



SoFi Stadium

Brisbane 2032

Design Alliance Olympic Capability

The Sports & Precincts Collection



We acknowledge the Traditional Custodians of the lands on which we live and work. We pay our respects to their Elders past, present and emerging, who continue cultural and spiritual connections to Country, and recognise their valuable contributions to Australian and global society.

As designers of the built environment, we hold a unique position to incorporate Aboriginal and Torres Strait Islander Peoples culture into the world around us, reflecting the deep history of the land, and surrounding waters, that our designs sit upon.

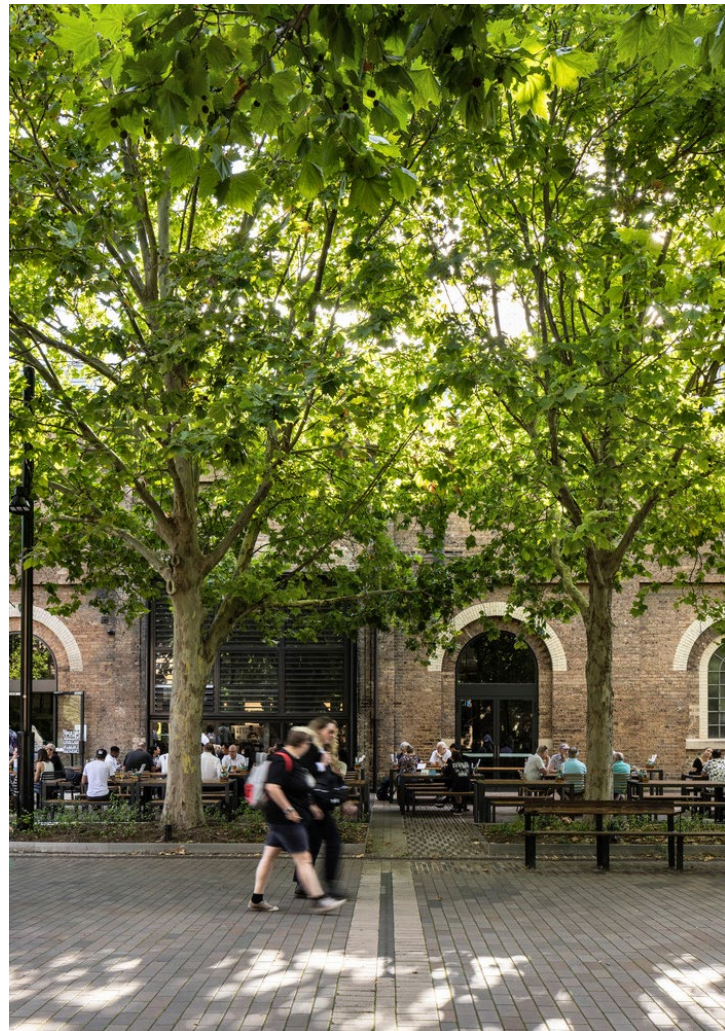
Buchan's Reflect Reconciliation Action Plan (RAP) marks the first stage of our commitment to contributing meaningfully towards Australia's reconciliation journey. It is our guide for how we will contribute to greater cultural awareness and connectedness within our workplace and within the communities where we design and collaborate.

RAP Artwork by Wiradjuri women & Burrundi Design Studio Founder, Theresa Bower.

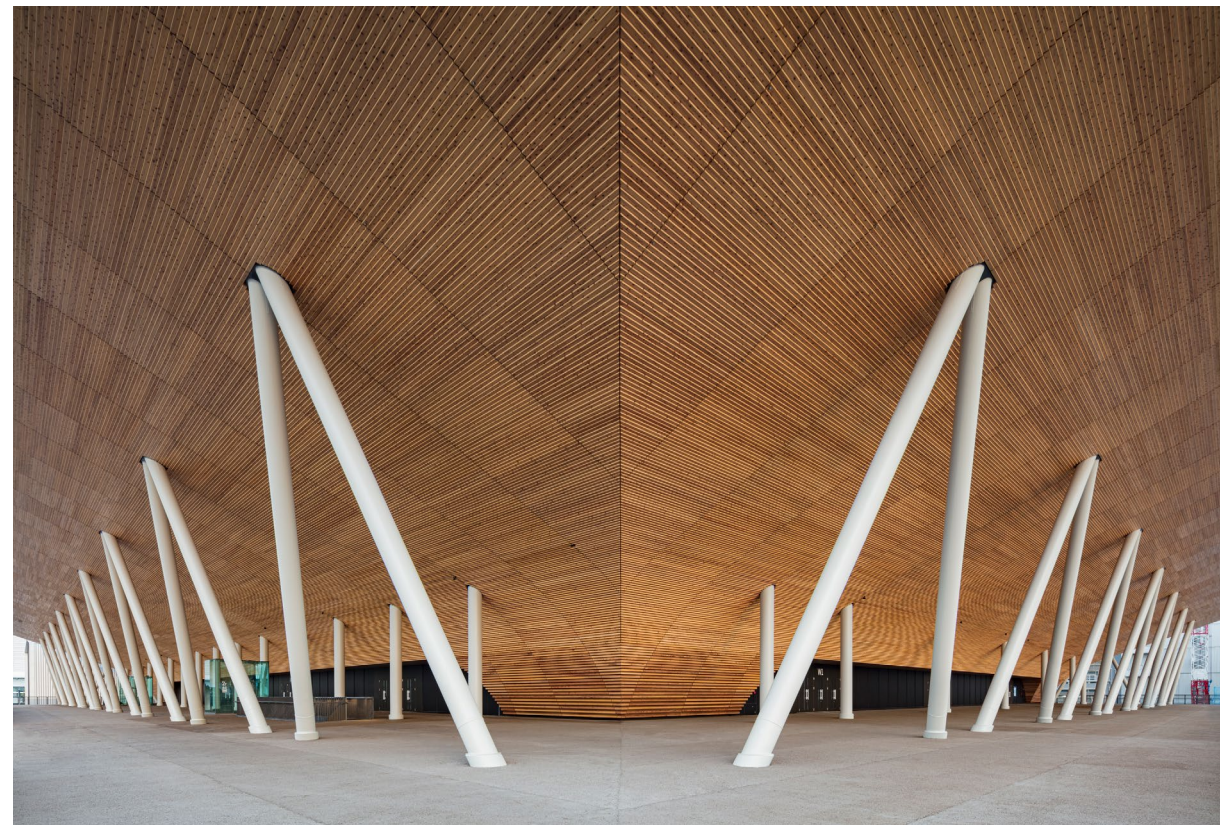
HKS BUCHAN
NIKKEN SEKKEI
AURECON



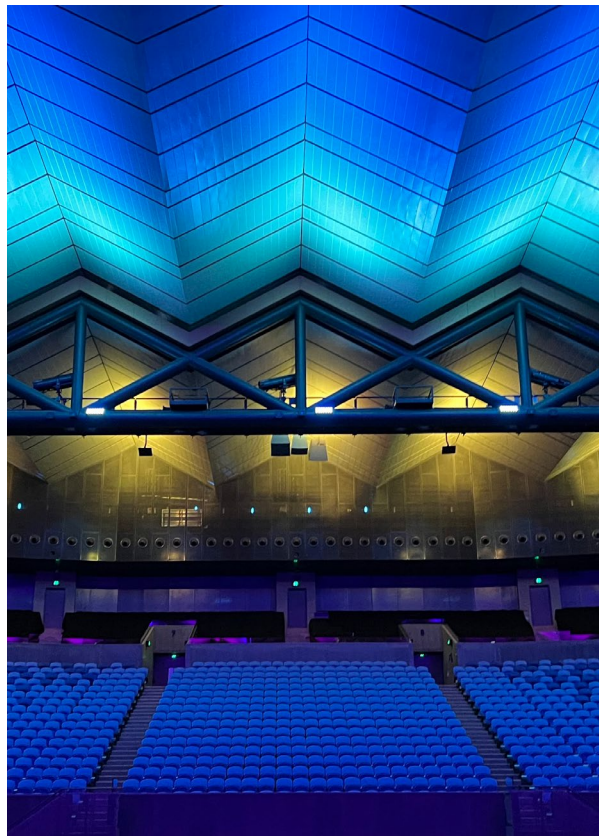
HKS
SoFi Stadium



BUCHAN
South Eveleigh
Locomotive
Workshop



NIKKEN SEKKEI
Ariake Gymnastics
Centre



AURECON
Melbourne Park
Redevelopment

In 2032, the Olympic and Paralympic Games will catapult Brisbane into an exclusive league of world-class cities. Since the inception of the modern Olympics in Athens in 1896, only twenty-one cities across the globe have had the privilege of hosting the summer games. Now, Brisbane proudly joins this prestigious roster as the twenty-second host city. This moment is more than just historic; it’s a once-in-a-lifetime opportunity that will redefine Brisbane and south-east Queensland on the world stage.

