

TEMPORARY SOLUTIONS

Temporary structures are becoming more and more common at major sporting events, as well as for cost-conscious clubs, as John Sheehan finds out.

Temporary overlay is becoming more commonplace at sporting events as organisers look to save time and money.

From the **Olympics** to the **World Cup**, the use of temporary infrastructure is a key element to the success of any event.

Daniel Cordey, Chairman of the **Association of Global Event Suppliers (AGES)** told *PS&AM* that temporary infrastructure is becoming more important for major organising committees. He said: *"Most organisers of large events are under huge pressure. They have limited financial*



Daniel Cordey, Chairman of the Association of Global Event Suppliers (AGES)

resources and they have to perform complex tasks in a short timeline.

"They have started to understand that this industry of temporary event builders can offer good solutions for them.

"The IOC in particular acknowledges the importance of temporary infrastructure more and more and is pushing the bar and opening up the possibilities for using such solutions."

This was clearly the case at London 2012 and Rio 2016 but Cordey added: *"For Tokyo 2020, the Japanese do not have extensive experience with temporary infrastructure even though they have lots of events. We need to make them aware about the capabilities of the industry and about how to deal with the international supply chain."*

GETTING IT RIGHT

Cordey stressed that a temporary build project is very different from a permanent solution and should be treated as such.

"Today building technology and methodologies are available to build virtually any type of structure on a temporary basis from one to X-number of years. However, to fulfil the client's requirements and to build it cost-effectively, the project owner, the planner and the builder need specific know-how and expertise.

"Technically a lot is possible. You can make large span structures or unique shaped buildings. You can purpose build nearly anything. But to make it really fulfil the client's programme, comply with the building regulations and the time constraints and still be a good deal



Temporary stands for the London 2012 Olympics.

for the client, there are a lot of things to consider.

"You need expertise to approach these type of projects because you need to marry different aspects. A target-oriented plan and a good strategy are key to make it work."

Cordey said it is essential to have architects, suppliers and clients working together to find the right solution, sometimes even with the participation of the building authorities.

"The winning formula is a competent team with a good strategy and leadership. It is not a matter of technology. The procedure and way of doing it is more important than the actual features."

He said the process of developing a temporary building is important and is different compared to a traditional building project.

Simplicity, resources, functionality and timing are becoming the drivers to develop a smart temporary building. The larger the building, the more complex the task is.

Cordey said: *"Keep it simple and always fight to keep it simple. Knowing the market place and considering reusable or rental products effectively are important, so that you are not investing more money than needed."*

"Actually a good temporary building is always fit-for-purpose, every item incorporated serves a purpose and has a usage beyond the project. You need to know from the beginning to the end how you are going to do it, so you can better integrate procedures and gain time"

"There must be a lot of preparation ahead of the construction so that once you put your feet on the ground, you are just running."

SERVICE DRIVEN

He said a temporary building is to be looked at as a service delivered for a specific period of time, rather than a product being conceived, delivered and operated the traditional way. The main components of the project must have a usage (legacy) before (precycling) and after the project (recycling). The temporary infrastructure solutions form part of the circular economy.

"You need to be fully aware that what you buy is in fact a service and this service is a fine-tuned package. Project owners often have difficulty in understanding that."

