



ISA100 WCI Webinar

Webinar date & time:

March 2, 2022, at 10 am Houston, Chicago, Mexico City

Bluetooth Low Energy – Next Gen Solution for ISA100 Wireless Device Provisioning and More

Presenter: **Honeywell**

Vibhor Tandon

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About the Speaker



Vibhor Tandon

Marketing Team Member
ISA100 Wireless
Compliance Institute



Global Offering Manager
Field Instruments
Honeywell Process Solutions

Honeywell



Vibhor Tandon is a member of ISA100 WCI – Marketing Team. Vibhor is actively involved with industrial wireless since 2012 when he took over as product manager for Honeywell OneWireless Network and Solutions offerings. He has led and introduced significant products and enhancements leveraging ISA100 Wireless in the portfolio. Currently he is responsible for wired and wireless field instruments and instrumentation related software offerings at Honeywell Process Solutions.

Vibhor has been with Honeywell for more than 20 years. Prior to his marketing stint, he has held growing engineering roles in the field of smart instruments and device integration technologies. An industry known expert, he has represented Honeywell on HART, EDDL and FDI and FDT technology standards. He has been instrumental in defining the ISA100 Wireless profile for FDI.

Agenda

1. Introduction to Industrial Wireless
2. ISA100 Wireless™ Industry Standard
3. What is Wireless Provisioning?
4. Challenges with IR Provisioning?
5. Why BLE?
6. What's More?
7. Status and Future
8. Summary
9. Q&A



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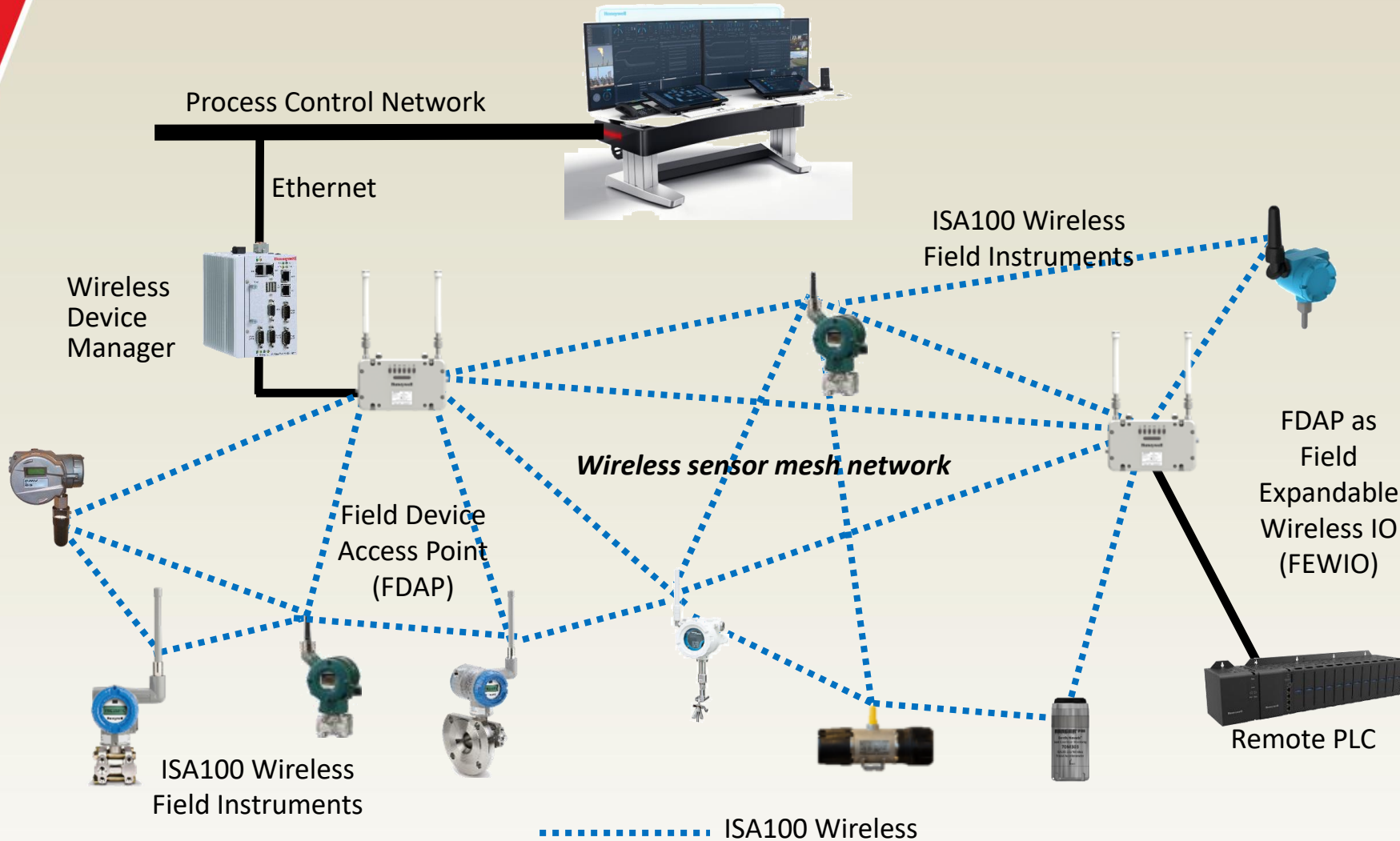
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Introduction to industrial Wireless



