

FOR LEISURE ARCHITECTS, DESIGNERS, INVESTORS & DEVELOPERS

# CLADbook

in association with

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2017



Sanrio Hello Kitty Town, Malaysia



Happy Magic Watercube, China



Centara Grand Mirage Beach Resort, Thailand



Qingdao International Tourism City, China



LEGOLAND Dentsche Land, Germany



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## Building positivity

**T**here's never been a more urgent need for architects and designers to work for peace, quality of life, wellbeing and community – the powerful forces that underpin the leisure industry in all its many guises.

In this first edition of CLADbook, we celebrate the people who are taking this vital industry forward, with their innovations, energy and creativity.

Some of the most excellent, ground-breaking architecture and design is being commissioned by investors and developers in the leisure industries – from museums to sports facilities and from resorts to greenspace. Our aim is to champion and celebrate this work.

Leisure architecture has routinely been underestimated by many in the architecture and design field and our goal is to change these perceptions and to show that the industry has come of age.

When we were developing the concepts for CLADbook and its sister magazine, CLADmag, I laid out the scope to set our direction by creating a list I felt represented the outcomes we strive for.

I want to share this list with you, as I believe it brings the value of the leisure industry into sharp focus and

goes some way to explaining what it does for the world. My list is: joy, self discovery, reflection, beauty, personal choice, exuberance, spirituality, playfulness, meaning, satisfaction, self awareness, family, friendship, contemplation, quality time, love, socialising, bonding, learning, sharing, giving, collaborating, exploring, celebrating, energising, renewing, healing, connecting, fun, refreshing and self actualisation.

I hope you agree these are some of the most powerful and meaningful positives of human existence.

Unfortunately these things are in short supply for many – especially at the present time – and constantly under threat. The aim of the CLAD project is to unite all those who work to create these opportunities around the world.

Our lives are defined by the built environment and we can change and shape it to solve our most testing social and political problems and create opportunity.

The priority is to do this well to ensure we build prosperity, achieve social cohesion and good quality of life and opportunity for all.

**Liz Terry, Editor, CLAD @elizterry**

Some of the most meaningful, positive experiences of peoples' lives take place during their leisure time



10

DEVELOPMENT

## Development pipeline

An index of new leisure architecture projects coming to fruition in the next few years



64

EVENTS

## Diary dates

Rounding up the major events in the global architecture, design and construction calendar



78

WATER INNOVATION

## Oceans of opportunity

Floating architecture is starting to take off. We talk to Waterstudio and ask: what's its potential?



31

INNOVATORS

## Movers & Shakers

With trailblazing projects and innovative concepts, meet some of leisure architecture's hottest talents



70

DISRUPTION

## Rule breakers

Presenting a range of projects that fuse typologies, push boundaries and upturn expectations



84

STADIUM DESIGN

## Field of jeans

Behind the scenes at a sports venue at the leading edge of technology, Levi's Stadium



It's about more than being inspired by architects, our inspirations come from elsewhere

Kjetil Tørdal Thorsen



92

MUSEUMS

## Grand designs

The wow factor: when the world's big-hitting architects meet big-budget cultural institutions



102

SPA DESIGN

## Spas in their eyes

Top resort and spa designers share their creative process and sources of inspiration



128

RETAIL DESIGN

## Designer labels

Charting the rise of the starchitect in the world of elite brands and their stores



146

GREEN DEVELOPMENTS

## Green it up

Leading architects explain how green buildings can positively effect their surroundings



112

CHILD-FRIENDLY DESIGN

## Making a play

Architects from Walt Disney Imagineering reveal the secrets of kid-centric design

p212

A project should make people dream and ponder and intellectually think about the space

Joyce Wang



120

IMMERSIVE DESIGN

## Why immersion matters

Immersion is vital in the leisure sectors. We look at the keys to immersing guests in a space



134

RESTAURANT DESIGN

## Setting the stage

We look at the theatre in restaurant design and some enduring projects from the New York scene



158

SUSTAINABLE SPORTS DESIGN

## Good sports

Explore the myriad ways to design a sustainable sports venues and help local communities



166

## GREEN ACCREDITATION

### Five star sustainability

BREEAM-certified hotels lead the way in green architecture, and save money too



182

## ARCHITECTS & FICTION

### Multi story

Delve into the world of architectural fiction as architects learn to tell (more literal) stories



200

## ARCHITECTS IN FILM

### Character building

What kind of personalities do architects have, and do the movies hold the answer?



174

## RESEARCH

### High expectations

Economists investigate whether a famous architect can help a developer build a taller building



186

## PLACEMAKING

### Build and they will come

Attractions and tourism are inextricably linked, and architects play a vital role in the relationship



205

## PEOPLE IN THE NEWS

### CLAD people

People and ideas from a range of disciplines who inspire the global leisure design community



p208



The beauty and richness of life arises from diversity, translucency and projections

Philippe Starck



223

## CONTACTS

### CLAD profiles

Find out more about architects, designers, consultancies and suppliers, across the industry



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The annual CLADbook celebrates the best of CLAD. Contents include the Development Pipeline, Movers & Shakers, design and innovation features, research and expert analysis. CLADbook is available in print, on Digital Turning Pages and as a PDF and is distributed to all CLADmag subscribers, as well as being available for sale as a standalone publication.



**About CLAD** The Community of Leisure Architects & Designers unites people who contribute to the success of leisure and the built environment, to enable them to do business. CLADglobal, the organisation behind CLAD, is a media business creating magazines, books, websites and digital feeds to enable CLAD professionals to share news, opinions and best practice. Find out more about the CLAD portfolio at [CLADglobal.com](http://CLADglobal.com)

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# CLAD Development pipeline

A sector-by-sector summary of some of the most significant projects in development around the world



PHOTO: ALL DEVELOPMENT PIPELINE IMAGES COURTESY THE ARCHITECTS

## GES2 / V-A-C Foundation

Moscow, Russia

Renzo Piano

The Renzo Piano Building Workshop (RPBW) has been commissioned to convert a historic Moscow power station into a brand new venue exhibiting contemporary Russian arts and culture.

The firm – which last year completed the Whitney Museum of American Art in New York – will create the new art space for the V-A-C Foundation on a 2-hectare plot in the Russian capital's Red October district. It's expected to be completed by early 2019.

To reflect the site's industrial heritage, the main gallery space will be built into the

existing metal structure of the GES2 power station, which was built in 1907, and the building's tall chimney will be converted into a natural ventilation shaft.

The foundation will be split into three key areas – the Welcoming Pole, containing a sculptural garden, a piazza, a restaurant and cafés; the Exhibitions Pole, hosting the indoor art galleries; and the Education Pole, containing classrooms, workshops and an artist residency block.

RPBW will design the site's surrounding green space. New topography will be created three sides of the main building, creating a raised natural amphitheatre. This will be used as a seating area for film screenings and events and in summer the area will become an open-air cinema.

- The main gallery is built into the metal structure of the power station

In a statement, the V-A-C Foundation said: "GES2 will become an exciting cultural destination, offering new opportunities for artists and audiences on a local, national and international level and the first major venue in the city of Moscow for V-A-C."

The GES2 development is the latest in a series of projects intended to regenerate Moscow's industrialised areas. The Red October district has been transformed in recent years into a pedestrianised area for cafés, shops and galleries. These serve nearby cultural institutions including the Strelka Institute for Media, Architecture and Design and the Udarnik Theatre. □



### Philadelphia Museum of Art

Philadelphia, Pennsylvania

Frank Gehry

Frank Gehry has designed a master plan for the 90-year-old Philadelphia Museum of Art (PMoA) in Pennsylvania.

The plans include opening up the space at the centre of the museum, creating subterranean galleries lit by a skylight in the East Terrace, and re-opening a vaulted underground walkway long closed to the public. The plans are undeniably modern, yet sympathetic to the historic building.

- The expansion increases existing gallery space by almost 16,000sqm

The most daring aspect of the US\$352m scheme is the proposed creation of a 7-metre opening in the “Rocky steps” that lead up to the east entrance. The steps became a tourist attraction in their own right following their appearance in *Rocky* in 1976. Visitors often climb the steps to recreate a famous Sylvester Stallone scene. The opening in the steps would provide access to several underground galleries.

The project has a completion date of 2028, opening in separate phases. □



- Gardens feature in the design

### Museo de Ciencias Ambientales

Guadalajara, Mexico

Snohetta

Mexico's University of Guadalajara has broken ground on the US\$55m Museo de Ciencias Ambientales (MCA), a national institution exploring the future sustainability of the region and its relationship with the metropolitan city of Guadalajara.

Designed by Snohetta, with interior design by MET Studio, the 20,000sqm museum features open-air courtyards and gardens to encourage natural light. The project is due for completion by early 2018. Annual visitors could reach 500,000. □



### Museum of Indigenous Knowledge

Manila, Philippines

Kengo Kuma

Kengo Kuma has turned the traditional idea of museum architecture on its head with its latest design: a jungle-inspired

- The dramatic entrance leads to an atrium, with escalators to the galleries

complex set inside an enormous cave. The Museum of Indigenous Knowledge, which will sit in the heart of an industrial district of Manila, Philippines, will be accessed through a cavernous rocky arch covered in tropical plants and rock. Once inside this large void, visitors will be able to walk towards a central atrium through a wild environment of jungle, streams, ravines, ponds and waterfalls. Inside the entrance, there will be shops and restaurants, and escalators leading to five gallery floors. □▶



### Guggenheim Helsinki

Helsinki, Finland

Moreau Kusunoki

French architecture firm Moreau Kusunoki is designing the €126m Guggenheim Helsinki for the Finnish capital's waterfront. Formed of Japanese-style pavilions, the design features a striking lighthouse tower constructed from charred timber and glass.

The building's angular pavilions and flared roofs will be connected by an interior street and served by a harbour promenade, while the tower is connected

- The Guggenheim Helsinki proposal features charred timber and glass

to the nearby Observatory Park via a pedestrian footbridge. The starting point for the design was a desire to create an open, transparent museum and to make the space in between the pavilions as important as the buildings themselves.

Moreau Kusunoki's competition-winning design was chosen from a shortlist of 1,715. It was one of the largest architectural competitions in history and the first one to be organised by the Solomon R Guggenheim Foundation. □



- The museum's overlapping roof

### New National Gallery

Budapest, Hungary

SANAA

Japanese design studio SANAA is designing the New National Gallery and Ludwig Museum in Budapest, Hungary. The plans are part of Budapest's upcoming €235m cultural quarter development.

Built within the framework of Budapest's largest park, Városliget, the development will see old buildings onsite demolished, with around 65 per cent of the park's green space retained. Work on the development is expected to start in 2016, with the museum quarter to be open by March 2018. □



- M+ Museum is slated to open in 2019

### M+ Museum

Kowloon, Hong Kong

Herzog & de Meuron

M+ Museum in Hong Kong's West Kowloon Cultural District (WKCD) – designed by Herzog & de Meuron in partnership with TFP Farrells and Ove Arup & Partners Hong Kong – lends itself to wide open gallery spaces; constructed in two sections, the first horizontal and the second a vertical tower.

This layout will allow for interactive exhibition spaces as well as a research and curatorial centre. Retail, restaurant and entertainment offerings will also be available on site. The museum, which is a part of the larger WKCD culture hub, will feature 60,000sqm of floor space, with exhibitions focusing on contemporary 20th and 21st century film, art, design and architecture from Asia. Having experienced several delays, M+ Museum is currently slated to open in 2019. □



### China Maritime Museum

Tianjin, China

Cox Rayner

The award-winning design for China's new National Maritime Museum, created by Australian practice Cox Rayner Architects, is likely to be realised in 2017.

The project was originally set to open in 2015, but has suffered delays since it was

named the Future Project of the Year at the World Architecture Festival (WAF) in 2013.

The architects – who won an international competition to design the project – have visualised five shell-like structures radiating out towards the city's port harbour. These halls, which converge into one central building, will house exhibits exploring China's nature and oceans, maritime civilisation and historic vessels. The five structures will be fronted

● Five shell-like structures radiate out towards Tianjin's harbour

by a maritime plaza where re-enactments and open air events will be staged.

The museum complex will cover 80,000sqm and is to be located on an area of park land. Construction cost is estimated at A\$290m (US\$210m) with the exhibition fit-out adding a further A\$80m (US\$58m) to the budget. □

### Museo Maya de América

Guatemala City, Guatemala

Harry Guggler

The Museo Maya de América, due to open in Guatemala City in 2017, will represent one of the most ambitious cultural development projects ever undertaken in Central America, its developers say.

Designed by Swiss architects Harry Guggler Studio in collaboration with

Boston-based design firm Over Under, the new museum will be home to one of the world's most important collections from the sophisticated Mayan civilisation.

The museum will offer 60,000sqm of programmable space and has a budget of US\$60m. The building design draws inspiration from traditional Mayan temple architecture, and is built around a courtyard that evokes a sacred cenote. □

● The eight-storey cenote at the centre





## Cirque du Soleil Theme Park and Resort

Nuevo Vallarta, Mexico

Goddard Group

Cirque du Soleil is venturing into the theme park business, with the world-famous circus troupe teaming up with Mexican resort and tourism-infrastructure developer Grupo Vidanta to build and operate a “first-of-its-kind immersive theme park experience” in Nuevo Vallarta.

The entertainment venture, which is under construction, will see Cirque du Soleil artists animate each area, with the rides to follow a common storyline. Grupo Vidanta is one of Mexico’s leading developers and

operators of world-class luxury resorts, properties and infrastructure. The resort is expected to consist of at least two lands, the Village of the Moon and the Village of the Sun, as well as a waterpark, nature park elements and an outdoor show accommodating up to 5,000 spectators.

Goddard Group is building the new attraction in partnership with Vidanta. The project’s first phase is anchored by what Goddard describes as “the world’s greatest and most innovative waterpark.”

The themed entertainment park will create thousands of jobs in the Mexican state of Nayarit, according to the developers, and has been imagined to encourage tourism visits to the region. The project is on track for a late 2018 premiere.

● Cirque du Soleil’s first theme park is expected to open late in 2018

Cirque du Soleil was created 30 years ago and has shows touring in more than 50 countries and 350 cities around the world. It sells 50 million tickets a year.

The diversified global entertainment business has a wide range of interests from the well-known shows to hotels and restaurants, entertainment design and fabrication. The company was bought out by TPG Capital and Chinese conglomerate Fosun in a deal that valued it at about US\$1.5bn. It created the Cirque du Monde initiative to support homeless youths and to give them skills to rebuild their lives. It gives 1 per cent of its revenues to charity. □



### Lido Lakes Theme Park

Java, Indonesia

Zeitgeist

Themed entertainment specialist Zeitgeist Design + Production (ZD+P) has promised Indonesia's first world-class theme park, using a combination of a dramatic natural settings and cutting-edge technology to create a "Narnia-like" immersive experience never before seen in the region.

The US\$500m theme park and resort was announced by the Media Nusantara Citra Group (MNC). The plan is to make use

- The theme park incorporates interactive and virtual experiences

of the natural beauty of the site and lush vegetation that grows locally. ZD+P has developed an original story for the park, combining nature with fantasy.

The park will comprise a mix of thrill rides, family rides, live entertainment shows and media-based attractions. In addition to using distinctive design and architecture in each zone to create an immersive experience, a number of interactive park experiences will be enabled via smartphone, augmented reality and gaming. □



- The project has themed zones

### London Paramount

London, UK

Farrells

Farrells is designing the master plan for the London Paramount Resort, which is slated to open in 2020.

London Resorts Company Holdings (LRCH) is behind the £2bn theme park development, while Ray Hole Architects will act as core facilities architects. The complex will integrate a leisure core offering a range of supporting uses, including the proposed waterpark, events space, hotel and other infrastructure, with the added complexities of integrating a large development into an area with existing communities. □



- NOW Architects and Group Han Associates are collaborating on the project

### Park EverYoung

Yeongcheon, South Korea

Grimshaw

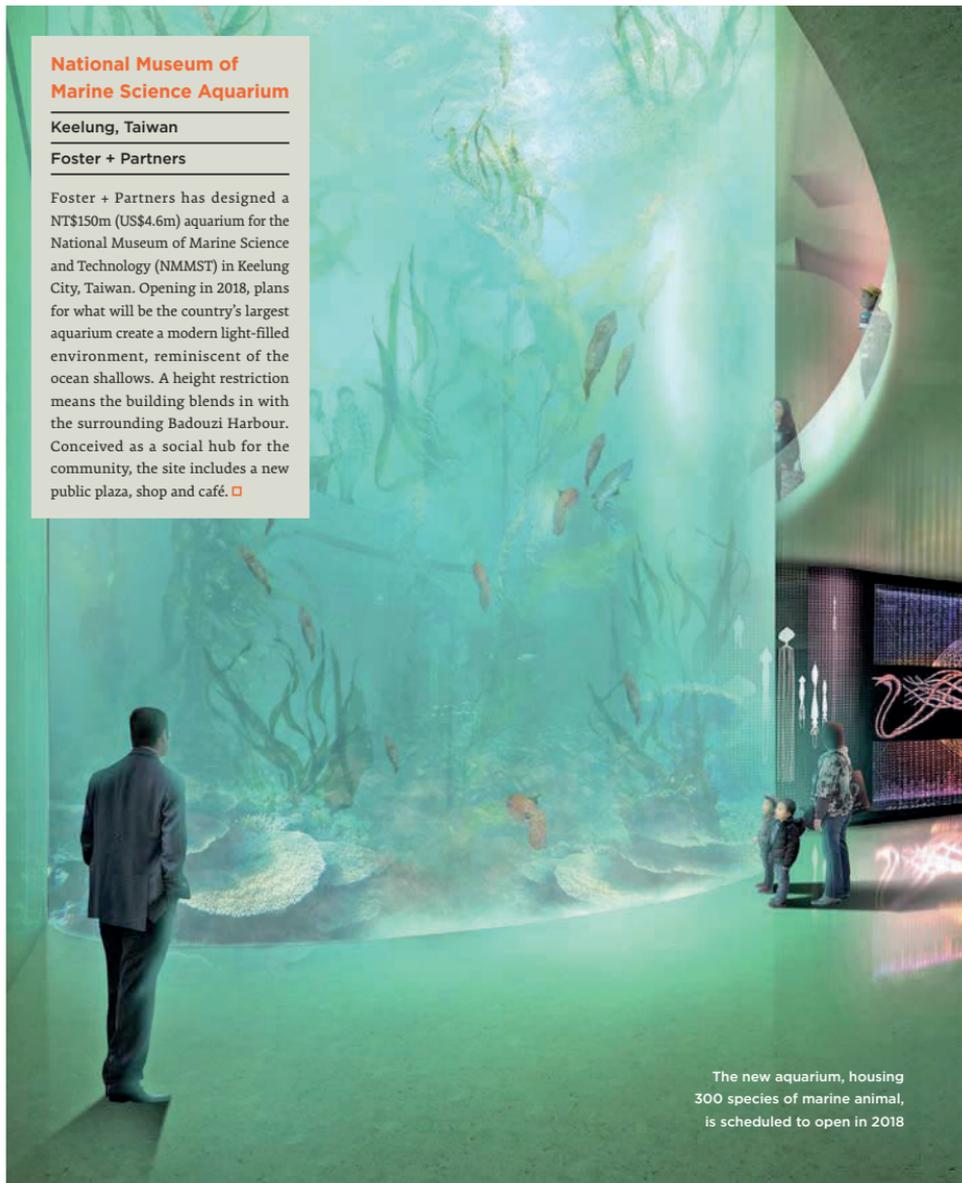
Grimshaw Architects is developing a horse theme park. The 148-hectare park will be located in a forested area and will have a racecourse and spectator pavilion at its heart. The Korea Racing Authority (KRA), who is behind the KRW260bn (US\$218m) development, said it wants to create a "one-of-a-kind unplugged horse utopia" in a bid to improve the image of horse racing. □ ▶

**National Museum of  
Marine Science Aquarium**

**Keelung, Taiwan**

**Foster + Partners**

Foster + Partners has designed a NT\$150m (US\$4.6m) aquarium for the National Museum of Marine Science and Technology (NMMST) in Keelung City, Taiwan. Opening in 2018, plans for what will be the country's largest aquarium create a modern light-filled environment, reminiscent of the ocean shallows. A height restriction means the building blends in with the surrounding Badouzi Harbour. Conceived as a social hub for the community, the site includes a new public plaza, shop and café. □



The new aquarium, housing 300 species of marine animal, is scheduled to open in 2018



### Shanghai Planetarium

Shanghai, China

Ennead

Ennead Architects has revealed plans for the new Shanghai Planetarium.

The building focuses on astronomy and planetary science and features an 18-metre optical planetarium, a 21-metre digital sky theatre, an IMAX cinema, a solar telescope, a research centre, a youth observation camp and observatory and a range of galleries.

The curved, futuristic planetarium is built around three key architectural features – the

- The project targets both LEED and China's Three Star rating systems

oculus, the inverted dome and the sphere, each of which acts as an astronomical instrument, tracking the sun, moon and stars. The 38,000sqm development – a part of the Shanghai Science and Technology Museum – has been designed to celebrate the continuum of time and space. According to Ennead, the plans mirror both the rich history of Chinese astronomy and the future ambitions of China's space exploration programme. The project is scheduled for completion in 2018. □



- Passersby can glimpse inside

### Cairns Aquarium

Cairns, Australia

Peddle Thorp

A \$50m (US\$36m) aquarium inspired by tectonic plates has been designed by Peddle Thorp Architects, in association with Architects Ellick and Partners. The three-storey, 10,000sqm in Cairns, Queensland, will be home to more than 5,000 living creatures endemic to Australia's Great Barrier Reef.

Peddle Thorp's design is made up of a series of 'tectonic plates', symbolising the movement of the earth over the centuries and subsequent creation of the reef and Australia's tree-covered mountains. □



- The traditional, visible barriers between visitors and animals are removed

### Zootopia / Givskud Zoo

Givskud, Denmark

BIG

Bjarke Ingles Group (BIG) has designed a new enclosure for Givskud Zoo – Zootopia – a hybrid of a traditional zoo and a safari. It's split into four sections, three of them themed around the continents of Africa, Asia and the Americas, with a plaza in the middle. Each section has its own mode of transport, allowing the visitor to 'fly' (in a cable car), cycle or hike through zones. □ ▶



## Camp Nou

Barcelona, Spain

Nikken Sekkei

Japanese architects Nikken Sekkei – in collaboration with Spanish studio Pascual i Ausió Arquitectes – won a hotly-contested tender to design the new Camp Nou for FC Barcelona. The jury praised the winning proposal as “open, elegant, serene, timeless, Mediterranean and democratic.”

The plans pay tribute to Francesc Mitjans’ original 1957 design, while better facilitating circulation around the stadium and ensuring diverse urban usage.

As part of the renovation, described by the club as “sentimental,” the New Camp Nou

will expand its capacity to approximately 105,000 spectators from just over 99,000, with all seats being covered by the new 47,000sqm ETFE-clad semi-transparent roof.

The roof, which will be illuminated in the club’s colours and reflect the Mediterranean light, protects fans from the rain and sunlight and improves the interior acoustics. The venue will have the latest technology in scoreboards, pitch lighting, speakers and WiFi access points and collect water and solar energy to water the pitch and power the lights.

The stadium’s 360-degree perimeter will be enclosed by a glass facade and include a large atrium providing access to the first tier. Interior concourses will be protected by pitched eaves and be free of barriers.

● The new design is respectful of the work of Francesc Mitjans’ original

Stairs, escalators and lifts ensure complete accessibility to all tiers, leading up to a spacious sky deck with panoramic views of the stadium’s seating bowl and the city.

Work on the new Camp Nou is scheduled to start in the 2017/18 season and end in the 2021/22 season. The high-profile renovation is the biggest component of an ambitious €600m sports district called Espai Barça, which also includes the New Palau Blaugrana multi-use arena, designed by US architects HOK. Nikken Sekkei’s previous stadium projects include the Saitama Super Arena, the Big Swan Stadium in Niigata and the Tokyo Dome – all in Japan. □



### NC Dinos Baseball Park

Changwon, South Korea

#### Populous

Populous is leading the design of the US\$100m, 22,000-seat NC Dinos Baseball Park in Changwon City, near Busan.

Working with local partner Haeahn Consortium, a key feature of the design is the rooftop gardens stretching the length of the building area. The gardens take inspiration from the design of the High Line in Manhattan – a park built on an elevated section of a disused railroad.

- The stadium design enables clear views of the field from every seat

Populous senior principal Andrew James said the project is the first true baseball ballpark for families and fans in South Korea, built on the firm's extensive experience with Major League Baseball (MLB) in the US, particularly Petco Park in San Diego and Target Field in Minneapolis.

