



Dave Maloney & Terry Alberti
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ADVANCES IN WIRELESS GAS DETECTION

IIOT, Wireless Gas Detection, Connected Industrials & Connected Worker

Honeywell
THE POWER OF **CONNECTED**

Agenda:

- Introductions
- Company Overview
 - Honeywell
 - Honeywell Analytics – Flame and Gas Detection
- The Connected Plant & Connected Worker Journey
 - Where have we been?
 - Where are we today?
 - Where are we going?
- Live demo
- Summary & Questions

Honeywell is building a smarter, safer,
and more sustainable world

THAT'S THE POWER OF **CONNECTED**
THAT'S THE POWER OF **HONEYWELL**

Connected Aircraft • Connected Automobile • Connected Home • Connected Building
Connected Plant • Connected Supply Chain • Connected Worker

• [Honeywell Overview](#)

Honeywell

THE POWER OF **CONNECTED**

Customer-Centered Approach

High-Risk

- Fall Protection
- Respiratory Protection
- Intelligent Hearing Protection
- Electrical Safety
- First Responder Safety

Gas Detection

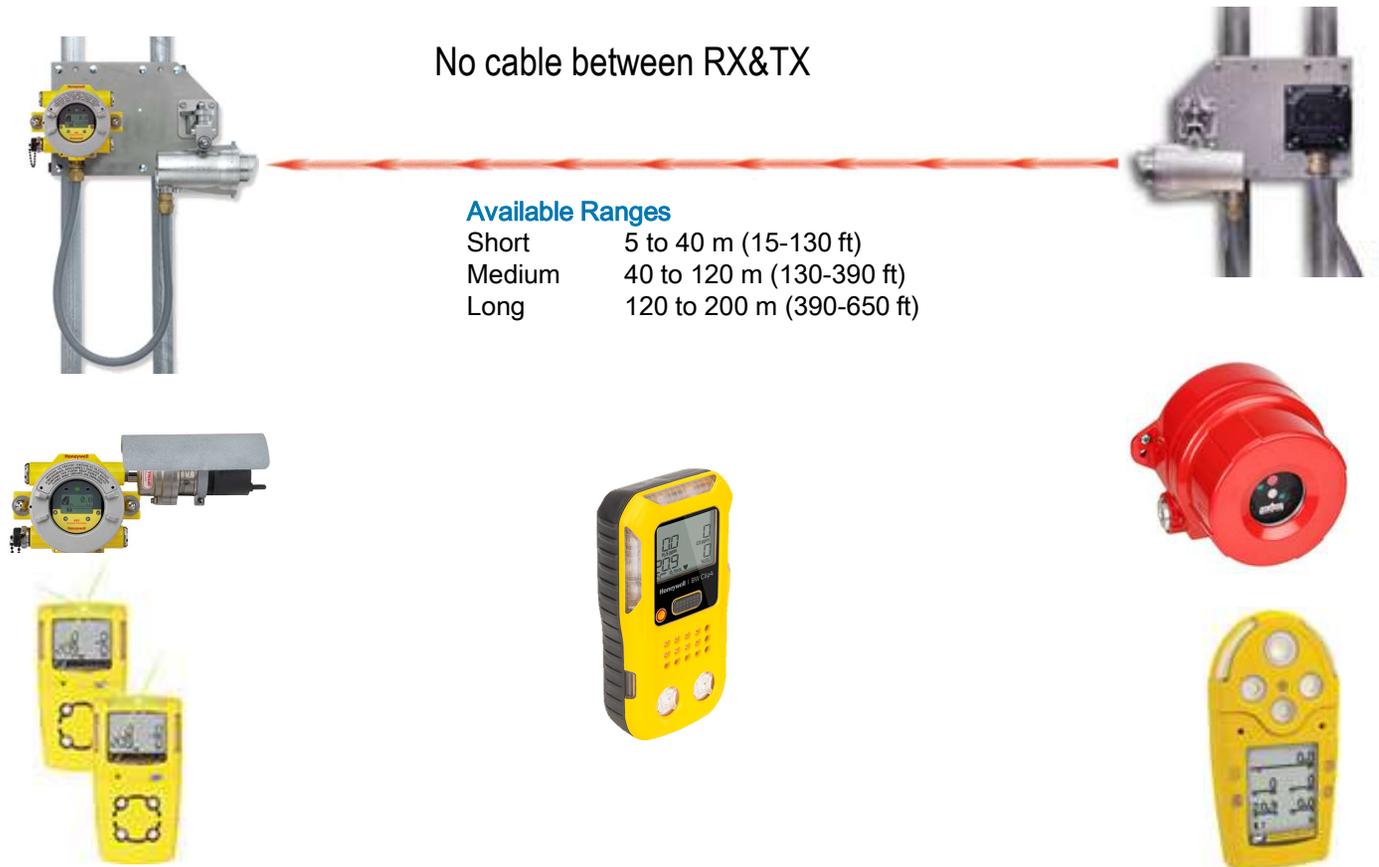
- Fixed Gas Detection
- Sensing Technology
- Portable Gas Detection

