

# How to make **wireless control** your superpower

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# Challenges 2025

- YET ANOTHER DASHBOARD SYNDROME
- OVERARCHING INDUSTRY CHALLENGES

# 1 From measure to control

## “YET ANOTHER DASHBOARD” SYNDROME

- Common with LoRa sensors
- Promised AI and cost savings
- Lock-in to vendor specific



How do we tap in on real energy savings with limited retrofit budgets?

## 01

## Challenges and opportunities in the industry



A lot of projects struggle with funding & cost increase



Lack of skilled staff, particularly installers



High pressure on reducing energy and cost of operation

01 Challenges 2025

02 When and how?

03 Who saves time and money?

04 Why does this wireless work?

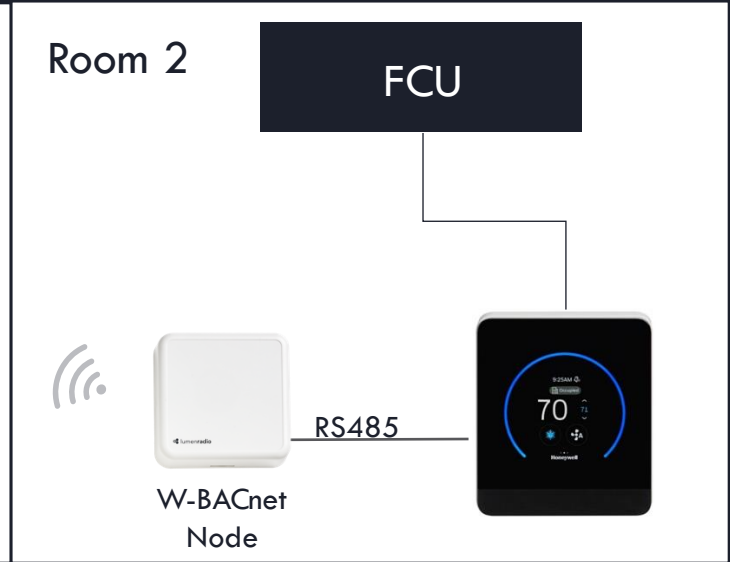
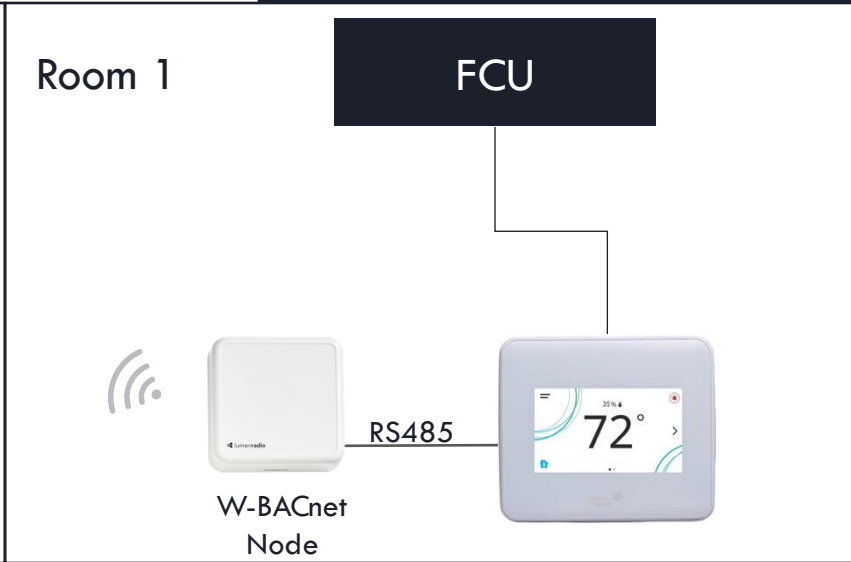
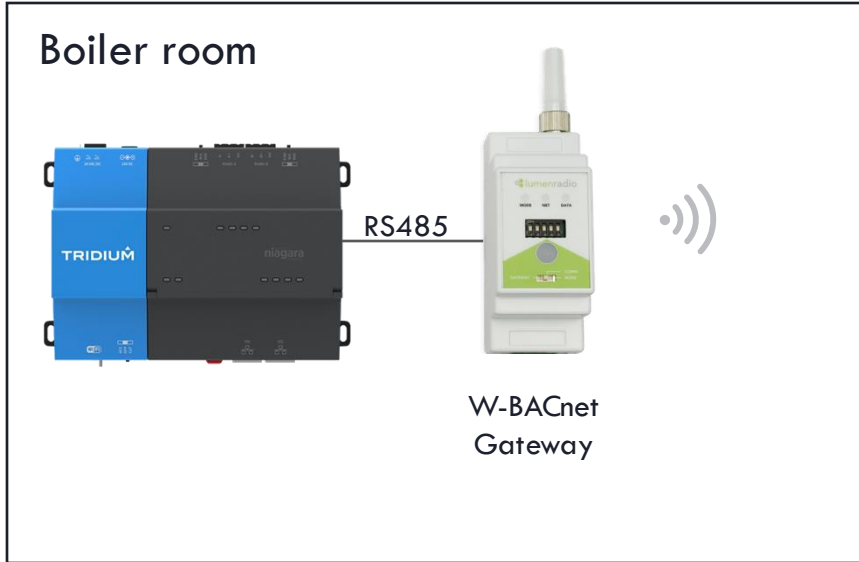
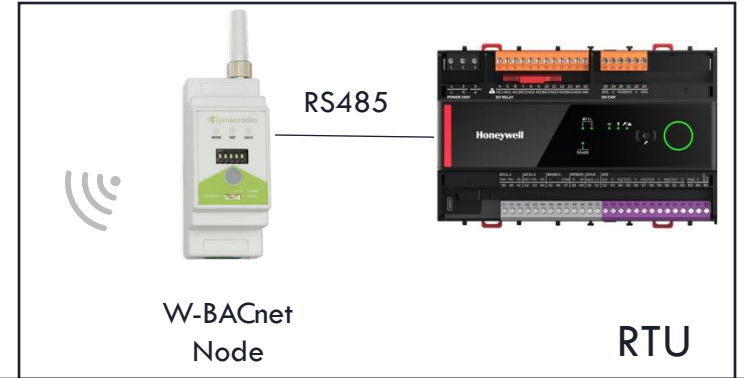
05 Get started - Checklist