The stadium, designed with post-match and non-match-day activities in mind, houses the NC Dinos, one of the newest teams in the Korean Baseball League. Completion is slated for 2018. □



- Brickwork is part of the design

### Stamford Bridge

London, UK

Herzog & de Meuron

Chelsea FC commissioned Herzog & de Meuron to replace its Stamford Bridge ground with a state-of-the-art 60,000-capacity stadium. The development will include a club shop and museum and require excavation works and the construction of external concourse areas. The club explored the possibility of moving to Earls Court, White City or Battersea Power Station, but decided to stay put. Plans show a series of brick piers layered over the existing stadium, a nod to the brick architecture found in that part of London. □



- The Falcons want to obtain the highest level of LEED certification for the stadium

### Mercedes-Benz Stadium

Atlanta, Georgia

HOK

Atlanta's US\$1.4bn Mercedes-Benz Stadium boasts a unique retractable roof and will be the largest-capacity stadium in the National Football League (NFL), able to hold 83,000 people. The venue – home to the Atlanta Falcons – will also have the world's largest 360 degree HD video screen and will be surrounded by edible gardens created by Atlanta-based urban designers HGOR. □ ▶



## Gunyama Aquatic Park

Sydney, Australia

Grimshaw

Grimshaw, along with Australian firm Andrew Burges, has designed a A\$51m (US\$44m) park and leisure centre as part of the Green Square regeneration project in Sydney. Opening in 2019, the complex comprises a 50-metre heated outdoor pool; a 25-metre pool; a hydrotherapy pool and indoor leisure pool; a full-size outdoor multi-purpose sports playing field; a gym and outdoor training circuit; a crèche with indoor and outdoor play areas and plants and landscaping inspired by the area's indigenous heritage. □

Inspired by the beach pools of Sydney, the venue is as much about relaxing as it is swimming

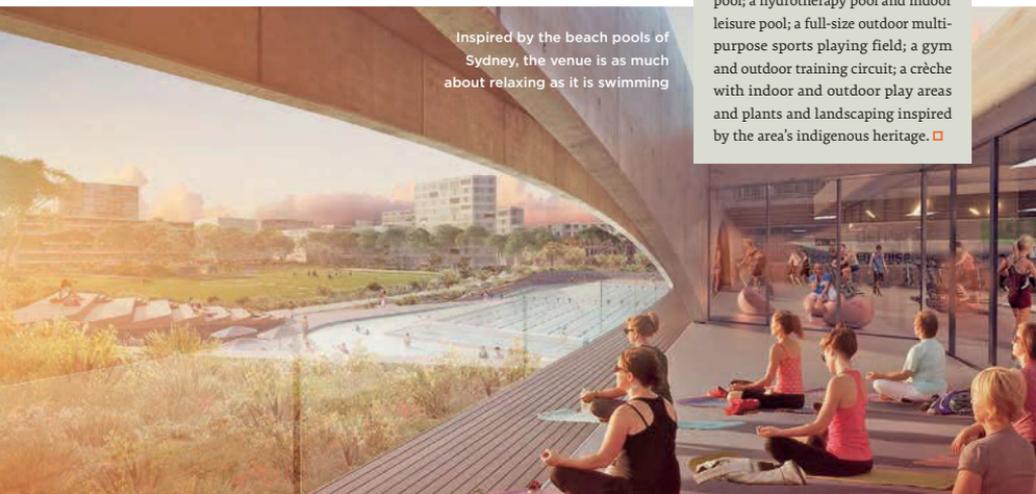




IMAGE: STELLAR

## San Francisco Arena

San Francisco, California

Manica

Architecture studio Manica has been working on plans for the National Basketball Association's (NBA) Golden State Warriors new US\$1bn sports and entertainment complex in Mission Bay, San Francisco.

The site's 18,000-capacity indoor venue anchors an entertainment district with restaurants, cafes, offices, plazas and a range of public spaces – such as a 5-acre park on the Mission Bay waterfront.

- The master plan includes a 5-acre park on the Mission Bay waterfront

Designed by Manica with Craig Dykers of Snøhetta acting as senior design advisor, the Warriors' plan is unique in that it's the only completely privately financed arena or stadium to be built in the US over the past two decades. The franchise has acquired a 12-acre plot from technology firm Salesforce and is hoping to have its new home built in time for the 2018-19 season.

San Francisco mayor Ed Lee supported the team moving back to the city, where they played between 1962 and 1971. □



- An arena for two teams

## Tampere Central Arena

Tampere, Finland

Daniel Libeskind

Two professional ice hockey teams – Ilves and Tappara – are planning a new 14,000-capacity multi-use arena.

The €124m venue's flexible design allows it to host other sporting events, concerts and exhibitions. An ice-rink will also be set up. Fifty-four per cent of revenue will come from ice hockey and the remaining 46 per cent from other sports and cultural events.

The arena, designed by Studio Daniel Libeskind, is part of the larger, mixed-use Tampere Deck project which includes a hotel, residential towers and offices. □



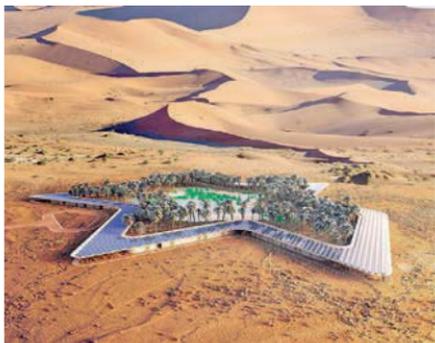
- The stadium is due to be completed in 2019 and is being built by Taisei Corp

## Tokyo Olympic Stadium

Tokyo, Japan

Kengo Kuma

Kengo Kuma has designed the ¥149bn (US\$1.2bn), 80,000-capacity stadium that will be the centrepiece of the 2020 Olympics. Kuma's design was selected by the Japanese government after the original plans – by the late British architect Zaha Hadid – were dropped. Kuma's stadium is a steel and wood structure with a flat roof and greenery along its surrounding concourse. □▶



## Oasis Eco Resort

Abu Dhabi, UAE

Baharash Architecture

Dubai developer Eco Resort Group and London-based studio Baharash Architecture have unveiled plans for “the world’s greenest resort” – in an Abu Dhabi oasis.

The Oasis Eco Resort, scheduled to open in the emirate’s Liwa region in 2020, will be powered by 14,500sqm of solar panels and operate a wildlife conservation area.

In the early stages of the project, Baharash learned that groundwater could be extracted from a deep well at the site. This gave the design team an opportunity to create a story around a spring, which

was of critical importance to Bedouins for trade and transportation routes. Water will be extracted from the ground for use in the resort before being treated onsite and recycled for irrigation.

The resort will have 84 interconnecting suites of various types, each with an outdoor terrace looking out onto the “tranquil heart” of the spring. A restaurant and bar will also feature, providing guests with organic ingredients grown on site. Guests will also be able to forage organic produce from onsite allotments or catch fish from the spring, and cook them with the resort’s chef.

The Oasis Eco Resort will also include a range of health and therapeutic spa facilities equipped with smart glass windows that can be controlled via a switch.

- The Abu Dhabi resort has 84 connected rooms and spa facilities

Other mooted environmental aspects include a zero-emission zone, an onsite waste management facility and a wildlife biology department staffed by conservationists and scientists. A ribbon-like roof maximizes the area for solar panels, which are planned for optimum efficiency.

With the UAE on the rise as a tourism destination, with 45 million people expected to visit in 2021, Eco Resort Group has said it has several other environmentally-minded projects in the making. Baharash has already masterplanned environmental designs for projects in the Middle East, including a solar-powered sustainable city. □



### Solis Ubud

Bali, Indonesia

Denton Corker Marshall / AW Lake

Capella Hotel Group is developing the Solis Ubud Resort & Spa – scheduled to debut in 2017 with a spa designed by AW Lake, which is set to include an original ancient king's bath. Owned by property company PT Mustika Adiperkasa, the 108-bedroom resort will feature a wellness facility designed to recreate the ancient Balinese cleansing rituals carried out by royals in ancient times.

Solis Ubud, designed by architecture firm Denton Corker Marshall, is located in the heart of the cultural centre of Bali,

- The guestrooms and villas offer panoramic views of Ubud, Bali

set amidst rice paddy fields along the Was River. The architecture is intended to blend seamlessly with the natural surroundings.

The property's guestrooms and villas will offer panoramic views and scenic riverfront experiences, in addition to access to Ubud's attractions, ancient sites, plus arts and culture related activities.

Inside the 1,200sqm Auriga Spa, there's a hydrothermal circuit, a riverside relaxation deck, steamrooms and saunas. AW Lake also designed the spa interiors at the Capella Hotel Group's first property in China, the Solis-branded Han Yue Lou Nanjing Hotel. □



- Upgrades include a new hotel

### Blue Lagoon

Nr Reykjavik, Iceland

Basalt Architecture

Around 766,000 visitors flock to the world-famous Blue Lagoon geothermal destination spa in Iceland each year. Now the owners are investing €40m in an expansion. A new thermal bathing pool built into the surrounding lava field will connect to the existing lagoon. A luxury 60-bed hotel will be added. Sigrídur Sighthorsdóttir of Basalt is leading the project. She's been the architect at Blue Lagoon for 20 years and her work in harmonising the manmade and natural environment has been noticed internationally. □



- The project is branded as Vichy Thermalia Spa Hotel

### Moulay Yacoub Thermal Station

Moulay Yacoub, Morocco

Omar Alaoui Architects

Moulay Yacoub is a thermal bathing complex that's in the middle of a US\$30m redevelopment. Sothermy will run the public bathing centre, but the hotel and spa will be operated by Vichy Spa International. Omar Alaoui Architects is extending the traditional Moulay Yacoub and creating an authentic hammam and a spa centre. □ ▶



The renovation plans incorporate the stone wall architecture of the old hospital

### Amélie-les-Bains

Amélie-les-Bains, France

Francisco Mangado

A collaboration led by Spanish architectural firm Francisco Mangado has been commissioned to convert an old military hospital into a thermal bath facility in south France. Scheduled to open at the end of 2016, the €6.5m, 3,000sqm contemporary spa is set over three floors and will feature hot zones, cold zones and more than 10 wet and dry treatment rooms.

It's in Amélie-les-Bains, a town known for its natural spring water, which will be used in the spa's thermal and bathing experiences. □





### Bellagio Shanghai

Shanghai, China

WATG / Wimberley

Hospitality specialists WATG Architects are designing the 160-bed Bellagio Shanghai, set to open in Shanghai's famous Bund district in early 2017. With a "hip and cool" urban setting, the hotel's architecture aims to capture the essence of old and new Shanghai with a modern, tempered interpretation of Art Deco.

The Zen spa has been designed by sister company Wimberley Interiors and will

● The Zen spa includes an indoor pool in natural materials and neutral tones

feature a natural materials and neutral tones designed to create a calming effect. It will have five treatment rooms – including a couple's room and a VIP suite – male and female wet rooms, relaxation lounge, indoor pool with tepidarium, vitality pool, a fitness and exercise studio and a panoramic co-ed sauna. Wimberley is designing the interiors throughout the hotel.

WATG opened an office in Shanghai in November 2015 as part of its strategic global expansion plans. □



● Sangha is a wellness resort

### Sangha

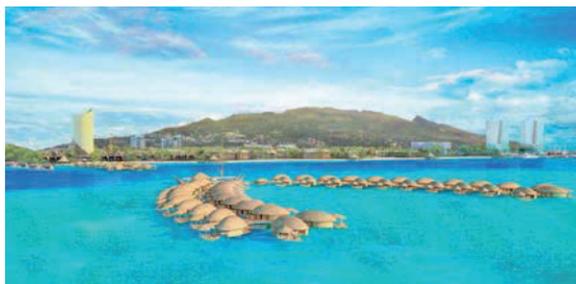
Suzhou, China

Tsao & McKown

Tsao & McKown is designing one of China's first wellness communities along Yangcheng Lake outside Suzhou. It's due to open in late 2016.

The project is being built through Octave – a development company owned by studio co-founder Calvin Tsao that's dedicated to creating wellness retreats. The retreat, called Sangha, will comprise residences, hotels and learning spaces.

The design is heavily influenced by Confucian thought, including ideas of relationships with self, community, society and nature. □



● Tahiti Mahana Beach Resort & Spa, the largest in the region, opens in 2021

### Tahiti Mahana

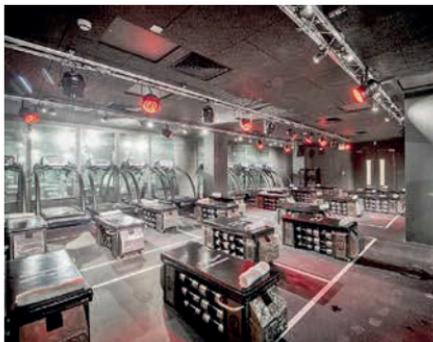
Tahiti, French Polynesia

Group 70 International

The French Polynesian government has approved plans for the US\$2.5bn Tahiti Mahana Beach Resort & Spa, which is to include five international hotels, most with spas. Hawaii's Group 70 International is overseeing the design, drawing on French Polynesian themes such as its seafaring tradition and tropical retreat setting. □ ▶



PHOTOS: SAUD HINDOUM/ART



## 1Rebel

### Multiple sites planned

#### Studio C102

Boutique fitness brand 1Rebel raised £3m in a recent funding round – double the initial £1.5m target – making the chain one of only four companies to have ever reached £3m on Crowdfunder.

Having launched two studios in London last year, 1Rebel plans to continue this rate of expansion over the next four years, with a view to reaching at least 10 sites in 2019.

The owners have also hinted at further expansion, revealing that the chain is currently exploring a number of locations from London to Scandinavia and Asia.

The successful completion of the latest funding round means 1Rebel now values itself at £13m. The money raised from the latest funding round is being used for day-to-day costs of running current and future clubs, as well as to cover capital expenditure in opening new clubs – mainly equipment and leasehold improvements.

The company, which aims to shake-up the fitness industry as a ‘market disrupter’ – in a similar vein to businesses like Uber and Airbnb – is squarely targeted at millennials. According to founders James Balfour and Giles Dean, the 1Rebel brand is designed “to bridge the gap between fitness and fashion”.

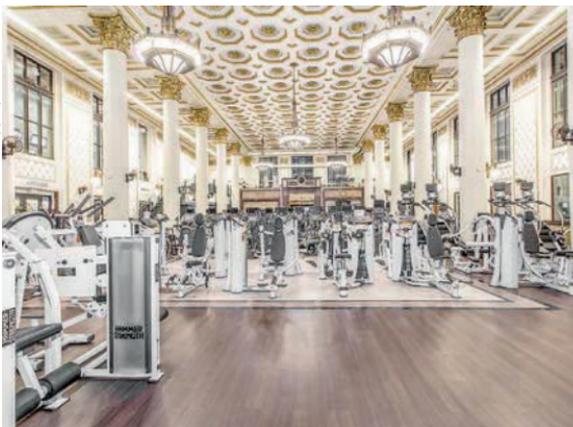
The first 1Rebel microgym launched in the City of London in January 2015 and

### ● 1Rebel plans to have at least 10 boutique gym sites open by 2019

the second opened in September 2015 at London’s Broadgate Circle, a mere 600 metres from the first one. The clubs are totally cashless, paperless and pay-as-you-train, with all customers signing up and booking classes online, and ‘paying’ for things in-club via their ID. There are no tie-in contracts, deals or special offers.

1Rebel places a big emphasis on decor, offering classes in an environment which is “designed to impress” with theatre-grade lighting as standard. 1Rebel aims to offer a five-star experience, whether it be its classes, its changing rooms or its extensive range of organic food and juices. □

PHOTO: JACOBS FOR ANNE PHOTOGRAPHY



### GoodLife Fitness

#### Multiple sites planned

#### Various designers

Leading Canadian health club operation GoodLife Fitness recently opened a club in downtown Calgary, within the Bank of Montreal building. The company operates over 330 clubs across Canada, including Énergie Cardio, EconoFitness and its new Fit4Less by GoodLife low-cost brand.

Many more clubs are in the pipeline.

The 1,858sqm flagship health club in the Bank of Montreal is set amid

- A GoodLife Fitness club in the Bank of Montreal, set amid Corinthian columns

the Corinthian columns of the historic building. GoodLife Fitness worked with Square Feet Design Group to restore the mezzanine, main floor and basement.

The company launched the Fit4Less and Éconofitness in 2011. According to CEO David Patchell-Evans, the low-cost health clubs are pristine, spacious and equipped with top-line equipment. GoodLife Fitness is seeking opportunities to expand its economy club model, planning more than 500 low-cost clubs across Canada. □

PHOTO: PHILIPPOLE



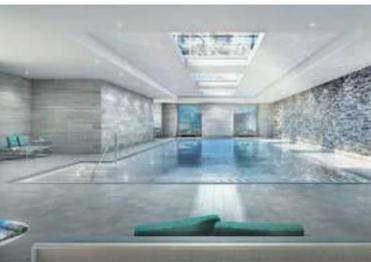
- Urban design at Gymbox

### Gymbox

London, UK

Ben Kelly

Hip fitness chain Gymbox is planning to grow its presence across London in 2016. Gymbox Victoria – the chain's eighth site and its first south of the Thames – is already open and a further three sites are in the pipeline. While all clubs retain the Gymbox DNA, each design, led by Ben Kelly Design, will be different and evolve according to user preferences and current trends. The chain remains open to a number of other options for its format, including boutique offerings if the right property becomes available. □



### Life Time Athletic at Sky

New York, New York

Rockwell Group

Health and fitness operator Life Time is set to open its first New York fitness club within Manhattan's largest residential tower. The health club will take up a

- The Life Time facility will have indoor and outdoor pools

6,500sqm area inside the 71-storey Sky building, which was designed by Goldstein Hill & West with interiors created by David Rockwell's studio, the Rockwell Group. The Life Time Athletic at Sky will feature a multi-level gym, a Turkish-style Hammam and Lifespa, an indoor cycling studio, a full-size basketball court, yoga and pilates facilities, an indoor water club, two outdoor infinity pools, a health food cafe and a Skypark created by urban designer Thomas Balsley. □

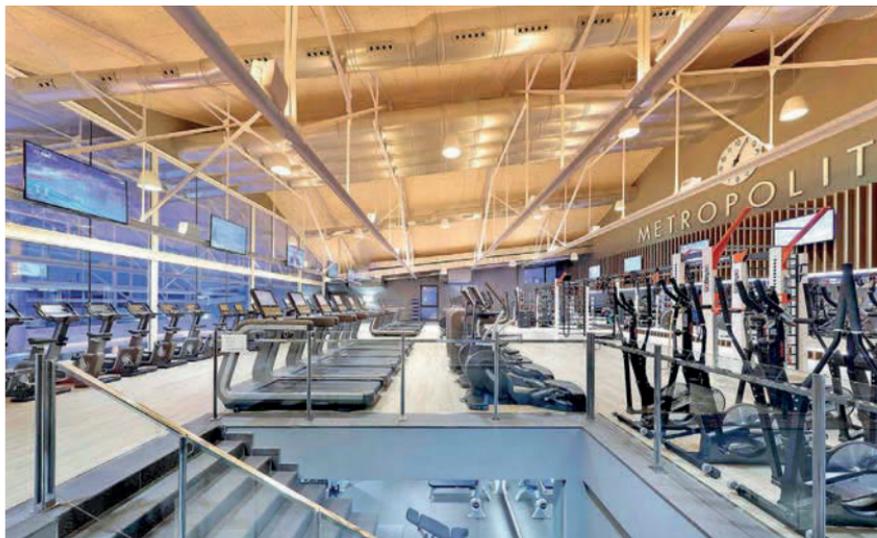


PHOTO: ROBERTO LAM

## Metropolitan

### Multiple sites planned

#### Various

Metropolitan has launched a 6,000sqm club in Badalona, Spain. A €5m development, the club follows the philosophy of the rest of the Metropolitan estate, marrying good design and high quality, with an

emphasis on both relaxation and training. With 23 clubs in major Spanish cities, the Metropolitan chain currently has 70,000 members. It now plans to open two to three more clubs each year, with an overall target of 35 clubs operational by 2020.

Facilities at the latest club include three indoor studios, a spectacular wet area, the focus of which is the 23-metre indoor pool which is visible throughout the club. There's

● Members also have access to a cafeteria, sun terrace and a crèche

also a solarium, Turkish bath, sauna, spa pool, ice fountain and cold showers.

The club's architect, Joan Carles Navarro of Aia Estudio, was mindful of the high standard of design of Metropolitan clubs, with previous sites designed by prestigious architects including Richard Rogers. □



## Heartcore

### Multiple sites planned

#### Heartcore (in-house)

Boutique fitness chain Heartcore launched its eighth studio in St John's Wood this year as the operator continues to focus on prestigious London postcodes. Sited in a

● The latest Heartcore boutique gym is located in a former church

former church, the newest location has a heavy emphasis on design – with the Heartcore team creating the entire concept in-house. Soaring ceilings lend an airy feel to the studio, which is complemented by wood floors, large windows and skylights.

With competition for prime locations reaching fever pitch in London, 2016 could be the year when boutique studios break out of the M25. Heartcore is exploring locations outside the capital. For now though, the next site is in Notting Hill, opening soon. □

**Nike HQ****Beaverton, Oregon****ZGF**

Sports giant Nike is building a 297,000sqm expansion to its world headquarters to add sporting facilities, mixed-use space and new offices. The architecture of the expansion is inspired by human movement, speed and competition. A large beacon serves as the centrepiece of the new campus, featuring a sculpture of Nike's namesake, the winged Greek goddess of victory. US firms ZGF Architects, SRG Partnership and Skylab Architecture will guide the design. Portland's Place Studio will develop the landscape architecture. □

Nike is pursuing LEED Platinum Certification for the extension





**CLADbook** 2017

movers  
& shakers

- 32 **Bjarke Ingels**
- 36 **Thomas Heatherwick**
- 40 **Jean-Michel Gathy**
- 44 **Clodagh**
- 48 **Michael Pawlyn**
- 52 **David Rockwell**
- 56 **Rod Sheard & Chris Lee**
- 60 **Kjetil Trædal Thorsen**

# MOVERS & SHAKERS

Take inspiration from our selection of innovators and key figures in the leisure architecture industry

## BJARKE INGELS

The Danish wunderkind has attracted international acclaim for his innovative creations, ranging from a power plant-ski slope to an inside-out zoo – and all because he’s a yes-man at heart

**A**t just 41 years old, Bjarke Ingels may already be a superstar on the global architectural scene, but he does not see himself as a revolutionary.

As principal of the Copenhagen-based Bjarke Ingels Group (BIG), he and his 300-strong team have built a global reputation on the back of a diverse and original body of work, ranging from housing projects and mixed-use developments to museums, cultural exhibits and sports facilities. Yet while Ingels’ creations are frequently both strange and wonderful, they are also highly functional: take his 8 House in Copenhagen – a 10-storey, bow-shaped urban block where it’s possible to walk or cycle alongside terraced gardens all the way to the top – or Amager Bakke, a waste-to-energy plant topped by a ski slope.