General Safety

- Hearing Protection
- Eye, Face & Head Protection
- Industrial Footwear
- Protective Clothing
- Hand & Arm Protection
- Eyewash and First Aid Solutions



Already have Sensitive Fire & Gas devices within the ICSS & Standalone portable gas detectors.



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Wireless Gas Detection

- ✓ Wireless Portables featuring Man-Down, location via GPS, BT connection to Atex smartphone or tablet then over 3G4G, Wi-Fi, Radio Mesh
- ✓ Wireless Transportable: Area monitors, perimeter monitoring, emergency response, fence line monitoring, temporary safety system (maintenance), Easy to deploy reusable & transportable
- ✓ Bluetooth enabled Fixed Gas Detectors.
- ✓ Hardware, software, infrastructure, communication is all ready to go.

Ease of maintenance



- **OELD enables nonintrusive commissioning, configuration and maintenance from the palm of your hand. No hot works, no hassle.**
 - Simplified maintenance with familiar smartphone technology
 - Hands-off interaction to reduce time and safety risk
 - Easy access to hard-to-reach detectors
 - Know before you go: pre-empt maintenance issues

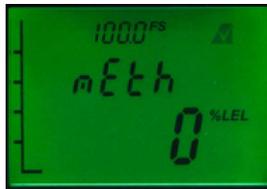
OELD: BLUETOOTH CONNECTION



Bluetooth® using Mobile App

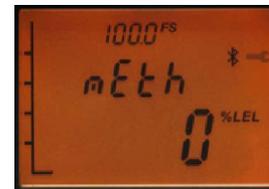
- Removes need to physically access or connect to OELD
- No need to open OELD= No hot work permit
- Mobile device, phone or tablet
 - Ruggedized
 - Zone 2
 - Zone 1
 - Or use regular mobile device if permitted
- See what's going on
 - Live gas reading
 - Device status
 - Device details
- Use to configure OELD
 - Change gas name
 - Normal LED behaviour
 - Alarm set point
 - Units of measurement
 - Range
 - Resolution
 - mA levels
- Use to ALSO configure and diagnose Optima or Excel
 - Take control: inhibit, test, reset
 - Diagnose: view and clear faults and warnings as necessary
 - Maintain: set up, calibrate

Status at a Glance



Green

- Sensor is in normal condition
- 4 mA or above but below alarm set point
- Normal condition can be set off using mobile app
- Also displays 'check' icon



Yellow

- Sensor is in fault condition (flashing)
- Sensor is in inhibit condition (solid)
- Also displays the 'wrench' icon



Blue

- Pairing with a mobile device in progress (flashing)
- Connection established and detector in Normal condition (solid)
- Display reverts to relevant colour for non-normal state



Red

- Gas concentration above the set alarm threshold (flashing)
- Threshold can be set using mobile app
- 5% and 100% of FSD

