



Case study



FirstEnergy Stadium Doubles Down on “Fan Obsession” By Achieving One of the Fastest Ingress Experiences in the NFL

FirstEnergy Stadium

LOCATION: Cleveland, Ohio Home to the Cleveland Browns

OPENED: 1999

\$120M RENOVATION: 2015

HOSTS: Professional, College, and High School Football, Concerts, International Soccer Games

CAPACITY: 67,431

WEBSITE: www.firstenergystadium.com

Solution Snapshot

Goals

- Decrease ingress time for improved fan experience
- Reduce security guard fatigue that results in missed threats
- Sustain effective, efficient security screening during extreme weather conditions
- Reduce the number of security staff required to manage security screening
- Slash false alarm rates to improve fan experience and security staff efficacy
- Remove invasive and potentially biased screening on secondary checks
- Integrate security screening with opt-in Wicket facial authentication ticketing system and process

Solution

People

- Delivered two-phase training over two weeks for security managers and guards
- Provide ongoing technical support and training on utilizing Evolv Insights® data for long-term optimization

Technology

- 12 Evolv Express Dual-Lane Systems
- Evolv Cortex AI®
- Evolv Insights®

Process

- Evolv Engineering Solutions team deployed 12 Dual-Lane Evolv Express® systems
- Supported ConOps strategy by sharing best practices to mitigate security staff risk

Outcomes



Shrank security screening footprint from 100 metal detectors to 12 Express systems



Reduced false alarm rate for secondary screening



Reduced staff required for security screening by 53%—from 150 to 70



Screened 18,000 guests in 45 minutes



Decreased total ingress time by 76%—from around 25 minutes to around 6 minutes (to less than 60 seconds with facial recognition ticketing)

Testing Out Evolv Security Screening

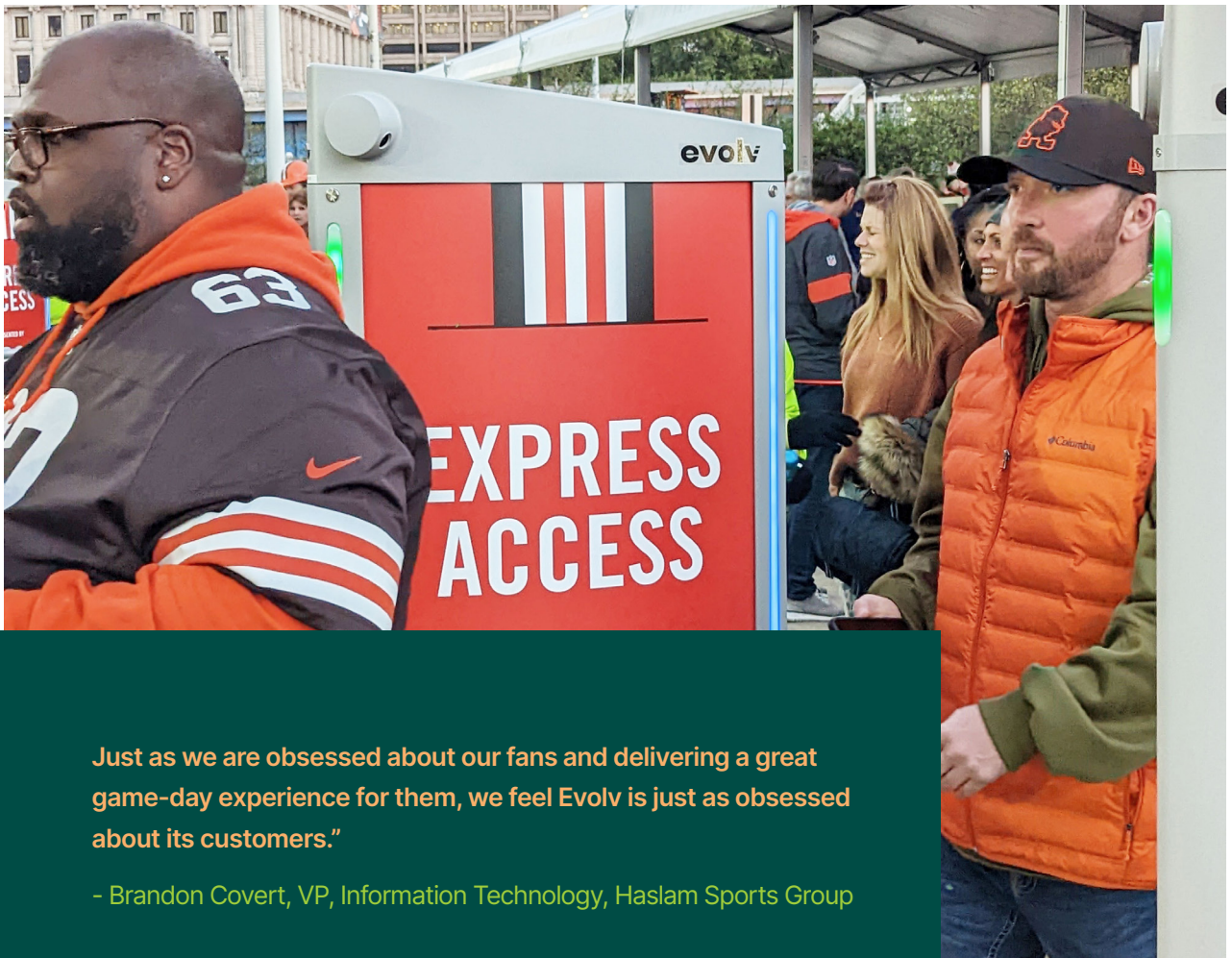
When Lower.com Field in Columbus, Ohio opened in 2021, it did so as the most technologically advanced stadium in the country.

