

STADIUM

TECH REPORT

FALL 2021

EASY ENTRY

COLUMBUS CREW PUSHES THE TECHNOLOGY ENVELOPE TO SPEED UP STADIUM ENTRY

ALLEGIANST STADIUM OPENS WITH STRONG WI-FI

CIRCA RESORT MAKES A SPLASH WITH HUGE POOLSIDE VIDEOBOARD



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TECH REPORT

Welcome to the third issue of our EIGHTH year of STADIUM TECH REPORTS, the Fall 2021 issue!

These long-form reports are designed to give stadium and large public venue owners and operators, and digital sports business executives a way to dig deep into the topic of stadium technology, via exclusive research and profiles of successful stadium technology deployments, as well as news and analysis of topics important to this growing market.

Our stories for this issue include an in-depth look at the Columbus Crew's new home, Lower.com Field, and its innovative entry technology deployment, which gets fans into the building in record time. We also take a "first look" at a Las Vegas Raiders game at Allegiant Stadium, as well as a feature on the huge videoboards at the swimming pool and sportsbook at the Circa resort in downtown Las Vegas. Who said stadium technology was limited to stadiums?

We'd like to take a quick moment to thank our sponsors, which for this issue include Corning, Verizon, Boingo, MatSing, Cox Business/Hospitality Network, American Tower, CommScope, AmpThink and Belden. Their generous sponsorship makes it possible for us to offer this content free of charge to our readers. We'd also like to welcome readers from the Inside Towers community, who may have found their way here via our ongoing partnership with the excellent publication Inside Towers.

As always, we are here to hear what you have to say: Send me an email to kaps@stadiumtechreport.com and let us know what you think of our STADIUM TECH REPORT series.

Paul Kapustka, Founder & Editor
Stadium Tech Report



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\\ IN THIS ISSUE:

6

LETTER FROM THE EDITOR

8

NEW TECHNOLOGY MAKES FOR EASY ENTRY AT LOWER.COM FIELD

18

ALLEGIANT STADIUM OPENS WITH STRONG WI-FI

26

CIRCA RESORT MAKES A SPLASH WITH BIG POOLSIDE VIDEOBOARD

32

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Paul Kapustka

ALL VENUES SHOULD FOLLOW THE RAIDERS' LEAD AND ONLY ALLOW VACCINATED FANS AT EVENTS

When the NFL's stereotypical bad-boy team with its legendary rowdy fans found a new home in Las Vegas, it was the safe bet to predict dire outcomes from bringing "the Black Hole" to Sin City. But who would have thought that the Las Vegas Raiders and their fans would become the sports-world leaders in fan decorum and vaccination sanity?

That's the early take from the Raiders' first home game conducted with the team's new rules in effect, which require all fans to show proof of a Covid-19 vaccination before they are let in the doors. Instead of waves of people in gorilla suits or spiked armor protesting the requirement, the Sept. 13 Monday Night Football game against the Baltimore Ravens at Allegiant Stadium instead saw the stadium filled with 61,756 fans (out of a 65,000 capacity) who were able to comply with the Raiders'

vaccination rules, in a process that was remarkable for its lack of controversy and snafus on both the fan and team sides of the equation. Requiring all fans to be vaccinated to attend events is a move we think all venues should replicate immediately, both to help keep fans safe and to help ensure that the pandemic doesn't shut down stadiums all over again.

While the movement to require fans to show either proof of vaccination — or in some cases, a recent negative Covid-19 test — to attend

live events is growing, our thinking is that more stadiums and arenas need to jump on the bandwagon. In the NFL, the Raiders have already been joined by the Seattle Seahawks, the New Orleans Saints and the Buffalo Bills, who have announced similar policies. A growing list of NHL and NBA teams and arenas have reported similar requirements, as have many college teams, and the list is growing daily.

But it's not growing fast enough. Too many leagues, teams and venues are passing the buck to local health officials, or politicians, and either doing nothing or falling back on the weakest protection there is, the much-abused "mask mandate." That's where a venue makes a big deal about requiring fans to "wear masks at all times, except when actively eating or drinking." But here's the truth: Mask mandates don't work in big stadiums.

Yes, masks can and do make a difference in virus transmission, but unless you're in a highly controlled environment like a restaurant or an airplane cabin (where non-compliance can result in a big fine and federal criminal charges), they're hard to enforce. In a big stadium, mask mandates are impossible to implement, especially given the low ratio of potential enforcers (ushers, etc.) to potential abusers (thousands of fans).

Throw in alcohol consumption and you are pretty much guaranteed to have widespread non-compliance, which some confused fans see as a badge of courage or honor. I agree it might be within the letter of the law but to claim "I couldn't wear a mask because I never stopped drinking" seems to miss the point.

THE MAJORITY IS IN FAVOR OF PREVENTATIVE MEASURES

Lest you think that angering the mask-adverse is a bad business decision, you should consider what happened at the first full games this season at Buffalo's Highmark Stadium. In Buffalo, fans who were complying with the mask mandates got loudly upset about their neighbors who weren't, and whether the teams will admit it or not, that response — in social media and in direct complaints to the teams — most likely carried a big weight in the decision to make vaccination proof part of attendance for both places, going forward.

And while some fans might not make the best decisions and come to games even if they're not protected by a vaccination requirement, venues are already feeling pressure from two other important groups to make events safer — the unsung venue employees as well as the top-name talent.

This year we have seen NFL teams warn fans that lines may be long because of "staffing issues," a problem that has caused snafus

at several big college venues this football season. Never among the highest-paying jobs, the part-time gigs at stadiums on game day suddenly seem a lot less attractive when the bonus is potentially catching Covid from an unmasked, unvaccinated fan.

