

Connected Process Plants to improve Safety in the digital world

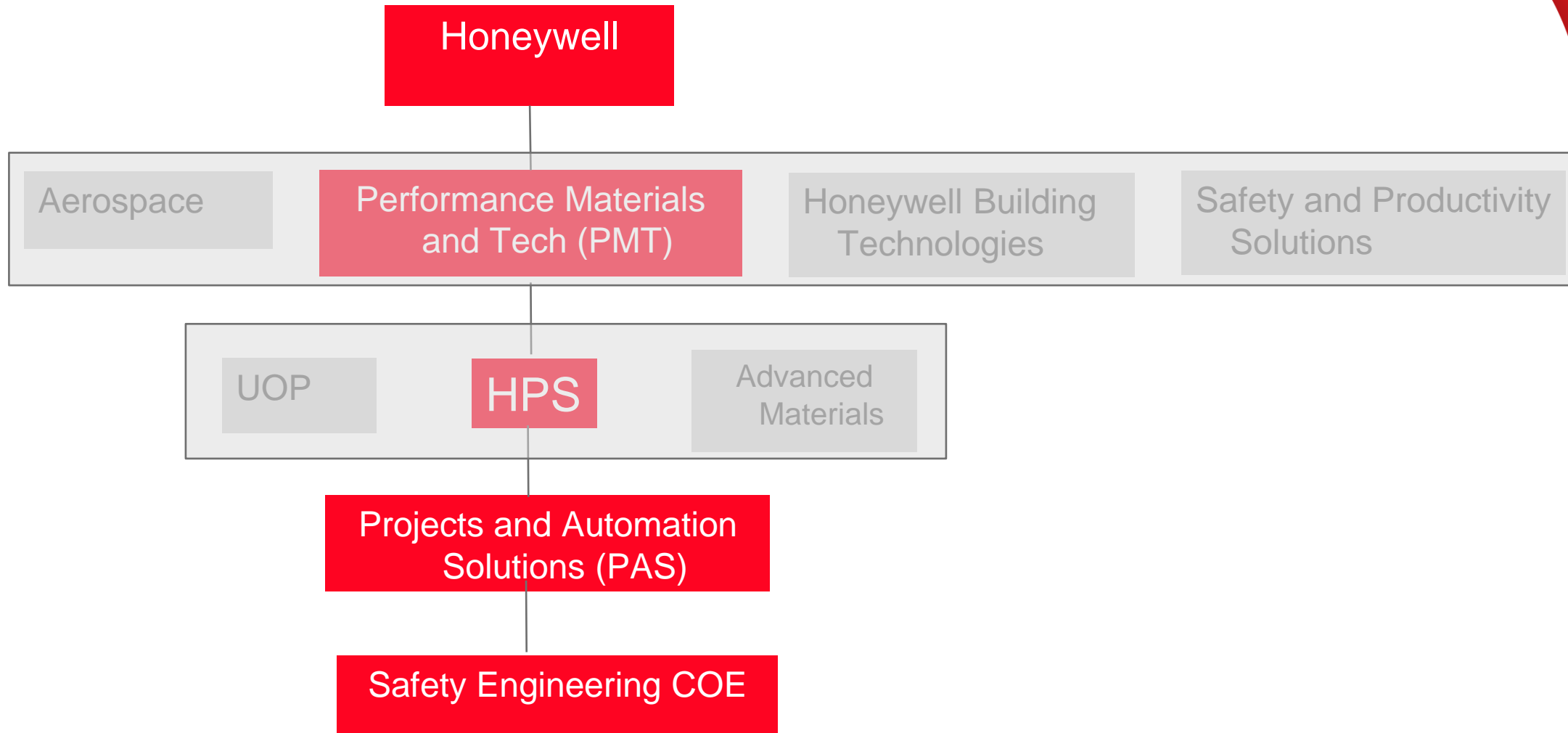
P2SAC, Dec 7, 2021

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P²SAC
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Industry challenges



Sweat The Assets: Longer, harsher operating cycles between maintenance, at peak performance

- Demanding products, quality, and delivery commitments
- Older equipment stretched to meet demand
- Increasing safety, environmental compliance and stewardship
- Global competitive marketplace

Increasing
Operational
Complexity



Differing outcomes across shifts, units, mills, and enterprise

- Knowledge Retention & Adoption
- Loss of expertise due to graying workforce
- Disconnected Solutions
- Inconsistent User created insights
- Workforce - changes to the people skills operating the plants

