ISA100 WIRELESS COMPLIANCE INSTITUTE™

Your webinar time:
7am Los Angeles
8am Phoenix
9am Houston, Chicago, Mexico City
10am New York, Santiago
1pm Rio de Janeiro, Buenos Aires
3pm London, Dublin, Edinburgh, Lisbon
4pm Paris, Amsterdam, Berlin, Rome, Stockholm, Vienna

ISA100 WCI Webinar

Webinar date:
Thursday 31 January 2019 at 3pm (GMT / UTC)

ISA100 Wireless™ helping you to overcome every day project challenges

Presenter: **Diederik Mols**
Diederik.mols@Honeywell.com
Honeywell
THE POWER OF CONNECTED

Audio for the Webinar:

Audio can be heard through your computer speakers. If you have audio issues, you may dial 1 (866) 545-8204.

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About the speaker

"Today Industrial Wireless is increasingly deployed as an integral part of the Integrated Control and Safety Systems (ICSS)"

Diederik Mols

Chairman of the Board
ISA100 Wireless
Compliance Institute

Business Manager
Industrial Wireless
Honeywell Process Solutions

Diederik Mols is Chairman of the Governance Board at the ISA100 Wireless Compliance Institute since October 2017. Prior to that he served two years as Vice-Chairman. Diederik also is an active team member of the WCI EMEA Marketing Team.
Diederik got involved with Industrial Wireless back in 2009 in a business development role for the EMEA region. Currently Diederik is leading the Industrial Wireless business development efforts at Honeywell Process Solutions in a Global capacity.
Diederik started his career as an officer in the Dutch Navy and over the years he gained solid business skills with a number of multi-national organizations in various roles across Engineering, Sales, Marketing and General Management. Diederik holds Degrees from the Royal Dutch Naval Academy and the Delft University of Technology, the Netherlands.

Agenda

1. Typical Project Challenges
2. Introduction Industrial Wireless
3. ISA100 Wireless Industry Standard
4. Wireless Solutions
5. Use Cases
6. Summary
7. Q&A

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Typical Project Challenges

- HSE Compliancy
- Improve
  - workforce efficiency
  - productivity
  - asset availability
- Reliable, cyber secure infrastructure
- Fast and cost-effective commissioning
- Tight budgets to execute projects