The world’s gaze will be firmly fixed upon us as we approach July 2032, and in the months and years leading up to this momentous event.

2032

The road to delivering the Olympics is not without its challenges. With a surge of athletes, officials, VIPs, media and fervent sports enthusiasts descending upon our city in 2032, our sporting venues must not only meet the highest technical standards but also set new global benchmarks for stadiums and arena designs in terms of fan engagement and the event experience. Moreover, these venues need to seamlessly integrate into our cities and neighbourhoods, contributing genuinely and tangibly to our community on non-event days, all while aligning with the 2032 commitment to a climate positive Games. To rise to these challenges, we must adapt our design, planning, business, investment and procurement processes.

However, these challenges are also an opportunity to showcase our identity, our values and how we do things. It is an opportunity to display our distinctive lifestyle, creativity, ingenuity and our intuitive relationship with the natural environment. It is a chance for Brisbane's "big country town" spirit to shine through, fostering a sense of camaraderie and celebration.

Meeting these challenges and seizing these opportunities transcends the capacity of any single design practice in Australia. It would be short-sighted to assume that all the solutions can only emerge from a domestic perspective.

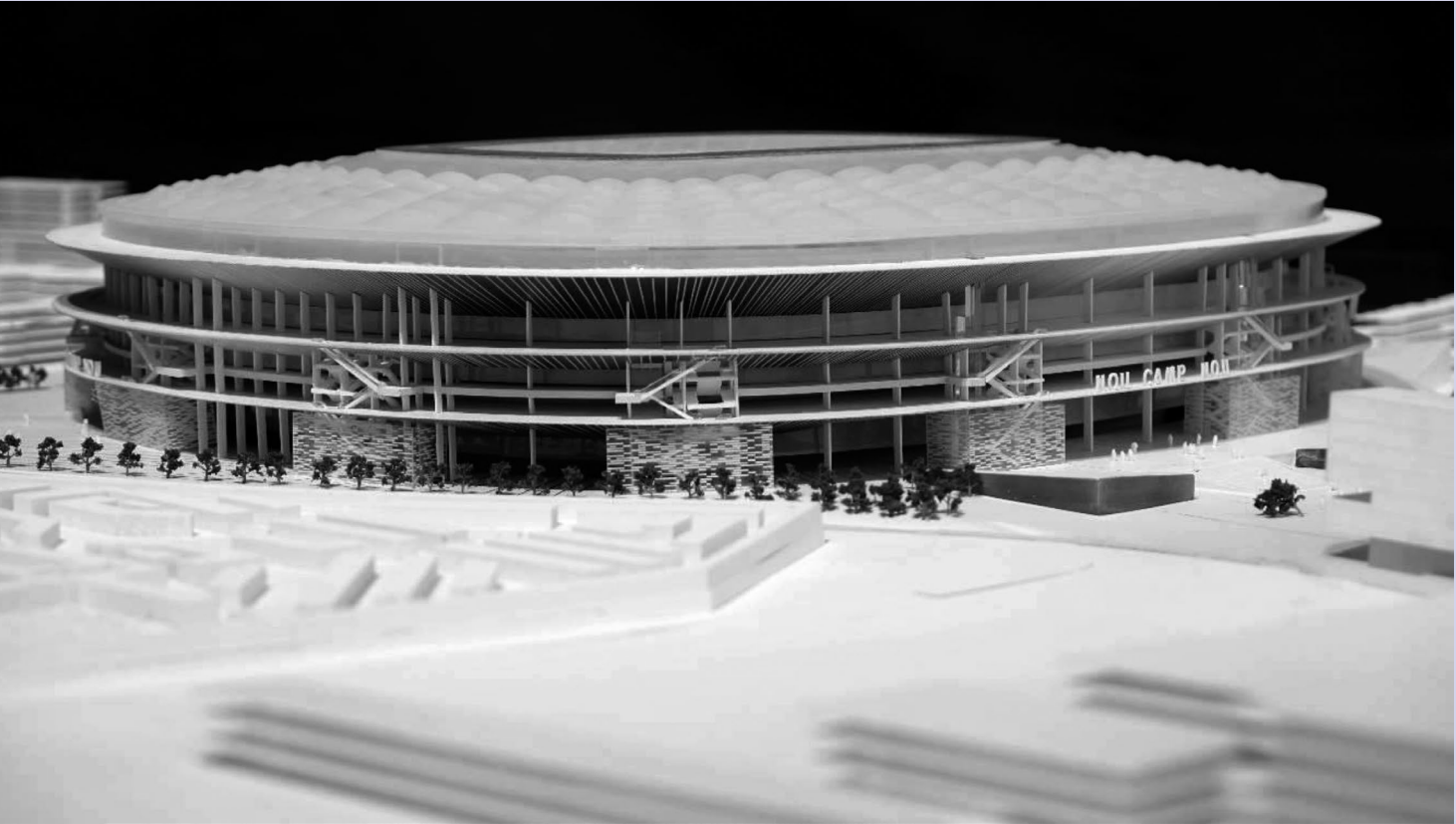
We have the opportunity to prioritise meaningful engagement with our First Nations people and our wider community, giving them a voice in shaping our built environment. Furthermore, we have the opportunity to demonstrate our commitment to forward thinking and future-proofing as we deliver a lasting legacy.

It is for these reasons the Design Alliance of Buchan and HKS, together with Nikken Sekkei and Aurecon, has chosen to combine our collective wealth of international and domestic experience in sport, community placemaking and delivering solutions that have lasting impact and address long-term legacy goals. Together, we are ready to embrace the design opportunities presented by the 2032 Olympic and Paralympic Games.

The following pages showcase the deep-rooted local knowledge and Brisbane experience of Buchan, complemented by the global stadium experience of HKS, Nikken Sekkei and Aurecon, known for projects like SoFi Stadium in Los Angeles, the Ariake Centre for the 2020 Tokyo Games, the Dallas Cowboys Stadium, FC Barcelona Stadium to name a few. Aurecon has delivered the engineering design for more stadia and arenas in Australia than any other engineering firm, including CommBank Stadium and Allianz Stadium in Sydney; Marvel Stadium and Melbourne Park; Adelaide Oval and RAC Arena in Perth, to name a few.

This unique blend of local insights and international expertise allows us to offer a distinctive perspective on sports design, backed by a strong track record of local project delivery.

We look forward to partnering and collaborating with all project stakeholders and industry leaders. Together, we will deliver an Olympic and Paralympic Games experience for Brisbane in 2032 that will be remembered as innovative, unforgettable, and distinctly unique. It's our opportunity to demonstrate to the world the remarkable capabilities we possess when we work together in Queensland.



NIKKEN SEKKEI
Camp Nou

ENTERTAINMENT



SoFi Stadium and Entertainment District at Hollywood Park

INGLEWOOD, CALIFORNIA USA

The SoFi Stadium is the cornerstone element of the premier entertainment destination and gathering spot in the heart of Los Angeles. Home to NFL games for the Los Angeles Chargers and Los Angeles Rams, the stadium will play host to world-class sporting events including the Super Bowl, the opening and closing ceremonies of the 2028 Olympics and community events. An outdoor plaza space ties the stadium and adjacent performance venue together. Much of the stadium is considered open-air, while fully covered by a monumental transparent roof that is operable and able to open and close on demand.

