

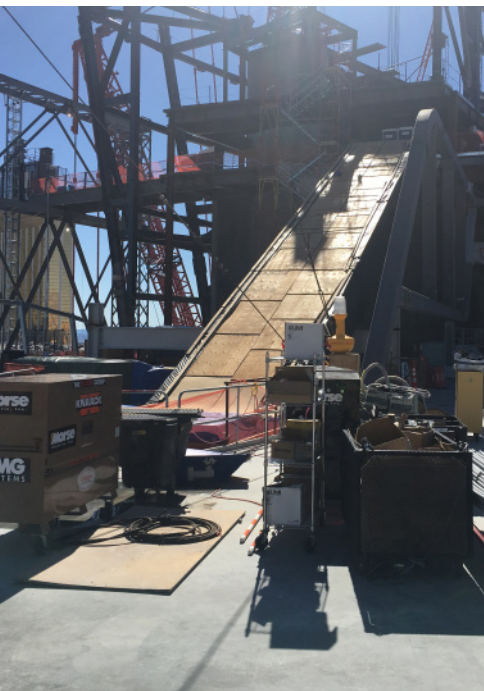


Allegiant Stadium, Las Vegas, USA

KONE's offsite escalator build delivers a win at Allegiant Stadium

46

KONE
TransitMaster™
220 escalators



Stadium construction projects are inherently challenging. Aggressive schedules, engineering complexities, and environmental concerns demand a new game plan. KONE's streamlined approach at Allegiant Stadium in Las Vegas showcases the value of innovation in vertical transportation installations.

Fully enclosed and climate-controlled, Las Vegas' Allegiant Stadium is both a global events destination and home to the Las Vegas Raiders. With a capacity of 65,000, the technologically advanced stadium is fully equipped to host world-class events in sports and entertainment.

With more than 10 event venues and 95,000 square feet of field event space, Allegiant is the first professional football stadium to be powered by 100 percent renewable energy. Located adjacent to the world famous Las Vegas strip, the stadium offers visitors constant access to the action via 2,300 TVs placed throughout the complex.



KONE is very process-oriented and we appreciate that in a trade partner. With KONE, we know what to expect. It's a breath of fresh air.

Paul Dudzinski,
Vice President, Operations



CHALLENGES

- Aggressive construction schedule with non-negotiable deadline
- Completion of comprehensive run-time testing before opening day

FAST FACTS

- Opened July 31, 2020, the 10-level, indoor multi-purpose stadium has a capacity of 65,000
- Home field of the Las Vegas Raiders and collegiate football teams
- First professional football stadium powered by 100 percent renewable energy
- A 19-million-pound retractable tray field holds a natural grass field used exclusively for Raiders' games

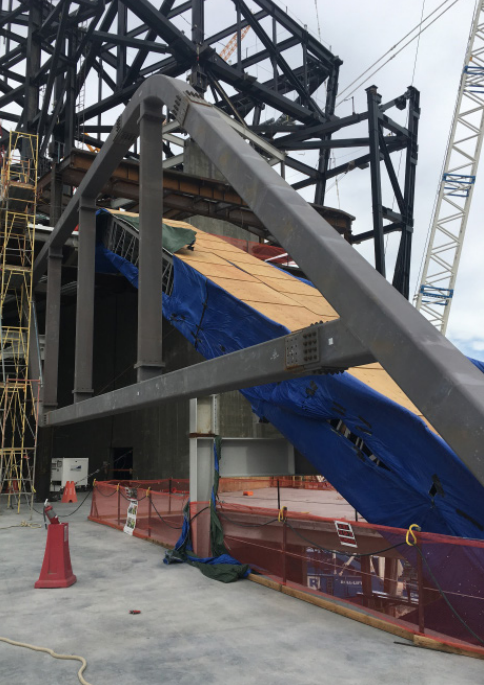


22

KONE
MonoSpace®
700 elevators

KONE SOLUTIONS

- Construction of KONE TransitMaster™ 220 escalators in an offsite warehouse accelerated project delivery and reduced stadium construction site impact on services, operations, and other trades
- Conducting run-time tests at the warehouse – before installation – made it much easier to identify, access, and correct potential issues
- Extensive testing conducted at the warehouse reduced time and manpower needed for real-time onsite tests, streamlining installation and start-up



KONE solutions at the 10-level stadium include 46 escalators (including 12 in a stacked configuration) and 22 elevators. Committed to ensuring smooth People Flow, KONE uses proven technology to meet the needs of a demanding stadium environment.