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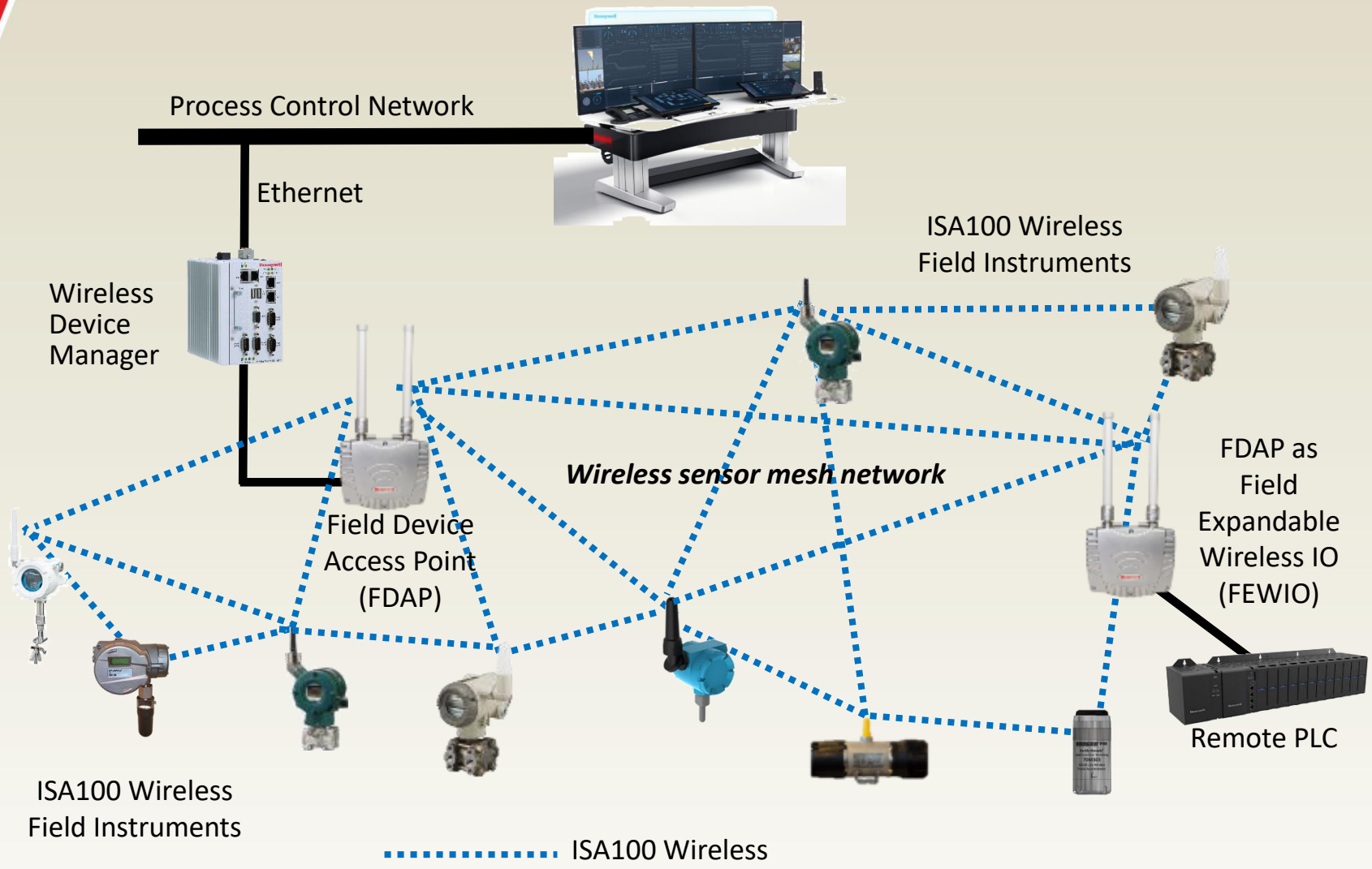
Introduction to industrial Wireless

