

FRONTLINE SAFETY CASE STUDY



STANDARD 4-GAS (LEL/O2/CO/H2S)

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WHAT WAS THE HAZARD?

In the marine environment, gas leaks pose significant threats not only to the structural integrity of vessels and facilities but also to the safety of crew members. The client, a prominent marine organisation, faced recurrent challenges with unidentified gas leaks. These leaks primarily involved flammable gases like methane, potential toxic gases like carbon monoxide, and oxygen deficiency or enrichment issues. In a marine setting, these hazards are particularly concerning due to confined spaces, limited escape routes, and potential ignition sources.

AT A GLANCE

Challenges

- Aging marine infrastructure susceptibility to gas leaks.
- Complex machinery and confined spaces .
- Inefficient and outdated previous gas detection system.

Benefits

- Comprehensive gas detection with the MSA ALTAIR 4XR
- Automated calibration and testing using the Galaxy GX2 docks, ensuring the accuracy and reliability of the detectors.

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PROBLEM IN MORE DETAIL

The marine organisation had vessels and offshore structures that were susceptible to gas leaks for several reasons:

1. **Ageing Infrastructure:** Over time, fittings, seals, and storage containers developed wear and tear, leading to small yet dangerous gas leaks.
2. **Confined Spaces:** Many marine settings, such as the engine rooms, storage areas, and below-deck spaces, have limited ventilation. Any gas leak in these areas could quickly lead to hazardous concentrations.
3. **Complex Machinery:** The onboard machinery often uses fuels and generates exhaust, sometimes leading to unwanted gas emissions.
4. **Inadequate Monitoring System:** Their existing gas detection system needed to be updated, it lacked connectivity features and frequently provided false alarms or missed minor leaks.



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WHICH SOLUTION AND WHY?

To address this, the MSA ALTAIR 4XR multi-gas detector was chosen. One of the standout features of the 4XR is its capability to detect up to four gases concurrently. Equipped to identify flammable gases like methane, toxic elements such as carbon monoxide and hydrogen sulphide and monitor oxygen levels, it ensured that every conceivable hazard in the marine setting was under vigilant scrutiny.

The physical robustness of the ALTAIR 4XR made it particularly suited for marine conditions. Constructed to withstand the trials of water, salt, and occasional physical shocks, the 4XR is designed for longevity, ensuring that the marine organization would have a reliable partner in safety for a long time.

To complement the efficiency of the 50 ALTAIR 4XRs, a fleet of Galaxy GX2 bump and calibration docks was put into action. These docks ensured systematic and automated testing of the detectors and their regular calibration. The marine organisation could now be assured of the reliability of readings at all times. Moreover, with multiple docks in operation, the downtime experienced during calibration was minimal, ensuring that safety was uncompromised at any given moment.