



**LUNO
SYSTEMS**

**ENTRY SENTRY™
DIGITAL CONFINED SPACE
MONITORING SYSTEM**





Entry Sentry™ is an unrivalled solution for monitoring of confined space/high hazard work area management

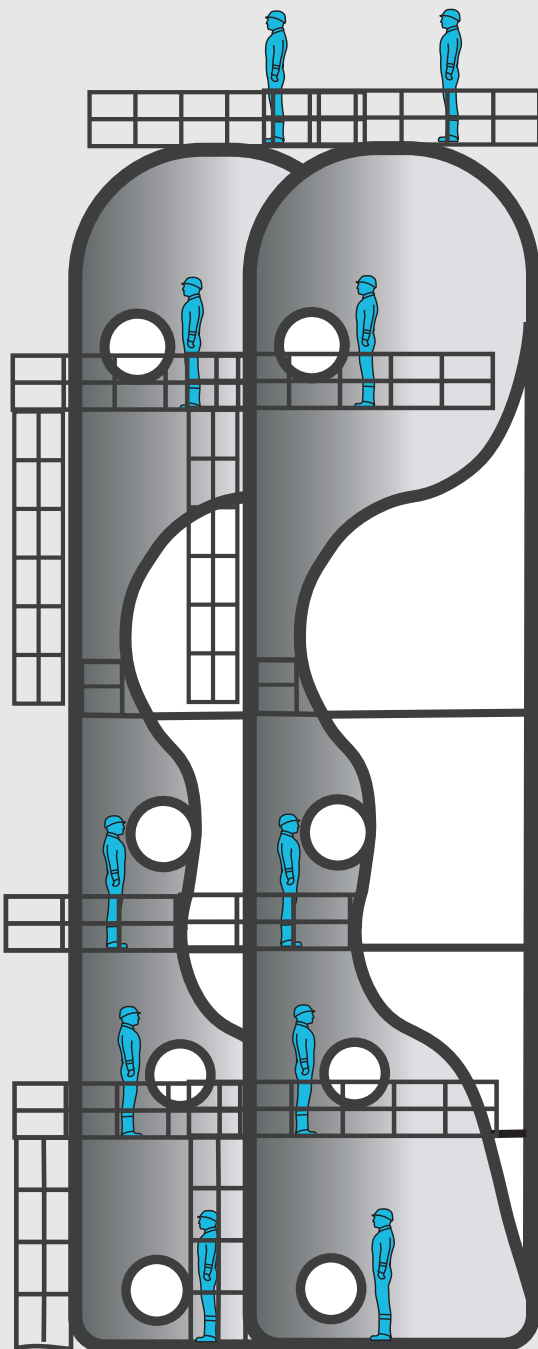
The Entry Sentry™ system reduces the requirement for individual 'Standby' or 'Hole Watcher' duties, providing increased visibility of the confined space, incorporating alarm systems, CCTV, access control, gas detection monitoring and ventilation monitoring.

Each project is planned and scoped to the client's requirement prior to installation phase, including full scoping document provision, which lists inventory requirements, locations, labour structure and emergency arrangements.

Additional specialist monitoring equipment can be integrated in to the system if required, such as thermal imaging and temperature monitoring.