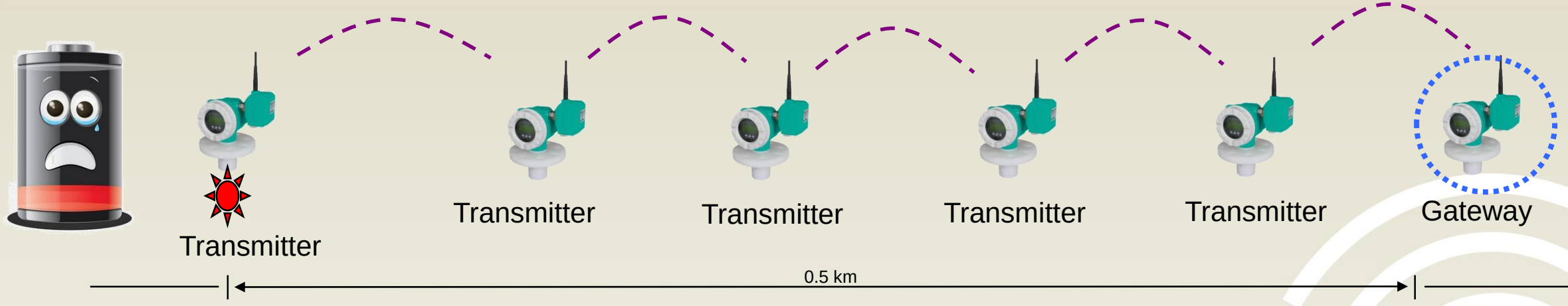


Applications examples

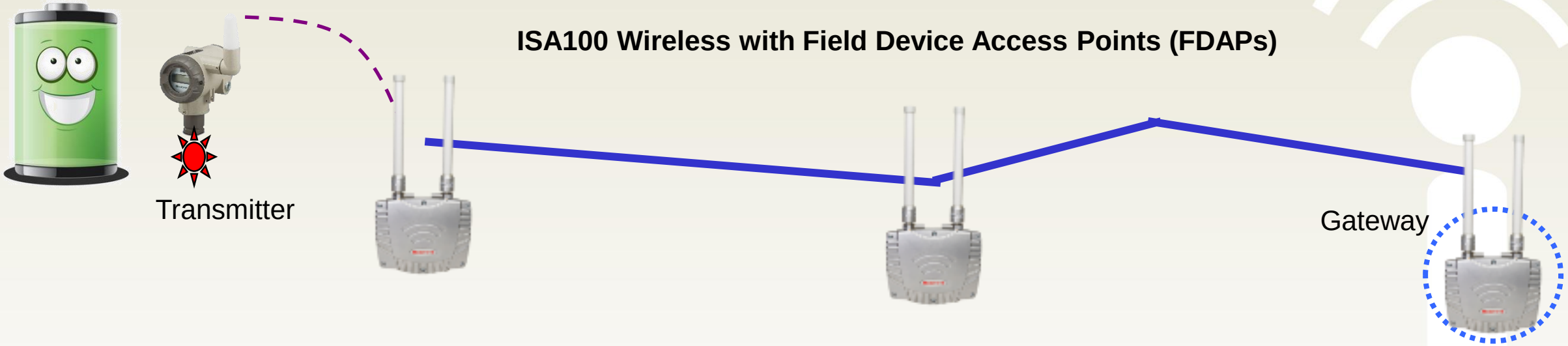
- Machine health monitoring
- Basic process control
- Monitoring of well heads
- Remote process monitoring
- Leak detection monitoring
- Diagnosis of field devices
- Condition monitoring of equipment
- Environmental monitoring
- Tank level monitoring
- Gas detection
- Fuel tank gauging
- Steam trap monitoring
- Open loop control
- Stranded data capture
- And more

Just a sensor mesh network versus ISA100 Wireless

Wireless sensor mesh network



ISA100 Wireless with Field Device Access Points (FDAPs)



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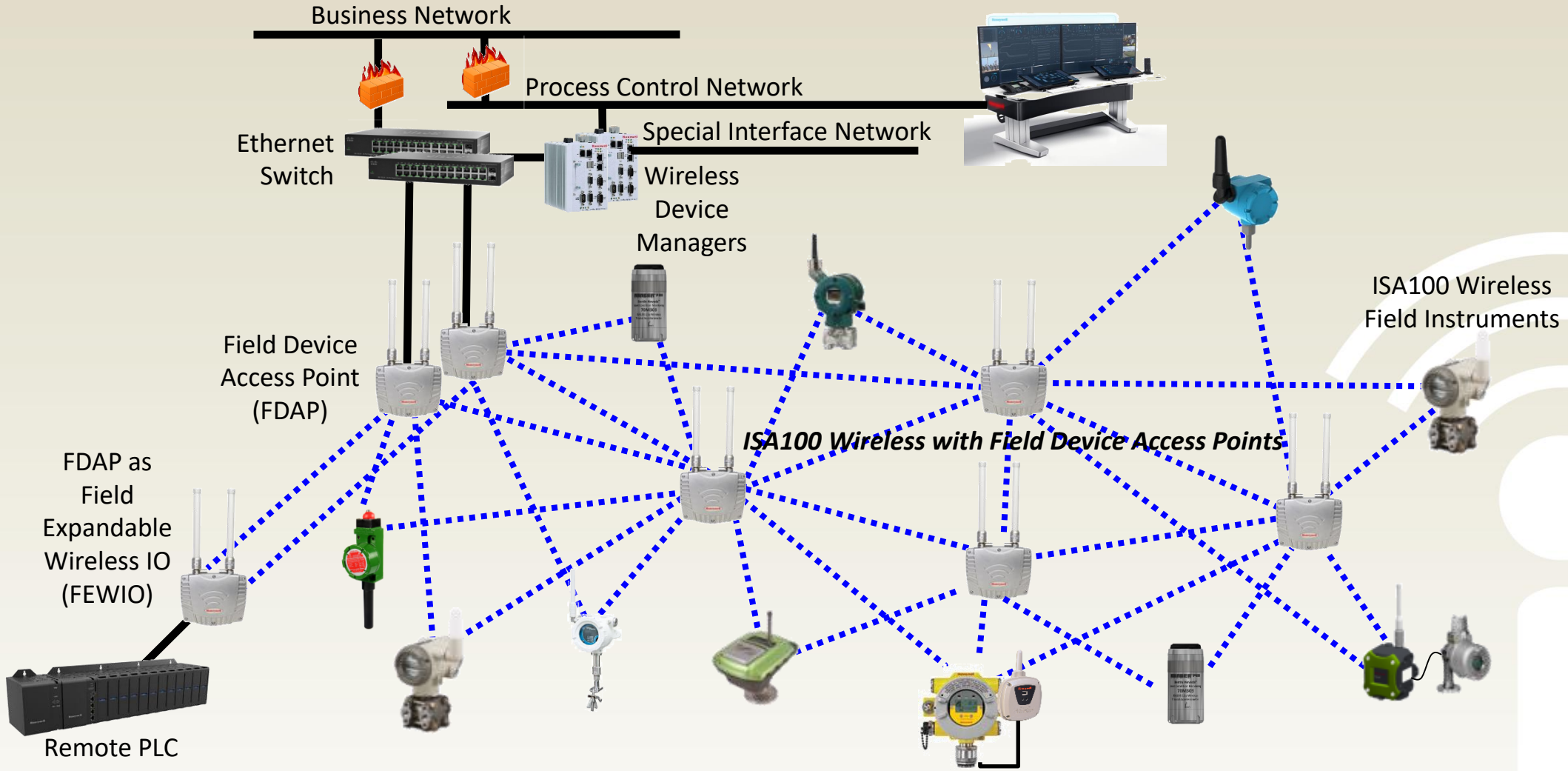
Different solution …… Different performance

