How to make wireless control your superpower

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01 Challenges 2024

02 When and how?

03 Cost calculator

04 Reliability

05 Checklist

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Challenges 2024

01 Challenges and opportunities in the industry

A lot of projects struggle with funding

1

Lack of skilled staff, particularly installers

High pressure on reducing energy and cost of operation

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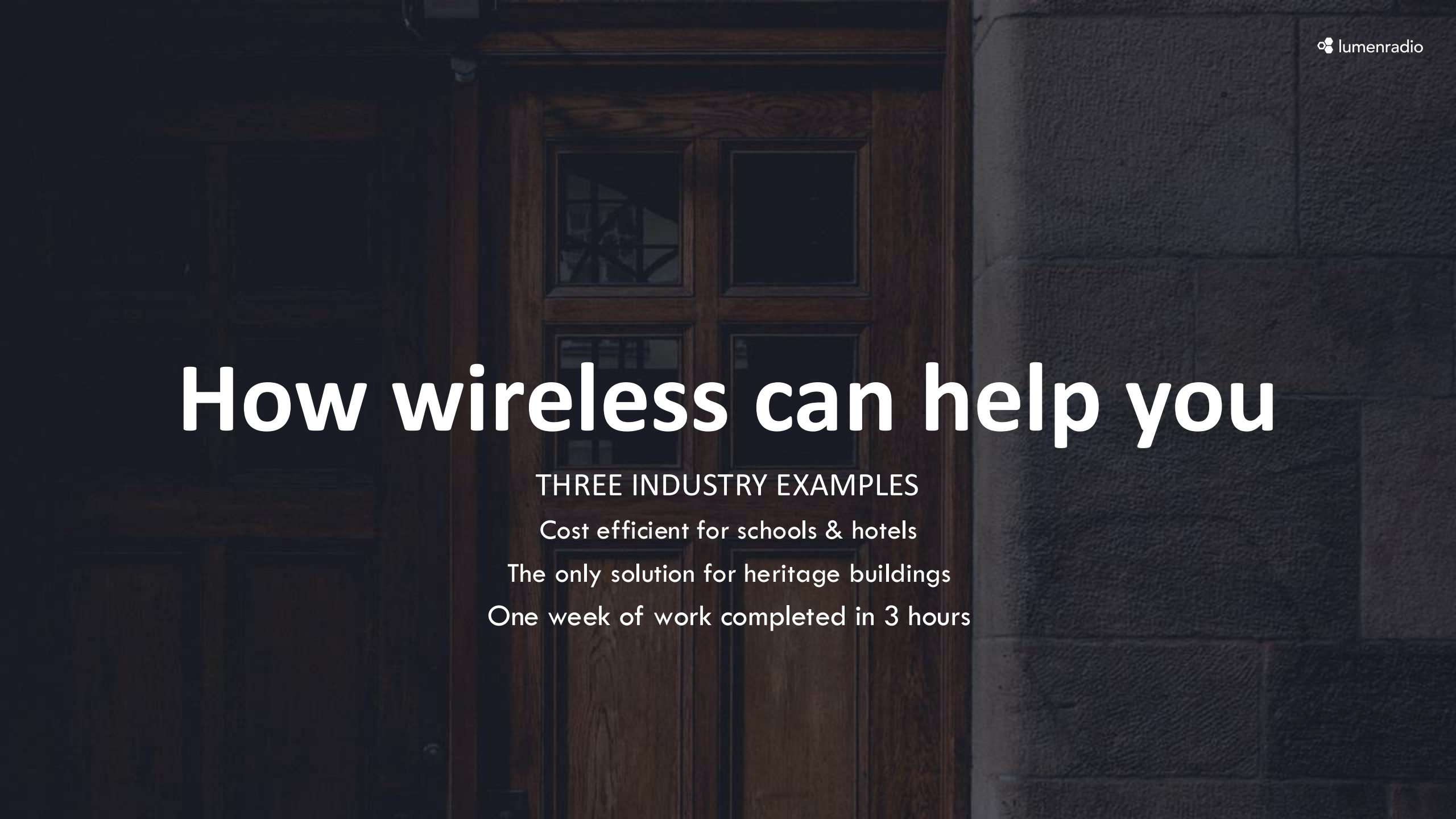
How wireless can help you

02 Our products replace the MS/TP cable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How wireless can help you
THREE INDUSTRY EXAMPLES
Cost efficient for schools & hotels
The only solution for heritage buildings
One week of work completed in 3 hours

