

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

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CARL WÄPPLING, PRODUCT DEVELOPMENT MANAGER FROM LUMENRADIO

MATT WEBB, BRANCH MANAGER – CHARLOTTE FROM BUILDING CONTROLS & SOLUTIONS



# 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?

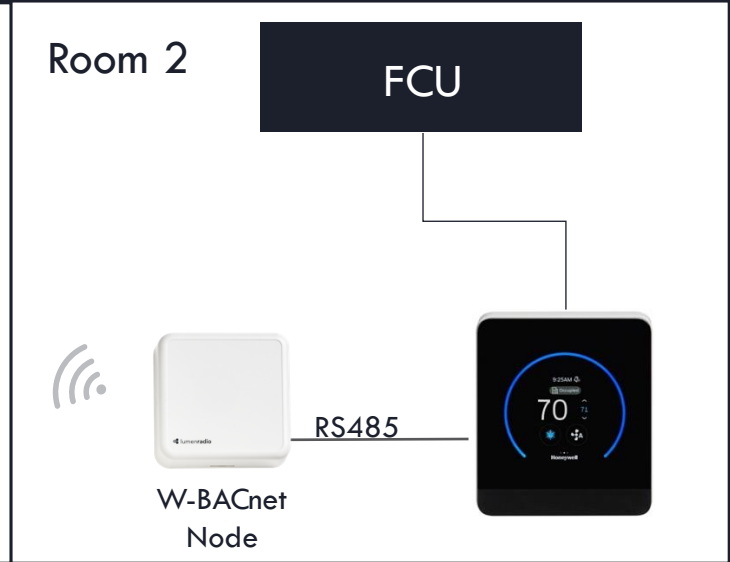
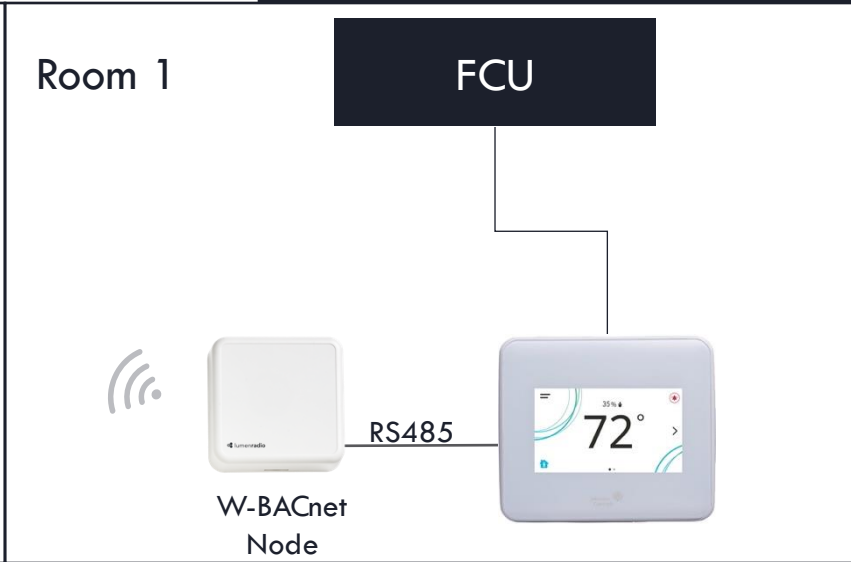
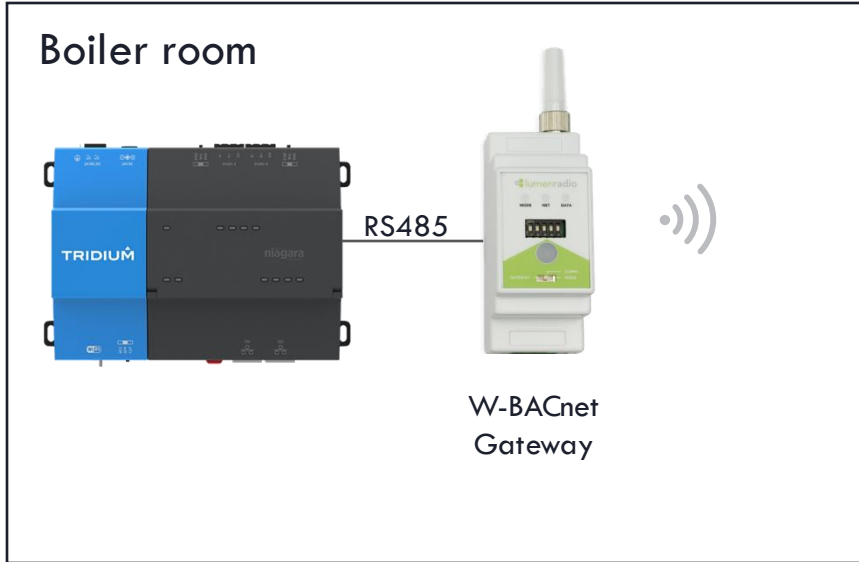
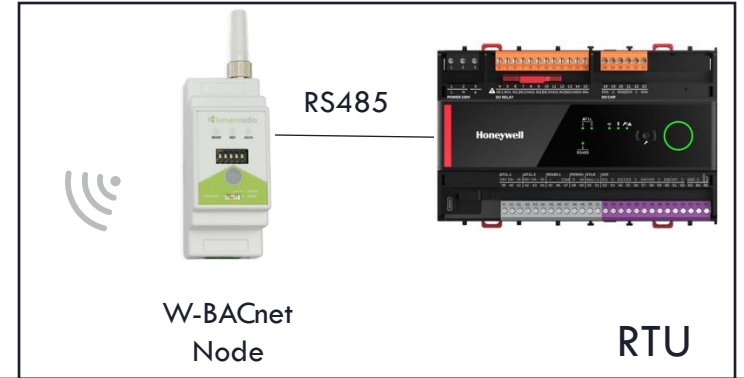
05 Get started - Checklist

