TECH CON

Using AI to Master Wireless Networking

Darryl Janke
Solutions Engineer | CIT

Scan to check-in

Or use code:
Wireless1

CONTEXT

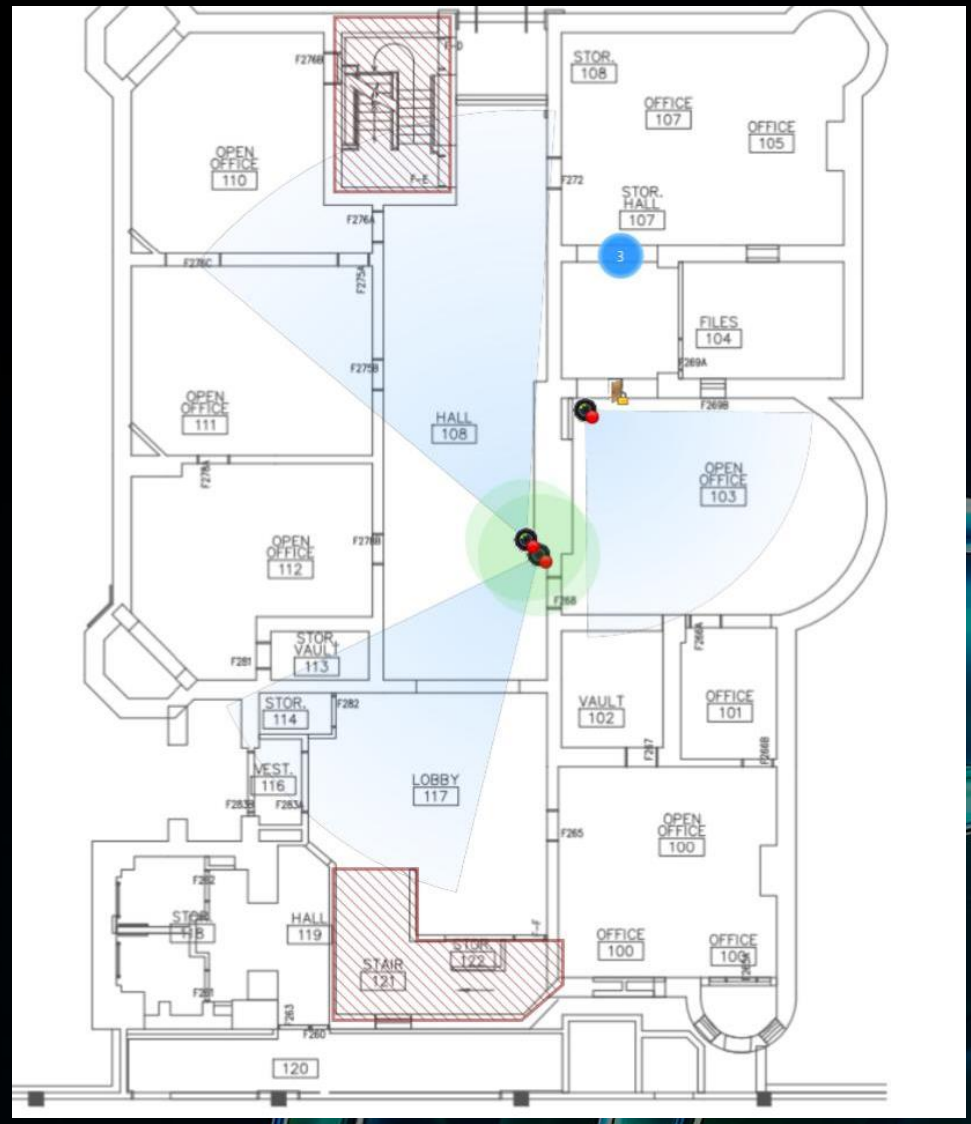
The Problem…

- Courthouse built in 1988
- Solid Brick/Concrete Walls
- Clearly not designed for Wireless Connectivity

THE PLAN

Start with the Floor plan

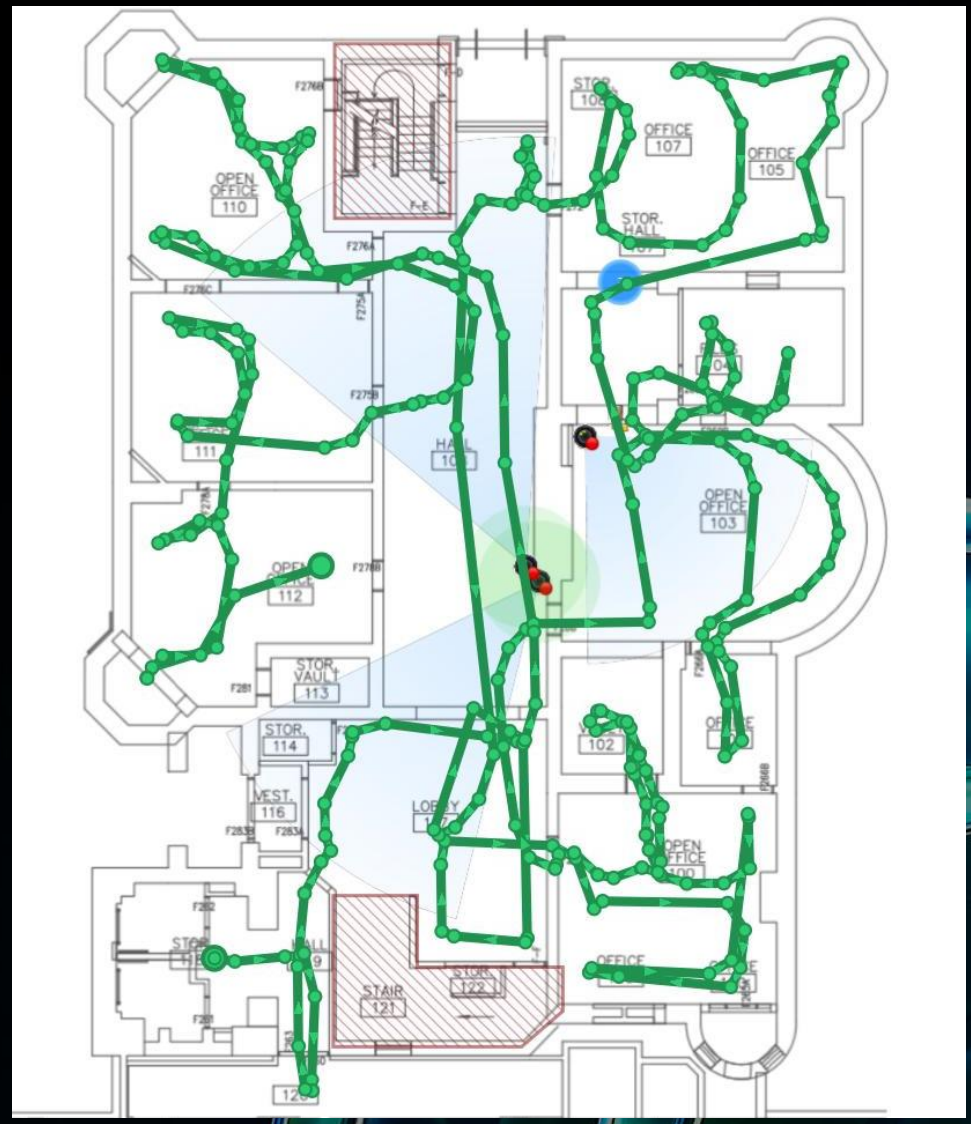
- Architectural scaled drawings preferred
- Showing Doors, Windows, Walls, etc