ISA100 Wireless with Field Routers



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ISA100 Wireless Fast Facts

- International standard IEC 62734 since 2014
- Complies with ETSI EN 300 320 v1.8.1 (LBT)
- End-User Driven Standard - meeting all current and future industrial needs
- Sensor routing or field routers for best performance – Freedom of choice
- Broad Multi-Vendor Portfolio of ISA100 Wireless Devices
- ISA100 Wireless enables SIL-2 Certification
- Ensured Interoperability - best-in-class solutions from best-in-class suppliers
- Readily available ISA100 Wireless Modules and Stacks
- Enable fast-track development and go to market

Benefits of ISA100 Wireless Instrumentation

Cost Savings	• Up to 90% of installed cos of conventional measurement technology can be for cable conduit and related construction • Typically: 1/2 the costs, 1/5 of the time • New and scaled applications are now economically feasible
Improved Reliability	• Wired sensors may be prone to failure in difficult environment • Wireless can add redundancy to a wired solution
Improved Visibility	• Condition monitoring of secondary and remote equipment • Process monitoring, fast additional data for trouble shooting
Improved Control	• Add wireless to existing processes for more optimal control
Improved Safety	• Safety related alarms - end to end SIL2 certifiable

ISA100 Wireless Product Portfolio

Infrastructure

Independent Gateway
- Honeywell, Yokogawa

Access Point (AP)
- Honeywell, Yokogawa

Integrated Gateway/AP
- Honeywell, Yokogawa, CDS, Nexcom

GW/AP + Recorder
- Yokogawa

Adapter (HART, etc.)
- Honeywell, Yokogawa

Measurement & Control

Temperature
- Honeywell, Yokogawa

Pressure / Flow
- Honeywell, Yokogawa

Level
- Honeywell, Yokogawa

DI/DO, AI
- Honeywell, Yokogawa

Valve Position
- Eltav, Flowserve, Honeywell

HSE + Life cycle

Corrosion
- RCS , Honeywell

Steam Trap

Spirax Sarco, TLV, Armstrong, Bitherm

Vibration
- GE's Bently Nevada, Divigraph

Gas
- GasSecure, Scott Safety, New Cosmos, Riken Keiki

pH
- Honeywell, Yokogawa

Online resources

www.isa100wci.org

- Learning Center with White Papers
- Articles, End-user stories, Forum
- Receiving over 20,000 web views per month
- Full list of certified/registered ISA100 Wireless devices
- And more useful content for you and your business

ISA100 Wireless Interest Group

- Latest news, end-user and expert discussions, insights
- 700+ members and growing; please join and invite your peers to join as well !
- Receiving over 5,000 web views per month

Mind the promotional price draw!