# How does W-BACnet work?

# 02 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



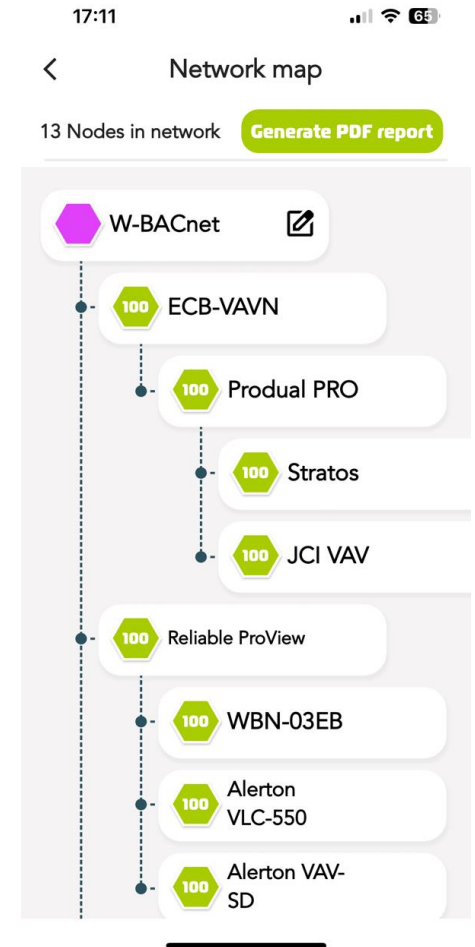
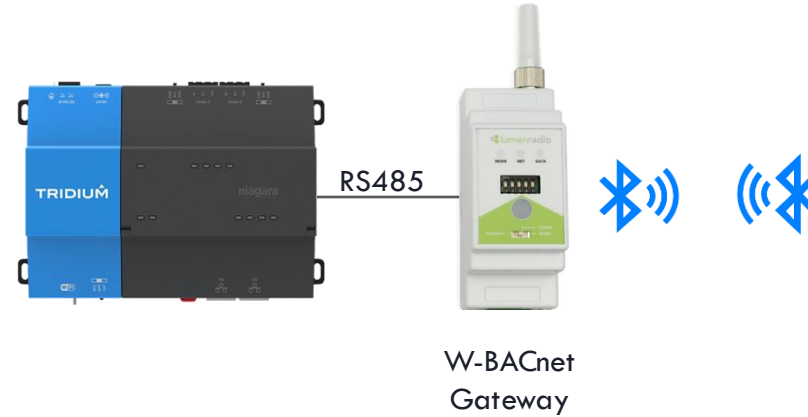
# 02 Bluetooth Mobile App; Integration Secret Weapon

