



## ISA100 WCI Webinar

Webinar date: 26.October 22.

# Future proof your site with the flexibility of ISA100 Wireless

Presenter:

**Dräger**

**Ådne Baer-Olsen**

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# About the Speaker



Ådne Baer-Olsen

Business Develop Manager MEA  
Draeger AG

Ådne has almost 20 years' in the Detection and automation industry and is regarded as a specialist in his field. He has been instrumental to the rise of wireless gas detection systems. His team designed and delivering the first Wireless SIL2 gas detection system in the world offshore Norway. Also as part of Drager supplying the first wireless systems to the Middle East and Africa

Among his significant positions, Ådne has is the Leader of WCI in Europe and Middle East promoting ISA100. Providing invaluable support, training, and expertise to major oil and gas operators

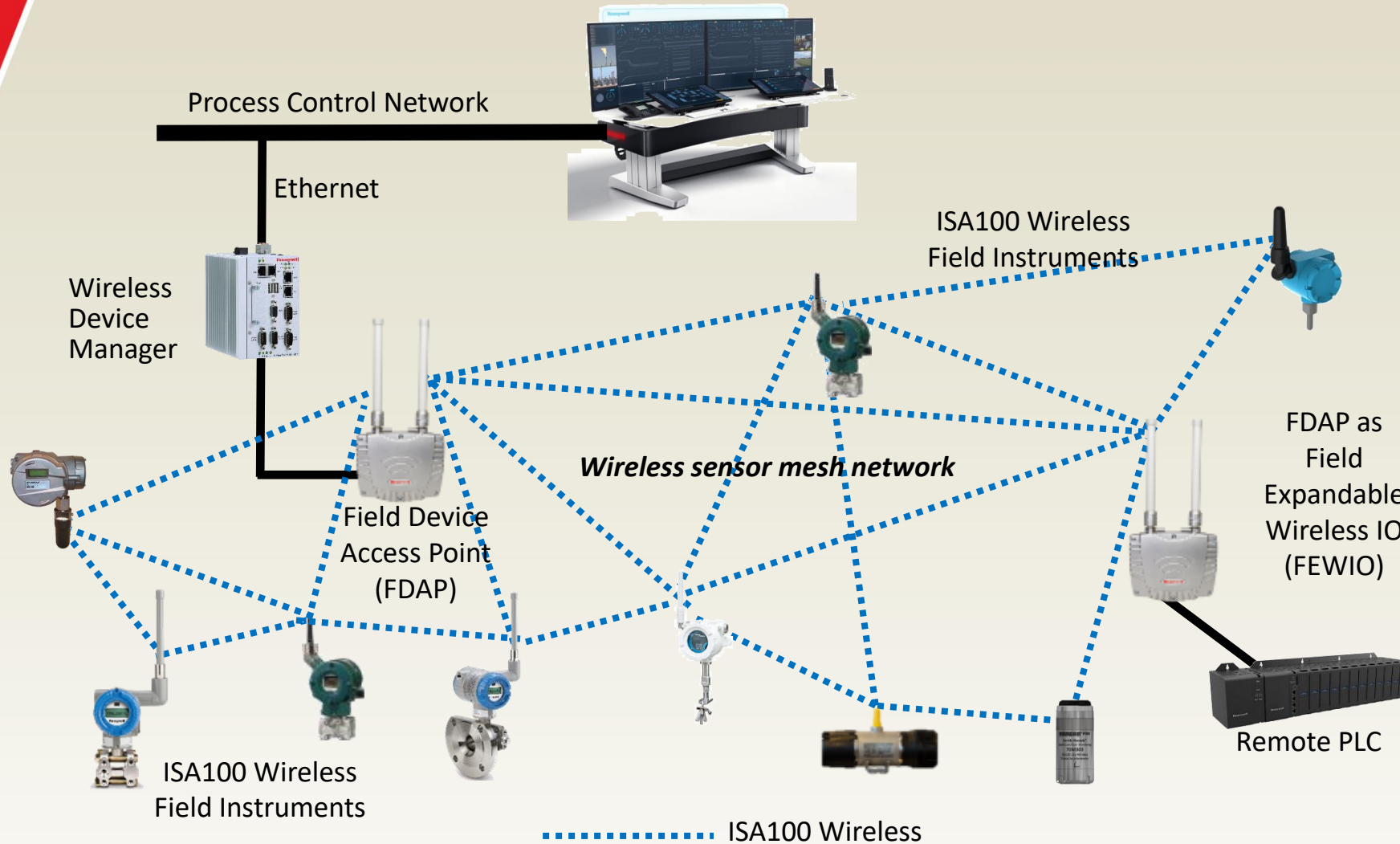
# Agenda



1. Introduction Industrial Wireless
2. ISA100 Wireless Industry Standard
3. Cyber security
4. Reliability
5. Scalability
6. Multiprotocol communication
7. Safety/ control application
8. Case Study
9. Summary



# 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

# 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	<ul style="list-style-type: none"><li>• Up to 90% of installed cos of conventional measurement technology can be for cable conduit and related construction</li><li>• Typically: 1/2 the costs, 1/5 of the time</li><li>• New and scaled applications are now economically feasible</li></ul>
Improved Reliability	<ul style="list-style-type: none"><li>• Wired sensors may be prone to failure in difficult environment</li><li>• Wireless can add redundancy to a wired solution</li></ul>
Improved Visibility	<ul style="list-style-type: none"><li>• Condition monitoring of secondary and remote equipment</li><li>• Process monitoring, fast additional data for trouble shooting</li></ul>
Improved Control	<ul style="list-style-type: none"><li>• Add wireless to existing processes for more optimal control</li></ul>
Improved Safety	<ul style="list-style-type: none"><li>• Safety related alarms - end to end SIL2 certifiable</li></ul>

# 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

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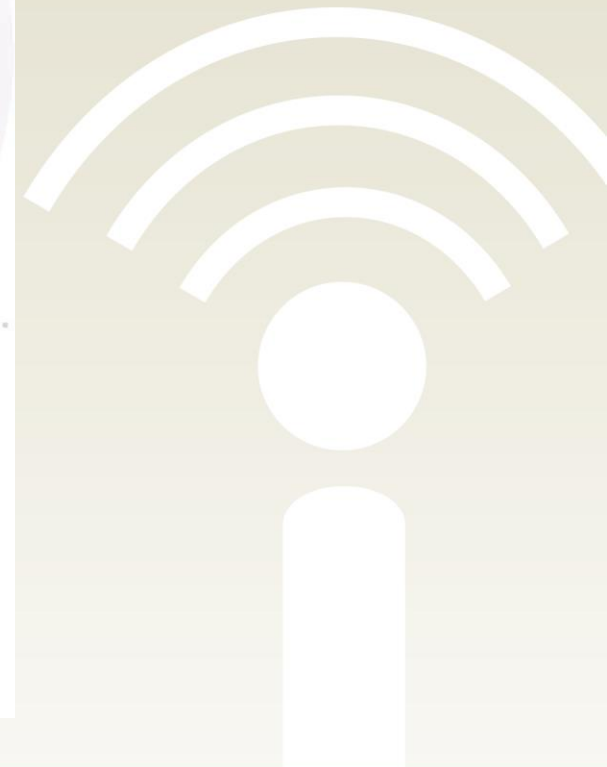




