SEEN SAFETY

A guide to picking the right pedestrian safety system for your business.

Safety is a paramount concern for any business operating heavy mobile equipment around pedestrian workers. If total separation between people and machines is not possible, adding an active safety control can help to reduce the risk of a collision.

While technology can add an extra layer of safety for when things go wrong, choosing the wrong technology can cause a lot of stress and wasted time and money. Below are nine things to consider when choosing a pedestrian safety solution for your business.

Pedestrian Safety System Checklist	IRIS 860 sensor
1. Passive or active? Passive safety measures like high vis vests, safe operating procedures, blue-lights, reversing beepers, and reversing cameras etc, all play an important role in operational safety, but they still rely on people doing the right thing. They can't prevent all accidents because human error is inevitable despite everyone's best efforts. An active warning system provides a second layer of safety for when passive systems fail. If there is a risk of collision between mobile equipment and pedestrian workers, passive measures alone are not considered to provide sufficient risk mitigation.	**Active detection** ✔
2. What to detect? Some 'detect-anything' radar systems will alarm on anything in the detection zone, including racking, walls, pallets, people, boxes, and vehicles. While this can be useful to prevent property damage, in most environments the high number of detections will make the system ineffective, especially if protecting people is your primary goal. Selective detection systems only alarm when a specific thing of interest is detected (for example a person or tagged object) and ignore everything else. The benefit of a selective detection is far fewer alerts which are relevant and more likely to be acted upon.	**Selective detection** ✔

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3. Tag or no tag?

No tag needed ✓

Most selective detection systems require an electronic tag to enable detection. The benefit of tags is that they can offer reliable detection, but they have considerable downsides including:

- Everyone on site must be issued a tag and trained in its use. This can be difficult to manage, especially on sites with visitors and sub-contractors

- The electronic tags are often expensive

- Battery-powered tags must be regularly charged and checked using additional test hardware at additional cost

- Integration with your IT system is often needed, complicating the deployment process

- It is often difficult to control the detection zone, resulting in over-reporting

Camera systems that detect the human form are available, but they struggle to detect reliably in dirty, wet, dusty or poorly lit environments. They also require complex calibration, setup and support.

Whatever system you choose should complement your existing safety measures and not require your workers to modify their behaviour to accommodate the new technology.

4. Detection area

Precise detection zone ✓

Over-detection is the quickest way to render any system useless. Even the most reliable system will fail if the operator constantly gets irrelevant alerts from the sensor. It is vital to consider what detection area will provide just enough detection to achieve a meaningful safety benefit, but no more.

If pedestrians must routinely work near mobile equipment, 360 degree proximity detection will probably result in an excessive number of alerts. In this case, targeted detection only into the critical risk zone will be more useful,   supporting the operator rather than annoying them.

The ability to tailor the detection zone size and shape for a particular machine and application is important to minimise irrelevant detections.

5. Operational impact

Simple to install and use ✓

Machine downtime costs money. The quicker and simpler the installation, the quicker the machine is back in service and making money. The same goes for reliability. If the technology goes down and needs replacing or servicing, it all costs. A simple plug-and-play system with minimal support or setup requirements will reduce the overall cost of ownership. A simple installation also means the sensors can easily be moved from machine to machine when required.

Systems that involve multiple components, IT integration, transponders, testing and calibration will require staff training and oversight to ensure compliance. Further time and cost to consider when evaluating the total cost of owning the technology.

6. Tag fixed objects for detection

Tag any object with reflective tape ✓

At SEEN we prefer that detection be primarily reserved for people. However, we also recognise that the risk of collision with other machines or static objects is a major problem for many customers. For this reason, the ability to quickly and inexpensively tag any object for detection may be important to you as well.

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7. Cost The cost to purchase, install, and maintain a system will directly affect the number of sensors your organisation can afford to deploy. No matter how good the system is, if it's too expensive to put on all your machines, the full safety effect will never be realised and lives will be put at risk. As well as upfront cost, beware of ongoing service and support costs.	**Affordable No ongoing cost** ✓
8. Reporting / data / interoperability Sensors are great at detection and warning, but when it comes to accident prediction and prevention, data is king. When evaluating a system, check that it has the capability to output data that can be used to provide meaningful and user-friendly insight into the near misses happening on your site.	**Data port on every sensor** ✓
9. Reliability Work sites can be challenging environments for the reliable operation of high-tech sensors. Dust, dirt, water, RF interference, patchy internet connectivity, variable light conditions can all affect the reliability of the sensor. In physically demanding environments, simple technology will generally work better than more complex systems. Check how many different hardware components the system requires, what regular maintenance is required, and if you need specialist support to make any changes. If the system is complex and requires regular support then costs and frustration can quickly mount.	**Reliable detection in all conditions** ✓

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