Changing
Workforce
Demographics



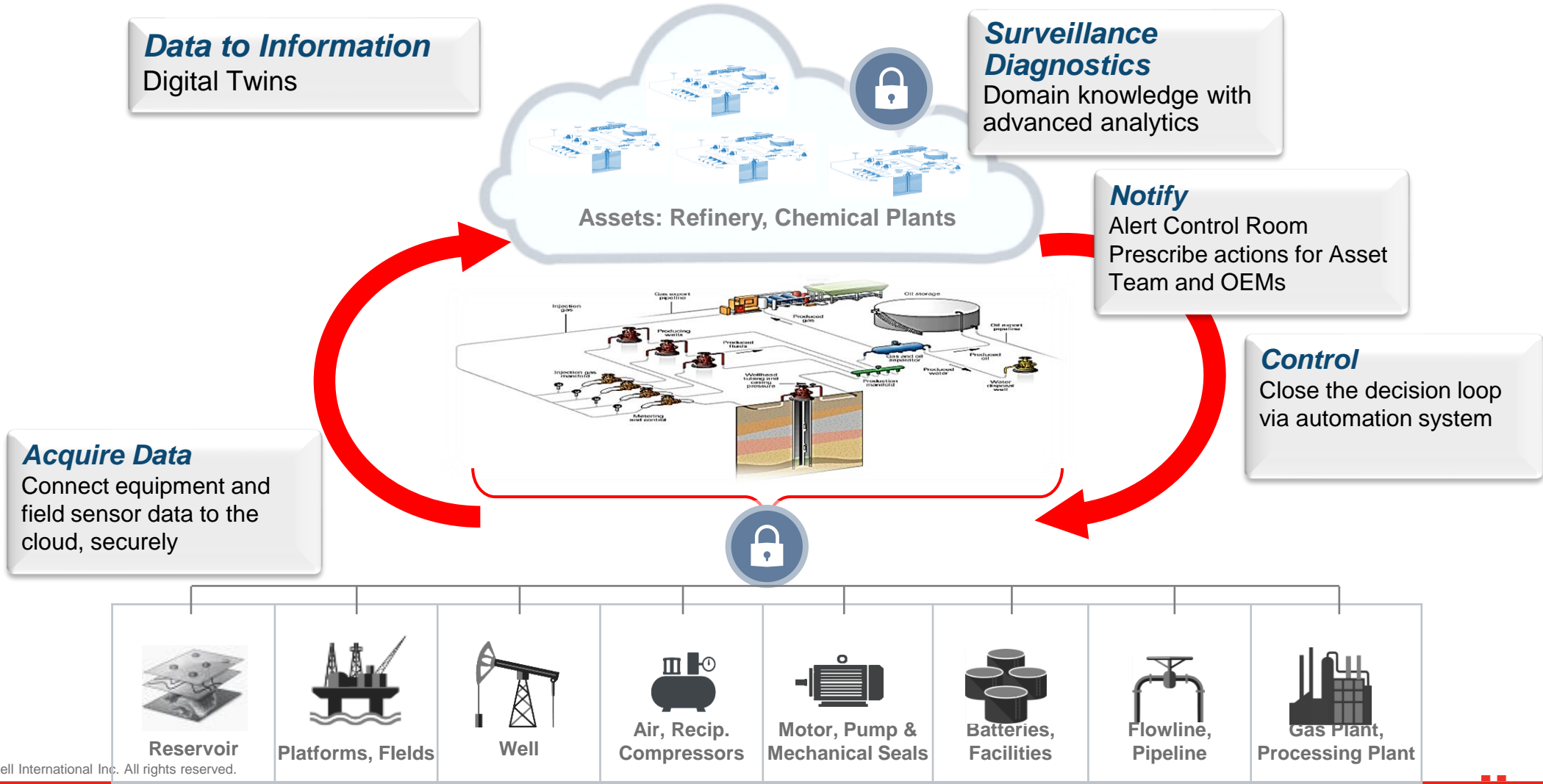
Lack of Integrated insights across the operating spectrum

- Rapid identification of Root Causes – Process + Asset
- Access to alerts and actionable recommendations
- Closed-loop workflows
- Lack of Enterprise analytics for meaningful/ timely insights

