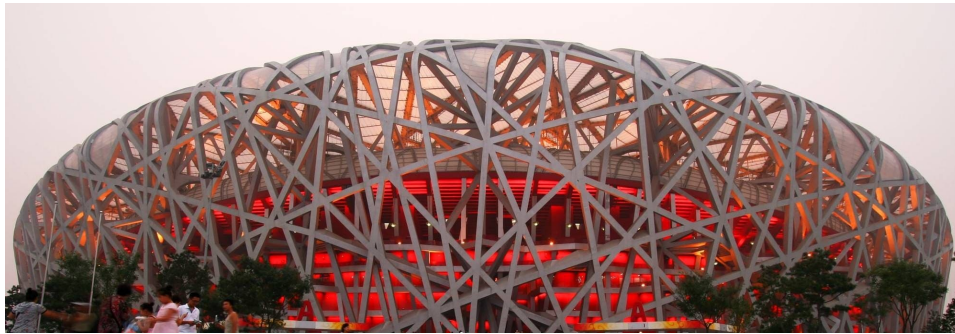


Made of Steel and Passion: Seven Majestic Stadiums across the World

Every year, millions of spectators support their teams from the stands of giant stadiums. Without noticing it, the fans sit and stand on steel structures, steel frames are used to build huge roofs and stadium supports, and steel wheels move football fields on rails.

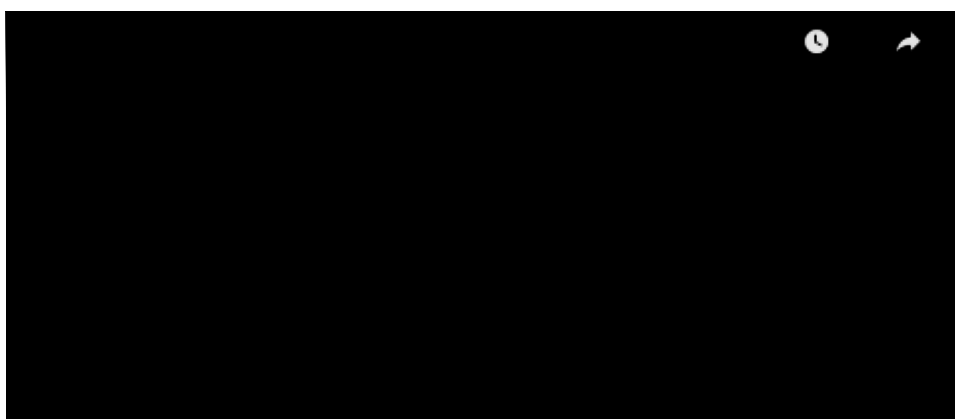


Today steel plays a decisive role in the construction of a football stadium. It is an irreplaceable material at the heart of creating the most ambitious and innovative projects. Steel not only ensures the strength of the structures, but also their long-lasting beauty. We have selected unique stadiums from around the world that deserve attention.

Michigan Stadium, USA



The 1920s are often referred to as the golden age of college football in the United States. It was then that the boom began in the construction of stadiums at colleges and universities. The history of this classic stadium, also known as the 'Big House', dates back to 1927. Then the new Michigan Stadium capacity was 82,000. An interesting fact is that, until 1968, women and children were not allowed on the field. But a lot has changed since then.