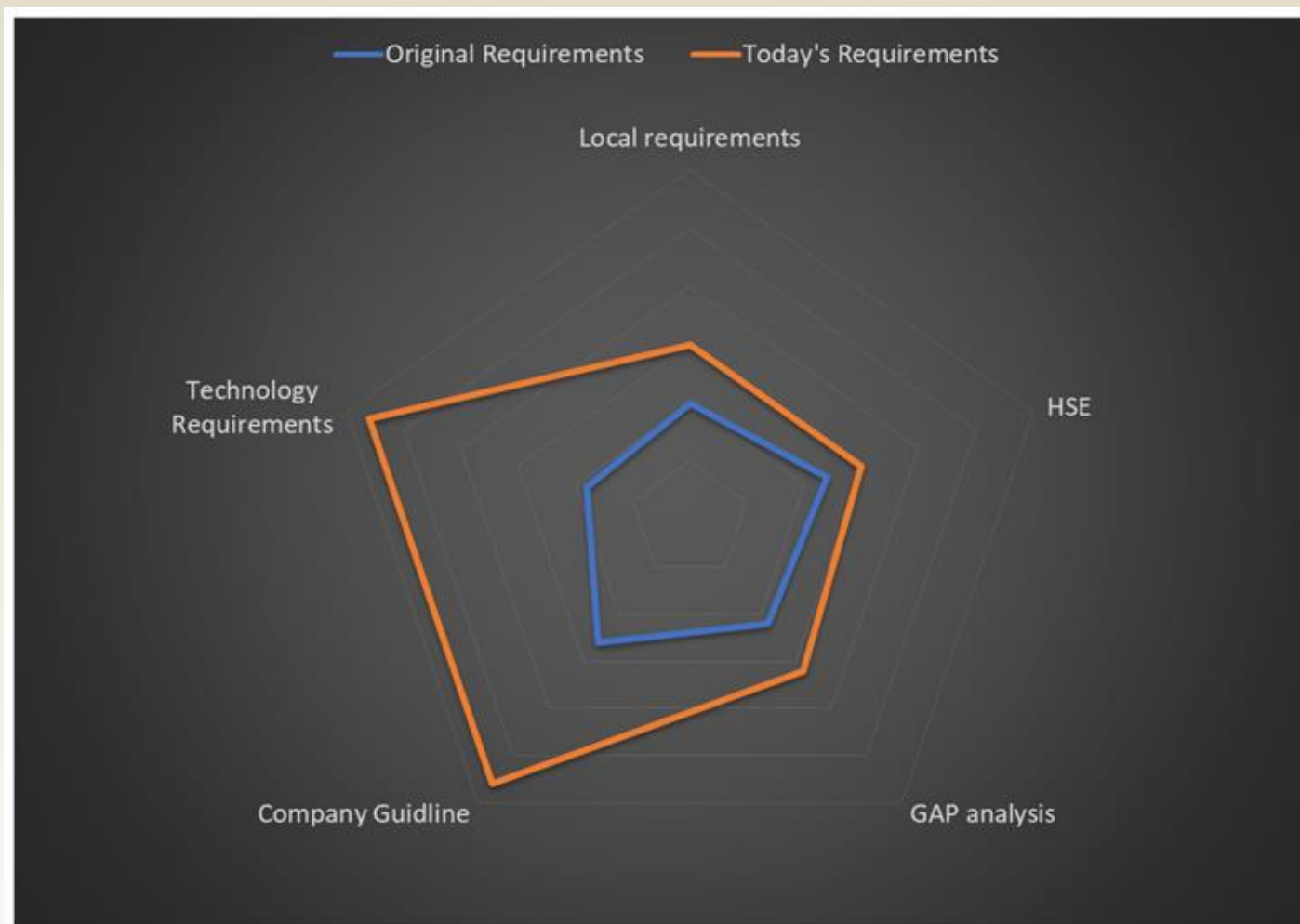
## Technology timeline



## Plan for change



# Reality



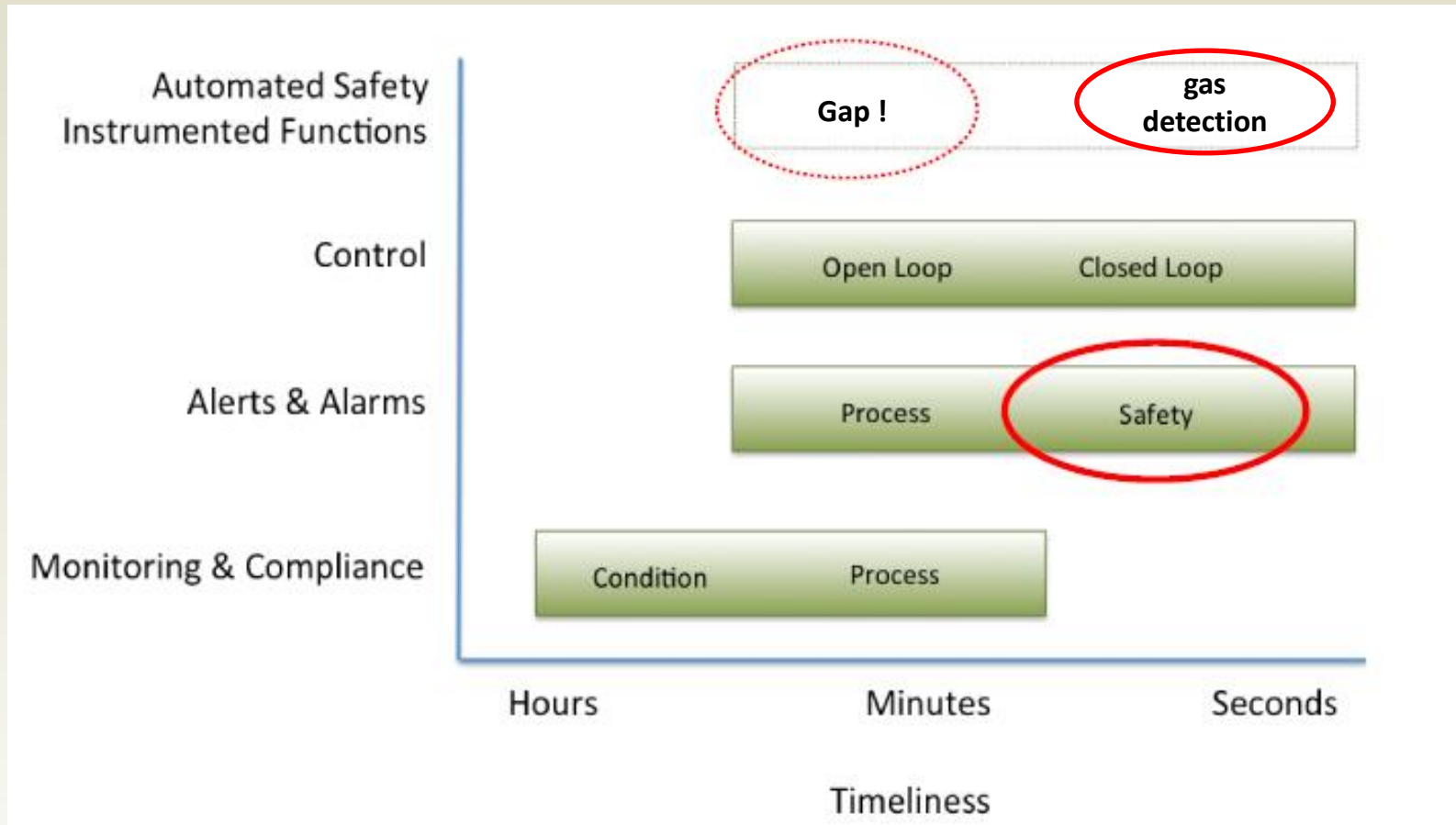
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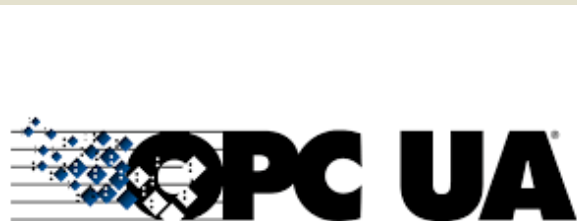