Cutting-edge technologies are integrated throughout the building including the oval-shaped, dual-sided Oculus video board that will redefine how video content is delivered within entertainment venues.

Project by:
HKS

Size:
3.1 million sf

Completion:
2020

Services:
Architecture
Masterplanning
Interior design
Branding
Environmental graphics

Awards:
2021 Prix Versailles World
Architecture and Design Award

2021 AIA | LA Game Changer
Award

2022 Pro+ Award, Platinum Award



Stadium

SAMSUNG

SoFi Stadium



13
43
100
7
13
6
4th & 3
7:27

13
43
100
7
13
6
4th & 3
7:27

SoFi Stadium

RAMS





HARMONY



Ariake Gymnastics Centre

TOKYO, JAPAN

The Ariake Gymnastics Centre was designed to function in two phases; initially as a temporary international sports competition facility, then, after taking out the temporary spectator stands, converted into a permanent exhibition hall.

A unique feature of this facility is its extensive and generous use of timber throughout the building. This is a positive realisation of "wooded facilities" and "sustainability" announced in the Tokyo 2020 candidacy file. The material was also selected to express the memory of this district which was once a timber storage pond. Based on the architectural concept of "a wooden vessel floating in the bay area," timber is used wherever possible, specifically in the roof frame structure, facade, spectator seats and exterior walls, while carefully considering the characteristics of wood in each application.

The arena ceiling is a wood frame structure designed to reduce the weight of the overall structure. The concourse space, where spectators approach the arena, is intentionally placed outdoors. The wood facade takes into account acoustic and thermal insulation properties. Function, structure, and space are tightly combined to achieve beauty and richness in simplicity, which is the essence of Japanese traditional wood architecture that spectators and athletes from all over the world will experience.

The site is located in the midst of a vast, wide-open landscape along a canal. Yet the design also needed to take into account the residential environment of the medium-rise and high-rise condominium buildings in the vicinity. The horizontally long and flowing lines were achieved by keeping the building height as low as possible, reducing the overall volume and controlling the height of the eaves. By positioning the circulation concourse on the outside of the building and creating an open and broad approach space, the design attempts to avoid the impenetrable exterior typically found on large-scale sports facilities created by the monolithic walls.

Project by:
Nikken Sekkei

Client:
The Tokyo
Organising
Committee
of the Olympic
and Paralympic
Games

Site Area:
93,400sqm

Total Floor Area:
39,300sqm

Completion:
2019

Services:
Schematic Design
Design Development Review
Construction Supervision

Certification:
CASBEE Certified









**Adelaide Convention
Centre**

ADELAIDE, SA AUSTRALIA

Aurecon has a long history of working on the Adelaide Convention Centre. The most recent redevelopment included a major extension to the west of the existing Central Building, as well as construction of a new plenary hall (the East Building). The area now comprises three distinct buildings, integrated into a multi-purpose entertainment precinct on the Adelaide Riverbank, an area that showcases the cultural, sporting, education, medical, conference and entertainment facilities of the city.

The precinct sits directly over the primary rail network into the Adelaide CBD. This prime real estate demanded significant innovation to create a safe and constructible structure, while maintaining critical public transport infrastructure and keeping people moving during construction.

One of the biggest challenges the Aurecon team faced was determining how to build the new, much heavier, building on top of the existing car park and structure over an operating railway to current design standards with no expansion allowance incorporated in the original design.

The team interrogated the existing geotechnical records, increased the capacity of the piles, manipulated the structural load paths and pushed the new building through the existing structures to build the new facility on top of the existing without having to put a single new pile on the ground.

These innovative engineering solutions allowed us to create the imaginative superstructures, hybrid structural solutions and major clear span roof and floor structures within a very short time frame, tight budget and amongst significant site restrictions. The result is a successful redevelopment that is a key convention and tourist attraction within Adelaide, generating significant revenue for the state.

Project by:

Aurecon

Client:

South Australian Department for Infrastructure and Transport

Completion:

1989 (Exhibition Hall)
2000 (Central Building)
2015 (West Building)
2017 (East Building)

Services:

Structural
Civil
Geotechnical
Environmental
Traffic
Acoustics
Vibration
Fire Safety
Rail
Wind
Façade

Awards:

2019 Property Council of Australia
Innovation Excellence Awards–
Award for Best Tourism & Leisure
Development

2019 Property Council of Australia
Rider Levett Bucknall–South
Australian Development of the
Year







DESIGN INNOVATION

Optus Stadium
BURSWOOD, WA AUSTRALIA

The multipurpose modern sports facility serves as a destination for a variety of events including cricket and soccer matches, major concerts and Australian Rules Football contests. Non-sports enthusiasts who come to the area around the stadium have access to an amphitheater, children's playgrounds, picnic areas, a network of walking and cycling trails and a boardwalk for public use.

Anodised aluminum on the stadium's bronze facade reflects the special geology of Western Australia by day, and a 15,000-light LED system highlights the team colours at night. A lowered seating bowl brings fans closer to the field for exceptional views while the structure's lightweight fabric roof provides shelter to 85 percent of its seats.

Project by:
HKS

Size:
150,000sqm

Completion:
2018

Services:
Architecture
Interior Design

Features:
60,000 seats
15,000-light LED system
Natural couch grass mixed with rye and artificial grass playing surface

Awards:
2019 From Plan to Place, National Award for Planning Excellence, Planning Institute Australia

2019 World's Most Beautiful Stadium, Prix Versailles

2018 West Australia Architecture Award, Colorbond Award for Steel Architecture, Australia Institute of Architects

2018 West Australia Architecture Award, George Temple Poole Award, Australia Institute of Architects

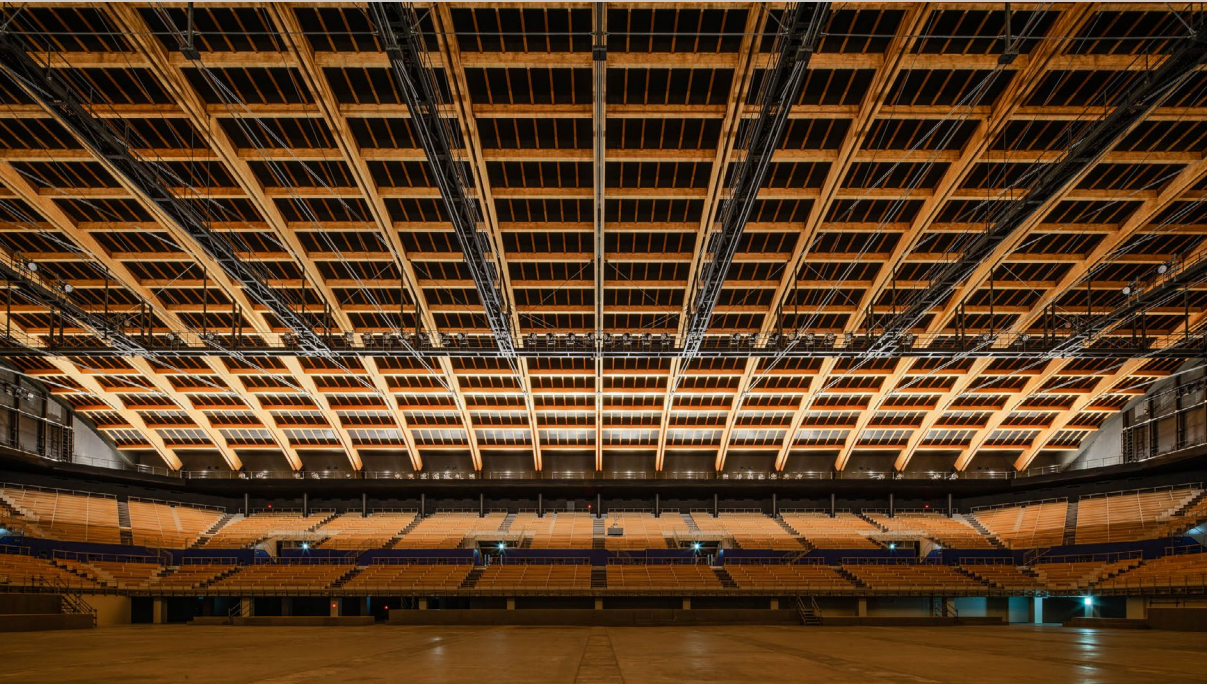
2018 Western Australia Architecture Awards, Jeffrey Howlett Award for Public Architecture, Australia Institute of Architects

2018 Western Australia Architecture Awards, The Wallace Greenham Award for Sustainable Architecture, Australia Institute of Architect

Project in association with Cox Architecture and Hassell Studio







NIKKEN SEKKEI
Ariake Gymnastics Centre

Designing for Climate Positive

The International Olympic Committee (IOC) has challenged the global sport community to adopt strategies that go beyond carbon neutrality or a zero-carbon approach with carbon off-sets to designing sports stadia and arenas to a more ambitious agenda of regenerative design which aims both for energy independence through renewable sources and to simultaneously take carbon out of the atmosphere.