Manilla School, Stockholm
Campus Konradsberg

LUMENRADIO W-BACNET

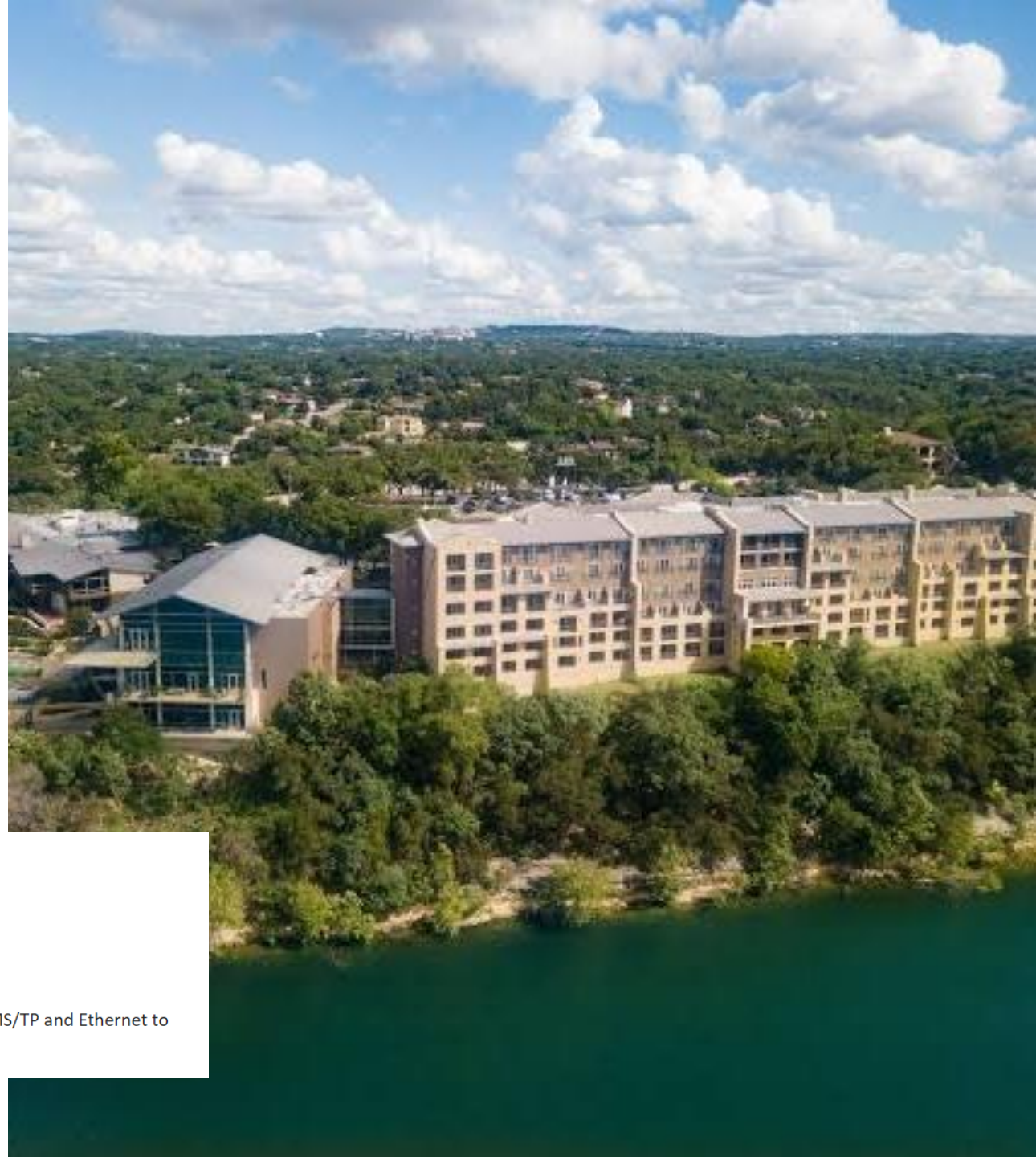
- Control room temperature with BACnet MS/TP
- 126 nodes on 5 separate networks
- Important that renovation can be done without disruption the running of the school
- 81 000 sq.ft.
- Customer: Kieback & Peter

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

- Augie's experience from BC&S



Building is 6 story concrete construction. Each floor is approximately 9 ft floor to ceiling and 12 floor to deck.
The stats will be located above the ceiling in the return of each FCU in the hallway.
There are between 6-8 FCUs per floor for a total of 40 FCUs. (See attached pics for layout of each floor.)

The building is approximately 400ft long.
Each room is approximately 15ft wide.

There is an IDF Room in the middle of each floor where we will locate the gateway or a hub. (We already have MS/TP and Ethernet to each of the IDF rooms)