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# Functions required



## Multi protocol communication



# Agenda

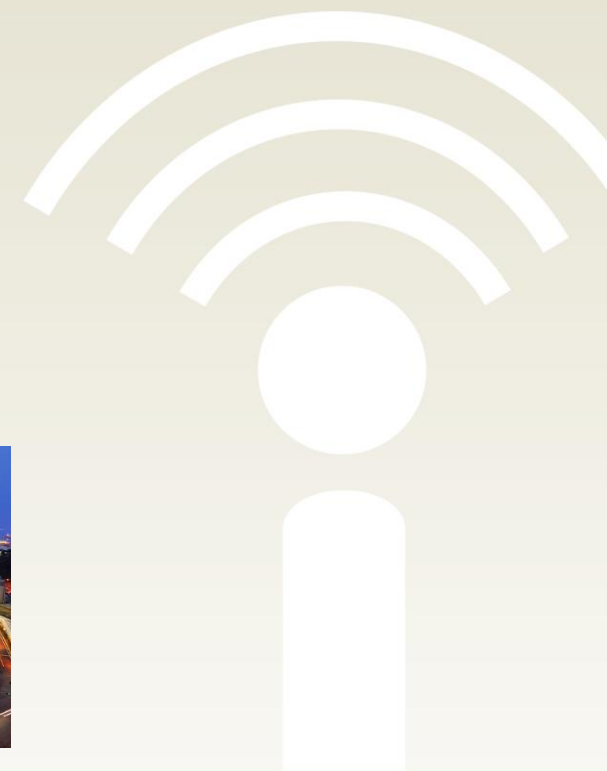
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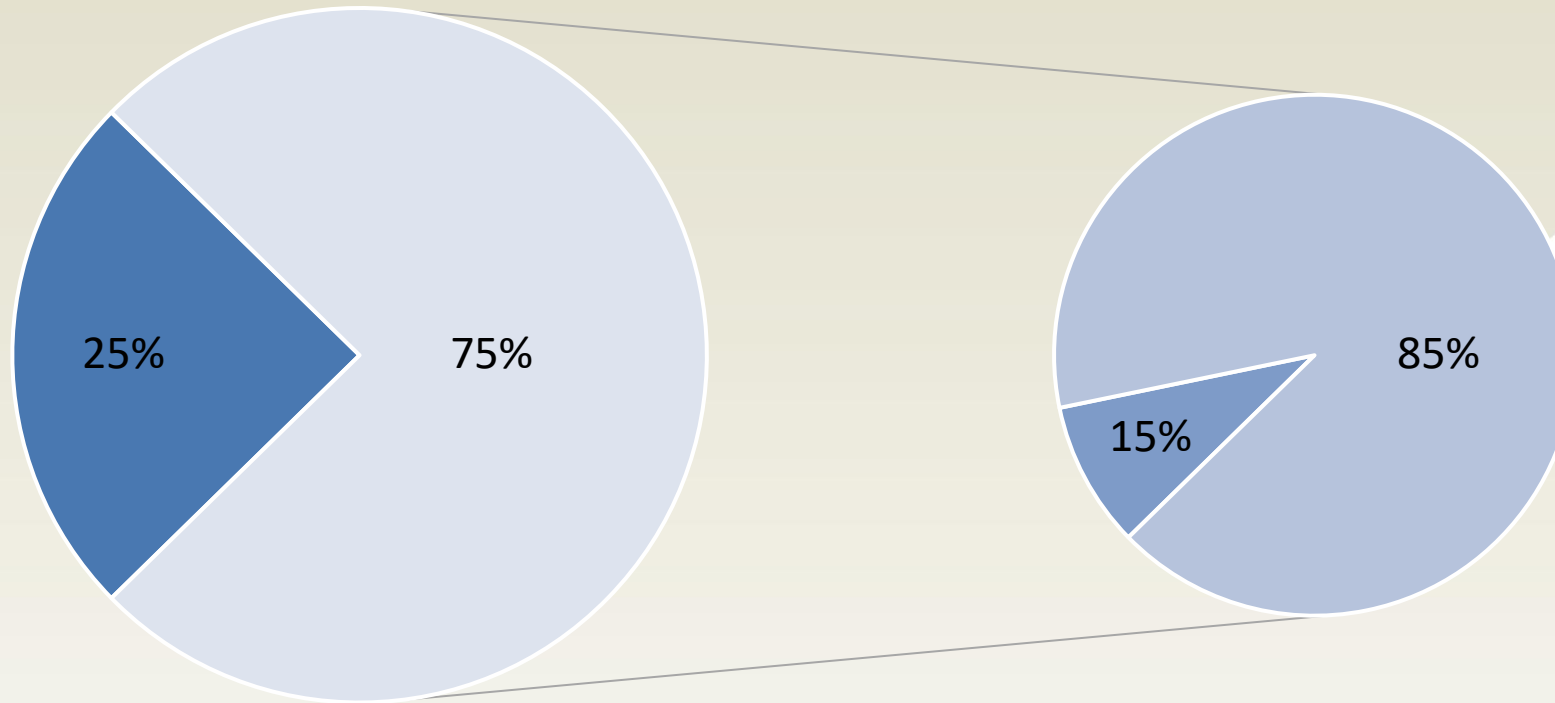
# Stranded data