Overseen by the Haslam Sports Group (HSG), Lower.com Field served as a test case for FirstEnergy Stadium in Cleveland—which HSG also manages. One of the differentiators for Lower.com is the ingress experience—from ticketing to security screening.

"Ingress is a really important part of the game experience for fans—getting them into the stadium quickly and safely in a short amount of time," says Brandon Covert, the VP of Information Technology at HSG. "Fans are at the forefront of our culture. We're fan-obsessed when we look at the entire game experience. For security screening, we

evaluated the Evolv Express against several metal detector technologies and really loved how fast and how safe fans got into the stadium."

Before HSG and the Cleveland Browns could deploy the Express systems at FirstEnergy Stadium, however, they had to test them to ensure they were compliant with NFL standards. "We did testing at Lower.com Field last year to ensure we were ready at FirstEnergy Stadium for the 2022 NFL season," Covert says.



Just as we are obsessed about our fans and delivering a great game-day experience for them, we feel Evolv is just as obsessed about its customers."

- Brandon Covert, VP, Information Technology, Haslam Sports Group



Metal Detectors Thwart Fan-obsessed Mission

Before moving to Evolv Express, FirstEnergy Stadium relied on 100 walkthrough metal detectors for security screening ingress.

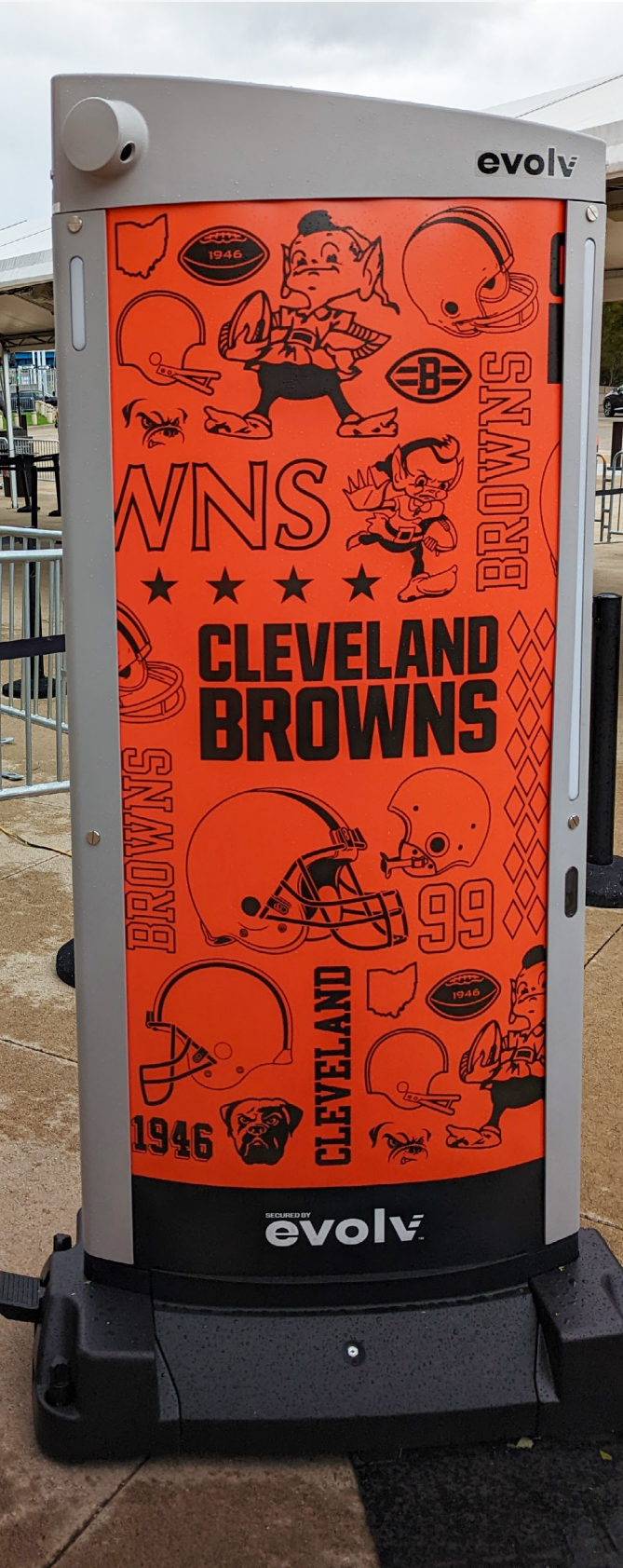
"Having fans go through traditional metal detectors wasn't a good experience," Covert notes. "We experienced a high number of alarms, which pushed those fans into a secondary security check where they had to take everything out of their pockets and bags, remove their belts, undergo hand-wanding, and pass back through the metal detector. This didn't align with our fan-obsessed mission."