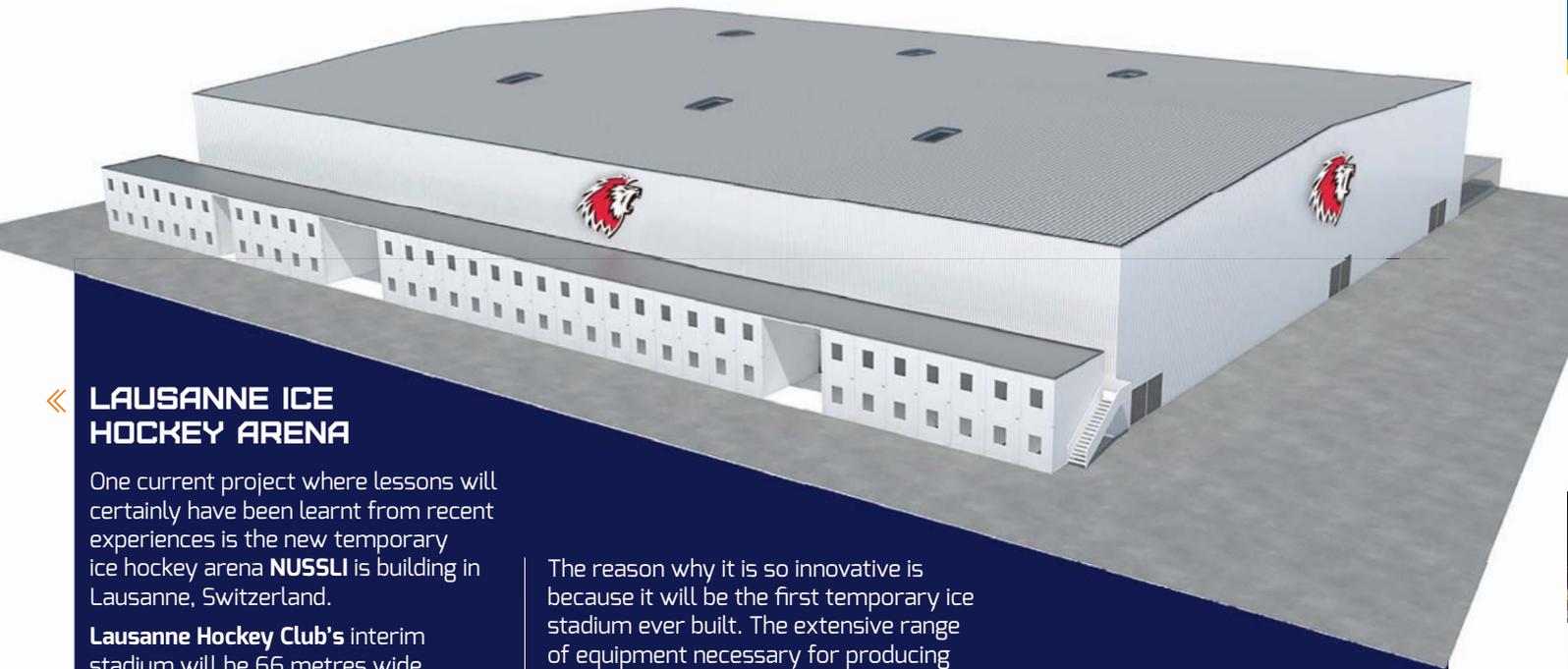
Cordey said that this is where problems arose with the temporary basketball arena for the London 2012 Games.

"The temporary basketball hall for the London 2012 Olympic Games was unique and audacious but unfortunately not a thorough success. The idea to make it a temporary building was good but the strategy did not incorporate all features to make it a good legacy and a cost-effective project."

"It followed a good modular building concept but there was no ownership programme and no post-game plan. The key thing when you are envisaging to build a large temporary building is to involve from day one and to commit in due time to the supply chain or the investors as well as the potential operators. This is what was missing in London."

"But looking at the temporary ice hockey arena being built in Lausanne, Switzerland now, project owners learn fast.. There will be more and more temporary or hybrid solutions in the future. They offer true and very cost-effective options for large event organisers or venue owners, if planned well," Cordey added. >>





« LAUSANNE ICE HOCKEY ARENA

One current project where lessons will certainly have been learnt from recent experiences is the new temporary ice hockey arena **NUSSLI** is building in Lausanne, Switzerland.

Lausanne Hockey Club's interim stadium will be 66 metres wide and 96 metres long. An ice rink and a grandstand system with 6,700 spectator seats are being built in the hall's interior. Athletes and fans will still have all their usual amenities: a hospitality zone, media and press rooms, cloakrooms, offices, equipment rooms, a shop and ticket office will also be built in the stadium.

NUSSLI planned this innovative project with support from **BG Ingenieure Lausanne**.

The reason why it is so innovative is because it will be the first temporary ice stadium ever built. The extensive range of equipment necessary for producing the ice and the resulting humidity posed a thorny, but definitely not unsolvable challenge for the planners.

Bernd Helmstadt, Director Sales Events for the NUSLI Group told *PS&AM*: *“One large project we are working on is a temporary ice hockey arena in Lausanne. The ice hockey club is having a new arena built but in the same place as the old one.*

“The total project timespan to demolish the old one and build a new one is about

three years, so in the meantime they decided to build a temporary arena in the city.