The Brisbane 2032 Olympic and Paralympic Games are positioned to be the first climate positive games through its contractual obligations to the IOC.

This agenda requires design solutions that go beyond current sustainability principles, practices and metrics of water and energy efficiency, waste and emission reductions and recycling or upcycling building waste materials. A carbon footprint can no longer be off-set with carbon credits in order to meet net-zero targets.

A much broader approach is required to meet climate positive ambitions which include a whole-of-industry approach, including Government and businesses aligning design and procurement processes that looks at climate positive frameworks in how materials are sourced and manufactured, how they are transported to site, how the building is assembled and the energy required to create the new stadium, in addition to careful material selections and operational efficiencies that ultimately make a venue energy independent and waste systems that feed a circular economy.

This will require investment houses to amend their risk premiums to support investments in transitional manufacturing and energy sourcing, and businesses that require major retooling to meet zero carbon, and ultimately, climate positive metrics.

Transport solutions for getting fans to the stadium, how much a stadium can contribute to its surrounding neighbourhoods, more robust landscape solutions that sequester carbon, and innovative materials that absorb, filter or reuse carbon will become key building features in the future, some of which the technology remains in a development phase or not as yet invested.

In the interim, a careful audit of the entire site selection process, design and construction, operational and end of life process needs to be considered if we, as a collective design and procurement community, are to successfully head down the path of climate positive outcomes in the delivery of a new city stadium.

A key question in moving towards climate positive outcomes is how will we be able to measure success in meeting climate positive targets?

Part of the answer will be arriving at 2032 with Olympic and Paralympic Game venues that have been designed as energy independent with building materials sourced and waste recycled and regenerated via new circular economy business and operational frameworks, clean transport solutions and nature thriving back in the inner city. Any sporting venue that operates as a genuine community asset, contributes to the health, wellbeing and lifestyle requirements of the surrounding neighbourhoods on an activated seven day, twenty-four hour basis.



AURECON
CommBank Stadium

Key Olympic Drivers



Allianz Stadium

SYDNEY, NSW AUSTRALIA

The Allianz Stadium is a world class venue that provides Sydney with a sporting and entertainment precinct of an international standard with its modern day engineering and architectural marvel of 42,500 seats.

The elegant stadium form blends engineering and art through a 'sculpture' of steel which forms the roof and façade, and provides a colosseum style atmosphere within the stadium. In addition to realising the vision from the architectural design competition, it was critical for the government to deliver the project within budget and a very short design and construction timeline. Aurecon's deep stadia design experience and nimble optioneering in working closely with contractor John Holland, unlocked key winning strategies to provide price certainty and confidence that the tight design and construction programme of 2.5 years could be achieved.

The sweeping roof 'floats' over the seating areas, and is lighter than traditional stadiums, using up to 40 percent less steel in its construction, and creating a more sustainable project, while still covering every seat in the stadium and providing fans with clear views of the playing field.

The roof is one of the most technically advanced in Australia, with 4,000 individual pieces of steel with preset length and geometry. To facilitate connecting each element precisely on site, Aurecon used digital engineering techniques to model the entire geometry prior to construction.

Project by:
Aurecon

Client:
NSW Government

Completion:
2022

Services:
Structural and Civil Engineering

Features:
42,500 seats

Awards:
2023 Infrastructure Partnership Australia (IPA) National Infrastructure Awards – Industry Choice (with Infrastructure NSW and John Holland)

2022 Consult Australia Awards for Excellence – Innovative Design

2022 Australian Steel Institute (ASI) Steel Excellence Awards New South Wales Chapter – Buildings (Large Projects)



REIMAGINE

South Eveleigh Locomotive Workshop

EVELEIGH, NSW AUSTRALIA

The Locomotive Workshop building is one of NSW's most significant heritage buildings. Steeped in history dating back to the industrial revolution, Sydney's Locomotive Workshop has been reimagined as a hybrid mixed-use destination which embraces the rich heritage of the site.

Buchan led the internal refurbishment of 5 of the 16 heritage bays that contain a hybrid mixed-use zone that includes exhibitions, events, hospitality retail, commercial and education offers.

Driven by three key design principles; transparency, robustness, and tactility, the design team has developed a considered interior that celebrates the immense volumes of the space, with reinstated sightlines and an array of guided trails that lead to intimate spaces with unexpected vantage points to further engage with the building's history.

Heritage machinery and objects remain boldly on display alongside public exhibition spaces that thoughtfully interpret the site's past, while custom displays made from reused heritage components and metal, including cast-iron columns, wrought iron trusses, house historical objects and interactive digital content including projections on machinery and an immersive tunnel-wrapped traveller experience for visitors to the site. The result is an unrivaled historical exhibition experience.

Buchan has worked in close collaboration with Sissons Architects, Mirvac Design, and heritage specialists Curio Projects to reimagine South Eveleigh's historic Locomotive Workshop.

Project by:
Buchan

Client:
Mircvac

Completion:
2022

Services:
Architecture
Branding
Interior Design
Environmental Graphics

Awards:
Shortlisted, World Architecture
Festival 2023

Commercial Commendation &
Heritage - Creative Adaptation
Commendation, AIA NSW 2023

Best Heritage Development 2023
Property Council of Australia
Innovation & Excellence Awards

2023 Good Design Award for
Architectural Design







MINDFUL

Boola Katitjin

PERTH, WA AUSTRALIA

Boola Katitjin is an award-winning mass engineered timber (MET) building that has demonstrated that designing for Country, with circularity, collaboration and innovation at the forefront, results in outcomes that benefit both people and the planet.

Central to its design is student well-being, achieved through biophilic principles that connect occupants with nature. Features like wide views of the Beeljar wetlands and natural ventilation breezeways enhance this connection. The project, WA's first MET building, has garnered global recognition for promoting sustainable, renewable, and circular methods in construction, aiding in achieving net-zero carbon goals.

The project's innovative use of mass engineered timber has resulted in a spacious, column-free building, benefitting the community and achieved through collaboration among academia, industry, and Indigenous groups. With a 6 Star Green design rating, it incorporates energy-efficient and water-conserving measures, and native landscaping.

Decreasing reliance on finite materials to prioritise renewable resources, such as timber, is a key concept of the circular economy. When mass engineered timber is harvested from certified sustainably managed forests, it can play an important role in the circular economy and can have a lower carbon footprint than traditional building materials.

MET also allows for modular design and construction, helping to design out waste and pollution at the start. Modular timber buildings are assembled from prefabrication which reduces waste and can support disassembly at end-of-life, enabling components to be re-purposed.