Traditional Confined Space Standby Method



Entry Sentry Digital Monitoring

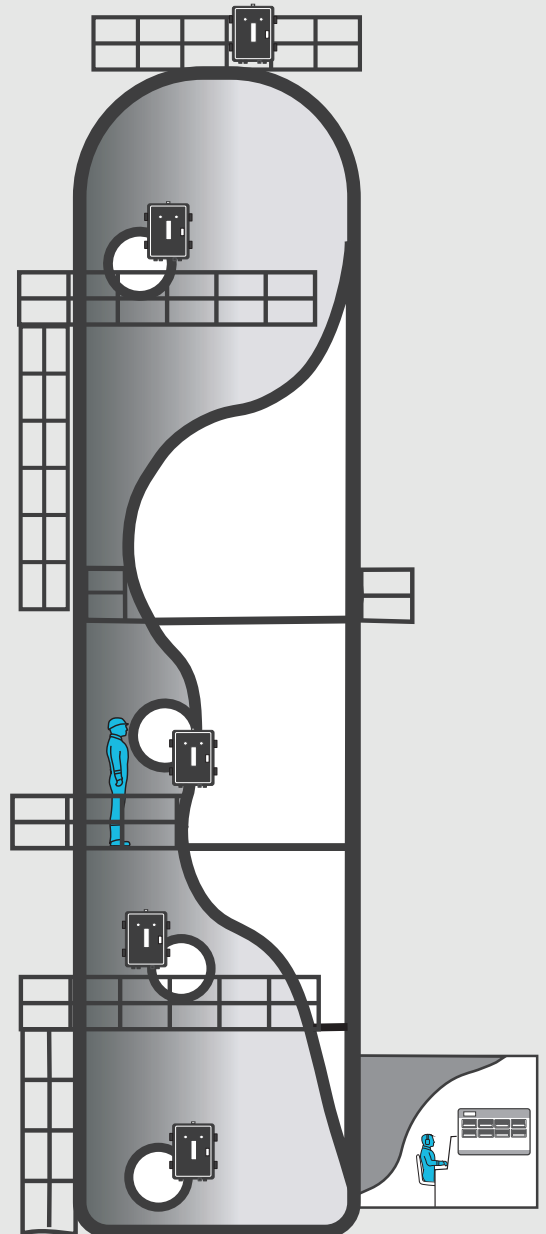
Reduced Personnel



Increased Safety



Reduced Cost



- As an example 10 entries can be monitored by 2 persons (1 x Control Panel Operator and 1 Rover) providing a labour cost saving
- Highly trained personnel are used ensuring that safety standards are high
- Costs are reduced by the decreased labour requirement



Digital Monitoring Panel

A state of the art intuitive control panel is used to monitor conditions in the space, video streams, alarm conditions and gas levels. The Control Panel Operator (C.P.O.) on duty will constantly monitor entrants in multiple areas/ confined spaces for their safety. The C.P.O. will deal with alert and alarm conditions according to the protocol agreed with the client.



Entry Point

The Entry Point incorporates a tag-in/out station, gives an indication of permit live/ not live status, and takes in the data from the CCTV cameras, intercom, gas detection and alarm system, before feeding it to the control room server system, via hard-wire or high powered wireless antennas.



Alarm System

The alarm system features an audible and visual beacon which can be activated by the alarm button in the confined space or by the control panel operator should an alarm condition arise.



Airtrack Gas and Environmental Condition Monitoring

The Airtrack device will monitor for typical confined space gases such as Flammables, Carbon Monoxide, Hydrogen Sulphide and Oxygen, with some additional special gases can be monitored also. In addition to these, the Airtrack has the capability with the Airtrack Special variant to monitor for temperature, humidity, pressure, air flow and other variables. See the Airtrack brochure for more information.

Intercom

The intercom allows for the entrants to contact the C.P.O. for both emergencies and non-emergencies.



Cameras

Cameras are used to monitor the safety of entrants at all times, both entering and once inside the confined space.



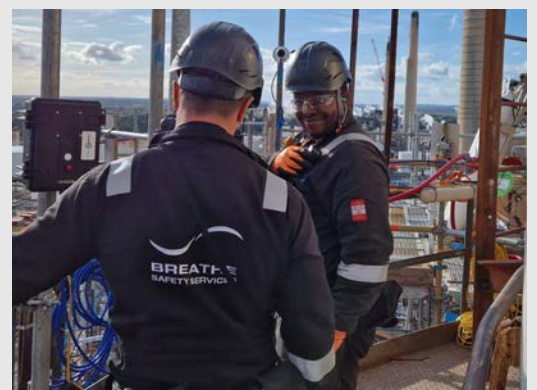
AI PPE Detection

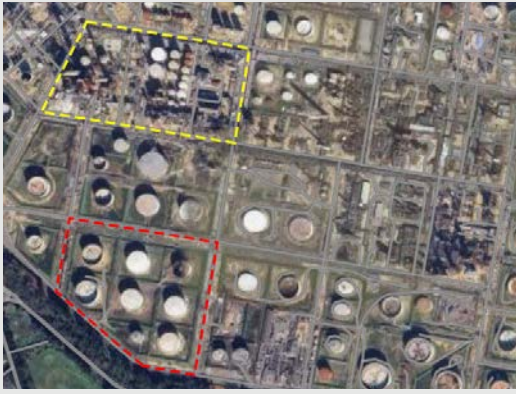
An additional AI PPE detection module is available for automatic detection of the required PPE, which further reduces the likelihood of human error.