## 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

## FIVE INDUSTRY EXAMPLES

Cost efficient for small to large buildings and campuses

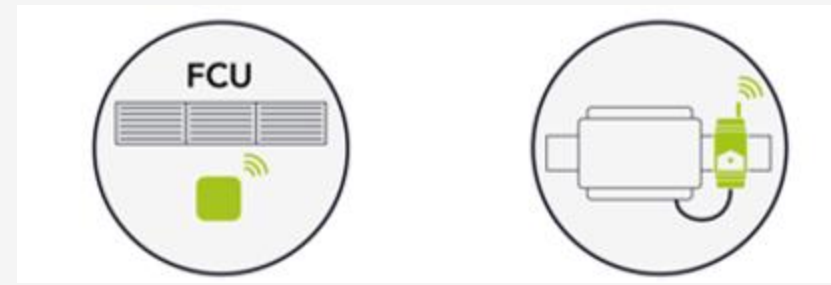
Ability to connect devices where no network exists

Installation ease typically without involvement from other trades/departments

# Fitness Center Project

## LUMENRADIO W-BACNET

- The Challenge: Connect multiple Fan Coil Units to BAS without running exposed wiring/conduit.
- Maximum distance of 150-200 feet between furthest FCU and BAS installation location.
- Utilized the W-BACnet Wall Mount modules with Contemporary Controls BACnet thermostats to maintain the aesthetically pleasing/wire free look desired by the tenant.







## Large Campus with various Energy Meters

- MODBUS/BACnet meters in locations where communication cable is far from existing networks
- Cost prohibitive to core through multiple walls to bring MS/TP or IP to those areas
- Some smaller buildings did not have an existing BAS infrastructure
- Able to Self-Perform the bulk of the installations without additional resources from other trades





## Drop-In Replaement of LON Controllers

**CHALLENGE:** Replacing failed LONworks controllers on multiple floors with BACnet controllers while leaving LON networks in place.

JACE is located on the first floor of the building.

**SOLUTION:** Utilized W-Bacnet PRO units so that as additional LON controllers need to be replaced, they can be added to the LumenRadio trunk (4-Devices)

**BENEFITS:** Able to minimize downtime by leaving the existing networks in place, while slowly upgrading devices to BACnet without running new wires/conduit



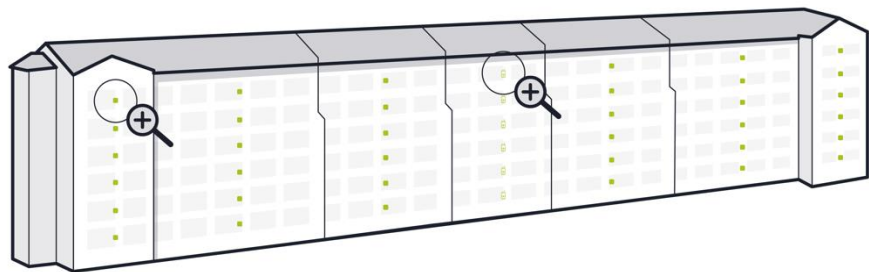
*“...LumenRadio allowed us to minimize downtime, and to take a surgical approach to upgrading the LON equipment to BACnet controllers at this venue. Additionally, we were able to save thousands on labor costs and conduit installation.”*