Project by:
Aurecon

Client:
Murdoch University

Completion:
2023

Services:
Civil and Structural Engineering
Pedestrian modelling
Traffic Audits
Robotics Engineering
Circular Economy

Awards:
2023 Winner: Engineers Australia
Excellence Awards National
Division – Project of the Year

2023 Winner: Australian
Timber Design Awards (ATDA) –
Engineered Wood Product

2023 Winner: Australian Timber
Design Awards (ATDA) – People's
Choice

2023 Winner: Council on Tall
Buildings and Urban Habitat
(CTBUH) Annual Awards –
Innovation Award

2023 Winner: Engineers Australia
Excellence Awards Western
Australia Division – Project of
the Year

2023 Winner: FIDIC Project
Awards – Outstanding Project of
the Year – Small to Medium

2023 Winner: The Australian
Financial Review (AFR) BOSS
Most Innovative Companies –
Professional Services

2023 Highly Commended:
Property Council of Australia
Innovation & Excellence Awards –
Award for Project Innovation



INNOVATION



U.S. Bank Stadium

MINNEAPOLIS, MINNESOTA USA

Known as “The People’s Stadium,” the multi-purpose venue offers an unparalleled fan experience in a year-round venue. Reflecting the culture, climate and context of the city, the design is inspired by ice formations on nearby St. Anthony’s Falls as well as Scandinavian design such as Viking longboats.

The Legacy Gate, comprised of five pivoting glass doors ranging from 75 to 95 feet tall, when open connects the stadium to its adjacent urban plaza. The translucent roof — the first ETFE roof in a U.S. stadium — withstands the brutal Minneapolis climate, while flooding the interior with natural daylight, creating the feeling of being outdoors without subjecting players or fans to the elements.

Project by:
HKS

Size:
1.8 million sf

Completion:
2016

Services:
Architecture
Masterplanning
Interior design
Branding
Environmental Graphics
Sustainability Consulting

Features:
66,200 seats
125 suites
7,500 club seats
Party Plaza
Hall of Fame Museum
Nation’s largest translucent ETFE roof
Glass pivoting doors
2-acre west plaza

Certifications:
LEED Gold certified
Compliance with Minnesota Sustainable Building Guidelines

Awards:
2019 AIA Dallas Chapter, Built Awards, Juror Citation, Large Projects Category

2018 The European Centre for Architecture Art Design and Urban Studies, American Architecture Award, The Chicago Athenaeum

2018 American Public Works Association Project of the Year Award

2018 Minnesota Meetings + Events Magazine Readers’ Choice Award, Best Sports Venue

2018 American Institute of Steel Construction IDEAS2 Over \$75M Merit Award

2018 Los Angeles Business Council Los Angeles Architecture Award, Beyond LA Category

2017 Stadium Business Awards, The David Vickers Award

2017 Athletic Business Facilities of Merit

2017 ACE Alpha Awards, Architect Award for Best Infrastructure





Thinking Legacy

The legacy plans leading up to Brisbane 2032 Olympic and Paralympic Games, and for the ten plus years after the Games, will mean different things to different people. In essence, legacy will be about the tangible benefits to the community, economy and the environment through the Government's investment into new and remodelled sporting assets as a direct result of hosting the 2032 Games.

The ambitions of the Brisbane 2032 Games Organising Committee, and the Queensland Government is a legacy that can be experienced locally, regionally, nationally, and across Oceania. The strongest legacy ideas will be those that have the most far reaching and long-lasting benefits through bold vision, transformative intent with catalytic outcomes. Celebrating the world's oldest living cultures will be at the heart of Brisbane 2032 and at the heart of the legacy plan. The importance of creating an inclusive, accessible and barrier free society for people with disability is also a key criterion.

To date the four consistent themes that have emerged through community consultation has been to ensure a broadening of sport, health and social inclusion in the legacy planning. Also attention to a better future for our environment, connecting people, communities and businesses both regionally and globally. And a genuine contribution to the economy, job creation and innovation.

Ambitions towards a climate positive Games is likely to drive much new technological and manufacturing advances that create a positive economic legacy. Designing Olympic and Paralympic Venues with the smallest environmental footprint possible, combined with new clean building and procurement processes will contribute towards a positive legacy outcome. Planting of a legacy forest today creates urban habitat and biodiversity, and cooler places and carbon sequestration for future generations.

From a design perspective, legacy is also about creating meaning, stories and collective memories and celebrating and commemorating those values which are most important to us. This idea extends to creating iconic buildings and experiences that tell the stories of the world's oldest living cultures in their own way, and a place for truth-telling, truth hearing, creativity and cultural expression. Creating venues where indigenous and non-indigenous children can come together as equals to learn, play and grow up in an environment that is safe and supportive may be a significant legacy outcome to strive for.

Our Design Alliance has the ability, capability and experience to address legacy outcomes on a number of difference levels and across different industries and Government agencies based on our collective ability to identify the broad range of benefits and opportunities sporting venues can deliver when integrated into the economy and local community within a well thought out framework.

Key Olympic Drivers



Camp Nou

SPAIN, EUROPE

Europe's largest stadium was designed in 1953 by architect Francesc Mitjans. Ever since, it is known worldwide as the home stadium of FC Barcelona.

In 2015, an international competition was held for proposals to deal with the aging of the existing stadium and renovations of its functions. The winning proposal was submitted by Nikken Sekkei + Pascual – Ausió Arquitectes. While retaining the essence of the existing stadium and inheriting elements such as the large roof, the proposal aims to go beyond the category of spectator stadium to provide a diverse range of experiences in the facility with many ways to spend time. Through this renovation, Camp Nou will be reborn as a stadium that is open to the city and its residents.

The proposal features an open facade without exterior walls to take advantage of the mild Mediterranean climate. Instead of walls, it surrounds the stadium periphery with a triple-level concourse terrace. From the inside, this will provide views over the cityscape of Barcelona, while the activities of people at the stadium will be visible from the city. The semi-outdoor concourse terrace will have more than twice the conventional width.

In addition to serving as a circulation passageway, it will be a public space that generates a variety of activities, such as provision of food and drinks.

Project by:
Nikken Sekkei
Pascual – Ausió Arquitectes

Site Area:
55,000sqm

GFA:
104,000sqm

Completion:
Current

Services:
Architecture
Masterplanning

Features:
105,000 Seats

Images in Design
Development phase





SUSTAINABLE



Royal Arena

COPENHAGEN, DENMARK

The design team of Royal Arena, 3XN in collaboration with HKS, embraced the challenge to create a world-class sports venue that would be welcomed to Copenhagen as good neighbour. Designers used two primary elements – a plinth and a bowl – to achieve this goal. The plinth absorbs the movements of guests through small plazas, pockets and other areas that help the building seem warm and intimate.

The design of the bowl, meanwhile, provides clear sight lines with easy loading, which makes for seamless and cost-effective performances. Glass topped by Accoya wooden fins create a wave pattern that provides natural light and transparency for those both inside and outside the arena, adding to the desired feeling of warmth and openness, as well as the Nordic look of the structure. In addition, the Accoya is fully reusable and recyclable, enhancing the sustainability of the 12,500-seat arena.