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# Example



■ Non Hart ■ Hart Enabled ■ Hart Connected ■ Hart Stranded

## Retrieval of stranded data



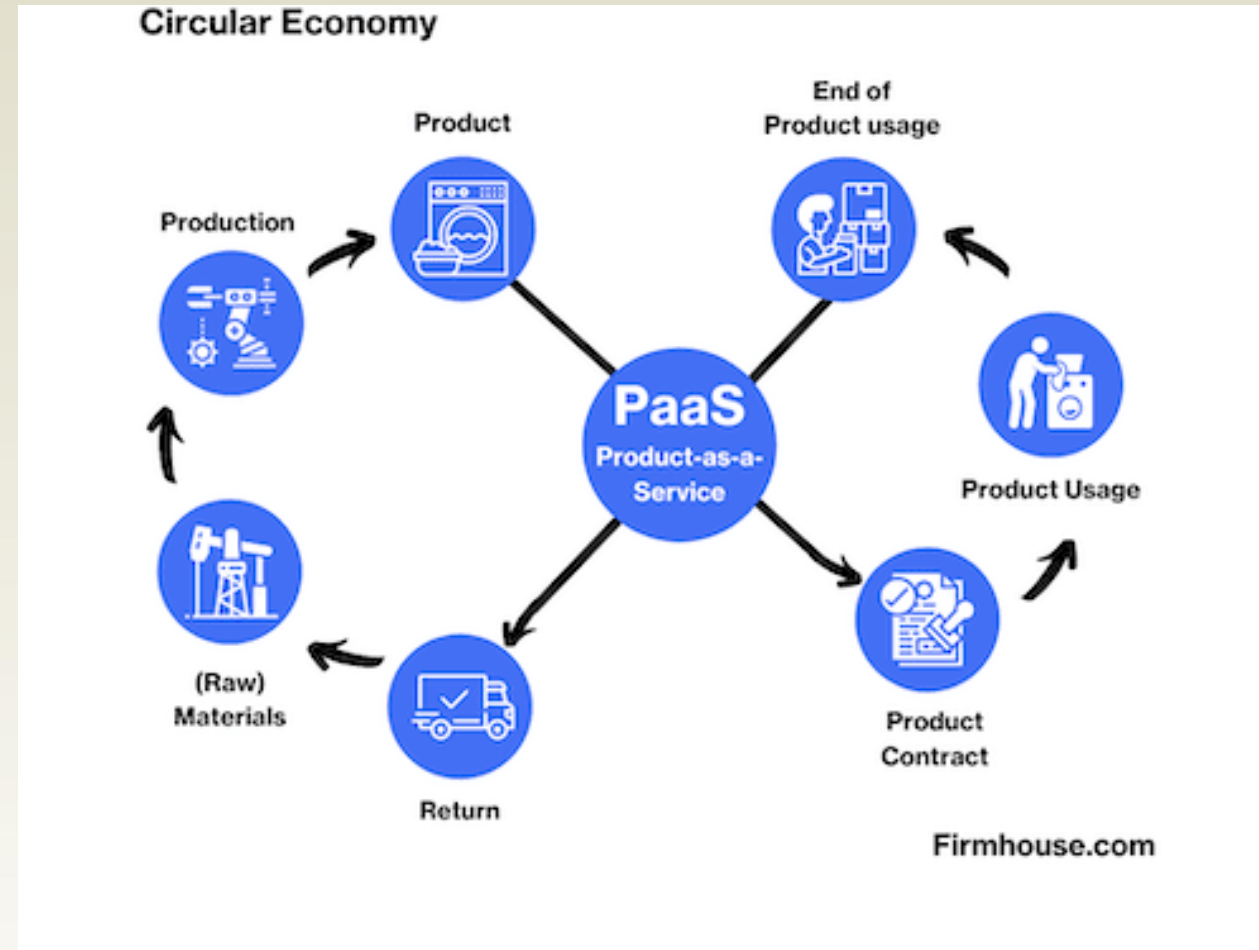
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# PAAS Product as a service





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## Safety and control applications

