



# From Connectivity To Actionable Insights

*When going to a sports event, fans simply expect a fast and stable mobile connection at the venue. What venues and teams are able to do with connectivity data is the new vanguard.*



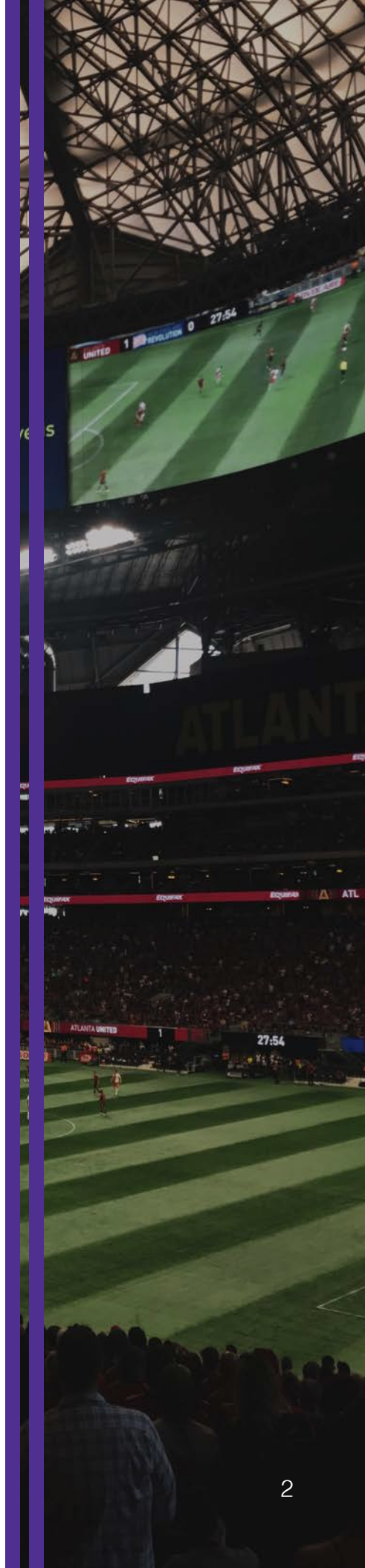
## Introduction

In the last twenty years, sports fans around the world have gone from road atlases and cash to Waze and Apple Pay. Phones have become essential to the way we engage with sports and venues, and many people cannot leave their homes without them. This transformation is possible because of technological advancements in phones and the growing power of cellular and Wi-Fi networks.

Fans often experience (or supplement their experience of) live sports through their smartphones, and connectivity has become the new expectation. Some combination of Distributed Antenna Systems, Wi-Fi 5 or 6, and 5G networks have been installed in almost every professional venue to handle the increase in traffic from fans. Sporting events are also innovating around phones to create new ways to engage fans, sell concessions and drive ticket sales.

Over the last decade, Wi-Fi has become the standard in stadiums and arenas. Fans have come to expect the unprecedented access and information provided by their second screens. Venues have also implemented better POS, ticketing, and crowd flow management systems using this connectivity, leading to better fan experiences. Fundamentally, persistent connectivity is now expected. There is nothing special about logging in to Instagram at the game or placing a wager on the next inning from your seat. People are connected everywhere they go and they now consider that to be the norm.

This level of fan expectation and fan experience needs has placed network infrastructure in the limelight. Connectivity is no longer back-of-the-house, solely servicing internal operations and departments across an organization. It is now considered a front-