Fully Managed System

A fully managed system means that install, test and deployment is all managed by competent engineers under a proven system of work.





Additional Controlled Area Access/Egress

A hierarchical approach to the Entry Sentry system means that access to controlled site areas prior to confined space entry, can also be monitored successfully in the same integrated platform.



Block Tag Stations

These are entry stations purely for access control into areas which are confined spaces such as plant blocks, for personnel accountability and safe plant evacuations.



Muster Stations

Muster stations allow entrants to be mustered out in safe areas.



Turnstiles

Full height mobile security turnstiles can be deployed to prevent unauthorised access.

Complex
Confined Space
404

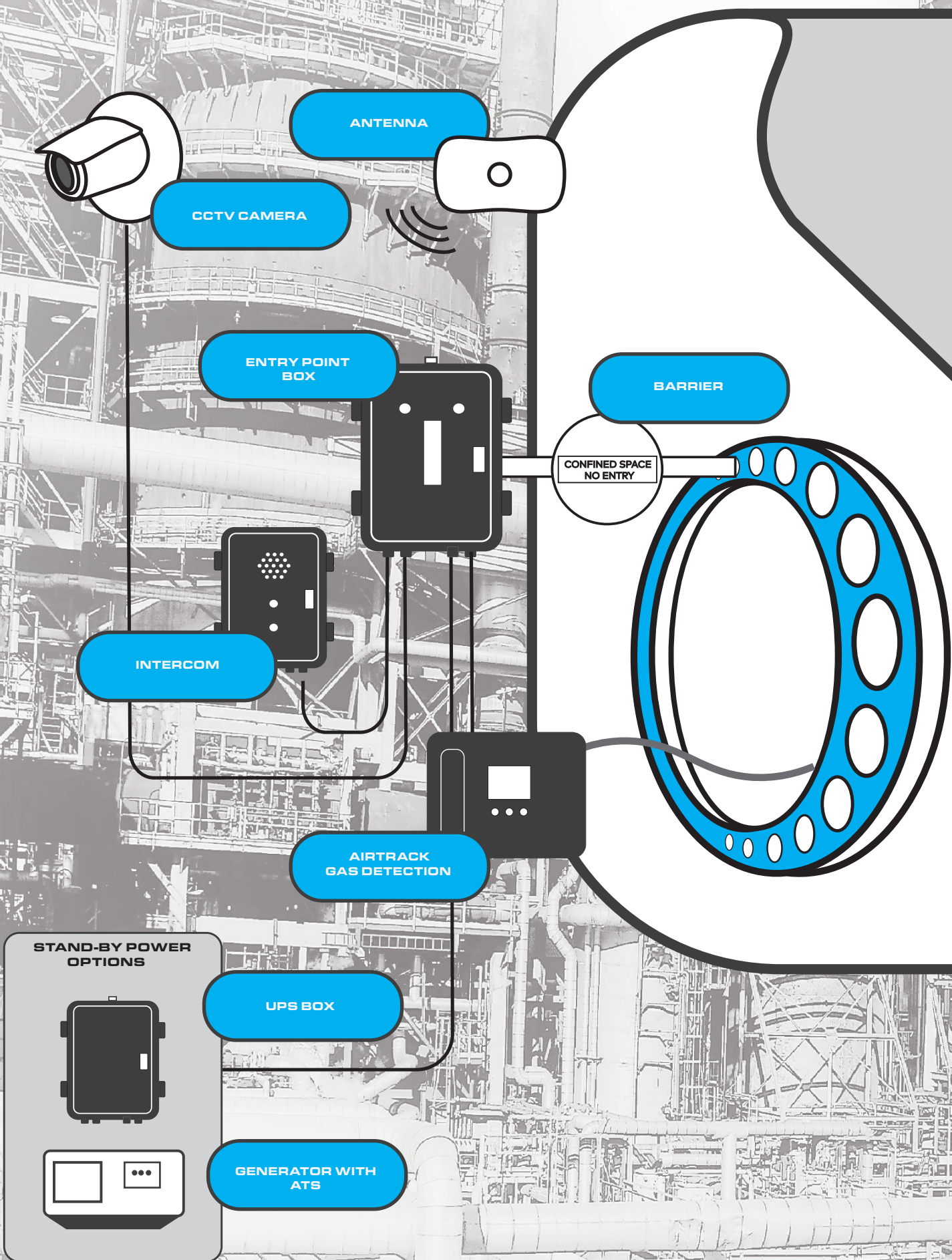
RETURN TO SUPERVISION
RETURN TO SUPERVISION
RETURN TO SUPERVISION



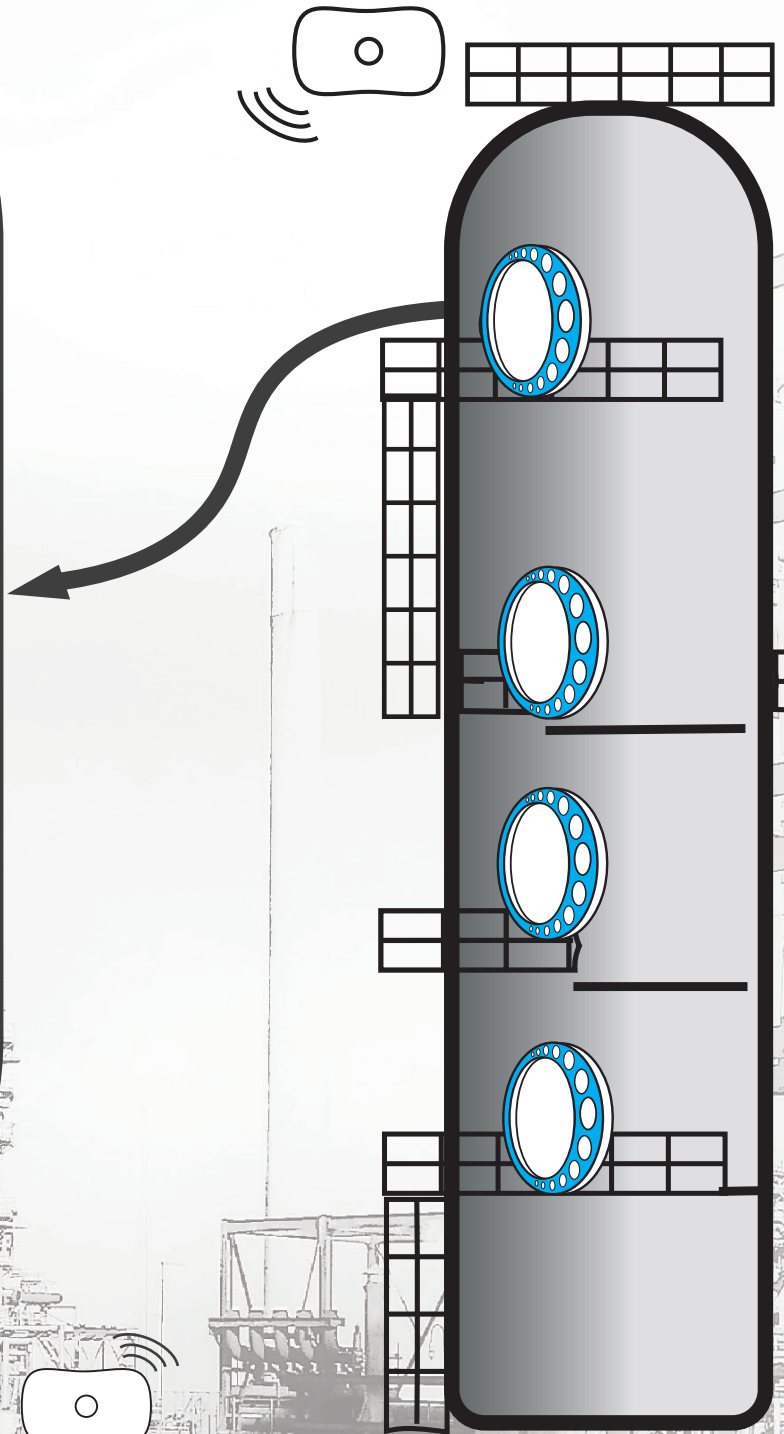
...TRUST IS EVERYTHING

1098
NO ENTRY
SCOTLAND 1 2008

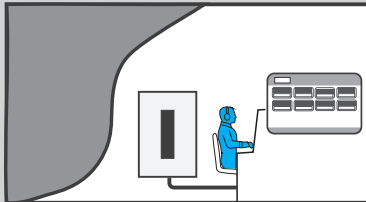
OUTSIDE SPACE



INSIDE SPACE

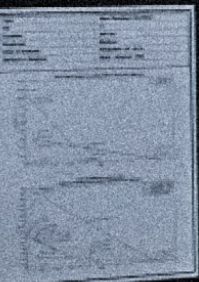


**CONTROL ROOM/
PERMIT OFFICE**











snel



ENTRY GENTRY

Block 11A (Poly) and 11B (SWS) TAG AND MUSTER LOCATIONS



-  Muster Stations - 2 Nos
-  Block Tag In/Out Stations - 3 Nos