SURVEY

Go for a walk…

- We now will walk the space utilizing the Ekahau Antenna and the Ekahau Survey Software.
- Ekahau will detect current signal strength while utilizing the camera on the IPAD to determine where you are within the floorplan for real-time measurements.



ANALYZE

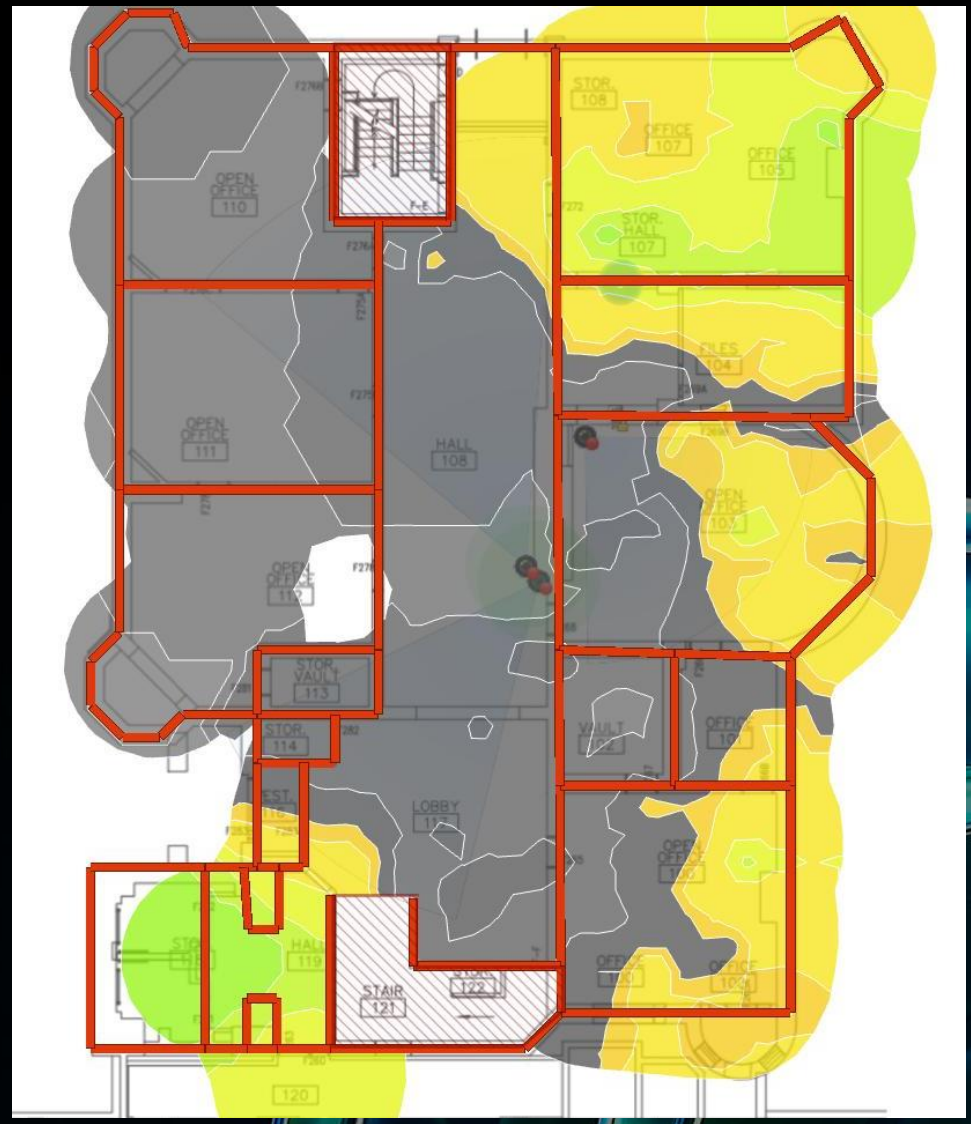
Let's see what we got...

- Ekahau will discover current wireless strength and connectivity based upon the networks you selected and what level of signal strength it is detecting in the areas surveyed.
- Grey color indicates insufficient strength to maintain a wireless connection. You might be able to see, it but good luck connecting.
- Yellow/Orange indicates minimum to fair level of connectivity.
- Green is preferred as this is giving you best connectivity and throughput from your AP deployment.

