



# STADIA & LEISURE

SPECTATOR SPECTACLE

# INTRODUCTION



V&A Dundee

# STADIA AND LEISURE



Wimbledon No.1 Court



Lord's Cricket Ground

## DESIGN. BUILD. COLLABORATE.

For decades we've been building the future. As the UK's leading structural steel experts, we've forged our legacy in some of the country's most iconic buildings, spaces and creative solutions for critical infrastructure.

We're built on a foundation of outstanding customer service; we're responsive, dependable and flexible in order to meet diverse needs and project demands.

We operate across five UK sites, through which we can deliver unrivalled capacity and capability to meet your project needs. We have the skills and knowhow to deliver engineering solutions for various types of stadia and leisure projects throughout the UK and internationally.



First Direct Arena, Leeds



2012 Olympic Stadium

## CAPABILITIES



Our capabilities have enabled us to work on some large-scale stadia and leisure projects throughout the UK. These include Wimbledon No.1 Court, Tottenham Hotspur FC Stadium, First Direct Arena, Outernet London and Lords Cricket Ground Expansion.

Our team offers a vast and diverse range of expertise, which means we are uniquely placed to work closely with you in a collaborative way, to deliver an impressive suite of services.

Our stadia and leisure capabilities include:

- Being able to provide advice on how best to build and therefore design the structure
- Complex build stability analysis through all stages
- Complex temporary works design and management required by the stability analysis
- Offer large/heavy components
- High tolerance
- Architectural steelwork
- Working with other specialists, such as precast terrace suppliers

## DESIGN

Our highly skilled and motivated structural engineers have exceptional specialist knowledge of structural steelwork design.

These skills, combined with extensive experience in the sector and the use of innovative design, including our bespoke connection software, mean we are in a position to offer unrivalled solutions for our clients giving both commercial and programme advantages.

Our design work extends to the barrier system, whether our own system or client specified, and we can also offer options on façade cladding, composite cladding, precast lift shafts or stairs and concrete to metal decking.

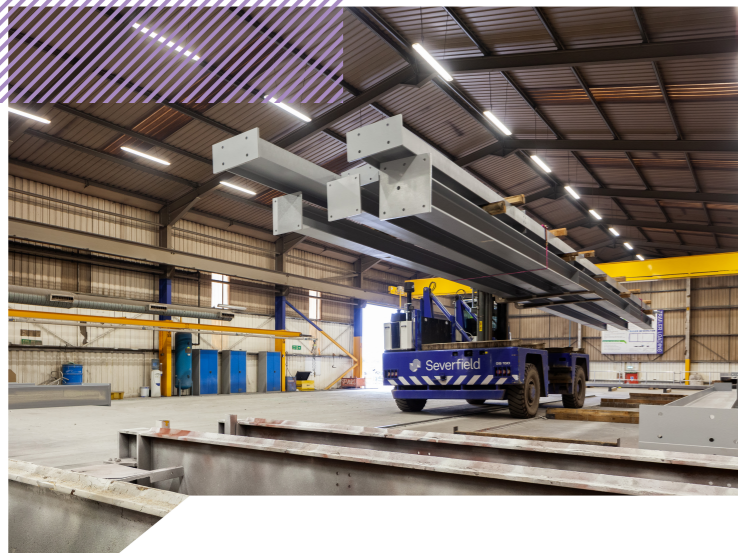
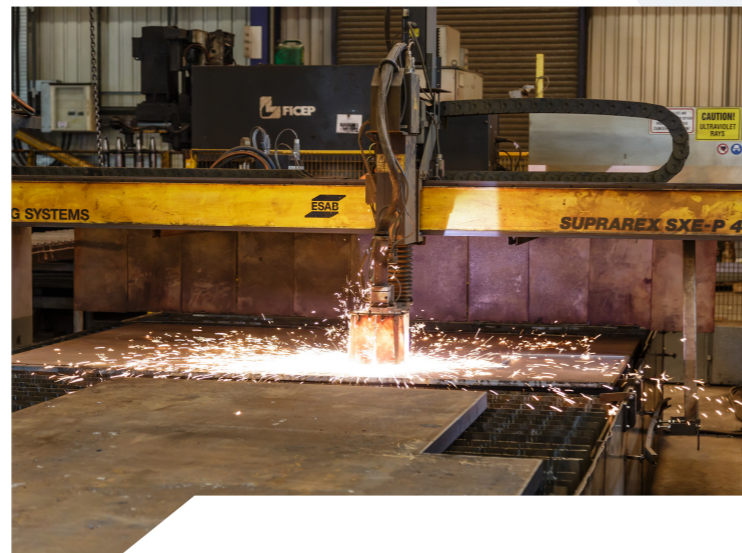
## MANUFACTURE