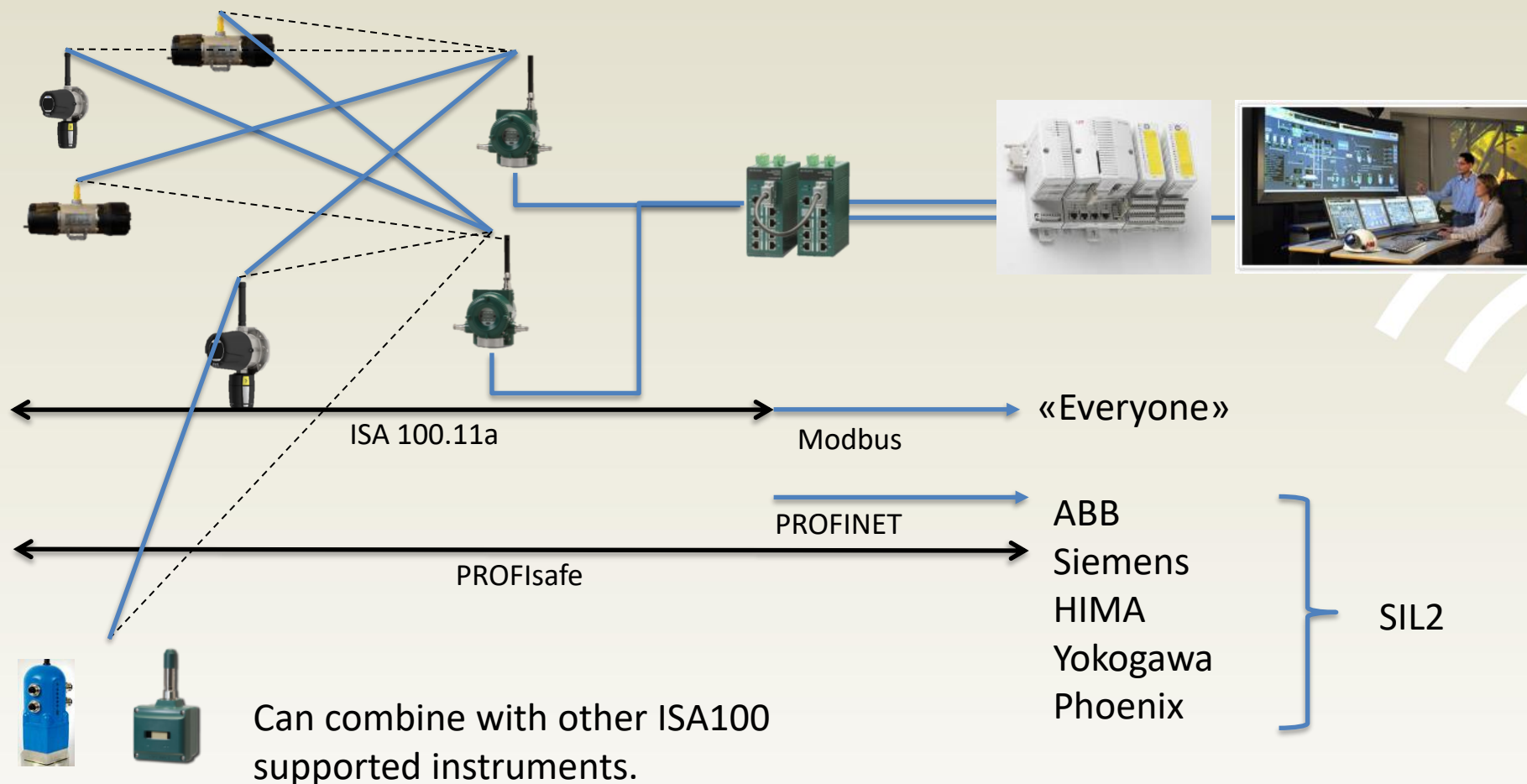
Detector

Accesspoint

Gateway

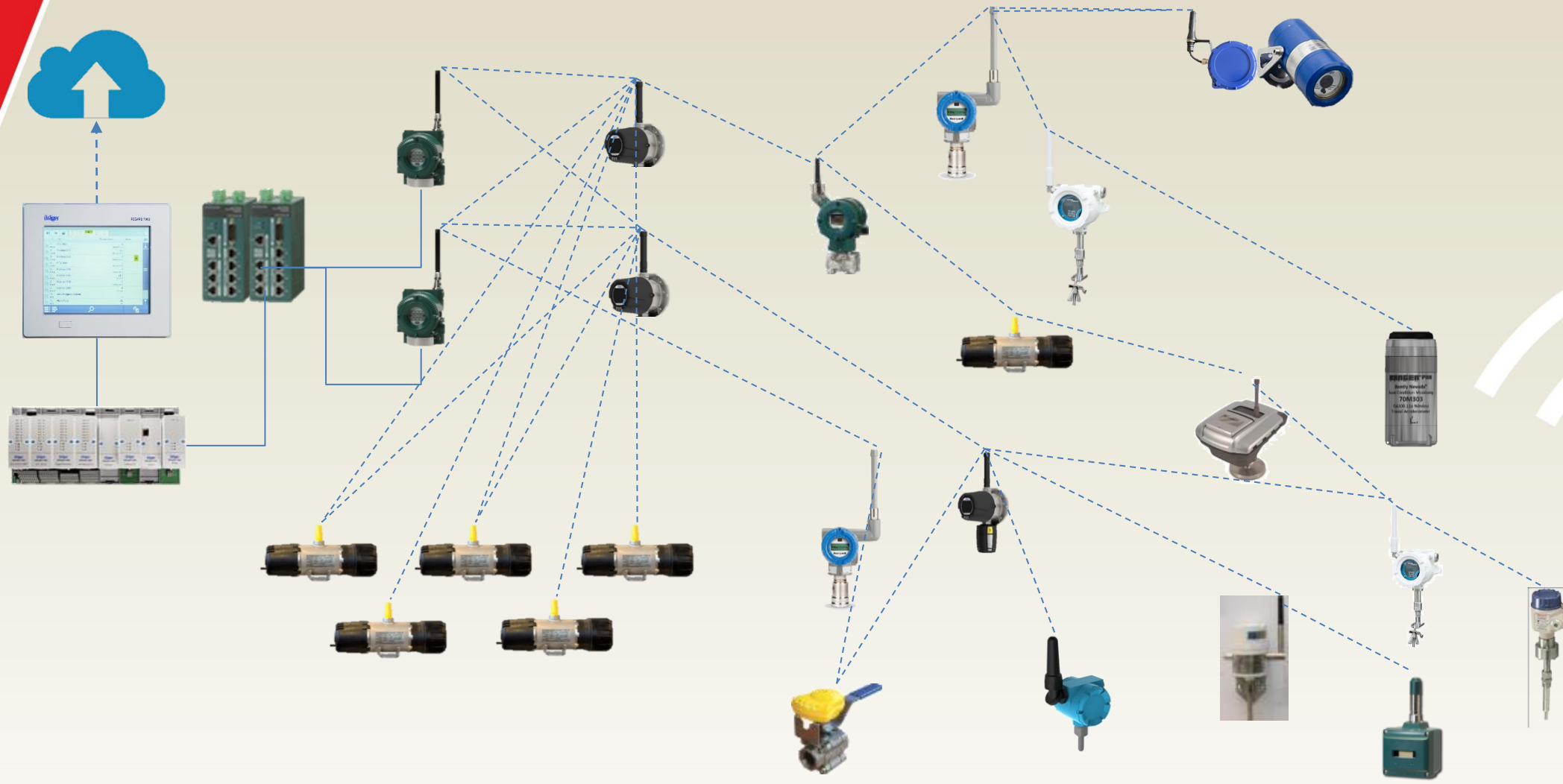
Safety Controller

Control room



# Scalability for the future