Honeywell IIOT

- *Industrial Internet of Things (IIoT) represents a digital transformation of manufacturing that shifts the source of competitive advantage away from physical machinery and towards information.*
- *IIoT opens up new possibilities for safety, productivity, organizational responsiveness and ultimately, profitability.*
- *IIoT is here, at least among the most forward-thinking companies.*
- *Honeywell's progressive approach to IIoT – focuses on optimizing users' existing automation investments by leveraging what they already have. In addition, Honeywell delivers the widest range of secure, ready-to-deploy technology across all elements of the industrial internet:*
 - *Smart, connected assets and devices*
 - *Data management and onsite control*
 - *Analytics*
 - *Smart and secure collaboration.*

ConneXt Pro Provides Plant - Wide Safety



Addressing Core Industry Problems – Safety



Process Safety



Personnel Exposure



Compliance

Gains not possible with conventional methods



Safety System Effectiveness



Hazard Exposure Tracking



Real-time Job Readiness



Safety Element Analysis



Exposure Risk Quantification



PPE Inventory Tracking



IPL Analysis



Operational Efficiency

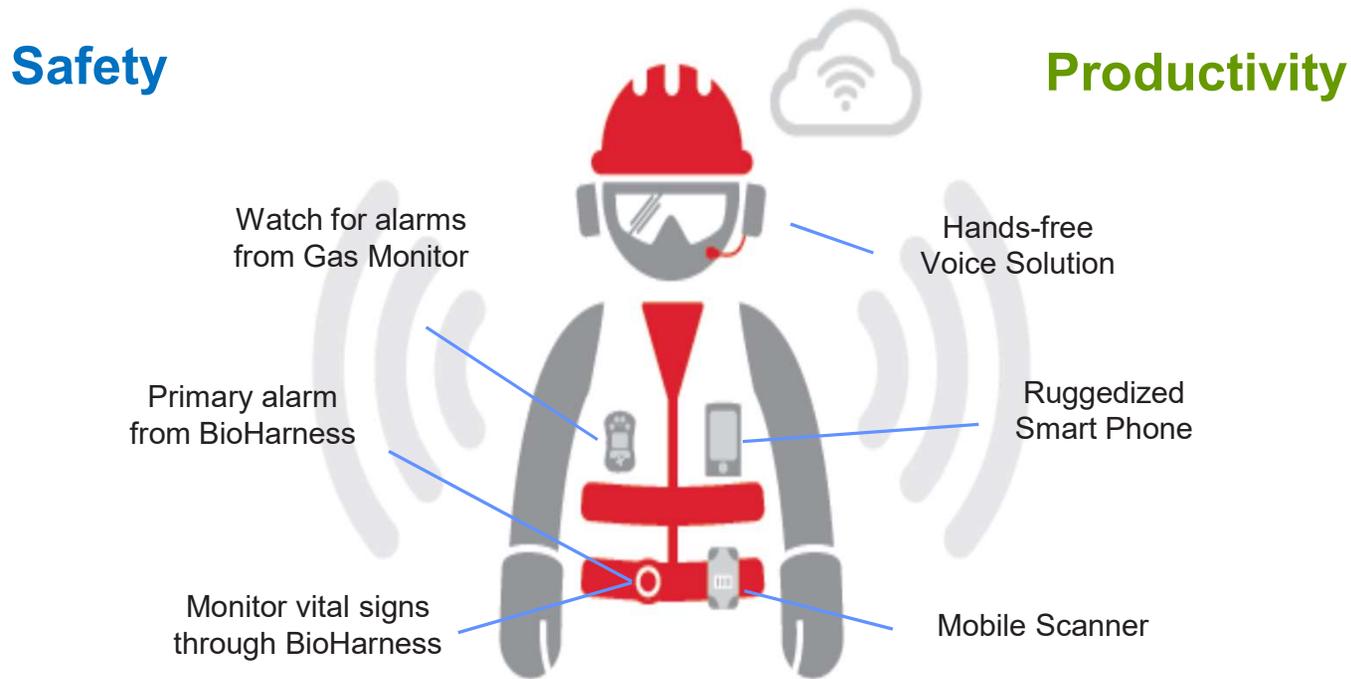


Enterprise-Wide Compliance

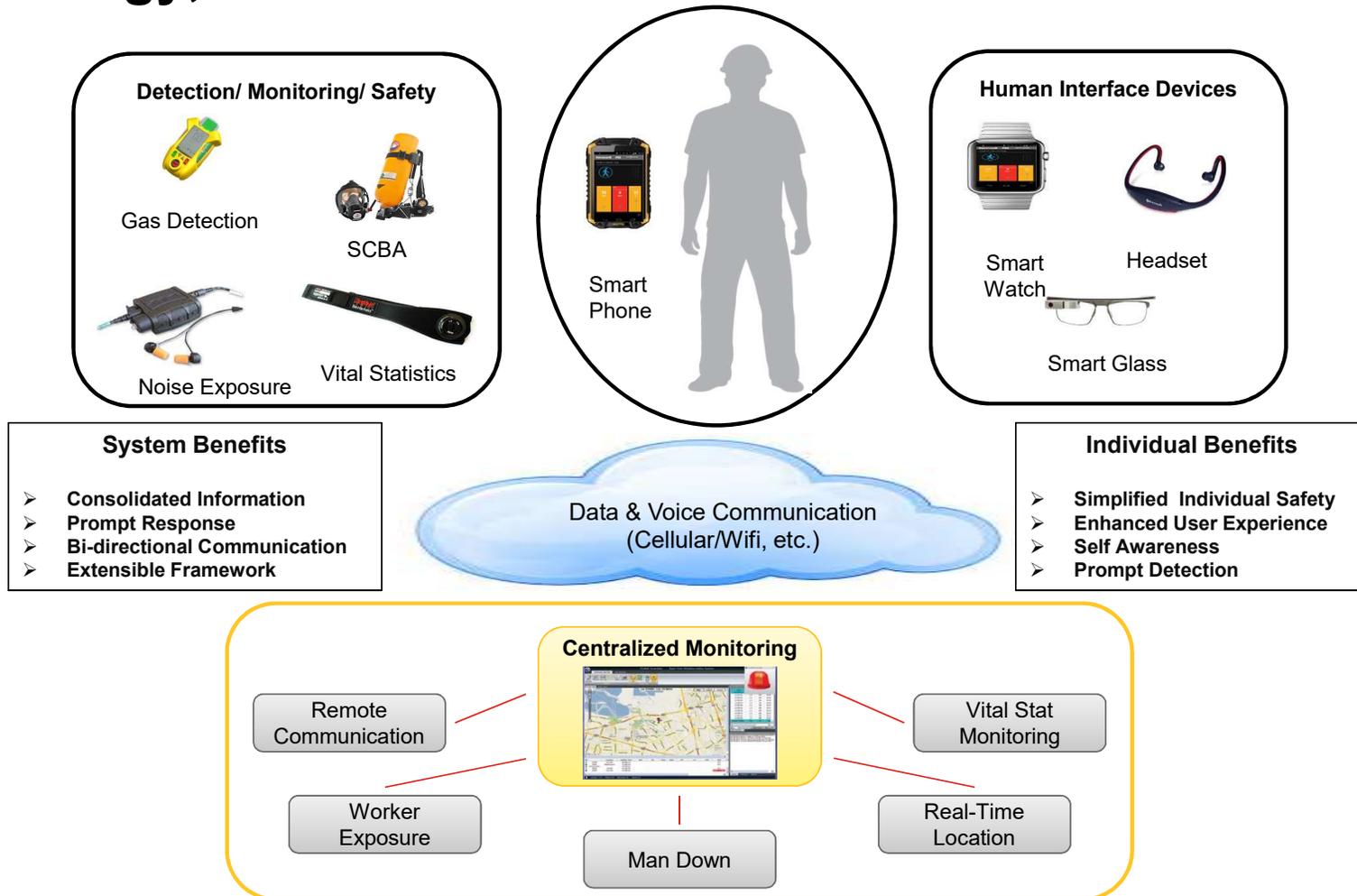
Delivering Gains via IIoT Platform and Ecosystem

