



IntelliZone®

PROXIMITY DETECTION



IntelliZone® is a user-friendly proximity detection system that creates shaped and dynamic shutdown/caution/operator zones to enhance miner safety while maintaining productivity.

- IECEx-certified for underground coal in Australia and Queensland since 2018 and EMESRT Level 7 & 9 compliant.
- Shaped-zone technology minimises nuisance alerts - works on standard or articulating equipment.
- Continuous miner operator can stand close to the machine and remain in a safe area.
- Purpose-built for underground mining and can be installed on all mobile equipment.
- 2021 U.S. NIOSH Safety and Health Technology Innovation Award winner.



- **SharpZone™ technology** minimises false alarms and allows long-range, through-curtain detection
- **Shaped zones** allow precise location of support workers without reducing production, including CM boom and articulated equipment.

The Matrix IntelliZone® proximity detection system helps train personnel to stay clear of danger zones present around mobile equipment. The system is designed for use on all brands of continuous miners, shuttle cars and other mobile underground equipment or vehicles.

- **IECEx-certified** for underground coal in Australia and Queensland since 2018 and EMESRT Level 7 & 9 compliant.
- **Proven Technology** – first installed in 2009, more than 90% of all US underground coal mines operating with proximity detection systems use Matrix technology.
- **Highly Reliable** – machine-integrated “Drivers” are compact and robust for maximum uptime and manufactured for harsh operating conditions.
- **Machine Mounted Locator** – enhances the system's diagnostic capabilities and is used to create zones that move in sync with articulating equipment. Comes standard on new systems and is easy to add to older ones.
- **Data Logging** – IntelliZone is the only IS-approved prox system that allows **precise** personnel location and data logging.

**The
MOST ADVANCED
proximity detection
system operating
worldwide in
underground mines.**



Locator

The IntelliZone Locator uses audible and visual alerts to warn personnel of potential danger.

The Locator is compact, lightweight, simple to use and powered by a rechargeable battery.

All IntelliZone Locators for underground coal mines are Intrinsically Safe (IS).



**SHUTDOWN
ZONE**

Immediately disables movement of equipment when locator detected in this zone.

Constant tone warning and flashing red light on driver & locator.

Operation resumes when locator leaves zone.

**CM OPERATOR
ZONE**

Created by Matrix SharpZone technology when shuttle car is loading.

Allows operator to stand or kneel in a safe position without triggering the Caution Zone warning.

**CAUTION
ZONE**

Beeping tone warning and flashing yellow light on locator.

Flashing yellow light on driver.

SharpZone™ Technology for Precise Programmable Awareness Zones

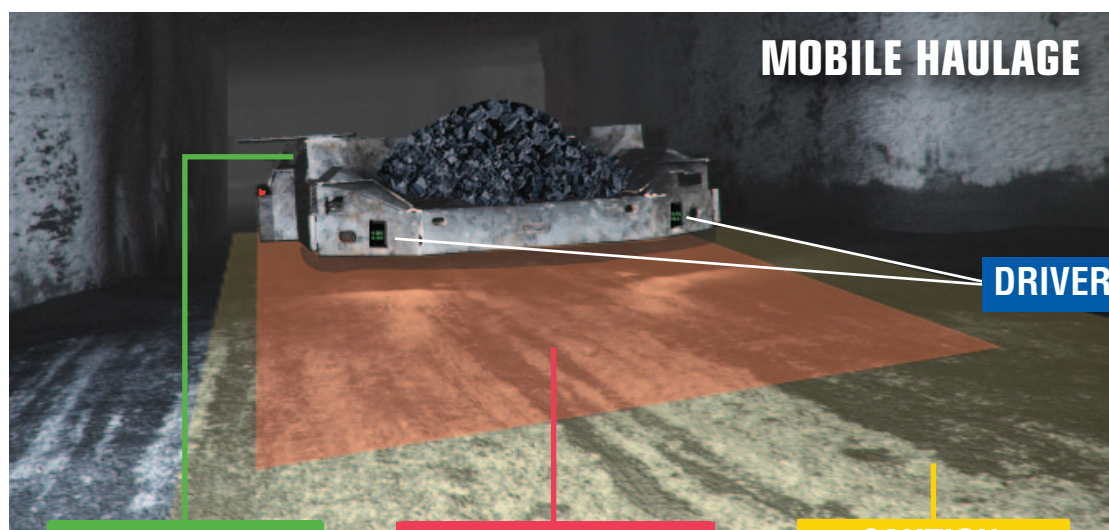
Matrix's leading-edge SharpZone technology creates equipment-specific straight line and angled safety areas for the most effective Caution and Shutdown zones. These zones help protect miners from mobile equipment injuries and minimise nuisance warnings or shutdown. For example:

- Mobile haulage awareness zones vary based on speed and direction of travel. Higher speed means longer forward zones to allow for higher stoppage time.
- Mobile haulage awareness zones can "see" through curtains to help avoid worker collisions.
- Zones around CM tail automatically shrink in cutting mode and expand while tramming.
- Customized "green" zones can be generated within the awareness zones to allow operators to stand, kneel or, if appropriate, ride in safe locations without setting off a zone alert.

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SharpZone™ TECHNOLOGY

Unlike other prox systems, **Matrix IntelliZone** creates machine specific **straight-line and angled zones** which automatically change depending on the operational status of the equipment.



Zones Extend as Speed Increases

As mobile haulage's speed increases, the zones increase in length to accommodate the longer required stopping time.

The zones can "see" through barrier curtains, which helps protect workers.

OPERATOR ZONE

Matrix SharpZone technology creates an in-cab "green" zone so operator does not trigger alarms while driving mobile equipment.

SHUTDOWN ZONE

Auto-stops when worker detected in Shutdown Zone.

Audible warning and flashing Red light on driver & locator.

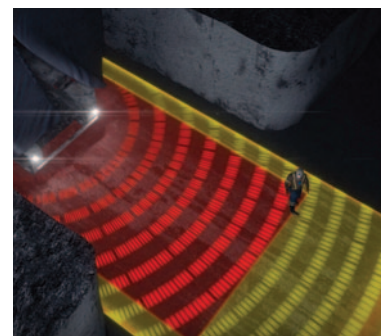
Operator receives in-cab warning. Operation resumes when worker exits zones.

CAUTION ZONE

Auto-slows speed when worker detected in Caution Zone.

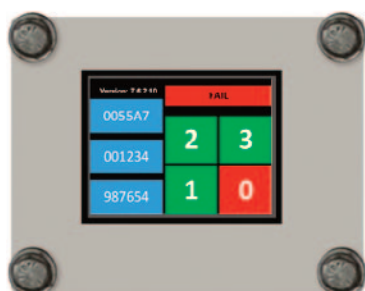
Audible warning and flashing Yellow light on driver & locator.

Operator receives in-cab warning (optional).





Enhanced Status Screen



The Enhanced Status Screen provides a quick visual report, showing if your system drivers and locators are working properly. This optional accessory decreases the time required to trouble-shoot a system issue without the use of a laptop or Facebook.







The Matrix Enhanced Status Screen also provides in-cab directional zone breach information for mobile equipment operators.



Information and specifications contained in this document are subject to change without notice.

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Matrix IntelliZone® Warning System Summary

Worker Location	Locator	Driver	Continuous Miner	Mobile Haulage
Outside Zones	 Flashing Green Light	Green Light 	Normal Operation	Normal Operation
Caution Zone	 Flashing Yellow Light & Beeping Tone	Flashing Yellow Light 	Normal Operation	Speed Auto-Slow
Shutdown Zone	 Flashing Red Light & Fast-Beep Tone	Flashing Red Light 	Auto-Stop	Auto-Stop



NOTICE

Matrix IntelliZone is intended to help teach mine personnel to safely interact with equipment and stay clear of danger zones. It is not intended to replace safe operating practices. IntelliZone is a useful tool to assist in personnel training.

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