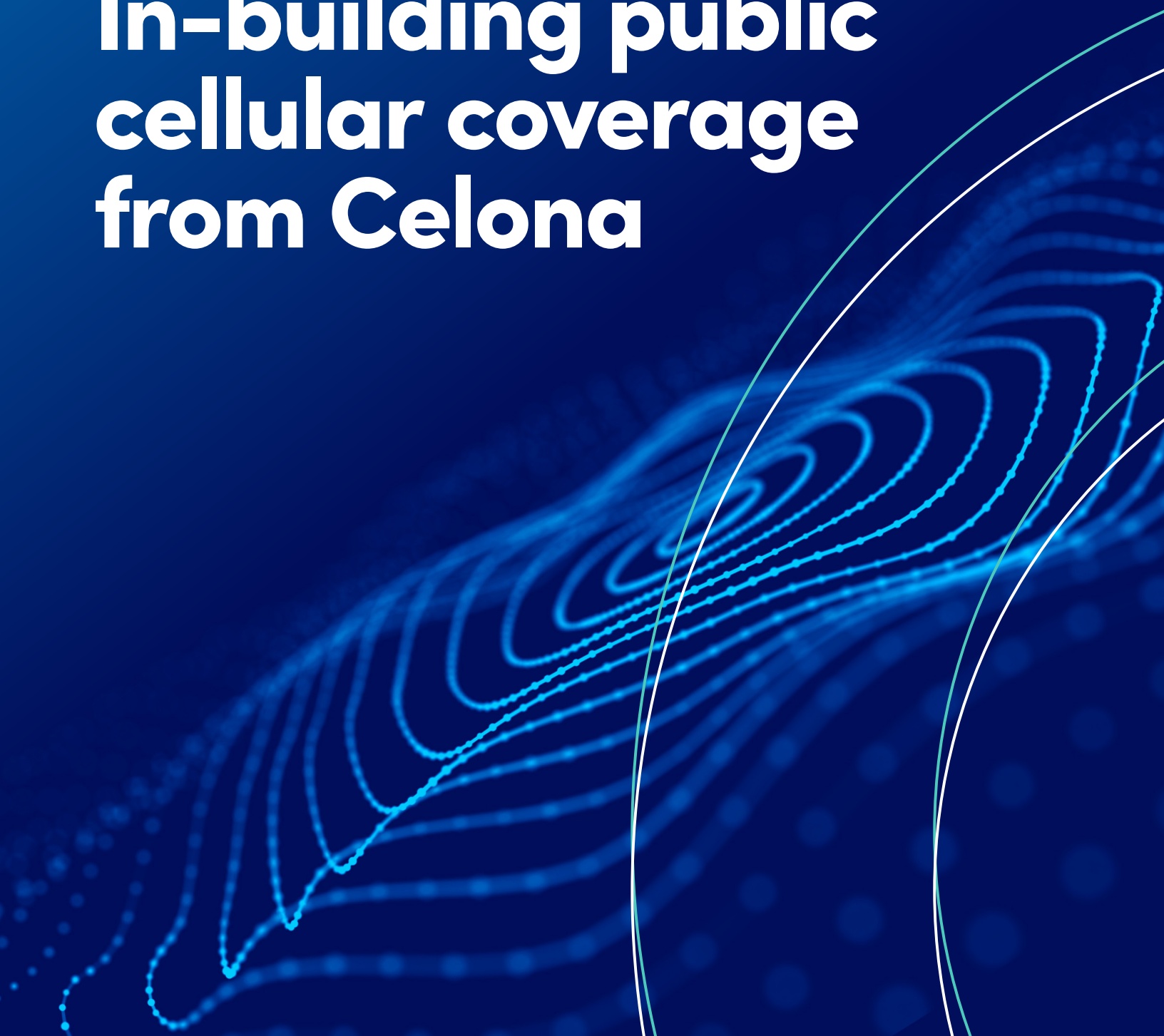
celona

Solution Brief

In-building public cellular coverage from Celona



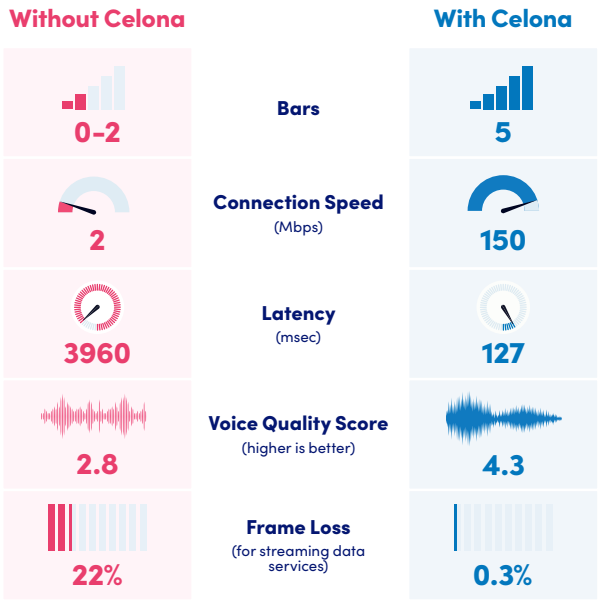
Challenges with In-building public cellular coverage

Indoor cellular coverage is a challenge that has long been an issue for IT departments that manage offices, buildings, campuses, warehouses, and manufacturing plants.

In some cases, public Mobile Network Operator (MNO) signal is non-existent. In others, wireless signal from MNO tower cannot penetrate sufficiently to inside the buildings due to modern building materials such as the use of low-emissivity (Low-E) glass.

Traditionally several public carrier signal extension methods exist including signal boosters and Wi-Fi calling, but the most popular option is to deploy a distributed