Data
Integration to
Intelligence
Integration

Value of Digitization

Increased Ability and Agility for Quick Decision Making





**Example 1 : Industrial
REAL TIME LOCATION SOLUTION (RTLS)**

ONEWIRELESS RTLS Hardware



RTLS + Wireless
Instrumentation



RTLS + Wireless
Instrumentation +Wi-Fi

Multi Protocol ,
Multi Use Anchors

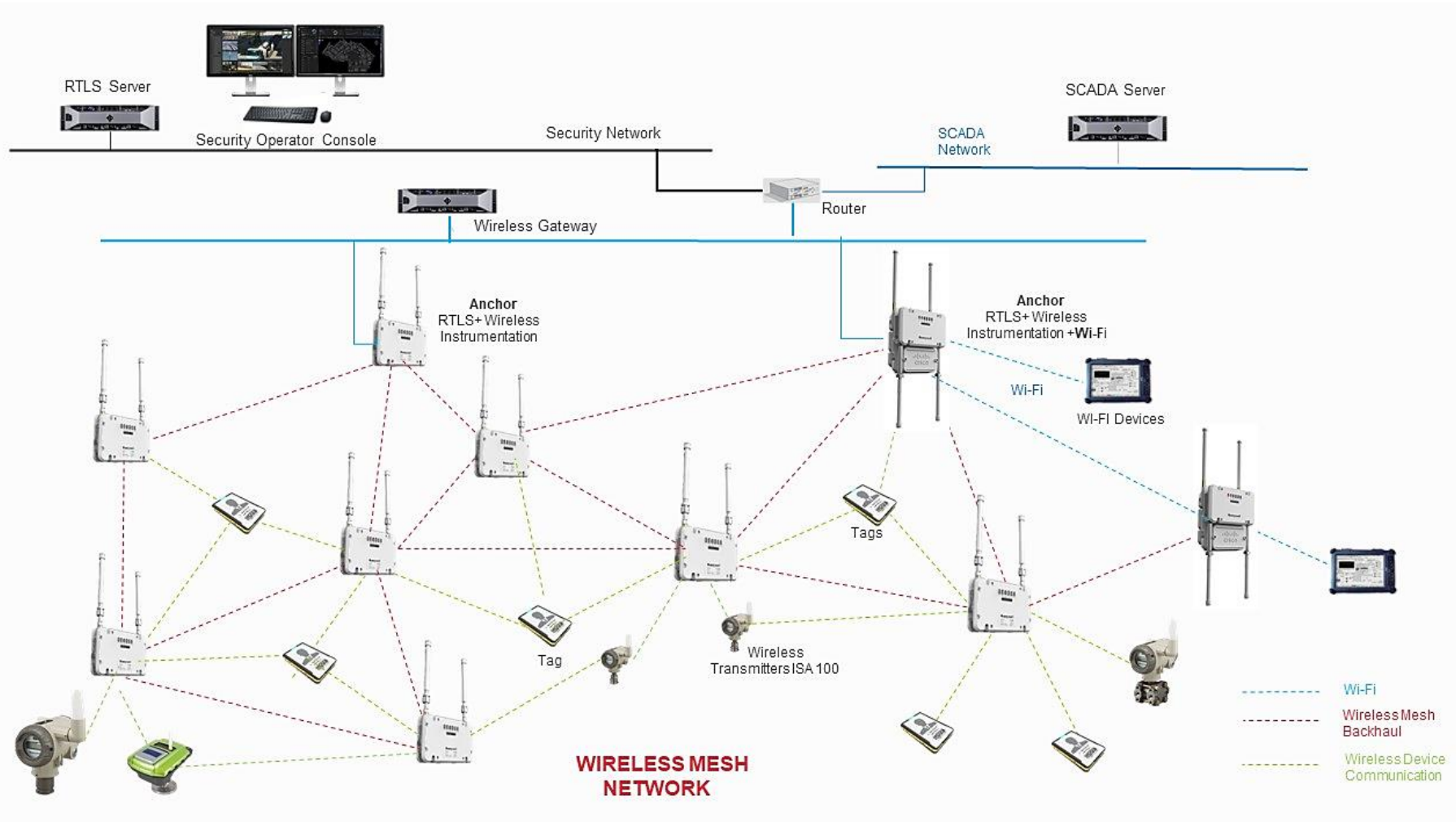


Compact
Personnel Tags

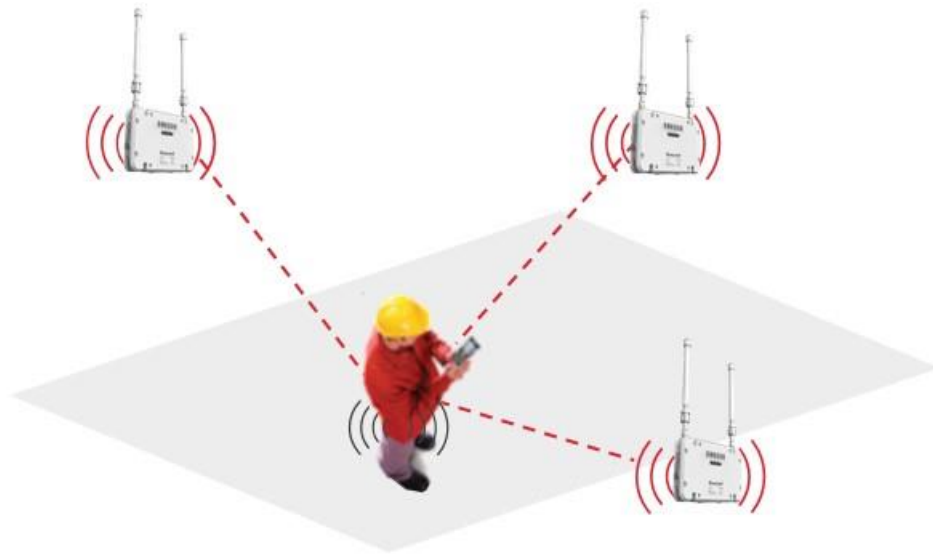
- **Multiple Standard Protocols**
 - ISA 100 (IEC 62734), Wireless HART (IEC 62591), BLE (V5.1)
 - Wi-Fi (IEEE 802.11ac) (PCAP model Only)
- Frequency band : ISM 2.4 -2.483 GHz
- Hazardous Certification : Class I, Division 2, Zone 2
- Environmental Specifications
 - IP 66, IP67, G3 Corrosion Resistance,
 - Operating Temperature -40 to +70°C
- **Backhaul : Wireless Mesh OR Wired 10/100 Mbps**

