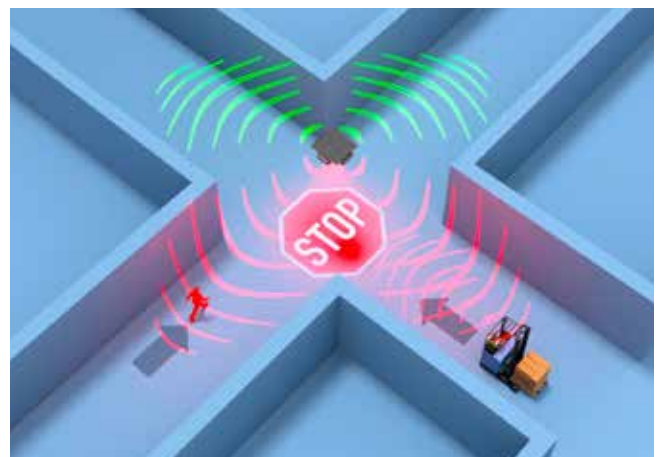
Effective warning through LED spot

The active warning of the GSA-107 is effected by means of a powerful LED power spot (in blue or red). This differs from the blue spots often found on forklifts in its high luminosity and size.



Not only classic intersections

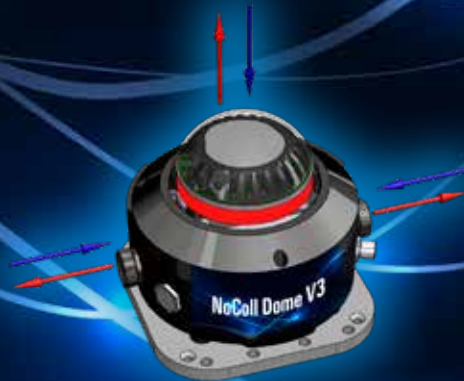
but even completely atypical traffic areas are equipped with the GSA-107. For this purpose, it is customised and adapted.



LED projector

A very effective alternative is the warning through a light projector on the GSA-107, which projects a traffic sign („Stop“ or “Prohibited for pedestrians“) onto the ground.

Driver Assistance Systems



... you recognize them by the label!