Scan Me!

Scan the QR code or go to **tinyurl.com/isa100-ipad** to join the ISA100 Wireless Compliance Institute mailing list **and** follow us on LinkedIn to enter the drawing! Good odds!

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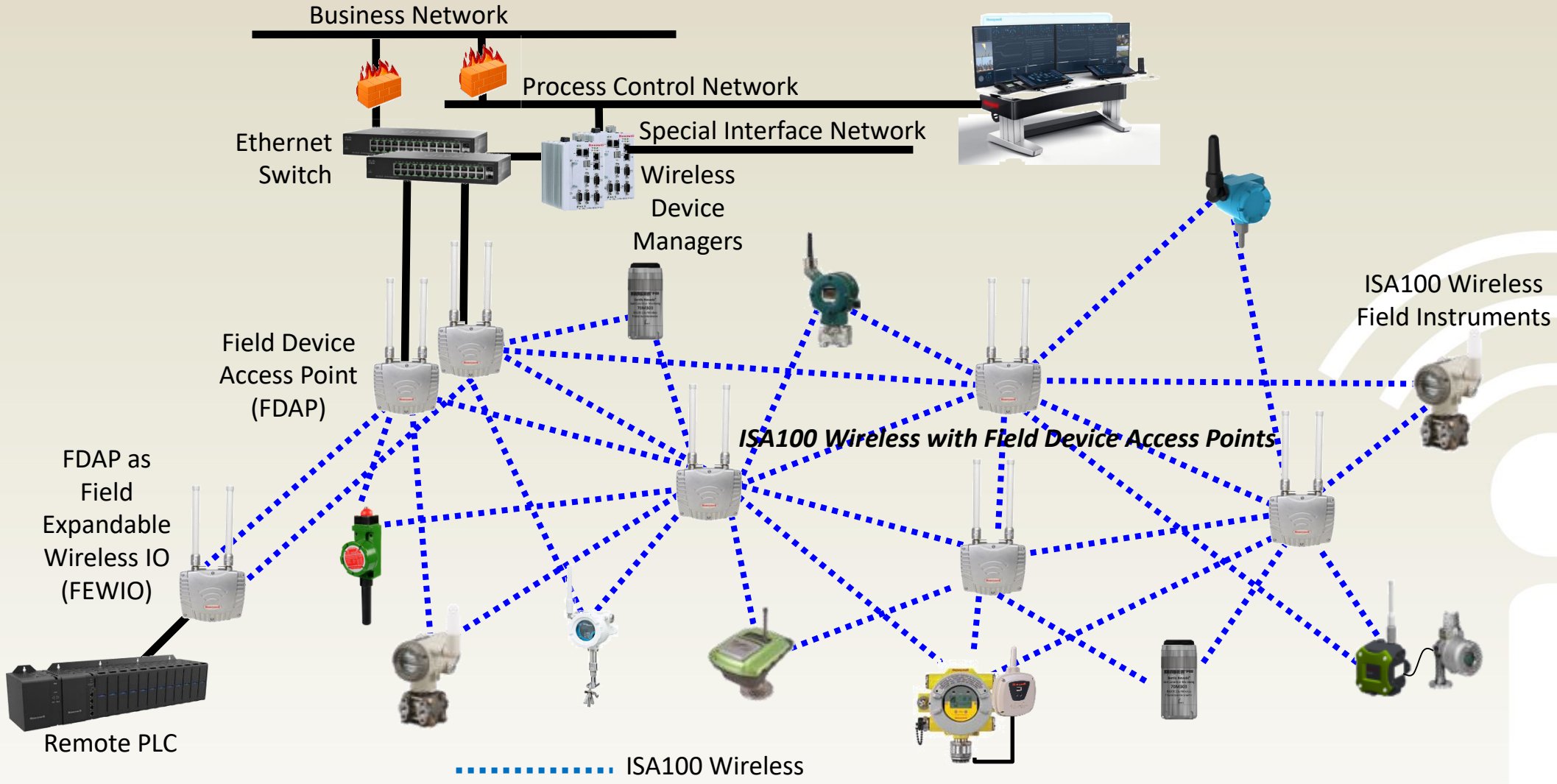
ISA100 Wireless enabling solutions



