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How (and why) to perform a Wi-Fi Site Survey

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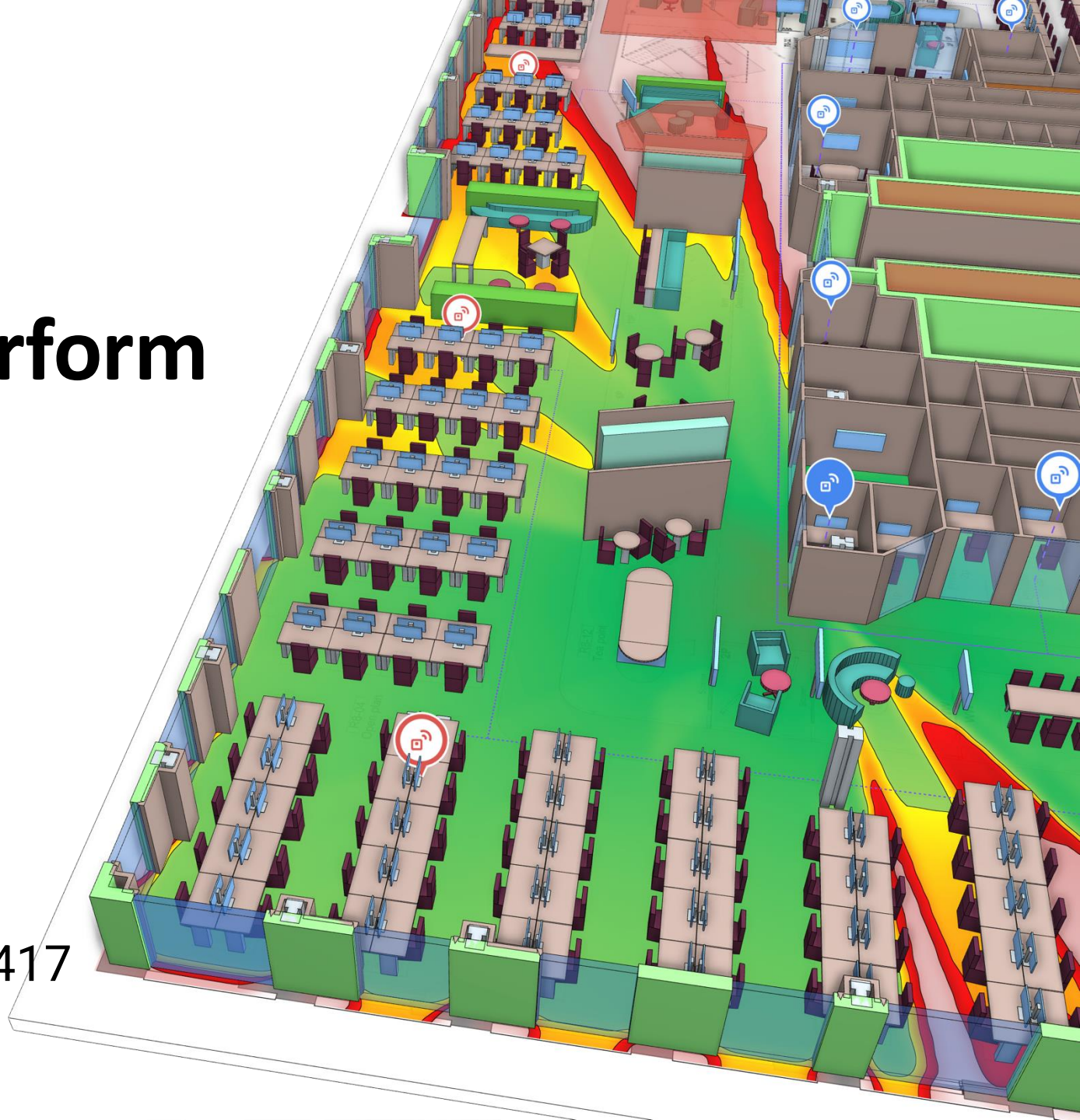