**- Master BMS Technician**

# 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







## Case study – Jersey City

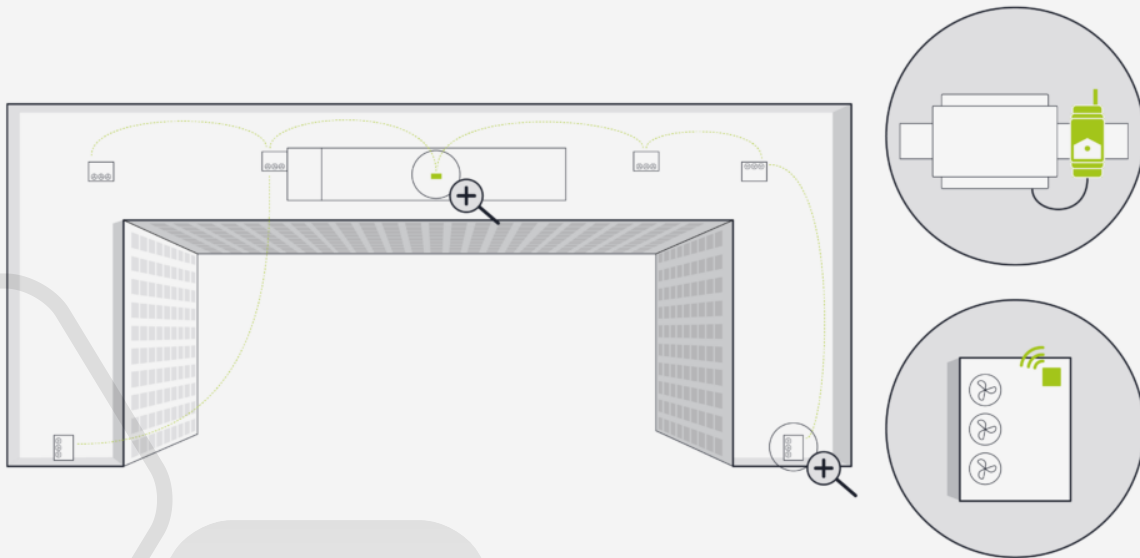
### A WEEK'S JOB IN 3 HOURS

**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