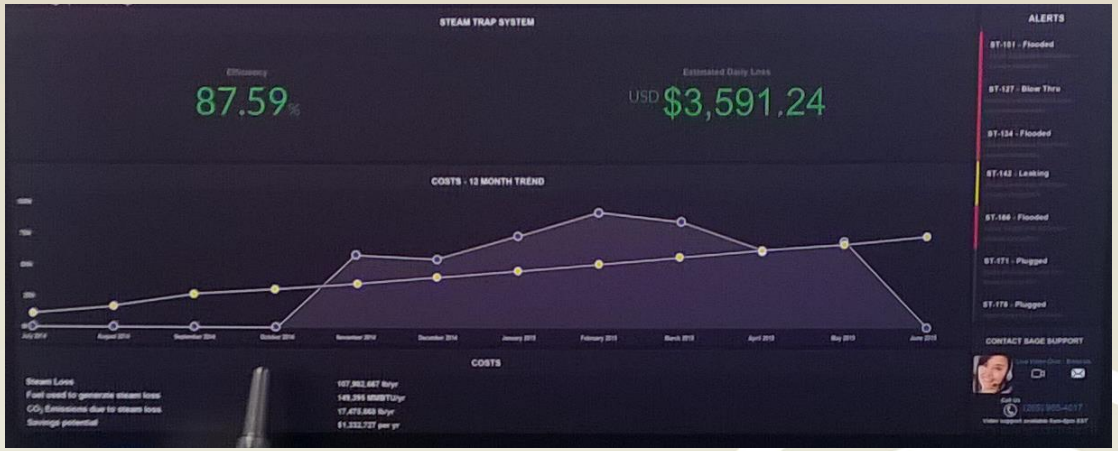
Wireless Steam Trap Monitoring

Energy Saving Potential
of up to
3.500 USD per day
=
1.000.000 USD per Year

Experion Station

Wireless Device Manager

Spirax Sarco STAPS



- Accurate and rapid leak detection
- Accurate diagnostic algorithm
  - Trap performance
  - Steam loss data
- Lower installation costs
- Long-life battery
- Robust construction

Armstrong ST6700

Wireless Vibration Monitoring

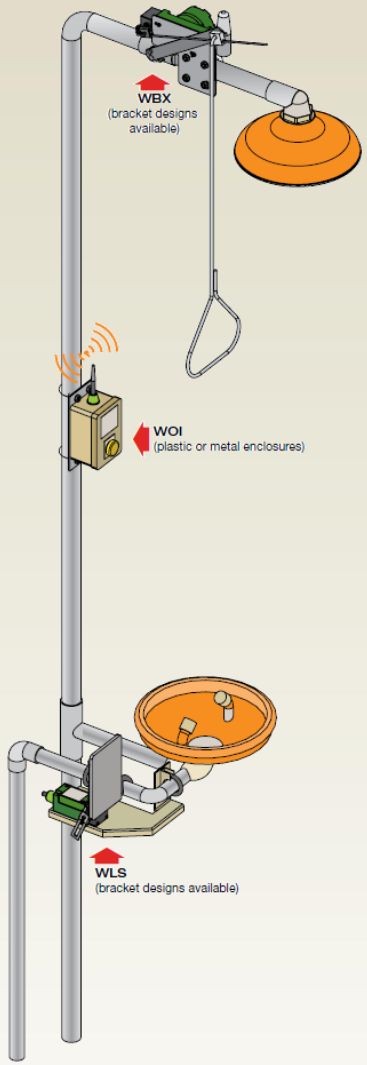
GE's Bently Nevada Ranger* Pro

Experion

Vibration Analysis

Safety shower monitoring

- We ask a lot of our employees when we ask them to work with hazardous chemicals and products during their workday.
- Need for emergency response?
- In case of an accident every second counts.
- Enhance your current solution with superior emergency response, improved access, and incident reporting.