“It is a classical construction like an industrial building but it is a combination of our hybrid projects where we have designed elements specifically for the project itself and we are taking the grandstands from stock. The arena should be ready by the end of 2017.” »



◀ BUDAPEST SWIMMING COMPLEX

Meanwhile, NUSSLI has also been heavily involved with the **Danube Arena** swimming complex, which has been built in Budapest, Hungary and will host the **FINA Swimming World Championships** in July this year.

Helmstadt said it is a very good example of temporary overlay being used to boost the seating capacity for a specific event.

He said: *“This is a very good example. It’s a mirrored example from the London 2012 swimming complex. The requirements for hosting World Championships or Olympics are very high and there is a problem of how to convert a venue into event mode.*

“Budapest’s new aquatic centre is a huge €125 million investment for the city. It is a huge swimming centre with two 50 metre pools. In the main competition hall there is a 5,000 seat capacity. To host the World Championships there is a requirement for 15,000 seats.

“There has been a smart solution developed to extend the permanent facility with new grandstands to the right and the left. We came up with a smart solution for the event requirements so the city is not left with a White Elephant when the championships have finished.”

Helmstadt said there have been some special requirements in terms of humidity management and climate locks.

“We had to build the grandstand within the existing hall infrastructure and there was an issue with air conditioning. They decided to incorporate 10,000 holes in the grandstand with each individual seat attached to air conditioning pipes, so we needed to incorporate kilometres of air conditioning pipes in the grandstand.

“It was a tough schedule so preparation had to be very good. We have launched a new grandstand system of 80 cm with a riser of 50 and 55 cm. The last row is almost about 30 metres above the pool level.”

He said work is continuing on the venue, but that it should be completed by the end of March in time to run test events before the World Championships.

Helmstadt added: *“Once the championships are over, dismantling will start in September and everything needs to be removed in four weeks.*

“We will put the equipment back into our normal rental stock, most likely

in Germany. We would like to use this perhaps for the next World Swimming Championships or for the Olympics, perhaps in Tokyo, or for some other major projects in central Europe.

“The system would also perfectly fit the requirements in Qatar for the football stadiums being built for the 2022 World Cup. They have a legacy mode where the stadiums will be half of the size after the World Cup and so the second tiers should be temporary. The upper tier needs to be steeper than the lower one and there is a huge demand for high rise grandstands in Qatar. They could be used either for the Tokyo Olympics or the Qatar World Cup.”

He added that for events like the Olympics or World Championships, temporary arenas are absolutely key and this was laid out in the 2020 agenda for the IOC.

“They do not want to pour too much concrete but think about legacy” he added.

GL BEEFS UP FRENCH RUGBY STADIA

While some temporary structures are built to fulfil a need for a specific project in a set timeframe, others might be in-situ for much longer.

Temporary stadia can be built more for unlimited use by sporting clubs which yoyo between divisions and whose capacity needs can fluctuate.

GL events built a 2,500 seat permanent grandstand in three months for **Stade Rochelais** Rugby club who play in France’s Top 14 league. It includes 2,500 seats, 500m² of VIP sky boxes on top of the stand and restrooms, a boutique and refreshment stalls underneath.

As Guillaume Massard, Grandstands and Stadiums Business Unit Manager for GL events, explained: *“This case study showcases the benefits for clubs and cities using our construction concept: fast to build, meaning speed up of payback, cost effective (50% less than concrete meaning Higher ROI) and modularity, meaning the structure can evolve with the economic and sporting success of the club.”*

RUGBY CLUB (LOU)

In 2011, GL events built an 8,000 seater stadium in between the rugby playing seasons.