antenna system (DAS). The architectural philosophy behind DAS is that it amplifies cellular carrier signals over dedicated cabling infrastructure that is run throughout a given site.

DAS solutions are overly complex, require dedicated wiring and take months if not years to deploy.

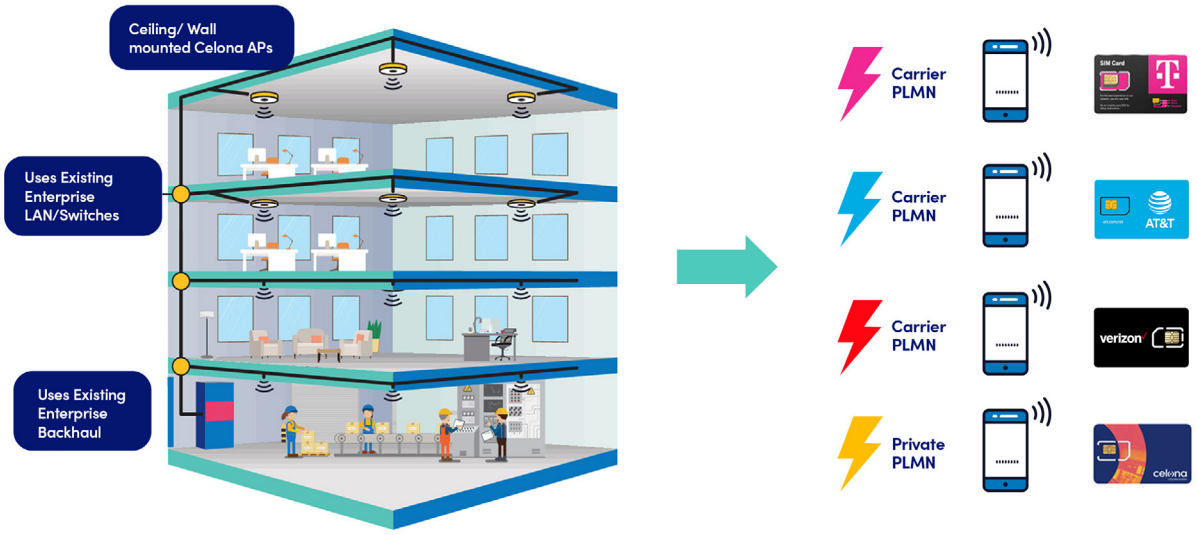


5-bar public cellular coverage with Celona's in-building solution.

Celona in-building solution redefines the benchmarks for enterprise indoor cellular coverage by bringing Celona's cloud based Multi Operator Exchange (MOXN) architecture based solution into the heart of businesses and remote locations. Enterprises can now setup up Celona in-building solution network in their premises to allow devices onpublic carrier networks to connect via this enterprise cellular network.