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

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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	<ul style="list-style-type: none">• Up to 90% of installed costs 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	<ul style="list-style-type: none">• Wired sensors may be prone to failure in difficult environment• Wireless can add redundancy to a wired solution
Improved Visibility	<ul style="list-style-type: none">• Condition monitoring of secondary and remote equipment• Process monitoring, fast additional data for trouble shooting
Improved Control	<ul style="list-style-type: none">• Add wireless to existing processes for more optimal control
Improved Safety	<ul style="list-style-type: none">• 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
 - Yokogawa, Honeywell
- 
Level
 - Honeywell, Yokogawa
- 
DI/DO, AI
 - Honeywell, Yokogawa
- 
Valve Position
 - Eltav, Flowserve

HSE + Life cycle

- 
Corrosion
 - RCS
- 
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

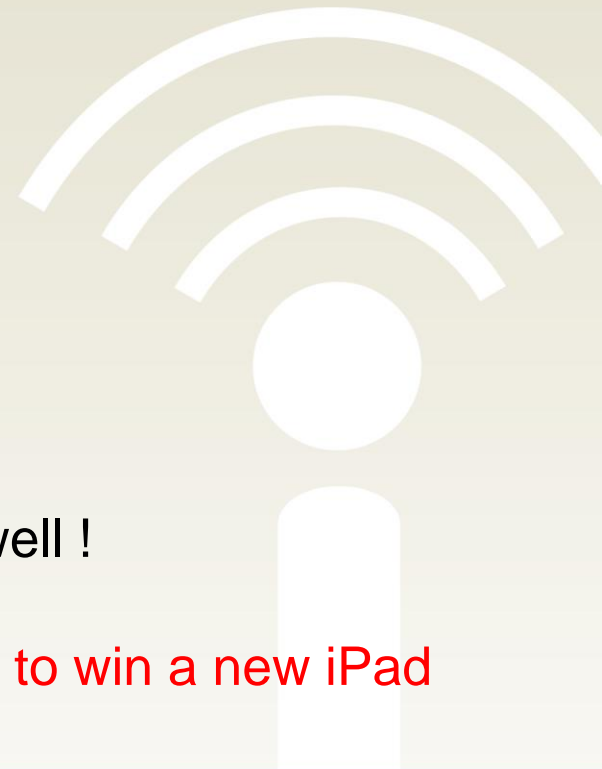


www.isa100wci.org

- 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

LinkedIn [ISA100 Wireless Interest Group](#)

- Latest news, end-user and expert discussions, insights
- 1200 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**



ISA100 Wireless Interest group

Limited Time Promotion



Scan the QR code and join the ISA100 Wireless LinkedIn group. If you join during our limited time offer, you will be entered in a prize draw to win a new iPad!