New approach delivers new efficiencies

In stadium construction – just like in football – the clock rules. “The schedule is everything in a stadium project,” says Tim Davis, KONE Executive Project Manager, Major Projects-Americas. Through an innovative approach, KONE completed Allegiant escalator construction, installation and run-time testing on time, meeting critical customer objectives.

In a perfect world, escalators are built in a protected environment. In indoor stadiums – where the roof is often installed late in the project – that can be tough to achieve. By moving escalator construction to an offsite facility, KONE streamlined the process and introduced logistical and delivery efficiencies.

With modular construction, project delivery is accelerated and construction impact on services, operations, and other trades is greatly reduced. In effect, structural work leapfrogs demolition, site, and foundation work. “And, by assembling escalators in a warehouse,” says KONE Executive Project Manager Martin Ashley, “we were able to anticipate all of the challenges associated with rigging and cranes.”



‘With KONE, we know what to expect’

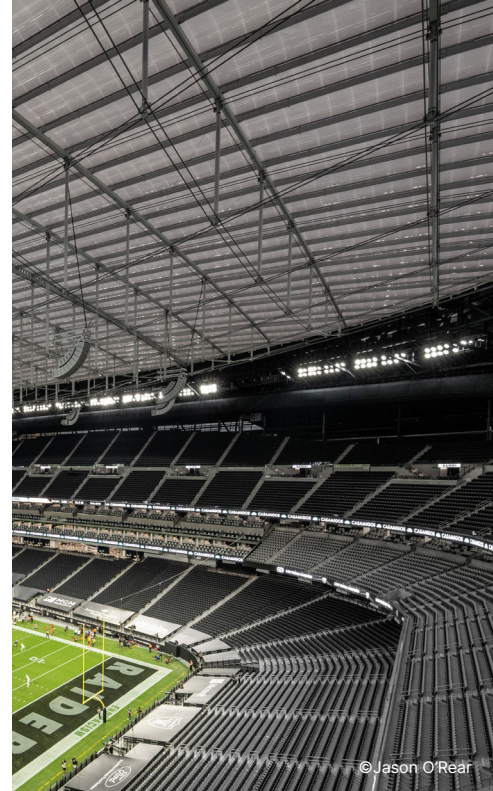
Involved early in the design process, KONE crafted a plan covering everything from hoisting schedules to escalator installation. That level of collaboration and partnership optimized construction efficiencies.

“KONE helped us understand key details early – things like openings, pit sizes, and connection points,” says Paul Dudzinski, Vice President, Operations – Mortenson-McCarthy Joint Venture. “They coordinated design drawings with shop drawings, and helped ensure steel and concrete openings were correctly located and sized. That preparation helped delivery go flawlessly.

“KONE is very process-oriented and we appreciate that in a trade partner,” he says. “With KONE, we know what to expect. It’s a breath of fresh air.”

‘The offsite build removes a burden’

In the offsite build, escalator units are constructed in a warehouse, where they are tested, packaged, and staged for just-in-time delivery. Heavy-duty packaging is a safeguard against inadvertent threats at a busy stadium construction site. “That was a huge benefit to us,” Dudzinski says. “The packaging was very well done.”



Efficiencies cascade throughout the project. Modular construction requires less manpower and less onsite storage space. Onsite escalator construction would have necessitated movement of materials to multiple levels and lay-down space, but at the warehouse, pieces are lifted only once. “And a climate-controlled warehouse is a much better environment for our crews than working outside for a year,” Davis notes. “Las Vegas is hot.”