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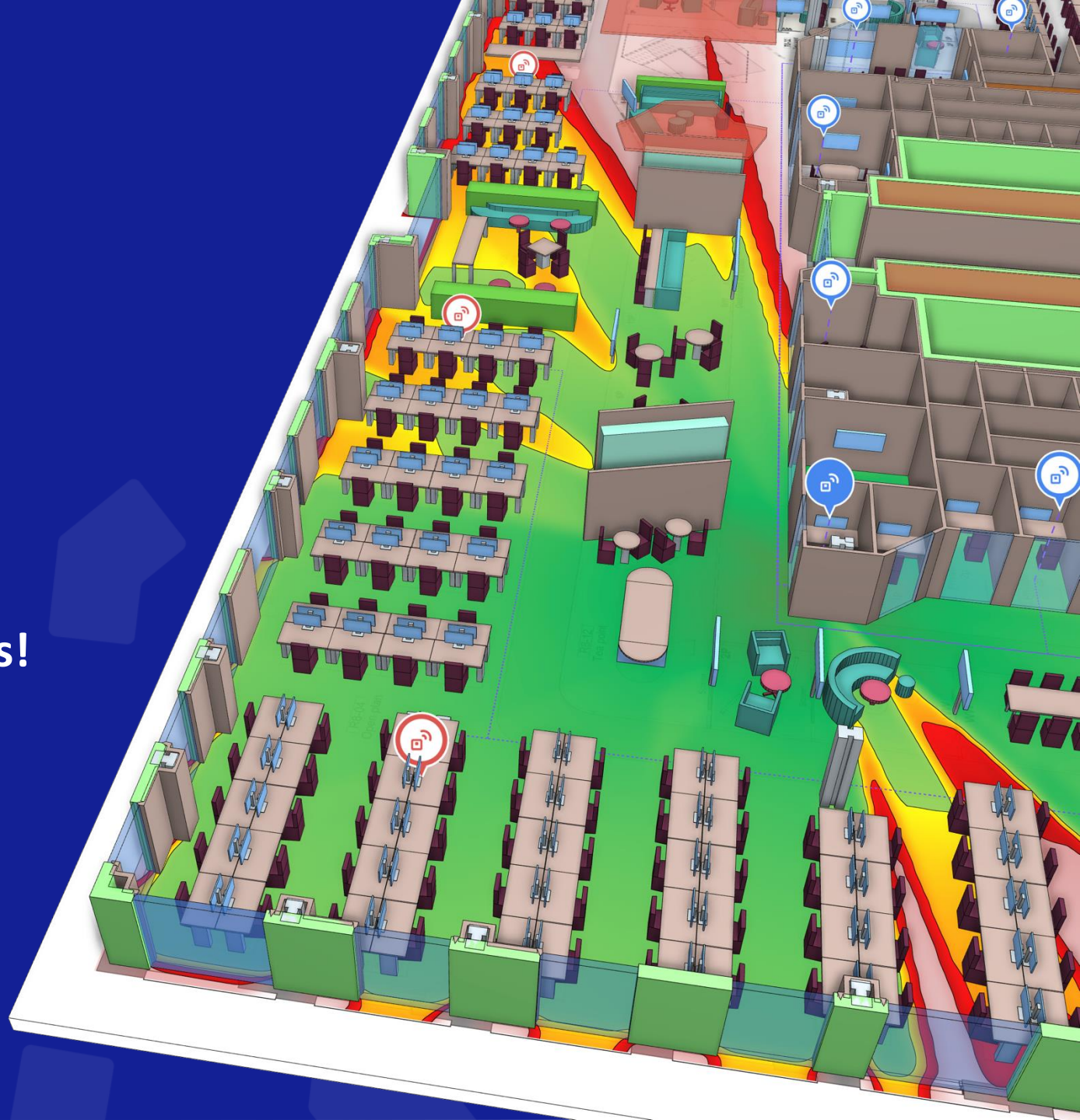
Types of Surveys

- Pre-Deployment Survey
- Post-Deployment Survey
- AP-on-a-Stick Survey (APoS)
- ~~Predictive Surveys~~ **Predictive Designs!**



Pre-Deployment Survey

- Documents existing Wi-Fi coverage and environmental impacts on RF propagation.
- Uses **passive surveys** to map signal strength, noise, and interference (e.g., rogue APs)
- Optional **active surveys** to assess current network performance (throughput, latency).
- Informs **predictive design** in Hamina Network Planner for optimized AP placement.