IDENTIFY

Let's fix it

- Now that Ekahau has surveyed the area, let's see what interferers are in place and where the structural elements are (Walls, etc).
- Ekahau AI will automatically detect and place walls and then select what level of signal interference they provide to the overall floor plan.

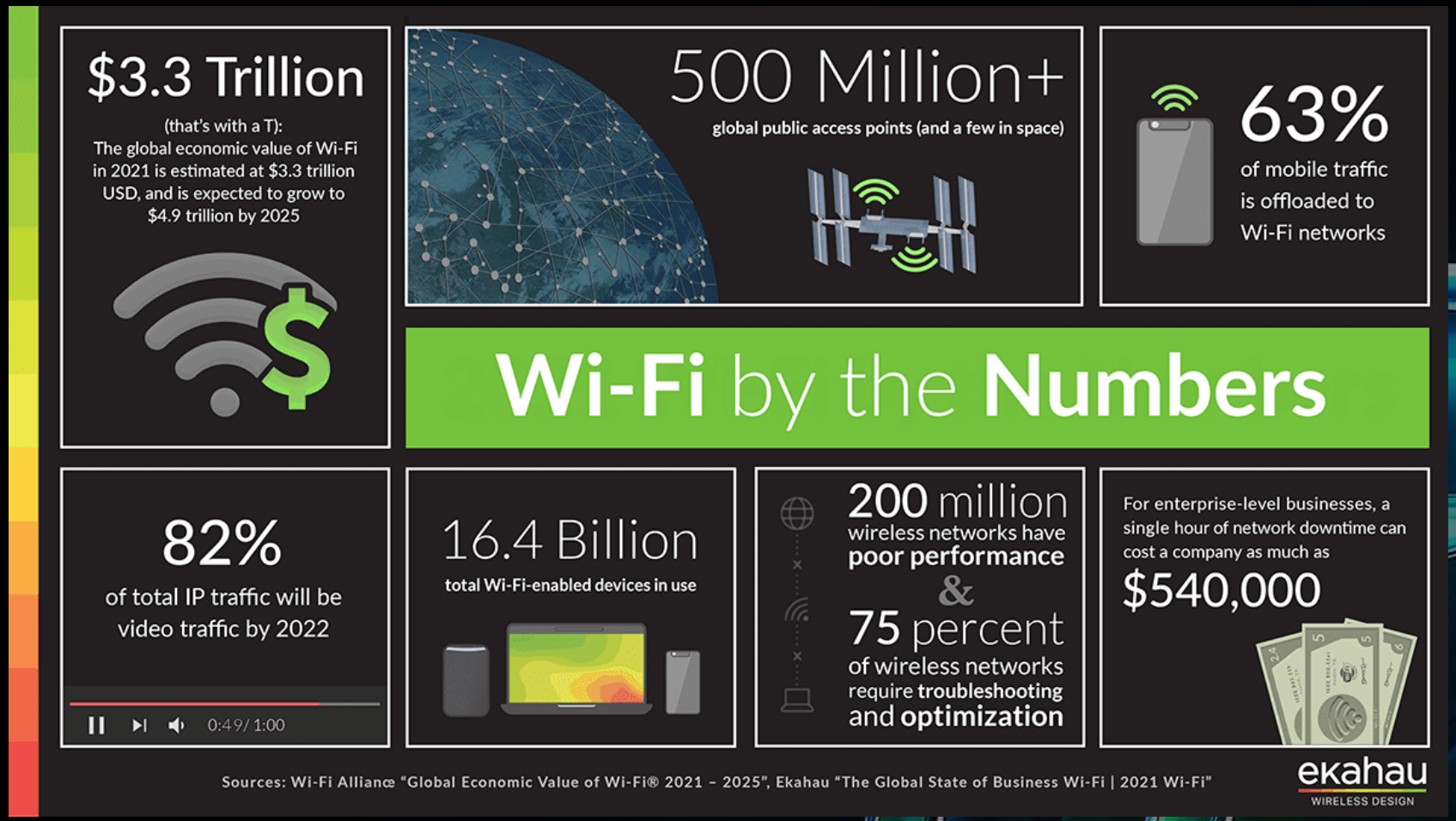


DELIVER

The Final Result

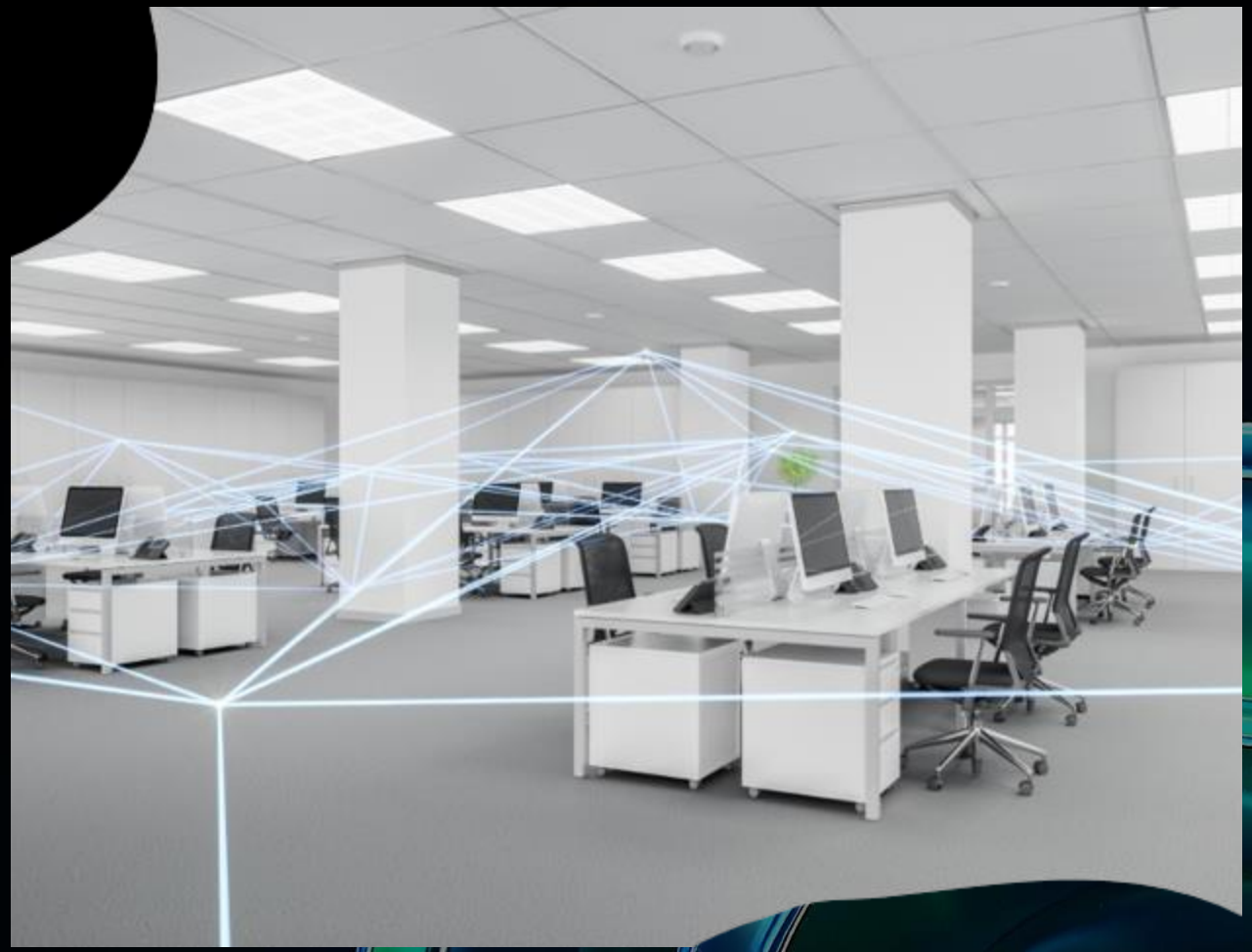
- Ekahau AI will run through the existing space and determine where additional access points need to be placed to provide the coverage area and connectivity required.
- Ekahau utilizes the survey data collected from the site walkthrough as well as data collected to determine signal degradation between walls and barriers to properly map out the recommended AP deployment.

Why does this matter…



What is Ekahau?