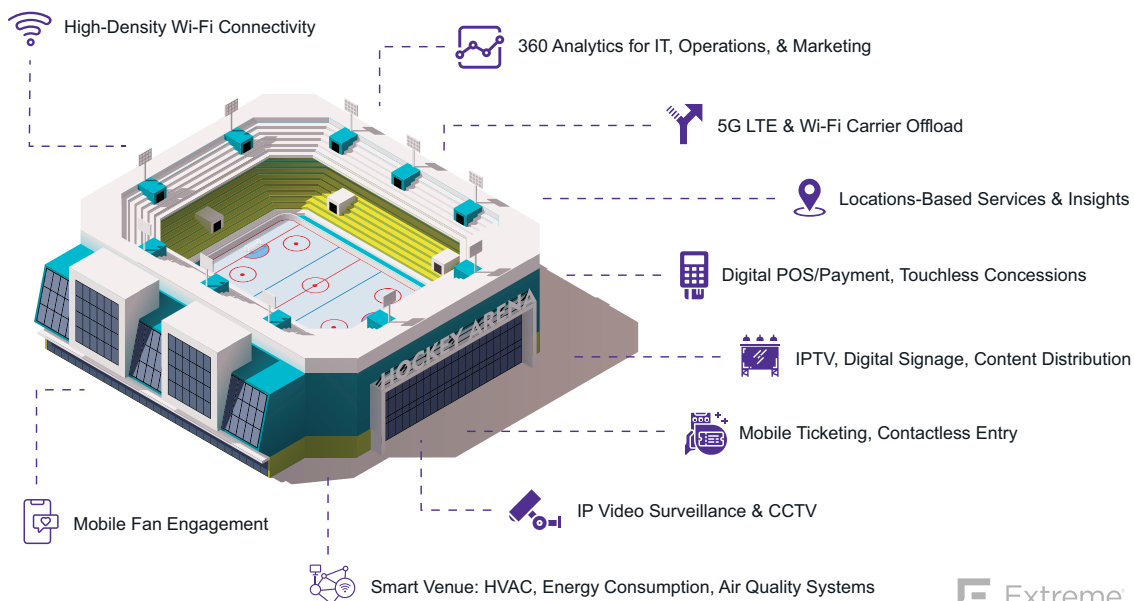


and-center component to delivering a fully enjoyable experience for fans, placing strain on the backbone devices and the staff who support them as well as requiring additional investment to keep the network strong and secure. However, with that investment, there is also opportunity for great insights on the fans who are demanding these services.

*“Quality venue connectivity is paramount to an improved fan experience. Consistent connectivity drives everything from safe and easy vaccine verification to frictionless express entry, to age verification that allows for seamless concession sales. Secure fan connectivity simply leads to a better experience.”*

**Jerome Pickett**  
**Former SVP, General Manager - CLEAR**

## Elements of a Connected Venue with a Converged Network



## Actionable Data

This expectation of connectivity from fans provides an opportunity for venues. How can a venue capitalize on these consumer demands? The answer is to collect actionable data from their network providers. In-venue fans primarily have two ways to connect, either through Wi-Fi or their cellular network.

The full promise of 5G revolutionizing the mobile broadband experience is still a work in progress and therefore cellular networks tend to run slower when heavily trafficked, such as inside a venue with thousands of other fans also taxing the network. Furthermore, any information gathered from traffic about consumer behaviors is only available to the mobile carriers themselves.

By comparison, Wi-Fi provides a unique opportunity for venues to create high-speed connectivity for all users in the venue and collect consumer data for use by the venue and the resident sport organization.

*“We’re starting to look at things like where are people going from what section. Here’s what’s interesting to us: Are you going from one side of the arena to the other side to get to something like a certain menu item that you want or are you staying close to where your seats are because you won’t get back down to the game as quickly as possible. That’s the kind of stuff we don’t really have a good handle on. Our concourses become clogged during the intermission and if we figured out that half the people on one side of the building wanted menu items on the opposite side, we can obviously adjust.”*