Our fabrication facilities are second to none. From our expansive stockyards, to in-line cutting, fabrication, welding and painting; we have some of the largest finished goods storage areas in the industry. Our investment in market-leading technology allows us to handle the manufacture of diverse steels.

We acknowledge and appreciate that none of this would be possible without the hard work and extensive skills of our manufacturing experts.



Some of these projects require incredible expertise to ensure challenging briefs and large-scale projects can be completed efficiently, effectively and within budget. We believe we have the very best people for the job, and we invest in their development, continuously, to ensure we stay ahead of the curve and at the forefront of our industry.



## DELIVERY

We work with WS Transportation (WST) to manage the haulage for the majority of our steel products. WST boasts a range of modern and advanced equipment, such as

new trailers, specialist trailer safe systems, cycle aware cameras and audible warning features for city centre deliveries.



## CONSTRUCTION

We boast a highly-trained construction workforce. With a focus and passion for optimum health and safety on all of our sites, we understand we must place an emphasis on the quality of the people we employ, their training, and making sure we provide up-to-date equipment.

these include a safety handrail solution 'Seversafe Edge Protection System', our 'Seversafe Off-load System' for the safe loading and unloading of steelwork and a tool-tethering system to further boost our safety performance.

Appropriate and timely training for employees means we can be confident in delivering performance excellence and meeting and exceeding health and safety standards. We work closely with equipment manufacturers to ensure that efficiency and safety are always at the forefront of all of our operations.

All of our sites are consistently monitored to ensure essential standards are maintained. We have also developed our own unique Seversafe systems -

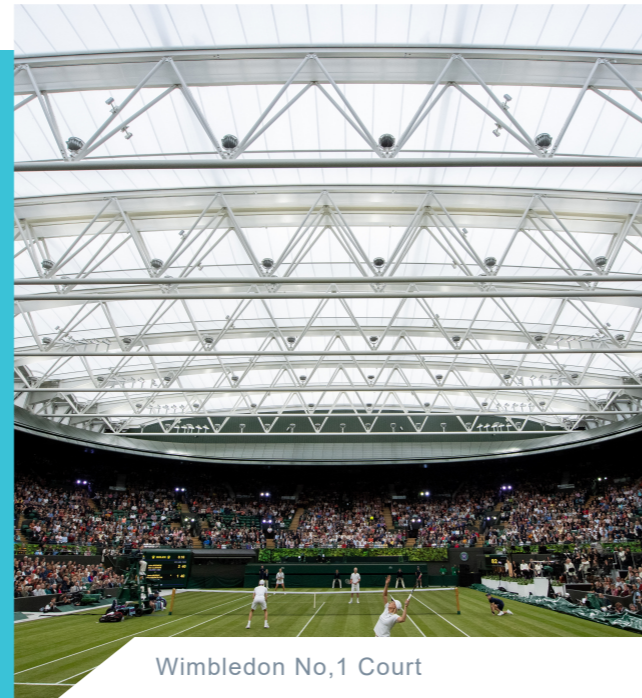


# WIMBLEDON NO.1 COURT REDEVELOPMENT

## Serving up solutions

### About this project:

- > 6,000 tonnes of structural steel
- > The overall project included the roof structure and extensions to the hospitality levels around the stadia, to add more hospitality suites and increase open spaces for viewing the rest of the complex
- > Our work on this saw us provide five large truss units to support the very complex inner roof structure
- > The new roof has an element of 11 moving trusses, with each truss being approximately 75 metres long and having an average lift weight of 93 tonnes!
- > We helped give Wimbledon No. 1 Court a bespoke new structure to support the sliding roof system - much like that of its famous counterpart, Centre Court



