



WHITEPAPER

# How companies benefit from assistance systems

Collated practical examples

## Contents

03

WAREHOUSES WITH HEAVY PEDESTRIAN TRAFFIC

04

WAREHOUSES WITH BUSY INTERSECTIONS

05

WAREHOUSES WITH HIGH LIFT HEIGHTS


06

WAREHOUSES WITH INCORRECT GOODS POSTINGS

07

WAREHOUSES WITH RISK ZONES INSIDE AND OUTSIDE

 **JUNGHEINRICH**



# Safer, more efficient working: assistance systems in practice

A pedestrian unexpectedly appears from behind a rack. Another forklift truck suddenly crosses the route. The aisle is narrow, and visibility is restricted by bulky cargo. In modern material handling, complex challenges coincide with the highest efficiency requirements. Here, we have compiled practical use cases for the deployment of assistance systems. Using specific scenarios, we will show you how different systems can help to increase safety, optimise workflows and avoid errors. From heavy pedestrian traffic to challenging outdoor conditions, we have analysed some typical situations and

identified recurring problems to present you with the most suitable assistance solutions.

#### **AN OVERVIEW OF ALL SYSTEMS:**

The Jungheinrich assistance display prioritises the warning messages from the integrated zoneCONTROL and addedVIEW assistance systems on a central screen. This enables a quick response to dangerous situations, focuses attention on what is important and reduces distractions.

# Risk of collision with people in the area behind the industrial truck when loading and unloading HGVs

## THE SITUATION:

Dangerous situations can quickly arise where people and forklift trucks work together in close proximity, for example, when loading and unloading HGVs in order-picking or dispatch areas. Time pressure, limited visibility and high throughput rates place high demands on operators. At the same time, warehouse managers must be aware of the consequences, from damaged goods to delayed deliveries and potential personal injury. Creating efficient, yet reliable processes is therefore in the interest of all parties.

## RESULTING PROBLEMS:

**Changing environments** – HGVs positioned at different angles and trucks manoeuvring during loading and unloading create many potential hazards.

**Unpredictable movements** – People suddenly entering the area behind the truck or unexpectedly changing their direction of movement.

**Increased risk of accidents** – Critical situations arise when reversing, especially in tight spaces.

**High stress factor** – Simultaneously monitoring the truck, the load and the surroundings increases the likelihood of errors.

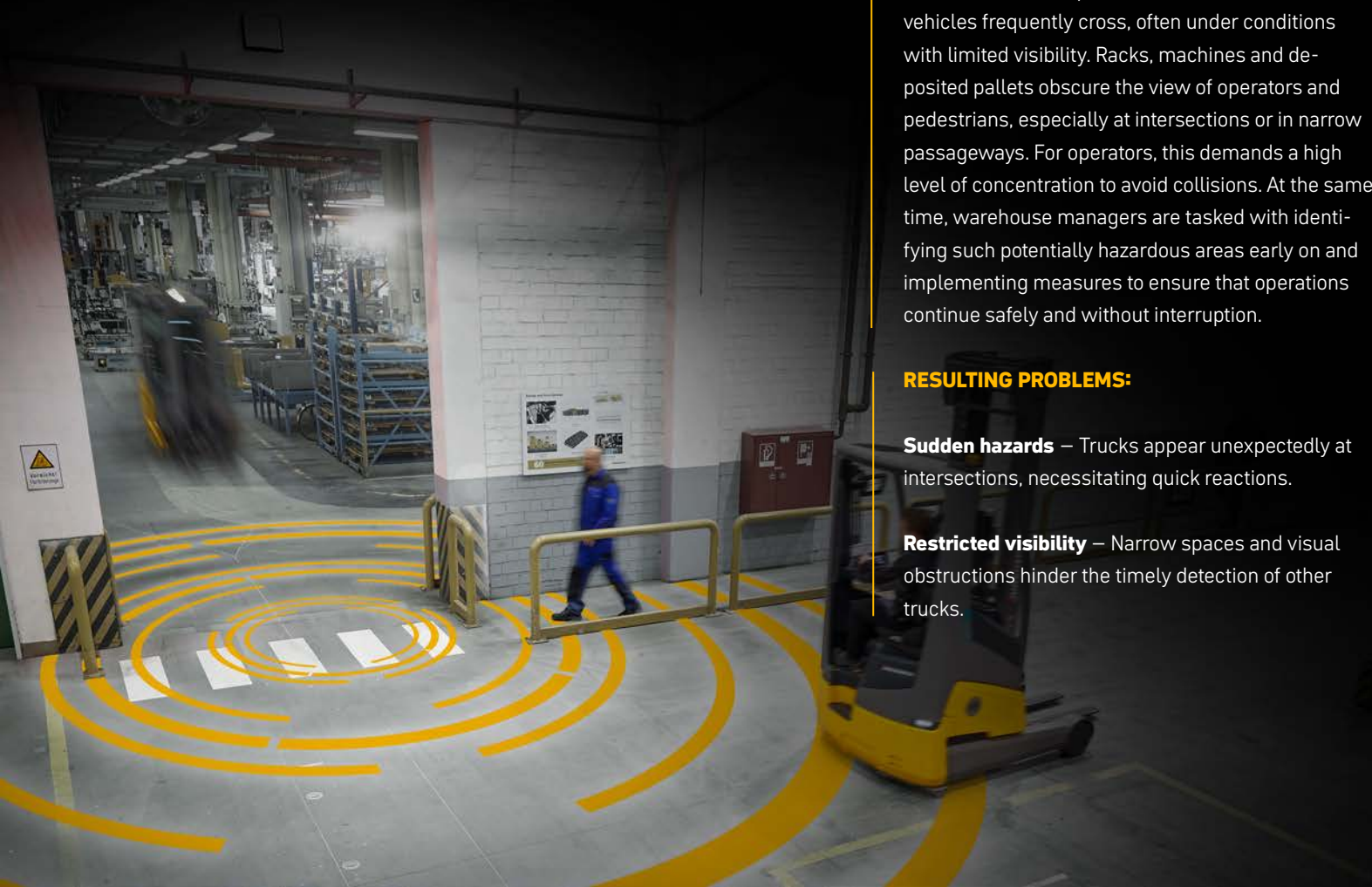
## SOLUTIONS IN THE FORM OF ASSISTANCE SYSTEMS:

**addedVIEW People detection camera** – This system detects people in the area behind the truck and automatically emits a warning signal. If a risk is identified, speed is reduced to prevent accidents.

**zoneCONTROL Mobile area** – Sensors detect people near the truck. Depending on the situation, a warning signal is emitted or the truck is automatically put into slow travel mode.



# Warehouses with heavy pedestrian traffic and busy intersections



## THE SITUATION:

In warehouses, the paths of forklift trucks and other vehicles frequently cross, often under conditions with limited visibility. Racks, machines and deposited pallets obscure the view of operators and pedestrians, especially at intersections or in narrow passageways. For operators, this demands a high level of concentration to avoid collisions. At the same time, warehouse managers are tasked with identifying such potentially hazardous areas early on and implementing measures to ensure that operations continue safely and without interruption.

## RESULTING PROBLEMS:

**Sudden hazards** – Trucks appear unexpectedly at intersections, necessitating quick reactions.

**Restricted visibility** – Narrow spaces and visual obstructions hinder the timely detection of other trucks.

**Multitasking demands** – While driving, navigation, truck control and traffic monitoring must occur simultaneously, increasing the potential for errors.

**High risk of collision** – The risk of accidents significantly increases, particularly with a high volume of trucks.

## SOLUTIONS IN THE FORM OF ASSISTANCE SYSTEMS:

**zoneCONTROL Local area** – The system specifically monitors dangerous areas in the warehouse. A permanently installed radio anchor detects movements in the surroundings and reacts according to the situation. Trucks can be automatically slowed down, warning lights activated, or doors opened only when the path is clear. This doesn't necessarily require slow travel – situation-dependent collision avoidance can also be used. A choice of installation points allows for accurate placement without blind spots and provides increased safety at critical points without disrupting overall warehouse operations.

# Risk of collision during **storing and removal of goods at high lift heights** and contact with warehouse door

## THE SITUATION:

Difficult operating conditions often prevail in high-bay warehouses and in low passageways with slow-opening warehouse doors. When storing and removing goods at high heights, it is difficult to control the forks and the load with precision. At the same time, it's easy to hit a warehouse door when driving into or out of the warehouse – especially when the operator's view of their surroundings is restricted.

## RESULTING PROBLEMS:

**Poor visibility at high lift heights** – No direct view of the forks and the storage location, particularly at the top racking level.