- Ekahau is an industry-leading Wi-Fi design, survey, and optimization platform used to plan, validate, and troubleshoot enterprise wireless networks. It enables organizations to design reliable, high-performance Wi-Fi environments by accurately modeling real-world RF behavior before deployment and continuously validating performance after installation.
- Unlike basic heat-mapping tools, Ekahau combines advanced RF modeling, real-world survey data, and AI-assisted analysis to ensure wireless networks are built correctly the first time and remain optimized as environments change.



How it works

RF Environment Analysis

Ekahau analyzes real-world physical factors like walls and interference to build accurate wireless environment models.

AI-Powered Wi-Fi Modeling

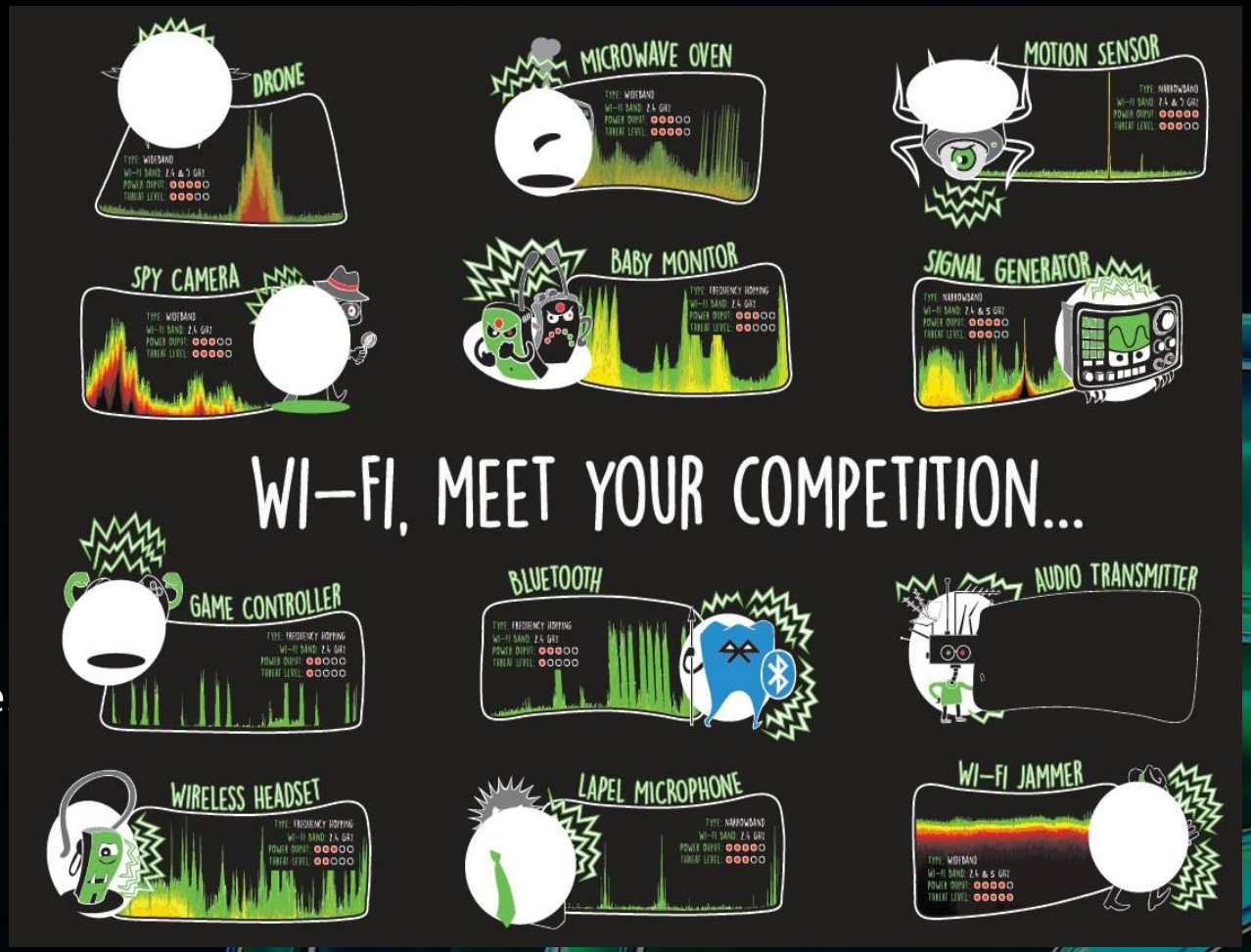
Machine learning predicts Wi-Fi signal propagation and coverage before hardware installation, improving accuracy.