Ingels says his design philosophy is “pragmatic utopia”: an ideal that seeks solutions to real-world problems not at the expense of architectural vision, but by bending the vision to meet the challenge, through a Darwin-esque



Bjarke Ingels’ describes his design philosophy as “pragmatic utopia”

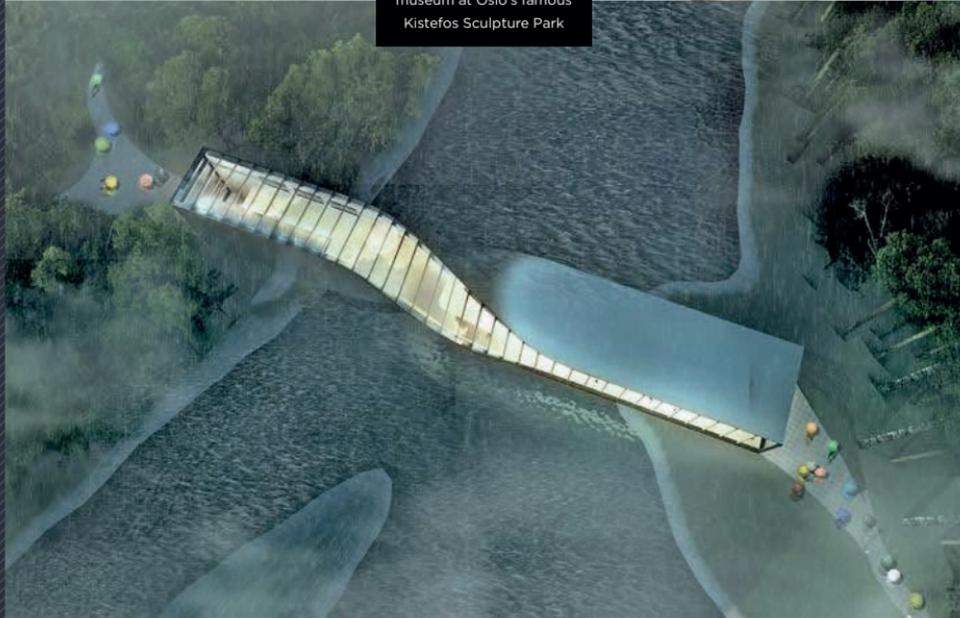
‘mating’ of apparently incompatible design elements to create new, stronger hybrids. Meanwhile, the BIG manifesto, *Yes Is More* – a comic strip-style book and exhibition dedicated to demystifying the studio’s architectural process – celebrates the transformative power that saying ‘yes’ rather than ‘no’ to society’s needs and desires can bring. ▶

### RISE TO FAME

Bjarke Ingels was born in 1974 in Copenhagen. As a boy, he loved comic books and wanted to be a graphic novelist. To improve his drawing, he enrolled in the Royal Danish Academy of Fine Arts, where he discovered a greater passion for architecture. From there, he went to the Escola Tècnica Superior d’Arquitectura in Barcelona, Spain. He graduated in 1998 and went to work for Dutch architect Rem Koolhaas. In 2001, he co-founded PLOT Architects with Belgian architect Julien De Smedt, before going solo in 2005. His firm, BIG, now has offices in Copenhagen, New York and Beijing. Ingels is a 2016 RIBA Honorary International Fellow and has lectured at US universities including Harvard, Yale, Columbia and Rice. He is a frequent speaker at events ranging from the TED Conference to the World Economic Forum.



BIG's designs for a new museum at Oslo's famous Kistefos Sculpture Park



KEY PROJECTS

■ **Kistefos Sculpture Park, 2015, under construction**

A new art gallery for a Norwegian sculpture park is designed to twist across the river below. Ingels has described the design as the group's "first experiment with social infrastructure – a building that serves as a bridge – or a cultural institution that serves as a piece of infrastructure." The 1,400sqm museum will be the new centrepiece of the existing Kistefos Sculpture Park in the municipality of Jevnaker, north of Oslo, which exhibits work by acclaimed artists including Anish Kapoor and Olafur Eliasson. The museum is scheduled to be completed in early 2019.

■ **Copenhagen Harbour Bath, 2003, complete**

A recreational bathing facility in an urban harbour landscape, the Copenhagen Harbour Bath – conceived under the auspices of PLOT – makes it possible for the Danish capital's residents and visitors to swim in the open air in the middle of the city. BIG is currently working on a winter bath extension to the facility, combining hot and cold and indoor and outdoor experiences.



■ **The LEGO House, 2013, under construction**

According to BIG, LEGO's experience centre in Billund, Denmark, will be both "innovative and systematic ... combining the functionality of the modular space with the iconic character of a sculptural building." For Ingels, it's "a boy's dream come true... I couldn't think of a more ideal client for an architectural project than the very plastic brick that first got us all hooked on building." (*Interior Design*, 24 December 2013)

■ **Washington Redskins stadium, 2016, in progress**

BIG has designed a National Football League (NFL) stadium around the idea of creating a destination that serves more than just football fans on matchdays. A moat-style water body around the stadium will be used for surfing and kayaking, and even double as a large-scale ice rink in winter. Other leisure facilities could include a Redskins museum and specially designed space for pre-game 'tailgate' parties.



■ **Zootopia, 2013, in progress**

BIG's vision for Givskud Zoo in southern Denmark turns the original idea of a zoo on its head, with animals roaming free and humans observing from hidden vantage points built into the landscape. The aim, says BIG, is to "both enhance the quality of life for the animals as well as for the keepers and guests – but indeed also to discover ideas and opportunities that we will be able to transfer back to the urban jungle. Who knows, perhaps a rhino can teach us something about how we live, or could live in the future."

■ **Amager Bakke, 2010, under construction**

This Copenhagen power plant successfully combines the wow-factor with economic, environmental and social functionality. How? Not only does it convert waste into energy, but it also has a ski slope on its roof. The project, says BIG, redefines "the relationship between the waste plant and the city. It will be both iconic and integrated, a destination in itself and a gift to the citizens of Copenhagen."

■ **Audemars Piguet museum, 2014, in progress**

BIG won a contest to expand the headquarters of luxury watchmaker Audemars Piguet in Vallée de Joux, Switzerland, to include a new design museum. The 2,400sqm pavilion will be dedicated to telling the story of Audemars Piguet's history. BIG's intertwining spiral design is inspired by a mechanical timepiece.



■ **Europa City, 2015, in progress**

Developer Alliajes begins construction on Europa City in 2017. Located 16km (10m) from Paris, it will open in 2020. Ingels says it will combine "authentic, lively, dense urban environments and streetscapes with open landscapes ... to create a new and interesting urban hybrid." The project will include a theme park, urban farm, waterpark, hotel, snow park, theatres and restaurants.

**INGELS ON...**

**Darwinism**

"Rather than revolution, we're much more interested in evolution – this idea that things gradually evolve by adapting to the changes of the world. Darwin is one of the people who best describes our design process." (*TED Conference, 2009*)

**Occupying the middle ground**

"On one hand, the vast majority of firms can be said to be major corporate companies that make predictable and boring boxes of high standards. On the other is an expressive avant-garde that produce designs that are often as impractical and overpriced as they are spectacular. BIG attempts to occupy the middle ground, or overlap, where careful analysis and rigour allows us to identify real reasons – needs, concerns, demands or desires – for doing things differently." (*Interior Design, 24 December 2013*)

**Being playful**

"People always somehow misunderstand the light-heartedness of our discourse, the fact that we just play around. If you want to break the mould, if you want to do something surprising or different, [you need to do] three times the work to make it convincing. You have to take the playfulness really seriously to get it to work." (*Wired, May 2011*)

**'Hedonistic sustainability'**

"[There's a] general misconception that sustainability is a question of how much of our existing quality of life are we prepared to sacrifice in order to afford becoming sustainable.

But sustainability can't be ... some kind of moral sacrifice or political dilemma or philanthropic cause. It has to be a design challenge." (*TED Conference, 2011*)

**Industry and leisure**

"It seems to be almost a law of culture that the infrastructure of the industry of the past gets reinvented for the culture and leisure of the present. A decommissioned power plant becomes an art museum or a discontinued train line becomes the High Line. What if this idea of social infrastructure could happen proactively – instead of waiting for a power plant to become obsolete, we could already conceive of it as having positive social side effects?" (*Interior Design, 24 December 2013*)

**Failure**

"Failure is part of the nature of all experiments. Any kind of hypothetical, deductive methodology involves a lot of failed experimentation ... For every success, we have a freak show of bastards that didn't make the cut." (*TED Blog, 30 October 2009*)



# THOMAS HEATHERWICK

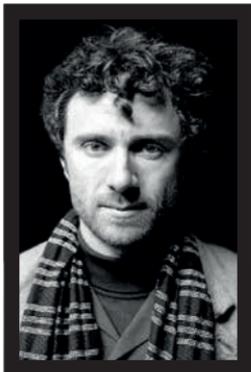
The maverick designer behind cutting-edge leisure projects such as London's hotly anticipated Garden Bridge has made surprising his trademark. Here's why

Described by Terence Conran as "the Leonardo da Vinci of our time", Thomas Heatherwick defies categorisation. He's a designer, yes, but he's also by turns a builder, a sculptor, an inventor, a furniture-maker and an urban-planner. With projects ranging from a university in Singapore to a spinning-top chair to a London bus, he and his team of 180 architects, designers, engineers and modelmakers can turn their hand to anything.

It is, above all, his projects linked to art and leisure that really capture the imagination, from the first-prize winning Seed Cathedral dancing in the breeze at Shanghai's 2010 Expo and the Phoenix-like Cauldron at London's 2012 Olympic Games to the major art gallery currently being carved from a grain silo in Cape Town, South Africa.

Heatherwick's latest infrastructure projects are set to be transformative for London – the pedestrian Garden Bridge that will span the River Thames and the Coal Drops Yard, a mixed-use piazza for London's King's Cross.

The Garden Bridge will connect the South Bank and Temple areas of London, creating a new green space for the capital, with plants, trees and



Thomas Heatherwick has become a household name in Britain

woodland influences incorporated into meandering walkways.

At King's Cross, two disused Victorian coal drop buildings are to be repurposed into retail, culture and leisure space. The historic structures, which stand apart, will be repaired and connected by a new upper level stitching their two roofs together.

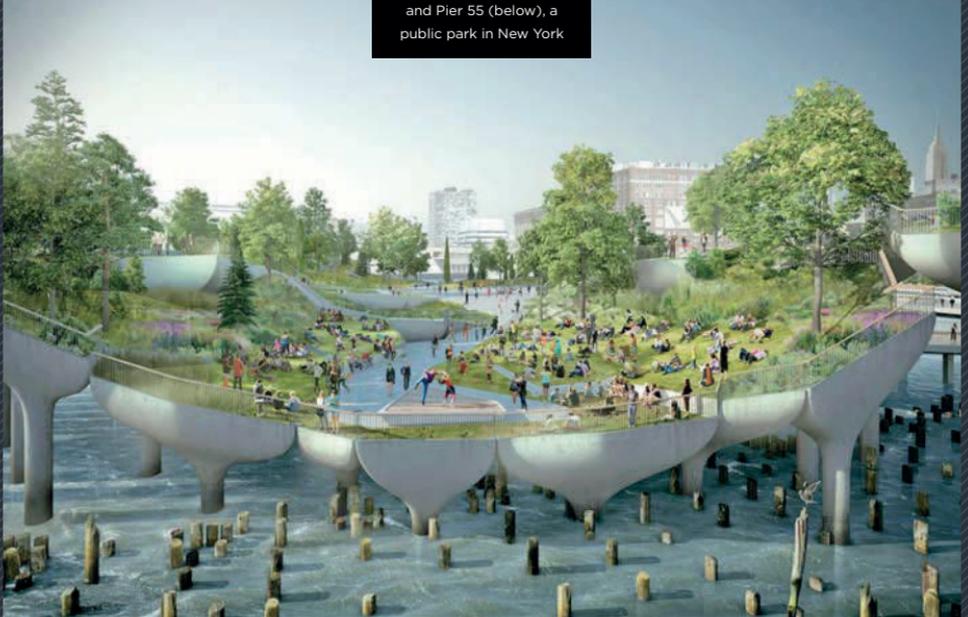
These projects prove the imaginative designer is determined to push the boundaries further than ever before. ►

## RISE TO FAME

Born in London in 1970, the young Thomas Heatherwick was always interested in collecting and making things. After completing a degree in 3D design at Manchester Polytechnic in 1991, he enrolled at the Royal College of Art. During his time there, he met and found a mentor in Terence Conran, and in 1994 he spent the summer at Conran's home, building a twisting birch gazebo. After graduation, Heatherwick founded his own studio and started work on everything ranging from architecture to furniture design and sculpture. Since then, the studio has completed close to 150 projects. Some of Heatherwick's most recognised works include the award-winning UK Pavilion at the Shanghai World Expo 2010, the Olympic Cauldron for the London 2012 Olympic Games and the new interpretation of the iconic London double decker. In 2013, he was awarded a CBE for services to the design industry.



Moganshan, a mixed-use development in Shanghai; and Pier 55 (below), a public park in New York



**KEY PROJECTS**

■ **Moganshan, 2015, in progress**

Heatherwick Studio has designed a vast mountain-inspired mixed-use development to be located next to Shanghai's arts district. Heatherwick is creating a verdant 30-hectare complex of buildings, with approximately 1,000 structural columns supporting plants and trees. "The design has been conceived not as a building but as a piece of topography, taking the form of two tree-covered mountains," the studio says.

■ **Pier55, 2014, in progress**

Designed in collaboration with landscape architect Mathews Nielsen, this curved parkland and performance space will rest upon multiple concrete columns 56m from the shoreline, between the remains of support piles from the original pier infrastructure. The plan, says Heatherwick, is "very much about bringing people together, so that you could have not only the immersion in nature, but also by lifting up the corners... the visitors to the park can all see each other, and there's some kind of chemistry with each other". (*FastCo Design*, 24 November 2014)



■ **The Garden Bridge, 2013, in progress**

The brainchild of actress and campaigner Joanna Lumley, the Garden Bridge was granted planning permission at the end of 2014. It's intended as a place of refuge from the frenetic activity at either end: "This is not about the fastest way to cross the river; it's the slowest way you could possibly get across the river." (*The Culture Show*, 31 July 2013)

■ **Zeitz Museum of Contemporary Art Africa (MOCAA), in progress**

Zeitz MOCAA will be a major new cultural landmark carved from the historic Grain Silo at the V&A Waterfront in Cape Town, South Africa. "Rather than strip out the evidence of the building's industrial heritage, we wanted to find a way to celebrate it. We could either fight a building made of concrete tubes or enjoy its tube-ness," says Heatherwick Studio.

■ **The Seed Cathedral, 2010, complete**

Commissioned by the UK government, the Seed Cathedral at Shanghai's Expo took first prize for its beautifully realised celebration of nature. With 60,000 clear optical rods extending through the walls and up into the air, it looked from a distance like a silver-haired box. The tips of the rods were embedded with 250,000 seeds. According to Heatherwick, the film *Jurassic Park* was an inspiration: "The DNA of the dinosaur [found in the mosquito] that was trapped in the amber gave us some kind of clue that tiny things could be trapped and made to seem precious." (*TED Conference 2011*)



■ **Bombay Sapphire Distillery at Laverstoke Mill, 2012, complete**  
Gin maker Bombay Sapphire's new distillery and visitor centre in a 19th-century paper mill at Laverstoke, UK, combines the regeneration of listed buildings with landscaping and the creation of two curved glasshouses for displaying the botanicals used in the gin. The project has achieved a BREEAM Outstanding rating for sustainability.



Bombay Sapphire's visitor centre and distillery in the UK

■ **Rolling Bridge, 2004, complete**  
When commissioned to build a pedestrian bridge across the Grand Union Canal in London, which would open to let boats pass, Heatherwick wanted to avoid a traditional Tower Bridge-style design that he couldn't help feeling was "a beautiful thing that had broken," (*TED Conference 2011*). Instead, his design features a bridge that curls in on itself like a caterpillar, leaving a beautiful circular sculpture on the canal bank.

## HEATHERWICK ON...

### His reputation for quirkiness

"I find it funny when people say you're trying to make things that are humorous or be a magician. I see it as what design is: it's trying to push what things are made from, how they function, how you can use resources that are available to try to do things that might matter." (*The Culture Show, 31 July 2013*)

### The human scale

"My work always comes down to the human scale. I'm really interested in how you think strategically – do large-scale planning but also stay sensitised to ambience and creating spaces that human beings feel comfortable in." (*Architectural Digest, April 2012*)

### Cities

"More and more, we've become passionate about the actual infrastructure of a city as the skeleton that gives character, and less interested in individual buildings." (*Wired, October 2013*)

### Working for the British government

"The British government, any government, is probably the worst client in the world you could want to have." (*TED Conference, 2011*)

### Attention to detail

"A master plan is made up of bits, and those bits will end up as pieces you can touch with your hand. Our role is to be able to pull right back and see something in its biggest context, but then be able to zoom in until you're analysing close detail – to never let one thing get disconnected from context and meaning." (*Wired, October 2013*)

### Being asked to design art galleries

"I perceive it as glamorous to take something that we are used to having such low ambitions for, like a car park, and make it special. Whereas if you're asked to take on an art gallery? Yeah, right! How do you make an amazing art gallery? However creative the design is, something inside me groans." (*Architectural Digest, April 2012*)

### Taking risks

"It's not just me taking risks – it's a partnership with a whole team of people and your commissioner too. You're going on a voyage together to try to make something special happen. I suppose I'm going to have to front that, but when you're working with what the future is, there's also great risk in not exploring what's possible." (*The Culture Show, 31 July 2013*)

### ■ The Olympic Cauldron, 2011, complete

The Cauldron came to life before the eyes of 900 million viewers at the 2012 Olympics Opening Ceremony, as 204 polished copper 'petals' illuminated by the Olympic torch rose silently from the ground to form a single great flame. The intention? To represent "the extraordinary, albeit transitory, togetherness that the Olympic Games symbolise".



## JEAN-MICHEL GATHY

The founder of Denniston International, widely considered to be a living legend in the world of hotel design, explains why there's no place for prima donnas in leisure architecture

**W**ith more than 30 years of experience in hotel design, Jean-Michel Gathy's reputation goes before him. Since founding his Asia-

based architectural practice, Denniston International, in 1983, the Belgian national has amassed a client list that reads like a 'Who's Who' of the luxury hospitality industry. Amanresorts, Park Hyatt, St. Regis, Cheval Blanc, Armani, Mandarin Oriental, GHM, Banyan Tree, Shangri-La, One&Only, Fairmont Raffles, Jumeirah... Denniston has worked with them all. With a clear niche at the top-end of the market, Gathy won't consider partnering anyone but the best, but denies this is arrogance. Designing a Toyota is just as demanding as designing a Bentley, he says – he just prefers Bentleys.

Six years after launching Denniston in Hong Kong, Gathy moved to Malaysia, where the practice has been based ever since. Today, the firm employs 155 professionals from 21 countries, but it is Gathy himself who still personally creates the vision for each and every project. In April 2006, the architect was inducted into Hospitality Design's Platinum Circle in recognition of his contribution to the hotel industry.



Jean-Michel Gathy's big break was the Amanwana in Indonesia in the early 1990s

### What sets your practice apart from its rivals?

I don't say I invented this, because that would be presumptuous, but I decided 20 years ago that a top-class hotel should be seamless – seamless between the architecture, the interior design and the landscape. So when we take on a job, we do 100 per cent of what you see. We design the architecture, the interior, the topography, the routing of the golf course, if they have one; we design the restaurants, the boutiques and the back of house. For the lighting, we use a specialist consultant, but

we strategise the lighting. We do everything in house and I control every phase of it. And there are very few architects who do that.

### What projects are you currently working on?

We're working on several projects in Bali, Indonesia, including the Jumeirah and the Mandarin Oriental. We have a One&Only in construction in Hainan, China, and an Aman opening in Herdade da Comporta in Portugal. We also have projects underway in Brazil, Thailand, the UAE, Taiwan and many other countries. ▶



The Setai Miami, Florida, comprises an 87-room hotel and a condominium tower

“ The combination of my European background with the fabulous sense of life that exists in Asia has synthesised in my work ”

**Tell us about one that stands out.**

The Mandarin in Bali is exceptional because the site is exceptional, but also because the client is very open to creativity. The property is on a cliff and we've done something quite special there. All the other hotels in that area have a restaurant at the cliff, but half the rooms have no sea view, whereas we've enhanced the cliff instead of making it disappear. Because of Mandarin's strong Chinese heritage, we've also incorporated lots of references to lanterns – we have six three- or four-storey buildings shaped like lanterns floating on water, which also

references the Balinese tradition of floating candles on ponds. It's very, very powerful.

**Why is leisure architecture important?**

Because staying in a hotel is often the only time people have to look around themselves. When you go to work in the morning, you'll pass in front of the British Museum without even looking it; you're probably on your phone or half asleep in the taxi. When you're in a place of leisure, by definition you have time: your senses are enhanced and your mind is at rest.

Leisure architecture is important because people have time to appreciate it.

**Which single opportunity or experience has most defined your career and how?**

Adrian Zecha, founder of Amanresorts, and Hans Jenni [who subsequently co-founded GHM with Zecha] are the ones who gave me my first chance 23 years ago, when they asked me to design Amanwana on Moyo Island, Indonesia. I've never looked back.

**Who is your greatest inspiration?**

The man who was my original inspiration, the one who drew my attention to tropical and resort architecture, was a very famous Sri Lankan architect called Geoffrey Bawa, who died in 2003. He really created what we call pavilion-style architecture. He was not a prolific architect; he was an artist – he designed what he loved. It was he who helped me understand that a hotel has to be designed from the inside out. So when I design a hotel, I don't design a beautiful building, then think, 'Where am I going to put my bedroom?' I design the bedroom first then I see how I can multiply it.

**Is leisure architecture sometimes seen as less valid than other forms of architecture? Why is this?**

I wouldn't say less valid. From an architect's point of view, it's probably more difficult. I can tell you that it's easier to design an extraordinary tower than a hotel in the tropics. I can design a 300m-high building in Dubai, no problem; I can do that in a week. But a Cheval Blanc in the Maldives takes two years to design, because everything is a one-off.

So hotel design is not less valid. But it is often less iconic, because it has to serve



The Omani-style Chedi Muscat features two dramatic pools



The One&Only Reethi Rah in the Maldives features stilted villas and private beaches

a purpose. With a library, a museum or a bridge, you can design anything you want, within the bounds of engineering. You don't need windows in a museum, so it can be any shape you want, but in a hotel, you have 200 rooms with the same window. Making that sexy isn't easy.

I would compare it to track and field. The 100 metres is more iconic than the 1,500 metres. If you're the 100 metre Olympic champion, they'll talk about you more. But running the 1,500 metres is 10 times more difficult and tiring than running the 100 metres.

#### **What makes a good leisure architect?**

Leisure is about emotion and you cannot be too institutional when you address leisure. By nature, I'm not at all institutional. I'm a funny, passionate guy

who believes in what I do, but I'm not a prima donna. Iconic buildings – bridges, train stations, museums, academies of performing arts – are very often designed by prima donnas. And they need that. It's a prima donna world, whereas the hotel industry is not a prima donna world. And that's probably why I like it.

#### **How has being a European based in Asia influenced your work?**

As Europeans, we have a long history and we live in that history. We're surrounded by it and we value it. It has shaped our education, our values, the comparisons we make. So that is in my blood. But when I came here, I just loved and melted into Asian culture, and Asian culture is different. It's lively, energetic, young, positive – and I think that combination of my European background with the

fabulous sense of life that exists in Asia has synthesised in my work.

For example, when I designed the Chedi Andermatt in the Swiss Alps everyone said it was Asian-influenced. In my opinion, it's not. I wasn't trying to do Asian; I was trying to do Swiss. But there is something Asian that perpires in my design. There's a touch of spice in it. It's European food but there's curry in it! It's absolutely subconscious, but I think it's to do with the fact that Asian architecture uses a lot of layers. Instead of a heavy door, it's three layers of screen. And that has influenced the way I design: my interiors are very layered.

#### **How would you like to be remembered?**

As someone who was passionate, who loved, who knew the boutique hotel business and designed projects that will remain classics.

# CLODAGH

The Irish-born designer behind some of the world's most renowned spas and hotels explains why she's driven to make a positive impact, in architecture and in life

Since leaving school at 17, dropping her last name and setting up her own fashion label, Irish-born Clodagh has done things her own way, working on everything from make-up packaging to internationally renowned commercial, residential and hospitality projects. Over the past 30 years, her New York-based studio – employing just 20 professionals – has made its name by combining cutting-edge technology and innovative materials with ancient techniques such as feng shui to create environments that are not only sustainable, but also conducive to human wellbeing.

While Clodagh embraces all fields of design, it is her work in leisure that has brought her to a wider audience – from hotels and resorts for the likes of Six Senses and Hyatt to world-class spas such as Miraval Life in Balance Spa in Arizona. In 2007 she received the International Spa Association's ISPA Visionary Award in recognition of her contribution to the industry.

Beyond her work as a designer, Clodagh is a keen philanthropist and an advocate for education and wellbeing in the developing world. She especially supports organisations who aim to bring education to children in remote and marginalised places.



Clodagh has a holistic approach to hospitality and resort design

### What sets your practice apart from its rivals?

I don't feel we have rivals. Rudolf Nureyev once said: 'I do not try to dance better than anybody else; I only try to dance better than myself.' Sometimes I see an amazing project by somebody I adore and I think, 'I'll never be as good as that. But that's not rivalry; that's a little green, Irish twinge of envy.'

### Let me rephrase: what makes your practice unique?

Our deep integration of all the modalities: that we don't specialise. We can take on a branding project, a video or graphic project,

a large hotel or resort, a restaurant or a tiny apartment, and each one informs the other. I always say that if I were a doctor, I would be in integrative medicine. Also, with our projects we really believe that every area, including the landscaping, is a small part of a big whole that has to work together. If you remove a lug or a screw, the machine breaks down. I'm not compartmentalised.