Big entertainment acts like Garth Brooks and others are canceling stadium shows because they don't want to play in places with thousands of unvaccinated attendees. Keep your venue free of restrictions and you might end up with a stadium full of fans but with nobody to feed them, pour them a beer, or with an empty stage. None of those options sounds like a smart way to go.

So why not support and attract the majority, by making your venue a safer place? The Raiders showed not just great leadership but great service to their fans with their decision and their process. It was a last-minute thing, but the team really did all it could to make it easy for fans to comply. They partnered with Clear to make an easy app available for proof of vaccination. They had tents open three days before the game at the stadium so fans could figure things out well before game time. They gave away free vaccination shots in the parking lot. What happened?

On the no-vax side, a protest attracted about 40 people outside the gates. Inside, more than 61,000 fans voted with their arms, saying a vaccine was worth it. Even

more impressive was the Raiders' claim that 6,000 of those fans got their first shot in between the announcement of the rule and game time. If all stadiums joined the Raiders, maybe we could get enough unvaccinated folks to join the rest of us and head this thing off before it can hatch any new variants.



Fans wait in line for vaccination screening. Credit: Alan Snel, LVSportsBiz.com

Looking not too far back, teams and venues helped lead the way to safety in the earliest days of the Covid-19 pandemic, opening their doors and parking lots first for mass testing sites, and then again for vaccination sites, donating a lot of space, time and energy to help get the world on the right side of the equation. It's time now for venues to take another big leadership step, in favor of the majority of people who want this pandemic to end.



EASY ENTRY

Columbus Crew pushes the technology envelope to speed up stadium entry

BY PAUL KAPUSTKA

Whenever a new stadium opens, the team running the venue knows that an unexpected test of its systems is going to come — you just don't know when. For the Columbus Crew, there was one big test of its bleeding-edge stadium-entry technology package during the fifth regular-season game ever at the new Lower.com Field. And it arrived in spectacular fashion, in the form of a big midwestern summer thunderstorm that hovered over the stadium a couple hours before game time, flashing lightning and blowing rain sideways.

When the storm refused to cooperate by not going away, the team was forced to keep pushing back the time when it could safely open the gates to welcome fans into the building. Even as the rain still came down, fans were starting to gather in big bunches outside the entryways, waiting for the all-clear. As the delay crept closer to game time, the big question was: Would fans be able to get inside and to their seats before kickoff? Or would there be lines, frustration, and anger?

The answer was a happy ending. As soon as the venue opened its gates, fans flowed inside at a pace not seen at many stadiums, at least not those that were not just checking tickets but also performing security screening. Thanks to a deployment of leading-edge technologies that included widespread Wi-Fi, self-scanning ticketing pedestals, walk-through weapons detectors and even a facial-authentication ticketing option, the Crew was able to get its crew of supporters inside in rapid fashion — perhaps heralding what might be the new entry-way standard for other venues to follow.

Stadium Tech Report was on hand for the rain-soaked afternoon of Aug. 7, which turned into a pleasant evening for a match with the clouds departing shortly after kickoff in the game between the Crew and the visiting Atlanta United

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FC. During our pre-game tour of the brand-new venue and before and during the game we got a good sense that the technology team led by Brandon Covert was delivering on its goals to make Lower.com Field “one of the best venues,” and especially backing up its claim to have “the best, fastest ingress that exists.”

FINDING OUT WHAT FANS WANT MOST

If you’re not familiar with the recent history of the Columbus Crew, you can do a little research to learn more about the drama from a few years back, when

For an estimated cost of \$314 million, the new downtown stadium opened this year on July 3, with an announced capacity of 20,371 and a sleek, slick look-and-feel that includes high-end premium seating and club areas as well as a dedicated standing section for the Nordecke, the Crew’s most-rabid supporters group.

Underpinning all the amenities was a solid plan for using technology to improve the fan experience, an exercise that Covert said was informed by a “research-based approach” that included significant outreach to fans.



Fans stream in past the weapons detectors at Lower.com Field’s main entry. Credit all photos: Paul Kapustka, STR

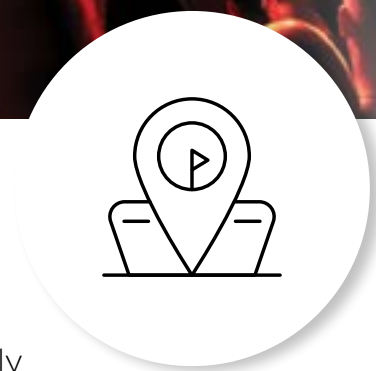
the then-owners threatened to move the franchise to Austin, Texas, if demands for a new downtown stadium weren’t met. In the end, it all turned out well for Columbus Crew fans as the Haslam family – owners of the Cleveland Browns – stepped up and took over the club, with their own plans to build what is now known as Lower.com Field.

“We asked what do fans want, what do you keep [from the old stadium] and what do you replace,” Covert said. Some recurring themes that emerged included more self-service interactions, more food and commerce choices, and also a desire for easier ways to get in and out of the stadium.

“Ingress and concessions are challenging parts of any live event,” Covert said. “Our focus was how do you make it better.”



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Top: One of the Evolv weapons detectors, which fans walk past to be scanned. Below: The Crew's explosive player introductions.

In the middle of the stadium's construction the added challenge of building during a worldwide pandemic arrived, along with the need to address even more fan concerns with touchless interactions and personal safety. Like many other venues that contemplated how to deal with hosting large events in the midst of a still-active virus spread, the Crew's team focused even more on eliminating lines, especially at the entry to the stadium, historically one of the biggest pain points of any large venue. Bringing multiple technology advancements to the entry problem.

