

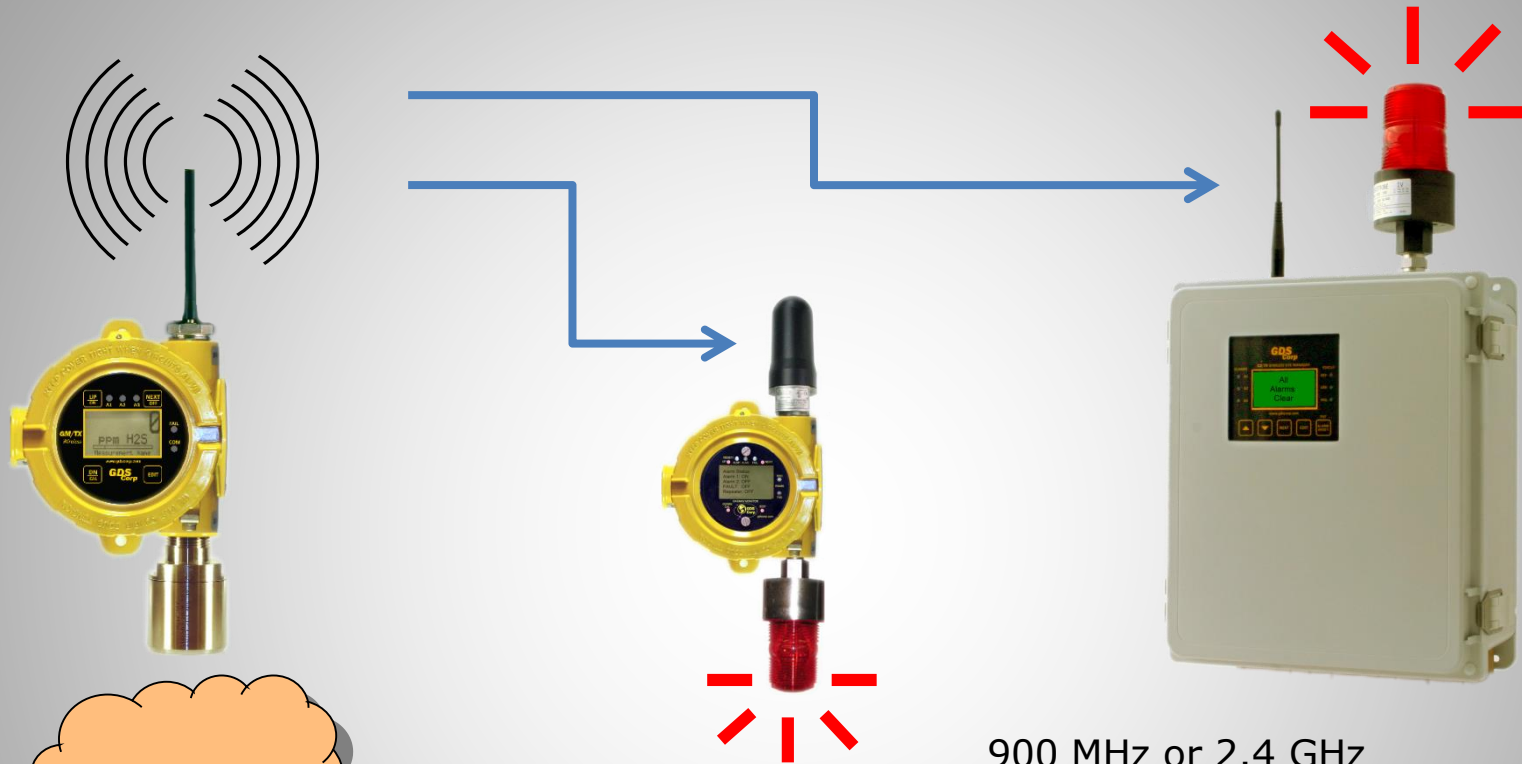
GDS Corp

Gas and Flame Detection

Deploying Wireless Gas Sensors in “Real World” Conditions



GDS Wireless Gas Detection



900 MHz or 2.4 GHz
Frequency Hopping Spread Spectrum
Point to point

Gas Detector(s)

Alarm Station(s)

**Central
Controller**

The Challenges



- Location, Location, Location
- Environmental Extremes
- Wireless Transmission Range
- Hazardous Area Requirements
- Maintenance & Repair

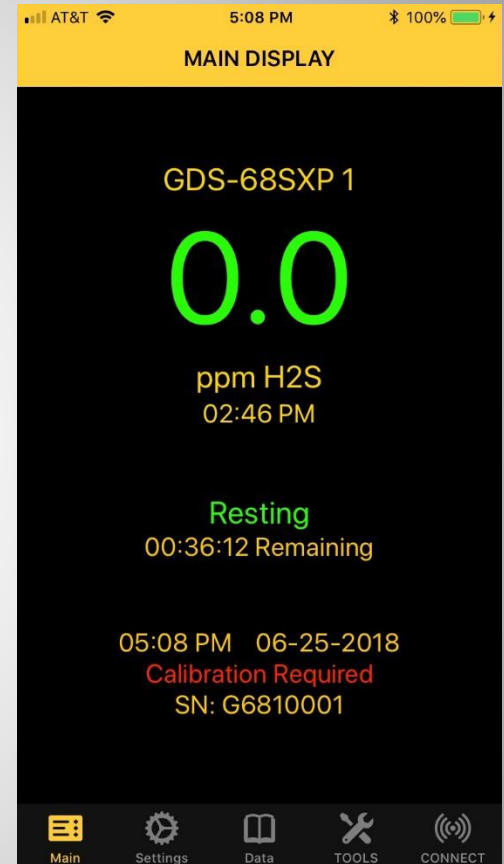
Addressing the Challenges

- Sensor Location
 - Gas density, potential sources, prevailing winds, wireless transmission range
- Environmental Conditions
 - Temperature extremes, rain or pressurized water, presence of toxic or corrosive gases & liquids
- Wireless Transmission Range
 - Power, physical & RF interference
- Hazardous Area Requirements
 - Class I Div 1, Class I Div 2, General Purpose
- Maintenance & Repair
 - Calibration & Testing; battery & sensor replacement



Future Directions

- Advances in wireless technology offer new options for next-generation wireless backbone
 - WirelessHART, ISA-100, LoraWAN & others
- New 'air quality' electrochemical sensors deliver PPB resolution
 - Current mainstream sensors measure 0-25 ppm, new versions measure 0-5 ppm or better
- Customer safety requirements demand greater sensitivity & lower alarm levels
- Hazardous area requirements get tougher
 - CSA, ATEX, IECEx
- User interfaces must improve to meet the expectations of newly-minted technicians!



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Thanks for your
Time & Attention!