

CASE STUDY

How Allegiant Stadium Achieved High-Performance Wireless with Fewer Antennas

Allegiant Stadium | Las Vegas Raiders

Venue Overview

Located just off the iconic Las Vegas Strip, Allegiant Stadium is a premier global venue for sports and entertainment. Opened in 2020, the 65,000-seat, climate-controlled stadium is home to the Las Vegas Raiders and the University of Nevada, Las Vegas Rebels. Beyond football, it regularly hosts concerts, combat sports, college championships, and large-scale events that contribute significantly to Southern Nevada's economy.

The Challenge

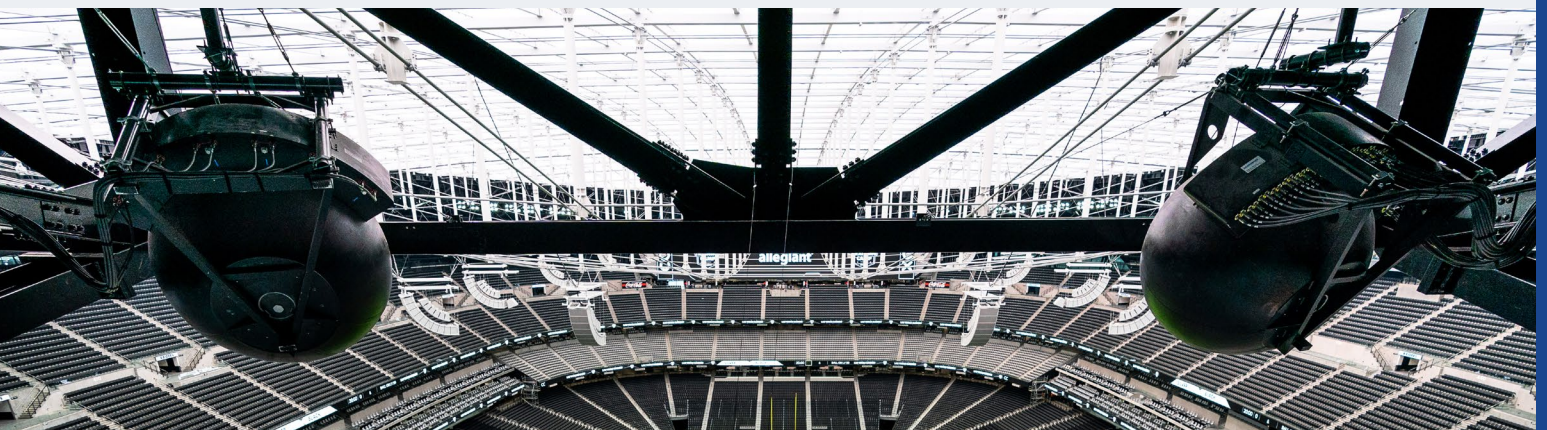
During Allegiant Stadium's construction (2017–2020), planners faced the complex task of designing a wireless network that could support tens of thousands of simultaneous users. The initial plan involved a hybrid Distributed Antenna System (DAS) with traditional under-seat antennas, an approach filled with challenges:

- Soaring deployment and infrastructure costs
- Design complexity due to Wi-Fi and DAS antenna coordination
- Limited RF performance in dense lower-bowl seating
- Structural and aesthetic concerns

"We were coordinating the mix of DAS and Wi-Fi antennas under the seats, but the cost was blowing up the budget. I read about MatSing's work at Amalie Arena and asked, 'If they can do it in an arena, can we do it in a stadium?'"

Matt Pasco

Vice President of IT, Las Vegas Raiders



The Solution

Allegiant Stadium became the first stadium to deploy MatSing lens antennas across the entire seating bowl. The design pivoted away from under-seat installations to overhead lens antennas, initially installing 28 units. In preparation for a major professional football championship hosted at the venue in early 2024, the system was expanded to 40 MatSing antennas.

These antennas deliver wide-area coverage using RF lens technology, enabling high-capacity, line-of-sight connectivity from overhead mounting locations, ideal for a stadium with complex seating configurations.