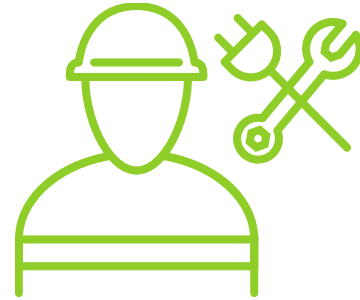
# 03

## 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**

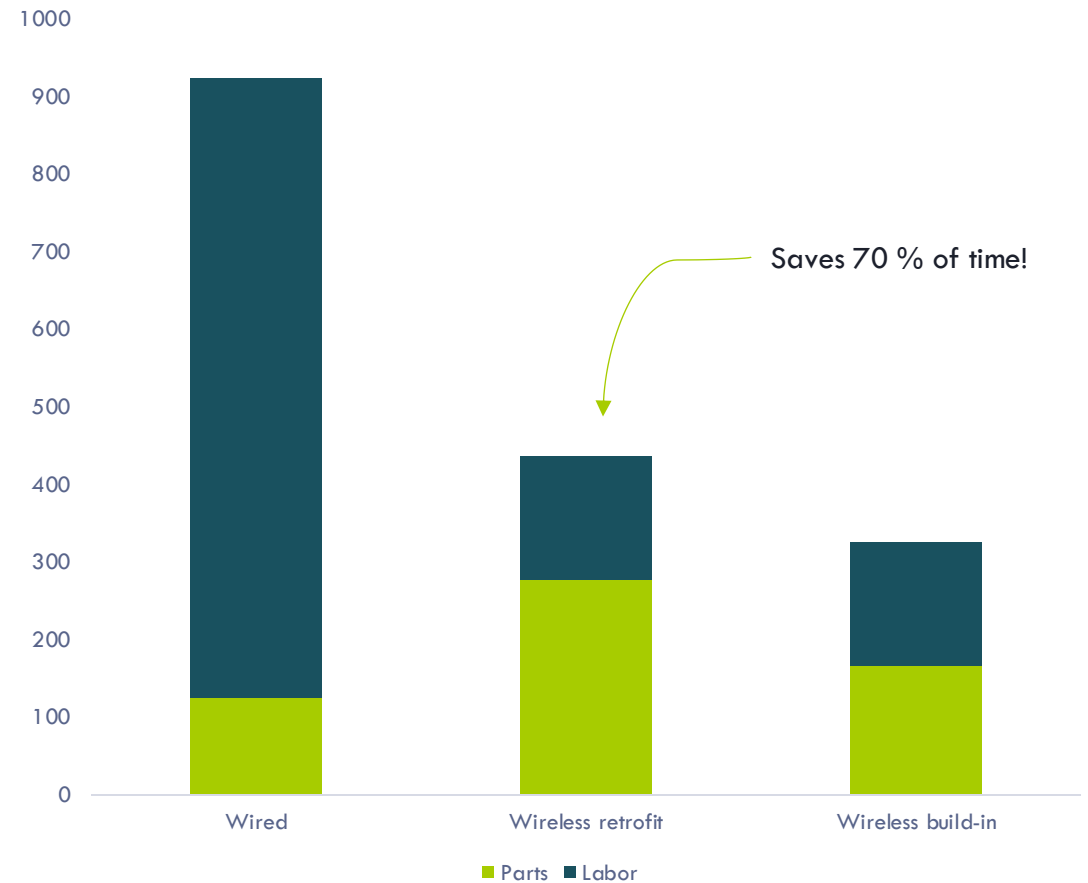
# 03

## 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