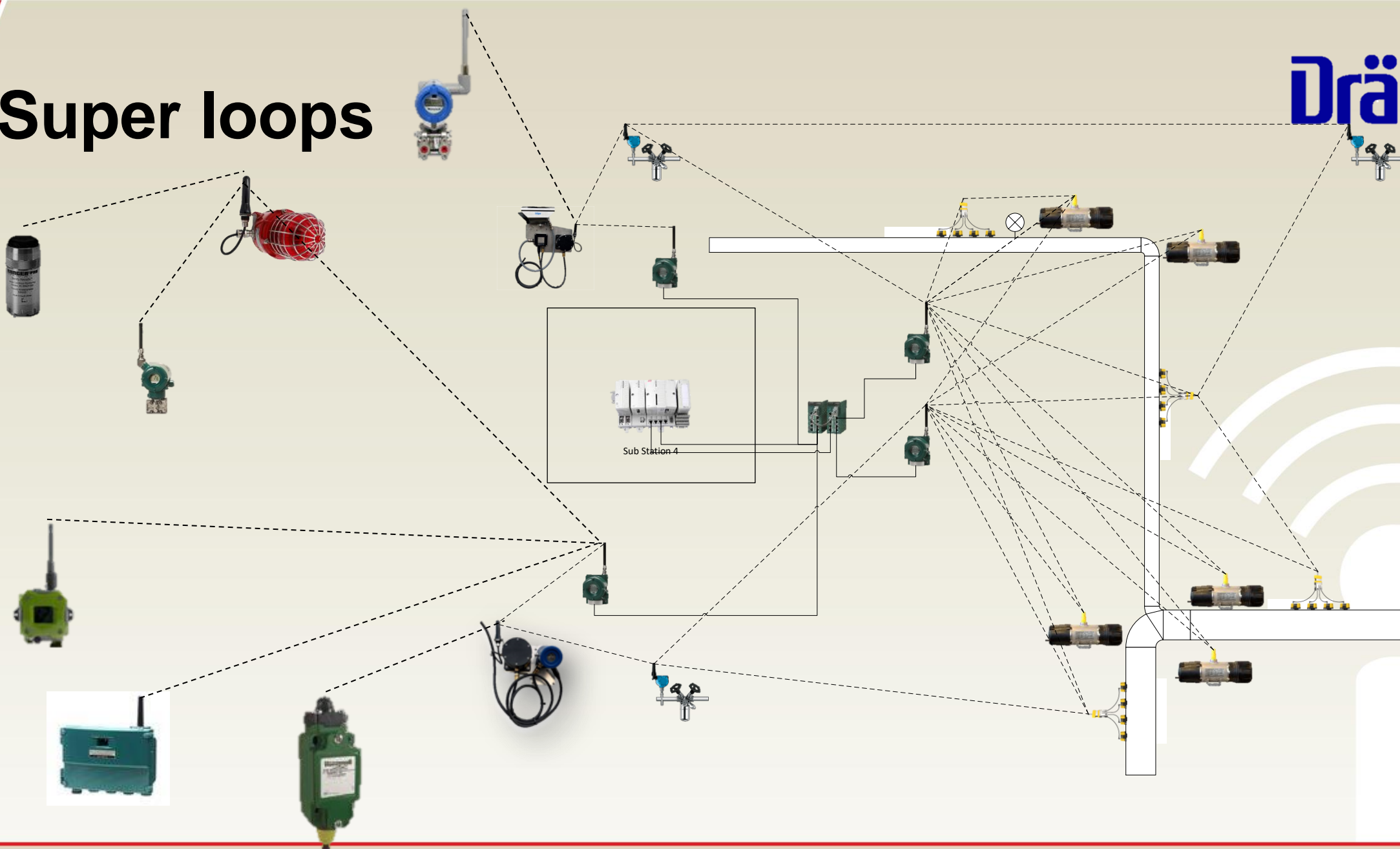
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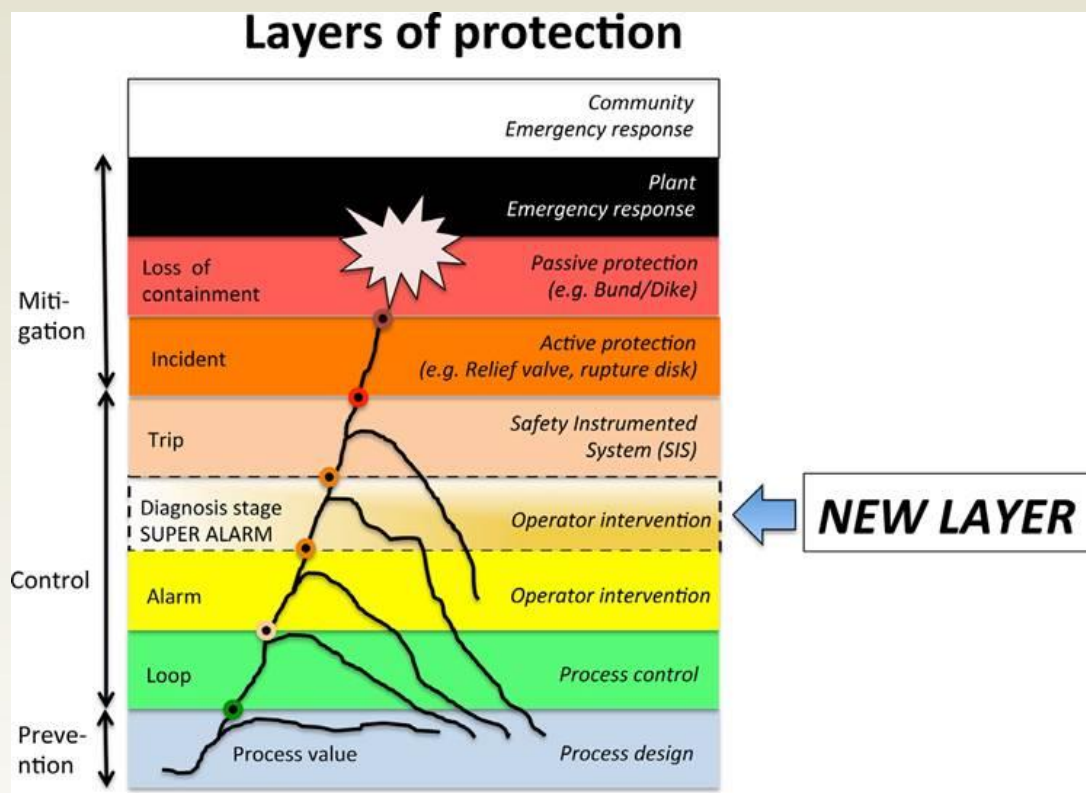
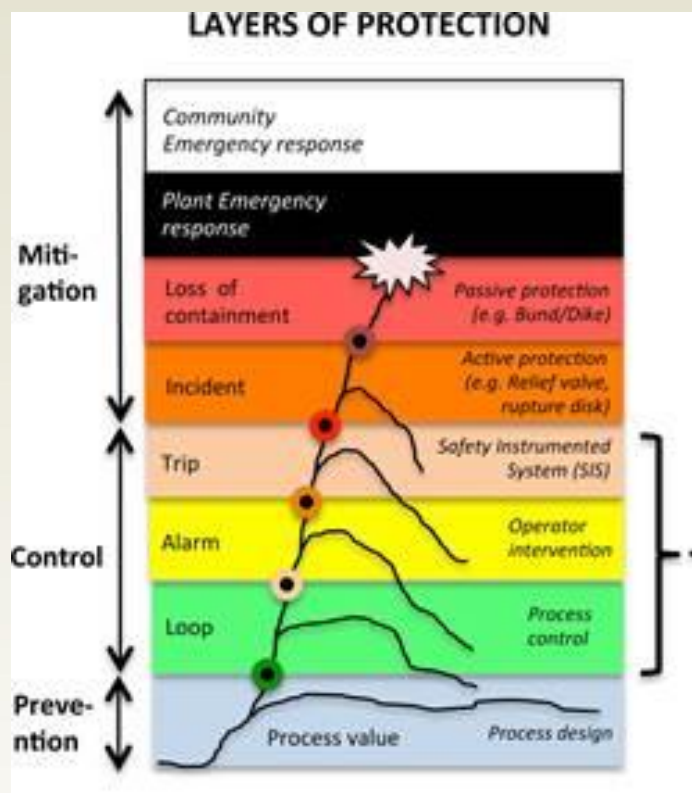