- Compact design
- Up to 3 years battery life (Based on configured blink rate)
- **Emergency SOS Button, Man down detection**
- Hazardous Certification : Zone1 & Zone 2 (ATEX, IECx)
- Compact Size : 88mm(L) x 62.5mm(W) x 20.6mm(H)
- Easy Slide in existing Access Card
- Secure Communication : 128-bit AES encryption
- Environmental Specifications
 - IP 65, Operating Temperature -20 to +60°C

Onewireless RTLS | architecture

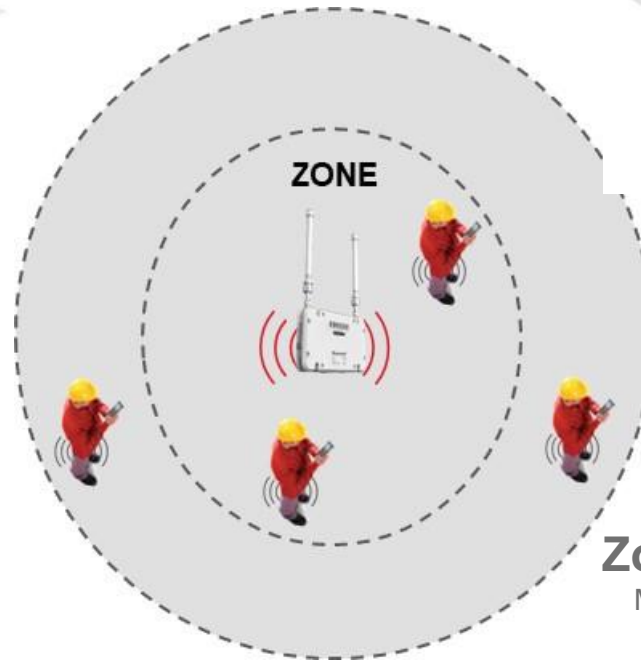


Location detection Methodologies



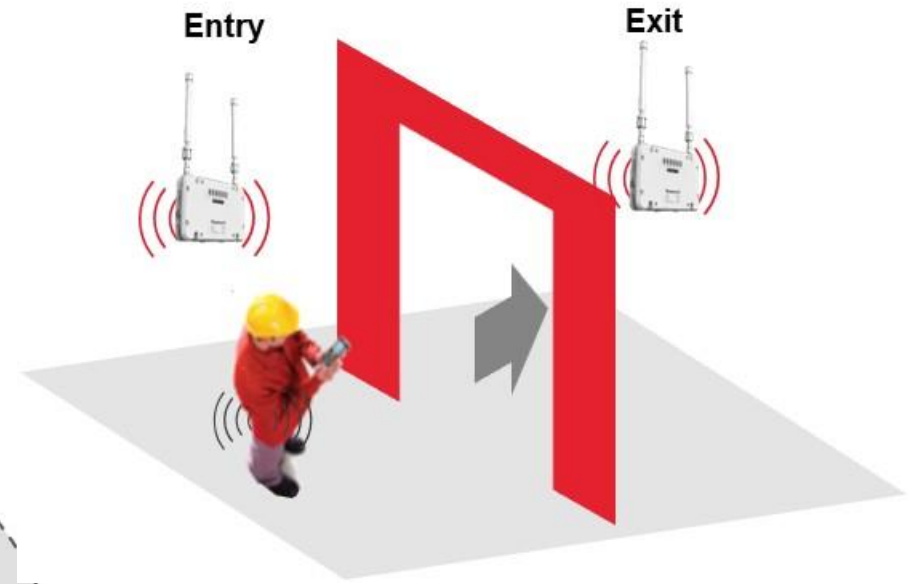
Triangulation

Location Accuracy : 3-5 m



Zone/ Presence

Max Zone size : 150m



Chokepoint / Check Point

(Gates or Entry/Exit, Check points)

* The location accuracy and detection range can vary and is dependent on various factors like placement of anchors, physical obstructions in line of sight etc.

ENHANCED SAFETY MONITORING



KPI Dashboard

Site Wide Overview

Alarm Summary

Alarm Zone

Zone Count

FASTER Emergency response



Alarm Summary

TAG with Mandown Alarm

* Availability for Ordering Oct 2021

MUSTERING

Honeywell | IntriSafe

MUSTERING IN PROGRESS

Start Time 10:10:34 AM

Elapsed Time **37:49**

STOP

MUSTERED 130

NOT MUSTERED 30

MUSTER POINT 6

UNEXPECTED	1
------------	---

MUSTER POINT 5

TOTAL	73
EXPECTED	70
UNEXPECTED	3

MUSTER POINT 3

TOTAL	110
EXPECTED	70
UNEXPECTED	40

MUSTER POINT 1

TOTAL	100
EXPECTED	70
UNEXPECTED	30

MUSTER POINT 2

TOTAL	100
EXPECTED	70
UNEXPECTED	30

EVENT LOG NOT MUSTERED

PERSONNEL	TYPE	TAG STATUS	LAST LOCATION
Jurriaan van	Worker	Active	Zone 22 08:58:30
Cole Gonzales	Contractor	Mandown	Zone 22 08:58:30
Devin Carter	Worker	Active	Zone 22 08:58:30
Christopher	Worker	Active	Zone 22 08:58:30

