CAN ENGINEERING IMPACT THE ATMOSPHERE OF A VENUE?
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HERE ARE FIVE EXAMPLES OF HOW IT CAN

(and 30 more for you to explore)
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A LOW CARBON LANDMARK FOR LONDON
LONDON 2012
OLYMPIC STADIUM

LOCATION: London, UK
CLIENT: Olympic Delivery Authority
ARCHITECT: Populous
A SERIOUSLY GREEN STADIUM

LONDON 2012 OLYMPIC STADIUM | LONDON, UK
KEY FACTS:

• Two year planning and land assembly with two major planning applications
• 3km² development site, 240 buildings demolished, 7km of waterways rejuvenated, 12km of new highway
• Infrastructure to support a future population of 25,000
• Completed in budget and within schedule
• Outstanding safety record.
ENGINUITY™ PROCESS

Our Enginiuity solution for the London 2012 Olympic Stadium focussed on Efficient and Green Design. Click to see the range of BuroHappold specialisms that collaborated to make the vision viable.
ENGINUITY™ PROCESS

EFFICIENT AND GREEN DESIGN

Sustainability
Security and technology
Inclusive design
Fire engineering
Environmental consultancy
Ground engineering
Bridge engineering and civil structures
Infrastructure and utilities engineering
Lighting design
Building services engineering (MEP)
Structural engineering
Computational analysis

LONDON 2012 OLYMPIC STADIUM | LONDON, UK
A BUILDING WITHIN A BUILDING

THE O2 ARENA | LONDON, UK
PERFECT PERFORMANCE

THE O2 ARENA

BUROHAPPOLD ENGINEERING SPORTS AND ENTERTAINMENT
ENGINUITY™ PROCESS

Our Enginuity solution for The O2 Arena focussed on Inspirational Design. Click to see the range of BuroHappold specialisms that collaborated to make the vision viable.
ENGINUITY™ PROCESS

Inspirational design

Structural engineering

Infrastructure and utilities engineering

Ground engineering

Facade engineering

Inclusive design

Fire engineering

THE O2 ARENA | LONDON, UK
A SHOWPIECE STADIUM FOR THE 2014 WINTER OLYMPICS AND RUSSIA
CENTRAL STADIUM FOR THE WINTER OLYMPICS 2014

LOCATION: Sochi, Russia  CLIENT: Olympstroy/Engeocom  ARCHITECT: Populous
A PEARL WITHIN A SHELL
Sector Portfolio

CENTRAL STADIUM FOR WINTER OLYMPICS 2014 | SOCHI, RUSSIA
ENGINUITY™ PROCESS

Our Enginuity solution for the Central Stadium for the Winter Olympics 2014 focussed on Inspirational Design. Click to see the range of BuroHappold specialisms that collaborated to make the vision viable.
ENGINUITY™ PROCESS

- Building services engineering (MEP)
- Structural engineering
- Ground engineering
- Lighting design
- Acoustic design
- Smart space
- People movement
- Inspirational design
HOW GAME CHANGING DESIGN CREATED A CATALYST FOR COMMUNITY REGENERATION
BAYLOR UNIVERSITY
MCLANE STADIUM

LOCATION: Waco, TX, USA    CLIENT: Baylor University    ARCHITECT: Populous    IMAGES: Christy Radecic Photography

BUROHAPPOLD ENGINEERING
SPORTS AND ENTERTAINMENT
BAYLOR UNIVERSITY MCLANE STADIUM | WACO, TX, USA
ENGINUITY™ PROCESS

Our Enginuity solution for the Baylor University McLane Stadium focused on Effective Design for Construction and Fit Out. Click to see the range of BuroHappold specialisms that collaborated to make the vision viable.
ENGINUITY™ PROCESS

EFFECTIVE DESIGN FOR CONSTRUCTION AND FIT OUT

Structural engineering

Facade engineering

Lighting design

BAYLOR UNIVERSITY MCLANE STADIUM | WACO, TX, USA
HOW THE PITCH OF A ROOF HELPED TO CREATE ONE OF THE BEST PLAYING SURFACES IN THE WORLD
EMIRATES STADIUM, ARSENAL FOOTBALL CLUB

LOCATION: London, UK  CLIENT: Arsenal Football Club  ARCHITECT: Populous
HERE'S OUR PITCH

EMIRATES STADIUM | LONDON, UK
ENGINUITY™ PROCESS

Our Enginuity solution for the Emirates Stadium focussed on Site, Campus and Portfolio Development. Click to see the range of BuroHappold specialisms that collaborated to make the vision viable.
Get the fan experience right
The first measure of success is when fans love the atmosphere and look forward to returning. This is our guiding star.

Structural and mechanical engineering innovation opens up many possibilities
We are working with one client to create a two level sliding pitch. The top tier (UK soccer) slides out revealing another code pitch which has USA appeal and potential TV rights. It will directly impact their bottom line.

For another iconic stadium, the roof opens and closes like a camera lens, creating better acoustics and climate control. Not yet opened, it is already successful until 2018 with forward bookings.

Sustainability isn’t just about feeling good about the environment – it has financial benefits
It’s possible to save huge sums on heating, cooling, ventilation, lighting and recycling. But it can also come down to the exact material chosen for cladding and insulation.

Multi-purpose stadia – one key to profitability, many ways to achieve it
With movable seating and a new roof we moved the London Olympic Stadium from purely athletics to allow soccer, rugby and rock concerts, changing the business model entirely.

On a smaller scale, The Royal Commonwealth Pool in Edinburgh, UK, required a sensitive restoration to bring its Grade A listed structure bang up to date for today’s swimming superstars, converting its three old tanks into state of the art pools for international swimming, diving, water polo and synchronised swimming competitions.

New life from old stadia – rebuild or renovate? Let us help you decide
As host to FIFA World Cup, Abu Dhabi’s Sheikh Zayed National stadium, built 30 years before, wasn’t fit for purpose. Glare and pitch lighting didn’t conform to modern broadcast requirements. With careful planning and design, a world-class facility with seating for 40,000, was completed within months of site work starting.

In another instance, a new build meant matchday revenues for one UK football club almost tripled, compared to their old ground, plus the boost of high revenue rock concerts has helped to make it one of the most financially successful businesses in the industry.

Unlocking difficult sites – we love the challenge. Here’s a few ways we’ve made a difference
We know how to deal with extremes, such as the speed skating stadium in Italy subject to heavy winter snow and hot summer sun.

We know how to handle seismic zones prone to earthquakes, such as the Winter Olympic Stadium in Fisht, Russia and the Philippine Arena in Bulacan, the Philippines.

Our ability to manage the flow of crowds via our SMART technologies means fans arrive, enjoy and leave in comfort despite the site location.

Planning the build for a stadium for 15,000 on a tight site bordered by live rail tracks either side is no small feat. We delivered it three weeks early.