Exacerbating the situation was the fact that FirstEnergy Stadium implemented an opt-in facial authentication system running on the Wicket Platform three years ago. "We still use traditional mobile tickets for fans who opt not to use facial authentication, where they pull up a barcode

on their phones and enter through a handheld scanner," Covert explains. "But for those fans who elect to enroll in the program, they can use facial authentication instead. They can pair their ticketing account with a selfie and walk right through ticketing. They don't need to pull out their phone and scan every mobile ticket. But because the ingress for those fans is so much faster than those who use a barcode on their phones, we had fans piling up in front of the metal detectors; security was a big hold-up for us. We needed something faster and more efficient than the walkthrough metal detectors."

“ I was just blown away with the screening volume we were able to achieve. In a manner of 45 minutes, we processed around 18,000 concertgoers through ticketing and security screening.”

- Omar Jufko, Manager, Stadium Security, Cleveland Browns



Wicket-enabled Facial Authentication and Evolv Express®

The ingress experience for fans who opt-in to using facial authentication and the Express systems is truly unparalleled in other sports stadiums.

When combined, these technologies eliminate the two major friction points when entering a venue: security and ticketing. "We're the first NFL team to use these two technologies together," Covert says. "Whether it's just one fan or a group of 20, they walk right up to the Wicket tablet, which identifies their face and pulls down their tickets, and then they pass seamlessly through the Express lanes. It literally can take less than one minute for fans to go through ticketing and security screening."