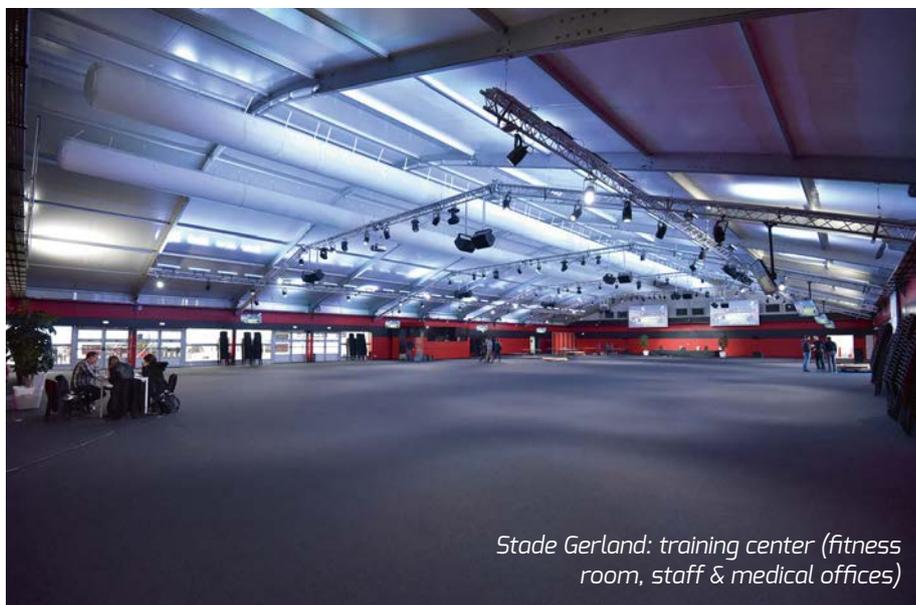
This was in order to help LOU rugby club to have a new stadium complying with ligue requirements after being promoted to TOP 14. The seating capacity was then increased to 10 000 seat in 2014.

Massard said: *“We built a brand new stadium in 82 days. It included two grandstands with roofs and concession stands, retail outlets, meeting rooms and a first aid post, all of which were housed in the steel understructure, ensuring space was maximised.*

“It cost 50% less than a traditional construction in concrete. We are dismantling it now because LOU rugby are moving to another stadium – Stadium Gerland now known as the Matmut Stadium – former home of Olympique Lyonnais football team.

“It is a permanent stadium but the way it was built gives an opportunity to dismantle or increase capacity in a short time, depending on how your club evolves.

“The temporary or semi permanent stadium was a 10,000 seater stadium



Stade Gerland: training center (fitness room, staff & medical offices)

LA ROCHELLE

GL events have been working with **La Rochelle rugby club** who were recently promoted to France's top 14.

"In 2014 we built a new grandstand for them with VIP facilities. We also built a two storey hospitality space," Massard said.

"Our construction concept generated a construction cost saving of 50% and the new stand was built in 3 months allowing the club to use this new infrastructure for the first game of the season. If you did the same in concrete it would take a year and a half to build and cost twice as much."

"The temporary structure also gives the possibility of removing it if the club is not doing so well."

"That is very important for a club because it is very difficult for them to

finance their infrastructure. This type of temporary infrastructure is easier to finance because when they go to see a bank, for the bank it's an asset – it can be dismantled and resold. If it is in concrete it can only be destroyed."

We will be starting construction at La Rochelle in May. In 2014 we did one end zone and in 2017 we're going to build the same grandstand but at the other end. We installed a very simple grandstand in 2010 and as they got better we increased the same one from 2,500 to 3,000 seats and in 2017 we're going to increase the same grandstand by another 1,000 seats, add a roof and build VIP hospitality on the top and facilities underneath.

"That is a very good example of how a simple grandstand can evolve over time. Those are the benefits of the temporary structures."

"These structures are becoming more and more popular for three reasons. They cost less, they are fast in terms of construction times and also they are modular."

GL has worked with different rugby/soccer clubs in France including La Rochelle, Castres, Aix-en-Provence and LOU.



La Rochelle rugby club

with a 3,000m² hospitality village. Part of the hospitality village has been dismantled at the end of 2016 and we have reused some of the structures to be used in the new stadium of LOU Rugby Club.

"The grandstands have not been dismantled yet because the city wants to keep the grandstands with the roof."

He said 5,500m² of new hospitality structures have been built inside **Stade Gerland**. *"We started construction*

at Gerland in October and we completed everything by the end of December.