Starret Lehigh Building, NY, USA

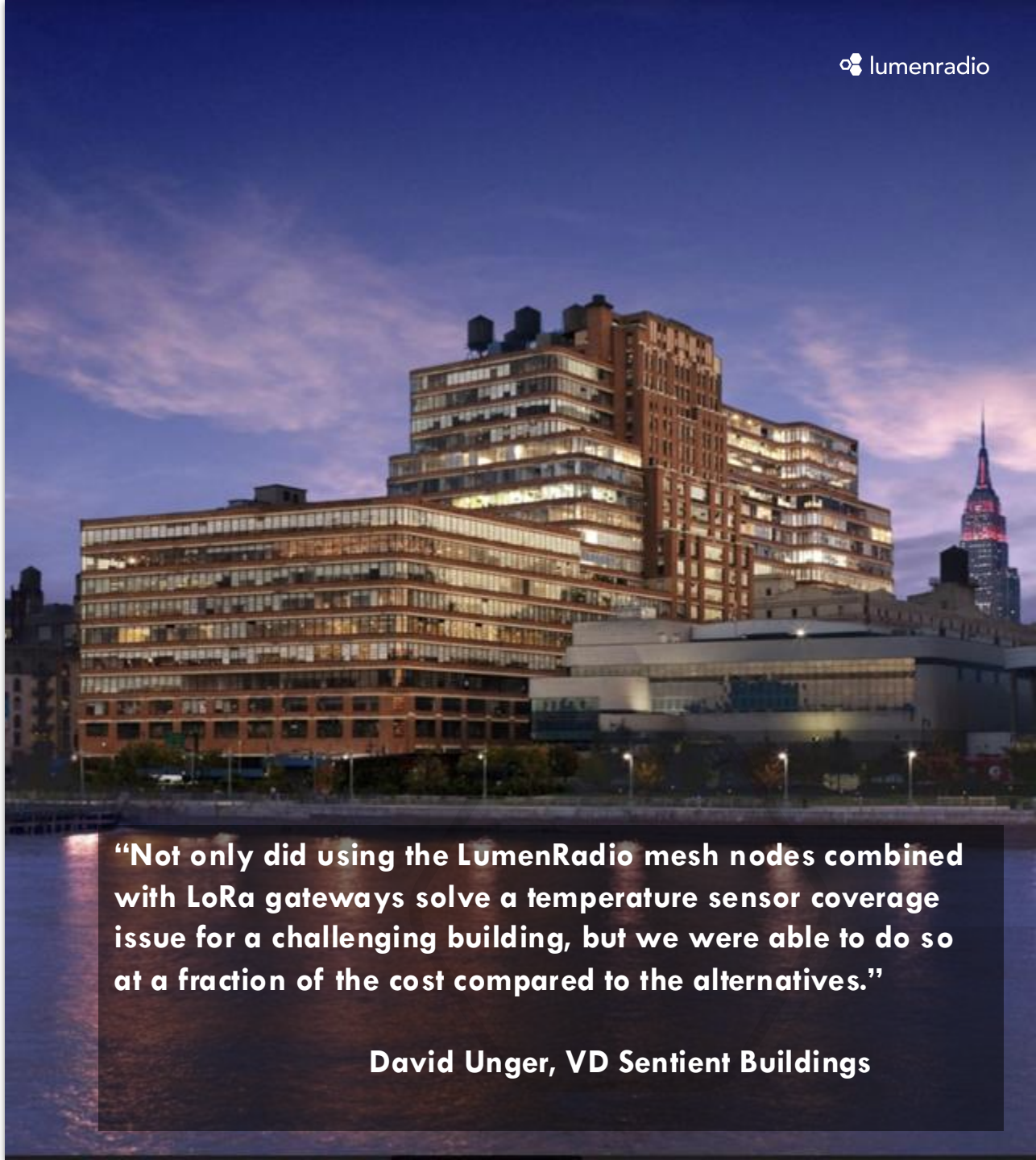
WIRELESS BACNET for heritage buildings

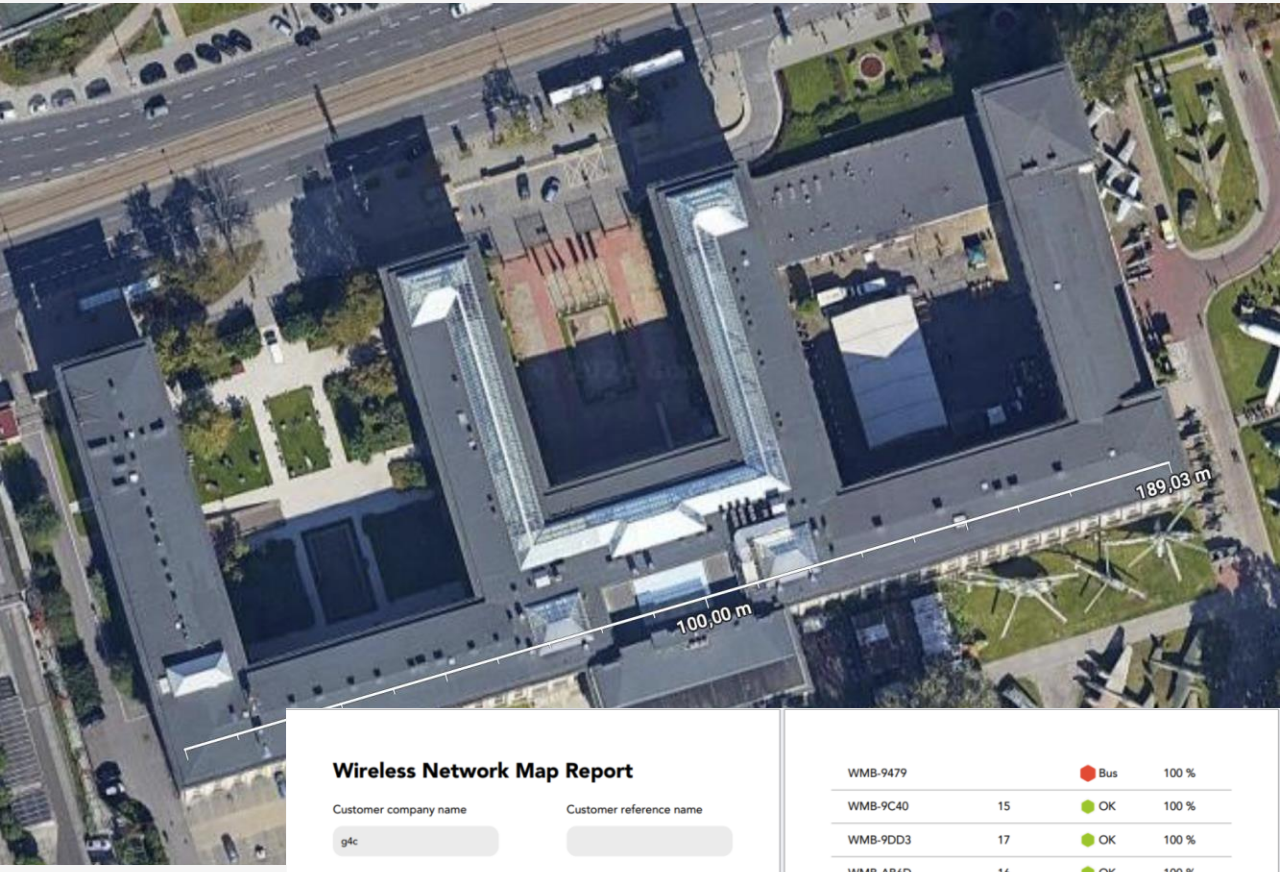
CUSTOMER: Sentient Buildings and RXR Reality, large property owner in New York (e.g. 75 Rockefeller Plaza, 5 Times Square and 230 Park Ave).

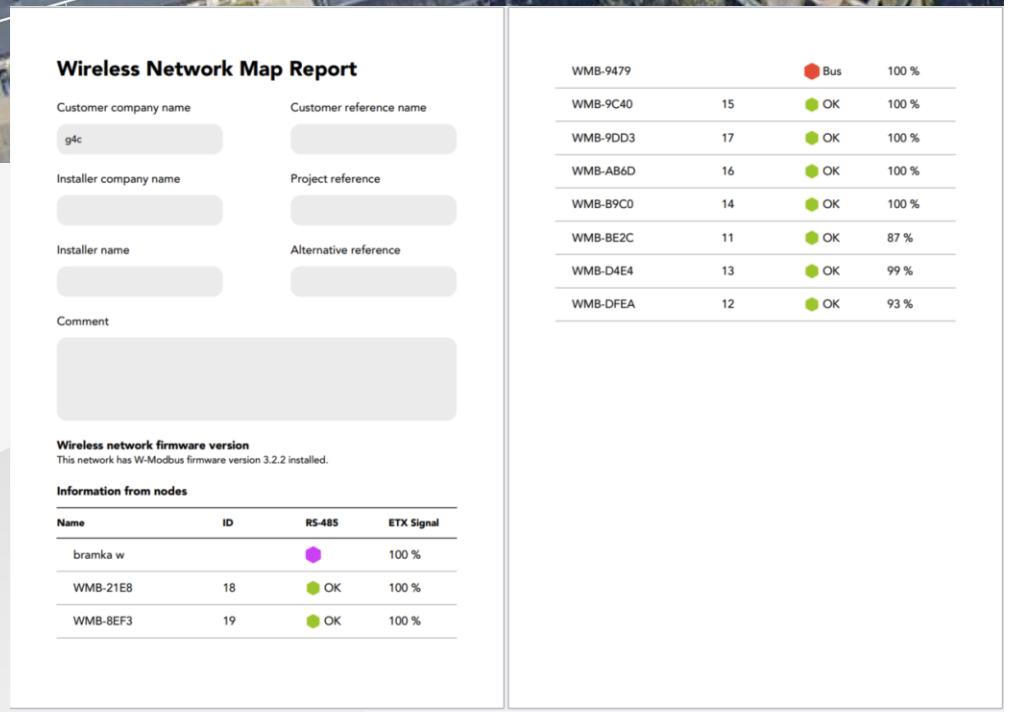
CHALLENGE: Find a reliable wireless solution for a building of 2.3 Million sq.ft m2 in a challenging wireless environment.