-  Permit Hut
-  Block 11A (Poly)
-  Block 11B (SWS)

BREATHE

Block and Vessel Entry Instructions Lionheart Turnaround

BLOCK ACCESS

Prior to Entry to the Block

- Cards will be issued from Safety Team in the Learning Building - Village 1. You will need to provide your name and company name, and provide evidence of Lionheart Turnaround induction to a card to be issued to you. (Note the main site access cards are not compatible with this system)

Tag In / Out of the Block

- Tag-In Out Stations are located on the permit holder
- Tagging In - Hold your card to the reader - It should beep and the green light should be active. 2 seconds (this is an alarm) - (do not proceed)
- Tagging Out - This is the reverse process
- If you forget to tag out use the Muster Stations to tag out.

VESSEL ACCESS

Tag In / Out of Vessels

The same cards will be used for block access will be used for entry into vessels. Vessel access will be controlled by either:

- Electronic tagging and remote CCTV or
- Manual Tag In Stations and Stations

Electronic Tag-In to Vessels (CAT Block)

- Ensure the Permit light on the Entry Box is Green and the camera will also be in the correct position allowing entry
- Hold your card to the reader and a green light should illuminate if a red light illuminates do not proceed
- Remember to wipe out of the vessel on your exit
- Do not enter the gateway if the beacon is active and the Permit light is illuminated Red

During work in Vessels

- The location of Entry Points into vessels can be used to contact the Entry Controller
- There is an audible and visual alarm in the vessels - this can be manually activated in emergency to issue a vessel evacuation
- The same alarm will be used in the event of a major work of gas in the vessel
- Continuous gas detection - this will be in operation on CAT Block 11 vessels

Manual Tag-In to Vessels (Poly and SWS)

- Hand your card to the Safety Officer who will tag it on the muster tag in station
- Remove your card when you exit the vessel.

Muster Stations

In the event of not tagging out of a vessel or block - you may use a Muster Station to tag out.

Lost Cards

If you should lose a card, see Breathe or the Block & CAT PC.

ENTRY GENTRY

**MUSTER
STATION**

**PLANT:
CAT**

**STATION NO:
1**

OUT

jansnel

ENTRY POINT

BLOCK-B-CAT TAG AND MUSTER LOCATIONS



- Muster Station 1
- Block Tag In/Out Location 2
- Permit Allocation Room 3

>>> BLAST PROTECTION <<<

Light ends
permit office

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OUT

ExxonMobil



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