SMART GAS DETECTION

Thomas Reschke, Com. Dev. Manager Wireless Solutions
It’s a Connected World where we live in!.... IIoT .... Industry 4.0 ....

- There’s a need for real-time safety intelligence!
- The right information at the right time means making better decisions!
- This improves productivity and drives competitive advantage!
- Protecting workers helps protect businesses!
CONNECTED SOLUTIONS
BY HONEYWELL

Industrial Workplace Evolution… Industry 4.0…

What Exposure Threats Do Users Encounter, And How Do We Better Protect Against Them?

How Do We Reduce The Burden Of Safety Compliance And Reporting?

Value Driver
Enabling Technology

Burden to reduce incidents and protect workers
The Future of Safety

New Possibilities By IOT / Digital Transformation

Moving From Offering Individual Products To Connected Solutions

Industry Is Quickly Moving From Point Solutions To Smart Ecosystems
CONNECTED SOLUTIONS
BY HONEYWELL

Lone Workers
…Need someone to have their back

High-Risk Tasks
…Need Situational Awareness & Real-Time Decisions

Daily Operations
…Needs Real-Time Compliance, Safety & Productivity
Smart Gas Detection Solutions
A portfolio of scalable systems
CONNECTED SOLUTIONS

BY HONEYWELL

Know What’s Happening and Make Better Decisions

Reduced downtime

Gas alarm & location

Predictive maintenance & crisis prevention

Smart evacuation & rescue

Reduced downtime
Lone Worker – Example LTE

Gasdetector

Gasdetector

Gasdetector

Software

Cellular or Wi-Fi

Bluetooth
Turn Key Kit – Example Mesh

<table>
<thead>
<tr>
<th>Used For</th>
<th>Team/Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max # Instruments</td>
<td>8</td>
</tr>
<tr>
<td>Used During</td>
<td>Task</td>
</tr>
<tr>
<td>Frequency of Use</td>
<td>Periodically</td>
</tr>
<tr>
<td>Typical Runtime</td>
<td>Hours</td>
</tr>
<tr>
<td>Wireless Infrastructure</td>
<td>NA (Stand-alone Controller)</td>
</tr>
</tbody>
</table>
Configured Systems – Example Mesh

<table>
<thead>
<tr>
<th>Used For</th>
<th>Group/Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max # Instruments</td>
<td>64</td>
</tr>
<tr>
<td>Used During</td>
<td>Project</td>
</tr>
<tr>
<td>Frequency of Use</td>
<td>Routinely</td>
</tr>
<tr>
<td>Typical Runtime</td>
<td>Days</td>
</tr>
<tr>
<td>Wireless Infrastructure</td>
<td>Portable Personal Modems</td>
</tr>
</tbody>
</table>
Configured Systems – Example Mesh

<table>
<thead>
<tr>
<th>Used For</th>
<th>Group/Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max # Instruments</td>
<td>64</td>
</tr>
<tr>
<td>Used During</td>
<td>Project</td>
</tr>
<tr>
<td>Frequency of Use</td>
<td>Routinely</td>
</tr>
<tr>
<td>Typical Runtime</td>
<td>Days</td>
</tr>
<tr>
<td>Wireless Infrastructure</td>
<td>Portable Personal Modems</td>
</tr>
</tbody>
</table>

- Stand-Alone-Instrument
- Software
- Host
- Stand-Alone-Instrument
- Stand-Alone-Instrument
- Stand-Alone-Instrument
Enterprise Solutions – Example Mesh / Wifi

- Mesh: up to 100 meters
- ISM: up to 2 miles
- RS-232
- Used For:
  - Max # Instruments: 2000+
  - Used During: Operations
  - Frequency of Use: Daily
  - Typical Runtime: 24 x 7
  - Wireless Infrastructure: Fixed Area Access Points

Gasdetectors
Transmitters
Reader
Software
CONNECTED SOLUTIONS
BY HONEYWELL

CONNECTED Solution – Connectivity Options

WiFi Infrastructure  MESH Network  LTE

Alarm Notifications  Map Displays  Plume Modeling  Data Integration  Decision Aid
Tomorrow - OneAir Smart Campus

OneAir

Control Center

PMS

FMS

HSE

MiniPCie

Modules

CPE

Handset

Handset

Gas Detection

Fixed Monitoring

Video Monitoring

Automatic inspection

Dispatching

OneAir Smart Campus
eLTE Wireless Gas Detection Network

- eLTE Smart Terminal
- eLTE Gateway
- BLE
- Mesh
- Base Station
- Core Network
- Internet
- ProRAE Guardian Remote Viewer
- ProRAE Guardian Host
CONNECTED SOLUTIONS
BY HONEYWELL

Safety
Real-Time Data:
- Threat Readings
- Alarms
- Man-Down Status
- Compliance Status
- Worker Location

Productivity

- Watch for alarms from Gas Monitor
- Primary alarm from BioHarness
- Monitor vital signs through BioHarness
- Hands-free Voice Solution
- Ruggedized Smart Phone
- Mobile Scanner

Workers Field Collaboration

Instant Situational Awareness – The Right Information At The Right Time
Another way we’re keeping you connected is with Safety Communicator, which pairs a ruggedized smartphone with a user-friendly mobile app to push data from a worker’s portable safety device to our real-time monitoring software. That means you can elevate your real-time safety awareness — with simple, easy scalable technology — while lowering your cost of ownership. Honeywell is one of the first to market with this technology, creating a familiar smartphone experience around industrial safety.