### What leisure projects are you currently working on?

We've recently completed a Six Senses resort and spa in the Douro Valley, Portugal's wine-growing region. It's a renovation of an existing property in an extraordinary setting and combines a real sense of place with contemporary freshness, luxury and fun. We're also doing a Park Hyatt in Brazil's magnificent Iguacu Falls region, opening in 2017, against the backdrop of these enormous falls and practically untouched forest. Our focus there will be on extracting the DNA of the location and providing rich, local experiences. And we've just completed the East Hotel in Miami for the Swire Group, opening in 2016, their first East in the West.

### Why is leisure architecture important?

It enhances people's lives. There's a lot of stress out there and leisure architecture helps people to relax and de-stress. It brings joy. That really is what it's all about. ▶



The kitchen garden and reception (below) at Six Senses Douro Valley, Portugal



## We're all in the hospitality business really. The lines are getting more and more blurred and that's great

bringing joy to people. When I see little kids playing in a place we've designed, bouncing around and screaming with laughter, I think, that's it. Or when I see a couple holding hands, I think, that's it, that's it.

### Who or what is the next big thing in architecture or design?

The use of light, because without light we're nothing. No matter how fabulously I design something, if the lighting isn't right, it's worthless. We've done a lot of research into circadian rhythms and how different kinds of light can help people to wake up and go to bed and feel happy, and we're very conscious of the mood we want to create. A company called Pegasus has a lighting system using technology developed by NASA, which responds to what's going on in your body. It's beyond belief. So lighting

that works and lighting that matches your mood – that's going to be major.

### What's the biggest opportunity for leisure architecture?

Mixed-use buildings, whether it's a hotel with residences or partially serviced apartments; that will be big because it helps developers with their finances. Also, mixed-use buildings with a spa or a restaurant that's open to the public and has a separate entrance. We're all in the hospitality business really; a residential building is hospitality. The lines are getting more and more blurred and that's great.

### How important is sustainability?

I was an early environmentalist. I grew up in the country, without electricity and eating homegrown food, and when I started

my fashion business, I resolutely used natural materials: I visited the weavers, the crochet-makers, the linen-makers. I'm now working with a group of industry leaders called Future Green on how we can make hotels and other leisure properties more environmentally sound. I'm also on the Sustainable Furnishing Council. And in the studio, we really try to put our specifications where our feelings are. We're far from perfect, but we're driving in the right direction.

### You're an architectural designer rather than an architect. What advantages does that give you?

The advantage it gives me is that – because I never learned the rules – I don't know what can't be done and I can really think very freely. Another advantage is that the



The terrace at EAST, Miami, which opened in May 2016



The entrance to the Miraval spa and wellness destination in Tuscan, Arizona

architects in my studio can constantly challenge me, because I'm not a threat.

#### Which single experience has most defined your career?

Breaking my back when I was 15 years old. I came from a very uptight, Protestant, downwardly-mobile aristocratic family. I was good at Latin and maths, so my family decided I would go to Trinity College in Dublin and become a professor: that was the route mapped out for me by my father.

However, there's something about breaking your back and lying on your back for months that makes you challenge everything. One morning, I saw a little ad in the back of the *Irish Times* saying, "Why not be a fashion designer?" and I thought, "Why not?" And that's been my motto ever since. My father locked me out of the house when I started my design business,

then let me in again seven months later when the *Irish Times* published a big article about my first collection.

#### What other designers or architects do you admire?

I love Tadao Ando. His work is not an architectural statement but architecture that works inside and out equally well. I think his buildings are silent and comforting and utterly beautiful. Also, I love concrete, and he does amazing work with concrete.

#### What are your pet hates in architecture?

I resile from buildings that are about the building and not about what goes on inside. There are a lot of projects where the architect and the interior people might have been on different planets, and I really dislike that. It shows a lack of respect and

collaboration. There has been a movement towards big companies commissioning buildings, where the building sets itself apart to the extent that it doesn't work. I think design and architecture should work.

#### What would you like to be remembered for?

For a philosophy of total design that takes into consideration not only the spaces I work in, but also the people I service. It's all about connecting and making a positive impact; I call it the red thread going around the world. I'm also very passionate about my philanthropic work with an educational charity in Kenya called The Thorn Tree Project and a conservation charity called Ape Action in Cameroon. I'd like to think that I've been a small signpost on the road to environmentalism and caring for the world, but also that I've made people happier.

# MICHAEL PAWLYN

British architects Exploration focus on biomimicry, a sustainable design discipline that takes inspiration from the natural world. Founder Michael Pawlyn explains why biology and architecture make good bedfellows

As one of the world's leading biomimetic architects, Michael Pawlyn has always been as passionate about the natural environment as he is about the built one. But it was not until he joined Grimshaw Architects in 1997 that he realised he could combine both loves in his work. As project architect on the Eden Project in Cornwall, he led the design of the warm temperate and humid biomes as well as subsequent phases, helping to radically reinvent the principles of horticultural architecture and creating a groundbreaking visitor attraction in the process.

In 2007, he left Grimshaw to set up his own firm, Exploration, a group of architects, designers and researchers specialising in design innovation and strategy focused on biomimicry. In the belief that this kind of design has the potential to benefit all areas of life, Pawlyn and his team are casting their net wide, with projects ranging from studies for a biomimetic office building to the Sahara Forest Project, a pioneering attempt to grow vegetation and create green jobs in desert regions that has already proven successful in a pilot facility in Qatar. Pawlyn believes there is potential to apply the principles of biomimicry to leisure architecture, particularly in mixed-use schemes.



Michael Pawlyn's passions for design, biology and the environment define his work

## What sets your practice apart from its rivals?

There aren't that many architectural practices doing what we do, although I'm sure that will change. There are a few architects within colleges doing work on biomimicry but the practices tend to focus more on biomorphic architecture. Biomimicry is about engaging with the way functions are delivered in biology and translating that into solutions that meet human needs, whereas biomorphism is more about looking to nature as a source for original forms that can be turned into architecture. Some of Frank Lloyd Wright's

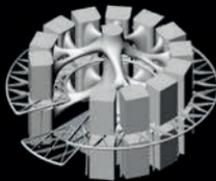
buildings or the TWA Flight Center at JFK International Airport by Eero Saarinen are good examples and they can be very enjoyable buildings. But I do think it's worth making the distinction, because I feel very strongly that what we're going to need over the next few decades is a functional revolution.

## How does biomimicry in architecture differ from other sustainable approaches?

The sustainability paradigm has often been about mitigation – about how to make things less bad. In their book



Exploration's Mountain Data Centre removes the need for air conditioning



*Cradle to Cradle*, William McDonough and Michael Braungart argue persuasively that we need to get beyond that: it's not enough to produce solutions that are less bad, we need to find models that are 100 per cent good. In the case of biomimicry, I think it's possible to move to a new paradigm, which is about restorative design. So while conventional human-made systems are generally extractive, linear, disconnected, wasteful and reliant on fossil fuels, biomimicry is about creating densely interconnected, zero-waste systems that rely on solar energy in a way that is actually restorative to the environment.

#### What role did biomimicry play in the Eden Project?

It was used at pretty much every stage of the design process. One of the challenges was that the site was still being quarried and did not have predictable final ground levels. So we conceived of the building as being composed of bubbles; we studied their geometry and developed a bubble model that fitted into that 3D terrain. The next stage was thinking about how those spherical surfaces could be structured most efficiently. For that, we looked at examples in biology such as pollen grains, radiolaria and carbon molecules, which demonstrated

that the most efficient way of structuring a spherical surface was with pentagons or hexagons.

We then wanted to maximise the size of those hexagons, to save steel and to maximise light, which meant finding an alternative to glass. In nature, there are some very efficient forms made out of pressurised membranes and that led us to ETFE. ETFE is a high-strength polymer that is put together in three layers then inflated to give it rigidity. We pushed the material further than ever before, and eventually we were able to produce inflated 'pillows' of up to 75sqm in size. With safety glass ▶



“ We depend on nature for our future quality of life: for materials, medicines and foods ”



you're limited to 10sqm; not only were some of these hexagons seven times that size, but they were also 1 per cent of the weight of double-glazing. That delivered a huge advantage in terms of steel weights. And when the way the steel members intersected at the junctions posed a challenge, we resolved it by looking at the structure of dragon fly wings.

**How much potential is there to apply the principles of biomimicry to leisure buildings?**

The potential definitely exists to use biomimicry to solve a functional challenge but at the same time to deliver a secondary benefit. A good example is the Las Palmas Water Theatre in the Canary Islands, which I worked on at Grimshaw, which is actually a desalination plant. The key biomimicry idea came from the Namibian fog-basking beetle: you've got a cool surface, humid air passes over it and condensation forms. We tried to maximise that effect using the sunny conditions, steady wind direction and cold seawater that are abundant in the Canaries. That drove the form of the building, but the evaporators and condensers were arranged in such a way that they created a backdrop to an outdoor amphitheatre.



The Sahara Forest Project [a scheme that combines seawater-cooled greenhouses inspired by the Namibian fog-basking beetle with solar power technologies and desert revegetation techniques] has the potential to work as part of a mixed-use leisure resort. A leisure resort has normal infrastructural demands in terms of energy, water, food and waste, so if we're going to create sustainable leisure destinations we have to find ways of meeting those needs in the most sustainable way. If we had a Sahara Forest Project near to a leisure scheme, we could deliver zero-carbon food and biodegradable waste, and potentially create all the energy and water needed, at the same time as turning a barren environment into a more biodiverse and microclimatically cooler environment.

**Are you working on any leisure-related projects at the moment?**

We've done a seed proposal for a sustainable scheme in the Amazon. If it goes forward,

it will be a boutique hotel. It's completely off-grid, so we will have to propose ways in which it can be self-sufficient in water and energy and completely closed-loop in terms of its waste processes. And as far as possible the buildings will be made entirely out of locally available materials.

**Why is it important the buildings we spend our leisure time in are well designed?**

When people are in leisure mode, they're often very receptive to new ideas, and there's a real chance if someone sees something when they're on holiday, they will think about how to apply that when they go back to their work environment.

I also think it's really important to find ways to reconnect with nature and help people to understand just how much we depend on nature for our future quality of life: for our materials, medicines and foods. And that is something that you can often



Las Palmas Water Theatre  
desalination plant, inspired by  
Namibian fog-basking beetles

do on a leisure scheme that you wouldn't be able to do on, say, a dense urban site.

#### **What single opportunity has most defined your career?**

Working on the Eden Project was a great break for me in all sorts of ways. The first was it made me realise the three things I was passionate about as a teenager – design, biology and the environment – could be brought together in the congruent pursuit of sustainable architecture inspired by biology, and I hadn't realised that before. The second was it showed me how you can take a fairly wild idea and, by following a thorough process, managing innovation and getting the right people together, turn it into something real.

#### **What's your favourite leisure building?**

A real hero of mine is the Swiss-Italian engineer Pier Luigi Nervi, who designed

some really stunning buildings, including a small sports stadium called the Palazetto Dello Sport. The structure is based pretty closely on giant Amazonian water lilies and there's a nice parallel between the way he works and the process of evolution, in that he won many of his projects in competition by being lighter and more efficient, and therefore cheaper, than his competitors.

#### **Are there any leisure buildings that you dislike?**

I would be a bit critical of the Bird's Nest Stadium in Beijing by Herzog and de Meuron. In some ways it's stunning, it looks absolutely awesome, but it's incredibly resource-intensive. Although on a certain level it claims to be inspired by birds' nests, it actually takes none of the ingenious aspects of birds' nests. You could have used those examples to create a highly resource-efficient structure, but it isn't resource-efficient at all.

#### **What are the biggest threats facing your discipline?**

The fossil fuel industries have driven us to the brink of the abyss and now they're putting their foot on the accelerator. There are so many solutions that architects like myself and others have proposed over the past 20 years, but they don't get adopted because of the skewed way we look at energy. Fossil fuel is way too cheap because it externalises the damage costs and treats the atmosphere as a fuel dump. If we were to internalise the full costs of fossil fuels, it would really make the economic case for the kind of solutions we're proposing.

#### **What would you like to be remembered for?**

Schemes that made a positive difference to people's lives and the environment. I'm wouldn't be happy with being a paper architect. I want to get more stuff built and show that it can make a difference.

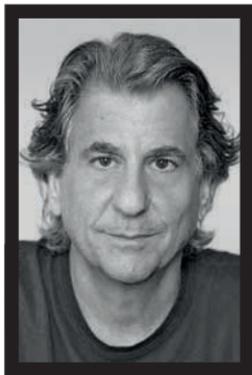
# DAVID ROCKWELL

Architect and scenic designer David Rockwell has earned a global reputation by bringing narrative and drama to everything he works on, from theatre sets to airports and hotels

**A** designer of both buildings and theatrical sets, David Rockwell could be described as having two distinct strings to his bow, but he doesn't see it that way.

As president of the New York-based Rockwell Group, he and his 250-strong team have won international acclaim and numerous awards by making storytelling central to each and every project. Whether it's the renovation of New York's Grand Central Station, a Nobu restaurant, a new hotel brand for Starwood, a museum exhibit or a Broadway set, the focus is always the same: creating a unique narrative through a seamless combination of theatrical techniques, cutting-edge technology and high-end craftsmanship. So great is the synergy he sees between set design and architecture that he even collaborated with the Tony Award-winning choreographer-director Jerry Mitchell on the design of the Marketplace at TS, JetBlue's terminal at JFK Airport.

It's not all about showmanship, however. With an emotional range



David Rockwell was inspired by early experiences of the theatre

that can embrace everything from a children's hospital to a civil rights museum, from a pioneering playground to a viewing platform at Ground Zero, Rockwell is about substance as well as style – which might explain why 30 years after founding his firm, his projects, theatrical and otherwise, are still packing them in. ►

## RISE TO FAME

Born in 1956, David Rockwell grew up in New Jersey, and Guadalajara, Mexico. His mother, a vaudeville dancer and choreographer, used to cast him in community repertory productions and Rockwell cites these early theatrical experiences as influences in his work. He received his architecture degree at Syracuse University in New York, and studied at the Architectural Association in London before founding Rockwell Group in 1984. Once he'd established himself as a major player in hospitality design, Rockwell moved into scenic design. His first credit was the *Rocky Horror Picture Show*, followed by *Hairspray*, *Dirty Rotten Scoundrels* and others. In 2004 he moved into film, as visual consultant on the puppet-based movie *Team America: World Police*. In 2009 and 2010 he designed the set for the Academy Awards. He has also written three books.



The Culture Shed in New York will host a variety of exhibitions and events



Rockwell's designs for the food hall in London's Battersea Power Station

**KEY PROJECTS**

■ **World Trade Center Viewing Platform, 2001, complete**

Following 9/11, Rockwell collaborated with a team of designers and architects to create a temporary viewing platform overlooking Ground Zero that would be "a place for people to reflect and remember". (*TED Conference, February 2002*) Using humble materials, including scaffolding and plywood, the structure comprised parallel ramps rising to a platform and included bare walls for visitors to leave personal tributes. The aim was to "create as few filters... between the viewer and the experience as possible."

■ **Nobu Hotel at Caesar's Palace, 2013, complete**

Two decades after collaborating with chef Nobu Matsuhisa on his first restaurant in Tribeca, New York, Rockwell has designed the first Nobu Hotel, in partnership with Matsuhisa, the actor Robert de Niro and restaurateur Meir Teper. "The design uses the rigour of Asian simplicity to balance the anything-goes setting of Las Vegas," says Rockwell Group. "Materials like wood, rice, paper and stone add texture without adding complexity."



■ **The Center for Civil and Human Rights, 2014, complete**

The content for this Atlanta museum dedicated to the American civil rights and global human rights movements was designed by Rockwell in collaboration with Tony Award-winning director George C. Wolfe and human rights activist Jill Savitt. Through a series of multi-media galleries, the civil rights exhibition delivers a theatre-like experience, so "every surface, every inch of space, tells part of the story, immersing you in the amazing swirl of history," Rockwell says. (*Interior Design, November 2014*) Meanwhile, the human rights gallery aims to inspire personal connections – so, in one space, visitors input data into a mirror, which then reveals a persecuted person of a similar age, gender, race and background.



■ **Aloft Prototype for Starwood Hotels, 2008, complete**

Rockwell Group's Aloft concept for Starwood aimed to combine the romance of Route 66 roadside accommodation with a boutique hotel experience that was also affordable. "The story that attracted us to Aloft was a luxury product that we conceived as a kind of motel model," says Rockwell. "In each location it grows some local component, but you can create a design ... that allows the price point of the hotel to be substantially below what the product would normally be." (*Curbed, June 2013*) The firm's prototype design has since become the basis for 145 locations worldwide.

### ■ Canyon Ranch Living, 2007, complete

Billed as the world's first residential spa community, Canyon Ranch Living is a Miami Beach development combining new buildings with the restoration of an existing art deco hotel. Rockwell Group says the design "translates health-consciousness into a fully realised environment with dining areas, a market, spa and fitness centre, while interiors are layered with indigenous and handcrafted materials that embrace the nearby ocean landscape."



### ■ Imagination Playground Manhattan, 2010, complete

The Imagination Playground, created for the New York City Department of Parks and Recreation, allows children to create their own play space using sand, water and custom-designed loose parts such as wagons, carts and bright blue, biodegradable, foam blocks. Inspired by what father-of-two Rockwell saw as the failure of traditional playgrounds to encourage imagination and creativity, the initiative now has a second permanent site under construction in Brooklyn and an exhibition at the National Building Museum in Washington, DC. It has also become part of the UNICEF P.L.A.Y. programme, which in partnership with Disney has brought the blocks to more than 13,000 children in Bangladesh and Haiti.

## ROCKWELL ON...

### Theatre and hospitality design

"The overlap for me between theatre and hospitality is in the theatre you're given a script, or you're involved as the script is being developed. In a restaurant or hotel, you're extracting that script and you're developing that, and creating a point of view." (*Hospitality Design*, video interview, November 2014)

### The definition of a successful project

"Our overarching goal is to create spaces that engage all the senses, and encourage connections to the environment and the people within those environments. So we consider it a success if those experiences are powerful and lasting, whether watching a play, sitting in a hotel lobby, enjoying a meal or seeing an exhibit." (*Phaidon*, December 2010)

### The appeal of hotel design

"There's a kind of amazing mash-up that happens in a hotel... When you visit a city now, travellers may not say, 'I'm visiting New York', they may say, 'I'm visiting the Greenwich' or 'I'm visiting the Wythe'. I think hotels have taken on more of a destination, which I think is a re-emergence of what hotels had been historically: social hubs. But they're also a chance to design very fine-tuned, detail-oriented, residential-scale spaces, in the hotel room... so it's a chance to get all those pieces right!" (*Curbed*, June 2013)

### Choreography in the airport terminal

"I find that movement in airports is never intuitive. You can never find your gate, and everyone

seems to be moving the wrong way. It just felt like, if we could start off thinking about movement as a dance and if you could find your gate intuitively, we'd be better off." (*The New Potato*, April 2013)

### The rise of temporary design

"I see an opportunity for more temporary installations and structures, as opposed to only permanent solutions. There'll always be a need for traditional building schemes, but I think developers and architects are starting to think about alternatives [and] asking, 'Do we need to build here?' and 'Can we solve this problem by repurposing the space or doing something temporary?' (*Phaidon*, December 2010)

### Not being predictable

"The thing that is most important to me as a creative person is to stay curious and to not repeat myself. There's an element of surprise and delight and astonishment that we try to embed in our work." (*Huffington Post*, June 2014)



## ROD SHEARD & CHRIS LEE

Global design practice Populous has created some of world's best-known sports and entertainment buildings. Founder Rod Sheard and rising star Chris Lee talk about the changing face of stadia design

While Rod Sheard's name might not be the best known in this line-up of movers and shakers, his buildings are undoubtedly among the most seen in the world. With more than 30 years of experience in the field, Sheard can fairly be described as the father of modern sports and entertainment architecture. In addition to two Olympic stadiums – Sydney in 2000 and London in 2012 – his vast portfolio includes London's Wembley Stadium, Ascot Racecourse and the retractable roof on Wimbledon's Centre Court.

Born and raised in Australia, Sheard joined London-based practice Howard V Lobb and Partners in 1975 and was soon working on a number of sports projects. He became a partner in 1981 and chairman in 1993, changed the name to LOBB Sports Architecture and opened a second office in Brisbane. Five years later the firm merged with HOK Sport, founded in 1983 as a division of the US-based HOK Group. Finally, in 2009, Populous was created through a management buyout, and now operates as an independently owned collective with more than 500 staff worldwide.

While the firm's name and structure has been in flux, however, its record of designing world-class sports and



Populous architect Chris Lee (left) and practice founder Rod Sheard

entertainment buildings is entirely consistent – and part of the reason for that, says Sheard, has been its emphasis on recognising and nurturing talent.

Identified by Sheard as a rising star, Chris Lee is a senior principal at Populous with more than 30 stadia across five continents on his resumé, including the Emirates Stadium for Arsenal Football Club; Aviva Stadium, home of Irish football, in Dublin; and the Estádio das Dunas for the 2014 FIFA World Cup in Brazil. Now based in London, he spent six years in the US leading the firm's New York studio.

### When and where did you meet?

**Rod Sheard (RS):** Working on the Olympic Stadium in Sydney in 1996.

**Chris Lee (CL):** That was my first job with Populous, or LOBB as we were called back then. I was fresh from college and a professor of mine said, "You should meet these guys. They're a bunch of Aussies, based in London, who are doing some really interesting work." So I met them and I was very impressed.

**RS:** Chris stood out from the crowd. He's got a lot of talent, which is pretty clear to everyone who works with him, so taking him on wasn't a difficult decision.



London's Wembley Stadium  
and its iconic arch design

**How has the business of designing and building sports and entertainment buildings changed in the last two decades?**

**RS:** When we started out in the 80s, stadia were pretty boring buildings. They weren't seen as 'good neighbour' buildings and most cities didn't want them. Because they were only used 25 times a year, they were pushed to the outskirts of the city, where for the vast majority of their life they would sit idle, with a chain link fence around them and a few old newspapers blowing around. They were really a strange sort of building. They weren't even

seen as mainstream architecture, but as engineering structures. I remember a client saying many years ago, 'Do you really need an architect on a stadium?'

But we never believed that was the way it should be, and over a period of time, from around the mid-90s, that perception started to change. A number of firms, including our own, recognised these could be amazing buildings; they could be good neighbour buildings and they could be used seven days a week. Even a modest stadium can attract more than a million visitors a year, and any city asset that can bring in that number of people can have an incredible impact on city

planning. You can grow areas that are slow in developing, you can regenerate areas and you can bring in huge revenues.

**CL:** Rod is being modest. I think it was in many ways him who saw the opportunity to make these buildings more special than they had been, than these functional concrete seating bowls.

For me, the turning point for the industry and certainly for our practice was a couple of smaller projects: the Reebok Stadium in Bolton and the Galpharm Stadium in Huddersfield. They're only 25-30,000-seat stadiums but they were seen by their local communities as incredibly important ▶

## In the architectural profession, specialising is not seen as the thing to do, so we're a bit of an oddball

assets, so the buildings Rod designed for them became very special buildings. They were not on the outskirts and huge master plans developed around them. There were new houses, new shops and new facilities all leveraging the infrastructure associated with these stadiums, so they really became urban regenerators.

### What sets Populous apart from its rivals?

**RS:** We're the only firm in the world that specialises exclusively in this building type – what we call sports and entertainment buildings, but what are really just places where large numbers of people gather. That's not to say we don't have competitors, but those firms will also do airports, hospitals or schools. In the architectural profession, specialising is not seen as the thing to do, so we're a bit of an oddball.

People do ask if we get bored doing the same sort of buildings all the time. If they were simple buildings, maybe we would, but these days they are so complicated and can have such a huge effect on cities. As a building piece alone, a great deal of science goes into them – in people movement, in sight lines, in creating atmosphere – but there's also a great deal of economics: how do you create income from them?

Specialising means we know the building type like no one else can know it, and that gives you a freedom when you design because you don't have to worry about practical things. If you were taking on a stadium design for the first time, you'd be so obsessed with getting the science right it would really hinder your creative instincts.

**CL:** Our other huge advantage is that we have up to 100 projects on the boards at any one time, from Malaysia to Brazil to North

America. As a practice, there's an enormous amount of learning that can be transferred between those projects.

### What have you learned from each other?

**RS:** Something Chris has, quite apart from his natural skills as an architect, is energy – energy to explore new things and not to be daunted by the complexity of an issue. I've learned that from him.

**CL:** I've learned everything from Rod. He's been my mentor throughout my career and still is. Many people view him as the father of sports architecture and I genuinely believe he has defined that sphere.

### Which of the other's projects do you admire?

**RS:** That's easy: Chris's best building is the Aviva Stadium in Dublin. It was one of the



Ireland prepares to play Wales in the 2016 RBS Six Nations contest at the Populous-designed Aviva Stadium in Dublin



A view of Stadium Australia during the Olympic Games Closing Ceremony in 2000

most challenging sites we've ever done. It was incredibly tight, it had railroads going through it and a million practical issues. But Chris managed to craft out of that awfully difficult site the most amazing gem of a building – a building that to be absolutely honest I don't think anyone other than Chris could have conceived or driven through.