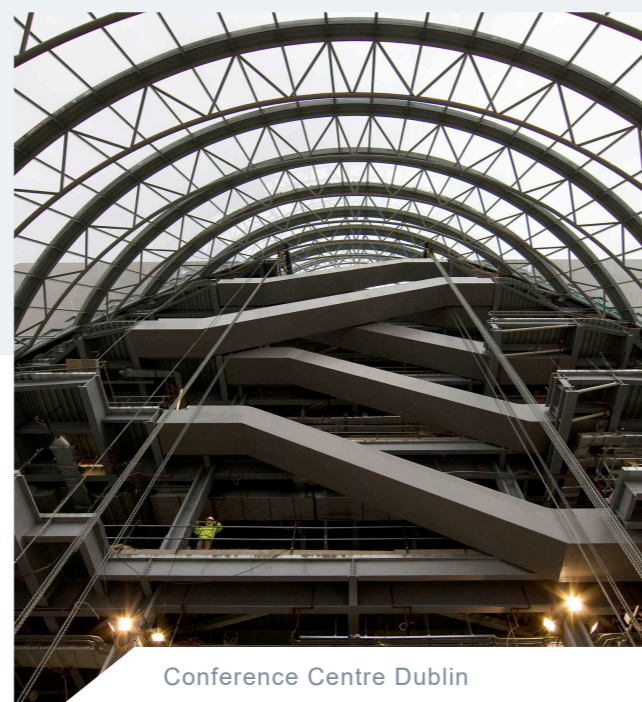
Wimbledon No,1 Court

# CONFERENCE CENTRE DUBLIN

## World class event centre

### About this project:

- > 8,000 tonnes
- > The conference and exhibition centre has a 2,000 seat auditorium, two 450 seat multi-media halls, two 2,000 person exhibition spaces
- > 800 x 800 primary columns supporting 2.3m deep trusses achieving the large spans required for the exhibition halls
- > 160 tonne, 48 metre long truss used to span the large auditorium roof
- > Supply and fit 39,000m2 of metal decking



Conference Centre Dublin

# FIRST DIRECT ARENA

## Northern gem

### About this project:

- > 4,000 tonnes
- > Features a stand-out honeycomb design and changing, light up exterior making it a sight to behold
- > Located in Leeds City Centre, on a 5.1 acre Clay Pit Lane site, the 13,500 capacity arena provides the UK with live entertainment, staging more than 140 events a year
- > Our teams worked over a 44 week programme. This involved providing the connection design, fabrication and erection for the 4,000 tonnes of structural steelwork incorporated into the structure, 80 percent of which is coated in intumescent fire protection paint
- > We also used our Seversafe offload handling system for the secure unloading of steelwork delivered to site, contributing to an excellent health and safety performance



First Direct Arena, Leeds

# FULHAM FOOTBALL CLUB RIVERSIDE STAND

## Boost for fans

### About this project:

- > The redevelopment project will add an additional 3,900 seats, taking the capacity of Craven Cottage to a total of 29,600 as well as enhancing local amenities
- > Our project scope included the connection design, fabrication and erection of c.2,700 tonnes of structural steelwork, delivered from both our Dalton and Lostock production facilities
- > Construction of the Riverside stand took place whilst Craven Cottage was still in operation during the 2019/2020 football season
- > The steelwork was pre-fabricated, assembled and fire-protected at Tilbury Docks, with the trusses delivered by barge along the River Thames and lifted into place with a 400-tonne capacity crane on a jack-up barge