Automated Access Point Placement

AI optimizes number, position, and settings of access points tobalance coverage and performance

Continuous AI-Driven Validation

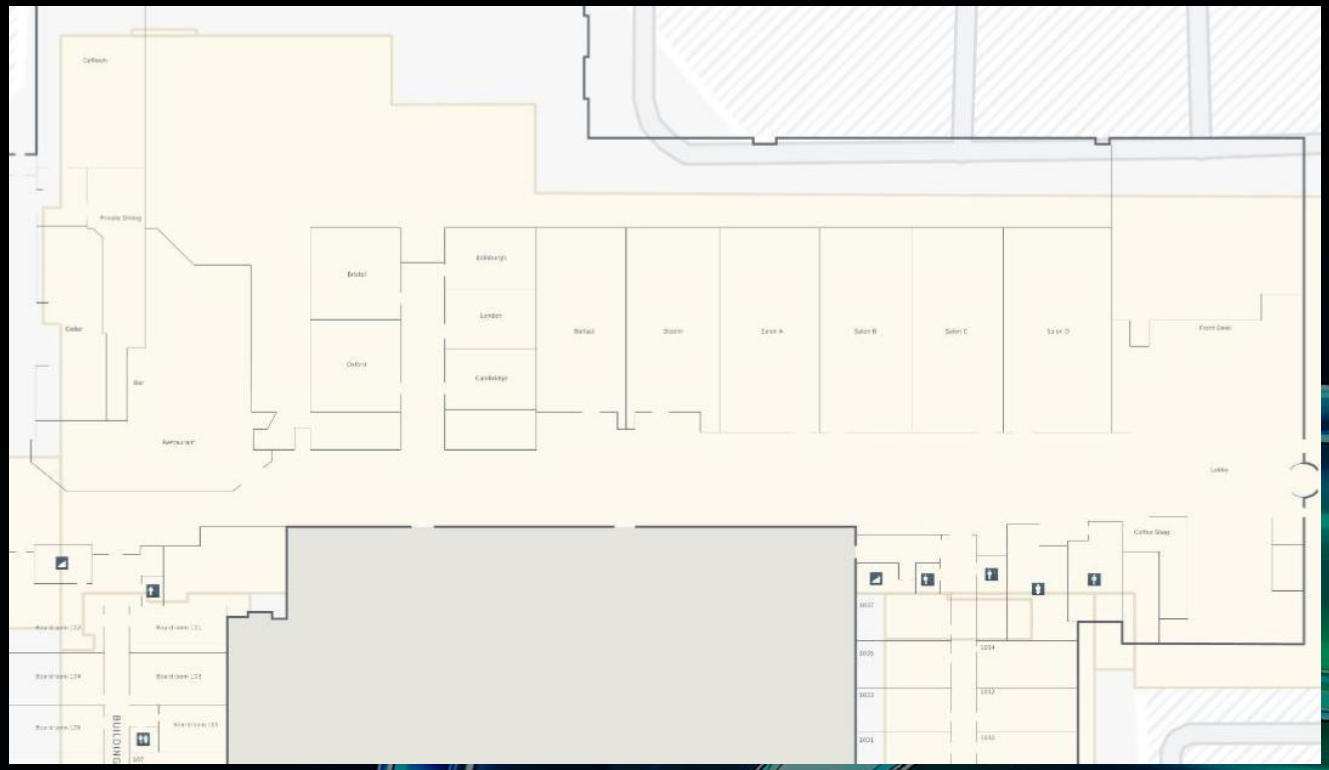
Comparing predictions with real data enables ongoing troubleshooting and performance improvements.