On the Path to the Connected Worker

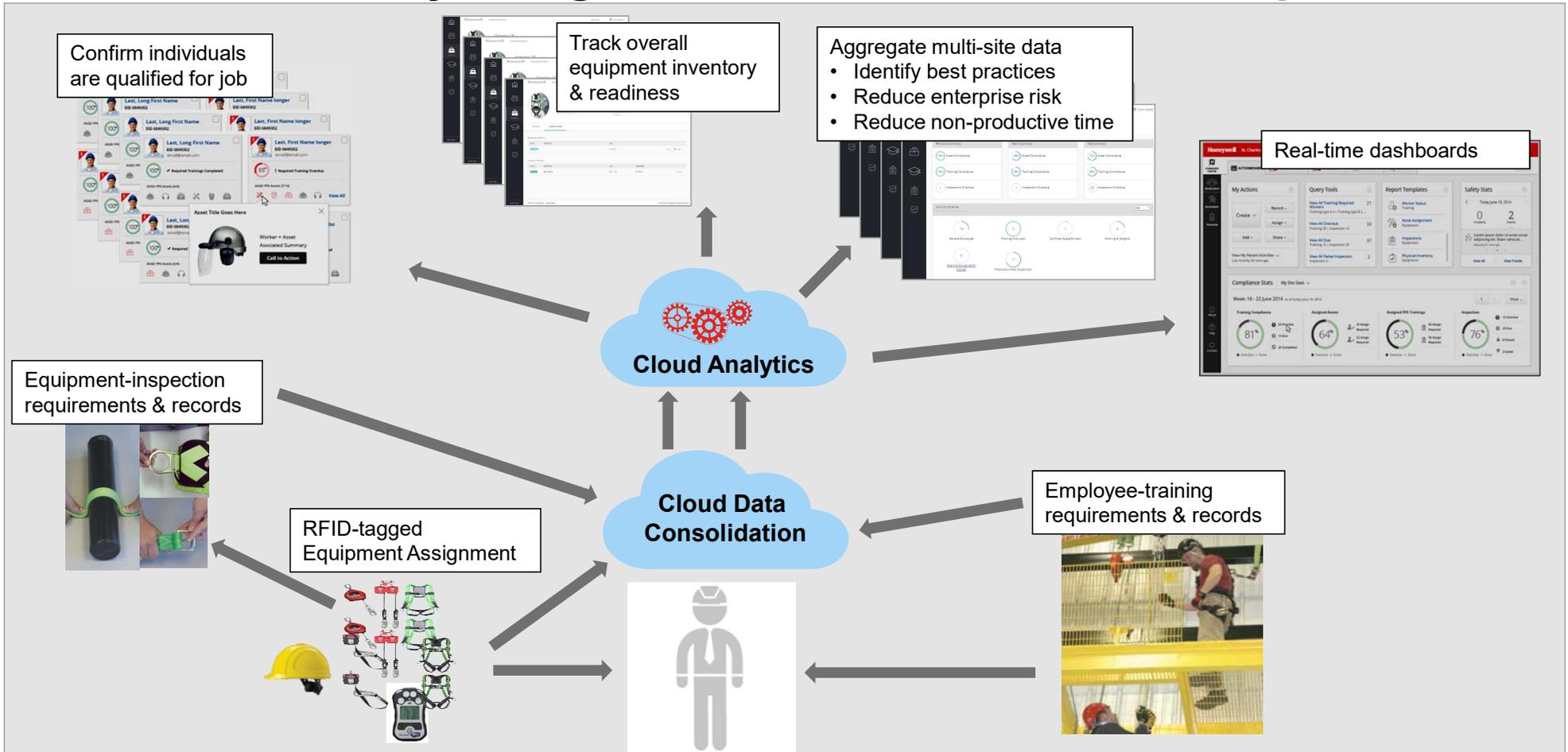
Enable real-time intelligent decision making for the **safety** and **productivity** of a worker by creating a symbiotic relationship between worker, PPE, and environment.



