



**Detect People, Protect Lives** 











"We consider this a valuable and reliable tool which will significantly increase safety in our daily operations and aid us in our effort to transform APM Terminals Callao into a very safe place where everyone enjoys working while being safe doing so."

Laurids Uglvig
Chief Operating Officer – APM Terminals – Callao

- **O** Prevent Accidents, Injuries & Fatalities
  - Significantly reduce the risk of accidental collisions and near miss occurrences to pedestrian workers and assets.
- Create Safe Working Environments Improve situational awareness and safety culture across work sites.
- Gain invaluable site safety information to identify, monitor and improve areas of risk.



### **About ZoneSafe**

Where people and vehicles work in close proximity to each other, it is essential to create safe working environments by reducing the risk of accidental collisions and near miss occurrences.

A work site with a strong safety culture benefits from higher morale, improved confidence and increased productivity. Whether you operate a factory, warehouse, construction site, recycling plant or port, ZoneSafe offers a solution to improve site safety where people and vehicles operate together.

Using identification and detection technologies, audible alarms, flashing lights, data logging and event management software, ZoneSafe provides intelligent and cost effective solutions that can improve site safety, awareness and efficiency.



### **How Does It Work?**

Zonesafe uses radio frequency identification (RFID) technology that creates detection zones around vehicles, assets, crossing points and walkways.

Active tags are worn by personnel, fitted to assets or setup around hazards. They are identified by the system when entering the detection zone. This triggers an audible visual alert, warning vehicle operators of the tags close proximity to the vehicle.

ZoneSafe tags do not require line of sight and will be detected regardless of obstructions, blind spots or poor visibility.

- 360 Degree Detection
- Single or Multiple Detection Zones
- 3-9 Metre Detection Range
- Detection Regardless of Obstruction
- Event Data and Logging





A ZoneSafe detection antenna is fitted to the fork lift truck\*. This creates a 3-9 metre continuous detection zone around the vehicle, which detects personnel or objects with a ZoneSafe tag.



ZoneSafe active RFID tags are worn by all personnel or fitted to assets. The tag can be placed in our ZoneSafe hi viz jacket, clipped to a lanyard, fitted to a hard hat, worn on your belt or simply placed in your pocket. The tag can also be fitted to a safety cone to create a detection zone around hazards and assets.

3-9 metre detection zone emitted from the antenna













ZoneSafe Tags use Active RFID technology offering a number of benefits and advantages:

- Tag detection is automatic and does not require line of sight or user intervention.
- Vehicle operators do not need to look away from where they are driving (e.g looking at screens).
- No limit to the number of tags that can be detected simultaneously.
- ZoneSafe tags are not affected by obstructions or environmental factors like adverse weather.
- Tags are supplied as sealed units ensuring they operate and survive in harsh conditions whilst being tamperproof.
- Each tag can be uniquely identified.
- Tag options are available for different applications.







#### Standard Tag

The choice for most applications, this robust tag usually lasts 2-3 years under normal use.

#### Hi Demand Tag

The high demand tag ensures long operational life when used in intensive and high usage environments.

#### Feedback Tag

Feedback tags provide short bursts of vibration alerting the wearer when they are too close to the vehicle.

#### Banksman Tag

Allows banksman to work within the detection zone of a vehicle and respond quickly to operators hazards or dangerous situations.

#### Safety Cone Tag

Integrated into a safety cone, the cone can be strategically placed around an asset or a hazard creating a continious detection zone.



# In-Cab Control Unit

The ZoneSafe in-cab control unit is positioned near to the driver or machine operator and installed without restricting operational views or machine controls.

The unit provides an audible visual alert when a ZoneSafe active RFID tag is detected.

A number of features including data logging, alarm mute, illuminated indicator button and wifi communication are supplied as standard.

Installation of the unit is straight forward with minimal installation time. A number of mounting options are available to fit units safely and securely to any vehicle type:

- Mounting Plates
- Mounting Brackets
- Window Suckers





The ZoneSafe antenna is fitted to the exterior of the vehicle. These create the detection zones. Depending on the shape and size of the vehicle, single or multiple antennas can be fitted.

The detection zone can be adjusted so that tags can be detected from a range of 3 – 9 metres away from the antenna.

Installation of antennas is straight forward with minimal installation time. A number of mounting options are available to fit units safely and securely to any vehicle type:

- Mounting Plates
- Mounting Brackets
- Window Suckers







Single Zone Detection - Most commonly used on forklift trucks and small plant.



Large vehicles such as reach stackers can be fitted with multiple detection zones to cover key areas of the machine including the rear turning area, blind zones and spreaders.

## **Detection Zones**

ZoneSafe Proximity Warning & Alerts Systems feature a range of different detection zones suited to either the type of vehicle or your specific requirement.

Single or multiple antennas can be fitted to different areas of the vehicle or set up with the following detection zone options:

- Single Detection Zone
- Multiple Detection Zone
- Dynamic Detection Zone
- Configurable Detection Zone
- Reach Detection Zone



# Check Point Tag Reader

The ZoneSafe Tag Check Point enable users to quickly and easily check the status of their tags. A simple indication panel or LED's on the unit indicates to the user the status of their tag and confirms if it is working correctly.

Additionally the tag checker can be used to provide restricted or controlled access through doors, turnstiles and gates, ensuring only authorised and operational tags are in the work area.