THE PLAN

Start with the Floor plan

- Architectural scaled drawings preferred
- Showing Doors, Windows, Walls, etc



SURVEY

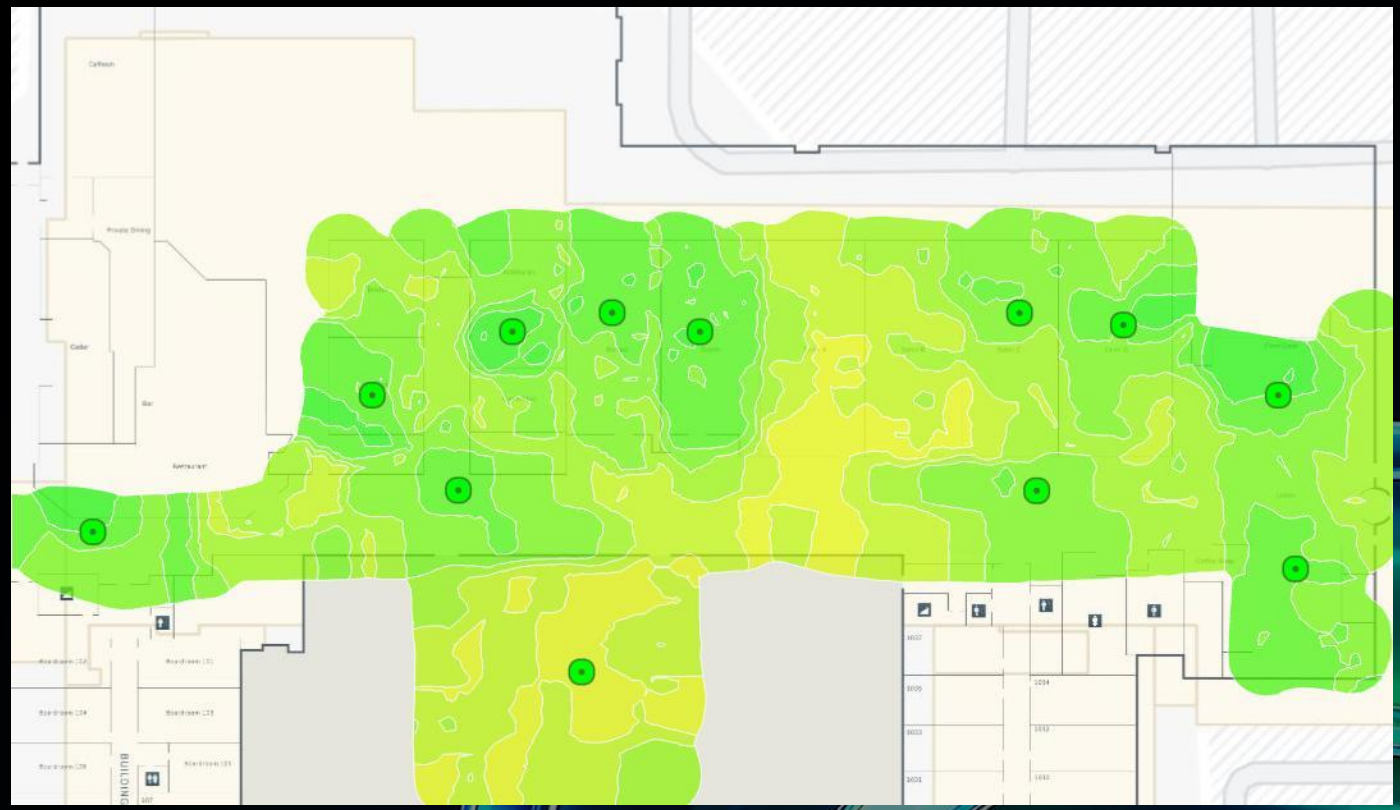
Go for a walk…

- We now will walk the space utilizing the Ekahau Antenna and the Ekahau Survey Software.
- Ekahau will detect current signal strength while utilizing the camera on the IPAD to determine where you are within the floorplan for real-time measurements.

ANALYZE

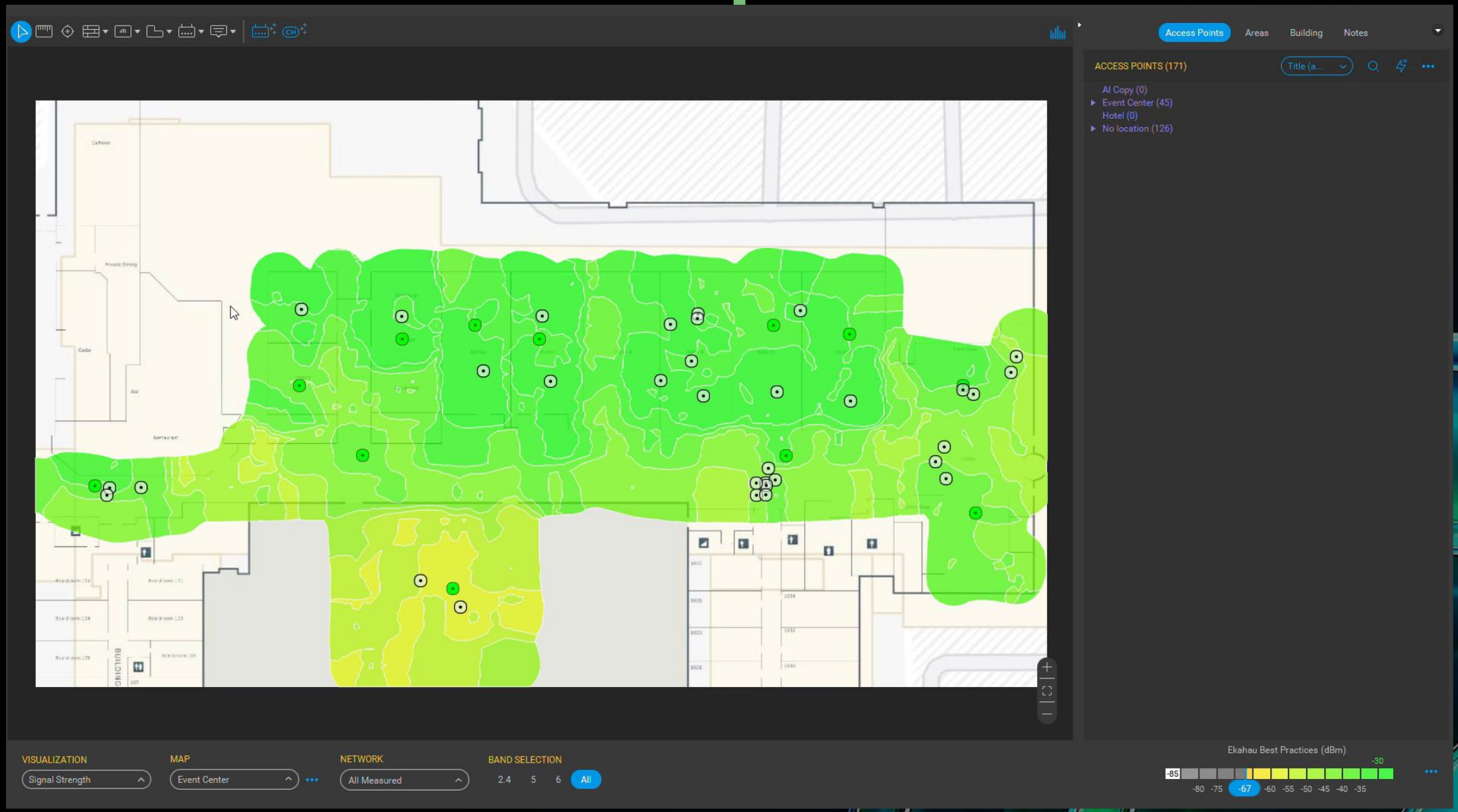
Let's see what we got…

- Ekahau will discover current wireless strength and connectivity based upon the networks you selected and what level of signal strength it is detecting in the areas surveyed.
- Grey color indicates insufficient strength to maintain a wireless connection. You might be able to see, it but good luck connecting.
- Yellow/Orange indicates minimum to fair level of connectivity.
- Green is preferred as this is giving you best connectivity and throughput from your AP deployment.