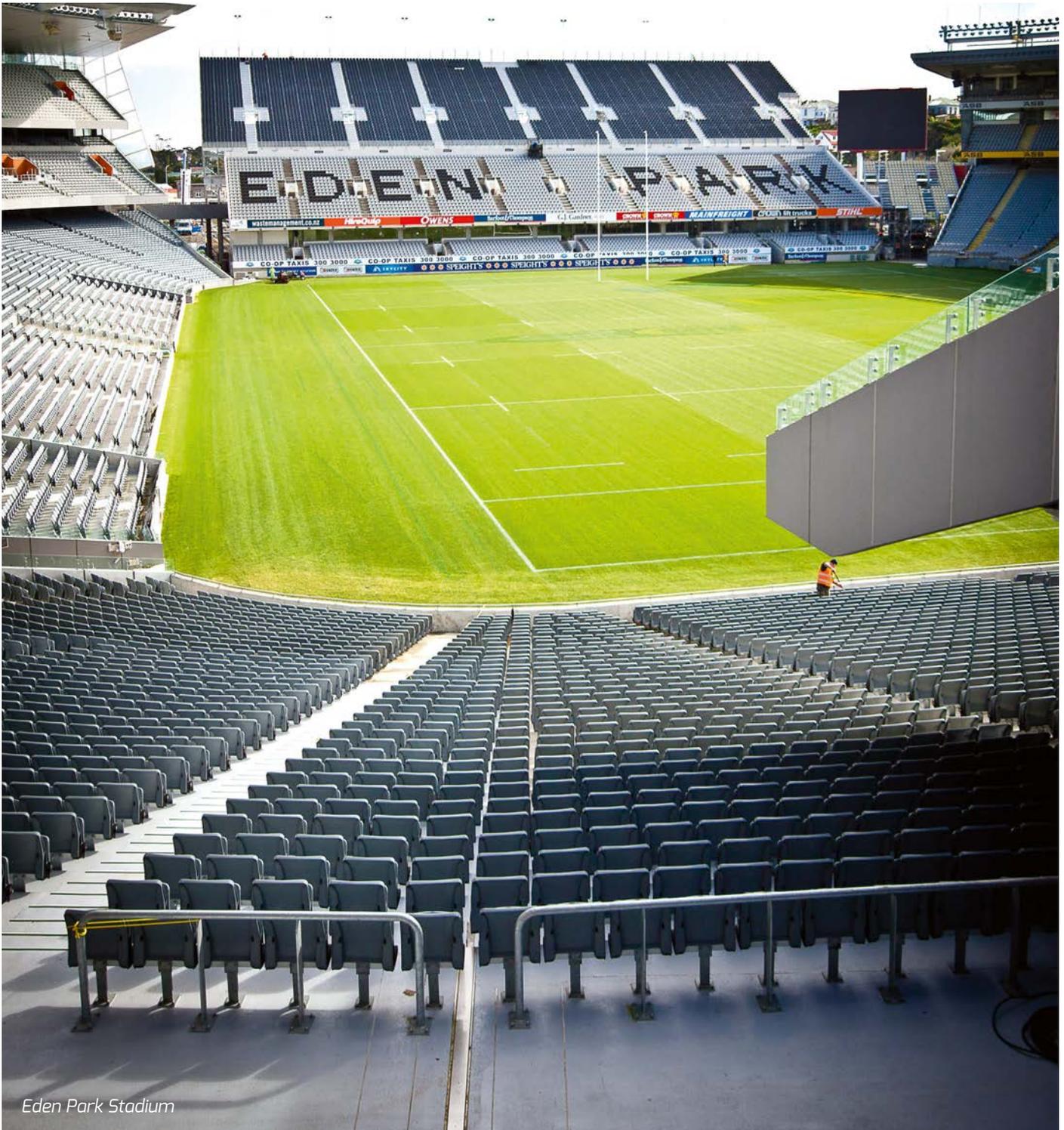
"Now we are building the new training centre for LOU Rugby just behind the hospitality area inside the stadium. In mid-2017 we are planning to renovate part of a stand because as a soccer stadium Gerland is not very rugby friendly. Spectators are a long way from the pitch."

