

BUYERS GUIDE

# Integrating technology into your safety plan in 2025

Integrating technology into your safety plans in 2025 is not just a trend but a necessity. With the advancement of technology, it has become possible to create smarter, more proactive, and more effective safety protocols, leading to better protection for workers, assets, and the environment.



## Why should you consider integrating technology into your safety strategy?

While our factories and warehouses are constantly getting safer, every day - near misses are still being recorded, most of which could have been avoided. Many of these near misses could have been prevented by using integrated technology.

Every manufacturer is looking to improve their safety on site. With the integration of advanced technology into safety plans, we can create environments that are not only safe but also efficient.

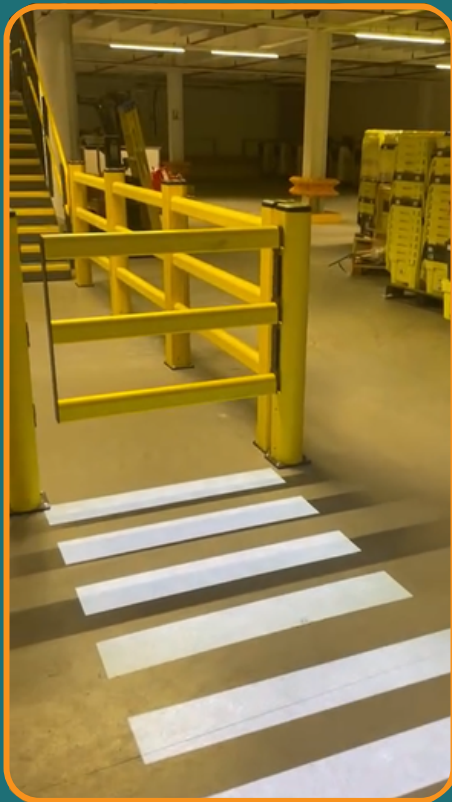
As warehouse safety improves, so too must our strategies for protecting those who work in them. From sophisticated detection systems to intelligent floor marking projectors, technology offers a range of new layer of protection to keep pedestrians safe in busy warehouses. Let's delve into some cutting-edge methods that can elevate your safety plan to new heights!





## What is integrated technology?

Integrated technology refers to the seamless combination of various technological systems and devices aimed at enhancing efficiency and safety. It involves using smart solutions that communicate with one another, streamlining processes in real-time.



In safety planning, integrated technology can include sensors, cameras, and alarms that work together to monitor environments. These interconnected systems allow for immediate responses to potential hazards or breaches.

For example, an integrated approach combines pedestrian detection systems with LED projected signage. This ensures clear visibility while alerting individuals about nearby forklift trucks.

By optimizing these technologies, organizations create safer spaces for pedestrians without compromising functionality. The result is a more responsive environment where proactive measures are taken before accidents occur. The key to a successful technology integration is simplicity, some of the most successful projects come from rethinking the workplace transport management.

## An example of integrated technology..

An example of this is a recent customer wanted to prevent pedestrians and MHE in the same area. However there were times when pedestrians needed to access the storage area for stock takes etc.

### So here's how we did it.

Pedestrian access area at the 'goods in' was contained using a barrier system with a gate which is normally locked

The FLT door at the production hall entrance was off limits to pedestrians and there were projected floor marking signs to warn pedestrians of 'no access to pedestrians'.

To warn pedestrians elsewhere across the hall that a MHE was coming from the goods in entrance - there were multiple floor marking projectors installed across the production hall which were activated when the door was opened.

When pedestrians needed to access the goods in area, they simply activated a switch, this in turn triggered:

- Multiple strobes to warn the MHE driver
- Disable the lock on the gate
- Disabled access into the good area by blocking the door sensor
- Activated a warning projected onto the door to say 'Door Locked, Pedestrians in area.

# What are the best ways to detect pedestrians?

Detecting pedestrians accurately is crucial for ensuring safety in various environments. Four popular technologies stand out: Passive Infrared (PIR), Microwave, Through Beam sensors and of course the new kid on the block - AI.

PIR sensors work by detecting changes in infrared radiation emitted from warm bodies. They are effective in low-light conditions but can struggle with false alarms from animals or heat sources. PIR sensors are the good for picking up pedestrians but not so effective for vehicles or FLT's

Microwave sensors emit microwave signals to detect movement. These devices can cover larger areas and penetrate obstacles like fog or dust, making them reliable even in challenging situations. A quality microwave sensor can distinguish the difference between a FLT and a pedestrian and can even determine the direction of travel so may not activate an FLT warning if the FLT is moving away from an area.