Where does AI help us...

TECH CON



Where does AI help us...

TECH CON

ekahau

Coverage

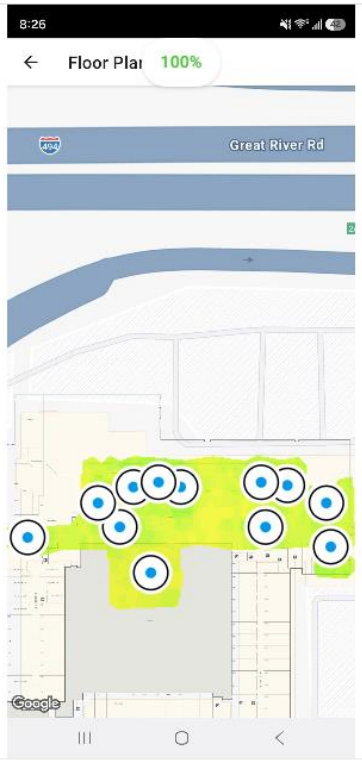
Excellent primary coverage

The view shows the percentage of your floor plan that meets network requirements and optimization to your network that can be achieved by implementing the action plan

Band 2.4 GHz
- Event Center 100%
- Hotel
- AI Copy

Band 5 GHz
- Event Center 99%
- Hotel
- AI Copy

Band 6 GHz
- Event Center
- Hotel
- AI Copy



Primary coverage (dBm)

-90 -85 -80 -75 -70 -65 -60 -55 -50 -45 -40 -35 -30

Best practices

Primary coverage is all about optimizing the distance around your wireless access points (APs) to ensure there is sufficient signal strength for Wi-Fi-enabled devices to connect and transmit data. For many devices, a signal strength of -67 dBm represents the lower limit of a healthy signal. Different wall materials and physical obstacles absorb Wi-Fi at different rates so it's always important to design your network based on your requirements for primary coverage. Here are some suggestions for improving primary coverage:

- Check your controller to ensure all your APs & antennas are installed correctly, online, and broadcasting.
- Increase transmitting power to 14-17dBm (25-50mW) if currently lower.

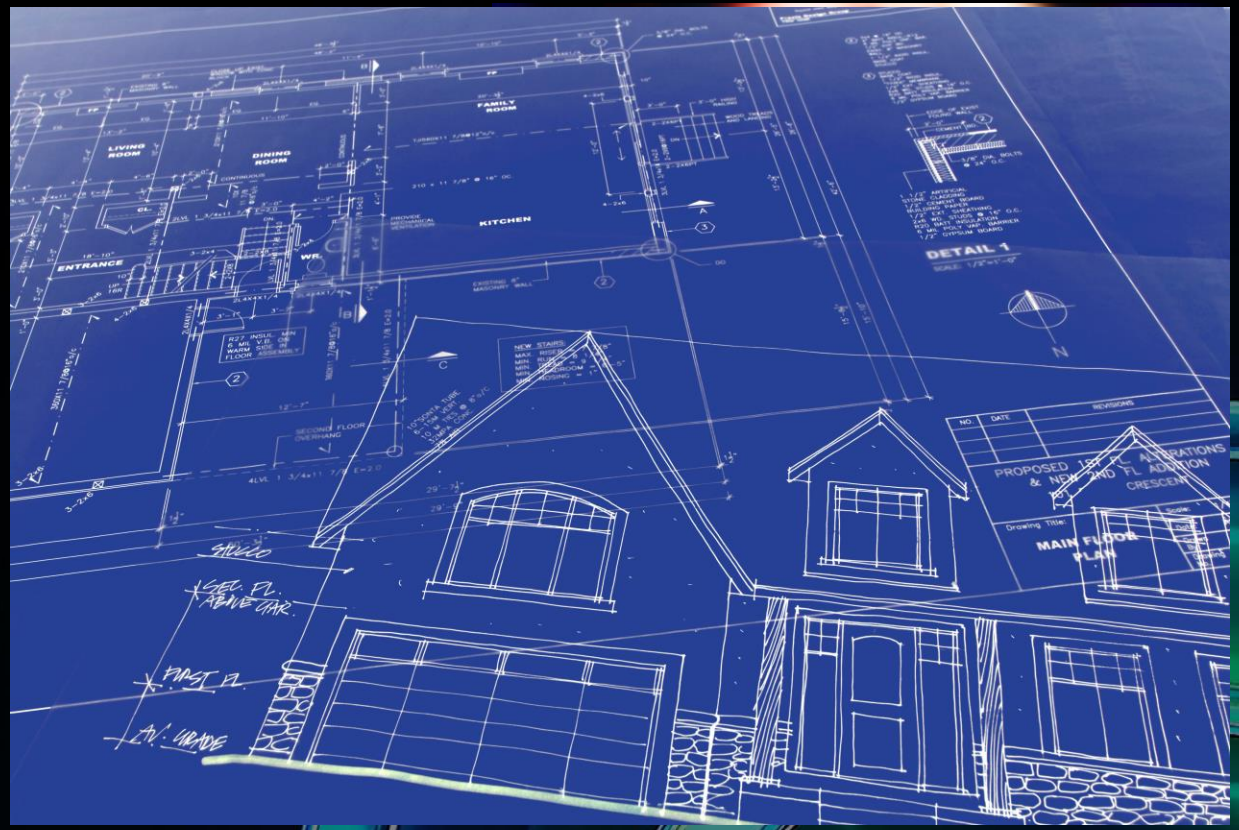
Read more from Ekahau blog

SSID configuration | Interferers | Primary coverage | Secondary coverage | Channel interference