MUSTERED

PERSONNEL	TYPE	TAG STATUS	LAST LOCATION
John Doe	Worker	Active	Zone 22 08:58:30
Alen	Contractor	Active	Zone 22 08:58:30
Jabob Ab	Worker	Active	Zone 22 08:58:30
Pramod Singh	Worker	Active	Zone 22 08:58:30

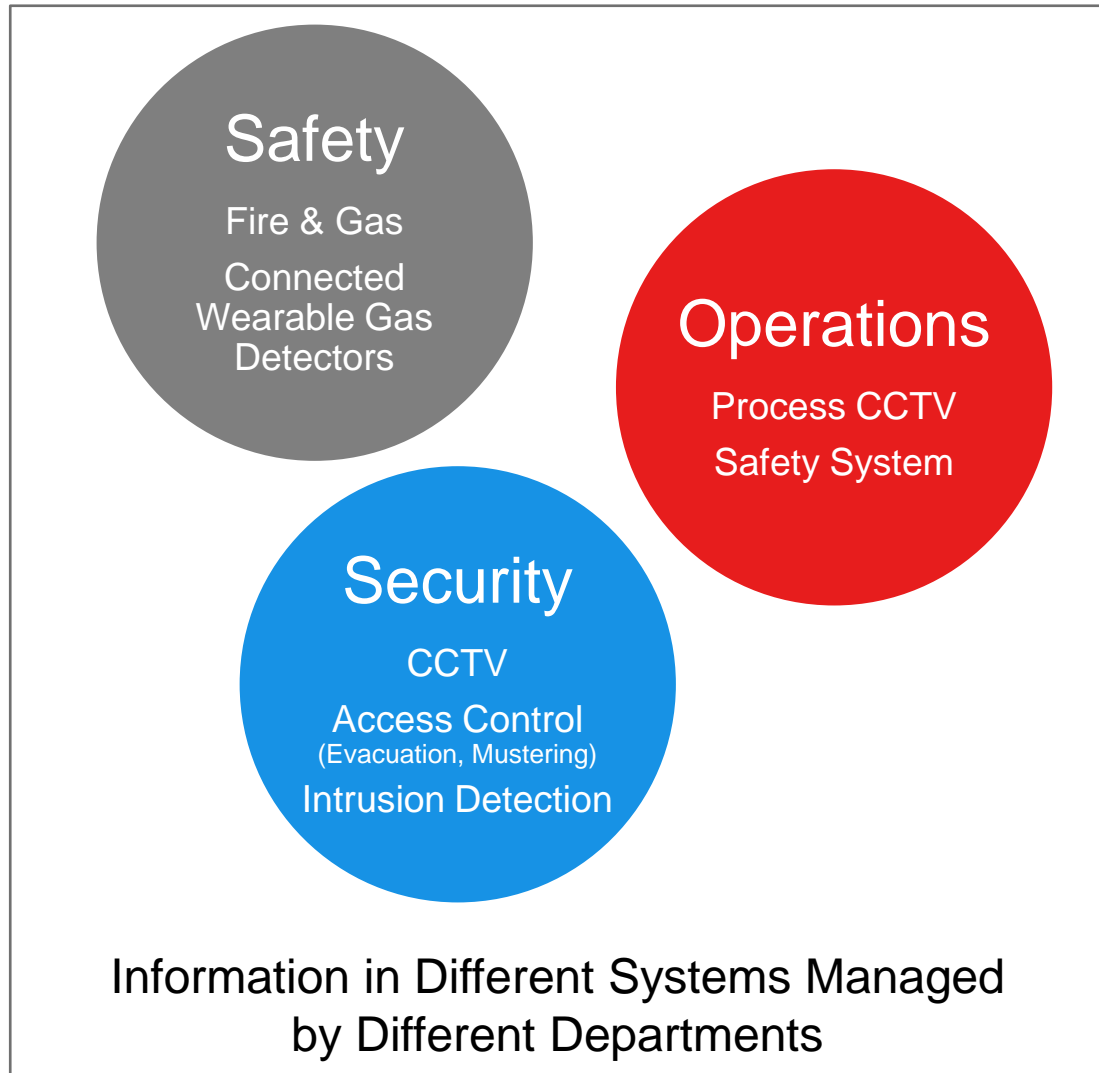
Real Time Muster Point Count

Real Time List Mustered & Yet to Muster

* Availability for Ordering Oct 2021

Example 2 : Command and Control suite

The Operational Challenge



Analyzing Data, information from Different Systems, Sources in different forms

Multiple UI, Consoles & Screens required to see relevant or related information.