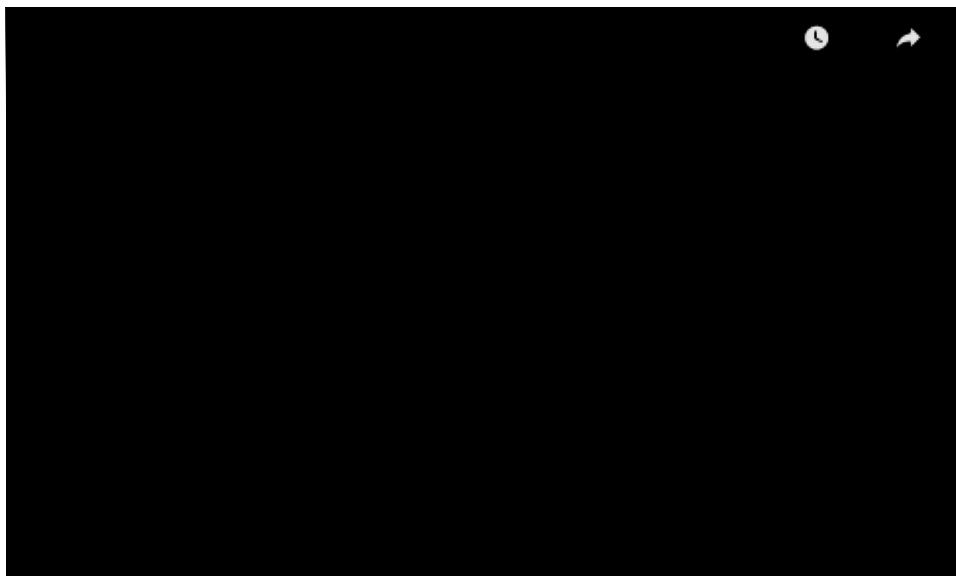
Over the years, the popularity of team sports has grown, and since 1975, the stadium has attracted at least 100,000 fans per game. In 2010, this oldest and largest football arena in the United States, the symbol of the University of Michigan, was renovated. The Douglas Steel company won a tender to manufacture and erect over 2,400 tonnes of structural steel for indoor halls, luxury suites and press boxes on the west side of the stadium. Now the capacity of the Big House is 109,900. It hosts team sports matches and graduation ceremonies. The stadium is the largest in the United States and the third largest in the world.

University of Phoenix Stadium, USA



This stadium in the state capital of Arizona is a prime example of the use of complex engineering solutions, new technologies and unusual design approaches. The stadium was opened in 2006. Its capacity is 63,400 spectators, and for large-scale events the number of seats can be increased to 73,000. Thanks to the innovative approach to the design of this sports facility, athletes, fans, performers and spectators enjoy sporting events to the fullest. This stadium is a universal facility with a unique retractable steel roof and field that can be removed from the arena if required. The field moves on 546 steel wheels that travel on 13 parallel steel rails and travel 225 meters in 70 minutes. And this is all done with the press of a single button. An incredible machine. In the meantime, the natural grass receives a portion of sunlight. The stadium is also used for competitions in motorsport, for concerts, fairs, exhibitions or corporate events.

At the same time, the grass playing surface is not damaged at all.



Finding a solution for controlling the convertible, tilted roof was a very difficult process. The designers have created a 480-horsepower structure that moves the roof panels and maintains control over them while moving. Made from translucent Bird-Air fabric and running on steel rails, this structure includes eight winches that move

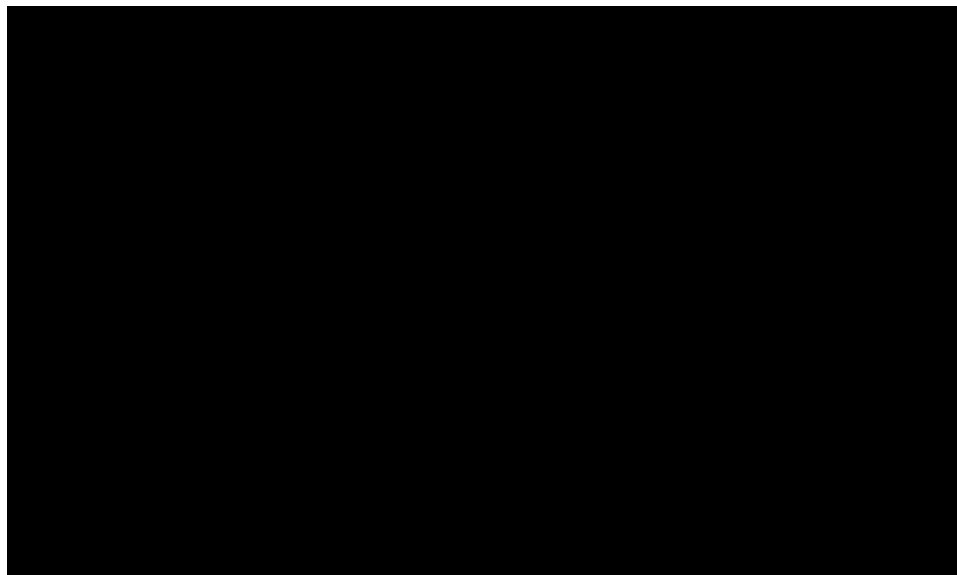
the panels. Each winch is in turn powered by four 7.5 horsepower motors that wind the cable.