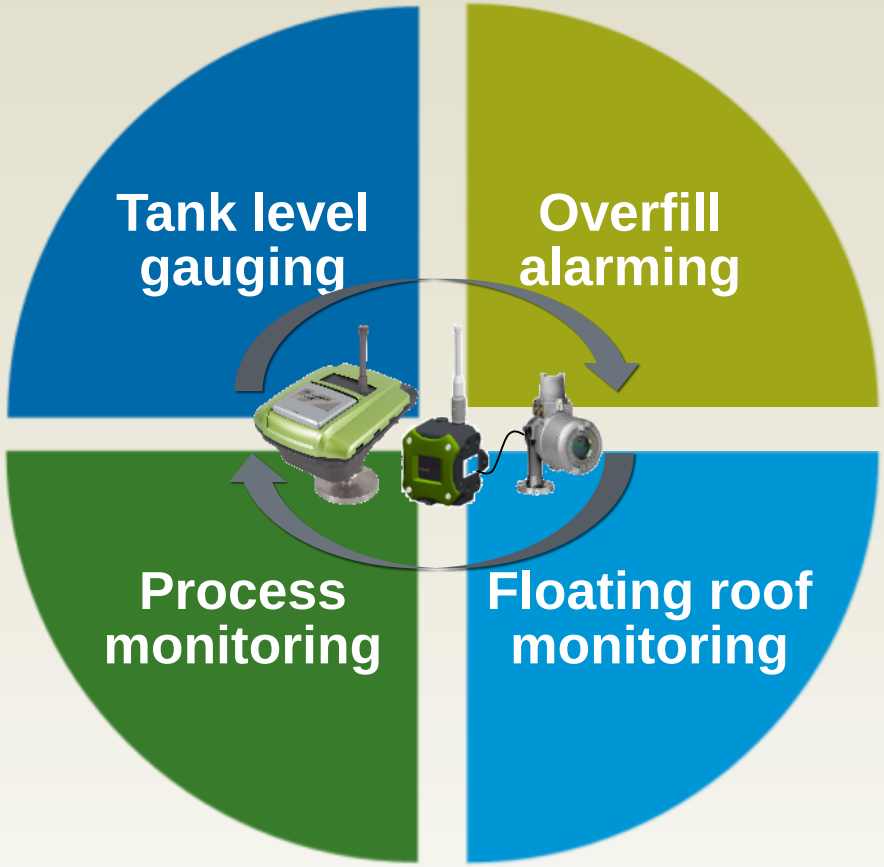


Automatic notification via operator activation


Automatic notification via mechanical linkage

Automatic notification via electrical connection to existing switch

OneWireless Terminal Solution



- Gas leak monitoring (ISA100 WIRELESS)
- Safety shower monitoring (ISA100 WIRELESS)
- Vibration monitoring (ISA100 WIRELESS)
- Valve position monitoring
- Personnel safety monitoring (Wi-Fi)
- Mobile applications (Wi-Fi)
- Remote area & perimeter video monitoring

Wireless applications beyond tank gauging

Field Expandable Wireless IO (FEWIO)

- A Field Device Access Point (FDAP) can be converted to a Field Expandable Wireless IO (FEWIO)
- FEWIO collects data over RS485.
- Thanks to the tunneling capabilities of ISA100 Wireless the data is wirelessly transmitted to the control room
- FEWIO supports
  - Modbus RTU
  - RS-485 serial Interface used for connecting to serial interface devices
  - Modbus TCP

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Reduce project costs, increase safety and efficiency

Challenges	• Provide an engineered, secured, managed & integrated wireless network into Alcoa Alumina refineries process areas. • Supporting ISA100 Wireless instruments and sensors • Supporting mobile operators using handheld devices • Allow for wireless connectivity of mobile PCS/EHM equipment • Enabling IIOT and IOT in the future
Solution	• Site wide OneWireless networks at 7 refineries around the globe • Light weight wireless pressure transmitters • Wireless safety shower panic buttons • Wireless push button for operator rounds timestamping • ISA100 wireless FEWIO to connect remote PLCs
Results	• Typical conservative cost saving of $10k per wireless instrument over traditional hardwired installation • Speed of deployment – process data in just one day. • Mobility of sensors and instruments to be moved around to troubleshoot or perform trials as required • Support mobile operators out in the refinery process areas • Monitor moving equipment now possible with standard devices • New opportunities waiting to be found

ALCOA

World's largest bauxite mining and a leading alumina producer

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“Installing to having process data: duration one day”

Perimeter Monitoring – Time Critical

LNG Facility in Middle East - Brownfield

Challenges	• Alarming system for detection of gas leaks without extensive cabling. • Meet 3 seconds alarm requirement.
Solution	• FDAP based ISA100 Wireless network with XYR6000 Universal Transmitters and solar power panels.
Results	• Improved site safety system within budget. • 3 seconds alarming requirement met. • Compliance to government regulations for HSE.

