The Future of Parc des Princes

SWALLOW ENGINEERING



The Project

The Parc des Princes stadium, home to Paris Saint Germain (PSG), frequently exceeds 99% capacity. Due to high demand for tickets, the stadium will be undertaking an expansion to increase the seating to 60,000. Alongside the additional seating, a variety of hospitality and premium services will be included. Many drivers and constraints have been considered to produce a world class stadium, whilst ensuring the stadium maintains its architectural heritage.



Project Stakeholders

Conseil de Paris

Financial Ties PSG Qatar Sports Investments On Matchdays Match attendees Régie Autonome des Transports Parisiens

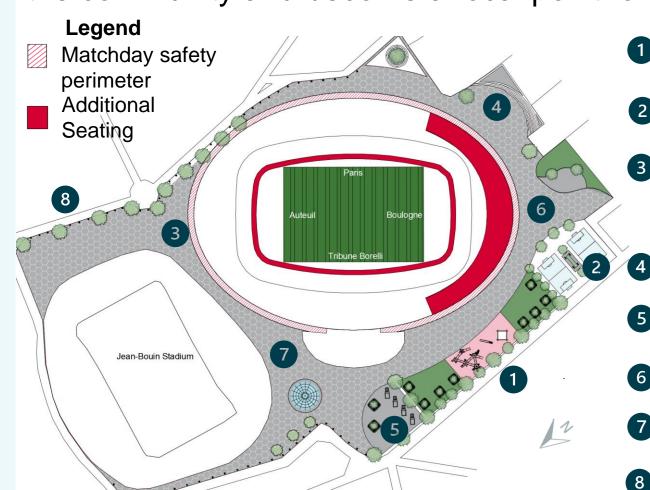




Plaza

Plan view of the plaza

With onsite football matches occurring only 30 days a year, the new stadium includes features to ensure its value all year round. The plaza will act as the interface between the stadium and the community and become a focal point for socialising, playing and eating.



- Refurbishment of park with new playing areas
- 2 5-a-side pitches
- Matchday perimeter erected for security measures with clear space for queueing around stadium
- 2 4 Stepped seating area with mosaic of fan names
 - 5 Picnic area and weekly food trucks/ market
 - 6 Landscaping to aid post match flow of people
 - Statues of PSG legends and historical plaques
- 8 Bollards around full perimeter

Architectural Concept

The extension to the Boulogne stand aims to modernise the stadium whilst respecting the existing structure. The glass façade exposes the skeletal structural elements and allows for the historic concrete razors to remain a visible key feature of the stadium from the outside.

The façade tapers into the existing stadium as it reaches the Paris and Tribune Borelli stands, providing a seamless transition from the old to the new.