**CL:** The Sydney Olympic Stadium was an amazing building that defined large-scale, international-event stadium architecture. It was the pioneer of integrating green architecture into a stadium, pushing forward things like rainwater harvesting and natural ventilation. It was an incredibly simple and elegant piece of architecture for such a big building. And it had an incredibly clever economic strategy behind it, having been designed to drop down in capacity to meet a post-Olympic legacy.

I also have huge admiration for Rod's work on Centre Court at Wimbledon. Putting a moving roof over a natural grass court without changing the humidity, the temperature or the playing conditions – it's

an incredible bit of science, but when you're there the experience is seamless.

#### Why is leisure architecture important?

**RS:** We're seeing how big an influence the buildings that house sport can have on a city, and we're only scratching the tip of the iceberg. Chris and I have been working on ideas where the stadium is literally embedded in the city centre; where you almost don't know you're in a stadium. With the technology we have now, we can convert a 40,000-seat stadium into a city square in a day. We're working on one in Taiwan called the Taipei Dome, which is both a baseball park and a shopping centre. It's rare for us to design a stadium that's just a stadium.

Sport also seems to be immune to world financial issues. When the crisis hit a few years ago, almost every building type took a downturn, except sport. The money that flows into sport never seems to reduce – in fact, it increases every year – and some of it goes into the infrastructure that keeps

sport running. So we're starting to see what an amazing contribution to society sport and entertainment buildings can make.

**CL:** What I like most is the idea of community they create. It's a rare moment when you get to sit with 60,000 other people, all sharing the same experience. Feeling connected with other human beings is really the magic bit for me.

#### Not counting your own body of work, what's your favourite leisure building?

**CL:** The 1972 Olympic Stadium by Frei Otto. Forty years later, the stadium and the park are still a phenomenal example of integrated architecture and landscape.

**RS:** I rather like the Bathers' Pavilion at Balmoral Beach in Sydney!

#### How would you sum each other up in a single sentence?

**CL:** For Rod, it's a single world: visionary.

**RS:** Chris is a creator. He cannot not generate ideas of how to do things.

## KJETIL TRÆDAL THORSEN

From the 9/11 Memorial Pavilion to SFMOMA and Norway's opera house, Snøhetta's portfolio of thoughtful, landscape-inspired works is growing at speed. Founding partner Kjetil Trædal Thorsen shares the practice philosophy

**S**nøhetta – the Oslo-based integrated design practice – was established in 1987 when a number of young architects and landscape architects set themselves up in an attic studio. Two years later, one of the group's members, Kjetil Trædal Thorsen, together with fellow architect Craig Dykers, founded the shareholding company Snøhetta Architecture and Landscape AS.

Snøhetta was named after a Norwegian mountain, reflecting the firm's core philosophy. A mountain, according to Thorsen, is both an object and a landscape, and therefore a perfect representation of the firm's commitment to integrating architecture and landscape architecture in a single design process.

Two years after Snøhetta was born, the firm won its first big commission: the Alexandria Library. With two main studios in Oslo and New York, the practice now employs more than 160 people from 28 different countries.

The recent extension to the San Francisco Museum of Modern Art (SFMOMA), the Oslo Opera House, the 9/11 Memorial Museum pavilion and an ongoing collaboration with AESOP are among the firm's major projects.



Kjetil Trædal Thorsen wanted a more collaborative approach to architecture

### Why did you become an architect?

My art teacher recommended I become an architect. I was interested in drawing, in art and in the sequence of producing things, whatever they might be: models, painting, sculptures or scratchboards. I had an interest in creating things, which led me to believe my teacher was right.

### What were your aims when you set up Snøhetta?

We had seen the need for collaboration between different professions dealing

with our physical surroundings, such as urbanism, public art, landscape architecture and interior design. We were interested in trying to co-locate these disciplines in a profession-free environment where there could be broader collaboration – especially, in the beginning, between landscape architecture and architecture.

The idea was that the borders between the professions would start to become a little more blurred, and one would influence the other. Landscape architecture would no longer just be the leftovers of whatever the architect did – the spaces between the buildings, filled with whatever was left of the budget. We started to look at more integrated ways of practising all the design disciplines related to our physical environment.

### How does it work in practice?

It's a workshop-based process. We invite people from a range of professions from both within and outside Snøhetta, and sometimes from the client side as well. Then when you start doing the creative work, you leave your profession behind. It's like a kind of roleplay. The process releases you from your basic responsibilities.

We call it transpositioning here, when the landscape architect becomes the architect, the architect becomes the



Snohetta's pavilion at the 9/11 site acts to bridge the museum and the memorial



Our inspirations come from elsewhere – from writers, from philosophers or people from the art world

artist, the artist becomes the sociologist, the sociologist the philosopher. For instance, when we were working on the Norwegian National Opera and Ballet, it was the guy writing librettos who more or less defined the movement of the public on their way to the opera house as part of a non-processional movement, which would on one hand be individually experienced and on the other hand collectively.

**What did the 9/11 Memorial Pavilion project mean to you?**

The 9/11 Memorial Pavilion has been a massively important project for us. When you design something like this, it is not about substituting the loss; it is rather

a way of reacting to a possible future presence – for the public actually coming there, and going in, and looking at it.

We also knew there would be a lot of different opinions as to what should be done and how it should be done. So from the very beginning, we said this would be a negotiated project – it would be more negotiation than design. And we set out by saying our intention with the pavilion was to reflect the present, whereas the two waterfalls going into the footprints of the two towers reflect the past. In that sense, it would be a more dynamic building, creating an immediate connection between the public and what was happening on the site.

**Snøhetta has designed the expansion of the San Francisco Museum of Modern Art. What are the main aims of the project?**

Creating more social interactions and closer relationships to the surrounding streetscapes, giving more connection to outdoor and indoor areas and, of course, expanding exhibition areas and making it possible to show more art.

**What was the aim of your recent redesign of Times Square?**

It's a way of giving Times Square back to the people of New York, by removing traffic and creating a new floor for both citizens and visitors. When you move into



The Lascaux IV Caves Museum will include a recreation of the caves and their 10,000-year-old paintings



Snohetta is designing the Busan Opera House for Busan, South Korea

an urban space where there used to be only cars you experience it in a new way. You have a different speed, a different height, a different location, so you perceive the surroundings, surfaces and façades in a different manner. It encourages new activities – sitting, standing, doing yoga – but it also has an infrastructural element to it, by providing better drainage, new wiring, lighting and benches.

#### What are you working on at the moment?

One project under construction is the Lascaux IV Caves Museum in France, which includes the recreation of the Lascaux caves and their 10,000-year-old paintings. That is scheduled to open in December 2016. We're also building The King Abdulaziz Center

for World Culture in Dhahrab, Saudi Arabia, which is the biggest building we've ever done – it's a huge cultural centre housing the country's first public cinemas as well as a library, a concert hall, an exhibition hall and a lifelong learning centre.

We have several projects happening in Norway, including the Bergen National Academy of the Arts, and we're just starting the expansion of the Ordrupgaard museum in Copenhagen. We currently have about 12 projects under construction and 40 on the drawing table.

#### Which other architects do you admire?

Among living architects, I think Frank Gehry made a huge difference to how architects are perceived. You can like

or dislike the repetition in his work but there was a turning point in history, where architects started gaining overall importance again.

Then there are architects like Herzog and de Meuron who produce fantastic projects. You also have small companies like the Austrian firm marte.marte or the architect Fernando Menis from Tenerife, who are doing extraordinary things. However, it's about more than being inspired by architects, our inspirations come from elsewhere – from writers, from philosophers or people from the art world.

#### How do you relax?

I go skiing or mountain-climbing. That gives you a very intimate relationship with the landscape you're performing within.

# CLADcalendar

Conferences, networking events and trade shows for architecture and design professionals

## OCTOBER 2016

5-6 October

### Architect @ Work Rome, Italy

Innovative building materials exhibition. The event is held in countries across Europe throughout the year.

■ [www.architectatwork.com](http://www.architectatwork.com)

5-6 October

### Greenbuild Los Angeles, California

Conference and expo dedicated to green building.

■ [www.greenbuildexpo.com](http://www.greenbuildexpo.com)

11-14 October

### World Waterpark Association Show New Orleans, Louisiana

Trade show and educational programme for water leisure professionals.

■ [www.wwashow.org](http://www.wwashow.org)

12-14 October

### LEAF International

London, UK

LEAF (Leading European Architecture Forum) International brings together architects, contractors, developers, engineers and supplier partners to learn about the latest industry developments and network with the entire industry supply chain.

■ [www.arena-international.com/leaf](http://www.arena-international.com/leaf)

12-15 October

### Saloni WorldWide Moscow Moscow, Russia

Russia edition of the famed Italian design fair.

■ [www.salonemilano.it](http://www.salonemilano.it)

17-19 October

### Global Wellness Summit Kitzbuhel, Austria

An invitation-only international gathering for leaders and visionaries from the global wellness industry.

■ [www.globalwellnesssummit.com](http://www.globalwellnesssummit.com)

19-21 October

### Hotel Investment Conference Asia Pacific (HICAP) Hong Kong

Annual gathering place for Asia-Pacific's hotel investment community, attracting owners, developers, lenders and professional advisors.

■ [www.HICAPconference.com](http://www.HICAPconference.com)

## NOVEMBER 2016

2-4 November

### HI Design Asia: The Decision Makers' Forum Hanoi, Vietnam

Hotel Interior Design Asia brings the decision makers from Asia's hotel design industry together.

■ [www.hidesign-asia.com](http://www.hidesign-asia.com)

3-4 November

### Piscina & Wellness Madrid, Spain

Forum on the latest trends in public pool, recreational and sports facilities and wellness and spa.

■ [www.piscinawellness.com](http://www.piscinawellness.com)

14-18 November

### IAAPA Attractions Expo Orlando, Florida

The world's largest visitor attractions trade show and conference. Further events are held throughout the year.

■ [www.iaapa.org](http://www.iaapa.org)

16-18 November

### World Architecture Festival Berlin, Germany

The largest international gathering of architects, with awards, conference and exhibition.

■ [www.worldarchitecturefestival.com](http://www.worldarchitecturefestival.com)

16-18 November

**INSIDE****Berlin, Germany**

INSIDE shines a spotlight on the people, projects and developments that are changing the face of global interiors.

■ [www.insidefestival.com](http://www.insidefestival.com)

16-18 November

**MAPIC****Cannes, France**

Exhibition, conferences and networking events targeting all types of retail property.

■ [www.mapic.com](http://www.mapic.com)

19-12 November

**Salone del Mobile.Milano Shanghai Shanghai, China**

The inaugural China edition of the famed Italian design fair.

■ [www.salonemilano.it](http://www.salonemilano.it)

22-23 November

**Sleep****London, UK**

Sleep is Europe's hotel design, development and architecture event.

■ [www.thesleepevent.com](http://www.thesleepevent.com)

## JANUARY 2017

10-13 January

**MIDEX****Tehran, Iran**

The seventh edition of the architecture and design expo.

■ [www.midex.ir](http://www.midex.ir)

16-22 January

**IMM Cologne****Cologne, Germany**

Discover the trends shaping the furniture and interiors sector.

■ [www.imm-cologne.com](http://www.imm-cologne.com)

20-24 January

**Maison & Objet Paris****Paris, France**

The Paris edition of the annual interior design and hospitality trade show.

■ [www.maison-objet.com](http://www.maison-objet.com)

31 January-2 February

**SPATEX****Coventry, UK**

The pool, spa and wellness show.

■ [www.spatex.co.uk](http://www.spatex.co.uk)

## FEBRUARY 2017

6-12 February

**Stockholm Design Week****Stockholm, Sweden**

The most important week in Scandinavian design.

■ [www.stockholmdesignweek.com](http://www.stockholmdesignweek.com)

14-17 February

**SibBuild****Novosibirsk, Russia**

Exhibition of building and finishing materials.

■ [www.sibbuild.com](http://www.sibbuild.com)

## MARCH 2017

7-9 March

**Ecobuild****London, UK**

Exhibition and conference for the construction and energy market.

■ [www.ecobuild.co.uk](http://www.ecobuild.co.uk)

7-10 March

**Maison & Objet Asia****Singapore**

The Asia edition of the annual interior design and hospitality trade show.

■ [www.maison-objet.com](http://www.maison-objet.com)

8-11 March

**Design Shanghai****Shanghai, China**

Design Shanghai is China's leading international design event, showcasing the best design brands from across the globe as well as China's top architects, interior designers, property developers and private buyers.

■ [www.designshowshanghai.com](http://www.designshowshanghai.com)

14-17 March

**MIPIM****Cannes, France**

MIPIM gathers the most influential international property players from all sectors for four days of networking, learning and transaction. The event is held in various countries across the world throughout the year.

■ [www.mipim.com](http://www.mipim.com)

16-19 March

**Megabuild****Jakarta, Indonesia**

Presenting the latest technology, solutions, materials and design trends.

■ [www.megabuild.co.id](http://www.megabuild.co.id)

## APRIL 2017

4-7 April

**MosBuild****Moscow, Russia**

Building and interiors trade show.

■ [www.worldbuild-moscow.ru](http://www.worldbuild-moscow.ru)

4-7 April

**Expo Arquitetura Sustentável****São Paulo, Brazil**

Sustainable construction expo for architects, builders and developers.

■ [www.expoarquiteturasustentavel.com.br](http://www.expoarquiteturasustentavel.com.br)

4–9 April

**Salone Milano****Milan, Italy**

Salone del Mobile, the benchmark event for the furnishing and design sectors.

■ [www.salonemilano.it](http://www.salonemilano.it)

4–9 April

**Euroluce****Milan, Italy**

The international lighting exhibition where technological innovation and design culture take centre stage.

■ [www.salonemilano.it](http://www.salonemilano.it)

26–28 April

**Lightfair International****San Diego, California**

Discover the new language of light and technology at the world's largest architectural and commercial lighting trade show and conference.

■ [www.lightfair.com](http://www.lightfair.com)

27–29 April

**AIA Convention****Orlando, Florida**

The American Institute of Architects presents a programme of seminars.

■ [www.convention.aia.org](http://www.convention.aia.org)

## MAY 2017

9–11 May

**Northmodern****Copenhagen, Denmark**

Northmodern is Scandinavia's new innovative furniture and lifestyle trade show.

■ [www.northmodern.com](http://www.northmodern.com)

9–12 May

**Maison & Objet Americas****Miami, Florida**

The Miami Beach edition of the annual interior design and hospitality trade show.

■ [www.maison-objet.com](http://www.maison-objet.com)

23–25 May

**Clerkenwell Design Week****London, UK**

Three days of exciting events celebrating design in the capital.

■ [www.clerkenwelldesignweek.com](http://www.clerkenwelldesignweek.com)

## JUNE 2017

10 June–10 September

**Expo 2017****Astana, Kazakhstan**

Future energy is the theme of the international exposition.

■ [www.expo2017astana.com](http://www.expo2017astana.com)

## JULY 2017

3–6 July

**7th Annual International Conference on Architecture****Athens, Greece**

Bringing together scholars, researchers and students from all areas of architecture.

■ [www.atiner.gr/architecture](http://www.atiner.gr/architecture)

19–22 July

**Archidex****Kuala Lumpur, Malaysia**

Southeast Asia's annual industry trade event for the architecture, interior design and building fraternity.

■ [www.archidex.com.my](http://www.archidex.com.my)

## SEPTEMBER 2017

8–12 September

**Maison & Objet Paris****Paris, France**

The Paris edition of the annual interior design and hospitality trade show.

■ [www.maison-objet.com](http://www.maison-objet.com)

9–16 September

**Paris Design Week****Paris, France**

Showcasing French design and the country's leading talents.

■ [www.maison-objet.com/en/paris-design-week](http://www.maison-objet.com/en/paris-design-week)

13–17 September

**Habitare****Helsinki, Finland**

Furniture and interior design show established in 1970, running alongside Helsinki Design Week and ValoLight.

■ [www.habitare.fi](http://www.habitare.fi)

18–20 September

**The Hotel Show****Dubai, UAE**

Hospitality and leisure expo.

■ [www.thehotelshow.com](http://www.thehotelshow.com)

16–24 September

**London Design Festival****London, UK**

The annual London Design Festival promotes London as the design capital of the world.

■ [www.londondesignfestival.com](http://www.londondesignfestival.com)

20–23 September

**100% Design****London, UK**

The UK's largest trade event for architects and designers.

■ [www.100percentdesign.co.uk](http://www.100percentdesign.co.uk)

26–28 September

**Stadia & Arena Asia-Pacific****Yokohama, Japan**

Bringing together industry leaders in all aspects of sports venue design/build, management, operations and technology.

■ [www.saevents.uk.com](http://www.saevents.uk.com)



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the 1990s, the number of people in the UK who are employed in the public sector has increased from 10.5 million to 12.5 million, and the number of people in the public sector who are employed in health care has increased from 2.5 million to 3.5 million (Department of Health 2000).

There are a number of reasons why the public sector has become an important employer in the UK. One of the main reasons is that the public sector has become an important provider of social services, such as health care, education, and social care. The public sector has also become an important provider of infrastructure, such as roads, bridges, and public transport. The public sector has also become an important provider of housing and social services for the elderly and disabled.

The public sector has also become an important employer because it provides a stable and secure environment for workers. The public sector is not subject to the same market fluctuations as the private sector, and it provides a steady stream of work for its employees. The public sector also provides a range of benefits and services for its employees, such as pension schemes, health care, and training opportunities.

The public sector has also become an important employer because it provides a range of opportunities for career advancement and professional development. The public sector offers a wide range of job titles and levels of responsibility, and it provides a range of training and development opportunities for its employees. The public sector also offers a range of benefits and services for its employees, such as pension schemes, health care, and training opportunities.

The public sector has also become an important employer because it provides a range of opportunities for social and community involvement. The public sector offers a range of opportunities for its employees to get involved in their communities and to make a difference to the world. The public sector also offers a range of benefits and services for its employees, such as pension schemes, health care, and training opportunities.

The public sector has also become an important employer because it provides a range of opportunities for personal and professional growth. The public sector offers a range of opportunities for its employees to learn new skills and to develop their careers. The public sector also offers a range of benefits and services for its employees, such as pension schemes, health care, and training opportunities.

The public sector has also become an important employer because it provides a range of opportunities for work-life balance. The public sector offers a range of opportunities for its employees to work flexible hours and to take time off for family and personal commitments. The public sector also offers a range of benefits and services for its employees, such as pension schemes, health care, and training opportunities.

The public sector has also become an important employer because it provides a range of opportunities for social and community involvement. The public sector offers a range of opportunities for its employees to get involved in their communities and to make a difference to the world. The public sector also offers a range of benefits and services for its employees, such as pension schemes, health care, and training opportunities.

**CLADbook** 2017

# innovation

70 **Rule breakers**

78 **Floating cities**

84 **Stadium design**

# rule

These projects are fusing typologies, pushing boundaries in engineering and design and upturning our expectations. They're built to surprise

# breakers

## Sky Pool, Embassy Gardens

Location: London

Architect: Arup

Developer Ballymore's glass Sky Pool spans two apartment blocks at the Embassy Gardens development next to Battersea Power Station, London.

The 25m pool will be 5m wide and will enable residents to swim between the buildings with only eight inches of glass between them and a 10-storey (35m) drop. The pool was designed by Arup Associates, marine design engineers Eckersley O'Callaghan and aquarium designer Reynolds.

Ballymore Group chair and CEO Sean Mulryan says: "The Sky Pool's transparent structure is the result of significant advancements in technologies over the last decade. My vision stemmed from a desire to push the boundaries of construction and engineering."

Jo Wright, Arup Associates practice leader, says: "It's an amazing amenity for residents to enjoy, whilst delighting the community with its gravity-defying design."



The glass Sky Pool is suspended 35 metres above the ground

# a gravity-defying design”



The design invites Copenhagen's residents to make use of the waste plant and incorporate it into the city

## an innovator on an urban scale”

Two incongruous facilities are brought together when a ski slope surrounds a waste treatment plant

### Amager Resource Centre

Location: Copenhagen

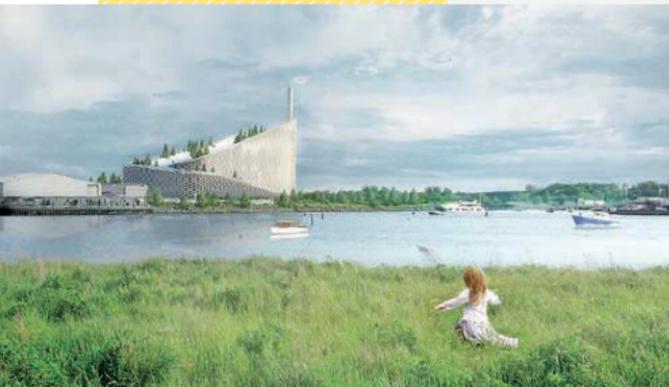
Architect: BIG

Bjarke Ingels Group (BIG) is encasing a large waste treatment plant with an artificial ski slope to create a leisure destination in Copenhagen, Denmark.

According to Bjarke Ingels, the leisure element will act as a disguise for the waste-to-energy Amager Resource Centre and “hide its functionality”.

It's not his aim to conceal the plant from the public though, as a modified smokestack will send a smoke ring into the air for every ton of CO<sub>2</sub> that's released, serving “as a gentle reminder of the impact of consumption.”

The firm says: “Amager Resource Center is an innovator on an urban scale, redefining the relationship between the waste plant and the city. It will be both iconic and integrated, a destination in itself, and a reflection on the progressive vision of the company.”



# “a striking, inviting & motivating place



## Derby Arena, Pride Park

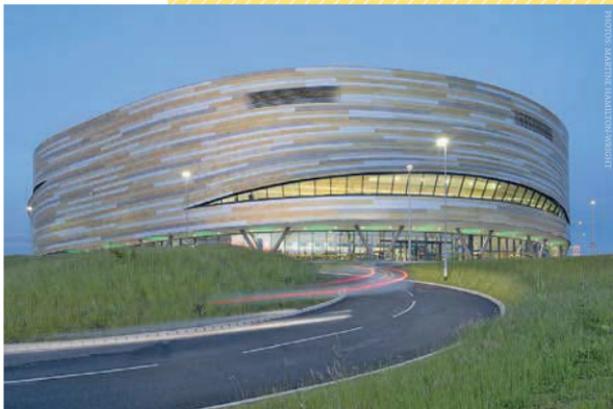
Location: **Derby, UK**

Architect: **FaulknerBrowns**

The multi-purpose Derby Arena wraps an elite standard cycle track around a 12-court community sports hall and event space. The flagship venue aims to inspire participation in cycling, whilst also providing a wide range of community sport and leisure facilities to meet the needs of local residents.

The raised cycle track at first floor level allows unimpeded access to the central infield from ground level, vastly improving visibility of the infield space and allowing the entire 3,000sqm of space to be utilised without compromising cycling activities.

“Derby Arena represents a new era and sets new standards in both multi-use velodrome and local authority community sports facility design,” says Michael Hall, FaulknerBrowns’ project partner. “The arena is a striking, inviting and motivating place to participate in sport and also to visit as a spectator.”



By raising the cycle track, access to the central arena is clear and sightlines are unobstructed





The issues of food production and food scarcity are highlighted by BuzzBuilding

## BuzzBuilding

Location: Stockholm / Taipei

Architect: Belatchew Arkitekter

Swedish firm Belatchew Arkitekter has been tackling the question of how the world will produce enough food to feed 9 billion people by 2050. It's answer is BuzzBuilding – a concept they debuted in Stockholm before taking it to Taipei. The insect farm, with a steel exoskeleton, demonstrates the cultivation of crickets from larvae to protein-packed insect meat.

"The goal is to make meat production public. In contrast to today's hidden meat production, BuzzBuilding invites the public to observe and participate and offers accessible knowledge about where our food comes from," says Belatchew Arkitekter. "By situating the farms at unused places in the city, such as roundabouts, the goal of making the city self-sufficient in protein can be obtained."

BuzzBuilding also provides a haven for wild bees and other insect and plant species.



# "Making cities self-sufficient in protein"



disruption.

# the world's first multi-storey skate park”



## Skate Park

Location: **Folkestone, Kent**

Architect:

**Guy Holloway Architects**

Guy Holloway Architects is developing the world's first multi-storey skatepark in the British port town of Folkestone.

The proposals were developed by the architects and skatepark design consultancy Maverick after public consultation showed demand for an urban sports facility.