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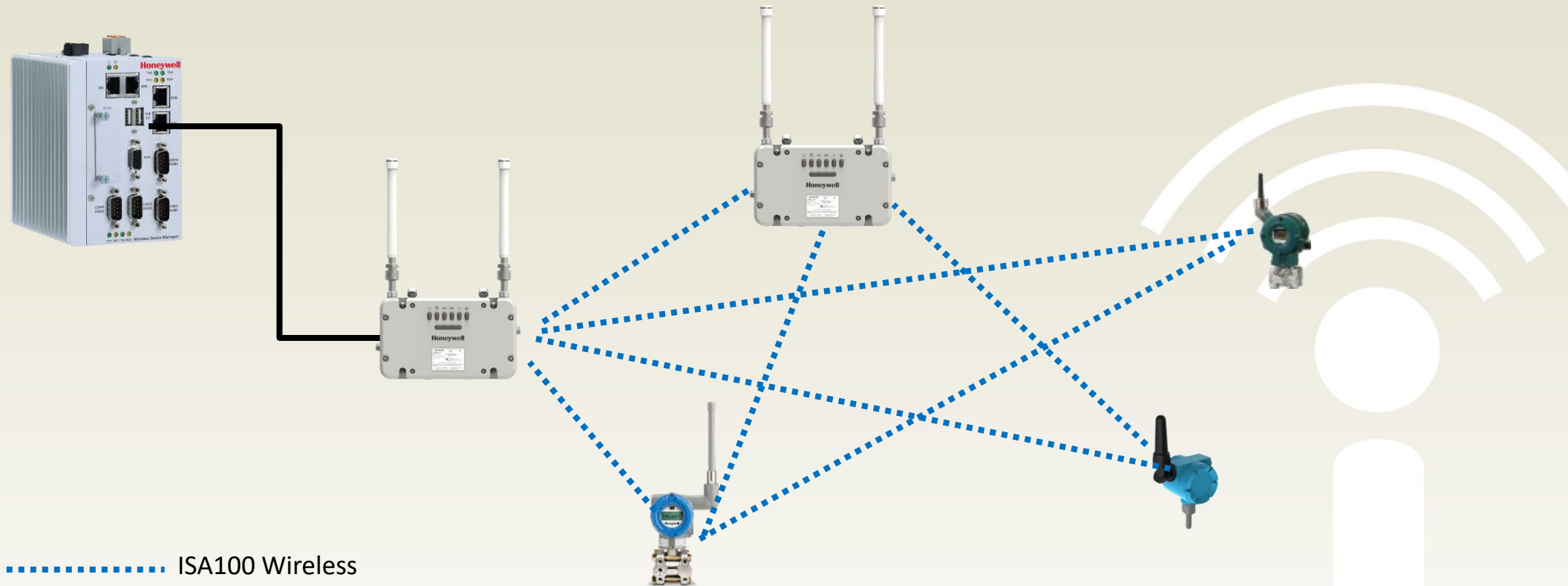
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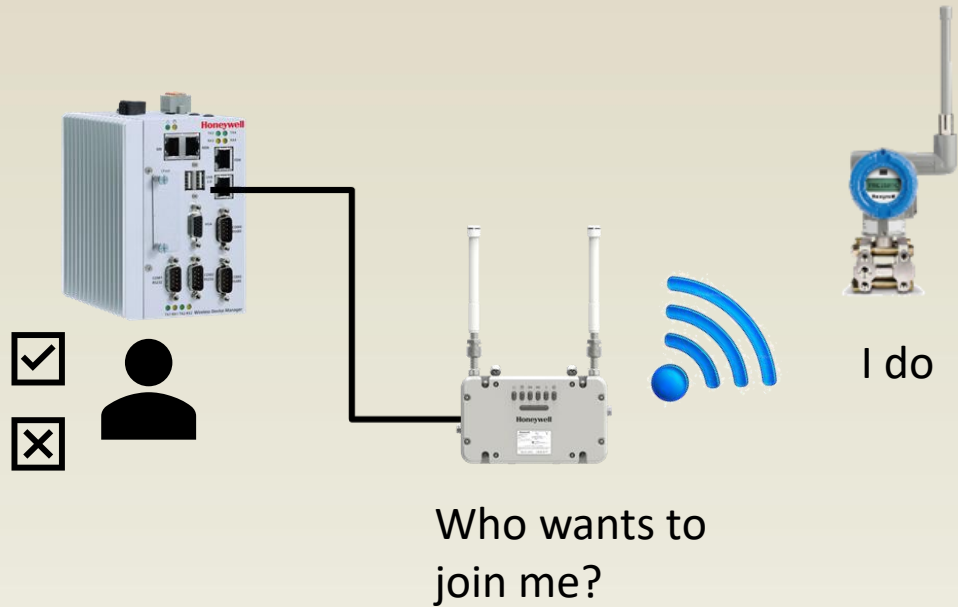
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Wireless Provisioning?