Safety shower monitoring and beyond

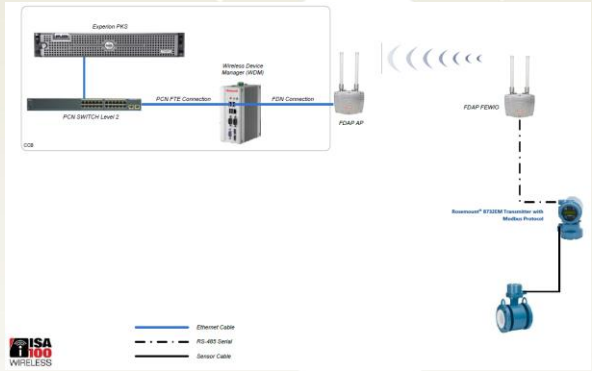
Global MMM - Brownfield

Challenges	• Customer wanted multiple wireless applications such as sensor measurements, safety shower monitoring, mobility solutions and so on • Concerns on multiple network co-existence to support these applications
Solution	• Single OneWireless Network to cater to ISA100 and Wi-Fi applications using Cisco Aironet 1552S Access Points
Results	• OneWireless mesh network provided the infrastructure for ease of expanding wireless solutions and applications • Consistent delivery and deployment model. • Single wireless infrastructure for easy RF management

Cost-effective Modbus Data Acquisition

Challenges	• Transfer multiple parameters from remote Flow Meters to Experion DCS • Meet tight project budget • Execute project in days rather than weeks
Solution	• OneWireless Network • Field Expandable Wireless IO (FEWIO) • Existing flow meter with Modbus transmitter connected to FDAP (FEWIO) via RS-485 Serial
Results	• 50% Project Cost Saving relative to traditional wiring • Project execution completed in 1/5th of the time relative to a traditional wired project • Increased Speed of Data to the operator – hours to milli-seconds. • Increased situational awareness

Liquefied Natural Gas (LNG) plant in the Northern Territory of Australia



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Tangible Project and Recurring Operational Cost Savings

Reduce project costs, increase blending performance

Challenges	• Maintenance and obsolescence issues of
	  • Tank gauging equipment and
	  • Inventory management system
	• Tank farm spread over large 7 square miles area
	• Migrate to new system under 48 hour cutover

Solution	• OneWireless Network • 147 Wireless FlexLine Radar & Servo Gauges • 137 XYR 6000 Multi-channel transmitters • 60 Floating roof Tuning Fork & Float Switches • Mobile Station enabling operator mobility
Results	• 30% Project Cost Saving relative to traditional wiring • Increased System Reliability • Increased Speed of Data to the operator - minutes to seconds • Blending Performance Increased 18% (# of Blends per week)

PHILLIPS 66

Borger- TX Refinery

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Tangible Project and Recurring Operational Cost Savings

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Summary

- **Costs:** Typical conservative cost saving of $10k per wireless instrument over traditional hardwired installation
- **Speed:** Project execution in 1/5th of the time relative to traditional wired. Quickest installation time - data in just 1 day
- **Performance:** ISA100 Wireless enables near real time performance
- **Choice:** Large portfolio of ISA100 Wireless devices by multiple vendors
- **Innovation:** Field Expandable Wireless IO (FEWIO) is a new cost-effective method to connect remote PLCs to the DCS

For Your Attention!

Questions?

www.isa100wci.org

ISA100 WIRELESS

ISA100 Wireless Interest Group

LinkedIn

690+ members and growing; please join and invite your peers to join as well !

Diederik Mols

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www.onewireless.com

www.honeywellprocess.com

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