SOLUTION: 50 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.







Wireless Network Map Report

Customer company name: g4c

Customer reference name:

Installer company name:

Project reference:

Installer name:

Alternative reference:

Comment:

Wireless network firmware version
This network has W-Modbus firmware version 3.2.2 installed.

Information from nodes

Name	ID	RS-485	ETX Signal
bramka w			100 %
WMB-21E8	18	OK	100 %
WMB-8EF3	19	OK	100 %
WMB-9479		Bus	100 %
WMB-9C40	15	OK	100 %
WMB-9DD3	17	OK	100 %
WMB-AB6D	16	OK	100 %
WMB-B9C0	14	OK	100 %
WMB-BE2C	11	OK	87 %
WMB-D4E4	13	OK	99 %
WMB-DFEA	12	OK	93 %

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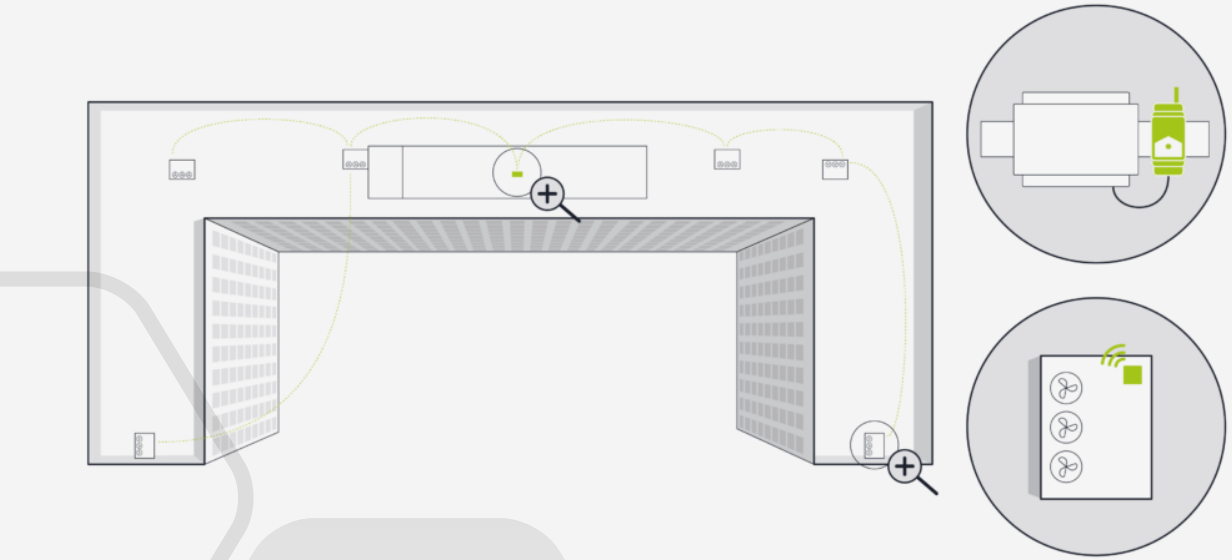
National museum of Poland

FROM MEASURE TO CONTROL

CHALLENGE: Find a reliable wireless solution for controlling VAVs in a critical environment. Already uses LumenRadio-based Produal Proxima for measurement.

SOLUTION: 12 LumenRadio W-Modbus units over across the building 600 ft long with thick concrete soviet style walls. (Only 1 repeater needed)

BENEFITS: Significant time and cost savings. Running cables was prohibitive. Minimal closure time for the museum.