Fulham FC Riverside Stand

# OUTERNET LONDON

## Futureproofing London

### About this project:

- > 2,400 tonnes of structural steelwork
- > The first Outernet in central London
- > The largest building on the development named as the 'Now Building', features a retractable façade on its middle floors, that reveals a public urban gallery, opening at street level and featuring the biggest and highest resolution LED screens in the world
- > The building's foundations straddle part of the London Underground network, which meant our team had to install stabilising, steel plunge columns to give support to the building's structure, just a few metres from active tube trains
- > The steelwork for the auditorium was moved into the basement through a 7m x 4m opening in the ground floor slab
- > A 500-tonne crane was then brought to site in order to lift the trusses into position



Outernet London

# LORD'S CRICKET GROUND EXPANSION

## Bowled over

### About this project:

- > 2,300 tonnes of structural steel
- > This project focused on increasing the capacity by a couple of thousand, but importantly, reducing the number of restricted view seats and increasing the amount of hospitality space
- > Despite our understanding of these spaces and our extensive knowledge, this project still posed challenges in terms of the architectural steelwork required in a relatively tight timescale
- > The plan meant there was less than a year from demolition of the old stand, including new piling and foundations, to the completion of the new stand for a new season
- > Our team worked hard to devise an innovative erection method and delivery programme to meet expectations and bowled the client over with our successful delivery!



Lord's Cricket Ground

# 2012 OLYMPIC STADIUM

## Sporting excellence

### About this project:

- > The stadium had an impressive 80,000 person capacity
- > 10,600 structural tonnes of steelwork
- > It was - temporarily - the third largest stadium in Britain, but was most famous for playing host to the opening and closing ceremonies as well as the athletics and paralympic athletic events, for which the eyes of the world were on London and this amazing structure
- > The venue was designed to be scaled down after the Olympics, to as little as 25,000 seats



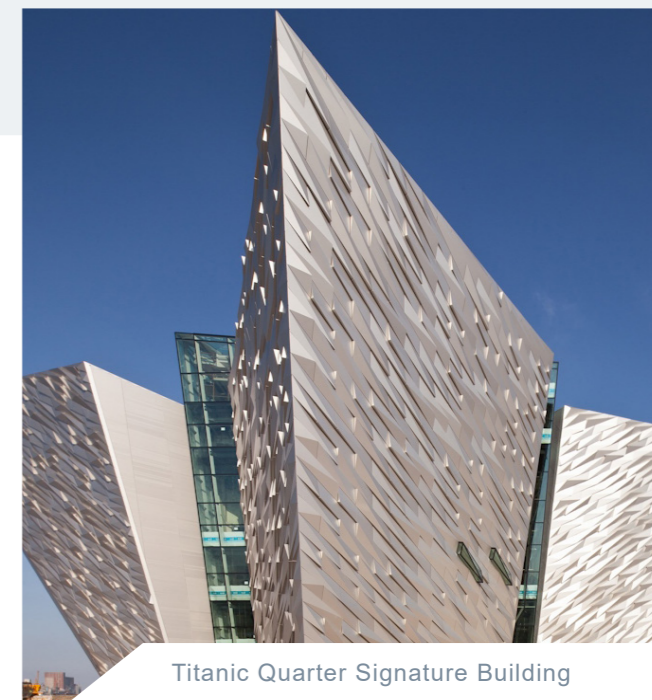
2012 Olympic Stadium

# TITANIC QUARTER SIGNATURE BUILDING

## Decking out Belfast's finest

### About this project:

- > 1,500 tonnes
- > Located on the Titanic Quarter at the top of the slipways where the Titanic was built
- > We provided the connection design, fabrication and erection of the 1500 tonnes of structural steelwork used within this project, of which 450 tonnes are Fabsec plated beams with service openings
- > We also supplied and fixed the metal decking and roof decking throughout the 7-storey building