Post-Deployment Survey

- Validates new Wi-Fi network against design specs (coverage, capacity, performance).
- Uses **passive surveys** for signal strength, SNR, and interference
- Optional **active surveys** to assess network performance (throughput, latency).
- Identifies issues like coverage gaps, rogue APs, or interference.
- Helps with optimizing network configuration (Tx power levels, channel configuration, ect..)

AP-on-a-Stick Survey (APoS)

- Tests proposed AP locations using temporary setups on a pole or tripod.
- Uses **passive surveys** to map signal strength
- Validates RF propagation in complex environments (e.g., warehouses, stadiums).
- Used pre-deployment or for post-deployment adjustments.

What to Survey: Passive vs Active Surveys

Passive Survey

- Listens to RF environment without connecting to APs.
- Measures signal strength, noise, SNR, interference, and channel utilization.
- Ideal for mapping coverage, detecting rogue APs.
- Used in pre- and post-deployment surveys to inform predictive design or validate networks.

Active Survey

- Connects to APs to measure real-world client performance.
- Measures throughput, latency, packet loss, and roaming behavior.
- Ideal for testing application performance (e.g., VoIP requiring -67 dBm, 25 dB SNR).
- Used primarily in post-deployment surveys to verify user experience.

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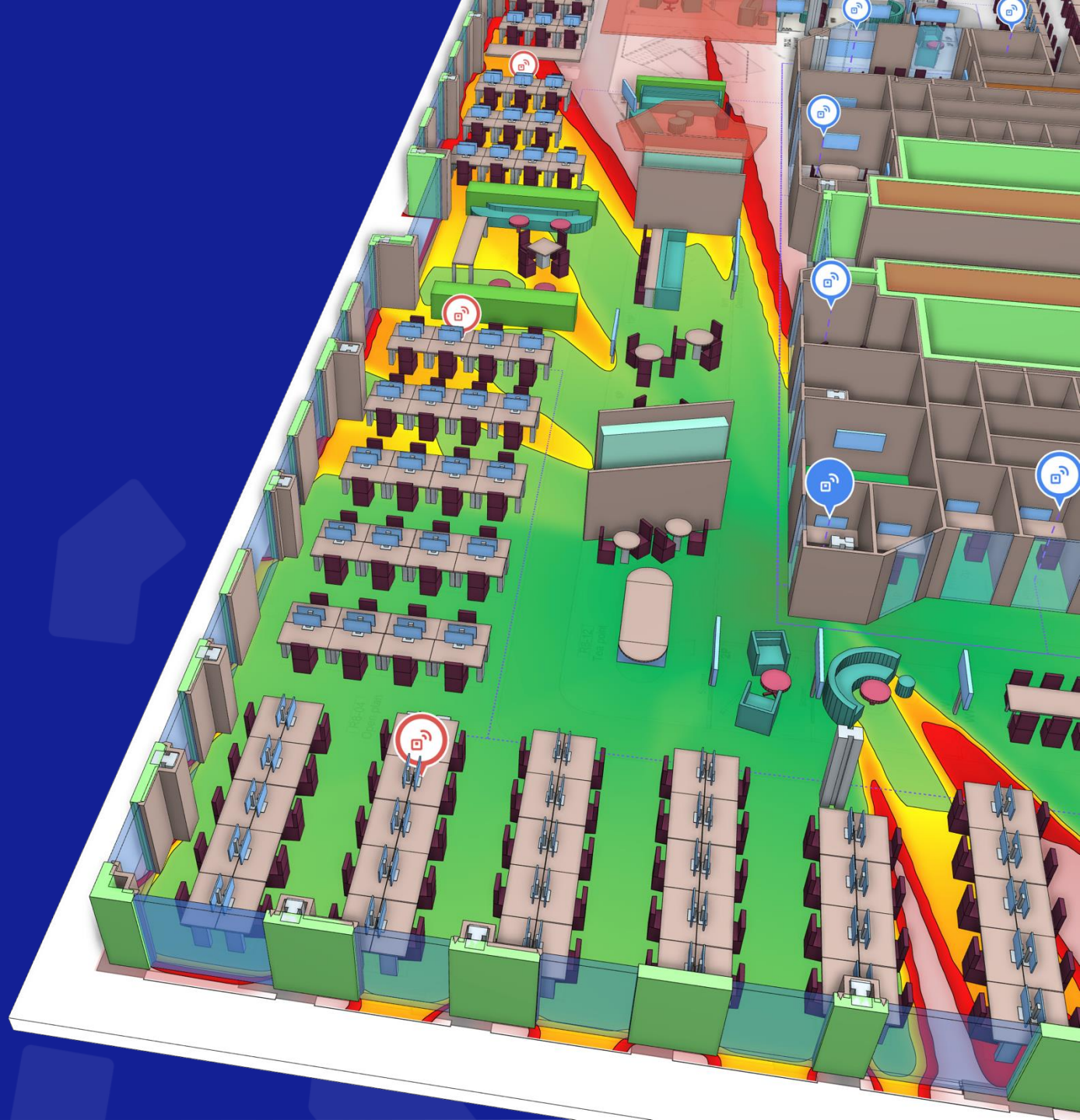
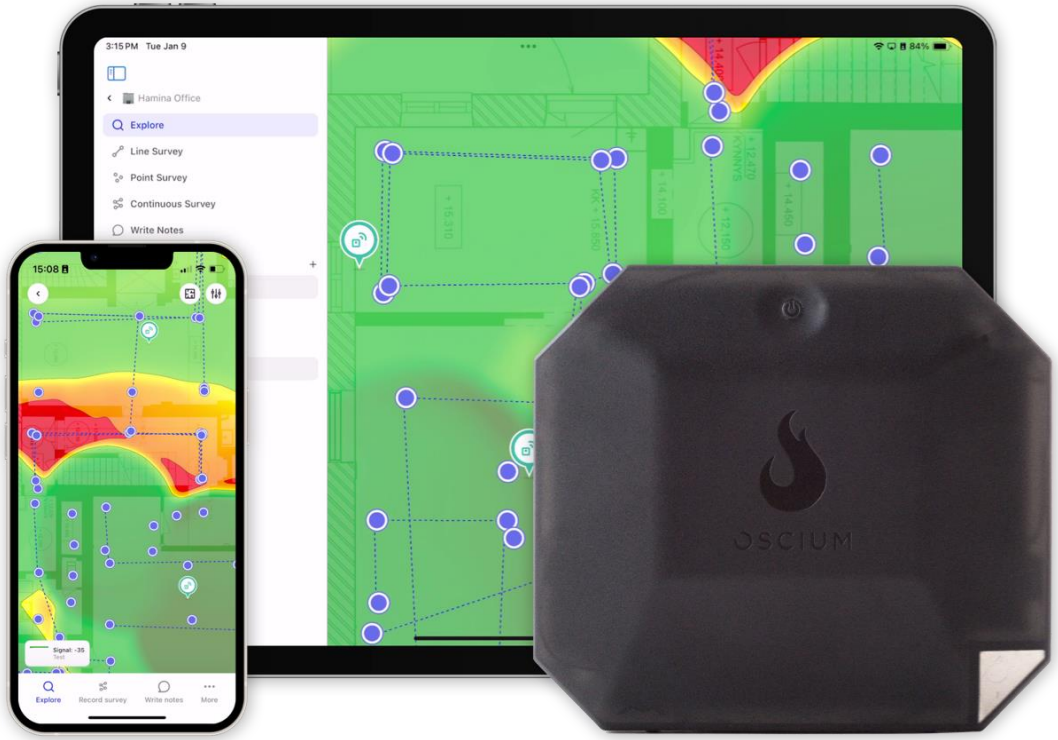
Hamina’s Survey Solution

Hamina Onsite + Oscium Nomad



Hamina Onsite + Nomad



- Validate new networks, troubleshooting existing ones, and perform real-time analysis of Wi-Fi networks
- Heatmaps update live while you survey, so you can troubleshoot instantly.
- From design to deployment, deployment to validation, all in one project.