Project by:
HKS
3XN

Size:
322,917sf
29,999sqm

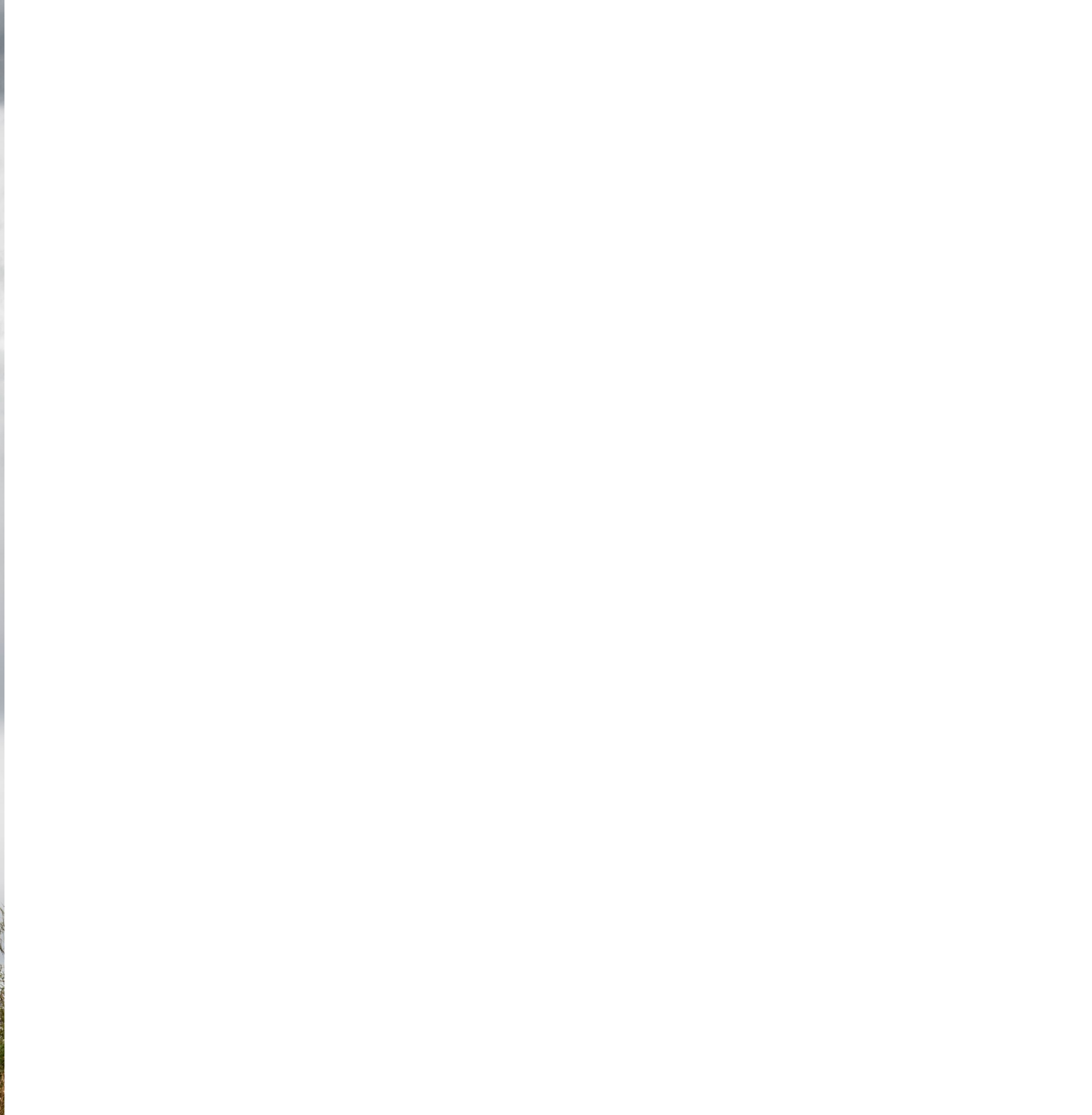
Completion:
2016

Services:
Architecture

Features:
12,000 seats
(expandable to 15,000)
1,500 club seats
25 suites
Private club lounge and dining
Locker rooms
Office space

Awards:
2017 A+ Award, Sport and
Recreation, Stadium/Arena,
Architizer A+ Awards







Wembley Stadium

LONDON, UK

Originally developed as the main attraction of the 1924 British Empire Exhibition, Wembley Stadium, with its much loved twin towers, was a monument to British sporting history. The old stadium staged its last event in 2000 and construction on a new stadium commenced in 2002.

Designing the successor to this legendary home of football called for great sensitivity and the most advanced engineering concepts. Aurecon was engaged to undertake the structural engineering of the arch and roof, and provide advice on the initial concept design for electrical, vertical transportation and mechanical services. We pioneered the use of BIM technology in the arch and roof design and documentation, both as a visualisation tool in developing the concept together with the architects, and during the documentation of their complex 3D form.

The stadium was opened in March 2007, giving British football the new and iconic world class home it needed, with the in built versatility to host concerts and other major sporting events.

A spectacular 315 metre arch replaced the former stadium's twin towers as an imposing landmark of London's skyline. With its double curved shape and 135 metres high at its apex, the arch is maintained in position with an elegant and innovative cable net structure.

The roof design provides coverage and unrestricted views for 90,000 spectators and ensures maximum sunlight on the pitch, using seven independently driven retractable roof panels.

With a century of history behind, from the 1948 Olympic Games to the 1966 World Cup Final and Live Aid in 1995, Wembley has a special place in people's hearts. The new Wembley is now making its own history as one of the world's greatest stadiums.

Project by:

Aurecon

Client:

Mott Stadium Consortium

Completion:

2007

Services:

Structural Engineering –
Architecture and Roof
Concept design advice – Electrical
Vertical Transportation
Mechanical Services

Features:

90,000 seats

Awards:

2008 Winner: Australian
Engineering Excellence – National
Awards

2008 Winner: Association of
Consulting Engineers Australia
Awards 2008 – Gold Award of
Merit: International/Export







Ipswich City Library & Civic Space

IPSWICH, QLD AUSTRALIA

The new Ipswich Civic Precinct (Tulmur Place) is slated as the largest transformation of Ipswich CBD in over three decades. The comprehensive project includes the realisation of the new council administration building, a public library and information centre, a children's library, major entertainment plaza, Nicholas Street retail, dining, and commercial upgrades and an extensive landscaped public realm.

The Civic Precinct creates a true community heart for the city of Ipswich, beginning a process to enable the city to rejuvenate and reconnect with the local community. Buchan worked closely with the Ipswich City Council and local community to realise the City's vision for redevelopment. Predominantly facing west onto a new civic space which includes an urban water park and library, the city council building requires substantial sun screening for occupants and minimum reflectivity into this plaza for the public. It is energy efficient with five-star ratings.

The facade is also digitally activated with an articulated screen that can be programmed to feature stories and playful displays. The new library is a significant part of the urban renewal and rethinks the traditional introverted library experience. Conceptualised as a pavilion set in the landscape of the plaza (Tulmur Place) the library is a new cultural community heart.

The overall project is conceived as part of a greater social gathering place with diverse landscapes, retail, dining and entertainment offerings all orientated towards providing an inclusive, interesting communal space for Queensland's fastest growing city.

Project by:
Buchan

Client
Ipswich City Council

Size:
14,500sqm

Completion:
2021

Services:
Architecture
Interior Design
Brand Experience

Awards:
2021 UDIA Qld Award for
Excellence in Social and
Community Infrastructure







HKS
AT&T Stadium

Game Day Experience

Over the past twenty years, stadium and arena designs have continued to evolve and change dramatically. Historically, stadium design evolved from a coliseum style seating bowl – where all seats were exactly the same with two to three different ticket prices irrespective of seat location – to current day venues that offer a broader range of seating types, categories and price points which are twined with a level of hospitality and game day experience such as car parking access, dining options, interaction with the sporting stars after a game or level of interaction with the media and sponsors.

As we transition from a price orientated strategy for ticketing, to an experience-based strategy, philosophically this translates to providing a quality of experience irrespective of ticket price. This approach begins to bring together a broader range of experience opportunities which can translate into non-event day uses for the stadium asset. More significantly is the underlying framework which ties together all the variety of offerings within a localised cultural, artistic and experiential setting to further reinforce a sense of place.

Flexibility in how spaces can be programmed and reshaped during a game, and on non-game days, will also continue to evolve. Major events are an opportunity to bring together a broad range of people for diverse reasons who will continue to have growing levels of expectations on what can be enjoyed as a trade off to a time commitment to attend an event. The stadium then becomes a wider social interactive platform that allows concurrent activities to occur simultaneously.

Supported by the experience on an event is how fans now engage with the event. Technology plays an important part in the digital environment however the physical assets play a key role in the operational framework also. Engagement with sponsors before, during and after the game continues to grow in importance from a fan experience and revenue generation perspective. Opportunities to connect with the team as a fan translates to specific offerings within the seating bowl and hospitality spaces within the stadium itself.

Beyond robust Wi-Fi and cellular networks which allow fans to access social media, streaming replays and sharing their experiences in real time, integrated augmented reality (AR) and virtual reality (VR) technologies take fan immersive experiences to a different level, which may include virtual tours of the teams warm up and lockers areas, to instant replays from different angles or interactive games. Interactive digital signage, contactless services, and mobile apps for personalised service introduce services and engagement based on a fans preferences and behaviours.