Deployment highlights include:

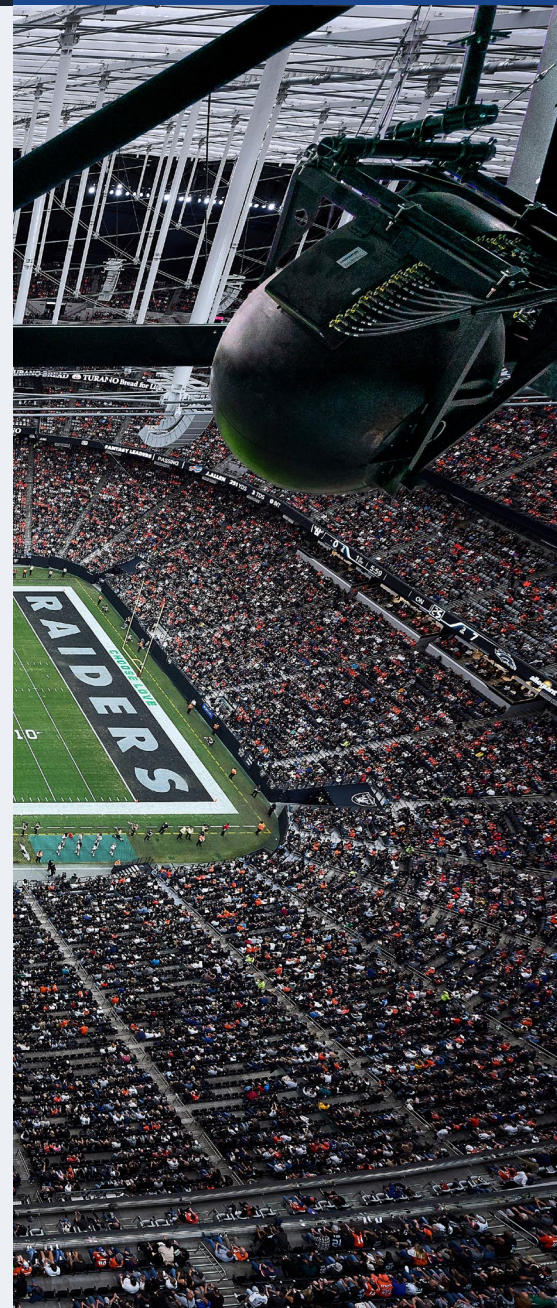
- Complete removal of under-seat antenna infrastructure
- Reduced capital and operational expenditures
- Improved RF line-of-sight for superior signal quality
- Digitally tunable beam patterns, enhancing coverage precision without physical realignment
- Streamlined maintenance with no reported outages or performance degradation

Results

The MatSing system enabled Allegiant Stadium to support record-breaking wireless performance during one of professional football's biggest events in 2024, with Verizon's publicly reported network metrics highlighting the infrastructure's capabilities:

- 52.34 TB of mobile data consumed in and around the stadium (a 9.4% increase year-over-year)
- Peak speeds: 4,404 Mbps download / 671 Mbps upload
- Median speeds: 2,704 Mbps download / 138 Mbps upload
- Over 70% of Verizon users on 5G UltraWideband
- Download speeds 3.8x faster and upload speeds 3.1x faster for Verizon customers compared to other networks

Additionally, Allegiant Stadium ranked #1 for in-stadium technology experience in the 2023 Voice of the Fan survey, underscoring its reputation as a leader in venue connectivity.



"It just works better. With MatSing, your phone has a clear line of sight to the antenna above. It's just a superior design."

Matt Pasco

Vice President of IT,
Las Vegas Raiders

Looking Ahead

With 40 MatSing lens antennas delivering scalable, high-performance wireless coverage from above, Allegiant Stadium is engineered for the world's most demanding live events.

The venue continues to host sold-out Las Vegas Raiders games and a robust calendar of major concerts annually, alongside collegiate football matchups and large-scale productions. In the coming years, Allegiant Stadium is set to welcome a slate of globally televised sports championships and multi-day entertainment spectacles, including a two-night sports entertainment event in 2026, a national collegiate football championship in early 2027, and a major college basketball tournament finale in 2028.

From international music tours to fan-centric mega-events, Allegiant Stadium remains a benchmark in wireless infrastructure efficiency, delivering high-capacity performance for every attendee, artist, and broadcast team.

[MatSing.com](https://www.MatSing.com)