Get Quick Access to related information from different systems

Sharing Real time information with Key Decision Makers during Emergencies

Ensure compliance to Standard Operating Process & Procedure, Complete documentation

A FIRE HAS BROKEN OUT



Faster Response for
Improved Safety and
Mitigation of Impact
on the Facility

IDENTIFY RISK AND SEE THE BIG
PICTURE FASTER



OBSERVE

- Fire alarm initiates Incident Workflow
- Automatically send nearby cameras to video display to assess situation
- System triggers automated response – unlock access doors etc

CENTRALIZED COLLABORATIVE
COMMAND WITH RECORD-
KEEPING & TRACEABILITY



INVESTIGATE

- Emergency Response team coordinates incident activities with Command Wall
- Initiate specific workflows for shelter, evacuation and muster as required

REMOTE MONITORING AND
COLLABORATIVE INCIDENT
RESPONSE



RESOLVE

- Operations Director / key decision makers monitors the situation on Command Station remotely
- Transparency of steps and notes provide traceability and auditable version of events for investigative purpose

ACTIVE THREAT IS IDENTIFIED

ENHANCED SITUATIONAL AWARENESS TO QUICKLY IDENTIFY ISSUES



OBSERVE:

- Security Operator is alerted to an active threat
- Swiftly observes the area using integrated maps and video
- Initiates SOP on Incident Workflow, including lockdown of the facility and informing the Security Manager

COLLABORATIVE WORKFLOWS OPTIMIZE RESPONSE TIME



INVESTIGATE:

- Coordinates with the Security Team to investigate and confirms threat level
- Security Officer and Manager initiate SOP
- Emergency services and evacuation of area is instigated

ENFORCED PROCEDURES REDUCE THE DURATION OF THE EVACUATION



RESOLVE:

- Emergency services and Security team collaborate to contain the threat
- Follow SOP workflow to safely repopulate the area
- Monitor the environment to promote continued safety

A silhouette of a firefighter wearing a helmet and breathing apparatus, looking towards a large fire. The fire is bright orange and yellow, with flames and smoke visible. The firefighter is in the foreground, and the fire is in the background.

SCENARIO

SOMEWHERE...

**A FGS DETECTOR ALARM
ACTIVATES!**

AT THE INCIDENT COMMAND
CENTER & EMERGENCY
MANAGEMENT CENTRE KEY
DECISION MAKERS ARE
SUPPORTING THE INCIDENT .