**Glenn Johnson**  
**Chief Information Officer**  
**Carolina Hurricanes**

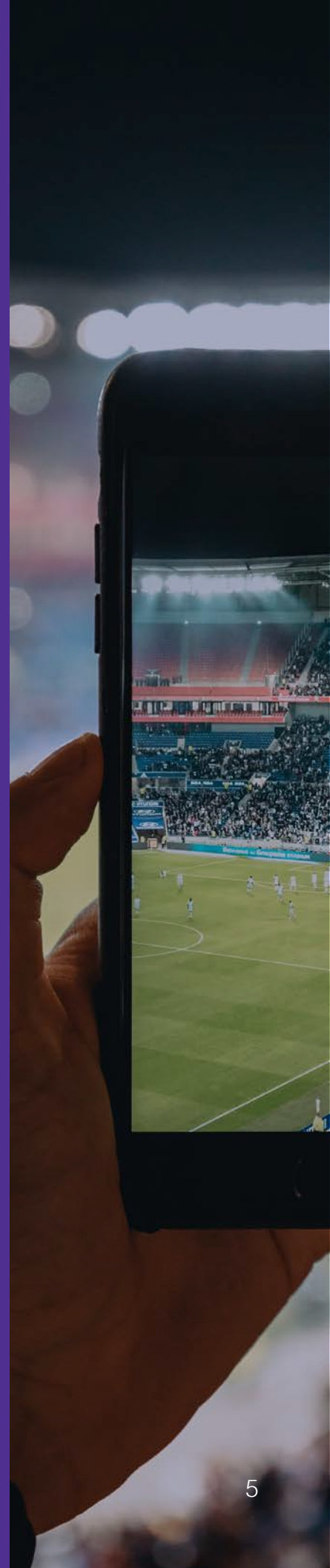
In fact, mobile customers may find their devices transitioned to using Wi-Fi while in a venue without realizing it or taking any action on their behalf. Through a process known as wireless offloading, the data traffic from mobile devices is automatically routed through available networks to relieve mobile network traffic while continuing to meet the demand for bandwidth. Many venues now have agreements with one or more mobile carriers to provide this offloading service inside their facilities.

Once customers are connected to the Wi-Fi, the network can track what apps are being used, how people are moving through the venue, and what activations are being interacted with. This data then becomes actionable through a layer of analysis that outputs real-time insights and recommendations. Instead of understanding visitors solely as demographics, this data allows venues to identify and track more insightful fan behaviors, providing actionable context around each customer. For the fan, it does not matter what kind of system they are connected to as long as they can engage with their phone, but for the venue, the intelligence from behavioral data could make a huge impact. This deeper level of understanding has the potential to enable a significant return on investment for partners with the venue having the opportunity to position itself as a data supplier.

## **The Opportunity: Thesis**

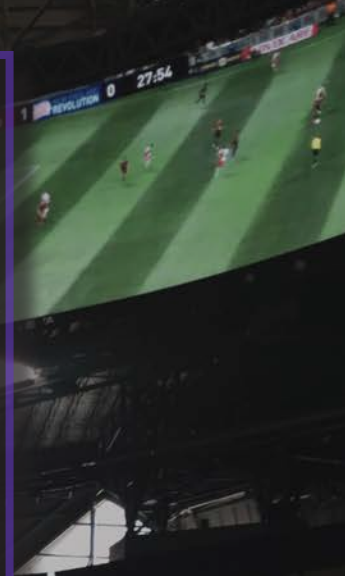
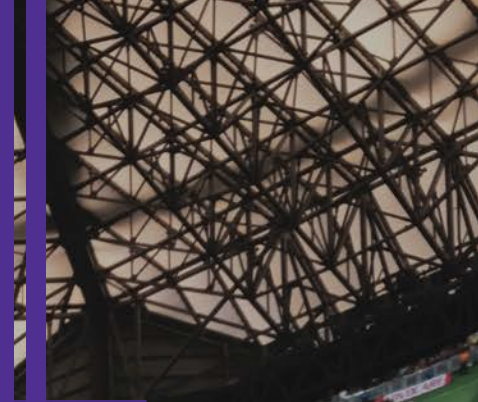
The value of connectivity inside a venue is no longer simply about bringing a network to fans or consumers; the actionable data and insights derived from the network provide an immense opportunity for stadium operators and their partners to better understand their fans and generate new revenue. To explain this data proposition, this report will look at it through three questions:

- **Where is the data coming from?**
- **What does the data tell us?**
- **Why is it valuable?**



## Where Does This Data Come From?

The sources of connectivity data can be broken up into two major sectors: Mobile Device Data and Venue Operations Data.