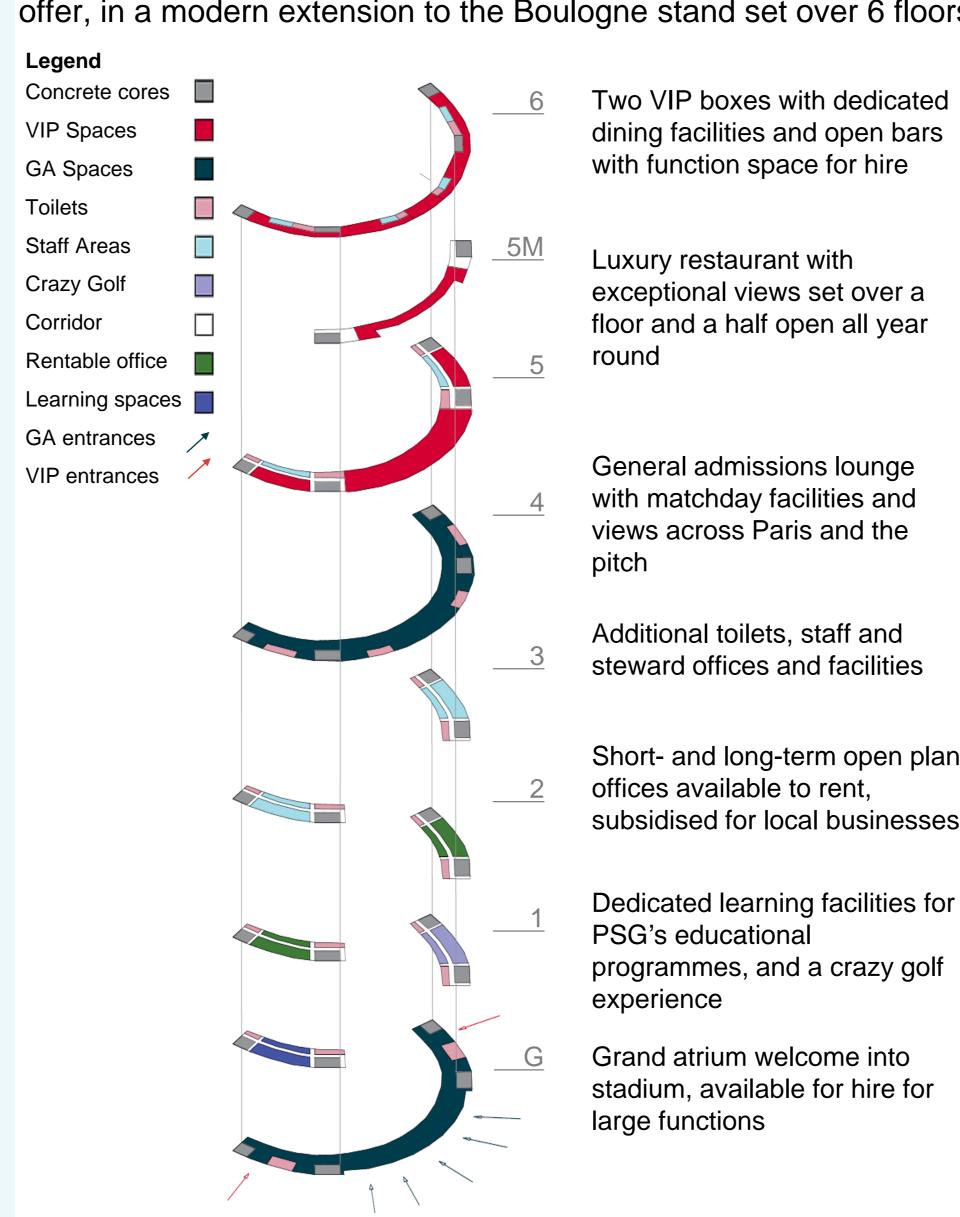




External view of extension to Boulogne stand

Hospitality

The modern stadium must do much more than simply provide a venue for football games, with trends leaning towards the luxury experience and facilities to be used all year round. The expansion of the Parc des Princes diversifies and expands the repertoire of experiences on offer, in a modern extension to the Boulogne stand set over 6 floors.