Case study – Jersey City

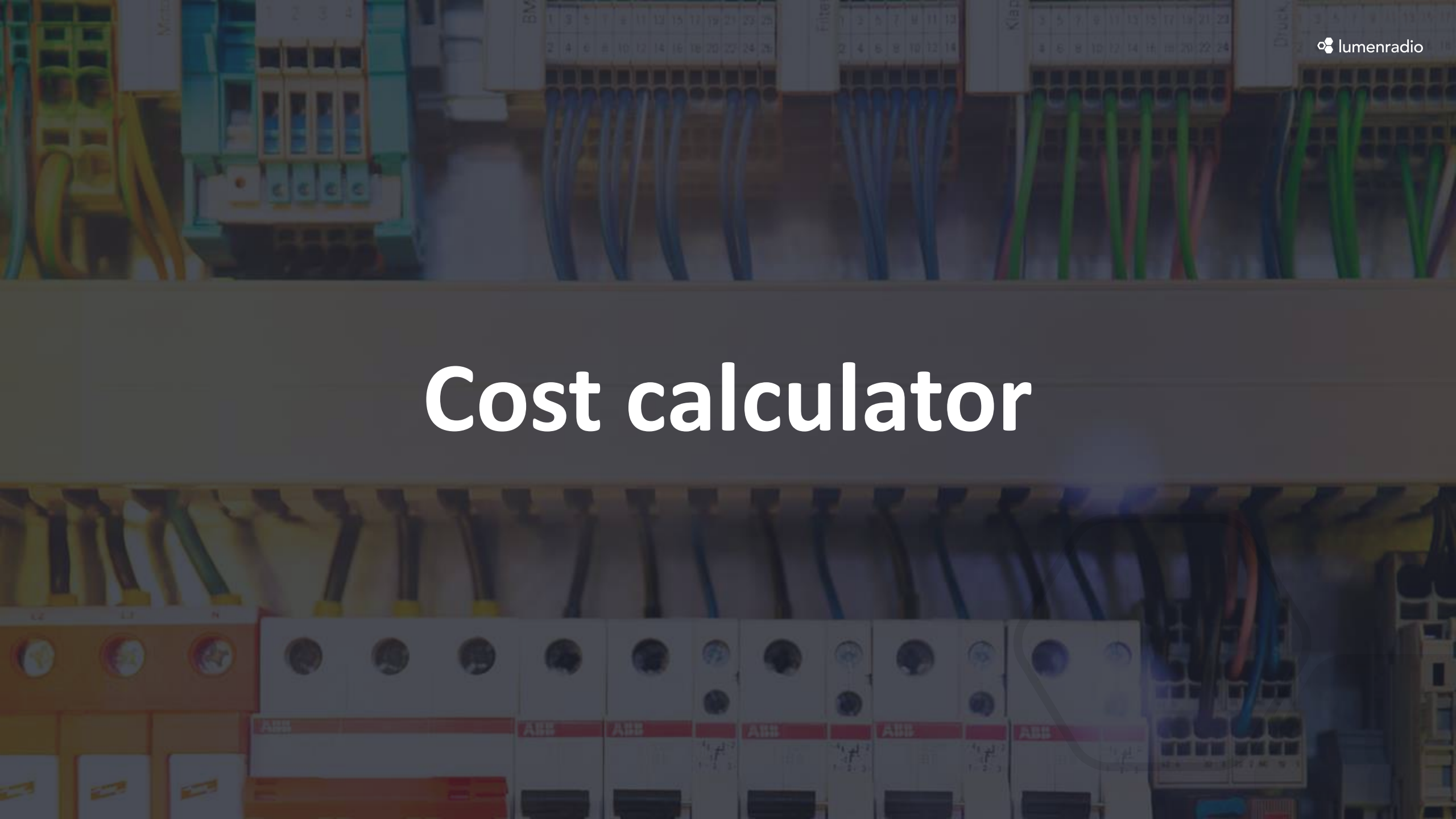
A WEEK'S JOB IN 3 HOURS

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.



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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

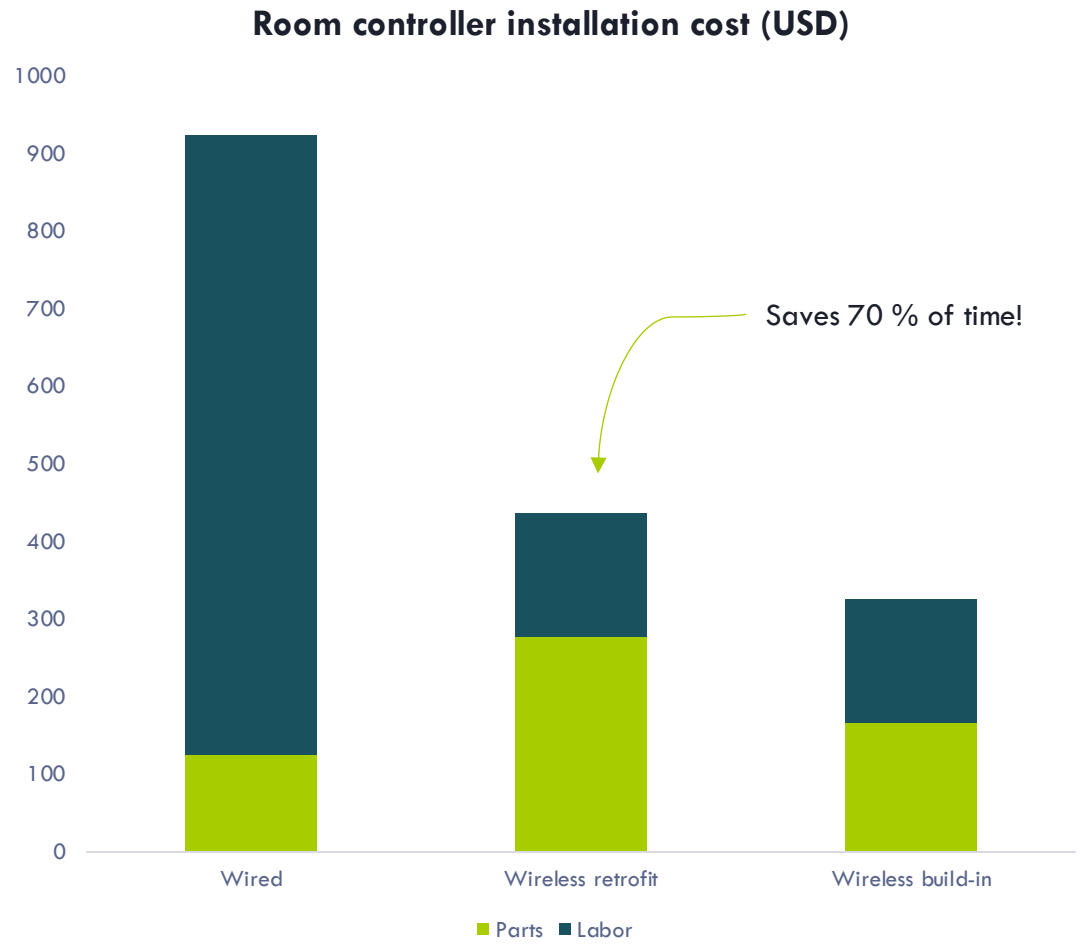
- ✓ Retrofitting becomes easy
- ✓ Saves time and money
- ✓ Optimizes energy usage
- ✓ **Enables smaller sites**

03 Are you seeing the whole picture?

THE BENEFITS OF WIRLESS BACNET

- Wireless enables control for
  - Installation - running conduit
  - Commissioning
  - TROUBLE SHOOTING!