Beyond ticketing and security screening, HSG and the Cleveland Browns teams also focused on removing other areas of ingress friction, such as parking and traffic. The proof of the results is seen in the response of fans. "Surveys are a critical part of our feedback loop, and fans are telling us that ingress is the best that it has ever been," Covert comments. "Ticketing and security screening are certainly not the most exciting parts of coming to a live event. But we've actually had fans bring their family and friends to the stadium just to show them how cool and easy it is to pass through ticketing and security. Sometimes, they come through cheering us on because the process was so easy."

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Configuration and Setup and Training

In preparation for the 2022 NFL season, HSG and the Cleveland Browns teams wanted to test out the Express system.

“We were determined to try out the newly integrated ticketing and security screening systems and workflows at a couple of summer events,” notes Omar Jufko, the Manager of Stadium Security for the Cleveland Browns.

The Evolv Solutions Engineering team worked with the combined HSG and Cleveland Browns teams to determine what number of Express systems were needed and where to position each of them. A total of 12 Express dual-lane systems replaced 100 metal detectors at the two south gates at FirstEnergy Stadium—six at each gate. “It was a constant collaboration from the very get-go—from measurements to the actual physical setup of the devices,” Jufko says. “The Evolv team worked with us to integrate the Express systems and flows into our ticketing system and processes, including facial authentication. They also helped us update our ConOps Playbook. Further, training was customized to our requirements. For example, the training for security supervisors wasn’t the same as that for security operators who don’t need to know all the science behind the Express system.”

For the first week of training, the combined teams set up three Express systems at one gate. Approximately 70 security supervisors were engaged for practical training and pushed through numerous scenarios, including having them act as fans coming through the Express dual lanes. Some carried bags with illicit items so they could see how the Express responded to threats. A week later, the teams set up classroom training and another physical practical training at the gate with the three Express systems. “Some of our security guards were intimidated at first,” Jufko says. “But this evaporated after 10 or 15 minutes of them seeing the systems in action.”

“This is the fastest I’ve ever been through security.”

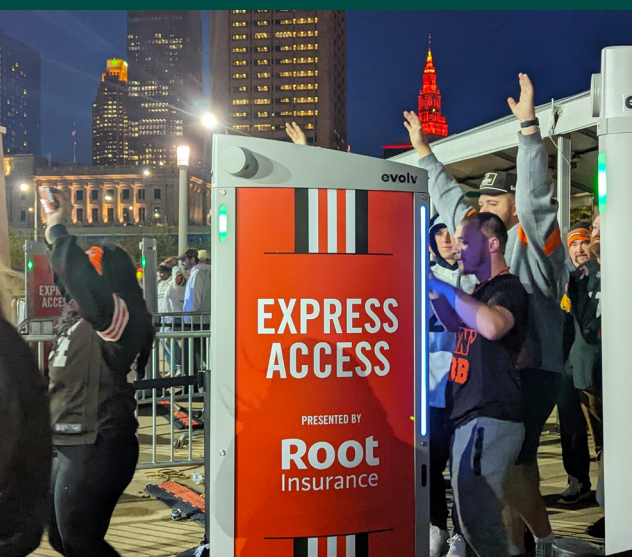
“Going through security is a piece of cake.”

“Security was really smooth. I came here earlier for a concert [before the Evolv Express was implemented], and the process was not even close to as smooth.”

“Security screening was pain-free.”

“It was extremely easy going through security.”

▶ [Watch the video here](#)



Express Up to the Initial Challenge: 18,000 Concert Goers in 45 Minutes

The first event at FirstEnergy Stadium with the new systems in place brought challenges that Jufko did not expect - but which the Evolv Express handled quickly and seamlessly.

"For Browns games, we have three hours of absolute madness," Jufko quips. "More than half of the fans arrive in a 90-minute window, and there was some hesitancy on the part of the team. As a result, the combined HSG and Browns teams decided to test out the combined opt-in Wicket-enabled facial authentication system and Express dual-lane systems at a couple of concerts at FirstEnergy Stadium before during the 2022 summer. "We always open the gates two hours before an event starts," Jufko says. "But for this event, the artist decided to change their act at the last minute, and the band couldn't have fans in the stadium while testing it out. By the time we could open the gates, the show needed to start within 20 minutes." This meant processing a sold-out crowd as quickly and safely as possible.