# How does W-BACnet work?

# How to do BACnet – Wirelessly

## NATIVE BACNET DATA INTO BAS

- Plug-n-Play; No programming required
- No changes to filepath or Metric ID within BAS.
- No need to change BAS configurations with no recognizable change to BACnet network topology



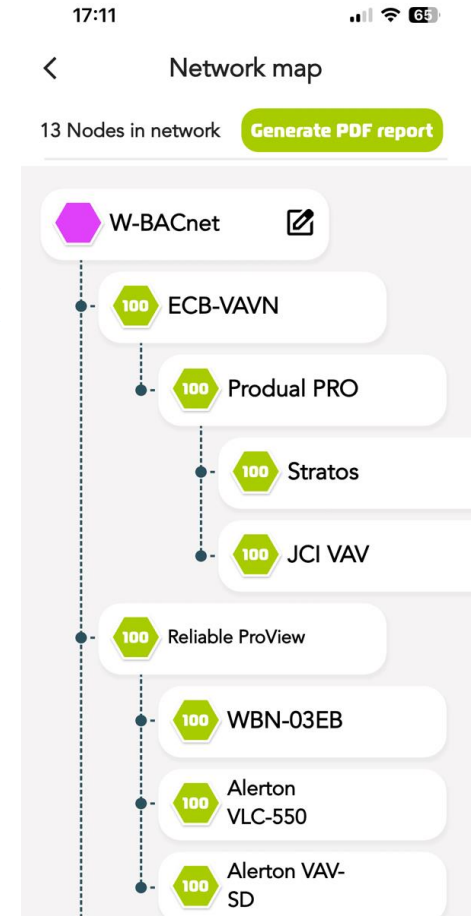
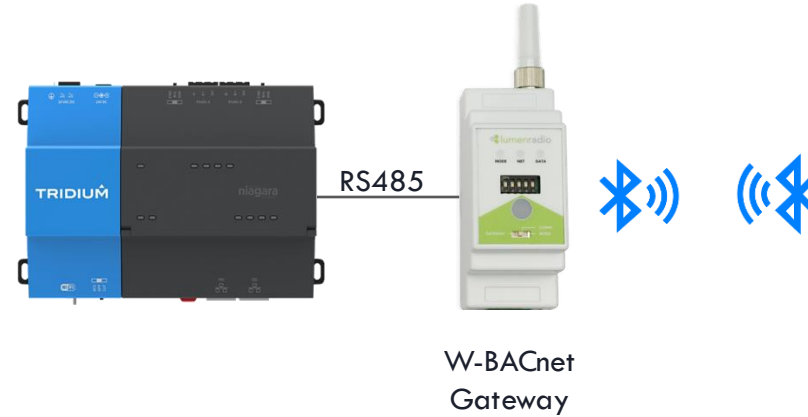
# 05 Bluetooth Mobile App; Integration Secret Weapon

## ACCELERATE YOUR INSTALLATION

- Troubleshoot BUS connections without manual checking each BACNet device
  - BACnet Address
  - Ability to Rename devices