- Greater flexibility
  - Installation and renovation
  - New applications
  - New services and offerings



Why it works

WHAT'S LUMENRADIO'S SECRET?

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Coachella 2012

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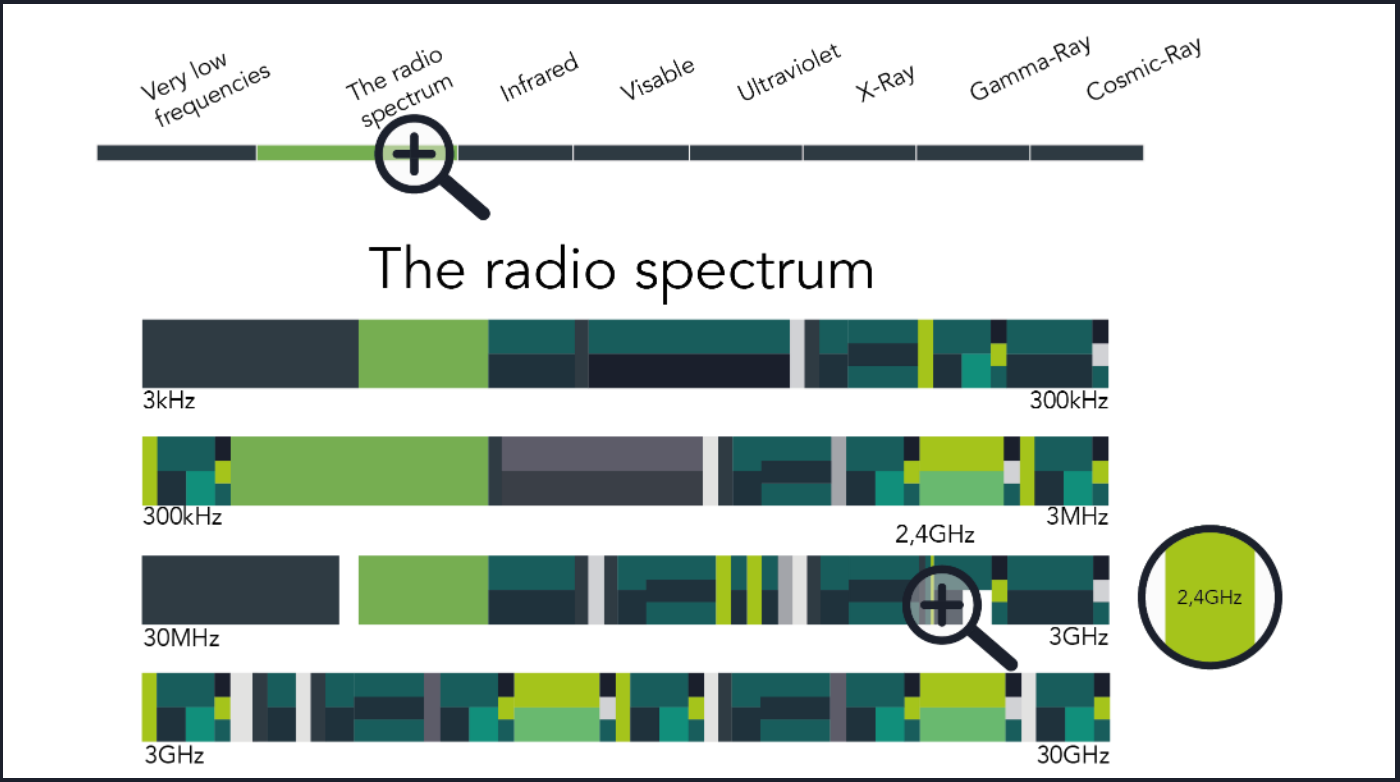
04 Frequency spectrum



SOLVING THE INTERFERENCE OF THINGS

Frequencies are limited – as more wireless IoT devices are added, the frequency spectrum will get more congested, making wireless products have degraded quality of service or even stop working completely

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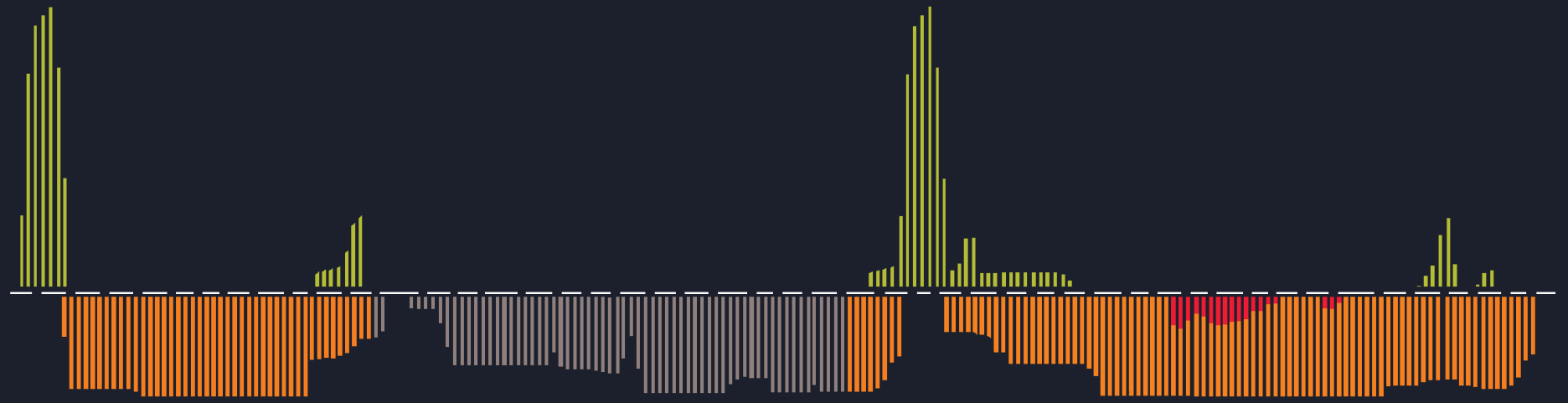
04 Cognitive Coexistence



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

PRODUAL
measure-be sure.