A FGS Alarm is triggered in a plant ,
Triggering an Emergency Response



Main Plant

Building A



8156 Indus-1



Door_23



8065 FenceWest-HPS

CO

12.4
CO_Sensor_1



20.000
TF_GasDeter_01



20.000
TF_GasDeter_02



Door_24



8070 TANKFARM1...

CO₂

242.1
CO2_Sensor_1



20.000
TF_GasDeter_03



8158 TANKFARM3...



Door_2



8026 Stairwell



8064 GateA



Door_23



8101 RoadSouthPTZ



20.000
TF_GasDeter_04



On
Pump_1



Door_2



8129 Tank_Pumps



8060 FLARE-HPS

Zoom In to view location of alarm

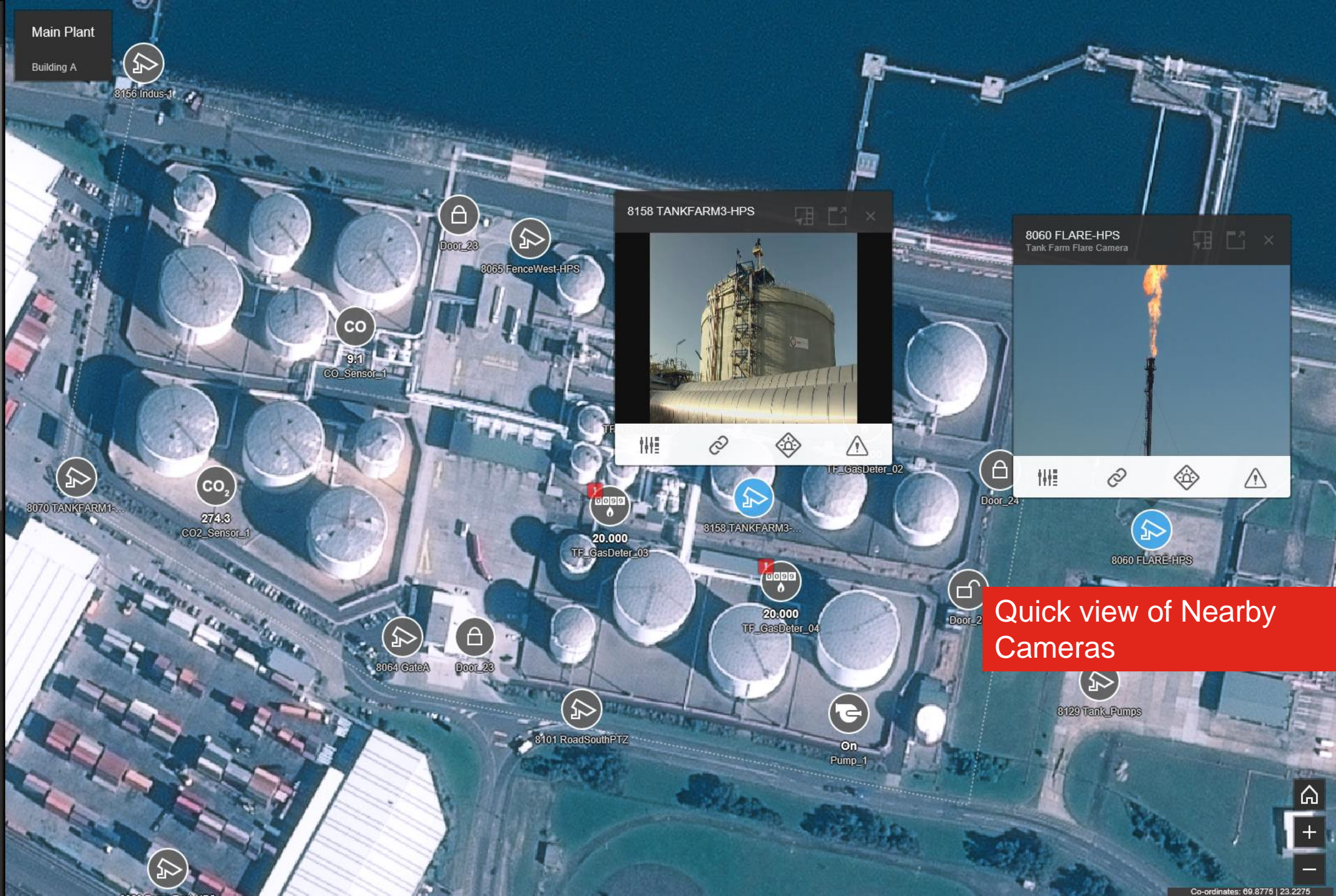


Links

- 01 - Demo Reset
- 02 - Hospital Scenarios
- 03 - University Scenarios
- 04 - Industrial Scenarios
- 05 - Commercial Scenarios 1
- 06 - Commercial Scenarios 2
- 07 - Pharma Scenarios
- 08 - Stadium Scenarios
- 09 - Airport Scenarios
- Demo 00 - Landing Page
- Energy Dashboard
- Key Equipment Dashboard
- Operation Theatre Dashboard
- Thermo-graphics
- Weather Forecast

Main Plant

Building A



Quick view of Nearby Cameras

Incidents +

- OSIC Gas Alarm 676**
/Facility/USA/Louisiana/Geismar/Main Plant
03/12/2018 15:32:30
0 / 14
- IC Gas Alarm 675**
/Facility/USA/Louisiana/Geismar/Main Plant
03/12/2018 15:32:29
0 / 14
- SO Non Essential Evac 674**
/Facility/USA/Louisiana/Geismar/Main Plant
03/12/2018 15:32:29
0 / 6

OSIC Gas Alarm 676

ID 676

This procedure shall be followed by the designated On Site Incident Commander when there is a gas alarm within the site.

03/12/2018 15:32:30

Facility » USA » Louisiana » Geismar » TF_GasDeter_01_Value

Respond Now

- Size Up Incident
- Conduct Area risk assessment for potential hazard
- Establish and mark Three Emergency Zones at incident scene (Red, Yellow, Green)
- Establish On Scene ICP (Incident Command Post) and notify SSO
- Notify EDC of Incident Severity Level
- Direct Emergency Response Team
- Confirm Hazmat Truck and Trailer at

Cancel Complete

Main Plant
Building A

- Standard Workflows are triggered (SOP)
- Review progress
- Respond

8156 Indus-1

Door_23

8065 FenceV

CO

11.0
CO_Sensor_1

TF_GasDeter_01
Tank Farm Gas detector 1

3 incidents 2 alarms

Status Alarm

Value 20.000

Links

Inventory Details

Create Links to related documents or webpages

20.000

TF_GasDeter_01

20.000

TF_GasDeter_02

20.000

TF_GasDeter_03

20.000

TF_GasDeter_04

8158 TANKFARM3...

Door_24

8060 FLARE-HPS




Door_25

8129 Tank_Pumps

8101 RoadSouthPTZ

On Pump_1

Inventory Details

	Tank ID	Product name	HAZCHEM	UN number	Capacity in Liters
	T1 - T4	Liquefied Petroleum Gases	2WE	1075	30,000
	T5-T6	Petrol	3YE	1203	30,000
	T7-T8	Diesel	3Y	1202	25,000

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- Weather Forecast

Main Plant

Building A



8156 Ir



8070 TANKFARM1...



8064 GateA



Door_23



8101 RoadSouthPTZ



20.000
TF_GasDeter_04



Door_25



On
Pump_1



8060 FLARE-HPS

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST PAST WEATHER WEATHER SAFETY INFORMATION CENTER NEWS SEARCH ABOUT

Local forecast by "City, St" or ZIP code
Enter location ...
[Location Help](#)

Frigid temperatures continue for the Plains while welcome precipitation comes to parts of the West
Cold air will continue plunging southward into the central Plains and Great Lakes regions behind an arctic front. For the West Coast, periods of much-needed rain and high mountain snow can be expected in northern and central California in the vicinity of a stationary front. Some of this moisture will make it inland to Nevada and the central Rockies, mainly in the form of snow showers.
[Read More...](#)

