

# Applications Case Study

## Wireless HCN Solution

### The Challenge

A local petrochemical plant used hydrogen cyanide (HCN) in a process facility located just upwind from a number of important installations. Due to the distance and obstacles involved, running wiring between the control room and desired monitoring points was expected to be expensive and time-consuming.



### The Solution

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Given the time and cost constraints, for this application the customer chose a series of GDS Corp GASMAX ECx battery-powered stand-alone monitors with HCN Smart Sensor and 900 MHz integrated radio modem. In the past, similar safety systems would have required the installation of direct wiring; however, the advanced error detection capabilities built into the GDS Corp wireless monitors was sufficient to satisfy customer requirements.

The GASMAX ECx gas monitor incorporates a 3.6v lithium battery that can provide continuous operation for six months under normal operating conditions. During operation, the GASMAX ECx microprocessor wakes up every six seconds and measures the sensor output. If the calculated engineering units value does not exceed the programmed Alarm 1 setting, the gas monitor goes back to sleep. Every five minutes, irrespective of the measured ambient gas value, the GASMAX ECx transmits a message to the central controller that includes the most recent measured value, battery life and status data.

If at any time the gas value exceeds the programmed Alarm 1 level, the GASMAX ECx will begin continuously broadcasting the measured value on six second intervals. Once the gas level drops below the A1 level, the GASMAX ECx continues to broadcast for 30 seconds.

The GASMAX ECx gas monitors as designed to operate in conjunction with a C1 *Protector* controller. This controller continuously monitors the GASMAX ECx transmissions and signals a FAULT condition if a transmission is not received within 18 minutes.

For domestic US applications, the GASMAX ECx features an integrated 900 MHz radio modem with programmable power settings. For Europe and Asia, a 2.4GHz model is available. Even though the wireless system solves many wiring issues, it can be affected by physical structures which can obstruct wireless signals. Installing a wireless system should always be approached with the following considerations in mind: location of detectors, controllers and antennas; physical obstacles, distance between antennas, terrain and other items. Please contact GDS Corp for more information on wireless installations.

