

# Wireless Bluetooth Two-way Radio

Communication Solutions  
for Intrinsically Safe Environments

## Case Study



Bluetooth® technology is changing the way workers communicate in high noise industrial environments. From IS smart phones to IS Bluetooth® enabled Two-way radios, there are more communication options available to industrial companies who have environments where IS certified devices are required.

Sensear has worked with a number of leading Oil and Gas companies to deliver Wireless Bluetooth® Two-way Radio communication solutions. These customized solutions solved challenging communication problems. This case study covers a customized double protection application.

### Customer Problem

For years this customer had a problem communicating in noise environments up to 115DB. This involved using products that required communication ear buds under passive muffs, so that the workers could hear radio traffic and still meet requirements for double hearing protection.

Their existing solution involved several cables from the ears to a control unit, another cable from the boom mic on the passive headset, and a control box the user was required to wear with yet another cable to connect to the user's two-way radio.

These cables were causing users to become tangled while performing work resulting in the units to fail. Also, they found that the hearing protection would be dislodged due to pulls on the cable which compromised the protection.

The customer's equipment was also not able to attach directly to the user's hardhat, forcing modification of the equipment using sheet metal screws and non-standard hardhat clips for attachment. This was causing cracks in the domes of the IS units, violating the IS rating of the equipment making it unsafe for the worker.

Finally, because the headsets did not have a volume limiter, there were many complaints about "blasting your ears" when two-way radio transmissions were activated.

### Sensear Customized Solution

Sensear was asked to customize a solution that both maximized the customer's investment in its Motorola IDEN Bluetooth® IS Radios and would meet the requirements for double protection. With a change to firmware, Sensear's digital IS headsets were set up with a Bluetooth® link to the customer's Motorola radios that allowed for the complete operation of PTT without the need for radio interface cables. This allowed the user to pair to the Bluetooth® feature simply by turning on the headset when entering the high noise environment, and turning off the headset when entering the low noise environment where they could have full use of the radio without the hassle of removing cables.

Because of the feature rich headsets users also had the option of using the headset with a radio interface cable and using the short-range capability when working in small groups. This solution also reduced the need for a speaker mic that the customer was trying to use with ear buds in the high noise areas of the facility (cost savings).

### Results for Customer

Sensear's solution delivered a number of important business-critical results to this customer:

- Increased worker acceptance of hearing protection PPE due to ease of operation and reduction of wires and cable snags.
- Improved productivity due to more efficient and seamless communications between workers.
- Better worker safety by not losing hearing protection due to cable snags and PPE being pulled off.
- Reduced damage to communications equipment due to the removal of the need for a cable.
- Cost savings by not having to replace radio cables due to cuts, snags, wear and damage