### Mobile Device Data

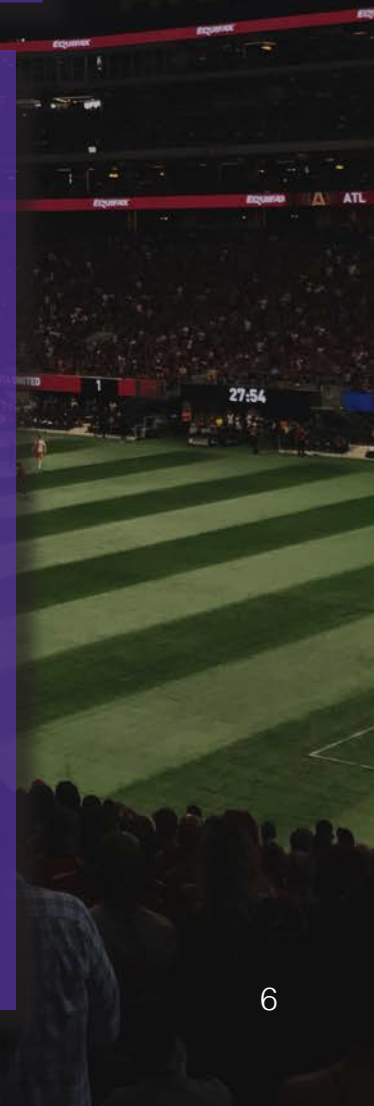
The ubiquity of mobile devices presents a broad flow of data. Almost every fan walking into a venue today has a mobile device in their pocket and through capturing information from these devices, a window into fan behavior can be created. Some key questions that can be answered include:

- What are people doing on their phones when they are in the venue?
- What websites or apps are being frequented?
- Are they interacting with particular websites or apps at particular times or locations throughout the venue?

### Venue Operations Data

Data from across the venue can be captured through cameras, IoT devices, and other sensors, and combined with location-based insights from Wi-Fi, to further understand fan movement and the effectiveness of particular initiatives. Some key questions that can be answered include:

- Which concession stand has the most transactions?
- When are peak times for different concession stands?
- Which ticketing gate saw the most traffic?





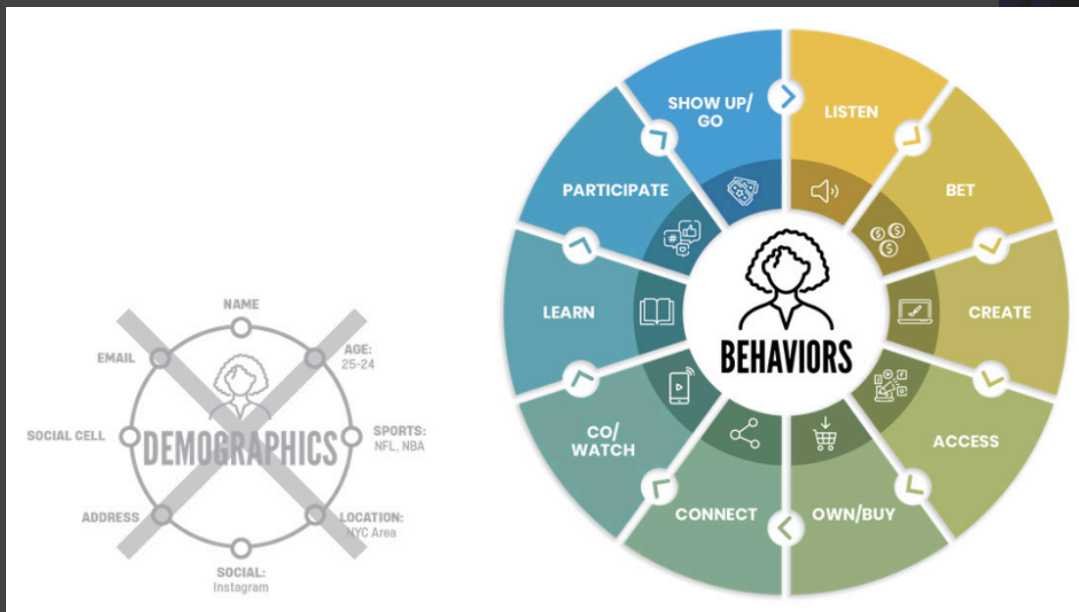
Through combining the Mobile Device data with the Venue Operations data, a more robust view into fan behavior can be established. In particular, location-based analytics can offer value to multiple departments inside an organization ranging from the IT & Technical team, to the Event & Venue Operations team as well as Marketing & Sponsorship. Some key questions that could be answered through this valuable combination of connectivity data include:

- Which sponsor activations in specific locations around a venue prompt fans to utilize their mobile devices?
- Can app usage in specific areas of a venue offer opportunity for physical/digital branding placement with partners?
- Which section is using their phones the most? Are their preferred digital platforms for different sections and segments of fans (for example, a student section vs. a booster/alumni section)
- How do people move about the venue? Can operational efficiencies be identified through gaining better understanding of where and how fans move through the venue?
- Can specific mobile/app traffic be prioritized in key areas of a venue, for example a partner showcase area?



## What Does This Data Tell Us?

Once the data has been gathered, it is time to begin to piece together the story it tells. Without the correct framework and understanding, data is useless. Historically, venues have viewed their fans as one-dimensional demographics, defined by gender, age, geography, and socioeconomic status, but this does not account for many meaningful and actionable insights. The context behind all decisions is missing. The question is no longer who your fans are, but instead what your fans are doing and why they are doing it. Capturing network data is the first step in providing this level of understanding.



## Fan Behaviors

Sports Innovation Lab has recognized that, instead of measuring fan engagement through the number of tickets sold or fans in seats or even demographics, there is a need to look deeper at the behaviors fans exhibit. Through contextualizing engagement into behaviors, we can learn more about fans and what motivates them. In total, we have identified ten behaviors and believe that this provides a robust framework for understanding actionable fan insights.



Network data provides an opportunity to not only identify fan behaviors in the venue, but also once identified, allows for those behaviors to be used to gain a deeper understanding on how to target promotions and engagements for fans. In addition to the SHOW UP behavior, which outlines numerous aspects of the live sports experience and the CONNECT behavior, which outlines a fan's desire to remain connected throughout their experience, we believe insights could be found on some of the behaviors below as well:

## **Learn**

From checking statistics, to keeping an eye on the out-of-town scores, the usage of a mobile device as a "second screen" doesn't go away when enjoying the live sport environment.

## **Participate**

Participatory sponsorship delivered on a mobile device, aligned with in-venue activations provides a unique opportunity for brands to create conversation and build a digital community that extends beyond the fan's attendance at the live event.

## **Bet**

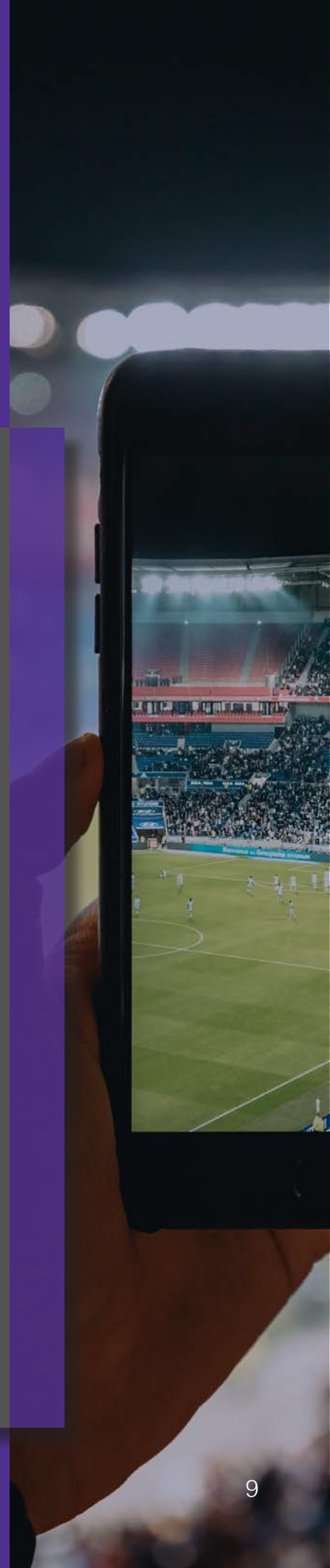
With sports betting being legalized in states across the USA and organizations partnering with in-stadium and online sportsbooks, insight into how fans in the stands are interacting has plenty of value.