In recent history, venues of all shapes and sizes have started making moves toward the future, leaving the

legacy of hand-punching paper tickets far behind. But the challenges required to safely host large-attendance events, which these days include security screening, bag checks and probably soon vaccination certification as well, can sometimes clash with legacy issues like physical entry gates built decades ago.

And while many if not all teams and venues have moved fully to digital ticketing, especially after the Covid-19 pandemic, the best practices for how to incorporate more technology into entry procedures are still a work in progress. Stadiums continue to suffer from the last-minute ticket download problem, where fans wait until they are outside a venue's gates to try to load their ticket into their phone, often causing stresses on entryway wireless systems while impatient crowds back up, frustrated that they can't get inside.

And the fact that there is yet no worldwide default standard among the multiple different digital-ticketing deployment schemes, including near-field communications (NFC) tickets, bar codes and other wallet-type technologies, means that fans can often be confused about which method is the best for any given venue. Some venues are also still using handheld ticket-scanning devices, which require training and a somewhat unwanted human interaction.

The majority of venues today also still are using older single-person magnetometer devices, which require fans to empty pockets and purses in a process that be a big bottleneck for entry lines, especially so in adverse weather conditions.

For Columbus Crew fans, however, most of that pain is a thing of the past. If you want to see a vision of what the future looks like, spend some time outside Lower.com Field's main entryway, where you can see what happens when new technology is combined with a thoughtful plan on how to get fans inside a venue in a far faster fashion than ever seen before.

“Ingress and concessions are the challenging parts of any live event,” Covert said. “Our focus was how do you make it better.”



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As a new build, Lower.com Field had the advantage not available to some older venues in that it could design itself physically for easier access. In Lower.com Field's case that involves a large stair-stepped plaza at the stadium's southeast corner that is wide enough to accommodate more than 20 separate entry lines. Solid Wi-Fi coverage is provided by access points mounted on light poles throughout the plaza, allowing the Crew to set up the multiple entry lanes in whatever fashion is needed. The ticketing turnstiles, from Austria-based Axess, are battery-powered and Wi-Fi enabled, helping with the flexible positioning.

Though the turnstiles may be different than those fans are used to seeing, according to Renier Steyn, managing director for Axess's America operation, the devices' ability to handle any type of input — including NFC, scanned or RFID technologies — becomes familiar after just a few encounters.

"Like anything else it's an education process," said Steyn, whose company is rapidly earning wins at U.S. venues for the flexibility and power of its entry-gate hardware. "By the third game, most people know what to do."

Steyn said one of the reasons more venues are choosing Axess is because the company directly integrates its hardware with whatever ticketing platform the venue uses. That means a more efficient ticketing solution, with no extra software for users to navigate.

"Our secret sauce is that we have no middleware," Steyn said. "We don't have a dog in the software race."

USING YOUR FACE TO GET IN

And in a service free for fans who take a minute to register ahead of time, there's even an easier way to get your ticket checked: You simply walk up to one of the specially designed turnstiles that has an Wicket kiosk mounted on the top, look at the screen and smile. Using facial-recognition technology from a firm called Wicket, the Crew now allows pre-registered fans to simply walk up to turnstiles equipped with the tablet-

like Wicket Kiosk to have their tickets confirmed. Not only is it a much faster process for single fans, but it also appreciably speeds up the ticket-checking time for groups of fans attending an event together, like friends, families or even larger groups who are all sharing a single-transaction purchase.

"If you're enrolled in the free Crew Express Access program it takes about a half a second for the Wicket Kiosk to recognize you, and you're in," Covert said. "And with one scan, an entire group can walk in. With regular mobile ticketing, you can't do that, you still have to scan every bar code."

Stadium Tech Report saw visible proof of the facial-recognition speed improvements, as a few families (who had clearly been through the process before) followed the leader quickly past the turnstile. One fan who said he'd heard about the program through social media — and who had a smiling friend follow him in through the already-shorter entry line — said the process was "easy, and fun."

Jeff Josephson, vice president for venue partnerships at Wicket, said the company was "very proud" of the Lower.com Field deployment, and the speed of entry



it is enabling. Unlike some other facial-recognition technologies, Josephson said that Wicket's system doesn't actually store any facial information anywhere on the device but instead uses what it calls its "facial authentication" system, which uses artificial intelligence to map a face digitally, and uses that code to authenticate people.

So, if someone were to steal the kiosk at a stadium, "they might get a nice tablet, but there are no photos of people on that device," Josephson said. According to Covert, Wicket did all the integration to pair the authentication system with the team's ticketing software, making it a single-step process to look at the screen and be authenticated.