Beam systems use a pair of transmitters and receivers positioned opposite each other. When a pedestrian interrupts the beam, it triggers an alert. This method offers high accuracy but requires careful placement to avoid obstruction. Beam sensors are often used for perimeter alarms but are a good option when you want to detect only specific traffic or zones.

AI detection is also becoming more popular, this works by scanning the area for pedestrians, 2 main problems with AI detection are cost and accuracy - There is a big jump between automotive grade AI and opensource AI, the opensource AI can struggle if for example it is designed to detect pedestrians and the pedestrian walks through carrying a big box. We can expect the cost and the accuracy to improve with time

Choosing between these options often depends on specific needs, environment size, and potential interference factors that could affect detection efficacy.

## What projected floor marking sign options are available?

Floor marking projections are a smart way to enhance safety in warehouses, they guide pedestrians and forklift truck drivers to help maintain a safe working environment.

Laser lines provide clear visual pathways. These bright beams can direct foot traffic efficiently, ensuring people stay on designated routes. By making these interactive, they can switch from green to red to alert pedestrians of a forklift truck danger

Stop signs can be activated on detection of a forklift truck and projected on to a walkway to catch pedestrian attention instantly. Their striking visuals prompt immediate action from those approaching high-risk areas.

Personal Protective Equipment (PPE) signs serve as reminders for necessary gear. Whether it's helmets or gloves, these markers ensure compliance and promote a culture of safety. These can be activated on the presense rather than reply on static sigange

Zebra crossings can be projected when it is safe to cross over a traffic route especially in busy spaces. They visually delineate pedestrian right-of-way zones, making it easier for everyone to navigate through these areas safely. The pedestrian crossing can be made to interact with forklift trucks to trigger stops signs and make the zebra crossing disappear as a forklift truck approaches

## What are the top pedestrian accident prevention systems?

The top level of pedestrian safety from Clarity involves managing the forklift and pedestrian traffic effectively. Projected stop signs and wearable technology is still subjective to the operators responding appropriately to them.

More recently, we have been working with customers to manage the pedestrian and forklift traffic more effectively. This includes developing automatically locking gates. These work by constantly surveying the route for traffic, on detection of a danger - the alert signal is raised and the pedestrians are prevented from crossing using autolocking gates.

These systems can be used externally using IP65 rated locking mechanisms meaning that pedestrians are kept safe even in very wet conditions.

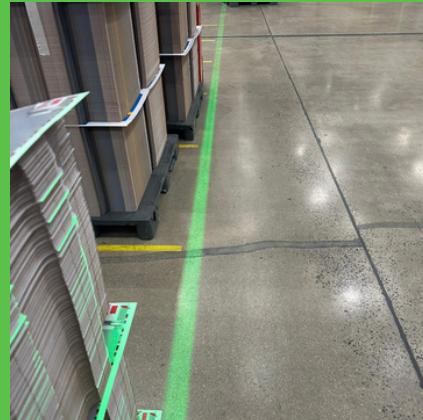
Interlocking doors are a smart way to utilise existing fast doors simply by disabling the doors we can prevent doors opening in the presense of a pedestrian. These doors require both an entry and exit process, minimizing the chance of unauthorized access or accidents. Their design ensures that the door cannot be opened until the pedestrian is in a safe zone.

# What are the potential problems with integrated technology?

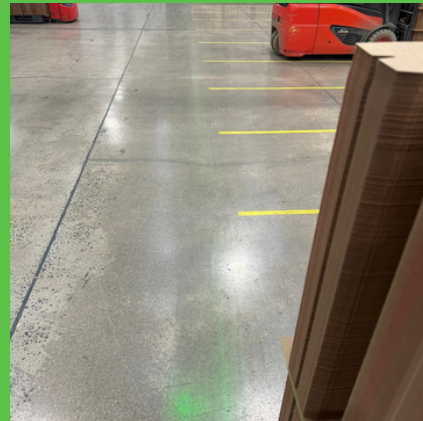
While integrated technology has a low energy usage - it still still reliant on a consistent power supply - in the event of a power supply failure - the systems may stop working, it is possible to run most projector systems from an emergency backup supply. In fact we have worked on a project to illuminate walkways using lasers in the event of a power outage.

Some factories have overhead gantry cranes which may affect the positioning of zebra crossings etc.

In factories where the lighting is above 1000 Lux, some projected lighting may be harder to see - careful choice of projector systems should help mitigate this - for example you could use red LED lighting source to project the signage rather than filter down a white light to red.



Bright



Dim





## Who we work with





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