## FIRMWARE UPDATES FOR LIFE

- Updated the entire network with a click of a button
- The update takes around 30 min to 2 h to propagate to all nodes





# How wireless can help you

FOUR INDUSTRY EXAMPLES

Cost efficient for schools & hotels

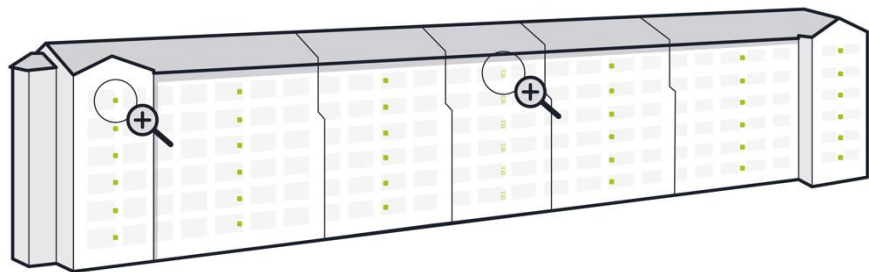
The only solution for heritage buildings

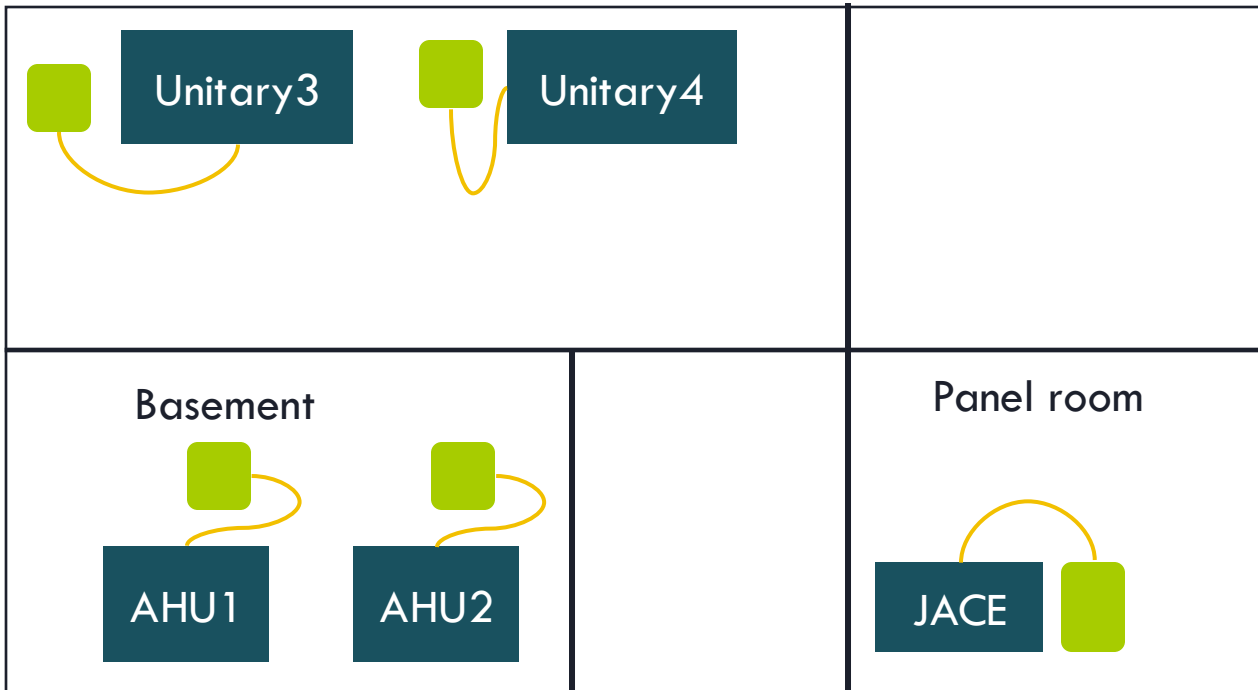
One week of work completed in 3 hours

# Lakeway resort, Austin TX

## LUMENRADIO W-BACNET

- 40 FCUs on 6 floors (split into 6 W-BACnet networks)
- No repeaters needed or support from LumenRadio
- 90 % reduction in installation cost compared with wire





## School in Midwest

### DESIGN AND IMPLEMENTATION UNDER 8 HOURS

- 1 building engineer spent *less than a workday* to scope, design, install and commission system
- 2 AHU & 2 Unitary controllers and one supervisor
- Important test validation to scale cost efficient BAS solutions

*"I cannot speak highly enough about my experience with Maciej, Carl, and LumenRadio as a whole. They have done an amazing job communicating with myself and the team I am involved with to make the installation and application of the LumenRadio W-BACnet products in this facility as seamless as possible.*