Rigorous management of warehouse logistics kept production and transportation schedules on track. “KONE was challenged with a 48-hour delivery window for the hoisting and setting of the escalators. The units were delivered like clockwork and hung in the pockets,” says Dan Brooks, KONE Director, New Building and Modernization Solutions-Americas. “Then we returned to the stadium to conduct minor final adjustments. Additionally, with the assistance of the Mortenson/McCarthy JV, we did the final run-time testing utilizing some of the other trade personnel onsite.”

“The offsite build removes a burden,” Dudzinski agrees. “When we unpack those units, we know they’re ready to run.”

Raising the bar in quality and safety

Run-time testing was a key customer concern. When that testing is conducted on installed escalators, some mechanisms may be concealed from direct view. And side access to escalators that have been set in the pocket can be difficult. Because initial testing of the Allegiant units was done in the warehouse, potential issues were much easier to identify, access, and correct.

After the escalators were installed in the stadium, dozens of general contractor personnel used the equipment in additional run-time tests. Onsite quality engineers had the opportunity to make adjustments in real time, and the usage simulation set the stage for smooth opening day operations.

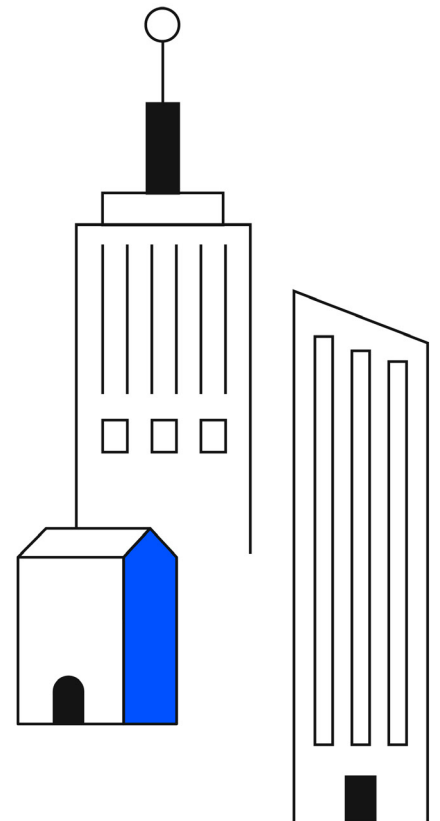
Compared to a multi-level stadium construction site populated by workers from varied trades, the offsite build greatly enhances safety and quality, and minimizes damage to units. The risk of workers being struck by or caught between machinery is significantly reduced, as are accidental drops of tools and materials falling on workers below.

Offsite build drives huge impact on schedule

At Allegiant Stadium, KONE's approach to modular construction delivered reliable, dependable escalators on time and as promised. The combination of a highly collaborative relationship and advanced processes puts an entirely new spin on the traditional value proposition.

"Whenever there was an opportunity to work together to solve a challenge, KONE definitely partnered with us," Dudzinski says. "The process was seamless for our team. With just-in-time delivery, equipment was picked in one piece and set, and that meant getting work done in hours instead of weeks or months. The offsite build had a huge impact on the schedule at Allegiant, and KONE helped us get it right."

Modular construction offers benefits and challenges in equal measure. Through innovation, collaboration and comprehensive project management, KONE has a proven track record in converting challenges into efficiencies. How can we help optimize your next project?



At KONE, our mission is to improve the flow of urban life. As a global leader in the elevator and escalator industry, KONE provides elevators and escalators as well as solutions for maintenance and modernization to add value to buildings throughout their life cycle. Through more effective People Flow®, we make people's journeys safe, convenient and reliable, in taller, smarter buildings. In 2025, KONE had annual sales of EUR 11.2 billion, and at the end of the year over 60,000 employees. KONE class B shares are listed on the Nasdaq Helsinki Ltd. in Finland.