IDENTIFY

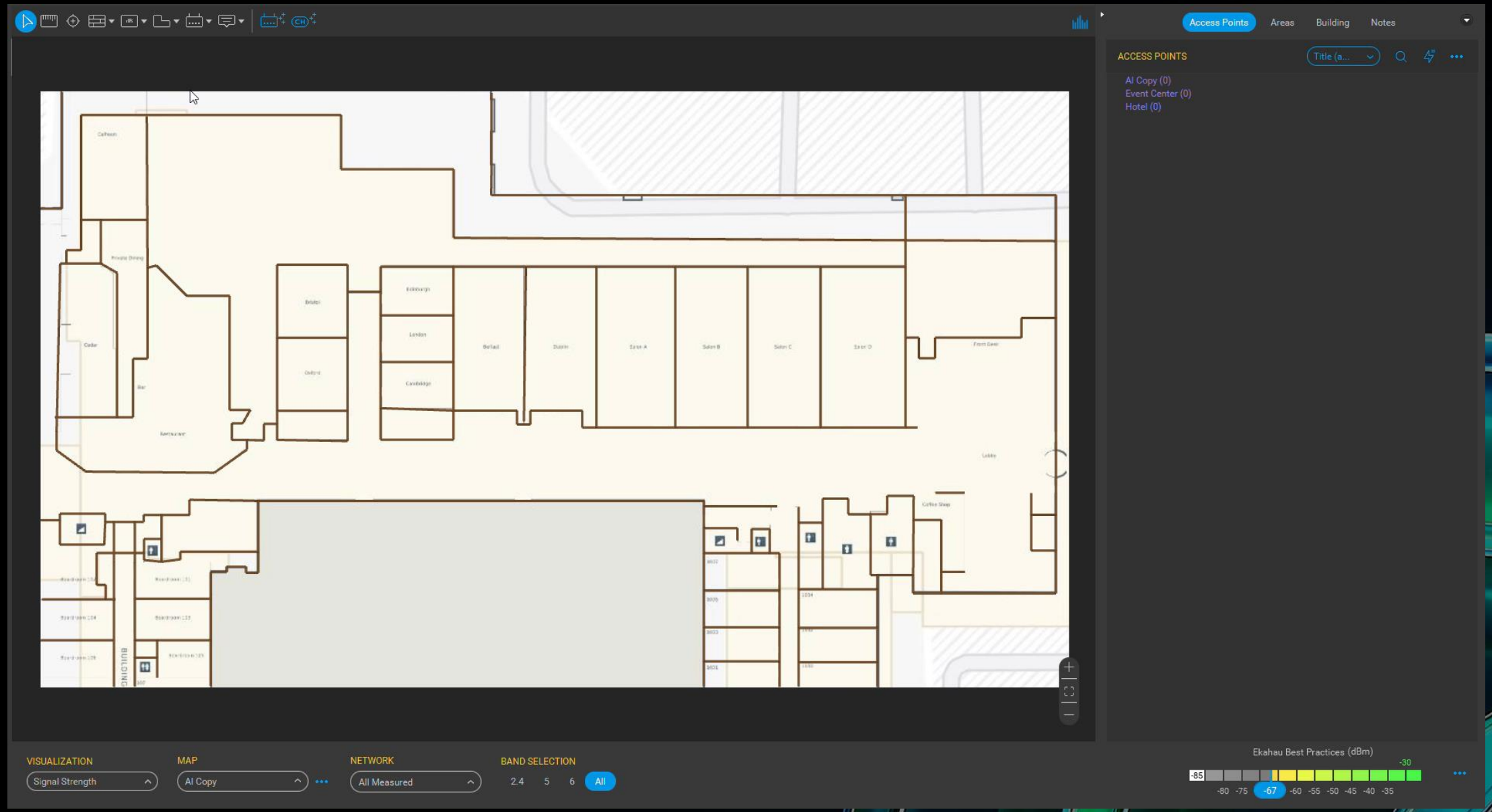
How could this be done easier with AI?

- Now that Ekahau has surveyed the area, let's see what interferers are in place and where the structural elements are (Walls, etc).
- Ekahau AI will automatically detect and place walls and then select what level of signal interference they provide to the overall floor plan.
- Once analyzed, Ekahau will automatically detect the walls within the space and then allow for the automated deployment of Aps based upon its algorithms.



Let's see AI from the beginning...

TECH CON



DELIVER

The Final Result

- Ekahau AI will run through the existing space and determine where additional access points need to be placed to provide the coverage area and connectivity required.
- Ekahau utilizes the survey data collected from the site walkthrough as well as data collected to determine signal degradation between walls and barriers to properly map out the recommended AP deployment.

How do I get a survey?

Speak with your Account Rep

- Consult with our Account Reps to start the conversation.
- Provide a digital floor plan of your space.
- We will schedule a time to come walk your space and then generate the reports shared today.
- If improvements are recommended, we can share results and quote services/hardware needed to enhance your wireless deployment.

Scan QR Code below for more info

Or go to:
www.citsolutions.net/tech-con/ekahau-survey/

Questions?

- Scan QR Code below for more info

Or go to:
www.citsolutions.net/tech-con/ekahau-survey/

RAFFLE · WIN IT

TECH CON

SESSION RAFFLE

Win JBL Charge 6

Pick up at Help Desk (near registration)

GIVEAWAY COORDINATOR | MITCHEL

UP NEXT	GRAND BALLROOM	BELFAST	LONDON/EDINBURGH	CAMBRIDGE	BRISTOL/OXFORD
Don't miss what's next.	AI in Action: Real-World Implementation	Compliance in Motion: 2025's Biggest Regulatory Shifts & What's Next for 2026	Industry Roundtable: Manufacturing	Industry Roundtable: SLED	The Practical AI Blueprint: Context & Personas