*In our test case scenario thus far, the product has performed as advertised, while the installation and commissioning of the system was much easier than I expected.*

*I am looking forward to continuing to work with LumenRadio as myself and my team look for more applications where the W-BACnet product can be implemented."*

*-Building Engineer*



# Starret Lehigh Building, NY, USA

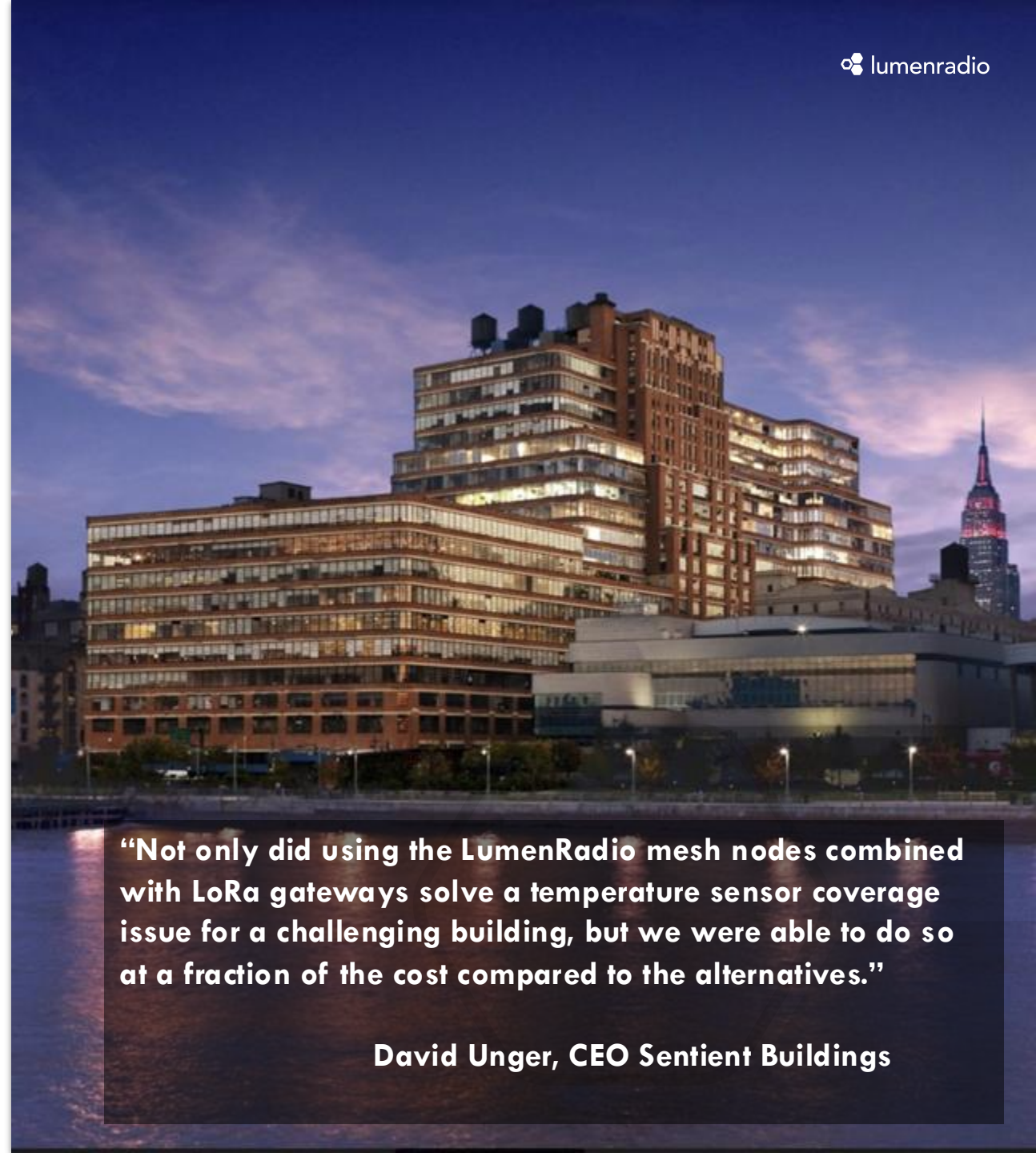
## WIRELESS BACNET for heritage buildings

**CUSTOMER:** Sentient Buildings and RXR Reality, large property owner in New York (e.g. 75 Rockefeller Plaza, 5 Times Square and 230 Park Ave).

**CHALLENGE:** Find a reliable wireless solution for a building of 2.3 Million sq.ft in a challenging wireless environment.

**SOLUTION:** 35 LumenRadio W-BACnet units over 18 floors as a “backbone” for BACnet/LoRa gateway which reached LoRa temperature sensors.