## **Own/Buy**

Limited edition merchandise and memorabilia is always popular for collectors. Having a deeper understanding of the wants and desires of those fans may open the door to targeting special promotions and unique items in the future.

## **Create**

The live venue is an unmatched forum for sports and fans have plenty of creative means at the fingertips to capture and share their experiences. Identifying ways to help enhance their handiwork will help forge deeper and longer lasting bonds with fans.





*“I want to emphasize how I feel about connectivity in the venue. It’s so important for our brand. We have 69,000 ambassadors for our brand in the sport on a Seahawks game day. They’re there sharing the experience, they’re having a good time, they’re telling all the friends how great it is to be here and I think that’s what keeps us at the top as far as our fan experience goes. It all starts with connectivity and I think it’s worth the investment.”*

**Chip Suttles**  
**Vice President of Technology -**  
**Seattle Seahawks and Lumen Field Stadium**

## **Why Invest in Data**

When it comes to the stadium network, the value of data and insights does not receive as much attention as the connectivity provided, but data can drive exponential value for stadiums and their partners. In today’s world, businesses are constantly trying to understand their consumer, what they need, want, and how they spend their time. Data helps to answer these questions and can be used in multiple ways.

**Data to Improve Operational Efficiency**

**Data to Prove ROI for Partners**

**Data to Design New Activations and New Inventory**

## Data to Improve Operational Efficiency

Traditionally, the data and insights collected through networks have been used to inform operational decisions inside the venue. In action, this includes examples like opening new concession stands to account for increases in crowds for halftime, new gates facing the public transportation option to streamline ingress and egress, or better Wi-Fi connectivity in all sections to enhance the fan experience. The correct data makes these decisions easy for venues and allows operators to identify pain points they didn't even know existed.

### Case Studies:

#### Fiserv Forum and JMA Wireless

**What:** The Fiserv Forum teamed up with JMA Wireless to bring connectivity and operational insights to its venue.



**Why it Matters:** The Fiserv Forum brought in JMA Wireless to ensure that fans would have reliable connectivity throughout the newly constructed building. Connectivity also powers new operational insights. For example, BruVue is a beverage analytics platform that allows Levy, the concessionaire, to get real-time analytics on what fans consume and when they're drinking it. This helps the concessionaire to better supply fans and provides more actionable insights on fan behavior. This insight comes from BruVue technology, however, and not JMA Wireless themselves.

#### Extreme Networks and the Super Bowl

**What:** Extreme Networks Partnered With the Super Bowl Held in Tampa Bay, Florida.



**Why it Matters:** Extreme Networks designed and deployed a Wi-Fi system to the Buccaneers home stadium, built to meet the needs of a limited capacity covid-conscious super bowl. In addition, they enabled the first 100% cash-free, mobile ticketed event, which allowed the venue to be in direct communication with all fans but required a strong network. Extreme also provided network-driven analytics and insights to better understand their fans' mobile usage patterns and preferences. This real-time and historical data can be used to provide fans with a personalized experience and allow venues to make more informed decisions about their overall digital strategy.

## Data to Prove ROI for Partners

The next layer shifts the focus from the stadium and the fan to maximize the investments of partners and sponsors. In this way, data can help identify the best location and timing for billboard and signage activations and demonstrate direct ROI to partners. This kind of visibility into consumer phone use allows for success metrics such as, “when your commercial played on the jumbotron, 30,000 people visited your website and 5,000 people scanned the QR code.” Sponsorship has always been a gamble with very little data validation. Therefore stadiums that can directly connect themselves to an increase in ROI have massive success.