The park will host a variety of popular urban sports including skateboarding, BMXing, rollerblading and scootering, with additional trial cycling facilities, a bouldering gym and a boxing club. A cafe and rooftop function room with views across the harbour will also feature.

"The skate park will be the world's first multi-storey facility of its kind, and will add to the ever expanding skate and BMX scene in Folkestone allowing it to act as an attraction for people to visit and enjoy," the firm says.



Urban sports like BMX, skateboarding, boxing and rollerblading inspired the modern leisure park design



The wave-like structure is designed with a particular focus on how it will be used on non-match days



“a lively destination throughout the year”

## Washington Redskins stadium

Location: **Unconfirmed**

Architect: **BIG**

Bjarke Ingels Group (BIG) is designing a new home for National Football League (NFL) franchise the Washington Redskins. Described by the Redskins as “a new stadium concept”, BIG’s creation will be surrounded by a moat for kayakers, which is crossed by bridges linking the stadium with surrounding parks and green space.

“The stadium is designed as much for the tailgating, or pre-game events, as the game itself,” says Bjarke Ingels. “Tailgating literally becomes a picnic in the park. We have found a way to make the stadium a more lively destination throughout the year without ruining the turf for the football game.”



disruption.

# a drainage system that doubles as a skate park”



SNE Architects answered the problem of flooding with a skate park that drains away rainwater



## Rabalde Park

Location: Roskilde, Denmark

Architect: SNE Architects

As Denmark has suffered serious urban flooding after bursts of heavy rainfall, architects are looking for ways to mitigate the effects of these events. SNE Architects designed a network of integrated drainage canals – which come into use with heavy downpours – as skate routes in the recreational park of Rabalder in Roskilde.

“The whole canal system and the reservoirs have dual purpose, ensuring that the area is not left as empty, unused space throughout most of the year, but will always be an attraction in its own right,” says SNE Architects, adding that the park also has fitness equipment, trampolines, swings, hang out spots, designated bike and jogging paths, parkour equipment, a dancing area and a performance stage.

“It contains a continuous drainage system that doubles as a skate park. The skate park is fully integrated into the water canals and one of the empty reservoirs. In other words, the skate park is the actual water canal and reservoir.”



Robot technology is used to create a special installation at the V&A museum in London

“a glimpse of the fourth industrial revolution

## Elytra Filament Pavilion, V&A

Location: London

Architect: Achim Menges and Moritz Dörstelmann

Visitors to the Victoria & Albert Museum (V&A) in London this year will be able to explore a garden pavilion inspired by nature and fabricated by robots in front of their eyes. The Elytra Filament Pavilion is the brainchild of experimental architects Achim Menges and Moritz Dörstelmann in collaboration with engineers Jan Knippers and Thomas Auer.

The installation will explore the impact of emerging robotic technologies – such as biomimicry and fabrication – on architectural design, engineering and making. It will be formed by an undulating canopy of tightly-woven carbon fibre cells inspired by the fibrous structures in the shells of flying Elytra beetles.

Robots will expand the pavilion over six months by responding to real-time sensory data on its structural behaviour and the patterns of inhabitation in the garden.

“We aim to offer a glimpse of the transformative power of the fourth industrial revolution currently underway, and the way it again challenges established modes of design, engineering and making,” says Menges. “Its intricate, filament canopy is at the same time architectural envelope, loadbearing structure and environmental filter, which will extend and transform over time.” □

# Oceans of opportunity



Koen Olthuis has been touting the benefits of floating cities for years – and now people are starting to take notice



number of high-profile projects have recently brought attention to Koen Olthuis's approach to living on water. Those include the floating Citadel apartment block in the Netherlands and important large-scale leisure projects such as luxury private islands in Dubai, floating hotels and resorts in the Maldives and a snowflake-shaped hotel off Norway.

The potential for floating architecture, Olthuis says, goes far beyond one-off developments: it's an urban planning tool.

"For the past 15 years, I've been designing these floating structures," says Olthuis, who established his design firm Waterstudio in 2003. "When I started, all the other architects thought I was crazy, but now this approach is starting to be adopted by developers. We're also talking to governments around the world about how floating developments can upgrade and improve their cities."

The big picture in all this, according to Olthuis, is that extending cities beyond the waterfront and indeed further out to sea reduces the pressure on overpopulated urban areas – where 70 per cent of people will live by 2050 – and offers flexible solutions for problems thrown up by rising sea levels and climate change.





Waterstudio is working on Amillarah floating islands, luxury private properties for Dubai and Miami

### How do floating structures work at a city level?

Governments worldwide are looking at how floating developments can improve their cities. I propose a system of modular floating developments – floating urban components that add a particular function to the existing grid of a city. With this system, any question a city asks can be answered immediately. If a city needs parking, bring in floating parking. If it has green issues, bring in floating parks and Sea Trees [Waterstudio's offshore green structures]. The system is responsive to the needs of dynamic urban communities.

### Is floating architecture the way forward for urban living?

It's project to product. You'll be able to order buildings in, and sell or lease buildings you don't want or need.

### Waterstudio has transformed a shipping container into a floating school



We've only explored a fraction of the possibilities, but in the next 10 to 15 years, more and more architecture will start to explore the possibilities of floating developments and it will grow from something that's a fringe architecture to something that's mainstream.

The stupid thing is that we live in dynamic communities and yet we build static structures. With rapidly changing social structures and technologies, we need flexible cities. I'm not saying we have to build floating cities, but that every city that is next to the water should have at ▶

## WATER INNOVATION

▶ least 5 per cent of its buildings on the water. That would create flexibility.

It's not the only way, but it's something that is inevitable. It's about rethinking and finding solutions for major problems.

### What other advantages are there?

We believe green is good but blue is better. Water provides many tools to make more durable and sustainable cities. You have water cooling for the buildings, you have flexibility, you have buildings that rise and fall with the water level, you don't have to demolish a building that's no longer needed because you can repurpose it or even sell it.

**I mean flexibility on a larger scale, where cities and urban planners are able to move a complete neighbourhood half a mile**

People, developers and politicians are starting to see that this is something that brings in money and solves problems. It's a feasible way to build better cities.

### What do you mean by flexibility?

I don't mean that you'll be able to take your house and move to another city or another neighbourhood. I mean flexibility

on a larger scale, where cities and urban planners are able to move a complete neighbourhood half a mile or bring in temporary floating functions – like stadiums – and use them for one or two years before they leave for another city. This large-scale flexibility makes sense.

Take the Olympic Games. It's so strange that every four years we build so many hotels and stadiums and only use them for a few weeks. Imagine if as a city you could just lease these floating functions from a developer. Cities who don't have as much money as London or Rio or Beijing could also host these types of events because it would cost much less money.

### Is it something you can foresee happening in the near future?

Yes, maybe not with stadiums – because we can put them up easily – but with the hotel business, certainly.

Qatar has the World Cup in 2022 and they need 35,000 hotel rooms for that event. But if they build 35,000 hotel rooms, within 10 years they'd be empty. So they're thinking about using cruise ships. As the harbour



Waterstudio is trialling its floating slum school initiative in Bangladesh

### Slum Schools

Waterstudio has been pioneering the concept of floating facilities that can be moored at waterside slum communities anywhere in the world. City Apps are floating developments based on a standard sea-freight container. City Apps can be established in water where there is scarcity of space and can be used to upgrade sanitation, housing and communication installations. The

first City App, a floating school, is being built for a slum in Dhaka.

"One billion people live in slums worldwide and half of them are close to the water. We can use City Apps to instantly improve the quality of life there," says Olthuis.

Because governments see these as temporary solutions, it's much easier to get permission to do this than to build a facility on land.





Olthuis' Sea Tree concept creates high density green spots where wildlife and plants can thrive

facility is not big enough, they're also thinking about the idea of floating harbours, or floating cruise terminals – something that can facilitate these cruise ships for a few weeks, and then after that you can bring the floating harbours to another location.

#### Can you tell us about Amillarah Private Islands?

Yes. With OQYANA Real Estate Company and developers Dutch Docklands, 33 private islands are being built as part of The World Islands project in Dubai. The islands are being sold by Christie's International Real Estate, with a starting price of US\$10m. It's a really high-end project.

The floating islands look like tropical islands covered in trees, but in fact they're more like superyachts. They're built in Holland and then moved to the location ▶



The rendering shows an Amillarah Private Island off the Miami coast

in Dubai and anchored there. They are self-sufficient with their own electricity and their own water. Within the next 10 years there'll be more development around them, so we're making it look like its own archipelago. If you fly over, it looks like a series of green islands.

OQYANA has a master plan around Amillarah that includes shops, hotels and all kinds of leisure architecture. This is just the first step of the development, but the beauty of this floating architecture is that it moves very fast. Once you've built the islands you can just tow them in and

connect them to the bottom with either with cables or telescopic piles and they're ready.

Compare that to the manmade islands at The World. There's still very little built there. It's difficult to get labour there, difficult to build the right foundations and there's no electricity or water so developers don't know how to build there without losing money.

**As well as answering fast-changing urban problems, floating structures bring a certain character to a city – a USP**

**Have any been sold?**

Not yet. We will have an island there, like a show home, from December.

With the history of the property market in Dubai, it's better to have the first islands there so people can have a look and understand what it's all about, especially at the prices people pay in this type of market.

I should add that if I only ever build floating islands for the rich then I'm doing something wrong. The start of this story for me was to create a new tool for cities that are facing urbanisation, overpopulation and climate change – and also for cities that need to brand themselves to attract inhabitants. As well as being able to answer these big, fast-changing urban problems, these floating structures bring a certain character and appeal to a city – a USP.

**Why does your concept appeal to resort or hotel developers?**

On water, leisure architecture, including resorts and hotels, has the possibility to change. You can adapt and create functions that are not only moveable but transformative through time, for instance, through the seasons. With seasonal structures you can open up the buildings in the summer, make buildings more dense or more spread out. You can add functions or take them away. To me, it's one big playing field and we're trying to work out what it means for the future of leisure architecture and real estate, not just how these things will look but the economic effects too.

**What kind of economic benefits might there be?**

A project we started working on a few years ago was a floating hotel and conference centre for the Maldives, the Greenstar.



Ocean Flower is part of the Five Lagoons development in the Maldives

Five Lagoons, which includes Ocean Flower, is a collaboration between master developer Dutch Docklands and the Maldives' government. Waterstudio is the architect



The star-shaped hotel has five legs, each with 80 rooms inside, but instead of building five legs, we build six. One of these legs will stay in a harbour in India. In five or seven years time, when the hotel needs refurbishing, you bring the sixth leg to the hotel and connect it, sending the others one by one to be renovated. The hotel doesn't need to shut down, and the work can be carried out where it's easy and cost-effective to get the materials and labour to do it.

**Krystall Hotel is designed to allow guests to view the Northern lights from their rooms**



#### **What other projects are you working on?**

We're working in the Middle East, in Abu Dhabi, Dubai and Oman, exploring the potential of ecotourism. We're looking at building satellite resorts for land-sited hotels, that float out at sea where there are coral reefs or mangroves.

Floating resorts don't leave any scars on the environment – they're scarless developments, which can even have a positive effect on the environment. For example, we work with marine engineers and environmentalists to help build floating

structures that attract underwater life. In places like Dubai, it's so hot that it's very difficult to create the right environment for fish and marine life, but the shade of these floating islands can provide a starting point for new marine ecosystems.

We're also working with master developer Dutch Docklands and the Maldivian government on the ongoing Five Lagoons Ocean Flower resort and residences.

Finally, we're looking at developing cities that face troubles with the environment,

density and infrastructure – and seeing how water can be part of that solution.

#### **What are the challenges?**

Progress on Norway's Krystall Hotel is slow because of laws that prevent building on the shoreline. Regulations and laws can be a hurdle, and may need to be changed to adapt to floating architecture. But, we are slowly moving to a marketplace where these floating developments are accepted. There's a bright future for this technology. □

# FIELD OF JEANS

The opening of the Levi's Stadium heralded the dawn of a new era for stadium design. The venue, home of the San Francisco 49ers, has been described as the most technologically advanced building in sports. Tom Walker reports

Since opening in August 2014, Levi's Stadium has hosted Taylor Swift, One Direction and the Grateful Dead; Manchester United against Barcelona; Wrestlemania 31, a National Hockey League game and the SuperBowl – the biggest sporting event of the year. The rest of the time, the multi-purpose stadium is home to the San Francisco 49ers, one of the most successful franchises in the history of the National Football League (NFL).

Designed by HNTB, the 68,500-capacity Levi's Stadium is an open stadium with a natural grass field. Located in Santa Clara, about 65km from San Francisco, California, the venue features landscaped pedestrian plazas, commercial community spaces, a 49ers superstore and a Hall of Fame and museum dedicated to the history of the team. In 2013, the 49ers secured the US\$220m 20-year stadium naming deal with clothing giant Levi Strauss & Co. ▶



Levi's Stadium in California is a 68,500-capacity multi-use venue designed by HNTB



The 49ers secured the US\$220m 20-year stadium naming deal with Levi Strauss & Co in 2013





The LEED-certified Levi's Stadium boasts 2,000sqm of solar panels and a green roof

## We incorporated green thinking into everything - such as recycling most of the construction debris

Jack Hill, project executive, San Francisco 49ers

▶ The stadium's design, which places two-thirds of the crowd in the lower bowl, allows it to cater for a range of events - from football and motocross to concerts and civic events. As well as being fully accessible to people with disabilities,



it also meets the FIFA requirements for international-level association football, so it can host international friendly matches and major tournaments.

To add to Levi's Stadium versatility, its capacity is expandable to 75,000 to accommodate major events that require a smaller field. On 27 June 2015, the Grateful Dead's Fare Thee Well tour managed to pack 83,000 into the fully expanded stadium.

### Green design

What makes the Levi's Stadium special, however, is the level of environmental sustainability and technology built into it - it's widely touted as the greenest stadium in the US. The venue is one of the largest buildings registered with the US Green Building Council and the first stadium with both a green roof and solar panels.

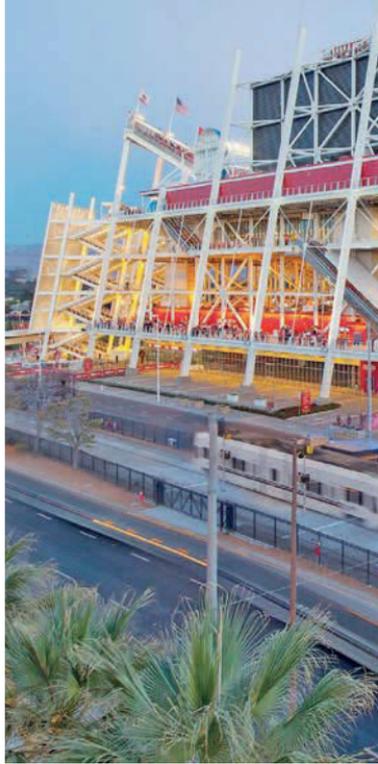
In total the stadium boasts 1,800sqm of solar photovoltaic panels, supplied by

local company SunPower. The panels generate enough power to offset the electricity that's used during home games. For the power it needs to buy in from electricity suppliers, the 49ers have an agreement with energy

giant NRG Energy to ensure sustainable power is being used. Through the unique partnership, NRG helped the new facility become the first professional football stadium to open with LEED certification.

Further green initiatives and solutions include a high-efficiency geothermal water system and a unique green roof which includes a waterproof membrane covered with plants. The roof absorbs rainwater, provides eco-friendly insulation and helps lower urban air temperatures and mitigate the heat island effect. The greywater within the stadium is recycled and reused throughout the venue and a range of public transport and convenient bicycle parking helps cut down the use of cars.

San Francisco 49ers project executive Jack Hill says sustainability is at the centre of the design. "We've incorporated a lot of energy saving measures within the stadium itself and we incorporated ▶



## STADIUM STATS

Designer/architect: HNTB

Project manager: Hathaway Consulting

Structural engineer:

Magnusson Klemencic Associates

Opening date: August 2014

Cost to build: US\$1.2bn

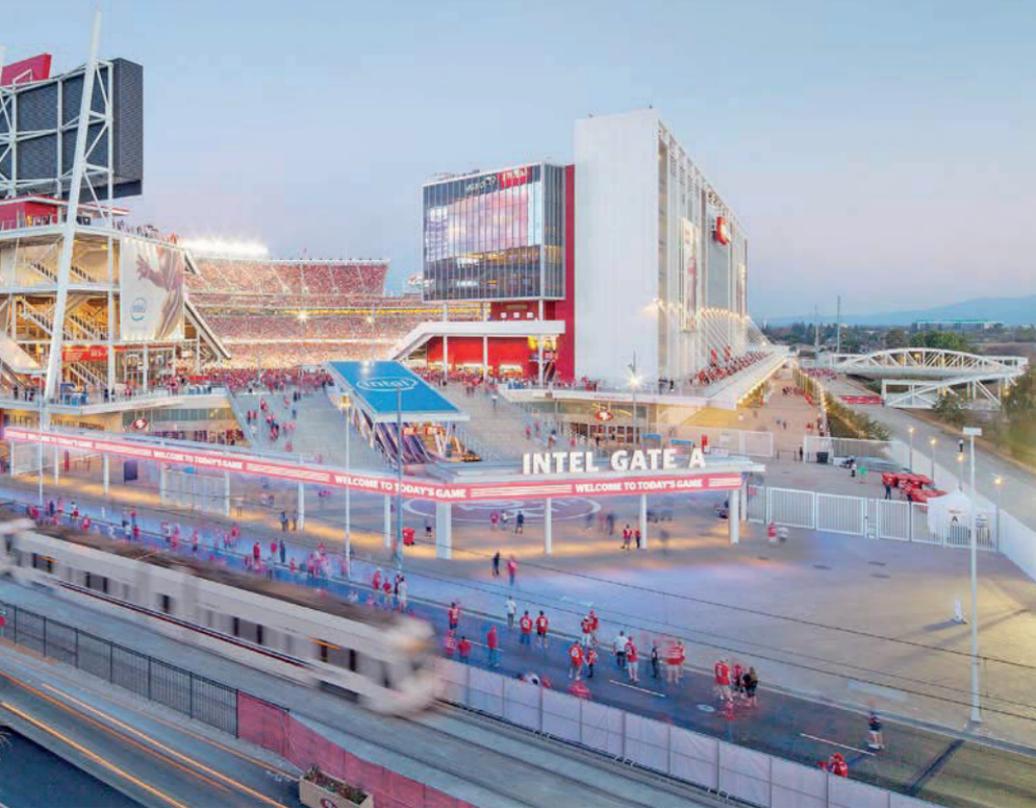
Total footprint: 177,000sqm

Capacity: 68,500 (can be expanded to 75,000)

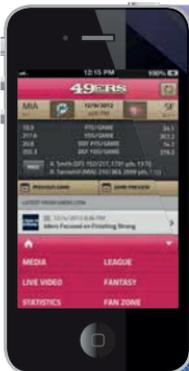
Total area of scoreboards: 1,300sqm

Retail points of sale: 370

Restroom fixtures: 1,135



## STADIUM DESIGN



Fans can use the 49ers app during games thanks to the stadium's terabit of wireless capacity



▶ green thinking into everything – such as recycling most of the construction debris.”

### Technological revolution

Not only is Levi's Stadium one of the most eco-friendly in the world, it's also one of the most technologically advanced. According to CEO Jed York, the aim was always to have a ticketless, cashless building that enabled visitors to present their passes, order food and purchase goods with their mobile devices. Fans' tablets and smart phones become personal entertainment centres, information points and scoreboards thanks to the 49ers mobile app.

The custom-designed app features a real-time dashboard for game-day fan tech features and a data analytics suite for use by the team's executives. It allows fans to step away from their seats – to visit bathrooms or to make purchase at retail and F&B points – without missing any action. The app features a live feed of the game, replays, stats and even a queue times at the stadium's various points of sale.

For the app to work, though, fans needed reliable access to the Internet – and a lot of bandwidth – so the stadium installed



Jed York, San Francisco 49ers CEO (left); and chief technology officer Kunal Malik (right)



the best publicly accessible Wi-Fi network of a sports facility anywhere in the US. All 68,500 fans can access high-speed Internet simultaneously. The limits of large-scale bandwidth previously meant that stadium operators have found it impossible to build a network that would let every single fan connect at once. To solve the issue, The 49ers had to recruit two top-class IT professionals from nearby Silicon Valley, who devised a way to bring a terabit of wireless capacity to the stadium. That means that if every single fan uses a smart device at the game, each would still have around 15MB to use.

The club's chief technology officer is Kunal Malik, regarded as one of Silicon

Valley's leading tech experts and the man who led the creation of the IT department at Facebook. Malik compared working on the Levi's Stadium to working on a "blank piece of paper to redefine the fan experience".

The stadium also boasts two gigantic, 15-metre HD-quality Daktronics screens at either end of the stadium, and a metre-tall "ribbon" border display that wraps around the length of the 500-metre inner bowl.

According to club president Gideon Yu: "The vision for Levi's Stadium was to create the ultimate fan experience through the use of innovative technology. The stadium has ground-breaking visual elements, setting its in-stadium experience apart from all other outdoor sports venues and rivaling the home viewing option." □

# ArenaVision LED



## Enabling new experiences at sports venues

Philips ArenaVision LED system – a new innovative LED pitch lighting solution supporting the latest TV broadcast standards and, thanks to a dedicated control platform, creating a complete immersive experience.

Designed exclusively for televised high-end sports and multifunctional lighting applications, fulfilling all contemporary and future field-of-play requirements i.e. light level, uniformity, glare rating, super slow motion broadcasting, ArenaVision LED offers outstanding light quality, effective thermal management, and a very long lifespan.

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# CLADbook 2017

## design

- 92 **Museum design**
- 102 **Spa design**
- 112 **Child-friendly design**
- 120 **Immersive design**
- 128 **Retail design**
- 134 **Restaurant design**

# GRAND DESIGNS

Museum buildings present an opportunity for architecture to be at its most expressive – and can see an institution triumph or fail. CLADbook rounds up the best in museum and gallery design from the past two years

## FONDATION LOUIS VUITTON

Location: Paris Architect: Frank Gehry



This was Gehry's first project in Paris since the Cinémathèque Française, which opened in 1994

Louis Vuitton's museum project, designed by Frank Gehry of architecture firm Gehry Partners, was awarded the prize for Best Architecture & Spatial Design at the 2015 Leading Culture Destinations Awards in London soon after it opened.

The 11,705sqm museum, which houses the Louis Vuitton private collection, has become a popular Paris attraction since its opening in October 2014. The €100m Louis Vuitton Foundation – designed to resemble “a cloud of glass” – includes 11 exhibition galleries alongside a space for temporary exhibitions in addition to a 350-seat auditorium.

Terraces on the building's upper levels provide panoramic views of Paris and the Jardin d'Acclimation, which Gehry says he used as his inspiration for the project.

“With the Louis Vuitton Foundation for Creation, we wanted to create an exceptional venue for art and culture in Paris,” said Louis Vuitton CEO Bernard Arnault. “This construction will place creation at the heart of the city, open dialogue with a wider audience and provide artists and intellectuals with a platform for debate and reflection.”

Frank Gehry added: “I am honoured to carry out the architectural project for this foundation, which will give concrete expression to years of exceptional patronage from LVMH and Louis Vuitton in favour of arts and artists in all walks of life.”

STEFAN WITTMANN/OLYMPIA

## WHITNEY ART MUSEUM

Location: New York, New York Architect: Renzo Piano Building Workshop

The US\$720m Renzo Piano-designed Whitney Museum of American Art in New York's Meatpacking District offers indoor and outdoor galleries, a conservation laboratory and the largest column-free exhibition space in the city.

In the works for more than three decades, the nine-storey steel and concrete building was conceived as a "laboratory for artists".

Sitting between Manhattan's High Line and the Hudson River, the new museum

is Piano's response to the industrial setting amongst warehouses, railway lines and loft buildings.