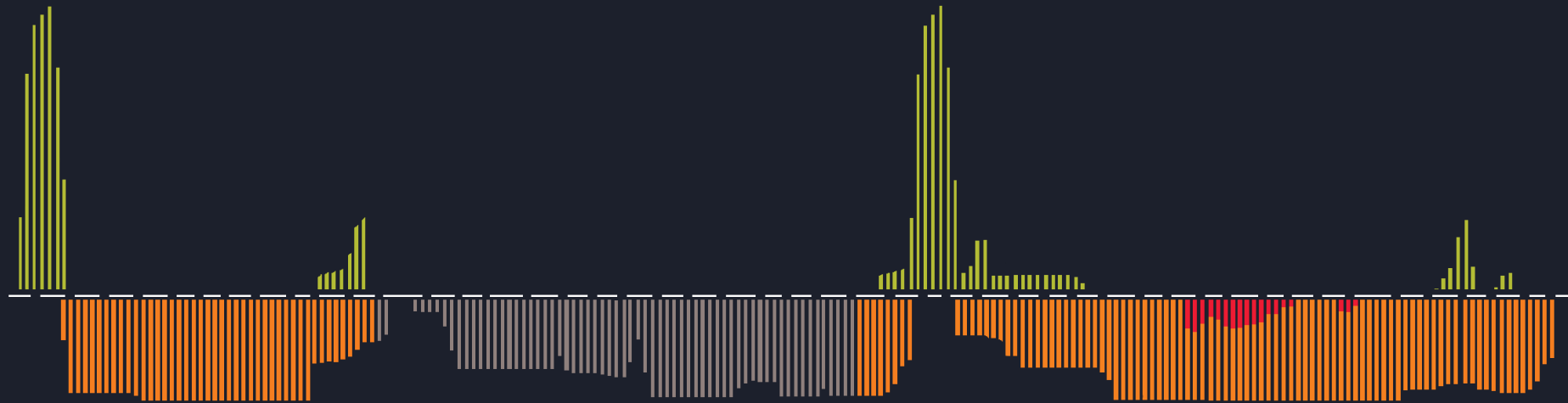


Easy setup

Patented technology from Sweden since 2008



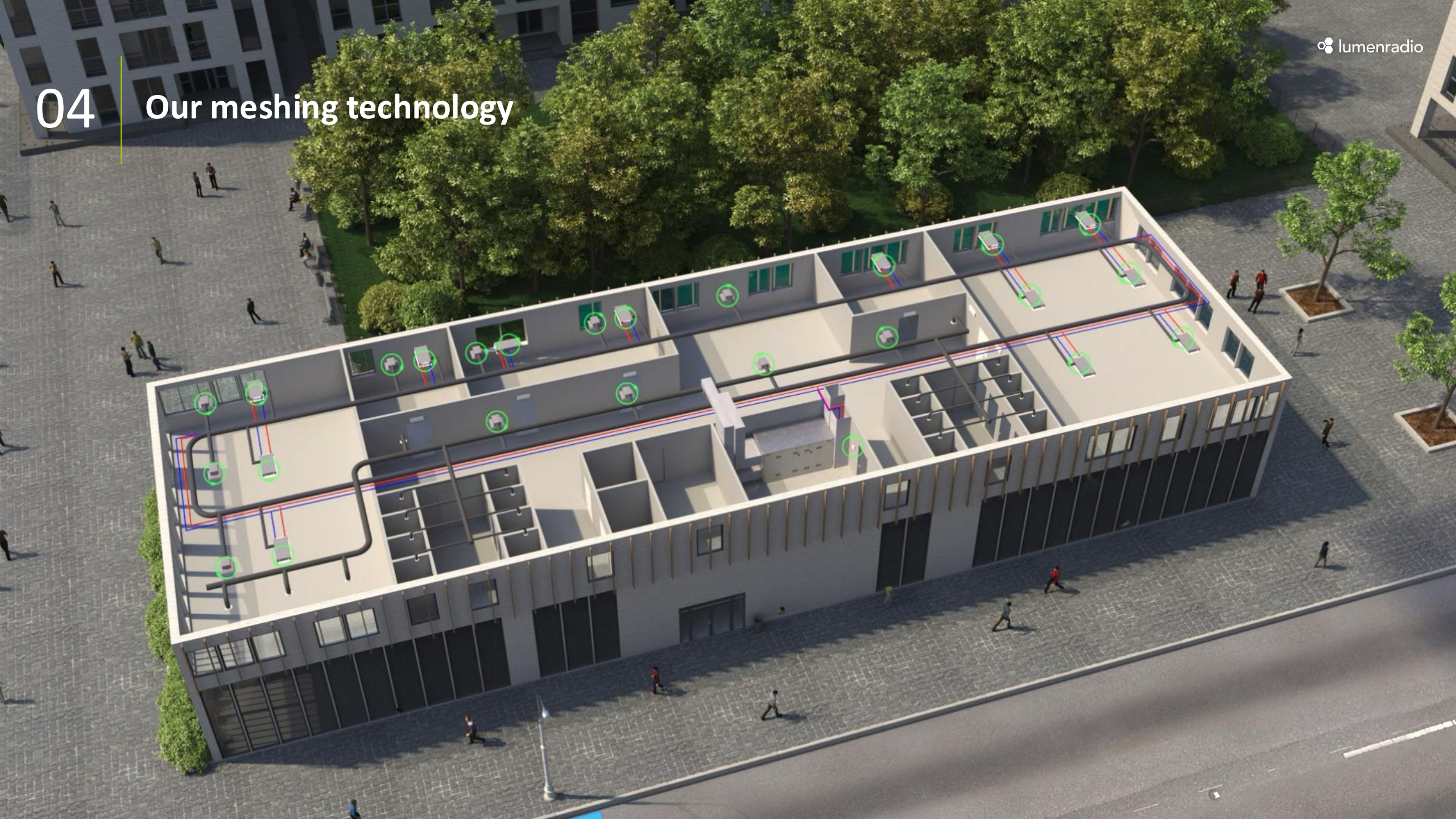
# 04 Cognitive Coexistence



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.