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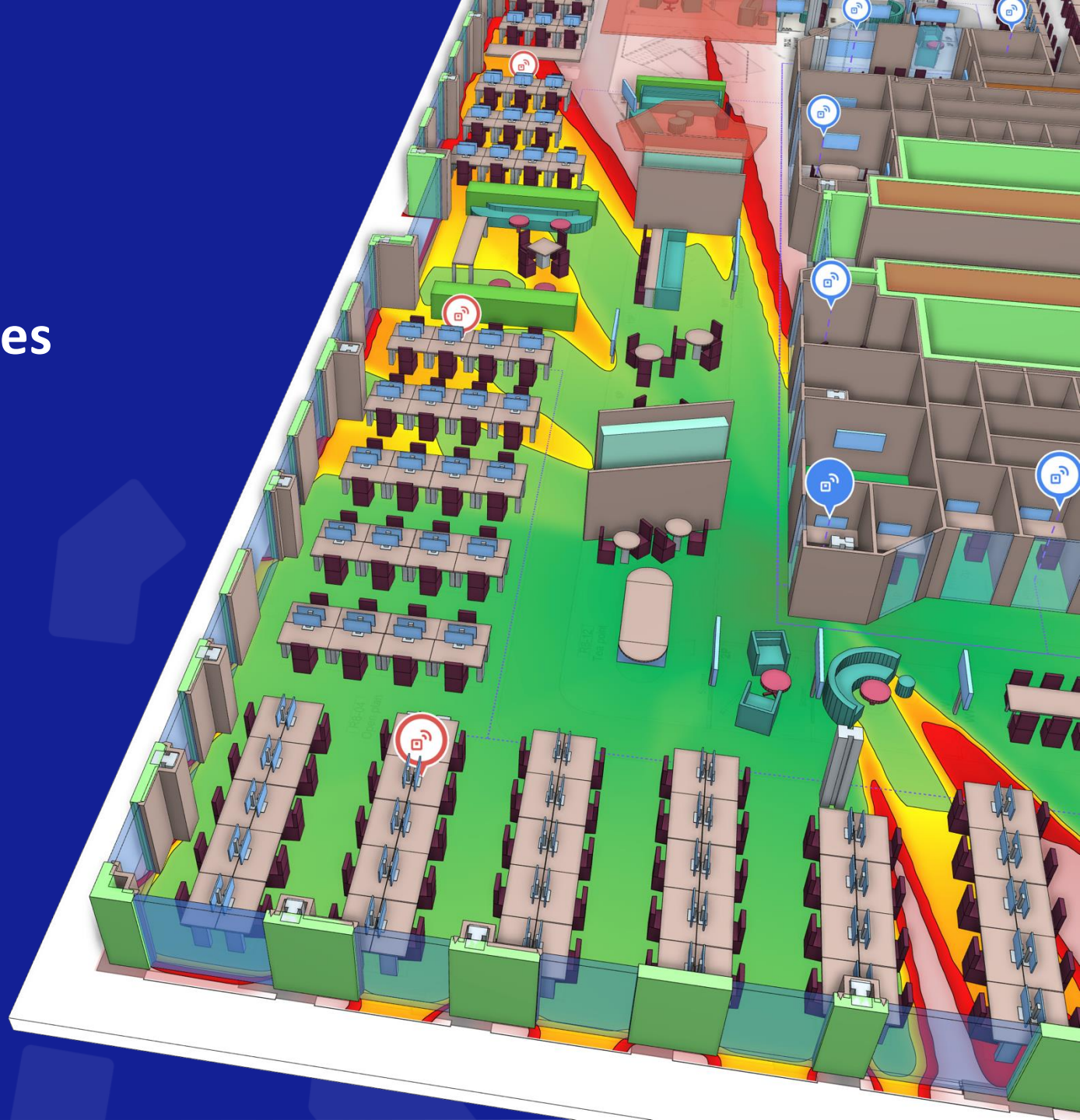
Identifying Post-Deployment Issues

Coverage Gaps, Interference, Performance Issues, Rogue APs



Common Post-Deployment Issues

- **Coverage Gaps**: Areas with low or no signal.
- **Interference**: Co-channel/adjacent-channel interference.
- **Performance Issues**: Low throughput, high latency, or packet loss.
- **Rogue APs**: Unauthorized devices detected via passive surveys.