PROLON

TROX

ebmpapst

Munters

SKF

systemair

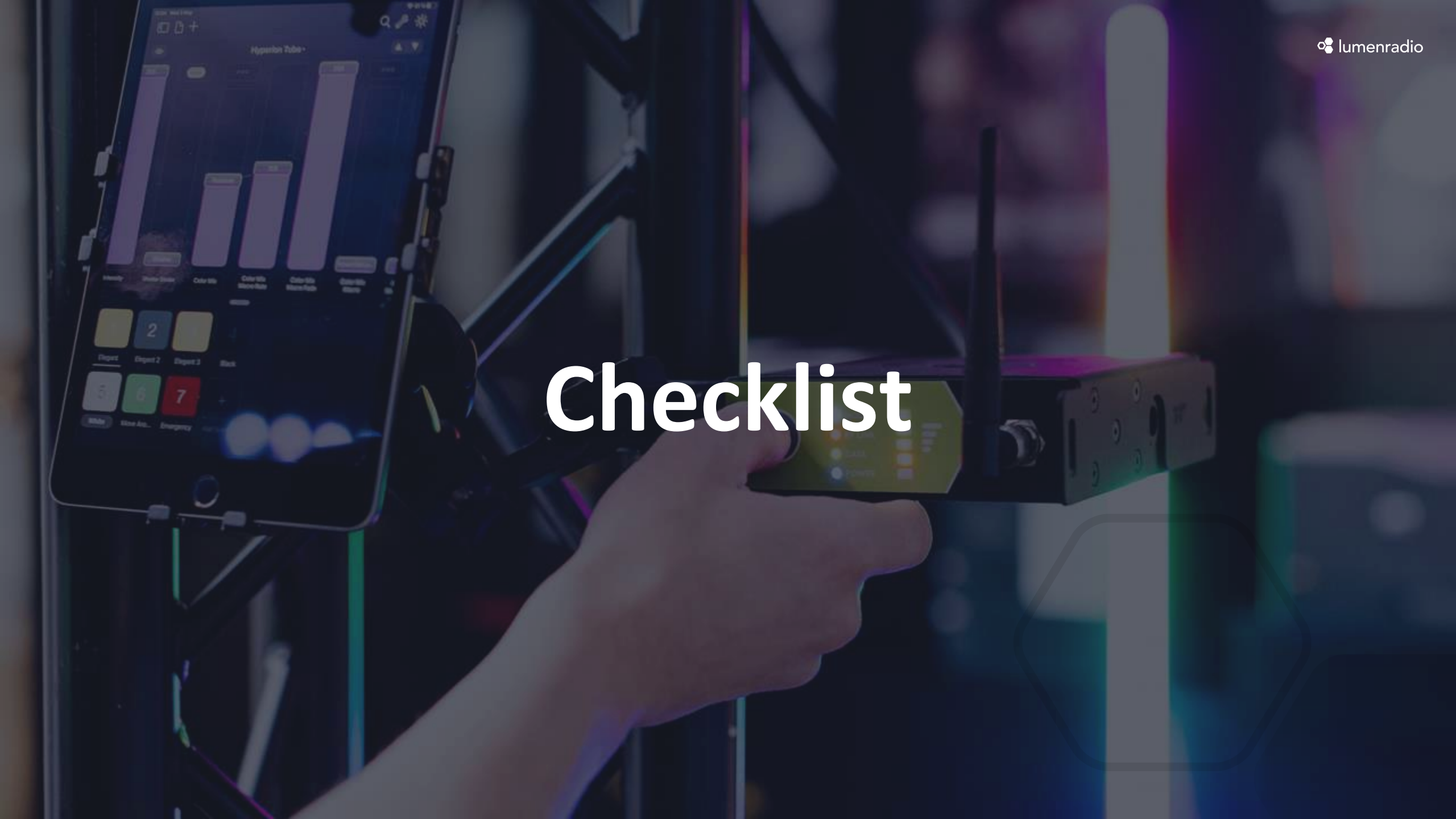
Absolent

SAUTER
Für Lebensräume mit Zukunft.

ERTEK

04 Application example – all in one

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?

… but, there is one more thing!

After the webinar, you'll get a full checklist in a handy PDF.