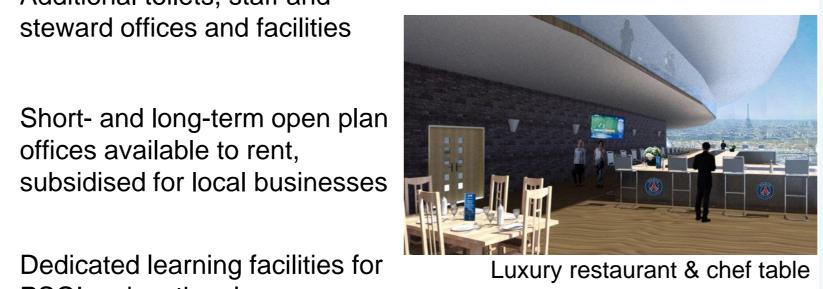


Hospitality floor layout

Two VIP boxes with dedicated



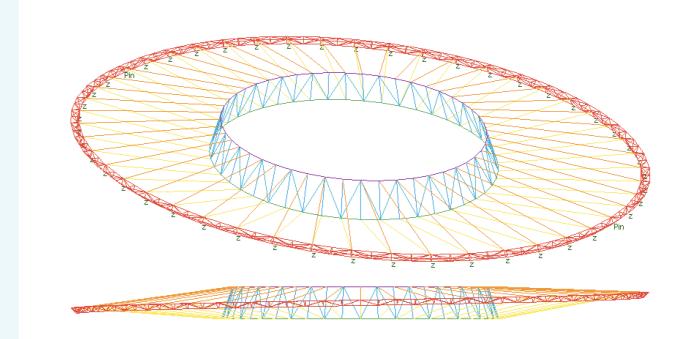
Mezzanine bar







Roof and Structural Design



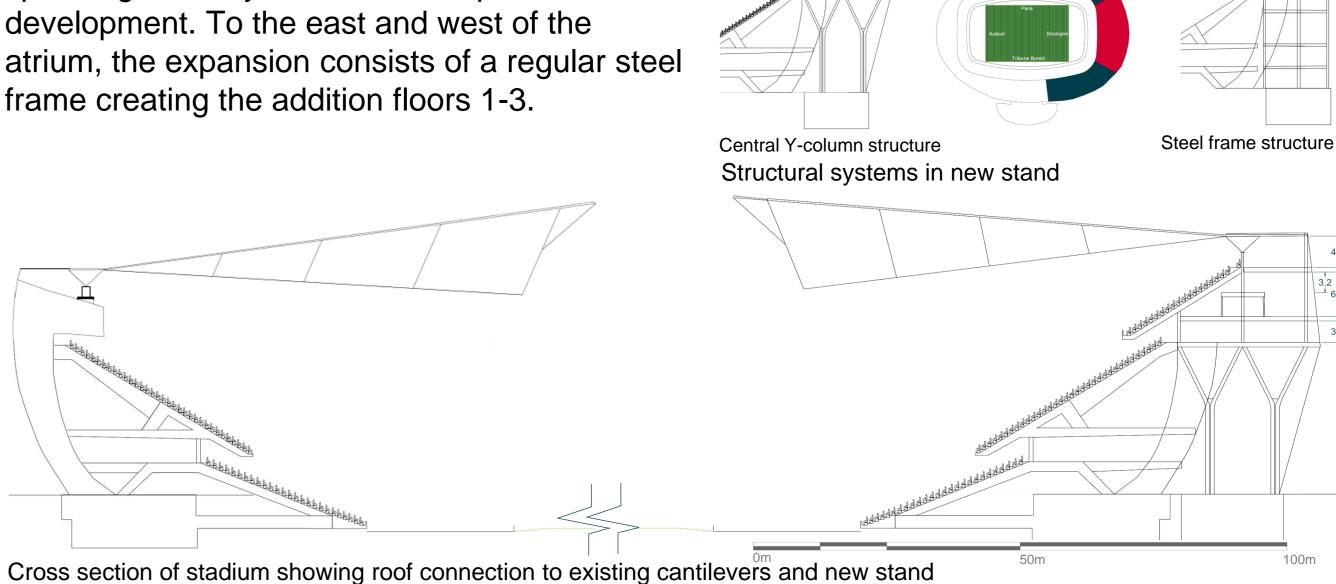
Tension ring GSA model

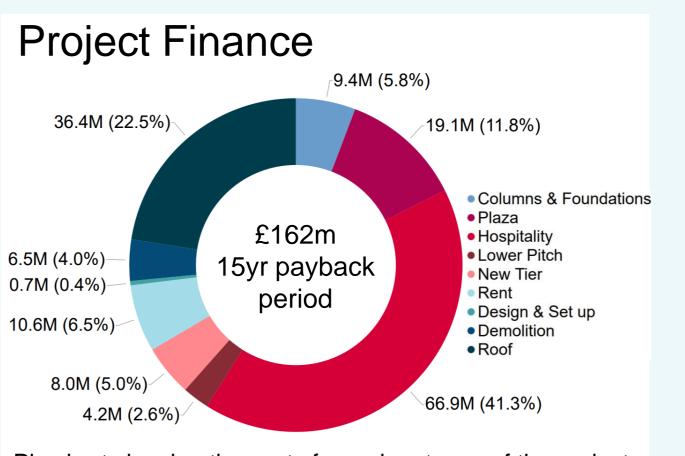
Steel Y-columns create the atrium entrance, spanning 4-storeys in the central part of the new development. To the east and west of the atrium, the expansion consists of a regular steel frame creating the addition floors 1-3.

A tension ring roof will replace the existing concrete cantilevers, providing a lightweight and material efficient solution. It is composed of an outer compression truss and two inner tension rings