As this was the first time the security team had run the Express systems and their ticketing systems

together, the anxiety across the entire team—from the guards and to management—was huge. "We had lines stretching as far east as the Rock n' Roll Hall of Fame and as far south as the City Center," Jufko remembers. "The lines outside were ridiculously long, and I had no idea how we could get all of the fans into the stadium in a rapid timeframe."

However, much to the relief of Jufko, the congestion at the gate, both for facial authentication and standard ticketing ingress, flushed out within five or 10 minutes. "I was just blown away with the screening volume we were able to achieve," he reports. "In a manner of 45 minutes, we processed around 18,000 concertgoers through ticketing and security screening."

“ They actually get fans coming through the Express lanes who cheer, applaud, and give them high fives. Fans will also pass through security, stop, and ask the security guard, 'When am I going to get screened?' Evolv has truly made a huge difference when it comes to the experience of both fans and the security team.”

- Omar Jufko, Manager, Stadium Security, Cleveland Browns



Fans Cheer On the Security Guards

In standard venues, security guard fatigue is a known problem with the metal detectors.

In high-throughput venues like sports stadiums and arenas, this fatigue sets in even faster. "After 30 minutes, the volume of false alarms and the tedious secondary checks begin to wear on any security guard," Jufko notes. "This fatigue factor can impact the effectiveness of security checks over time."

With the Express systems, however, fatigue is no longer a problem. High rates of false alarms have been reduced to 4%. "That means 96% of our fans simply pass through the initial security screening and continue into the stadium," Covert says. "And for those who set off an alarm, the secondary screening check is immensely easier and creates much less friction than it did before with the metal detectors. We know exactly where the threat is located on the body by seeing it pinpointed on the Express tablet, so verification and remediation of the threat is much faster and less invasive."

When the Express systems were first rolled out, Jufko observed their training and interactions. As with any new technology, there was some level of hesitancy at first, but that quickly evaporated once they were able to see how the Express systems streamlined the ingress flow while minimizing friction between them and the fans. "They actually get fans coming through the Express lanes who cheer, applaud, and give them high fives," Jufko reports. "Fans will also pass through security, stop, and ask the security guard, 'When am I going to get screened?' Evolv has truly made a huge difference when it comes to the experience of both fans and the security team."

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More Effective and Efficient with Evolv Insights® Analytics

The HSG and Browns teams find Evolv Insights analytics particularly helpful in assessing each individual security lane and the guards managing them

"The cloud-based Insights console gives us granular views such as how many fans passed through an Express system, alarm rates at each, items found when alarms occurred, and more," Jufko observes. "We never had this type of information before. Now, with the Express systems, I know how well each of the systems and teams is performing and can reallocate resources or redirect fans to other lanes when one reaches full capacity. We also are using the analytics to pinpoint instances where a security team managing an Express system may need more training—whether in flow control or threat control."

In addition to proactively leveraging Insights analytics during game day with real-time data on the Insights on-the-go App, Jufko takes the reports he generates using Insights after each game and presents them to his senior leadership team. He also goes into Insights three- or four-times during game week to ensure that he has the right allocation of resources at each gate and Express lane.

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Adverse Weather is Not a Problem for the Evolv Express

FirstEnergy Stadium is located in an area known for its adverse weather conditions. The stadium's north side backs up to Lake Erie.

"We can experience high winds as well as extreme winter conditions—cold, snow, and ice—during events," Covert states. "The winds we have coming off the lake had an adverse effect on our metal detectors, which would move around in high winds. They also didn't perform well when the temperature would dip far below freezing and in conditions where we had a lot of precipitation. Plus, as we now have 12 systems versus 100, there are simply fewer things that can fail in the cold."