**BENEFITS:** Significant time and cost savings. A reliable solution which will be reemployed for many other projects. Avoided drilling holes in 3ft thick walls.



**“Not only did using the LumenRadio mesh nodes combined with LoRa gateways solve a temperature sensor coverage issue for a challenging building, but we were able to do so at a fraction of the cost compared to the alternatives.”**

**David Unger, CEO Sentient Buildings**



## Case study – Jersey City

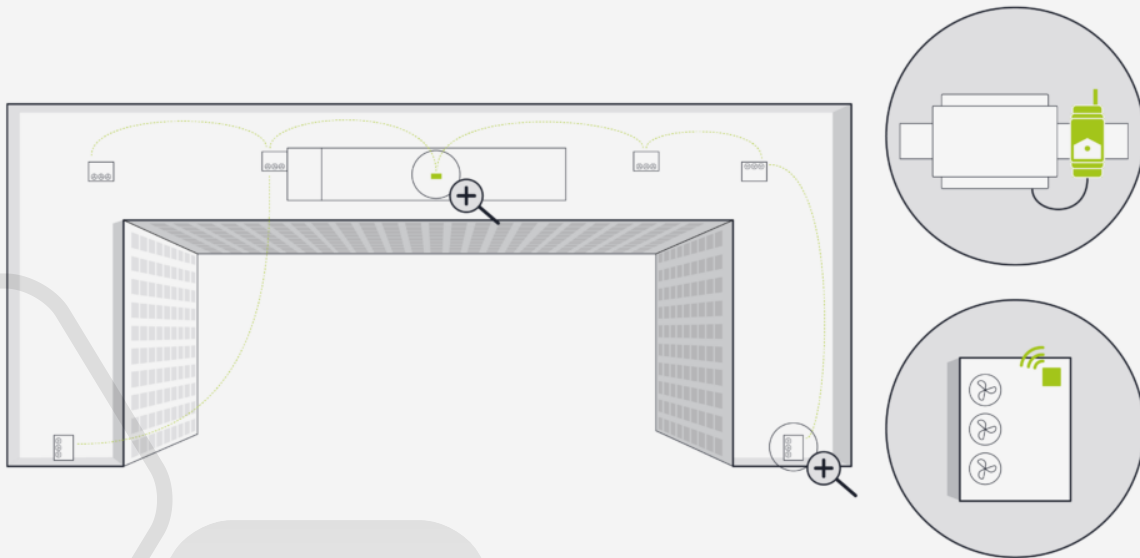
### A WEEK'S JOB IN 3 HOURS

**Partners:** KF Mechanical

**Challenge:** All BACnet nodes inside metal enclosures. Control room has approx. 4 inch metal walls. Cellular antennas create wireless interference.

**Solution:** W-BACnet device on each RTU and W-BACnet gateway with larger antenna inside control room.

**The Benefits:** Significant reduction in installation cost and time. Installation and completed in 3 hours. Wired solution would have taken one week.



# Cost calculator

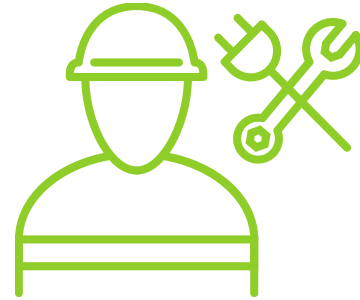
# 03

## Value chain benefits from W-BACnet



### Planner & Estimator

- ✓ Saves time mapping
- ✓ No rework requirements
- ✓ No variation in cabling time
- ✓ **Hassle free quoting**



### Installer

- ✓ Saves 70 % of wiring time
- ✓ **Can do 2x jobs**
- ✓ Flexible installation



### System integrator

- ✓ Faster troubleshooting
- ✓ **Flexible commissioning**
- ✓ Easier hand-offs
- ✓ Scalable over time



### Municipalities/ Property owner

- ✓ Retrofitting becomes easy
- ✓ Saves time and money
- ✓ Optimizes energy usage
- ✓ **Enables smaller sites**