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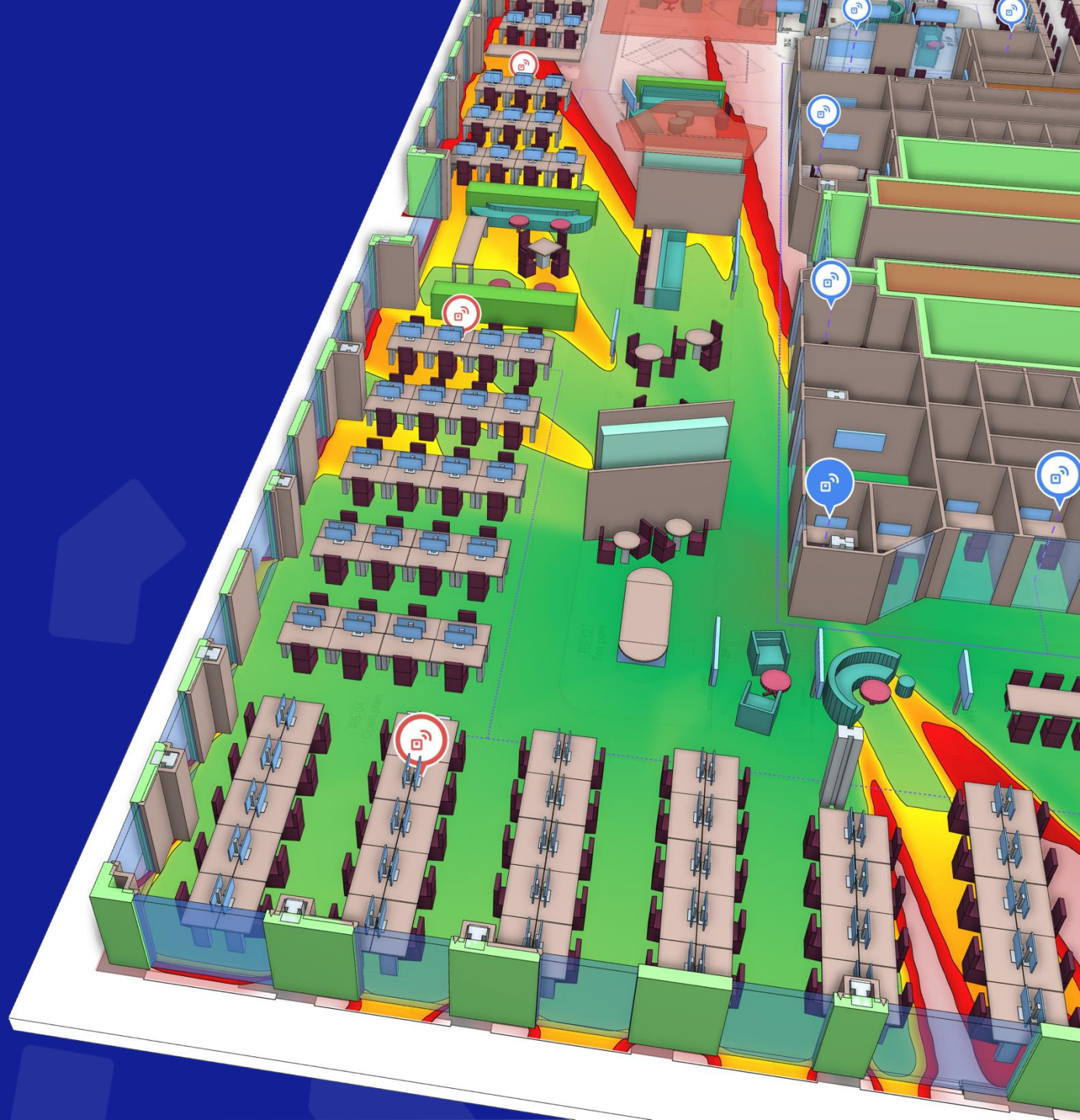
Conducting Surveys

Continuous, Line, and Point Modes



Survey Tips

Survey Modes: Continuous, Line, and Point

Best Practices:

- Survey during typical usage hours for realistic data.
- Use consistent pace
- Tap when you start, stop, or turn
- Wear Oscium Nomad at position for device you want to validate for. (e.g., Chest height for mobile phone)