connected via radial cables. The roof is supported by the new frame and the existing cantilevers on the remaining 3 stands. The cantilevers have been cut to allow sightlines from the new stand to the pitch, and the bearing connection is located inline with the centre of the foundations to limit differential settlement.

Legend

Atrium Y-columns

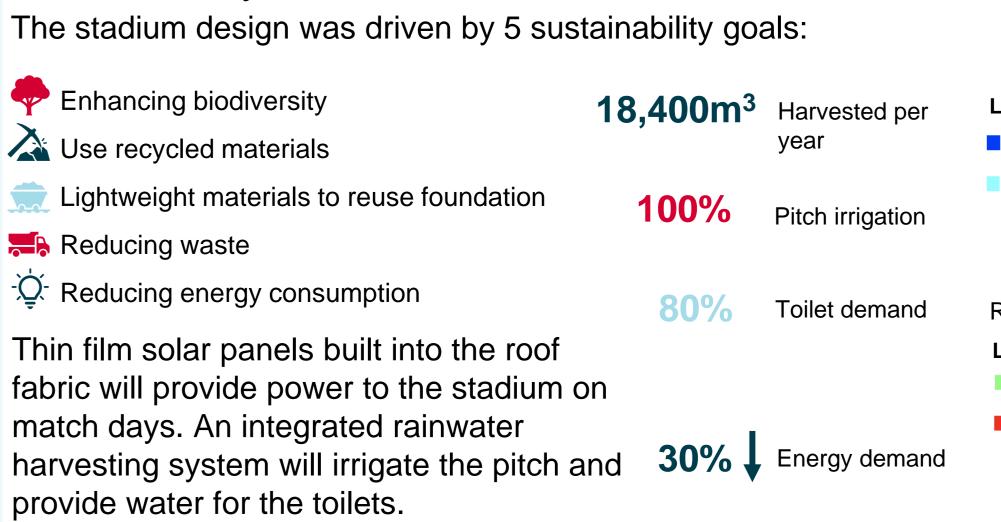




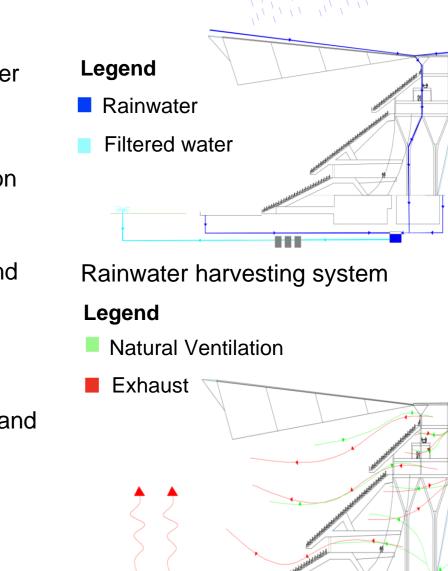
Pie chart showing the costs for major stages of the project construction (£)



Sustainability



Electrochromic glass used on the façade can regulate temperature by adjusting its opacity.



Automated windows and ventilation

K. Sivalogarajah, S. Warren, Z. Aleshaiker, J. Lewis, T. Oliver, C. Wang