**Danger to trucks and buildings** – When driving through doors, there is a risk of collision and damage.

**Lack of orientation** – Without clear visual support, it becomes difficult to pick up and setdown pallets with precision.

**Intense workload** – Forklift truck operators must simultaneously pay attention to the load, truck movement and any potential obstacles. This is a demanding task that can easily lead to errors.

## SOLUTIONS IN THE FORM OF ASSISTANCE SYSTEMS:

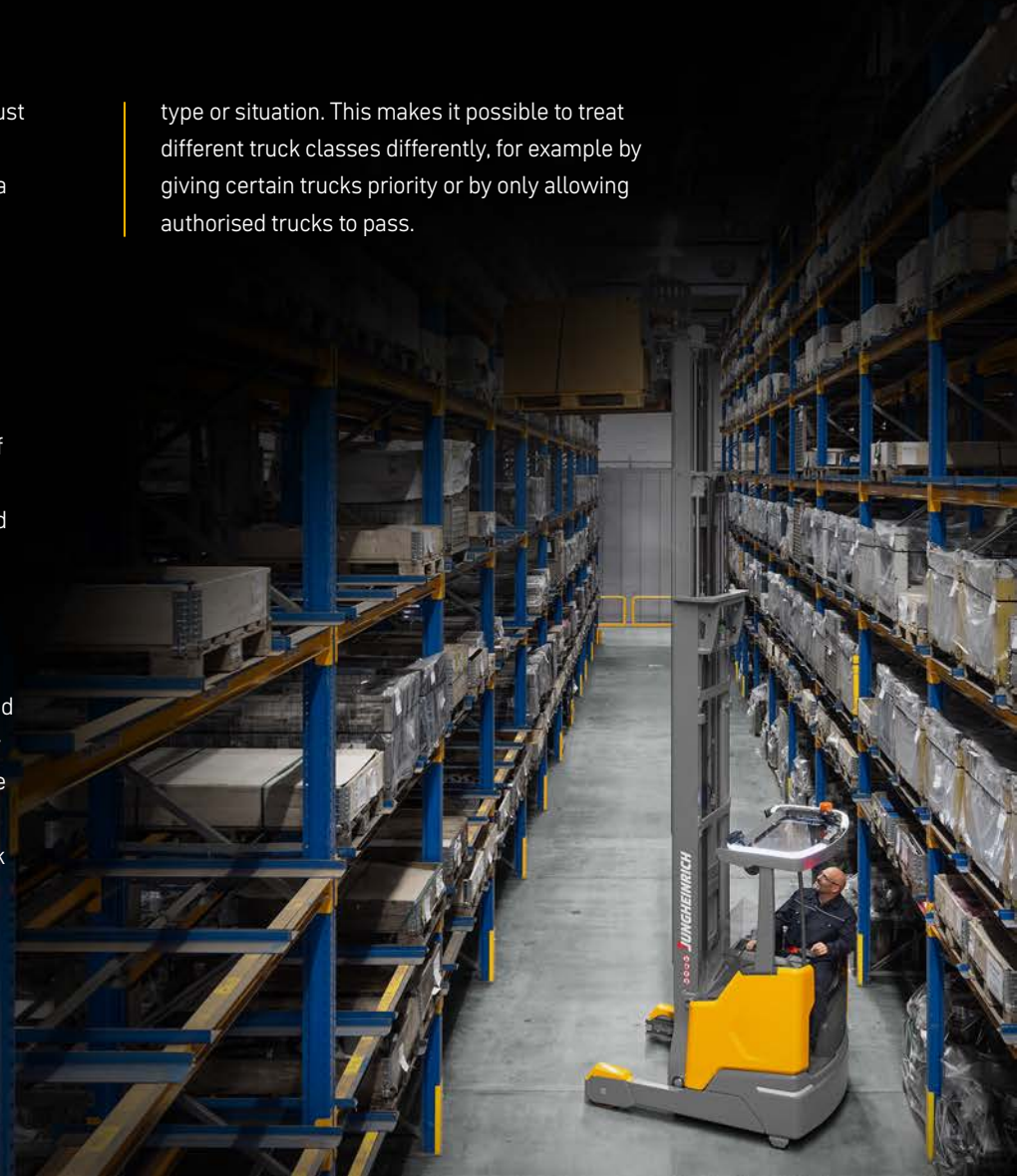
### addedVIEW Fork camera with virtual

**line laser** – This system shows an HD image of the forks on the assistance display. The virtual line laser assists in precisely storing pallets and prevents damage to goods and racks.