National Forecast Maps
[Weather.gov](#) > National Forecast Maps

National Weather Service
National Headquarters

Customize Your Weather.gov
City, ST
Enter Your City, ST or ZIP Code
 Remember Me

[Privacy Policy](#)

Create Links to related documents or webpages



As a Security Operator

I can

- Respond to security incidents quicker
- Access required information quickly
- Enhance people's safety & Support Emergency Response teams.
- Follow Standard Operating Procedures
- More immediately capture and share information

With Command Console



2 Monitor setup Dell UHD 43"
Optional Dell 22" Touchscreen

- Respond faster, let your team gain more situational awareness & respond faster mitigating the potential for problems escalating with intuitive zoom able maps to get around quickly.
- Guided incident response typically means less training is required for security teams.

I can track a person of interest
– Control Room

As a

Emergency Control Room Operator

I can

- Respond to Incidents faster
- Quick access to information from different systems
- Follow Standard Operating Procedures
- Better co-ordinate with field teams



I can increase the effectiveness of
Communication & Collaboration between
teams

With

Command Console



- Respond faster, let your team respond faster with intuitive zoom able maps & quick access to related information from multiple system.
- Guided Workflows reduces training needs and consistent response while ensure compliance to procedures.



As an Emergency Response Team

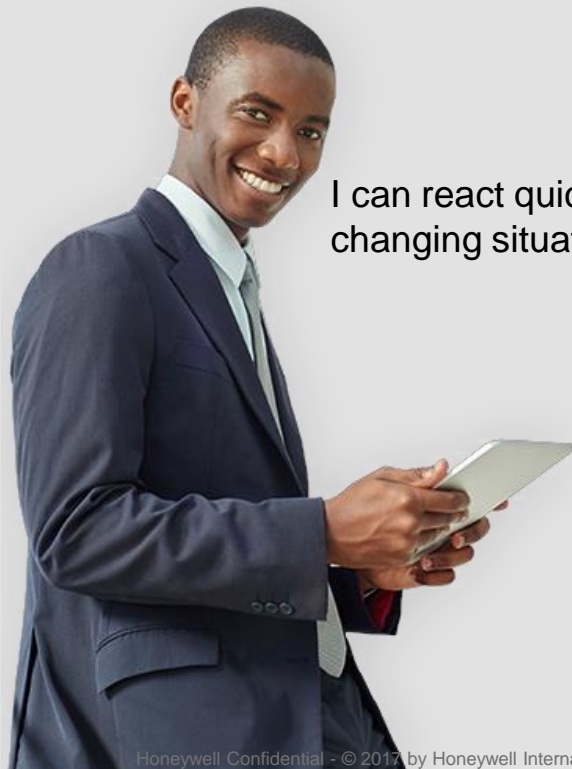
We can,

- Better coordinate and monitor response teams more effectively
- Deploy staff more effectively
- Have quick access to required information.
- Produce post incident analysis reports

I have access to an
overview of the
incident



I can increase the effectiveness of
communication between response
teams



I can react quicker to
changing situations

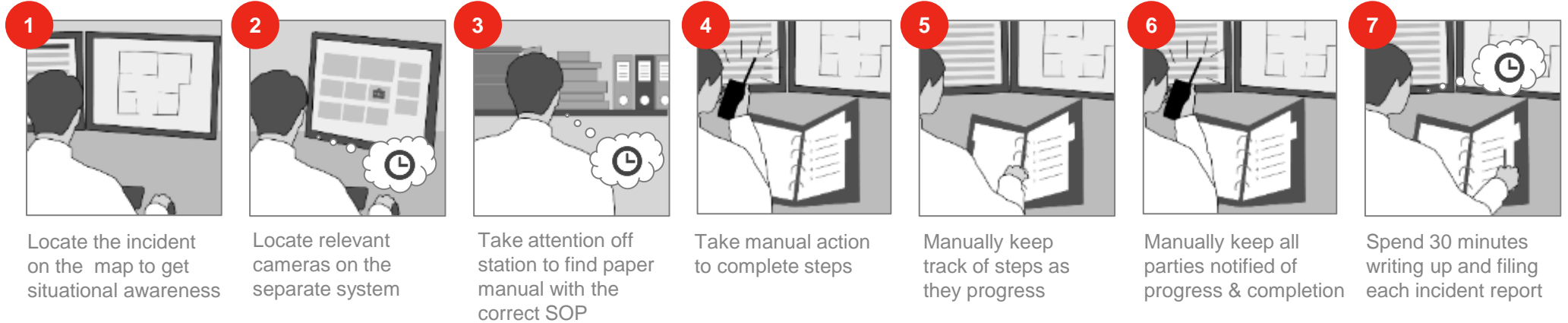
With Command Wall



- Get the big picture, Command Wall gives you full situational awareness, allowing you to more effectively assess what is going on, monitor incident workflows and monitor your teams response.

Conventional Response process Vs With CCS

Current Process



A Fire has been reported to Emergency Response team

Enhanced Response

With CCS