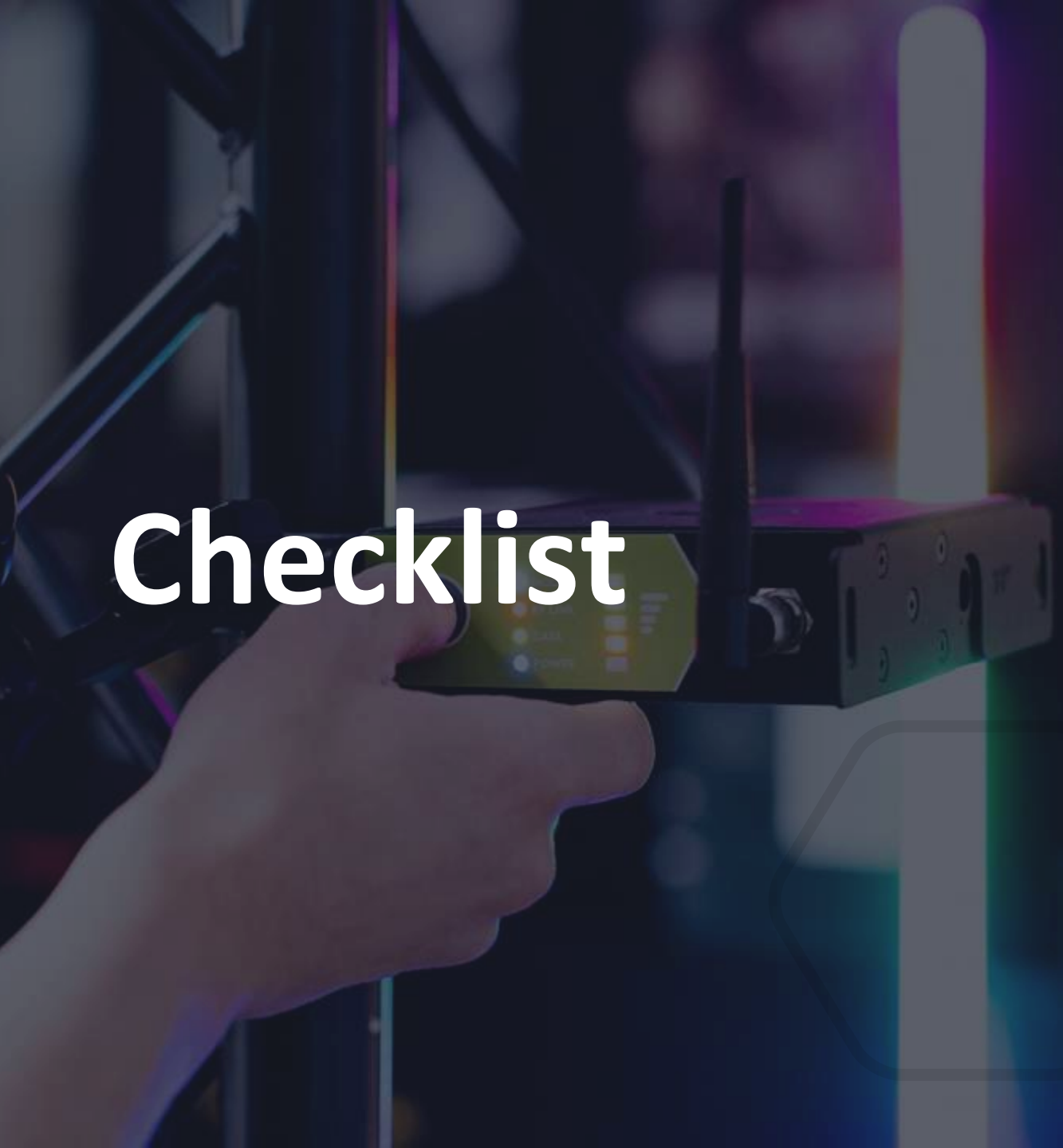
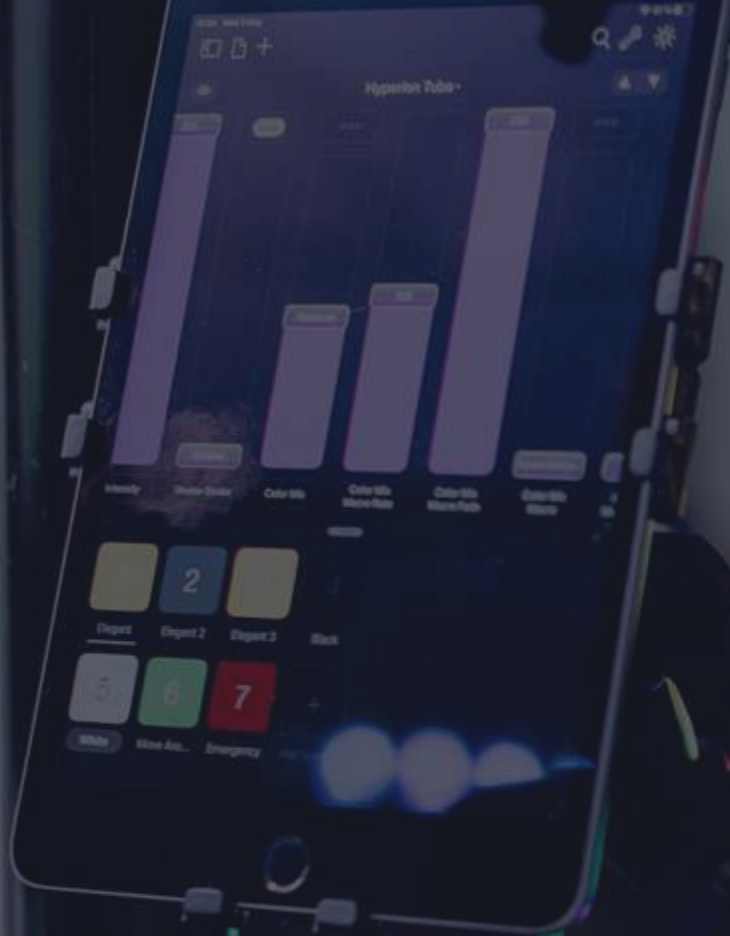
**ERTEK**