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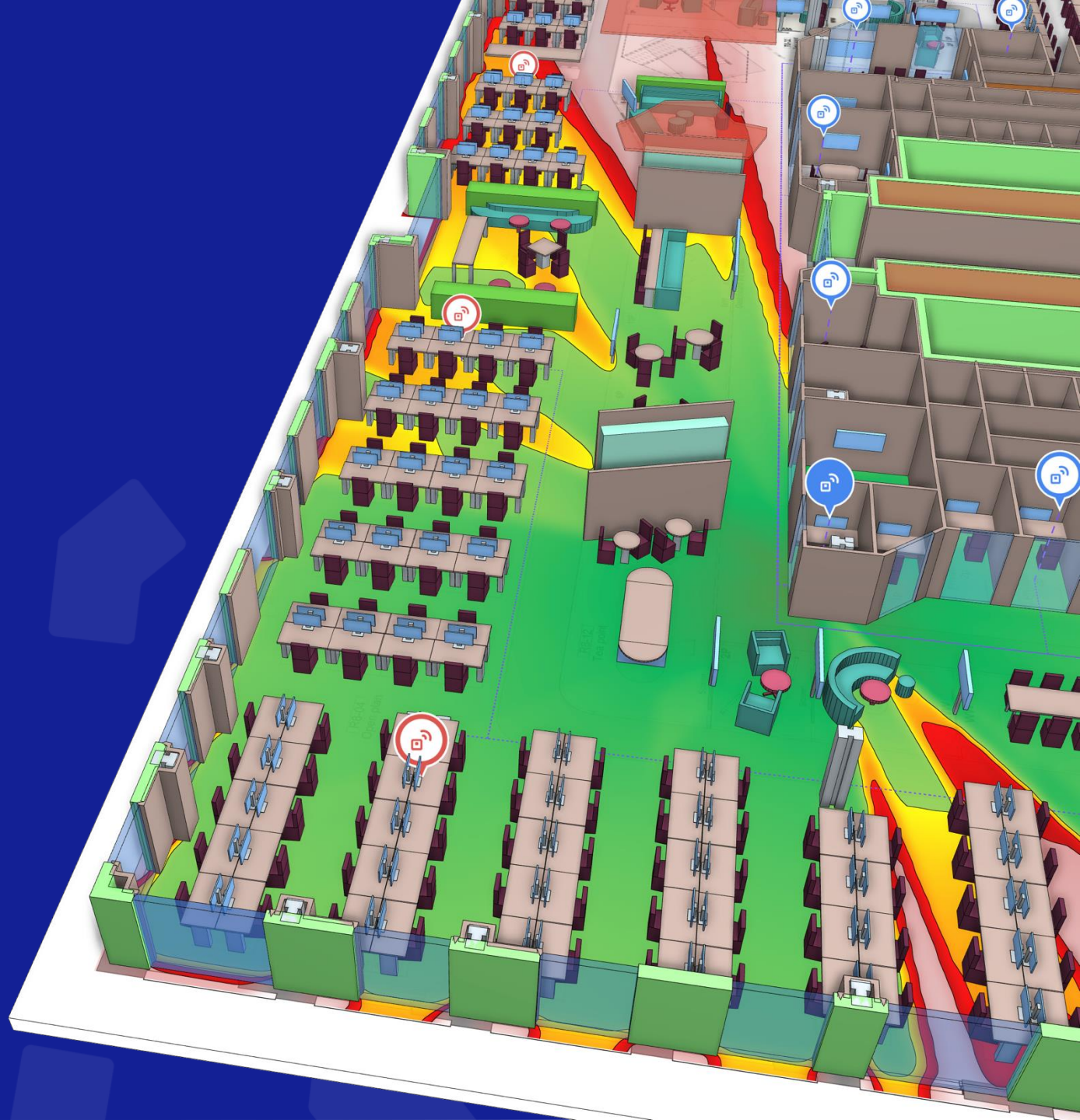
Analyzing and Optimizing Results



Analyzing and Optimizing Results

- **Heatmap Analysis**: Review coverage, SNR, secondary/tertiary coverage, and interference in Hamina Onsite.
- **Optimization**: Use survey results to “calibrate” Hamina Network Planner to simulate adjusting AP placement, channel plans, or power settings.
- **Reporting**: Create remediation plan using interactive 3D heatmaps and custom markdown reports.
- **Integration**: Live View with cloud management platforms for real-time heatmaps of environment to validate changes and identify new issues.

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Questions?

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