Event engagement also extends beyond the stadium to the precinct as a whole, and how the precinct connects back into the wider city. Providing seamless connectivity and accessibility to the city's transportation network, with real time updates and digital ticketing aim to reduce congestion and wait times to improve the overall fan experience and engagement with the event. This overlays onto a sense of security and safety where data analytics and sensors can ensure a level of comfort provided to the fan. Data sharing between sporting venues, city agencies and technology companies combine for better event and crowd management, traffic controls, and general levels of safety.



HKS
SoFi Stadium

Key Olympic Drivers

DIVERSE



Chengdu Phoenix Hill Sports Park

CHENGDU, SICHUAN CHINA

Many new sports venues in China sit inactive after big competitions. To shift this paradigm, HKS envisioned Chengdu Phoenix Hill Sports Park as both a state-of-the art venue for major global sporting events and a public place where the community can gather throughout the year. On an extremely tight schedule — just two and a half years from design to construction completion — the design team set out to surpasses requirements for a one-time event venue and bring lasting value to Chengdu.

With their competition-winning design, the HKS team worked with a local design institute to create Chengdu Phoenix Hill Sports Park as a community anchor for the emerging Jinniu District. Designed for the highest-grade professional competitions and exciting fan experiences, the centre also offers visitors a chance to enjoy the local culture and enhances the quality of life for area residents.

Beginning with a comprehensive masterplan focused on diverse experiences, the team designed a massive sports centre and a public square or “urban living room” that can accommodate a multitude of outdoor events throughout the year including parties, exhibitions, concerts and festivals. Mixed-use buildings comprising hotel, retail, and training facilities draw visitors from around the region and a network of public spaces offer connections to nature, promote fitness and support environmental sustainability.

At the heart of the project, a 60,000-seat FIFA standard stadium and 18,000-seat NBA standard arena are a catalyst for energy and excitement in the community.

Project by:
HKS

Size:
4.9 millionsf
459,395sqm

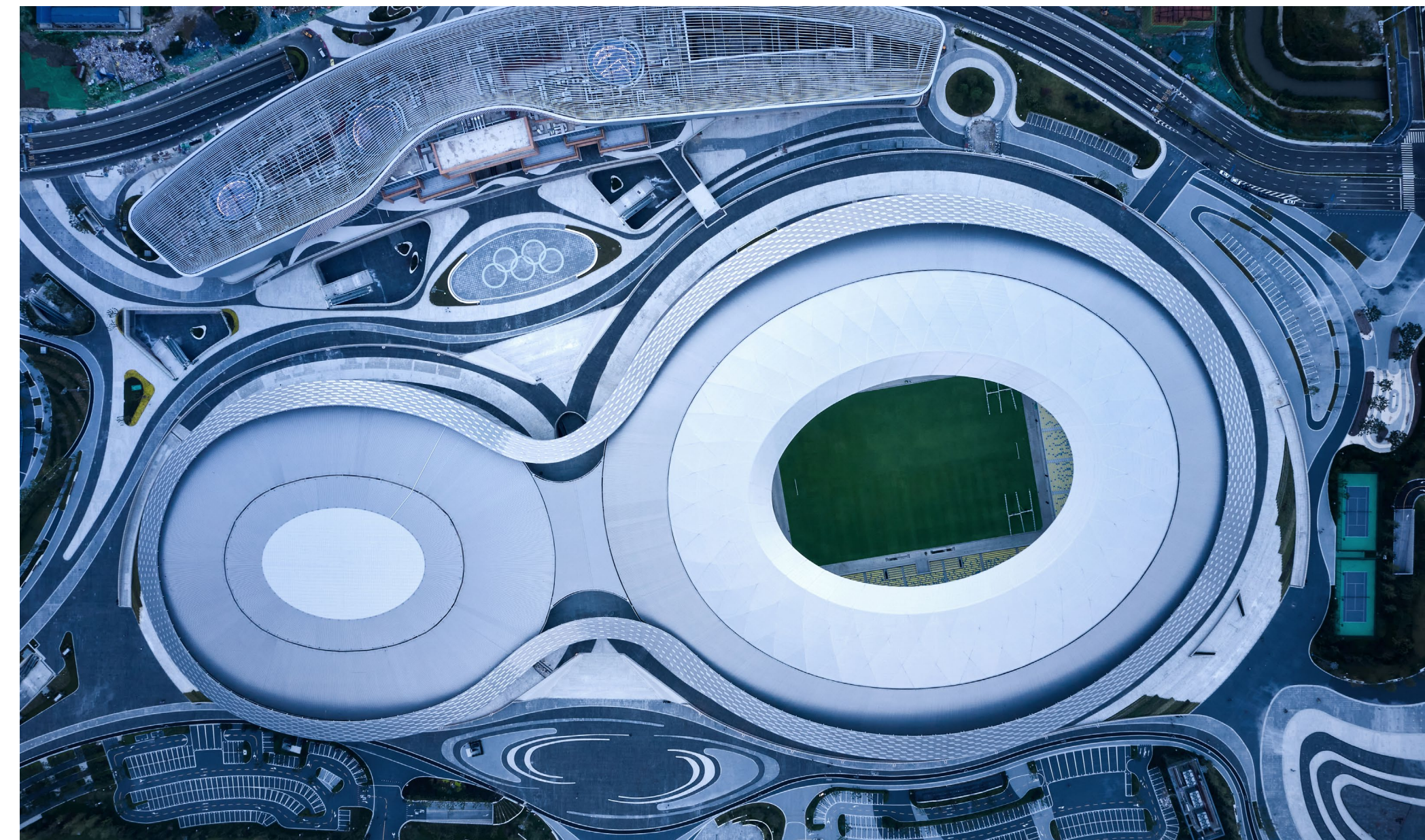
Services:
Architecture

Features:
60,000-seat stadium
18,000-seat arena
Retail + Hotel complex

Awards:
2022 Sichuan Province Excellent
Engineering Survey and Design
(Public) Architecture Awards, First
Prize









**Canberra Centre
Section 96**
CANBERRA, ACT AUSTRALIA

Buchan is currently working with QIC to further develop a masterplan for the overall Canberra Centre, together with the design for a significant mixed-use development on the undeveloped part of the site known as Section 96.

This proposed development includes a boutique 5 star hotel, two commercial office towers, two 'Build to Rent' towers, a covered piazza, two levels of retail, basement car parking, and extensive streetscape work. Designed to tie in to the existing urban fabric of the Canberra CBD, the design seeks to break down the mass of the development to create unique and integrated laneways that all lead to a central piazza. The masterplan seeks to set a sustainable precedent for future expansion and create a thriving cultural hub for Canberra's population.

Project by:
Buchan

Client:
QIC Global Real Estate

Size:
80,000 sqm

Completion:
Estimated 2028

Services:
Architecture
Interior Design
Masterplanning
Brand Experience

Targets:
Retail – 5.0 Stars NABERS
Hotel – 5.0 Stars NABERS
Commercial – 5.5 Stars NABERS
BTR – 7.0 Stars NABERS





**Melbourne Park
Redevelopment**
MELBOURNE, VIC AUSTRALIA

Melbourne Park delivers a year-round calendar of events and attracts more than 2.5 million visitors annually. Its most iconic event is the Australian Open tennis tournament, which alone creates more than 1,500 jobs every year and injects more than \$300 million into the Victorian economy annually.

Aurecon has a longstanding relationship with Melbourne Park, having contributed engineering services to all venues at the precinct including the four premier venues Rod Laver Arena, Margaret Court Arena, John Cain Arena, and Kia Arena across a complete range of engineering disciplines.

Aurecon has been the engineer for all major sports facilities with retractable roofs in Australia over the past few decades, including three completely distinctive operable roofs for the main arenas at Melbourne Park.

Aurecon designed the LED lighting within the four main arenas and all outdoor courts as part of an energy efficiency upgrade to the broadcast lighting. We also designed lighting upgrades at the adjacent AAMI Park for the 2023 FIFA Women's World Cup.