“The process of securely connecting a new (wireless) node to a (wireless) network is called provisioning”

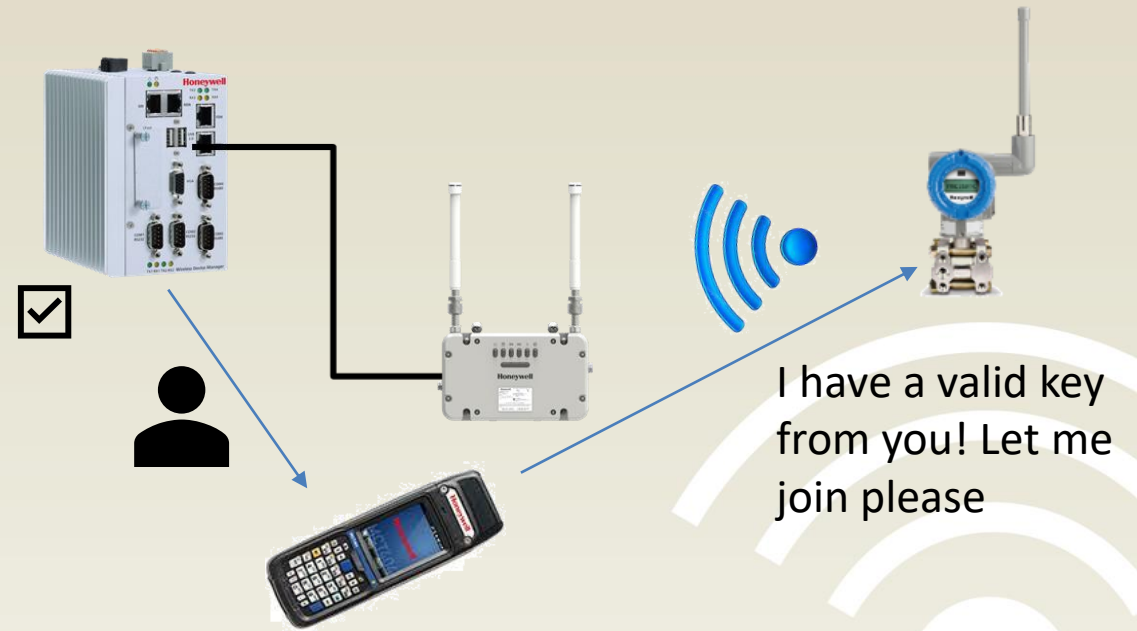


Provisioning in ISA100 Wireless



Over the Air

Through the ISA100 Wireless network interface



Out of Band / Local

Any media of deploying the key through a non-ISA100 Wireless network interface
Currently followed method is through IR (Infrared) interface

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Challenges with IR Provisioning



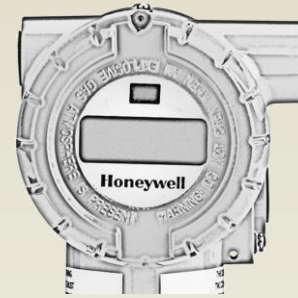
Very short range
< few cms

Point to Point



Slow and Serial
Interface

Restricts further
usage



Requires a window
in housing which
potentially lowers
the IP rating of the
enclosures

SPECIALIZED EQUIPMENT

The technology is
nearly obsolete
except for our TV
remotes and TVs

No commercial
mobile / computing
platforms available
with IR anymore

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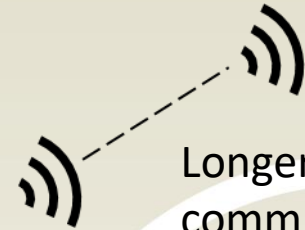
Why Bluetooth Low Energy?