### zoneCONTROL Local area –

In vulnerable areas, for example around warehouse doors, the system monitors the space and automatically reduces truck speed if necessary or provides timely warnings to the operator. The system can also automatically open the door when a truck approaches – dependent on truck

type or situation. This makes it possible to treat different truck classes differently, for example by giving certain trucks priority or by only allowing authorised trucks to pass.



# Error-free goods postings and safe navigation with **reduced concentration**

## THE SITUATION:

Error-free postings during the storage and removal of goods are essential for the smooth running of warehouse operations. In practice, however, inaccurate postings occur occasionally – often because operators are working under time pressure with a hand-held scanner. The barcodes are often located in a position that is difficult to see, usually stacked on top of each other and at some distance. This makes it difficult to identify the correct code and scan it accurately, resulting in accidental entry

of incorrect barcodes. Further complicating matters, and particularly at high lift heights, handling is often time consuming and prone to errors due to restricted visibility of the pallet and racking compartment.

## RESULTING PROBLEMS:

**Incorrect goods postings** – Without automated support, there is an increased risk of incorrectly scanning storage locations or pallets, or of forgetting postings.

**Reduced attention** – While driving in outdoor or quiet areas, concentration tends to lapse more easily, raising the risk of collisions with people or obstacles.

**Safety risk for pedestrians** – Pedestrians are often not seen outdoors, especially if located in a blind spot.

**Added stress** – Simultaneously collecting load data and monitoring the surroundings creates a dual burden, potentially leading to errors.

## SOLUTIONS IN THE FORM OF ASSISTANCE SYSTEMS:

**addedVIEW Fork camera with scanning function** – The camera on the fork automatically detects barcodes on goods and storage locations and transmits the recorded information directly to the assistance display. Operators simply need to confirm the scan at the push of a button – quickly and conveniently, avoiding the hassle of a hand-held scanner. This significantly reduces incorrect postings and ensures smoother storing and removal processes.

**addedVIEW People detection camera** – This system detects people behind the truck and provides an automatic warning or speed reduction. Even if the fork camera is active, an icon indicates a detected person.



# Intelligent collision avoidance through zone combination in indoor and outdoor areas

## THE SITUATION:

Indoor and outdoor areas have different requirements when it comes to implementing safety solutions. Indoor spaces are often cramped and hectic with many people, winding paths and dense truck traffic. By contrast, outdoor areas are typically more spacious, clearer and less frequented. This results in unique challenges when it comes to safety. A standard system can quickly reveal its limitations. While targeted interventions are needed indoors to ensure safety without impeding productivity through constant slow travel or through excessive or false alarms, a continuous monitoring system is needed outdoors since operator attention may wane in less busy spaces.

## RESULTING PROBLEMS:

**Collision risk in outdoor areas** – Trucks and pedestrians share the same traffic spaces. Collisions are particularly likely at high speeds.

## Overload due to unnecessary warnings –

Too many alarms indoors can adversely affect concentration.

**Obscured risk zones** – Specific intersections or bottlenecks must be monitored without scanning the entire area.

**Danger to individuals** – Pedestrians in the work area require reliable detection and protection at all times.

## SOLUTIONS IN THE FORM OF ASSISTANCE SYSTEMS:

**zoneCONTROL Mobile area** – This system detects pedestrians or trucks nearby and automatically issues a warning signal or, if the truck gets too close, puts the truck into slow travel mode to prevent accidents.

**zoneCONTROL Digital gate** – When entering the indoor storage area, the mobile area is deactivated to prevent excessive alarms and focus attention on genuine danger spots.

## zoneCONTROL Local area –

Local radio anchors are installed at particularly critical points to trigger targeted warnings, speed adjustments or actions such as automatic door opening.



# Maximum efficiency begins with the right system.

With the integrated assistance systems available on the Jungheinrich assistance display, we offer the right solution for every conceivable scenario. Contact us today to select the ideal system for your specific warehouse requirements

## We are always happy to help.

Arrange an appointment today.

### Contact:

**0800 85 222**





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The Jungheinrich logo, featuring a red upward-pointing arrow above the word 'JUNGHEINRICH' in a bold, black, sans-serif font.