### Case Study:

#### Indiana Pacers and Umbel

**What:** Through the Indiana Pacers’ new partnership with Umbel, they can use an online contest to gain fan insights & demographic data to drive ticket and merchandise sales and new sponsorships for the franchise.



**Why it Matters:** The Indiana Pacers sponsored a contest to fill spots on the Pacemates dance team—and gave fans a vote in the outcome in exchange for their data. By setting new activation offers, the Pacers could uncover different fan segments and build personas around them to support content and marketing strategies.



## Data to Design New Activations and New Inventory

Beyond using data to prove ROI, this information can develop new sponsorship activations and inventory for stadiums. Instead of operating traditionally, with pricing models built off real-estate and timing, venues can think creatively of ways to sell their old stock, such as a complete stadium sponsorship blast from a specific company or changing signage based on network traffic and trends. This consumer information can also be used to identify unique new partners or create incredible activations targeting fans' inclination to bet, shop, or learn.

### Case Studies:

#### SQWAD Offering Branded Interactive Games

**What:** SQWAD is a digital application platform that works to convert team affinity into tangible results for sponsors.



**Why it Matters:** "Through offering brand-sponsored digital games such as a "Dunkin Race," fans are constantly engaged and providing mobile data. These insights feed into the team's ticketing operations and become part of their sponsor inventory. As a result, the sponsor gains direct access to the fans through the activation, and over the long-term through their data; and, through digital activations, they have the means to quantify their return in near-real-time."

#### Marlins Park in Miami and Gimbal iBeacon

**What:** Marlins Park in Miami has partnered with Gimbal's iBeacon solution to power connectivity in the venue. This partnership enables unique fan experience activations.



**Why it Matters:** "The ballpark provides customer experience optimization by allowing fans to check in using iBeacon technology and receive targeted offers and rewards on smartphones. The app also allows fans to upgrade their seats, follow players' entrance music, and purchase the songs on iTunes. Fans can also share photos as well as order food through the app and have it delivered to their seats."

## Data Itself?

Lastly, there is inherent value in the data itself. Mathematician Clive Humby is famous for saying that data is the new oil and that it is now the most valuable product on Earth. Actionable information is valuable, but when it comes to the opportunity for stadiums and venues, in order to realize that value, they need to first stop thinking of their fans solely as consumers but to also view them as data producers. The data gathered from in-venue connectivity and fan experiences can become a new revenue stream for venues. The challenge for stadiums and their partners going forward is to identify valuable ways to organize, analyze and break up the data to benefit companies such as stadium architecture firms, concessionaires, sports teams, and crowd management tech companies.

*“Wi-Fi and network-driven analytics is the command center when it comes to gaining better visibility into in-stadium activities like sports betting, AR/VR experiences and touchless transactions. Understanding what’s happening and appropriately calibrating the bandwidth to make these activities perform at peak is a unique differentiator. Analytics are the digital currency helping organizations drive better decisions when it comes to optimizing operations, the fan experience, and identifying sponsorship opportunities.”*

**Norman Rice**  
**Chief Operating Officer - Extreme Networks**

## Conclusions

In-venue connectivity solutions can no longer only provide strong networks. Connectivity is now being viewed in the same context as electricity or plumbing. From airplanes to ferries to stadiums, we expect to be connected. Therefore, venues need to continuously invest in network solutions to meet consumer demand. When they combine that investment in connectivity with actionable data collection, venues are embracing the opportunity to better understand their customers and gain more value for themselves and their partners.

1. All venues must make sure that they have a complete stack venue connectivity solution that provides them with fast and stable connectivity, data collection, and actionable analytics. Connectivity is no longer a nice-to-have but instead a need-to-have in order to compete.
2. Venues must understand the data needs of both internal and external partners, and begin to engage in collaborative conversations about how they can start to provide added value through insights.
3. Venues must begin to think of their fans as more than just their final consumers. Instead, they are producers of data and partners in adding value to the venue. The more the venue supports fans, the more the fans, in turn, will provide data.