The stadium's exterior is made of shimmering metal panels that reflect sunlight, while glass inserts in the walls allow for stunning views. The huge stadium offers a variety of allocation options, including premium spaces, 88 lofts and 7,505 club seats.

Allianz Arena, Germany



One of the most modern stadiums in Europe, the Allianz Arena, commissioned in 2005, is located in Munich. This is the third home stadium of FC Bayern Munich. Its capacity is 75,000 seats, including business and VIP boxes, as well as seats for the disabled. About 22,000 tonnes of steel were used to build the facility, most of which went into the sliding roof. The arena is often called an inflatable boat or a car tyre, since its facade and roof are made up of airbags - there are about 3,000 of them. The installation of new LED lighting on the facade began in October 2014. The old technology has been replaced by a fully digital system of LED lamps connected in a network controlled by intelligent software.



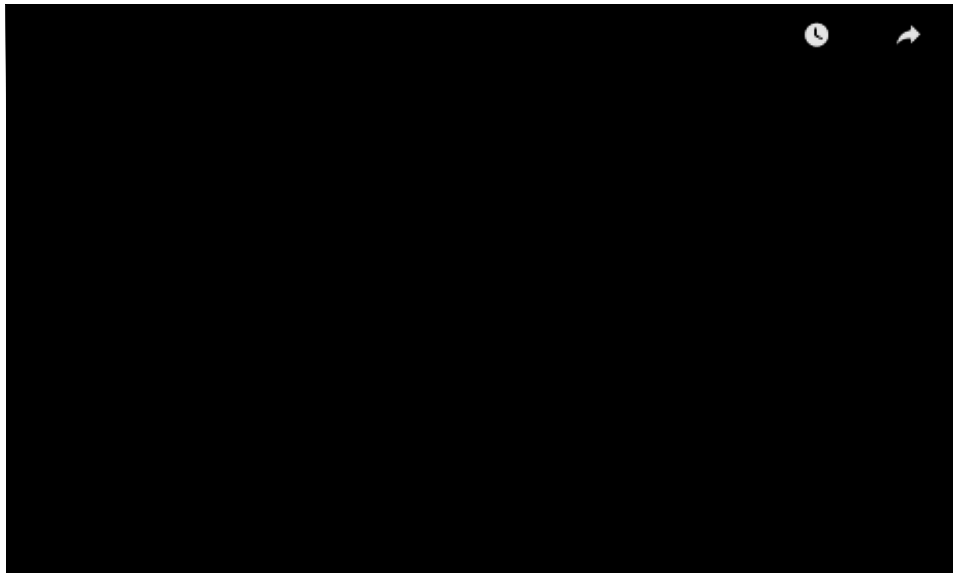
The new lighting system is durable and energy efficient. It is able to withstand the most difficult weather conditions. The project was completed in just over three months. Thanks to the new system, Allianz Arena has become the first and largest stadium in Europe with outdoor LED lighting. Instead of three colours - red, white and blue - that were used until 2014, the new lighting system reproduces up to 16 million different colours and shades, offering a wide variety of colour nuances and mixes. The illumination of the stadium is so powerful and bright that the Allianz Arena can be seen at night from the Alps, about a distance of at least 75 kilometres.

Allianz Arena has a well-developed infrastructure. There is a large parking lot, restaurants, a business club, a press centre, offices and conference rooms, a children's centre, ticket offices, a shop, the Bayern Munich football club museum, changing rooms, training rooms and more than 750 screens.

Wembley Stadium, Great Britain



The second largest in Europe and the UK's largest modern football stadium at Wembley Park in London, with a capacity of 90,000, Wembley Stadium is renowned for hosting major national and international matches and opened after a renovation in 2007. Wembley has a retractable steel roof and such striking features as arches with a height of 133 metres. The diameter of the arch is 7.4 metres, which is enough to accommodate a train inside, and the arch span is 315 metres, making it the longest single-span structure in the world. This arch can be seen almost from anywhere in London.



Since the 1880s, football and cricket matches have been held on this site, and in 1923, a stadium was opened here, which existed until its reconstruction. Since its inception, the stadium has been used to host the 1948 Summer Olympics, World Speedway Championships, rugby matches, American and Gaelic football and dog racing. For the reconstruction of Wembley, around 23,000 tonnes of steel were used. The new stadium is twice the size of its predecessor. Notably, the stadium is designed in such a way that no shadow falls on the field at all, and thanks to the arch, the need for columns that hindered the view of the audience disappeared.