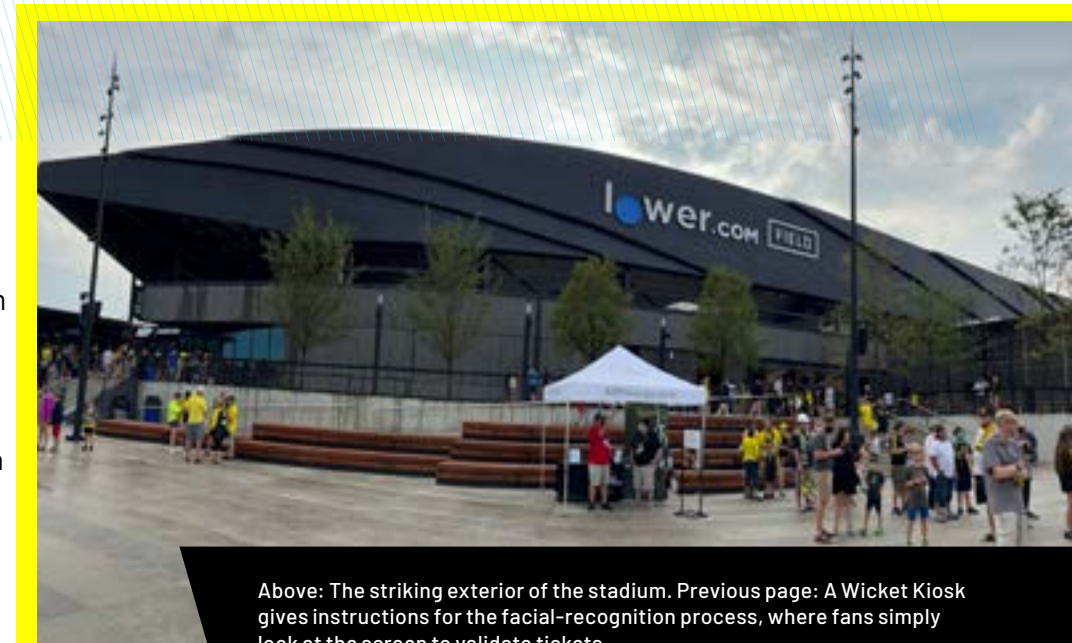
And according to Wicket's Josephson, for fans the believing is in the seeing.

"The biggest challenge is always training people, and you have to offer value and incentive for new behaviors," Josephson said. "But when you see the shorter lines (the facial-recognition system users get a separate entry line) and how easy it is, other people ask 'how do I do that?'"

NO STOPPING FOR SECURITY SCREENING

After getting their tickets confirmed, fans at Lower.com Field then head through security screening — a process that may confuse, yet delight, fans since there was no gate to walk through, just a pathway bordered by one of the new panel-style screening systems that can scan multiple people at one time, including families, with no need for most to empty pockets or stop for any similar kind of procedure.

"About 95 percent of our fans probably have no idea that they just went through security screening," said Covert, grinning as he watched the fast, steady stream of fans clear the ticketing area to head into the stadium proper. From our vantage point we watched some people raise their arms (like you need to do in some



Above: The striking exterior of the stadium. Previous page: A Wicket Kiosk gives instructions for the facial-recognition process, where fans simply look at the screen to validate tickets.

airport scanners), others look around, before most just kept walking through.

According to Covert the screening system chosen by Lower.com Field, called Evolv Express from a company called Evolv, are "one hundred percent game-changers." From what we witnessed at Lower.com Field, the Evolv systems lived up to their stated goals of "streamlining the process and eliminating the bottleneck associated with security screening all while improving security and minimizing the need for security staff to interact with fans."

According to the company, the Evolv Express system uses artificial intelligence to differentiate carried weapons from everyday items such as smartphones, keys, and other personal items, whether those items are carried in by hand or concealed in a bag or pocket. Security staff have multiple mechanisms to help them ensure alerts are not missed; according to Evolv when an alert is raised, a red light on the back of the weapons detector is illuminated first, then a digital photo of the person and an audible alarm are simultaneously presented and signaled on a local tablet.

According to Covert the system typically only requires five percent or fewer of fans to be stopped for an extra search. During our visit most of the alerts we saw seemed to be caused by umbrellas or purses being held under rain jackets.

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At Lower.com Field, security staffers watched the alert process from the end of a corral area where fans walked through. According to Evolv and to Covert the Evolv system requires fewer security staffers to operate, but those staffers do have to learn a different process.

"You do need a strong crew to run the entire entry process," Covert said. But thanks to the self-scanning ticketing system, Lower.com Field and the Crew require fewer attendants at the turnstiles – according to Covert, what used to be a ticket taker for every entry line now sees six attendants covering as many as 24 lanes.

"We're really proud of the whole system," Covert said. "We get a lot of joy from the delight that fans have expressed about it."

GOOD WI-FI AND AN ELVIS SINGALONG

With the big crowd quickly ushered inside – by our estimates it took less than 15 minutes to completely clear the southeast gate entry – fans were able to get to their seats well ahead of the Crew's traditional pregame singalong, swaying side to side while singing along with a recording of Elvis Presley singing "Fools Rush In."

A message on both of the stadium's large videoboards alerted fans to the availability of free stadium Wi-Fi, which was designed and installed by AmpThink using Wi-Fi 6 gear from Aruba, a Hewlett Packard Enterprise company. For most of the bowl seating the APs were installed in under-seat enclosures. For the outdoor areas like the plaza, a small pole-mounted AP was used. In total the venue has approximately 615 APs, according to Covert.

While the stadium's cellular distributed antenna system (DAS) was not yet active with carrier signals on the day of our visit, the Crew is in the process of signing contracts with all three of the major U.S. wireless carriers. Verizon already had its automatic customer switch to Wi-Fi working when we visited, and without

any manipulation our Verizon device connected quickly to Wi-Fi once we were inside.

A few random speed tests of the Wi-Fi signal while walking around saw one measurement of 39 Mbps for download and 55 Mbps for upload (at the southeast plaza area during the ticketing rush) and a 55.4 / 27.1 measurement in the lower bowl just before kickoff. According to Covert the team has already seen games with as many as 9,000 concurrent connections.