# End Notes

"5 Sports Stadiums That Score Big with Mobile Engagement." Genesys, October 13, 2016. <https://www.genesys.com/blog/post/5-sports-stadiums-score-big-cx>.

Baida, Ziv. "Why Is Data the Most Valuable Resource in the World?" Insights Unboxed, December 28, 2020. <https://insightsunboxed.com/data-the-most-valuable-resource-ziv-baida/>.

Bhageshpur, Kiran. "Council Post: Data Is the New Oil -- and That's a Good Thing." Forbes. Forbes Magazine, November 15, 2019. <https://www.forbes.com/sites/forbestechcouncil/2019/11/15/data-is-the-new-oil-and-thats-a-good-thing/?sh=678cc5730451>.

"Designing a Successful Wi-Fi Solutions Game Plan for Super Bowl LV." Extreme Networks, February 1, 2021. <https://www.extremenetworks.com/extreme-networks-blog/designing-a-successful-wi-fi-solutions-game-plan-for-super-bowl-lv/>.

"How to Sell Tickets and Increase ... - Www-Media.umbel.com." Umbel. [https://www-media.umbel.com/media/www/white\\_papers/white\\_paper\\_files/Sell\\_Tickets\\_\\_Sponsorships\\_WP.pdf](https://www-media.umbel.com/media/www/white_papers/white_paper_files/Sell_Tickets__Sponsorships_WP.pdf).

"Insights for Everyone: Enabling Data-Driven Decisions - Oracle." Oracle. <https://www.oracle.com/webfolder/assets/ebook/insights-for-everyone/pdf/analytics.pdf>.

"Levy Taps into Data with BruVue at Fiserv Forum, Home of the Milwaukee Bucks." Levy Taps into Data with BruVue at Fiserv Forum, Home of the Milwaukee Bucks | Business Wire, March 5, 2019. <https://www.businesswire.com/news/home/20190305005051/en/Levy-Taps-into-Data-with-BruVue-at-Fiserv-Forum-Home-of-the-Milwaukee-Bucks>.

Martínez, Antonio García. "No, Data Is Not the New Oil." Wired. Conde Nast, February 26, 2019. <https://www.wired.com/story/no-data-is-not-the-new-oil/>.

"Sell More Sponsorship through Digital Contests with Sqwad." SQWAD. <https://www.sqwadhq.com/fan-engagement/>.

Staff, 49ers. "49ers Team up with SAP to Bring Real-Time Data and Analytics to Improve Operational Efficiency at Levi's® Stadium." 49ers Home, October 23, 2018. <https://www.49ers.com/news/49ers-team-up-with-sap-to-bring-real-time-data-and-analytics-to-improve-operatio>.

"University of Pittsburgh Builds a Connected and Engaging Digital Experience." Extreme Networks, August 26, 2020. <https://www.extremenetworks.com/resources/case-study/university-of-pittsburgh-builds-a-connected-and-engaging-digital-experience/>.

"The World's Most Valuable Resource Is No Longer Oil, but Data." The Economist. The Economist Newspaper, May 6, 2017. <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>.

Zoder, Stephan. "How Much Is Your Data Worth?" Forbes.com. Forbes Magazine, August 6, 2019. <https://www.forbes.com/sites/stephanzoder/2019/08/06/how-much-is-your-data-worth/?sh=5ffcc53070fc>.



To learn more about how Extreme Networks helps advance the venue experience for sports teams, please visit Extreme's Sports & Public Venues Solution Page:

[extremenetworks.com/solution/sports-public-venues](https://extremenetworks.com/solution/sports-public-venues)

To request more information or to schedule an exclusive demo of Extreme's next-generation venue analytics platform, please contact:

**Ryan Hall**  
[rhall@extremenetworks.com](mailto:rhall@extremenetworks.com)