The Express systems are designed for the outdoors and to withstand inclement weather. "We can have winds of 30 or 35 miles per hour, and they will continue operating. They are also easy to store following a game day that had a lot of precipitation like snow and ice," Jufko adds. "FirstEnergy Stadium is a perfect test case to show how resilient the system is."





Express Systems Off to a Winning Season

Managing the 100 metal detectors and secondary security checks required over 150 security guards and operators.

Recruiting and managing this many staff was a challenge. The 12 Express systems enabled the Browns security team to reduce this number to 70—a 53% reduction.

Peak times for ingress on game day is around 30 minutes before kickoff. “We get a little bit of rush at two hours when we first open the gates and then fans continue to trickle into the stadium until about 30 minutes before kickoff,” Covert explains. “All the tailgaters and fans who came in from the suburbs hit our gates at the same time, and things can be very chaotic. A few years ago, we saw an average wait time of around 20 to 25 minutes during this crunch time. Due to various changes that we made to ingress, including bringing in the Express systems, we’ve gotten this down to six to seven minutes maximum. For those who use facial authentication, we have it down to less than 60 seconds.”

Getting fans into the stadium faster and to their seats in time for kickoff has numerous benefits. “Unless all fans are in their seats for the opening kickoff, we don’t realize the full benefit of home-field advantage,” Covert observes. “Fans also spend more on concessions when they have time to get beverages and food. They also have more time to explore the stadium, and we take great pride each year in making improvements and new additions to the stadium. This extra time gives them a chance to explore those.”

The Express systems are also enabling HSG and the Browns’ teams to improve stadium safety. “We already had a very high standard for security at FirstEnergy Stadium,” Jufko says. “We’ve raised this bar even higher with the Express systems.”

The proof is in the red security team testing that HSG and the Browns teams employ each game or event. “Our internal red team searches for weaknesses in our security defenses, including our security screening processes, and then proactively initiates attacks to get weapons through security,” Jufko observes. “We’ve never caught 10 out of 10 red team attacks before—that is until the Express systems were in place. For our first two games of the season, we did exactly that.”



Fan and Customer Obsession Translates Into Success

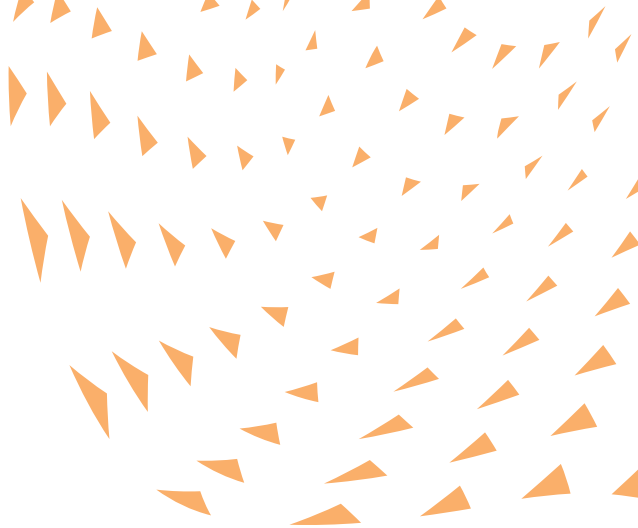
The collaborative interaction with the Evolv team is something that Jufko appreciates.

"I've been able to give feedback to the Evolv team and suggest new features," he says. "Some of these are now in development and will be in a forthcoming release. Integration is certainly a high priority for our security roadmap in general, and the fact that Evolv also has a high priority on enabling integration with the Express systems and other security capabilities is important to us."

When asked why the Evolv deployment is a success, Covert cites two reasons. "To begin, the technology is great," Covert says. "It does what we need it to do. And the support that we get from Evolv is amazing. We can call day or night, during a game if we run into anything, and we get an immediate response. Just as we are obsessed about our fans and delivering a great game-day experience for them, we feel Evolv is just as obsessed about its customers."

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Contact us to learn more about helping to create
safe zones where you live, learn, work or play.

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