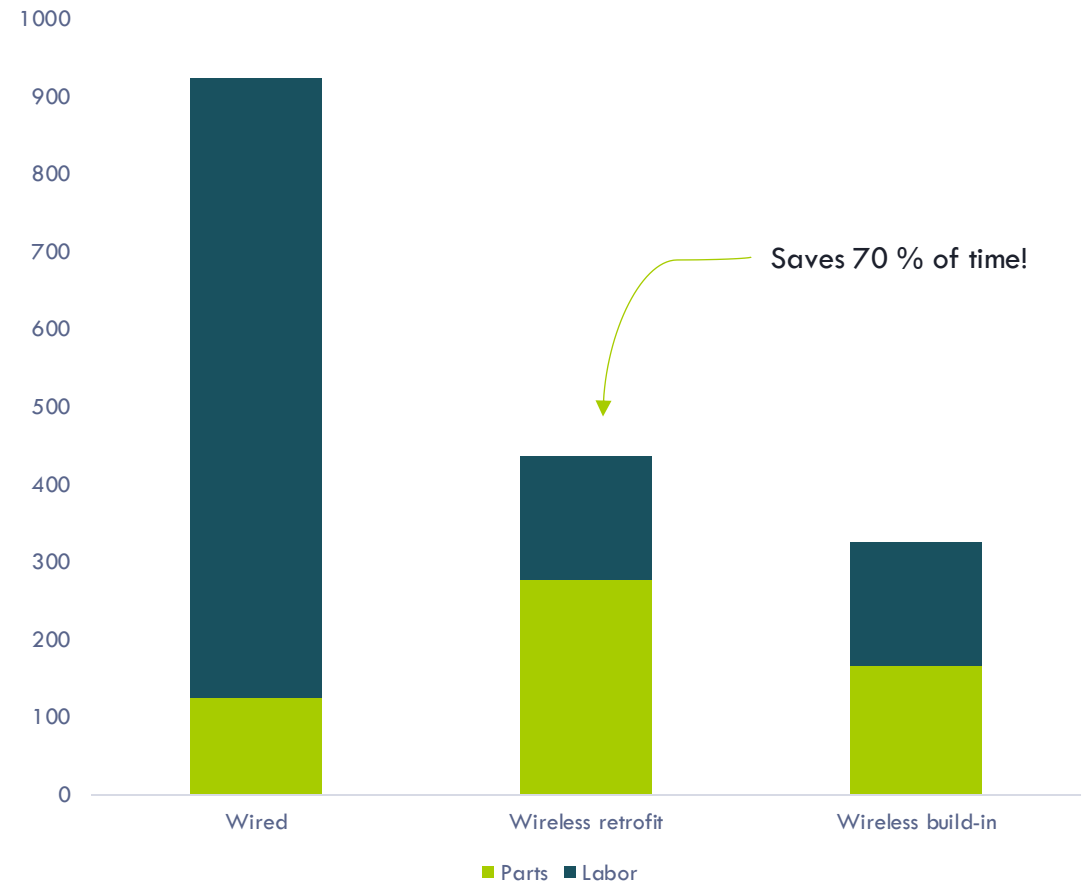
# 03

## Are you seeing the whole picture?

### THE BENEFITS OF WIRELESS BACNET

- Wireless enables control for
  - Installation - running conduit
  - Commissioning
  - TROUBLE SHOOTING!
  
- Greater flexibility
  - Installation and renovation
  - New applications
  - New services and offerings

Room controller installation cost (USD)





# Why it works

WHAT'S LUMENRADIO'S SECRET?