"We are going to build another stand on top of the existing stand to bring

it closer to the pitch. We are planning to start working on it in May and deliver everything by September 2017. They came to us because our system allows us to deliver something in the close season." >>



Stade Gerland: VIP Hospitality



Eden Park Stadium

« RUGBY WORLD CUP 2019

GL events has gained a lot of experience working on rugby stadia and extended New Zealand's **Eden Park Stadium** for the 2011 Rugby World Cup.

Massard said: *"If you want to host the final you need a 60,000 seater stadium and Eden Park is only 50,000 so we increased the seating capacity by 12,000. We built two huge grandstands on the endzones. They have now been dismantled and re-used to rebuild Christchurch Stadium which was destroyed by an earthquake."*

He said GL is also planning for a lot of work in Japan for the 2019 Rugby World Cup.

"A lot of stadiums need to increase their seating capacity for the 2019 Rugby World Cup so we are working on different projects in Japan. They will also need temporary infrastructure for the Olympic Games in Japan."

"In Japan the renovations will be extensions of stadiums. Everything is handled by cities so it takes time and it is done by public tender. Right now we are working with local architects."

We are working with them on several stadium projects."

More and more organising committees want to build temporary structures instead of permanent ones.

"Japan is hosting two major events so hopefully we will be able to build temporary structures for the RWC and they can then be reused for the Olympic Games. Maybe after the Olympic Games all those tents and structures and seats can be reused to build permanent rugby or soccer stadiums in the country. That is very good in terms of legacy." ■

TEMPORARY BUILD

FEATURE
TEMPORARY
VENUES

Dave Withey, Sales and Marketing Director Arena UK and Europe, gives his thoughts on the rise in popularity of temporary infrastructure.

Why are temporary stadia becoming more popular at major sporting events?

Sports clubs and organisations can benefit from the greater flexibility temporary stadia offer, and they are increasingly being used for one-off events or whole seasons.

Temporary structures are a more cost-effective approach rather than permanent bricks-and-mortar facilities. The development of permanent-looking structure technology means we have come a long way from the days when the only way to expand or upgrade was to knock part of your stadium down and start again.

The word “temporary” can be misleading in some ways; modern structures can be considered to be semi-permanent installations.

We can offer very flexible, modular seating options that not only offer a great experience for sports fans but can enhance any sporting facility on a permanent or semi-permanent basis.

What are the advantages of temporary stadia and seating?

They cost less, of course, and you save a lot of construction time. We can design and install sports facilities that look superb and meet all safety regulations. Some clubs need the option of being able to expand capacity without breaking the bank while making sure any new facility is in keeping with their current stadium and surroundings which is where we can help.



Fans at Bath Rugby's Recreation Ground

What major projects have you worked on?

One of our most recent projects was expanding and upgrading **Bath Rugby's Recreation Ground**, which is part of a **World Heritage Site** and needed improving while the club waits for permission to build a new stadium.

We also worked on **Saracens' Allianz Park**, supplying new seating and grandstands utilising demountable seating structures which can be installed on a permanent basis.

One of the best examples of what we can do is **Fulham FC's Craven Cottage Stadium**; over the course of seven years we've transformed a stadium that was looking run-down after years of underinvestment.

We worked within strict planning regulations to expand capacity and improve sightlines and we did it for a fraction of the cost of a rebuild.

Our seating professionals help clubs also improve their training facilities, including the installation of new standing terraces at **Newcastle United** and tiered temporary grandstands at **Leicester City FC** for fans watching the home under-21 matches.

Staying with football, we delivered the largest ever temporary structure built in Brazil when we installed 18,000 of our clearview™ seats in the North and South Stands of the **Arena de Sao Paulo** stadium for the **2014 FIFA World Cup**.

What recent advances have we seen in technology for temporary stadia?

Temporary stadia products have evolved to the point where they have a permanent feel to them. We have an in-house team of CAD designers and structural engineers so you're getting a grandstand or seating arrangement that is tailored to your needs rather than a one-size-fits-all approach.

We've continued to invest and develop our products which are reconfigurable and offer a great view from every seat. Perhaps the biggest step forward in seating has been our clearview™ system, a modern, attractive seat on a variable rake substructure to maximise the best possible views.

The seats themselves now come in a range of colours and can be padded for VIP and coaches' areas. We're also able to incorporate hospitality facilities, media studios, bars and toilets into our designs. ■