A GREAT START WITH MORE TO COME

As one of the original 10 teams that was part of Major League Soccer when it was formed in 1996, the Columbus Crew is now writing a new part of its history, as an organization well ahead of the curve when it comes to using technology to improve the fan experience. Stadium Tech Report plans to cover more of the venue's attributes, like the cutting-edge IPTV network powered by TriplePlay, and future plans like mobile ordering and express pickup and delivery for concessions.

Local fans should also see more amenities added as the future unfolds, as one of the dirt parking lots in the shadow of the iconic yellow "Crew" smokestack is scheduled to become a mixed-use development with residential and commercial properties. Such nearby associated properties are a growing hallmark for venues everywhere, as teams try to change stadiums from being a drive-up and leave place to a gathering spot where fans can linger before and after events, and perhaps even walk right home.

Like the entryway operation, there's a lot to like about the new ways of doing things at the new home of the Columbus Crew.





ALLEGIANT STADIUM WELCOMES RAIDERS FANS WITH SOLID WI-FI

\\ BY PAUL KAPUSTKA

If you're a Raiders fan, you are probably ecstatic about the new place your team — the Las Vegas Raiders — can finally call home. And among all the amenities stuffed into Allegiant Stadium, a solid fan-facing Wi-Fi network stands out, delivering positive results from the first set of full-attendance events.

Though it's been officially "open" for more than a year, the new home of the Raiders located just across the highway from the south end of the Las Vegas Strip wasn't able to host full-attendance events last year due to the Covid-19 pandemic. But this summer as vaccinations helped beat back the infection rate, Allegiant Stadium was open for business, including the first Raiders game with fans, an Aug. 14 preseason event that Stadium Tech Report was on hand to watch.

What we found was good, solid Wi-Fi signals at many locations in and around the building, with some unexpectedly good marks in places tough to cover. While the Wi-Fi will probably only get better over time as the Raiders' IT team has a chance to fine-tune it with fans in the stadium, it's

already part of an attractive package that should help keep the fan experience satisfying during the team's inaugural season.

EXPERIENCE, DESIGN, AND A YEAR OF FINE-TUNING

Last year, Allegiant Stadium opened for football games but was closed to fans. With a Wi-Fi 6 network using equipment from Cisco, and an extensive cellular distributed antenna system (DAS) deployment by DAS Group Professionals using gear from JMA Wireless and MatSing, integrated fiber and cable infrastructure from



Raiders vice president of IT Matt Pasco strikes a pose in front the the AI Davis Torch. Credit all photos: Paul Kapustka, STR

CommScope, backbone services from Cox Business/Hospitality Network, digital displays from Samsung, and design and converged network planning directed by AmpThink, the Raiders used an all-star team of partners to reach the organization's desire to provide what Raiders' vice president of IT Matt Pasco calls "a top-notch fan experience."

And so far this fall, while the team has done its part with two exciting overtime overtime home wins to open the season, the technology has also come through.

"Raiders fans deserve the world, and they finally have a home to call their own," said Pasco, in a mid-game interview at the August preseason game. "I'm extremely proud of what we've done."

According to Pasco the Raiders ran all the technology last year as if each game was a regular event, with fully lit networks and programs for audio and visual components. Doing so allowed the Raiders to do a lot of fine-tuning that is always necessary whenever you launch a technology-filled stadium.

And the fine-tuning paid off. Our speedtests during our visit showed good coverage in many locations, with Wi-Fi speeds above 30 Mbps for download outside the main entry gates, a mark of 68.4 Mbps down / 83.9 Mbps up in a club area, and 46.8 Mbps / 58.5 Mbps on the upper concourse.

"We ran everything last year as if it were a full stadium," Pasco said. "We did IPTV, video, and tested the Wi-Fi as well as you can without having bodies in the seats. We were able to get through a lot of the issues you get whenever you build something of this size."

NEW WIRELESS TECHNOLOGY HELPS OVERCOME CONSTRUCTION CHALLENGES

Pasco and the Raiders also took advantage of the extra time before fans attended games at Allegiant Stadium to integrate some cutting-edge technology from Cisco, the company's new Catalyst 9104 Wi-Fi antennas, which have a much greater reach capability, able to

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Top: Raiders fans celebrate a TD; bottom: A view of the stadium's roof

reach client devices more than 100 feet away from the antenna.