# Coachella 2012



# LumenRadio's secrete sauce



Cognitive coexistence



10x Radio output power



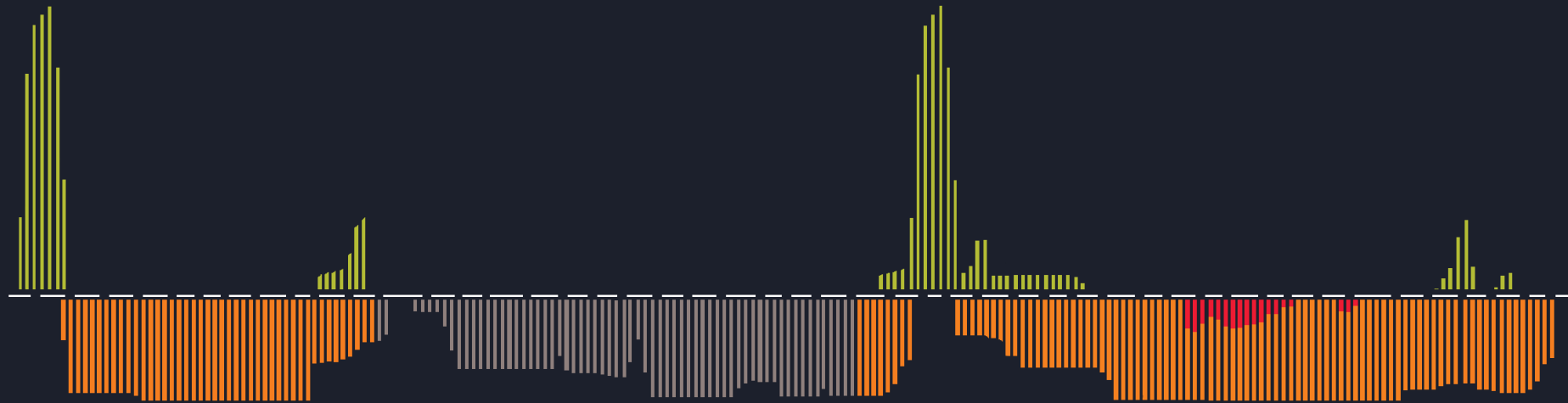
Mesh between devices



Easy setup

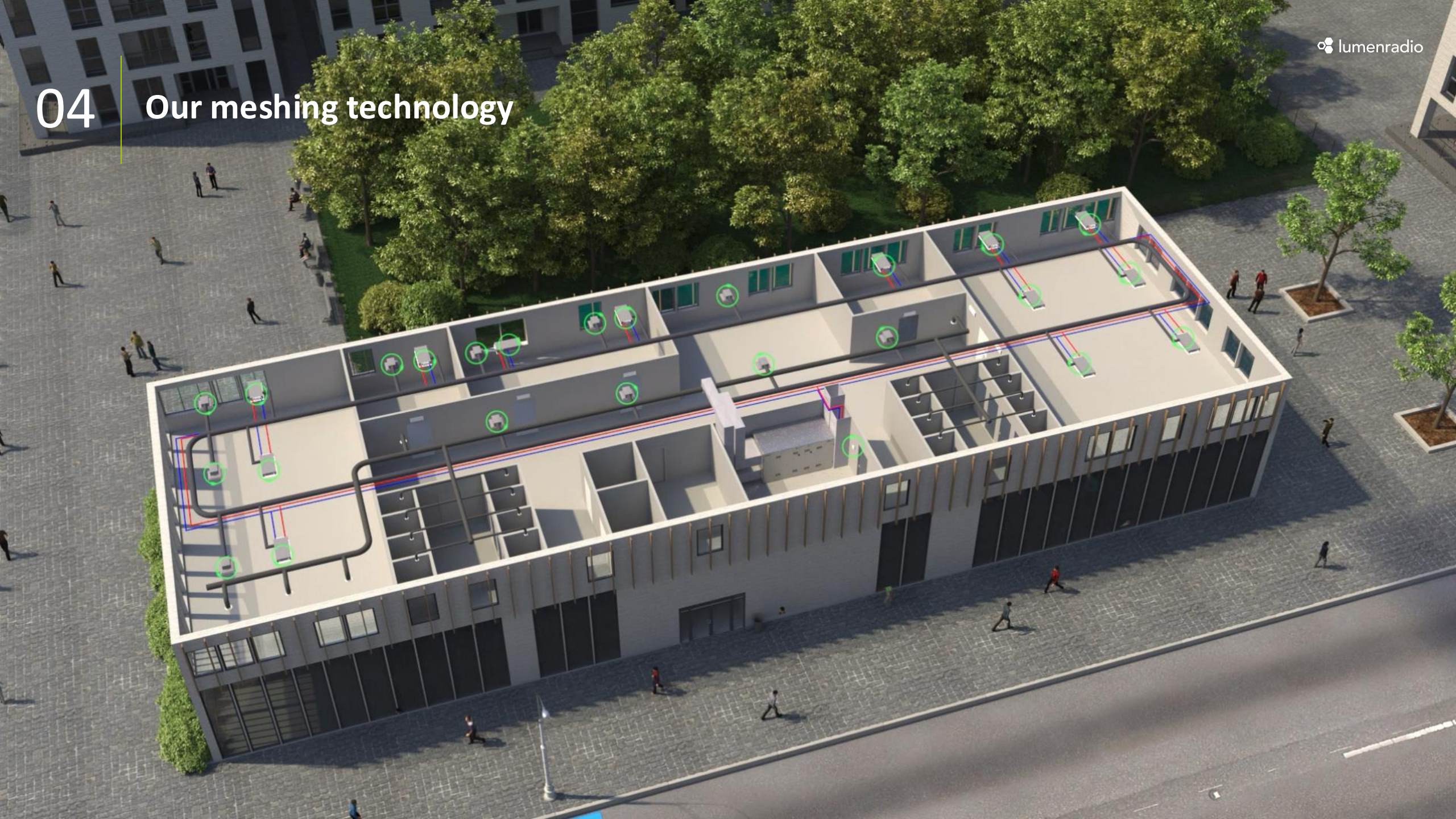
Patented technology from Sweden since 2008

# 04 Cognitive Coexistence



Patented technology that predicts on a millisecond basis how the frequency spectrum will be utilized going forward and uses this to adapt to the best available and least congested frequencies.