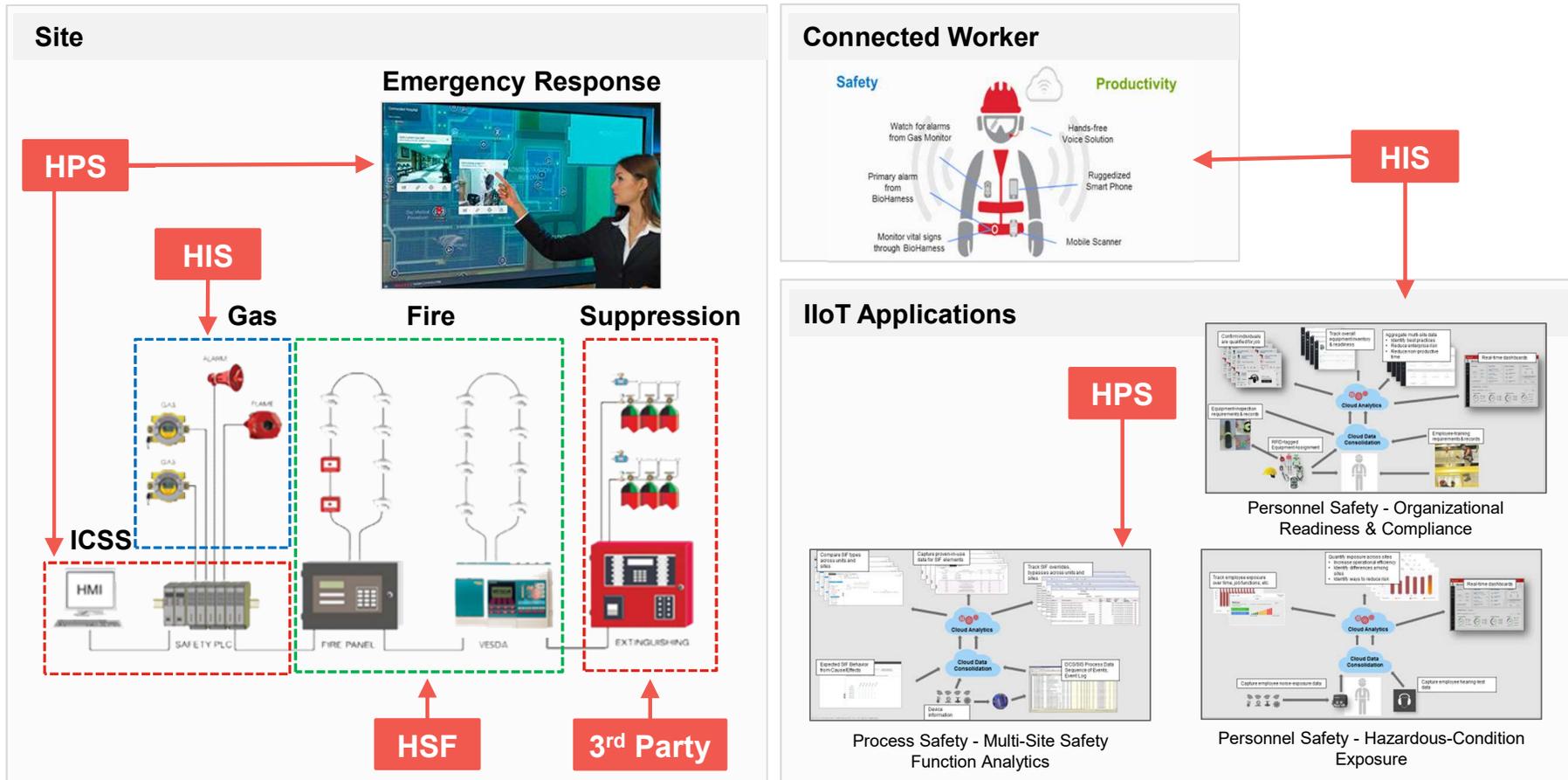
Technology; Connected Worker



Personnel Safety – Organizational Readiness & Compliance



One Honeywell Plant & Personnel Safety Reduces Risk



Honeywell Connected Plant

Summary:

The journey continues...

- Connected Plant, Connected Workers
- Innovation & Enabling technology
- Please ask us any questions and join us for the live demonstrations.