Cotemporary Standard.
Managed by Bluetooth SIG



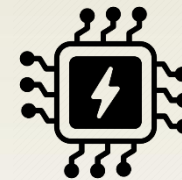
Widely available, accepted
and supplied



Longer range of
communication



Commercially available, both
as component as well as a
peripheral on computing
platforms

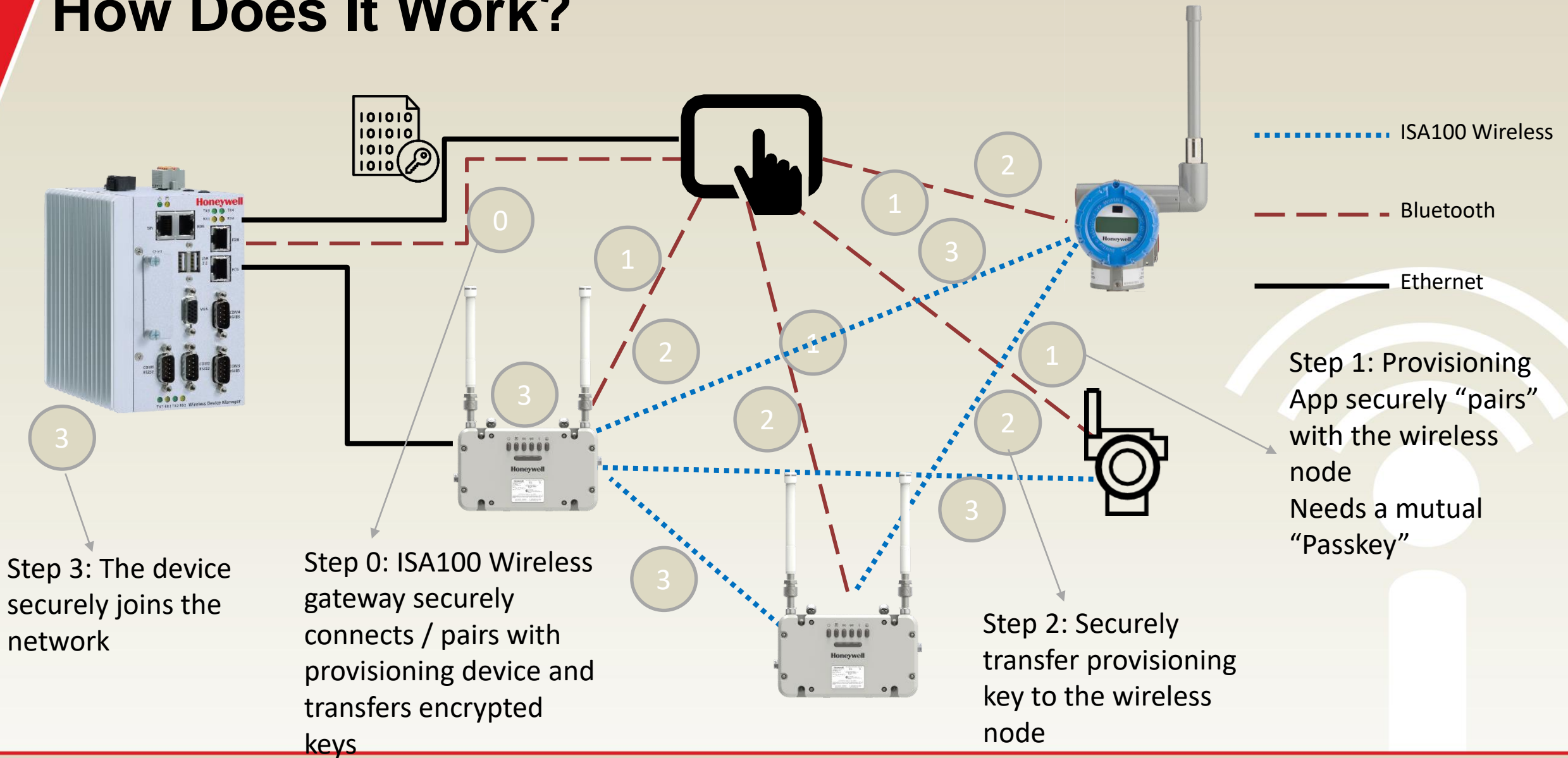


Low power consumption



Faster data transmission

How Does It Work?



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What's More?