# Super loops

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# Adding an layer of alarm The super Alarm



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# New Field Device Options

## Battery Powered / Wireless Communication

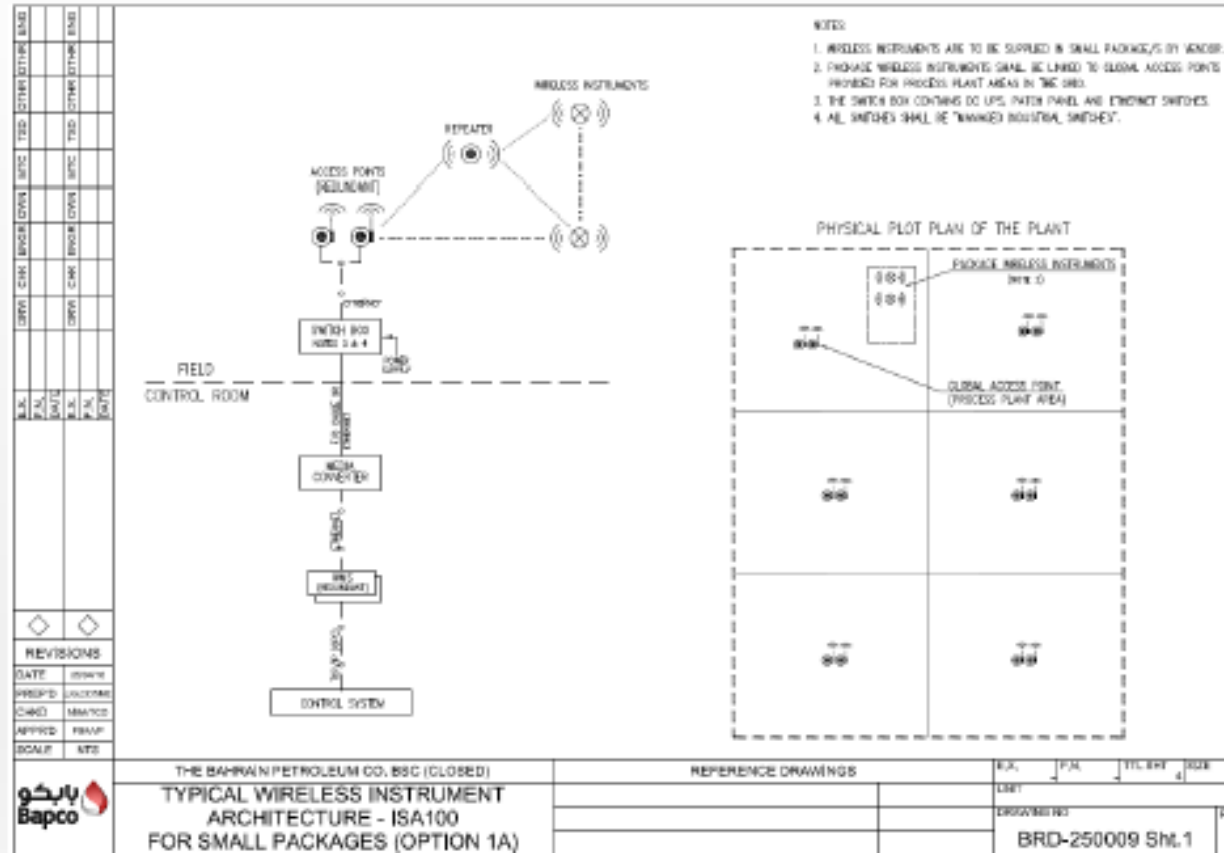


## Locally Powered / Wireless Communication



# ALBA Station

## Cellular Concept for Small Packages - Device Wireless



Vision, Experience, Answers for Industry, Infrastructure & Cities

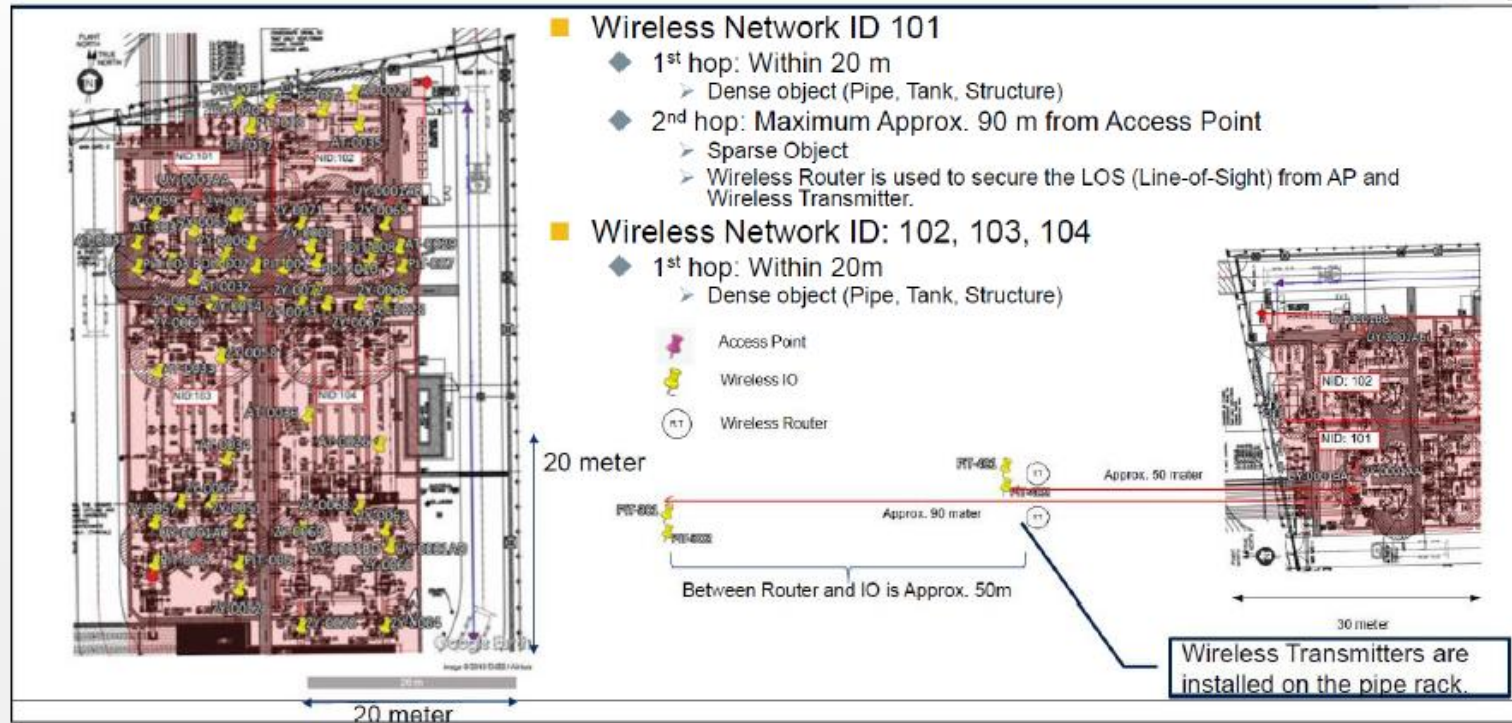
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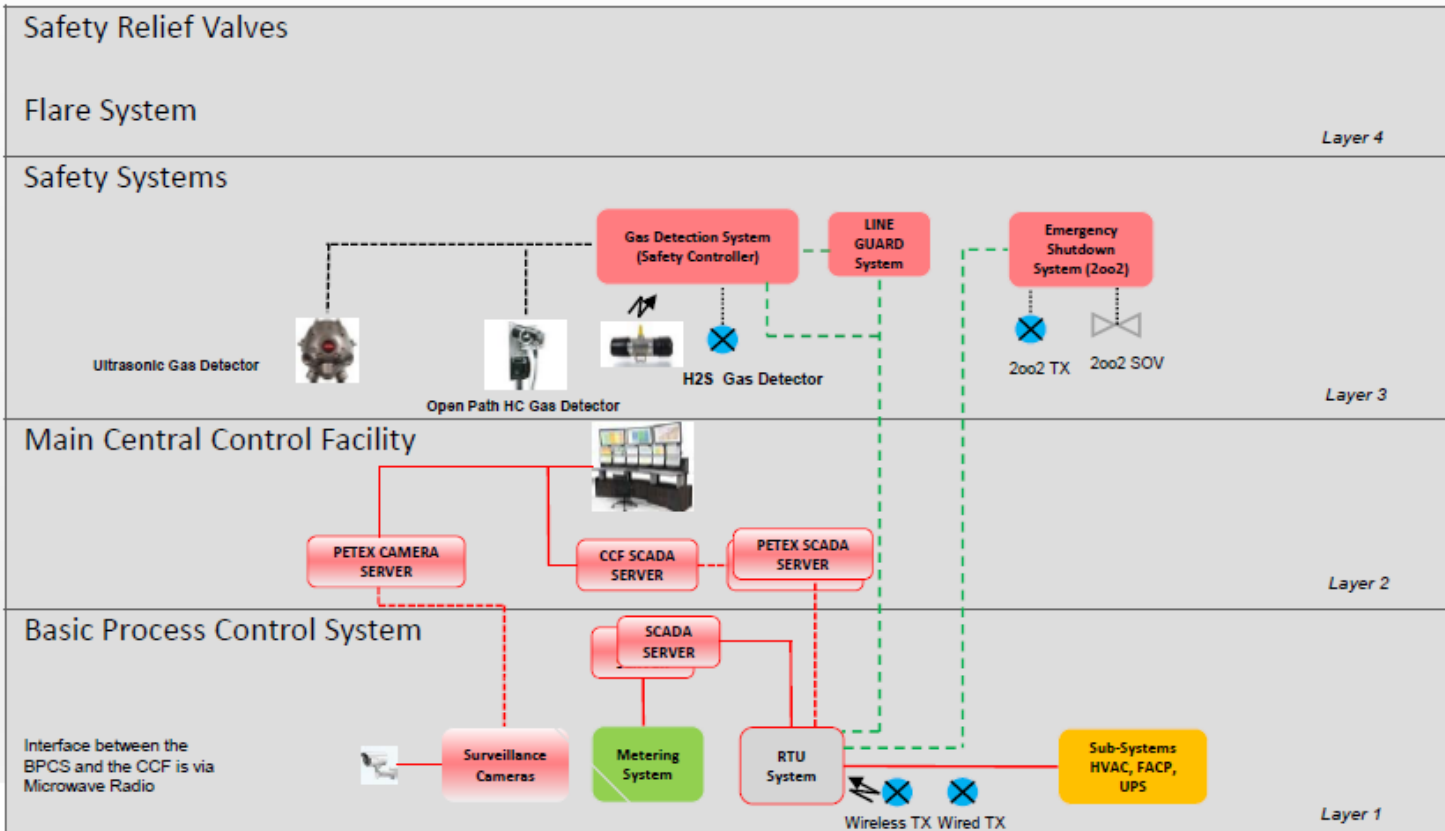
# ALBA Station

## AGS Device Wireless Plot Plan and Layout



# ALBA Station

## SAFETY & RELIABILITY IN ENGINEERING DESIGN



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# ISA100 Wireless Adoption Development Eco-system

## WCI ISA100 Wireless Rapid Development Kit

- Everything you need to develop an ISA100 Wireless (IEC 62734) connected field instrument
- Develop ISA100 Wireless (IEC 62734) compliant and certifiable field instruments with minimal effort using application layer code provided
- Includes reference hardware design for ISA100 Wireless (IEC 62734) field instrument implementation
- Certified WISA modules run ISA100 Wireless communication stack
- User friendly SPiN development board includes OLED display and a large variety of sensors



<https://centerotech.com/product/wci-isa100-rapid-development-kit/>

# Online Resources



[www.isa100wci.org](http://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
- 1100 members and growing; please join and invite your peers to join as well !
- Receiving over 5,000 web views per month
- **Limited Time Offer: Join the group and you will be entered in a prize draw to win a new iPad**

**THANK  
YOU**

**For Your Attention!**



# Questions?

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