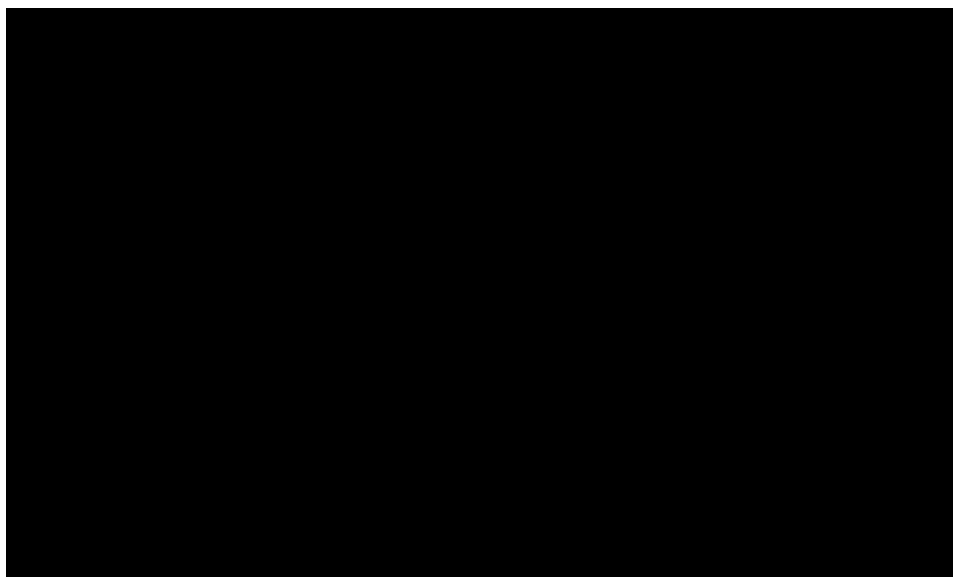
Wembley Stadium is a landmark in London, which legendary football player Pele called the cathedral of football. It is not just important for sports fans. Wembley is also a concert venue for many world-class stars, as well as a location for rallies and various kinds of events.

The Olympic National Sports Complex



The Olympic National Sports Complex is located in the very heart of Kyiv and it's Ukraine's main sports and cultural arena.

The stadium appeared back in 1923, when the first Olympics of the Kyiv region were held here. Since 1925, the stadium has hosted city and international championship matches. In 1928, in celebration of the Day of the Athlete, 2,000 local athletes created a bright and giant monument in the form of a five-pointed star. In 1936, a large-scale reconstruction of the stadium began, and, over five years of construction, a football arena with seats for 50,000 spectators and a sports pavilion grew. The stadium was surrounded by a wide maple alley, and nearby were volleyball, tennis and basketball courts. The infrastructure was complemented by pavilions for Kyiv residents, located on the slopes of the mountain. The Republican stadium was planned to be ceremonially opened in 1941, but the war prevented these plans, and the opening took place three years later, in June 1944. After the war, work on improving the stadium continued for decades. And, in 1980, Olympic football matches took place there.



The most recent reconstruction of The Olympic National Sports Complex began in 2008, when Ukraine was preparing to host the final part of the 2012 European Football Championship at the stadium. The reconstruction of the country's main sports arena and one of the largest stadiums in Europe was carried out using the latest technologies and with the involvement of highly qualified experts. A natural lawn, fireproof seats, vacuum sewerage system and unique roof were installed – and this is not the complete list of the arena's innovations.

It should be noted that 2,000 tonnes of steel supplied by Metinvest Group was used for the construction of a heavy-duty roof with transparent domes, as well as for other stadium structures. Now the stadium has a capacity of 70,050 seats.

Since 2011, the stadium has hosted more than 200 football matches as part of Euro 2012, the Europa League, and the UEFA Champions League as well as qualifications for the European Championship and the World Cup and the Ukrainian Premier League. The Olympic National Sports Complex is also a huge concert venue that welcomes Ukrainian and world musicians.

Notably, numerous records have been set at the stadium, recorded by the National Register of Records of Ukraine. For example, the largest 3D drawing on a plane was created here, and the loudest performance of the anthem of Ukraine was also recorded at this stadium.

Beijing National Stadium, PRC