# 04 Our meshing technology



04

Trusted by

**Honeywell**

**Swegon**

**pd PRODUAL**  
*measure-be sure.*

PROLON

**TROX**

**ebmpapst**

**Munters**

**SKF**

**systemair**

**Absolent**

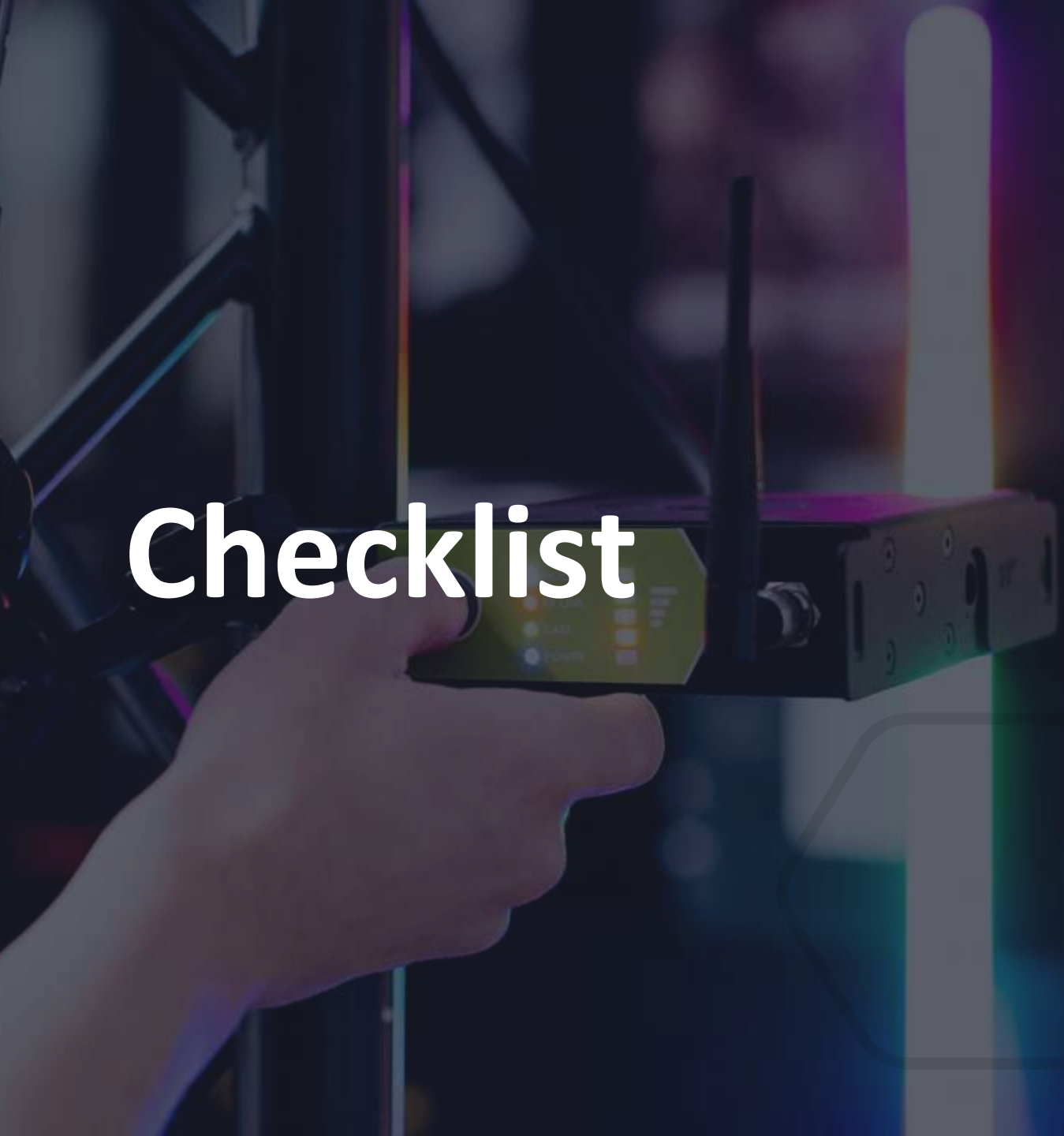
**SAUTER**  
Für Lebensräume mit Zukunft.

**ERTEK**

# 04 | Our products replace the MS/TP cable



# Checklist





# 05 What makes for a quick and easy wireless installation?

## QUESTIONS ABOUT THE CONTROL NETWORK

- What's your application?
- How many units?
- How close together?

## QUESTIONS ABOUT THE LOCATION

- Indoors or outdoors?
- What is the control cabinet made of?
- Expected range?
- What are the walls made of?



# W-BACnet evaluation kit 840-2200

Ask your local Kele branch for a quote





[lumenradio.com](http://lumenradio.com)