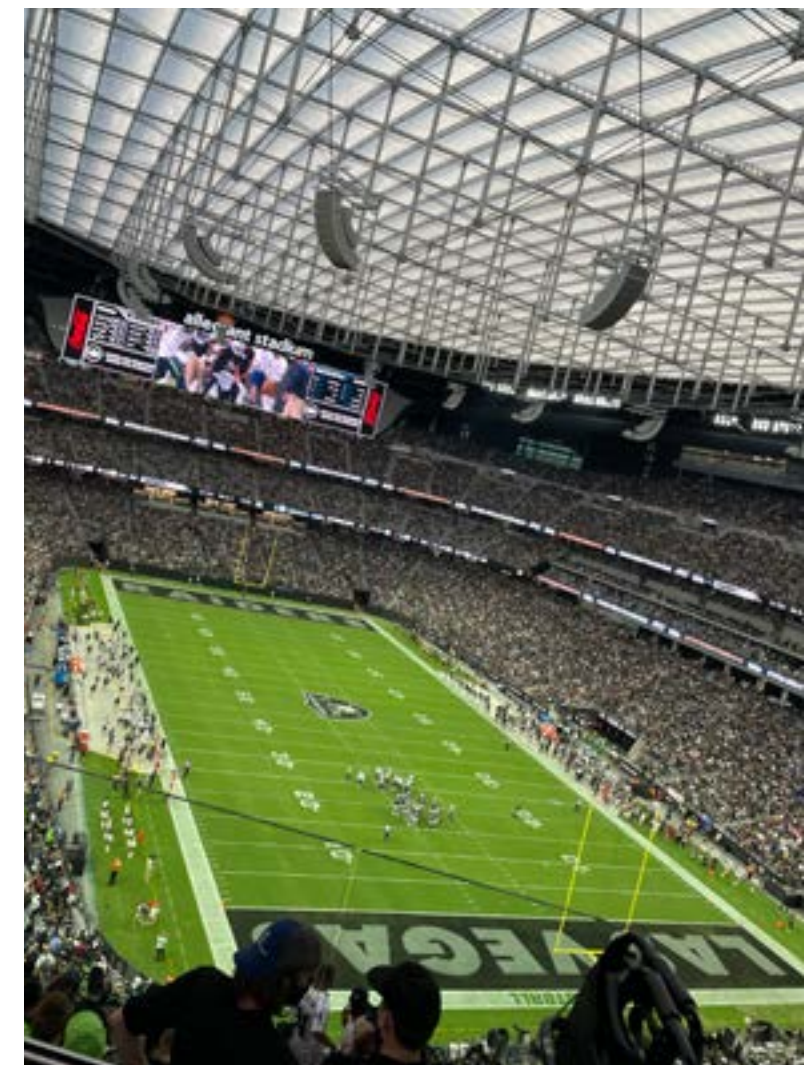
Allegiant Stadium was the first place the new Cisco gear was installed, and in one location the technology was a perfect answer for a construction problem. One of the hallmarks of the building is the north main-concourse "peristyle" area, where the LED Torch that honors former Raiders owner and coach Al Davis is the central focus of a wide-open space where fans can gather.

With no seats above the Torch and windows that can open to the outside on one side, the space is alluring and attractive – and a complete headache for wireless coverage, since the closest spot for antenna mounts for Wi-Fi or cellular is way up on the roof structure, some 90-plus feet above the floor.

"I asked about putting some Wi-Fi antennas on the Torch but got 'no' for an answer," Pasco said, laughing. Instead, the Raiders turned to two new developments in wireless technology to provide the coverage they needed. On the cellular side, Allegiant Stadium installed several MatSing Lens antennas directly over the torch. With their patented "ball" shapes and ability to focus tight beams of coverage that can extend much farther than regular cellular antennas, the MatSings were a perfect fit for the stadiums' DAS. (MatSing antennas proved to be so useful that the Raiders ended up installing 27 of them throughout the building.)

And during the past summer when the new Cisco Wi-Fi antennas became available the stadium installed some of those above the peristyle area. During our conversation with Pasco, Stadium Tech Report was able to get a Wi-Fi speedtest of 62.4 Mbps on the download and 66.1 Mbps on the upload while standing right next to the torch, pretty good proof that the new Cisco gear was delivering as promised.

Statistics provided by Pasco's office show the Raiders recording 15.66 terabytes of Wi-Fi data for their season-opening Monday Night Football game against the Baltimore Ravens on Sept. 13. That followed a total-tonnage Wi-Fi mark of 11.75 TB during a wrestling event on Aug. 21 and just more than 9 TB during a college game on Sept. 4.





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The stadium’s public start has not been without its hiccups – during the wrestling event the building was unable to process any concession transactions for several hours due to a national outage issue that affected one of the stadium’s payment-processing services. While the issue wasn’t with any of the systems controlled by the Raiders, the team still had to deal with the fans in the building and compensated by giving away food and beverages during the outage.

The Raiders also seem to be especially responsive to solving other issues that inevitably crop up when you open a facility of the size of Allegiant Stadium in an urban area, including tweaking parking and traffic patterns to help streamline the flow of fans into the building on game days. During our visit the Raiders helped alleviate the 100-degree afternoon heat by providing cool-air misters in many locations outside the entry gates. Inside, the stadium was cool and comfortable, affirming the team’s decision to build a domed building in the desert.

Technology also played a role in supporting a smooth operation of the Raiders’ requirement that all fans attending events show proof of a Covid-19 vaccination, as a partnership with Clear provided an easy-to-use app that allowed fans to scan their vaccination cards. The Raiders also set up tents in the Allegiant Stadium parking lots and opened them a few days before the first regular-season game so that fans could either provide proof of vaccination or even get a free vaccine shot well before game day or game time.

“Having this building finally open to our fans is really rewarding,” Pasco said. “I’m super proud of what’s been built.”



Top: MatSing Lens antennas in their iconic ball shape were painted black to blend in with the infrastructure. Below: Selfies and stadium photos were the order of the day for fans making their first visit.

MASSIVE POOLSIDE VIDEO BOARD MAKES A SPLASH AT LAS VEGAS' CIRCA



The videoboard at the Circa pool stays on sports all day, every day. Credit: Paul Kapustka, STR

Stadium-sized screens at pool and sportsbook attract sports fans to new downtown Vegas resort

\\ BY PAUL KAPUSTKA

Sports fans who are looking for a stadium-sized experience during their next Las Vegas stay might want to check out Circa, a new downtown resort with a massive poolside videoboard and a three-story sportsbook with its own huge screen, amenities that might have started a new big-screen arms race outside of traditional sports venues.