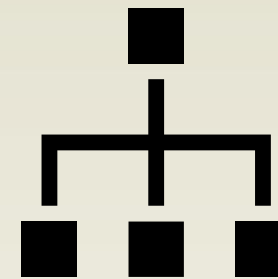
Operations can be performed from a safe distance



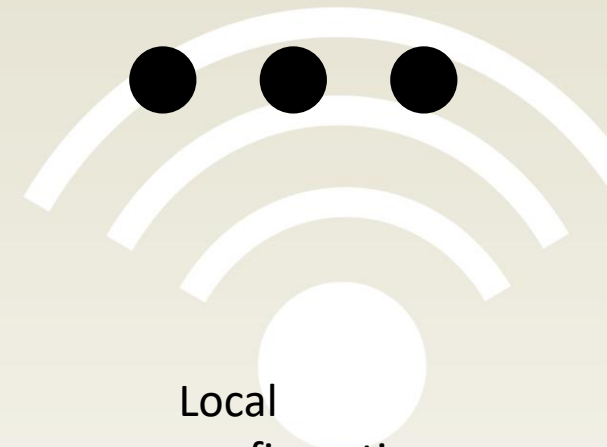
Audit-trail, Whitelisting



Line of sight not mandatory!



More productivity through possible parallel operations



Local configuration, maintenance, troubleshooting
Local firmware upgrades
Virtual displays

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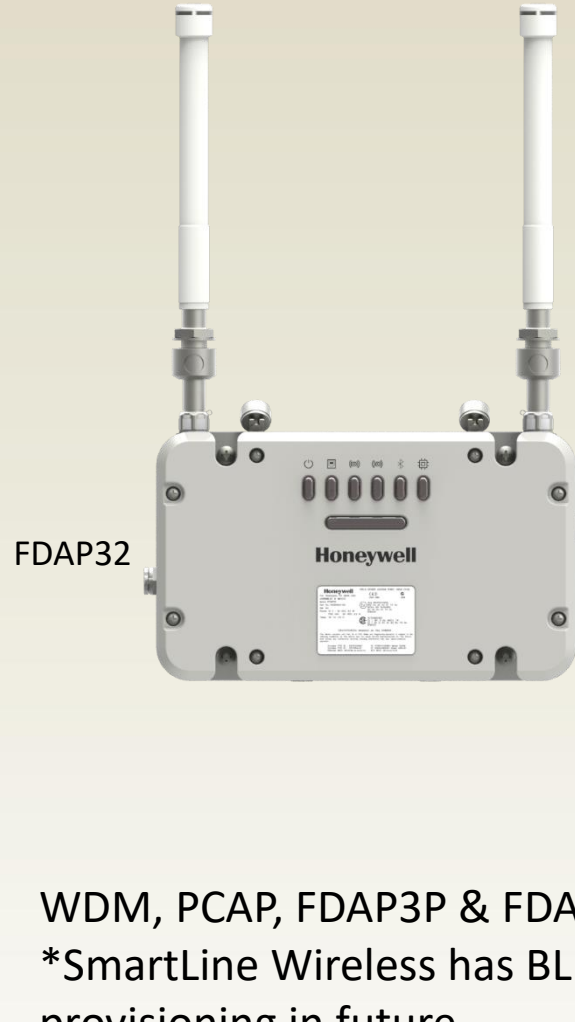
Already in Use Since More Than 2 Years!



PCAP



FDAP3P



FDAP32



SmartLine Wireless *



WDM

WDM, PCAP, FDAP3P & FDAP32, all support BLE provisioning.
*SmartLine Wireless has BLE capabilities and will support BLE provisioning in future

Status and Future

- WCI Program for Bluetooth Low Energy
 - BLE solutions for ISA100 under development since ~ 2018
 - In 2019, WCI decided to make these solutions interoperable
 - Interoperability testing in 2022
 - WCI ready for first certifications in 2023



Summary

- BLE is the future of ISA100 Wireless provisioning
- BLE solution
 - Is easy to use and deploy
 - Improves safety and security
 - Improves efficiency
 - Enables multiple additional use cases
- Commercial products available
- WCI working towards ensuring interoperability



**THANK
YOU**

For Your Attention!



Questions?



www.isa100wci.org



[ISA100 Wireless Interest Group](#) 

1200+ members and growing; please join and invite your peers to join as well !

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