Titanic Quarter Signature Building

# V&A DUNDEE

## Creative construction

### About this project:

- 780 tonnes of structural steel
- The museum is made up of two separate three-storey buildings with sloping external walls, which merge together to form one building at roof level - the building changes shape and orientation at each level and is clad with decorative precast concrete, designed to invoke a feeling of witnessing the beauty of the Scottish cliffs
- The elevated structural steel and metal decking floors span between the external walls and internal cores at three levels to tie the whole structure together
- We used long span beams and trusses to achieve large areas that would be suitable for the museum galleries
- The nature of the design required large numbers of heavy connections between the floor beams and the concrete walls. To achieve the vision for this project, we used heavily engineered cast-in plates and site welded connections that were developed specifically for this building
- The building is rated BREEAM 'Excellent', thanks to its use of renewables and exceptional insulation. All materials used were carefully selected to meet the very highest standards of responsible sourcing



V&A Dundee



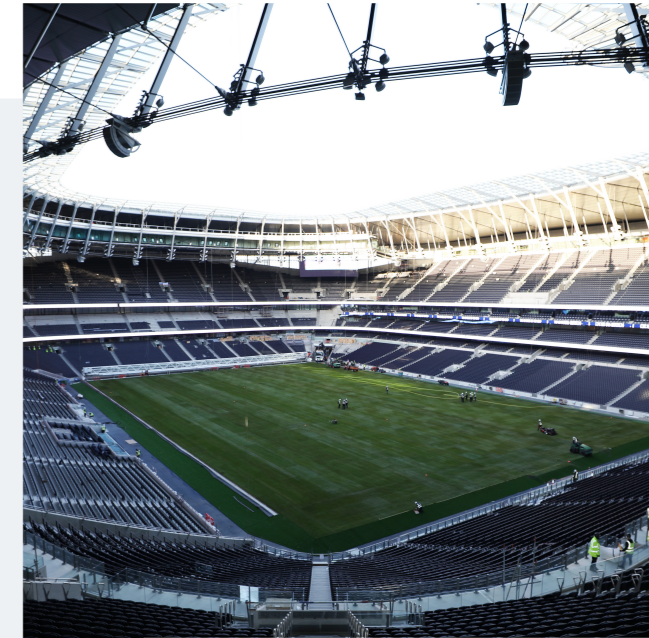
V&A Dundee

# TOTTENHAM HOTSPUR STADIUM

## Spurring on success

### About this project:

- 16,700 tonnes of structural steelwork
- This project required an incredibly complex synchronized strand jacking operation, involving 216 strand jacks, making it one of the biggest operations of its type ever undertaken in the UK for a single lift
- Our steel trays helped to create a pioneering, world-first, dividing retractable pitch, enabling the new stadium to be used as a highly flexible sports and entertainment venue
- 62,000 capacity
- We facilitated the early construction of the feature Y-columns (each weighing an incredible 200 tonnes)
- The compression ring comprises 54 box girders, each measuring over 20 metres long and weighing approximately 25-30 tonnes each. We're proud to say this was fabricated and trial-assembled at our Lostock facility, which helped us achieve accuracy in length to within 1mm



Tottenham Hotspur Stadium

# LIVERPOOL F.C. MAIN STAND REDEVELOPMENT

## Boost for fans

### About this project:

- We designed, fabricated, applied off-site intumescent fire protection and installed 4,600 tonnes of structural steel
- The extension allowed for an extra 8,500 seats to push the capacity of the main stand to 20,000
- The main stand extension was constructed behind and above the existing stand, which remained open throughout the project
- The main roof truss, weighing 650 tonnes, was assembled behind the stand and tandem lifted into its final position using two mobile cranes



Liverpool F.C. Main Stand Redevelopment

IF YOU WOULD LIKE TO DISCUSS YOUR NEXT STADIA AND  
LEISURE PROJECT, PLEASE GET IN TOUCH.

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