Using the Celona Neutral Host architecture, many popular devices including latest Android/Apple smartphones and tablets with SIMS/eSIMs from public carriers can automatically detect, authenticate and connect to Celona Access Points (APs) over private cellular spectrum such as CBRS (3550 to 3700 MHz). The data and voice session get seamlessly routed to the MNO network via a secure tunnel using Celona's cloud based Multi Operator Exchange (MOXN).

The Access Points and Edge hardware tie into existing switches and routers on the Enterprise LAN instead of dedicated fiber/coax cabling. In addition to providing carrier cellular service, the same equipment can also be used to set up a private cellular network for mission critical use cases with an add-on subscription. Furthermore, instead of each MNO bringing their own backhaul to the enterprise and Celona in-building solution use existing backhaul provided by ISP.



Key value of Celona in-building solution

For Subscribers

- High quality indoor cellular wireless connectivity
- Requires no manual connection step
- Secure cellular connectivity replaces un-secured open guest Wi-Fi networks
- Works with all major smartphones and tablets
- e911 and Wireless Emergency Alert (WEA) for all public cellular services in US

For Enterprises

- Coverage everywhere you need
- Deploy in weeks not years
- Use existing network infrastructure
- Add up to 5 operators in the future without additional hardware
- Frees up Wi-Fi network capacity from guest usage
- Use same CBRS network for private use cases

Celona in-building solution vs Carrier DAS

Celona in-building solution offers a much simpler, scalable solution to address in-building public cellular coverage accelerating time to value in comparison to traditional Carrier DAS.

Traditional Carrier DAS	Celona Neutral Host Solutions
High implementation costs	**Up to 75% lower TCO**
Lengthy and complex deployments	**Operational in weeks not months or years**
Capacity constrained by single cell	**Scale capacity with additional small cells**
Requires dedicated fiber/coax cabling	**Uses existing LAN infrastructure**
Complex RF design due to licensed spectrum	**Simple RF Design using CBRS spectrum**
Single use network	**Multi-purpose solution – Public and Private**

Use cases

Celona in-building solution can enable property owners to enhance customer and staff experience by providing five bar carrier coverage inside a property with poor cellular service.

Property owners have the option to also enable a highly reliable private cellular network for business-critical use cases such as security cameras, connected staff, IoT sensors, robotics using the same infrastructure.

Healthcare

Indoor carrier coverage for:

- Hospital lobby, waiting/consultation rooms, public spaces
- BYOD for doctors, medical and operational staff

Private wireless use cases

- Connected staff, clinician voice comms.
- Security cameras, IoT sensors, robotics

Universities

Indoor carrier coverage for:

- Campus safety/emergency calling
- Dorms, libraries, classrooms
- BYOD for students, operating staff, security

Private wireless use cases

- Security cameras, connected staff, IoT sensors
- Sporting events Point of Sale (PoS)

Retail

Indoor carrier coverage for:

- Customer service/experience, POS areas
- Multi channel customer buying experience.
- BYOD connectivity for employees

Private wireless use cases

- Security cameras, AGVs, robotics etc.

Commercial office space

Indoor carrier coverage for:

- Lobby, offices, conference rooms, common spaces
- BYOD for tenants, guests, and operational staff

Private wireless use cases

- Security cameras, connected staff, IoT

Hospitality

Indoor carrier coverage for:

- Lobby, guest rooms, conference rooms, pool areas
- BYOD for guests and operational staff

Private wireless use cases

- Security cameras, connected

Celona in-building solution includes everything you need

3 or 5 year per AP Celona in-building solution subscription includes

- **Access Points - 4G/5G radio**
  - AP 12 Indoor 4G Access Point
  - or AP 20 Indoor 4G/5G Multimode Access Point for future proofing
- **Celona Edge software - 4G/5G core and routing functions**
- **Celona Orchestrator - Cloud based network operations**
- **Celona MOXN - Cloud based multi operator exchange gateway**
- **Celona in-building solution as a managed service* including**
  - Managing the intake process and design approval with operator
  - Operating the service, proactively monitoring and reporting KPIs to MNO
  - Managing network performance and experience as per MNO SLA requirements
- **Support and Warranty - for the term of subscription**
- **Option to add-on Private 4G network subscription at any time (same hardware) at additional price**

*Customer is expected to sign a retransmission agreement with available carriers before Celona order is placed

Learn More about Neutral Host ›

Contact Sales ›

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