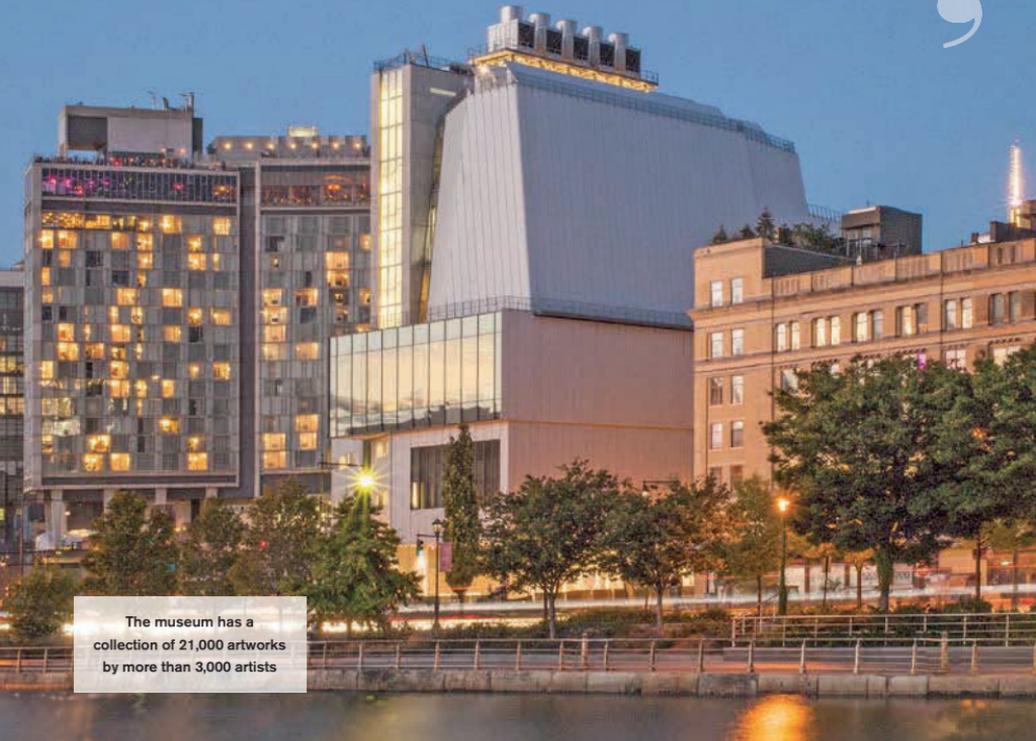
"The design emerged from many years of conversations with the Whitney, which took us back to the museum's origins," said Piano. "We spoke about the roots of the Whitney in downtown New York and about this opportunity to enjoy the open space by the Hudson River. The museum experience is about art, about being connected to this downtown community and to this extraordinary physical setting."

Cascading terraces offer the museum 1,200sqm of outdoor exhibition space overlooking the High Line, while inside a column-free gallery is the grand space of the museum, occupying the building's entire fourth floor. There are three smaller galleries - two occupied by the museum's collection of 20th and 21st-century art, and one reserved for temporary exhibitions. The building also includes a space for educational programmes which features a 170-seat theatre and an area for study.

The museum experience is about art, about being connected to this downtown community and to this extraordinary physical setting



The museum has a collection of 21,000 artworks by more than 3,000 artists



## 9/11 MEMORIAL MUSEUM

Location: New York, New York Architects: David Brody Bond / Snøhetta

**D**esigned by David Brody Bond Architects in conjunction with Snøhetta, the 9/11 Memorial Museum provides a space for telling the story of the 9/11 attacks and their repercussions.

Oslo-outfit Snøhetta designed the pavilion for the museum's main entrance.

The museum had to consider what was appropriate to display and find a balance between commemoration and education.

The museum is divided into two main exhibition spaces. In Memoriam sits below the footprint of the south tower and commemorates the 2,983 people killed in the 9/11 attacks and the 1993 bombing of the World Trade Center.

The other main exhibition space, which sits under the footprint of the north tower, provides visitors with access to the historic assets preserved at the World Trade Center site. The museum

displays both the monumental artefacts associated with the events of 9/11 and through the stories of those affected.

Museum director Alice Greenwald said: "The work to create the museum took place within the context of intense public scrutiny, divergent expectations of what would be appropriate to present at such an emotionally charged site and the daunting responsibility of constructing a narrative that would codify a history not yet written."



PHOTO: JEFFREY MANNING

Huge tridents from the North Tower are built into the design of Snøhetta's pavilion

Biomuseo is located on the Amador Causeway at the entrance to the Panama Canal

PHOTOS: FERNANDO ALBA



## BIOMUSEO

Location: Panama City Architect: Frank Gehry

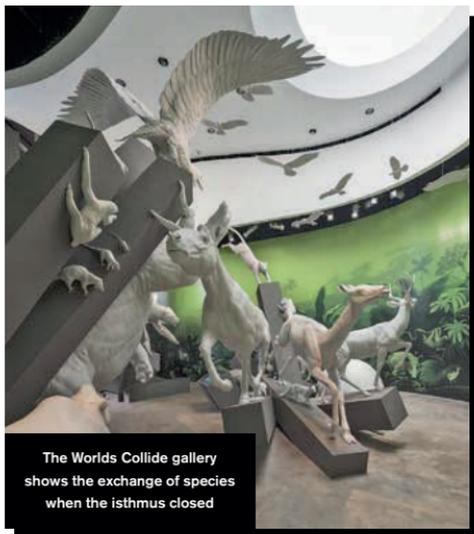
It was in the works for 15 years, but in October 2014 the Frank Gehry-designed Biomuseo finally opened in Panama City. It's a statement piece of architecture from Gehry, whose wife is Panamanian; a riot of bold, colourful metal canopies rising from the Amador Causeway, at the mouth of the Panama Canal.

Hoping for a Bilbao effect, Panamanian leaders began talking to Gehry in the late 90s about designing a museum for the causeway site. The Amador Foundation was formed in 2001, and initial public funding was secured; in 2002 Gehry signed on to the project, with an initial budget of US\$60m (the final cost was US\$100m, with a further US\$15m required for three further galleries). Construction suffered various setbacks, including challenges with funding and issues surrounding three changes of government.

"The process of constructing a project in Panama was very different from that we would expect in other locales," said Frank Gehry project architect Anand Devarajan.

Despite the setbacks, the project still embodies the original ideals for the museum, celebrating the region's rich, natural biodiversity in both the architecture and the content. Focusing on the importance of the isthmus and its biodiversity, its scientific content was researched and curated by teams from the Smithsonian Institute and the University of Panama, with exhibitions and galleries by Bruce Mau Design. It features 4,000sqm of exhibition space, areas designed for temporary exhibitions, a shop, café, public atrium and botanical garden. The foundation is fundraising for a further three galleries and an aquarium.

The museum celebrates the region's rich, natural biodiversity in both the architecture and the content



The Worlds Collide gallery shows the exchange of species when the isthmus closed



## WHITWORTH ART GALLERY

Location: Manchester, UK Architects: MUMA

**M**anchester's "gallery in the park" reopened its doors following a £15m makeover by architectural firm MUMA (McInnes Usher McKnight Architects).

The contemporary art gallery, in the grounds of the University of Manchester, UK, has had two wings added to the

rear of the 19th-century building. The extension's brickwork takes its inspiration from patterns in the gallery's textile collection. Inside, an Edwardian staircase has also been renovated. The work doubled the public space and extended the exhibition floor, while incorporating educational areas and a storage centre.

"We have long held the view that the gallery and the park should be a unified experience for our visitors. Our new building makes this a reality," said Maria Balshaw, director of the Whitworth.

It was described by RIBA as "a project for all seasons, where art, nature and architecture combine".

We have long held the view that the gallery and the park should be a unified experience for our visitors



The Whitworth Art Gallery was shortlisted for RIBA's Stirling Prize in 2015



The historic original building now elegantly incorporates striking modern elements



## TATE BRITAIN

Location: London Architect: Caruso St John

A new-look Tate Britain, comprising an ambitious transformation of the oldest part of the Grade II-listed London building, was completed by architects Caruso St John.

The £45m project included the reopening of the main entrance on Millbank, combining new features with

the excavation of the building's original architectural elements. The changes included a striking new spiral staircase inside the entrance in the Rotunda, which opens up access to new public spaces below. The floor of the Rotunda was remade in terrazzo in a pattern that recalls the original marble mosaic floor. The Rotunda niches once again display art.

The museum's Whistler Restaurant has also been remodelled, with its famous Rex Whistler mural, *The Expedition in Pursuit of Rare Meats*, fully restored. Originally opened in 1927, the restaurant was once, owing to its mural, described in a newspaper as "the most amusing room in Europe". It's been a site of political and social intrigue ever since.

Water from the bay is used in to cool the building. Moving solar panels provide energy

PHOTOS: BRUNO PASSA / THALES LEITE



## MUSEUM OF TOMORROW

Location: Rio de Janeiro, Brazil Architect: Santiago Calatrava

**R**io de Janeiro's Museu do Amanhã (Museum of Tomorrow) – designed by prize-winning Spanish architect Santiago Calatrava – is a contemporary science museum. It is located in the city centre's Porto Maravilha district – the site of the largest urban development project in Brazil.

The Museum of Tomorrow looks at how the potential future scenarios of the next 50 years, looking at climate change, population growth and more.

Across two floors and 5,000sqm of exhibition space, visitors can participate in 27 experiments and 35 'sub-experiences' based around the concepts of Earth, the cosmos and the passage of time.

Calatrava – who was awarded the prestigious European Prize for Architecture in 2015 – has designed a futuristic symbol for Rio's development. The 30,000sqm white-clad complex features a cantilevering roof supporting

a series of large mobile wings. The view from the upper floor will provide panoramic views of Rio's Guanabara Bay.

The lower level contains the lobby, museum store, educational facilities, an auditorium and a restaurant. Public gardens, a pedestrian walkway and bike paths are located around the museum and a vast reflection pool extends from the front of the museum to the bay, creating the impression from afar that the museum is floating.

"The city of Rio de Janeiro is setting an example to the world of how to recover quality urban spaces through drastic intervention and the creation of cultural facilities such as the Museum of Tomorrow and the new Museum of Art," said Calatrava. "The plaza creates a more cohesive urban space and reflects the neighbourhood's greater transformation."

The museum has been awarded the highest standard of LEED certification for its sustainable elements.



The museum uses cutting-edge technology and real-time data to convey its message



The exterior form of NPM Southern Branch is inspired by the elephant, dragon and horse



**NATIONAL PALACE MUSEUM SOUTHERN BRANCH**

Location: Chiayi, Taiwan Architect: Artech

The new branch of Taiwan's National Palace Museum – one of the most-visited museums in the world – opened in December 2015.

The National Palace Museum (NPM) Southern Branch, designed by Taiwanese architect Kris Yao of Artech, has a focus on Asian art and culture.

The new museum is located in the southern county of Chiayi, reflecting wider ongoing efforts to invest in cultural offerings in regions outside the capital city of Taipei.

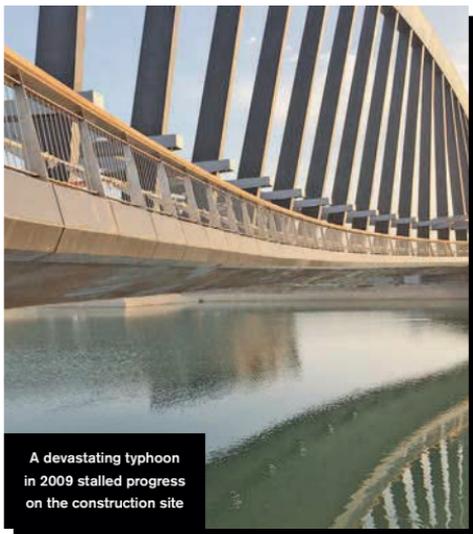
Yao's architectural design for the 20-hectare attraction is inspired by the dragon, the elephant and the horse, representing the three main civilisations of Asia – Chinese, Indian and Persian, respectively. The animals have been transformed into the streamlined and interacting structures, portraying the beauty of and communication between the three Asian cultures.

Yao has also drawn on the art of Chinese calligraphy, with the techniques of thick ink, half-dry strokes and smearing translated into the curves and shapes of the building.

NPM Southern Branch has been long awaited, with an original completion date of 2008. Setbacks stemmed from contractual disputes, followed by a typhoon in 2009 that devastated the south of the country and flooded the site with more than 10 metres of water. In 2010, the project restarted and was built at a cost of NT\$8bn (US\$243m).

The ever-popular sister museum in Taipei, which holds a renowned collection of almost 700,000 mainly Qing dynasty artefacts and paintings, was the 10th most-visited museum in the world in 2014, attracting 5.4 million people.

Yao has drawn on Chinese calligraphy, its techniques translated into the curves and shapes of the building



A devastating typhoon in 2009 stalled progress on the construction site



## THE BROAD

Location: Los Angeles, California

Architect: Diller Scofidio + Renfro

Visitors enter the north or south side of the building, taking a long escalator to the gallery

The Broad, a new modern art museum, is the latest addition to the Los Angeles cultural sector.

Designed by Diller Scofidio + Renfro in collaboration with Gensler, the free-to-visit attraction cost US\$140m to develop with funding from billionaire philanthropists Eli and Edythe Broad, founders of the Broad Art Foundation.

The dramatic honeycomb structure cladding the building is made from concrete panels and steel and filters natural light into the vast spaces. Visitors enter the building and travel up a 32-metre escalator to a third-floor gallery with 318 skylights and high ceilings.

The 11,150sqm three-storey art museum offers two floors of exhibition space centred around an archive called The Vault, which takes up the entire second floor. Most museum design aims to keep the archives out of site, but the Vault plays a key part in the experience, allowing visitors to look through strategically positioned openings at the collection stored inside.

A lush tropical garden with a waterfall and a person in a hot tub. The scene is filled with various green plants, including large-leafed trees and vibrant red foliage in the foreground. A person wearing a hat and dark shorts is standing in a hot tub that is part of a waterfall structure. The background shows more dense greenery and a glimpse of a building with a terracotta roof.

# SPAS IN THEIR EYES

Three of the world's top resort and spa designers share insights into the creative processes that lead to the realisation of their visionary destinations

Neena Dhillon, journalist, CLADbook

Bensley's first spa was the Royal Kirana in Ubud, Indonesia

Spashed across glossy magazines, five-star resorts have become the familiar face of the superlative travel experience – and their spas are the crowning glory.

From contemporary luxe to sheer opulence, the quality of a world-class spa resort is communicated through materials, decor and landscaping. The experience, however, is communicated through the story that's told. So where do design studios find inspiration for their stories and how do they translate their ideas into operational spaces?

“I never show our clients a little at a time. I like to overwhelm, impress and gain their confidence right from day one.”

## BILL BENSLEY

Bensley Design Studios

Bensley Design Studios is synonymous with the sensuous nature of Asia's top resorts. US-born founder and CEO Bill Bensley, who left his native country over 30 years ago, is a cultural enthusiast immersed in the Southeast Asian culture that defines his work. His multidisciplinary practice is based in Bangkok, yet it was his love of the Indonesian island of Bali that first drew him to Asia in 1984.

“I'd read everything written about Bali, studied the arts and the architecture and I visited monthly – as I still do today. I also learned enough of the language to make people laugh,” Bensley says.

He was commissioned to design his first spa in 1998, the Royal Kirana Spa and Wellness in Ubud. To create a modern-day Balinese retreat rooted in indigenous culture, he drew inspiration from the island's 17th-century Karangasem kingdom.

“Resort design presents the opportunity to tell a story about a place, and your success in doing so can make or break a project,” Bensley says. “But, there are endless ways to design ‘place-oriented’ hotels.”

Today, he mines destinations for inspiration in much the same way. He illustrates how rich in stories a location can be by giving the example of five hospitality projects in varying stages of development in Phuket, Thailand.

At the Indigo Pearl Phuket, Bensley Design Studios conveyed the site's previous incarnation as a tin mine and the island's mining heritage. The redevelopment of the former Evason into InterContinental Phuket ▶



Bill Bensley's love of Asian culture informs his work

PHOTO: P. BUDHONIDE





▶ Rawai Beach references the resort's original opening in the 1960s through a fresh take on a Thai mod vibe. At the new Indigo Patong, the neighbourhood's famously distinctive character is expressed – not least by the cabaret ladyboys at the front desk.

A forthcoming Kempinski resort will capture the botanical essence of Phuket's quintessential tropical garden landscape.

And lastly, in Koh Racha, a small island off the coast of Phuket, Bensley is bringing a sense of place to a land without any tangible human history.

"Very tongue in cheek, I have rewritten the 2,000-year-plus history of Phuket to include Koh Racha as a centre of economy at the turn of the last century," he says. "Our new hotel there will have a village, office quarters, army barracks and the like, all of which were real period features in bigger centres such as Phuket Town and the Malaysian states of Penang and Malacca."

Stories are conveyed through the facilities, materials, fabrics, fixtures and fittings throughout Bensley resorts, but visitors will still notice a change of pace as they transition from their rooms to the spa.

"For us, the spa should never simply be an extension of a hotel," Bensley says.

**Bensley created a fictional story about the island of Koh Racha to inspire his design for a resort**

"It should always feel more special ... enticing enough to coax guests out of their comfortable rooms into nirvana."

### Holistic approach

To realise these often extravagant and luscious resorts and spas, Bensley adopts a holistic approach from the beginning. The project is imagined in its entirety and presented to the clients early on.

"I never show our clients a little at a time. I like to overwhelm, impress and gain their confidence right from day one."

Bensley Design Studios is known for the elaborate nature of its client presentations, featuring painterly renderings, often 20-metres long, while a 3D printer capable of making models of everything from a whole site to bespoke salt and pepper shakers, is the studio's latest addition.

"I like to mock-up rooms. I like to build sample rooms of all major public spaces so, for example, I'll recreate a restaurant with

table settings and assess how these should change in their presentation for each meal."

It could be Bensley's devotion to the smallest details that drives the studio's holism, which gives it control of everything from the overarching story to the colour of the napkins. The studio team increasingly orchestrates everything from architecture, interiors and landscaping to staff uniforms, stationery and music, becoming a full-service atelier capable of designing hospitality projects down to the finest point.

In terms of operations, hospitality clients rely on the studio to understand the commercial potential of spaces and the needs of different departments. Bensley has the final say on the allocation of venues for operating teams, whether F&B or spa for instance, even if a hotel management company isn't confirmed until after the design process has begun.

"We never design spaces to be flexible so they can be easily reconfigured," he says. "There's always debate over who gets what part of the hotel – that's normal – but our clients rely on our knowledge to make it all work for years to come. The guest journey is paramount and the functionality, if we're good, will fall into place." ▶

“A spa has to be a smooth and subdued part of the resort, offering neither confrontation nor big contrast.”

## JEAN-MICHEL GATHY

Denniston

**F**ounder of Denniston – the Kuala Lumpur, Malaysia-based practice behind some of the most luxurious spa resorts to have opened in the past 25 years – Jean-Michel Gathy believes good design comes down to a combination of experience and coherent architecture.

For him, there should be a seamlessness to resort design, meaning the spa should not stand apart in its aesthetic language.

“We were one of the first firms to understand that you must marry architecture, design and landscaping for a resort to be at its best,” Gathy says. “Therefore, a spa should not be the subject of an architectural review. Above all, it has to be a smooth and subdued part of the resort, offering neither confrontation nor big contrast. If a guest says the spa was beautiful, but he or she wasn’t sure about the experience, this means there has been a confrontation between the environment and the service. The spa’s focus should be the treatment provided; my job’s to make sure this takes place in comfort.”

Whether designing for Amanresorts, Banyan Tree, Cheval Blanc, GHM or One&Only, Gathy’s building blocks are consistent. Fundamentals he identifies from the start of a commission include

the hotel brand’s personality, site location, functionality, facilities required and budget.

“Before you can even begin to articulate the design, there has to be a business plan, brief and site working in harmony,” Gathy says. “Of course, you must design with some element of glamour, intimacy or daring. All operators want a story to

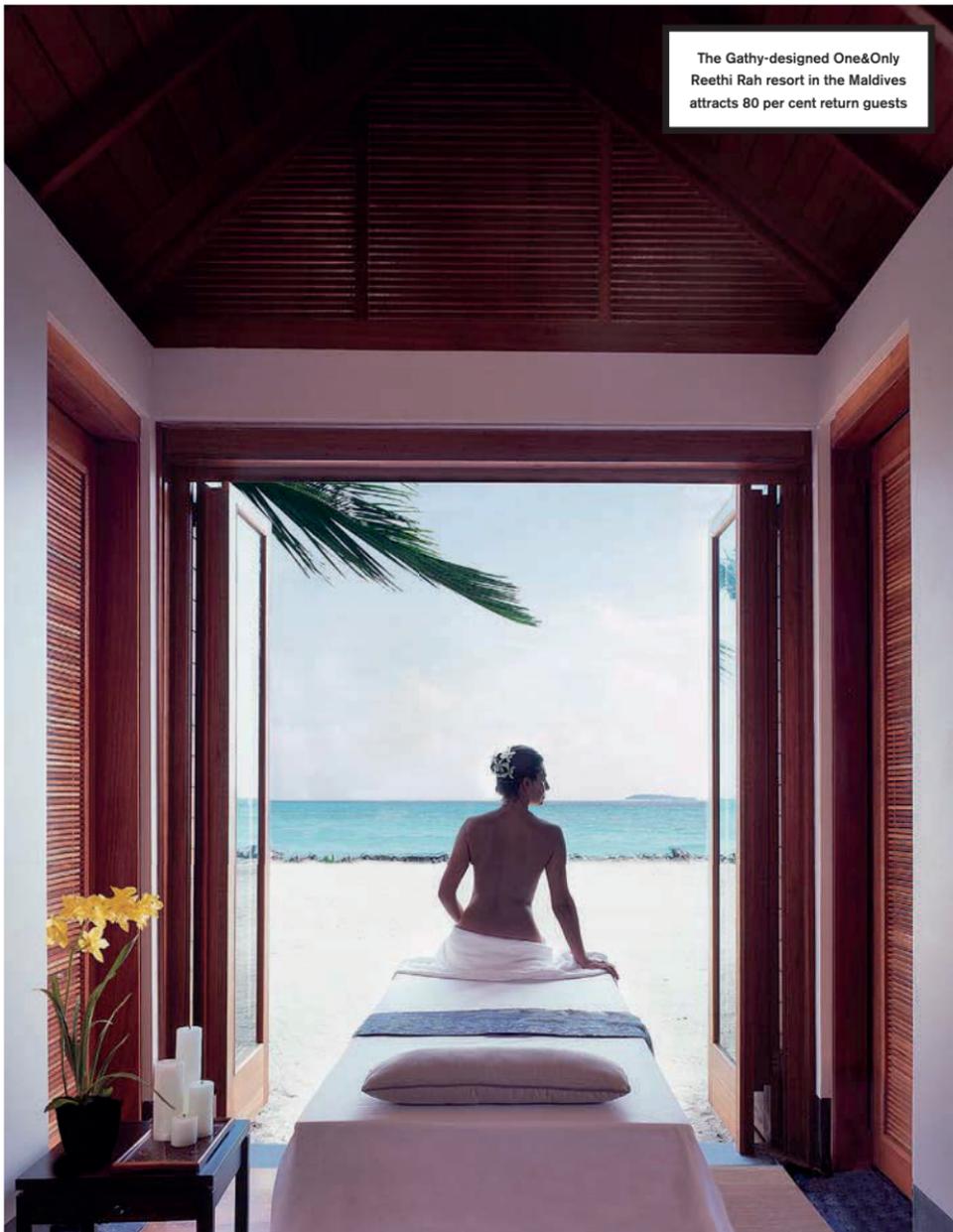
materialise through the design because it helps them to carve out an identity in a fiercely competitive market.”