With the two big videoboards, owner and Circa CEO Derek Stevens is tapping into a somewhat new trend in the sports scene, the idea of large public “viewing parties” that have most of the benefits of live sports



Circa CEO Derek Stevens in front of the iconic ‘Vegas Vickie’ neon sign, which was repurposed inside the resort. Credit: Circa Resort



You can host 4,000 people for a poolside TV party if your screen is big enough. Credit: Paul Kapustka, STR

— like an energized crowd and a great view of the action — with amenities you can’t find inside a stadium, like a swim-up bar or being able to place bets from a barcoulounger in the sports book. According to Circa, both the pool and the sportsbook have been popular since the resort’s opening last year, especially at big events like the Final Four and home games for the NHL’s Las Vegas Knights and the Las Vegas Raiders.

“It’s Disneyland for the sports fan,” said Josh Francois, managing director for the spectaculars division at Daktronics, the display manufacturer that supplied the oversized screens to Circa, which opened in late 2020. With a 143-foot diagonal reach for its 14-million-megapixel LED screen, the videoboard at the resort’s 4,000-capacity “Stadium Swim” pool plays sports all the time, often splitting the screen into many multiple windows of simultaneous events. Even when a DJ is spinning tunes for a poolside vibe, the screen never switches from sports, according to Circa.

Inside the casino area the three-story sportsbook’s videoboard checks in with measurements of 40 feet high by 120 feet wide, with a 2.5mm pixel pitch. Positioned to one side is the betting oddsboard, itself another screen that is 25 feet tall and 45 feet wide, with a 3.9 mm pixel pitch. With a capacity of 1,000 amongst its three levels (where you can find a free seat or pay more for booths and lounge chairs), the sportsbook touts itself as the biggest ever, but like with any arms race it’s a good bet others have seen what Circa has done and are already planning their own reply.



The Circa's sportsbook screen can be seen from three levels of seating. Credit: Paul Kapustka, STR

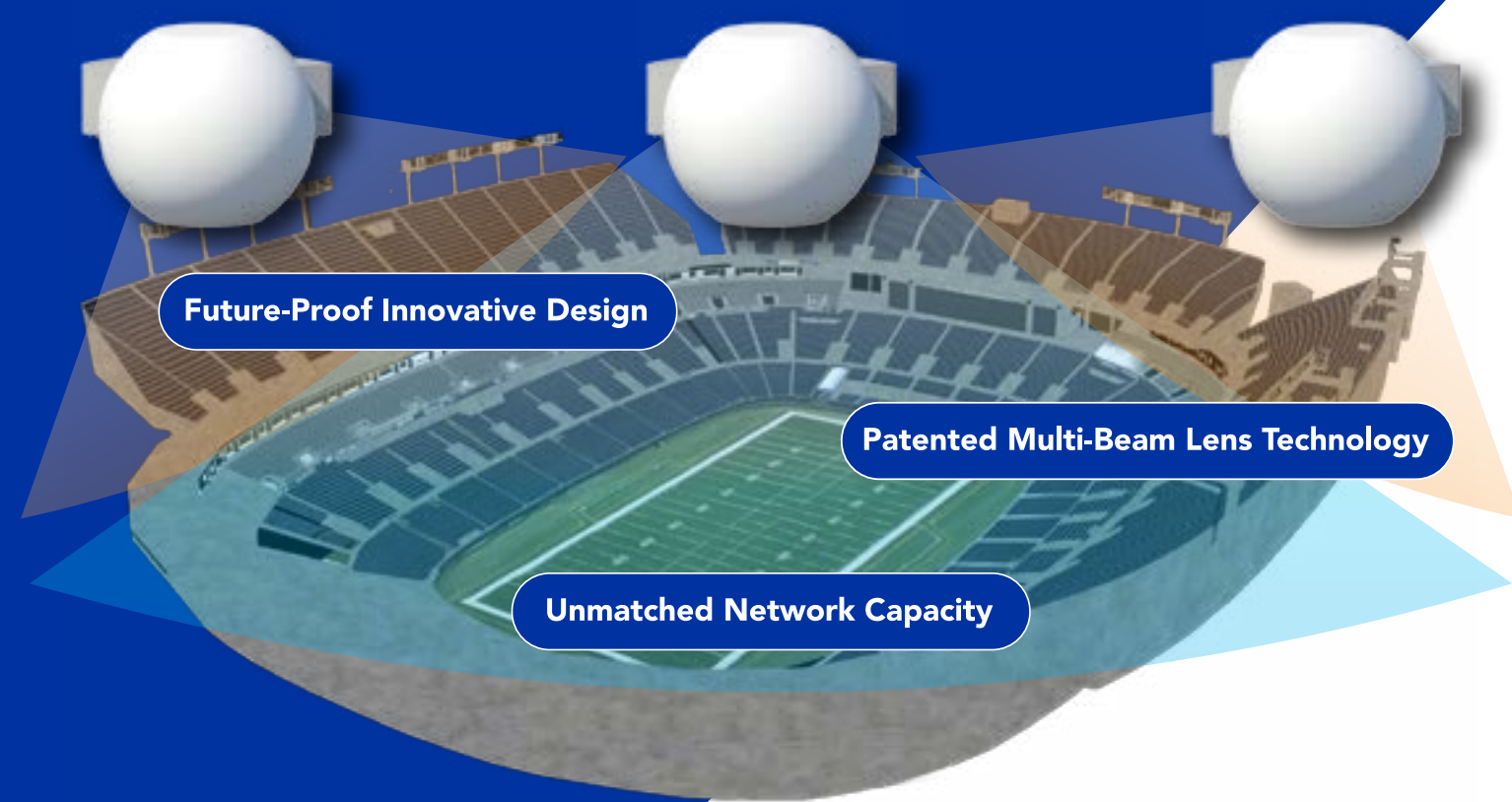
CIRCA OWNERS TEST-DROVE WATCH PARTIES IN DOWNTOWN LV