The Margaret Court Arena project transformed an under utilised outdoor tennis court into a year round entertainment venue, as part of the Stage 1 redevelopment of Melbourne Park to future proof the home of the Australia Open Tennis Championship.

Melbourne Park's transformation continues with the latest Stage 3 works comprising the new 5,000 seat Kia Arena and surrounding precinct including new outdoor match courts, a large welcoming central terrace and a new function and media centre.

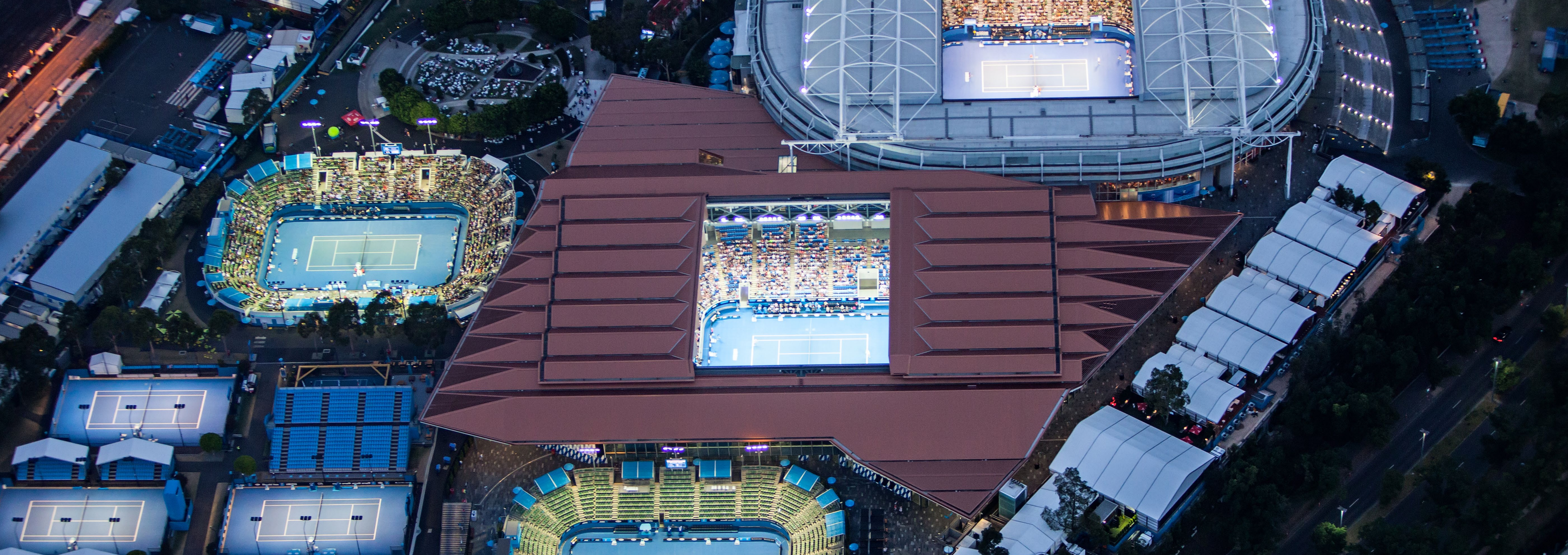
Project by:
Aurecon

Client:
Government of Victoria –
Development Victoria, Sport
and Recreation Victoria

Completion:
2021

Services:
Building Services Engineering
Security
Vertical Transportation
Audio Visual
ICT
Acoustics
Environmentally Sustainable Design
Fire Engineering
Sports Broadcast Lighting
Industrial Systems

Features:
Redesigned roof for Rod Laver Arena
LED technology
5,000-seat multipurpose
show court



EXPERIENCE



AT&T Stadium

ARLINGTON, TEXAS USA

Nicknamed "America's Team," the Cowboys' former stadium was known for its iconic Ring of Honour and "hole" in the middle of the roof. Forward-thinking HKS architects incorporated those brand features into the team's new home, AT&T Stadium, designing a retractable roof and prominent interior space to honour stars of the past. But the stadium design also steps into the future, redefining what fans expect from an NFL game day experience.

With plush stadium seats, luxury boxes at field level, the world's largest jumbotron and art worthy of a modern art museum, it provides experiences that reset the benchmark for professional football fans. Canted 800-foot glass walls span the length of the stadium and the longest single-span arches in the world support the structure's interior while framing its two end zone entry plazas.

Project by:
HKS

Size:
3.1 millionsf

Completion:
2009

Services:
Architecture
Masterplanning
Programming
Interior design
FF&E
Branding
Environmental graphics

Features:
70,000 seats
(Expandable to 100,000 seats)
350 suites
15,000 club seats
Operable roof
Entertainment end zones
Operable end zone walls

Awards:
2010 Sports Business Journal/
Sports Business Daily's Sports
Facility of the Year

2010 TEXO The Construction
Association's Build Texas Award

2009 AIA Dallas's Citation Built
Category

2019 Sports Business Journal
Facility of the Decade







HKS
US Bank Stadium

About the Design Alliance



BUCHAN &
NIKKEN SEKKEI
Australian Pavilion Expo
2025 Osaka

HKS

HKS is a global architecture and design practice, established in Dallas, Texas in 1939, working across sectors and with an extensive portfolio of sports and entertainment venues.

Establishing a local presence in 2020, HKS Brisbane is one of 27 offices around the world supported by a global team of more than 1,500+ people. HKS has completed projects in 92 countries worldwide and collected over 1,125 design awards, including the World Architecture (WAF) Sport awards for SoFi Stadium in 2022.

HKS is responsible for designing many of the worlds most recognised and awarded stadiums including SoFi Stadium in Los Angeles; Dallas Cowboys AT&T Stadium, Texas; U.S. Bank Stadium, Minneapolis; Nippon Fighters Baseball Stadium, Hokkaido; Phoenix Mountain Sports Park, Chengdu; Royal Arena, Copenhagen; and Optus Stadium, Perth.

BUCHAN

Buchan is an award-winning global architecture, interior, masterplanning and brand experience design practice.

Established in Queensland for over 40 years, Buchan's Brisbane and Gold Coast studios support built work across the state in multiple sectors across large, multi-sectorial complex projects.

Buchan's 130 year legacy and collective of more than 250 designers across 8 offices in Australia and New Zealand has resulted in an extensive national and international portfolio that includes the design of the Australian Pavilion for Expo 2025 in Osaka, Japan for the Australian Department of Foreign Affairs and Trade.

Embracing our commitment to reconciliation and supporting the next generation of indigenous architects and designers in Queensland, Buchan established the inaugural Aboriginal and Torres Strait Islander Architecture Industry Scholarship through The University of Queensland.

NIKKEN SEKKEI

Nikken Sekkei is an international architectural, planning and engineering firm with headquarters in Tokyo.

Since the practice's establishment in 1900, it has accrued experience and nurtured its skills around the world through projects in China, South Korea, ASEAN, the Middle East, and Spain, as well as in Japan.

Unique to the practice is the Nikken Wood Lab, a specialist team of architects and engineers researching and developing wooden structures, with a growing track record of award winning projects.

Buchan and Nikken Sekkei formed an alliance in 2015 to explore opportunities together, in particular large-scale developments of local and global significance.

AURECON

Aurecon is a design, engineering and advisory company. Our purpose is bringing ideas to life, to imagine and co-create with our clients a better future for people and the planet.

Our strength lies in how we bring together our design, engineering and advisory capabilities to provide our clients with integrated solutions across the entire asset lifecycle. From shape and plan – design and deliver – operate and optimise – to close and transform.

We are an owner managed company with over 6,500 people across eleven locations in Australia, New Zealand, and Asia, including over 1,170 employees in Queensland who contribute to our local benefits to the Queensland economy. We have offices in Brisbane, Gold Coast, Sunshine Coast, Toowoomba, Gladstone, Townsville, Mackay and Cairns.

The forthcoming Brisbane 2032 Olympic and Paralympic Games has acted as a catalyst to attract a number of experienced sports and events specialists to our Queensland business, meaning we can deliver outstanding results for sports based projects from within the region.

HKS

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