# 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?



# 05 Building Controls & Solutions Is Your LumenRadio Stocking Center

## ALL REGIONS OF BCS ARE STOCKING LUMENRADIO

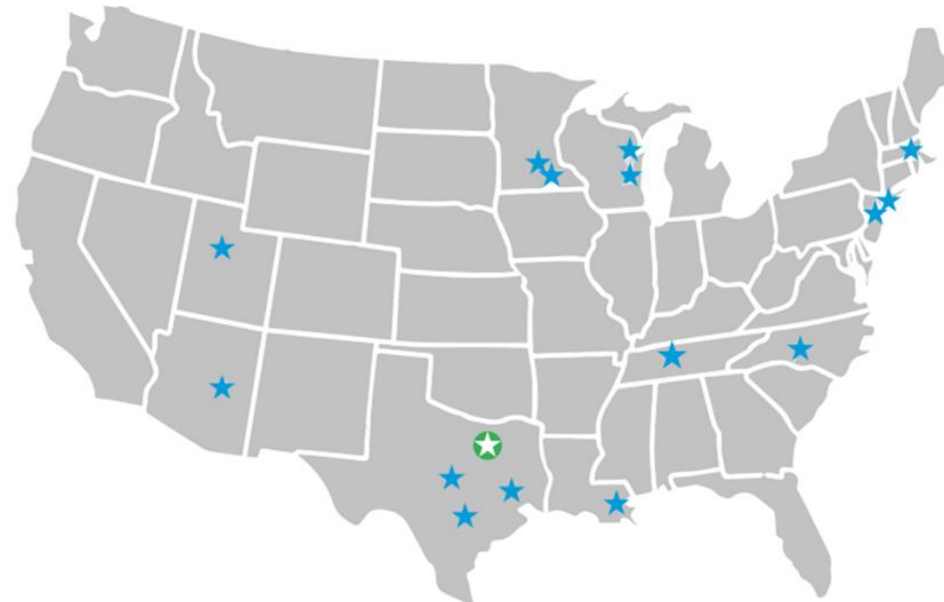
- Central
- East
- Northeast
- Midwest
- Mountain

## EVALUATION BUNDLES AVAILABLE

- Both BACnet and MODBUS available
- Discounted evaluation bundle price
- Kits comes with
  - 1 DIN Rail Mounted Unit
  - 2 Wall Mounted Units



**BUILDING  
CONTROLS  
& SOLUTIONS**



Austin 512.832.8328	Nashville 629.240.8200
Boston 617.782.9000	New Jersey 732.993.3383
Charlotte 704.553.8510	New York 212.947.3100
Dallas/Fort Worth *HQ 214.390.6900	New Orleans 504.733.3622
Houston 713.464.7002	Phoenix 480.679.0239
Green Bay 800.242.4060	Salt Lake City 801.214.3300
Milwaukee 414.259.9070	San Antonio 210.349.6161
Minneapolis 952.920.0131	St. Paul 763.786.5030



# 05 | Get started with evaluation kit



SKU: 840-2200  
435 USD

 | 20 | INNOVATION  
25 | AWARDS

FINALIST

# Thank you!

#WirelessWithoutWorries



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