One of the more interesting trends that has grown significantly is the “watch party,” many times a gathering that takes place either inside or outside a team’s venue when that team is playing on the road, usually for an important playoff or championship game. This past summer the Milwaukee Bucks may have seen the biggest such gathering yet, when a crowd estimated at 65,000 or more packed the “Deer District” plaza directly outside Fiserv Forum during the game when the Bucks won Game 6 to claim the NBA title. Though the Deer District doesn’t have a permanent big screen – yet! – other venues like the Golden State Warriors have put big screens on the outside walls of their new stadiums, with the idea that fans may want

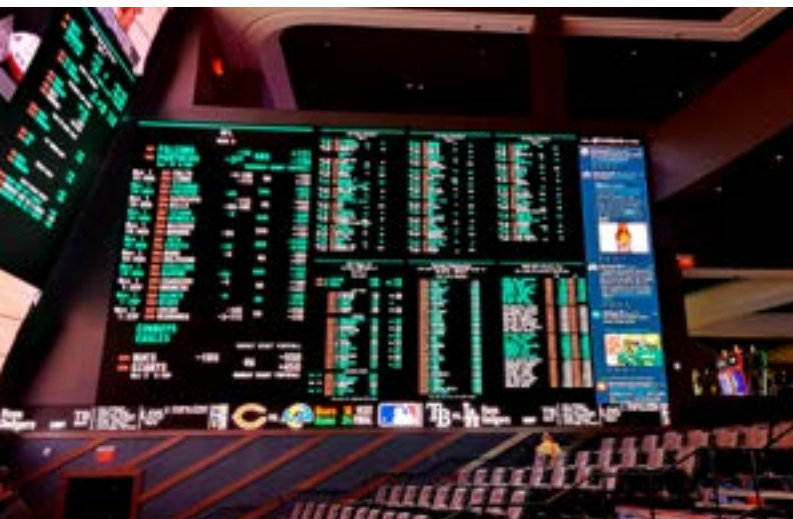
to gather there to get a game-day vibe even when the game is not there or if they don’t have a ticket. For the past three years, the Circa’s owners (Derek Stevens and his business partner and brother Greg) have been holding their own big-screen outdoor watch parties, at the Downtown Las Vegas Events Center, a property they also own. “Those events were kind of a proof of concept, to be part of a community, and people packed the events,” said Steve Hamlin, a partner with Tre’ Builders, a Las Vegas firm that managed the construction of the Circa. Moving that idea inside the Circa at both the pool and the sportsbook was part of the sports-focused plan for the resort, said Hamlin. “Derek Stevens wanted it [the resort] to be the biggest and best place to watch a game,” Hamlin said.



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Top: The Circa also has a huge videoboard on one of its outside walls. Bottom: The sportsbook has a separate big screen to show odds. Credit both photos: Circa Resort

TECHNICAL CHALLENGES FOR A SCREEN BY THE POOL

While Daktronics has loads of experience installing big videoboards in stadiums across the world, the pool board presented a brand new set of challenges.

“There was nothing standard about it,” said Daktronics’ Francois. Unlike boards at stadiums, the Stadium Swim screen basically runs all day long, since the pool is open until 11 p.m. at night, 365 days a year. According to Francois, some of the tweaks necessary to operate the board included building catwalks into the back side of the displays for maintenance crews.

Tre’ Builders’ Hamlin said that the Events Center watch parties let the Circa team figure out the relative

position of the Las Vegas sun and how that would affect the pool’s board placement. Daktronics, he said, also had to build custom modules for the screen’s diodes since the owners wanted the board to be visible from any of the hotel rooms facing the pool. Without the custom gear, Hamlin said the board would have only been visible about halfway up the 55-story building. “Now you can see it clearly all the way up to the rooftop,” Hamlin said.

‘MORE FUN THAN BEING AT THE GAME’

According to Mike Dini, Circa director of marketing, both the pool and the sportsbook have been “a huge success.” During the recent Monday Night Football home opener for the Raiders at Allegiant Stadium across town, Dini said the Stadium Swim was “packed with Raiders fans,” something that happened somewhat organically since the Circa pays more attention to guests from out of town, Dini said.

That said, Dini also said the pool got pretty busy this past spring with watch parties for Golden Knights games, perhaps reflecting that the site may be attractive to both visitors as well as locals who want a place to gather when they can’t get a ticket or when the team is out of town.

And while you’re watching why not go to a place where you can also take a dip in a heated (or cooled) pool, one that boasts some of the most advanced purification methods around, not a small factor for a public site that opened in the middle of a worldwide pandemic. Or make a bet at a huge sportsbook, facilities that can become like small stadiums themselves.

“People want to be entertained, and the idea of betting, or being able to watch games while you dance and swim has definitely taken off,” said Daktronics’ Francois.

“Credit to Derek and Greg for their vision, they saw this before anyone else. It can be more fun than being in the arena.”



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development agency which specifically designs, builds and implements the AmpBoards digital signage and menu CMS HTML solution in large venues and arenas. The powerful platform assists with removing the burden of making menu board and signage updates from Event Day Operators and hands that power to the people who need it most... concessionaires. F&B groups now have the ability to make menu board and other signage updates quickly and easily through an intuitive user interface. AmpBoards currently partners with concessionaires such as Levy, Aramark, Delaware North, VenueNext, Legends and others to build eye-catching menu and signage designs using data and best practices. AmpBoards also currently works with multiple POS and DB providers including SpotOn Enterprise (formerly Appetize), Oracle Micros, Clover/Bypass and VenueNext. Learn more at www.ampboards.com.

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