- Check Tag Status
- Integrate with Access Control
- Network Option



# Interactive Hi Viz Jacket

The ZoneSafe Hi Viz Jacket interacts with the Vehicle to Person Application. Flashing LED light indication creates visual awareness to vehicle operators, the wearer of the jacket and bystanders working in close proximity to the vehicle.

When the person wearing the hi viz jacket enters the vehicle's detection zone, LED lights flash on the front and the back of the jacket.

Ideal for low light conditions and adverse weather, the interactive hi viz jacket works in sync with the vehicle's audible and visual alarm, warning of the proximity of person to vehicle.







Our comprehensive range of ZoneSafe applications will help to significantly improve work site safety. Each ZoneSafe application can operate as a standalone system or as part of a combined solution.

We recognise that all working environments are different. This is why we have designed our solutions with flexibility in mind. Using our in-house services we can offer a tailored solution for any of our applications.

Reduce the risk of accidental collisions and near miss occurrences to pedestrian workers and assets whilst Improving situational awareness and safety culture across work sites.





#### **Vehicle to Person Alert**

Vehicle to Person alert helps prevent collisions between industrial vehicles, pedestrian workers and provides near miss occurrence information.



#### **Walkway Alert**

The Walkway and Crossing Alert Systems help to separate site traffic and pedestrians using audible visual warnings and restricting movement.



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#### **Asset Protection**

The Asset Protection System helps reduce the risk of collision and damage to assets by placing ZoneSafe safety cones fixed with tags around a designated area.



#### **Access Control**

Personnel Access Control System provides restricted or controlled access through doors, turnstiles or gates. Vehicle access control provides hands free automated access for roller doors and barriers.





## **Having Insight**

Increasing awareness and improving site safety should be at the forefront of every work site. Identifying, monitoring and improving areas of risk can often prove difficult especially when incidents such as near miss occurrences go unreported. Using identification technology, data logging and management information, ZoneSafe improves awareness of collision risks and helps keep workers and assets safe in the work place.

Zonesafe InSight<sup>TM</sup> is our cloud based management information system used by site managers and supervisors to help make efficient and effective decisions relating to site safety. Using data recorded from each ZoneSafe application, InSight<sup>TM</sup> provides the user with essential safety information gaining insight into ways of improving safety and security throughout the work site.



# Insight ™ Data Management

Displayed in a user friendly graphical or report format, users can access the logged event data via their phone, tablet or PC. Insight™ can easily analyze events and the identification of incidents such as near miss occurrences and highlight potential high risk activities. Insight™ also enables the management and monitoring of access control, authorisation of tags and the battery level of tags.

Automatically send ZoneSafe application data via WiFi or GPRS. Analyse and review logger event data via  $InSight^{TM}$  on phone, tablet or PC



#### **Insight Features:**

- View data in graphical and report formats
- Identify, analyse and compare events
- Manage safety performance
- Set up alerts
- Generate reports
- Print and share data with other users
- Link with all ZoneSafe applications



The benefits of ZoneSafe Insight  $^{\!\top\! M}$  include:

#### Analytics

Manage safety performance and identify, analyse and compare events.

#### Tag Manager

Check battery levels, assign authorised tags, track and identify personnel or vehicle movement, restrict access and monitor unauthorised access attempts, set up alerts and notifications.

#### • Tag Detection on GPS Map

Locate near miss occurrences, identify danger zones throughout the work site and review the layout of a work site.







## **Schematic**

This schematic demonstrates the typical set up of a fully operational ZoneSafe Proximity Warning and Alert System. The standard Vehicle to Person Application works seamlessly with Vehicle Access Control, Tag Check Point and Insight Data Management Applications.



Complete ZoneSafe
System Schematic



ZoneSafe SaaS Cloud



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Vehicle To Person Alert (See Applications Page 18)



Vehicle Access Control (See Applications Page 18)



Personnel Access Control (See Applications Page 18)



Tag Check Point (See Page 14)



Insight Data Management (See Page 21/22)



# Flexible Purchase Options

ZoneSafe products can be purchased through a number of flexible options to suit your requirements and vehicle ownership status:

- Outright Purchase
- Lease Hire
- O Lease Purchase
- Short Term Rental Solution

For more information on flexible purchase options, please contact us on

+353 (0)1 4584836

Throughout the life of a ZoneSafe system, we fully support both our customers and products with technical assistance and ongoing after sales service.





## Why Choose Us?

Designed and manufactured in the UK by Avonwood Developments Ltd, ZoneSafe is one of the leading Proximity Warning Systems supplied globally. Safety is one of our core values and since 1989 Avonwood have been a well established electronics identification technology provider specialising in safety, security and asset management solutions.

ZoneSafe is backed by a dedicated in-house sales, support and production engineering team. We have over 25 years experience and knowledge of delivering innovative electronics and RFID technology solutions.

#### Why ZoneSafe?

- Proven Technology
- O Low Maintenance System
- Experience, Knowledge & Support
- Standard & Tailored Solutions
- Openion
  Designed & Manufactured in the UK
- Global Distributor Base

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"It has clearly improved the awareness and confidence of both truck operators and pedestrians. I consider this to be a major addition to our effective health and safety management systems."

Dave Ward - Logistics Manager - DS Smith Packaging - Featherstone

For further information or a quote, please contact us on:

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