05 Bluetooh 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

W-BACnet Gateway

GET IT ON Google Play

Download on the App Store

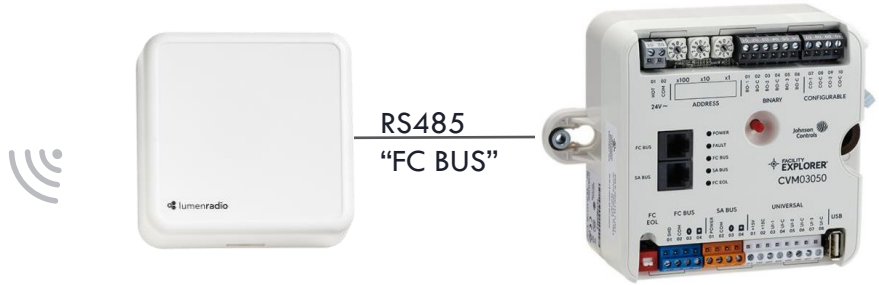
W-BACnet

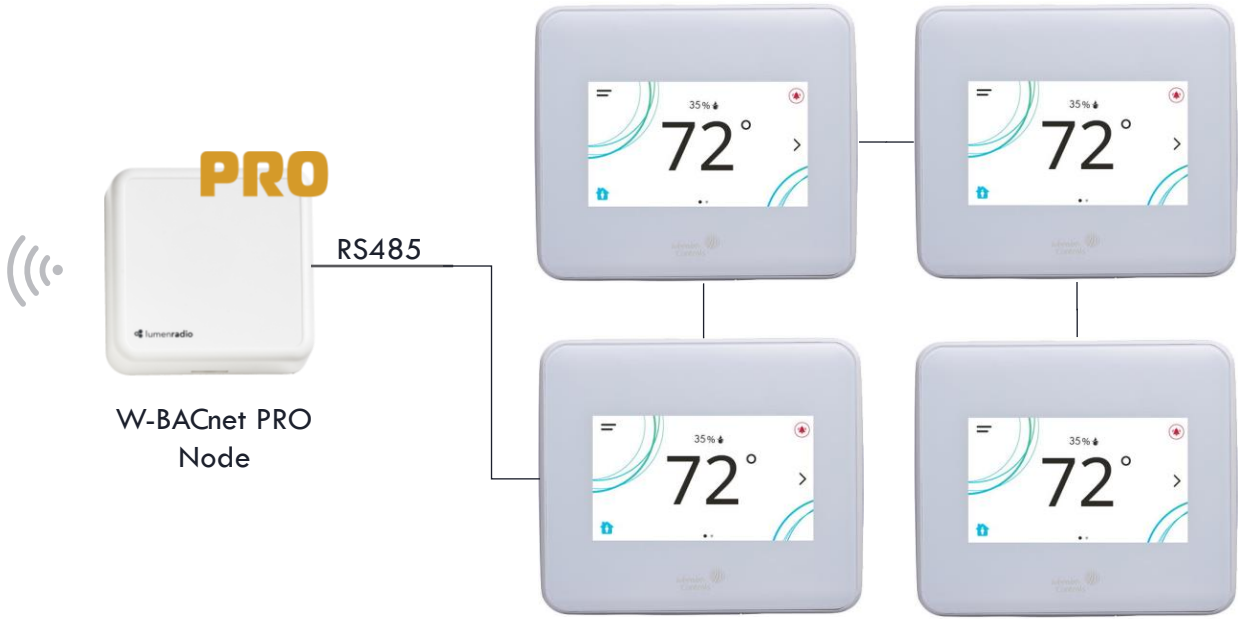
You will need 3.2.0+ on the gateway for iOS 17 devices to connect.

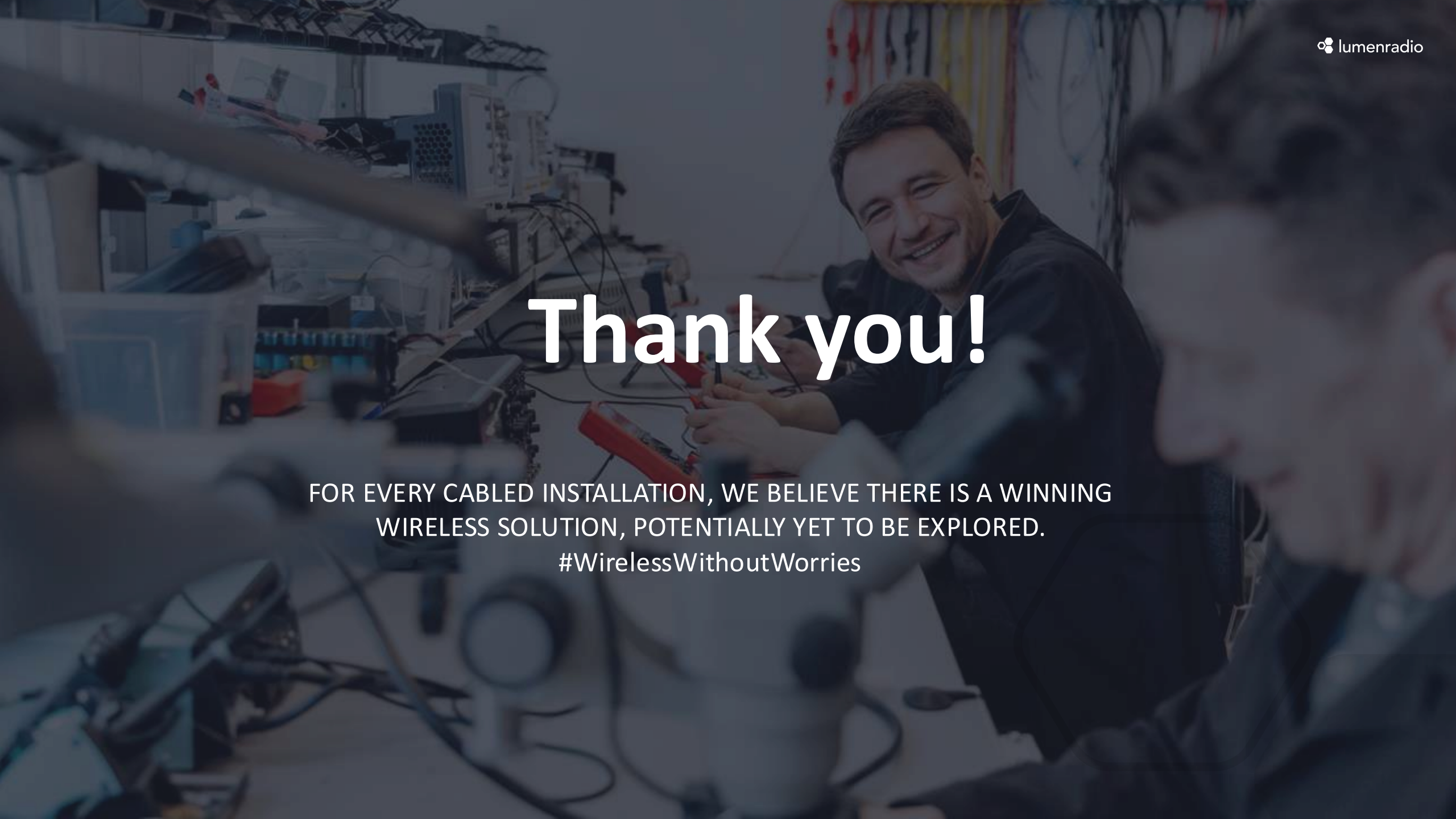
How to do FX – Wirelessly

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



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Thank you!
FOR EVERY CABLED INSTALLATION, WE BELIEVE THERE IS A WINNING WIRELESS SOLUTION, POTENTIALLY YET TO BE EXPLORED.
#WirelessWithoutWorries

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