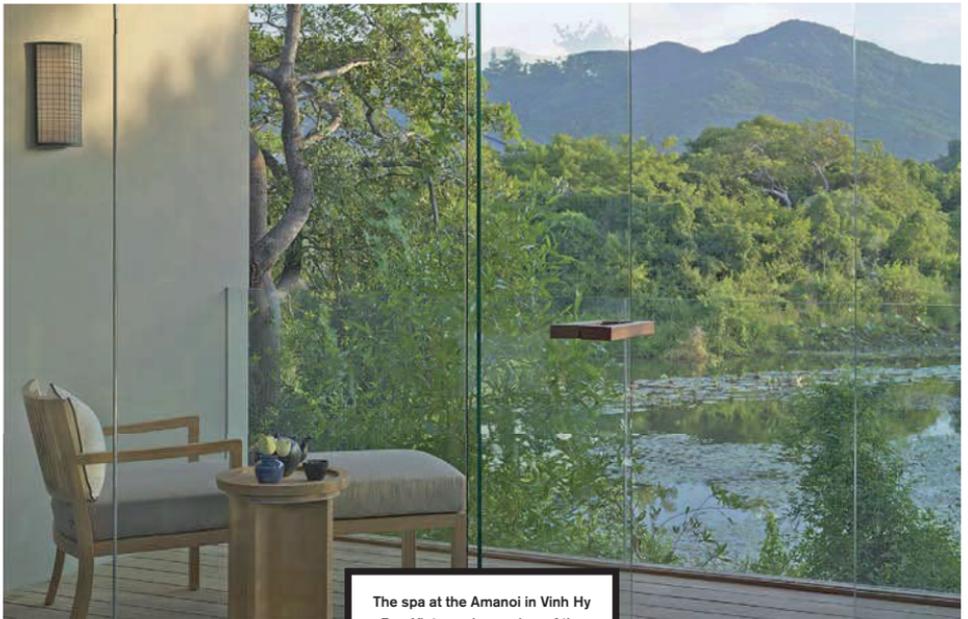
Luxury resorts that have differentiated themselves successfully can show high average occupancy in combination with a healthy room rate; after all, a hotel selling its rooms at heavily discounted rates ▶

PHOTO: IOLAN WILLIAMS

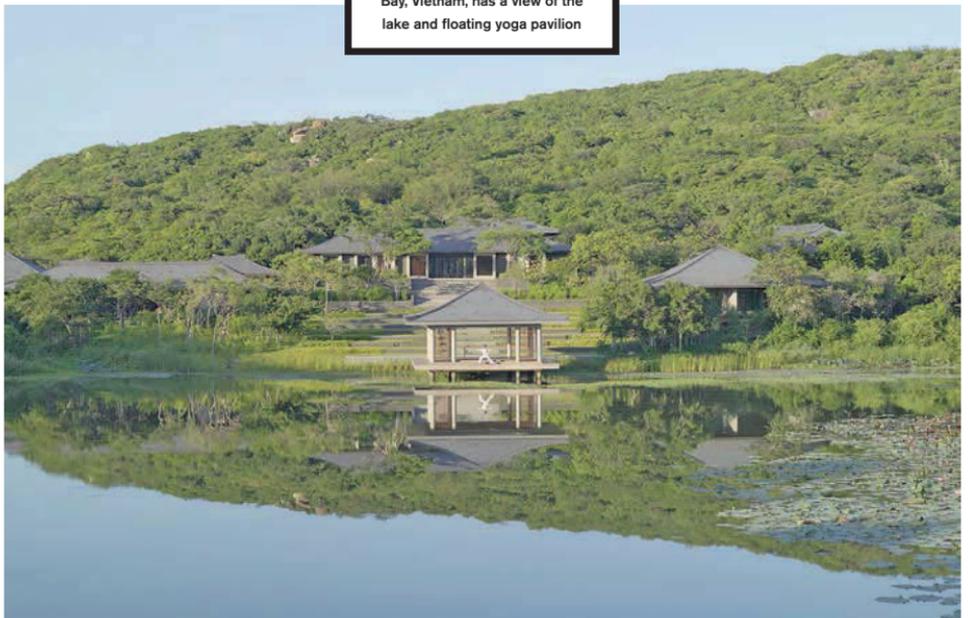
Jean-Michel Gathy counts Banyan Tree, Amanresorts and Cheval Blanc among his clients

The Gathy-designed One&Only  
Reethi Rah resort in the Maldives  
attracts 80 per cent return guests





The spa at the Amanoi in Vinh Hy Bay, Vietnam, has a view of the lake and floating yoga pavilion





The Amanoi's spa has a formal reception, while inside the design is contemplative and mystical

► will have little trouble in showing high occupancy. For Gathy, though, the real barometer of success is the percentage of return business. At One&Only Reethi Rah, a Gathy-designed resort in the Maldives, the average percentage of return guests in high season is between 75 and 80 per cent – and that's at a time when overnight rates start from just under US\$1,500.

Taking his cues from site visits, Gathy always finds a new trigger for inspiration in locations and cultures. Ten years ago, the showmanship of Miami resulted in a design innovation that has since been imitated by boutique hotels the world over.

"The Setai in Miami Beach was the first contemporary hotel in which we placed a bath in the middle of the room. Nobody dared to do this at the time in the luxury arena, but it perfectly suited Miami's mood."

More recently, Denniston's work on its latest Amanresorts property, the Amanoi in Vietnam's Vinh Hy Bay, is informed by an aesthetic vocabulary based on destination-specific architecture.

"Buddhist villages in this region usually have at least one temple positioned at the highest point of the community, reached by

stairs that break off in different directions to keep the spirits away," Gathy says.

"Taking this philosophy, but simplifying it and translating it in a contemporary way, we have organised the resort so that it leads to a retreat-like private lounge/library that's 10 metres higher than the site's lowest point. The spa is conceived as a secondary place of calm, contemplation and mysticism, akin to a secondary temple in a village. The formal spa reception looks down to a lake on which a yoga pavilion seems to float. To the left and right of this central pavilion, treatment rooms are dispersed into the forest, scattered as though they are village homes."

#### Smooth flow

Denniston boasts a regular roster of clients that tend to seek out the firm for its experience. They know Gathy's firm takes the commercialism of spaces into consideration from the outset.

"We know that a fine-dining destination will need to be located in a space suited to low occupancy but premium rates," the architect says. "Similarly we understand that a casual bar/restaurant will need

optimum positioning suited to quick turnaround and high occupancy.

"The requirements of hotel brands also feed into these calculations. A Hyatt won't have the same operational guidelines as a Mandarin Oriental. After 30 years in the field, you tend to avoid making mistakes when it comes to space allocation. Granted there's usually some fine-tuning as resorts open, but clients tend to listen to our advice."

Just as crucial to the operational success of a resort is how spaces connect from front- to back-of-house. At Denniston, back-of-house is considered in the context of guest comfort first and foremost. This means optimising the position of mechanical and electrical systems; organising laundry routes so it can be efficiently processed from all parts of a hotel; and ensuring front-of-house facilities such as restaurants are supported by adequately sized and equipped kitchens with convenient access points.

"Ensuring that spaces flow smoothly from one to the other is vital," Gathy says. "If guests in the spa order refreshments and they are taking too long to arrive, then this is usually because back-of-house design has not been well thought out." ►



## SHAWN SULLIVAN

Rockwell Group

For international design studios, time spent on location researching a new commission must be a highlight. This is certainly true for Rockwell Group, but in taking an inventive, eclectic and cross-disciplinary approach, this 140-strong team likes to venture beyond the ordinary.

For the work the firm carried out on Andaz Maui at Wailea Resort, partner and studio leader Shawn Sullivan spent his time in Hawaii exploring some odd spaces.

"We do spend as much time as we feel is required on location during research periods, but as a rule we won't look in the obvious places. For this project, we visited a pineapple plantation and a rock quarry," Sullivan says. "Cultural research is just as vital, and we learned everything we could about Polynesian culture and customs."

“In every project, the design team needs to walk in the shoes of the operator”

Evidence of this research permeates the hotel. Seating in the Ka'ana Kitchen and Morimoto Maui restaurants recalls the rough texture of piña, a fibre made from the leaves of a pineapple plant. The influence of natural fibres can also be seen in oversized lighting fixtures in the villas and the textured fabrics used in the bathrooms. Local lava stone, realised in different finishes, is predominant throughout the property, such as in the lobby bar which replicates the exposed edges of a quarry.

Drawn from a desire to reference Hawaiian beauty rituals, in particular how

they incorporate indigenous ingredients afforded by Maui's landscape, the hotel's Āwili Spa and Salon has been conceived as a distinctive apothecary experience.

An omakase menu encourages visitors to customise their treatments. The consultants blend locally grown herbs, plants and fruits into handcrafted creams, oils and products.

"The interior is based on the concept of a traditional apothecary – a neighbourhood shop that prepares customised beauty and medicinal remedies from a mix of local plants, flowers and foods," Sullivan says. "Guests begin in a casual way, sitting at the communal table or blending bar where they discuss their ritual with their consultant, surrounded by walnut and bronze millwork that stores the collections of ingredients."

### Brainstorming sessions

This may sound like a tricky proposition to sell to a client, but Sullivan points out



that Rockwell Group works with operators from the outset. Indeed, the blending bar concept came out of a brainstorming session with Hyatt's spa team.

"Some designers may feel constrained by what they perceive as regular interference of operational teams, but we find it exciting to throw around ideas with them – it's such an interesting part of the puzzle," Sullivan says. "We immerse ourselves in individual brands and experience different types of operating system. In every project, the design team needs to walk in the shoes of the operator."

Rockwell Group doesn't have a particular set of tools that it works with to present to clients – this will vary according to project type. After a design team has been pulled together and background research carried out on the hotel brand and location, the firm then hosts brainstorming sessions with the client to discuss ideas, messages and design concepts. Rockwell Group does not tend to

**Rockwell Group designed an apothecary experience for the spa at the Andaz Maui in Hawaii**

produce renderings at this stage, instead its teams create story, inspiration and materials boards to convey ideas visually.

When working on a spa facility, the firm focuses first on communicating what the experience will be like and how staff and guests will come together. Operational details then come into play as the designers work through functional scenarios with the client in intensive workshops.

"No operation is complete when you hand over the keys. There's always a period of at least six months after opening for fine-tuning adjustments, but by collaborating closely with clients our projects always launch with fewer surprises."

With clients increasingly receptive towards the idea of transformation, the practice draws on its experience in live theatre – set designs on Broadway shows, for example – to apply transformational stage techniques to its architectural work.

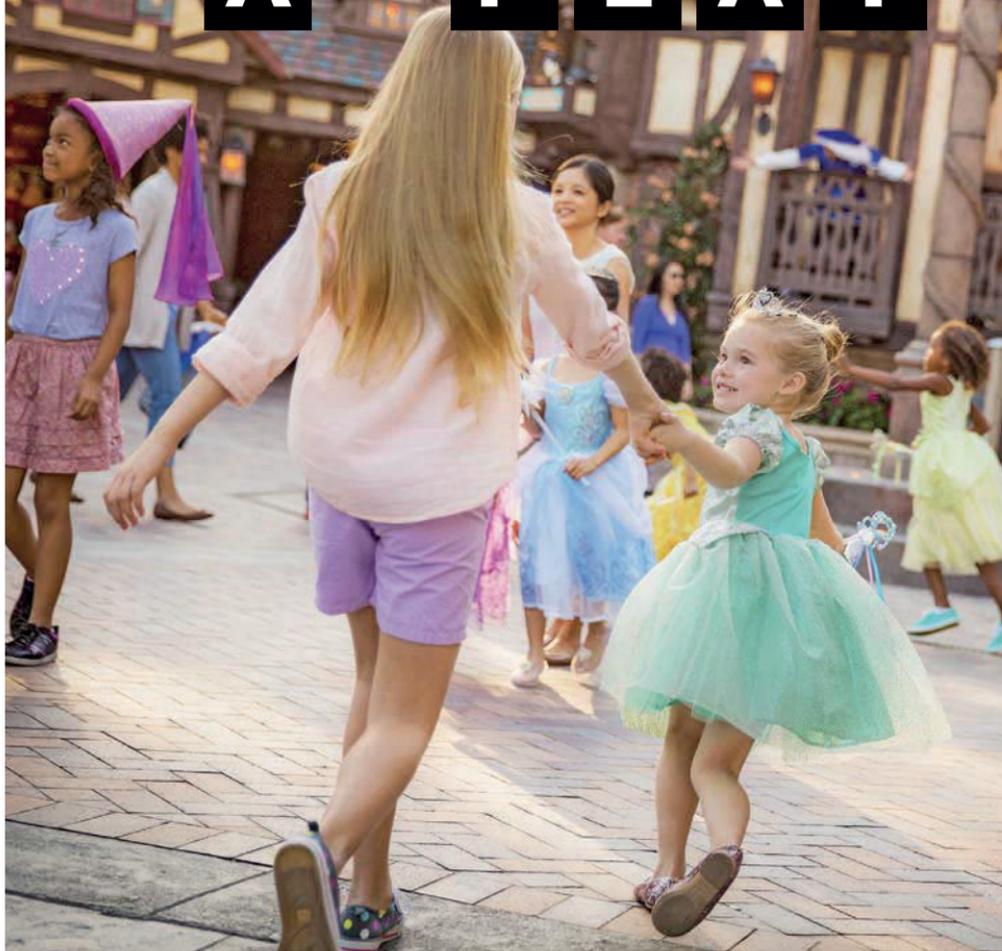
"Designing flexible public spaces, such as lobbies, restaurants, meeting rooms and spas, which can transform according to guests' needs, allows operators to offer more amenities and services while keeping spaces fresh and interesting."

Operational considerations versus the desire to communicate a strong story are two primary forces that will always require some wrestling in resort design. In the end, though, both must serve one common goal.

Sullivan says: "When you begin by identifying what's unique or memorable about the guest experience, this will lead naturally to a design story. Ultimately, it's the experience that matters most." □

CHILD-FRIENDLY DESIGN

# MAKING A PLAY





Girls rush to Fantasy Faire at Disneyland, where guests can meet the Disney princesses

Having entertained families for generations, Disney is a master at designing for children. Kath Hudson asks the architects and designers at **Walt Disney Imagineering** to share their secrets....

Kath Hudson, journalist, CLADbook

**A**rchitecture contributes a lot, but is part of the bigger story: it reinforces the stories we are telling," says Coulter Winn, longtime architecture executive at Walt Disney Imagineering, the design and project delivery arm for all Disney's theme parks, attractions, resorts and cruise ships worldwide. "Walt Disney started out with the vision of making the films into 3D worlds that people could visit and we are still doing that now," Winn says. "With our architecture we aim to create enduring and appealing spaces, but they also need to create the invisible backdrop for the whole experience. The architecture has to be invisible, seamless and transformative."

Disney architecture is subversive and many of the usual rules don't apply. Most buildings don't need to be designed so that the parapets can rise up and down, but Disney architects need to factor in these types of features and it often gets complicated.

The entertainment giant's success comes down to the strength of its immersive environments and Winn believes this is rooted in the subtle details which help create the backstory. The architecture has to allow for these details, such as the huge amount of electrical work that has to be buried and the fact that parks need to be designed for optimum flow, with spaces for parades and character greeting experiences.

Each project requires collaboration, as there are more than 140 disciplines involved in the design process.

Imagineering architect Eli Erlanson says: "The architectural realm works closely with the audio engineers, the lighting designers, the art glass designers, the specifications department and many others. It's a very creative environment and we seek commentary, we analyse it and we take it seriously." ▶

Onboard environments relate to Disney characters, films and themes – such as Pixie Hollow



## ▶ THE CRUISE SHIPS

The Disney Cruise Line is a relatively new business for the company, and broke the mould, since before Disney entered the market, cruise ships were only ever aimed at young adults or empty nesters.

Joe Lanzisero, Imagineering creative executive in charge of design of Disney Cruise Line, says ships are designed so everyone in the family can have a good time both individually and collectively. A number of lessons were learned from Disney's parks.

"We build immersive environments and tell stories using our great characters to create an emotional connection with the guest," Lanzisero says. "If they would have heard a song from a movie and a key colour was used in the background, we might try to use that colour to trigger emotions when



**"Young kids want to try activities aimed at older children, but the older ones still enjoy the physical play aimed at the younger group"**

they are in those spaces. That's what we brought from the theme parks."

As the ships were prototypes and offered a finite amount of space, there were immense challenges to creating the right mix of facilities. External play consultants were used to create suitable areas for different age groups: toddlers, five to seven-year-olds, eight to 12-year-olds and pre-teens.

Whimsical touches are most appealing to young kids: the five to seven-year-olds area, Disney's Oceaneer Club, is very fanciful. The Pixie Hollow room incorporates elements from the film, such as giant leaves, huge mushrooms and landscape murals.

Lanzisero says they are noticing more crossover between younger and older kids. "The younger ones are growing up faster and want to try activities aimed at older children,



▲ Disney Cruise Line ships are designed so that every family member can enjoy the experience, no matter what age they are



IMMERSIVE STORY SCENARIO

**The Animator's Palette restaurant immerses guests in a cartoon storyboard scenario**

but the older ones still enjoy the physical play aimed at the younger age group."

A challenge of the cruise ships was making sure there was a balance of adult areas and immersive environments. As guests stay for up to a week, some respite is offered to stave off over-stimulation. Adult spaces have less overt character references and are designed to be elegant.

## ONBOARD FEATURES

Each ship has three restaurants: high end, casual and the Animator's Palette, which serves up a pure Disney experience. People are made to feel like they're part of an animator's palette, by virtue of the giant paintbrushes and crayons that are part of the decor. Video screens look like storyboards. On one of the ships the restaurant feels like a black and white cartoon, but with the use of lighting it switches to colour as the night goes on.

One of the most popular features at Animator's Palette aboard some of the ships is Animation Magic, where people draw a character on their place-mat. This picture is then scanned to become part of a film hosted by Mickey Mouse. People get to see the character that they drew on screen dancing with Disney characters.



**Video "portholes" in underdeck cabins mix livestream footage with Disney animation**

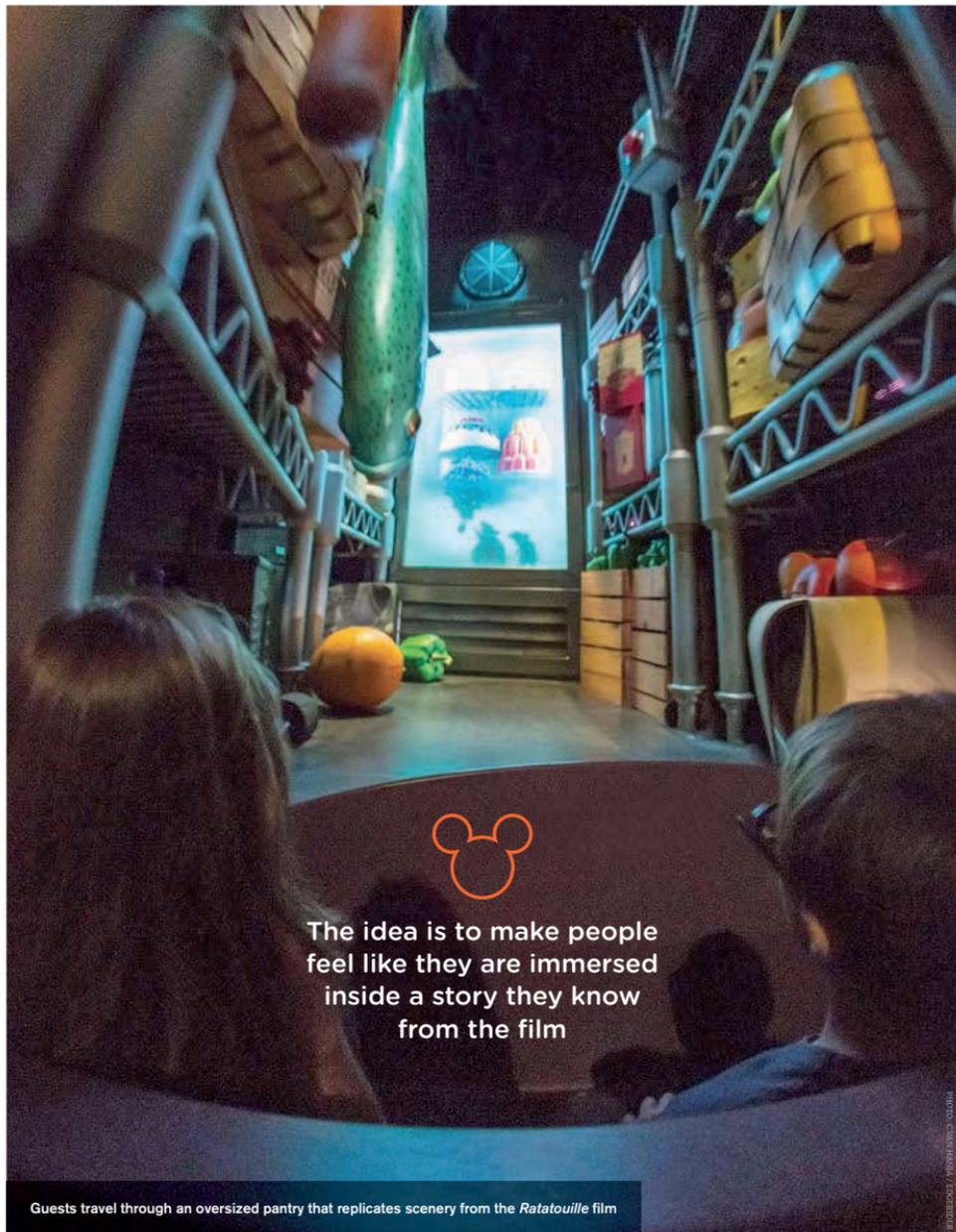
Disney touches have also been used successfully to boost some of the less popular areas of the ship. The underdeck rooms, without portholes, were always less desirable, so Disney created virtual portholes. A video screen made to look like a porthole streams a live feed from cameras positioned on the deck, which is supplemented with the occasional visit

from, for example, Buzz and Woody, or Dumbo. It's proved so popular that there is now a waiting list for the rooms.

When asked what he thinks is the most important point to bear in mind when designing for children, Lanzisero says: "Never talk down to a child. Walt never created films for kids, he created films which were entertaining and spoke to the human condition. So I always try to stay true to that. Stay respectful to children: they are incredible, their minds are open, they have great imagination and you want to stimulate that and create aspirational moments for them."

The unending stock of characters means there's never a lack of inspiration for refurbishment and Lanzisero says that one of the qualities of the company is that it's always willing to listen to guests and reinvest to keep experiences fresh.

Interior designer Amy Young, who worked with Disney on Bistrot Chez Rémy, sums it up: "Imagineers have a real commitment to family and fun, but they also have great films and characters to bounce off, so it's easy to get excited." ▶



The idea is to make people  
feel like they are immersed  
inside a story they know  
from the film

Guests travel through an oversized pantry that replicates scenery from the *Ratatouille* film

PHOTOS: GARY DUBELSON



The décor at Disneyland Paris' Bistrot Chez Rémy imitates the restaurant in Disney-Pixar's film



CASE STUDY

## Creating La Place de Rémy

One recent Disney theme park addition is a Ratatouille-themed land at Disneyland Paris, which opened in July 2014. The experience makes visitors feel like they're reduced to the size of a rat as they're taken into the world of the film.

After queueing along Paris rooftops, visitors board rat-like vehicles which scurry off in different directions. They fall into the kitchen and travel through scenery from the film including the dining room and the pantry. Bistrot Chez Rémy is situated at the end of the ride and it's an exciting moment for guests to feel like they're entering the real restaurant from the film.

Imagining architect Eli Erlanson was the architect in charge of the project, and her team was tasked with the challenge of taking Paris and taking Pixar's movie and creating a real-world environment.

"We wanted to create the Paris which Pixar creates in the movie, with its charming quirks and twists, crookedology

and false perspective, but still refer back to the real Paris," says Erlanson. "In the movie the drawn environment lasts for seconds, but we have to recreate the accuracy of the animated scenes, and they have to look right from every angle. We have to make it look believable as an environment, bringing Pixar's idea of Paris to life."

When designing for children it's important to think of scale and a child's perception of scale. "They won't think about false perspective, but they will feel it," she says. "This is something we've done in every park. The scale is very important and the friendliness of the park depends on it, so children don't feel overwhelmed."

For example, at the Ratatouille mini-land, the show box which houses the ride is a huge building which could be imposing, so Disney uses a façade with diminishing perspective to disguise this. The building is part of the Paris backdrop and the buildings represented have floors which get gradually smaller the higher they go. This technique

both adds to the character of the building, and makes it less intimidating.

Like other Disney attractions, the idea is to make people feel like they're immersed inside a story they know from the film. Since the characters in Ratatouille are rats, the environment has been designed to make people feel like they are the size of rats. This allowed the designers to have lots of fun with the furniture: the high chairs are like champagne corks, giant butter dishes house the desserts, the menus are oversized and the backs of the booths are huge plates.

And of course colour is a very important part of Disney's architecture and design.

"The décor of the restaurant imitates that of the film, with a deep colour scheme of reds and golds, with blue and white chequered tablecloths," says interior designer Amy Young. "The main challenge was choosing durable materials, as we wanted it to look consistently fresh, clean and bright, so it will offer as good an experience in 15 years as it does now." ▶



**RIGHT ON QUEUE:** Queueing is a recent area of focus for Disney, and it's now regarded as Scene One of a ride. As

a result, new attractions are having features built into the queueing areas to entertain guests while they're waiting. The new Seven Dwarfs Mine Train at Magic Kingdom (pictured) has an interactive game where children can pan for virtual gems while they are waiting.

At the Ratatouille attraction, people walk along the rooftops of Paris while they are queueing, preparing them for what's ahead.

## Inclusive design for children

### Morgan's Wonderland

Theme parks can be prohibitive to children with special needs or disabilities, but that's beginning to change. Morgan's Wonderland, a 10-hectare theme park in San Antonio, Texas, puts those children's needs first, and can serve as a successful example to other attractions who want to make themselves more inclusive.

Inspired by his daughter Morgan, who has cognitive delay, Gordon Hartman had a vision for an ultra-accessible

family fun park. The park would welcome all, regardless of their abilities, integrating people with special needs with able bodied visitors to eliminate any awkwardness that may exist.

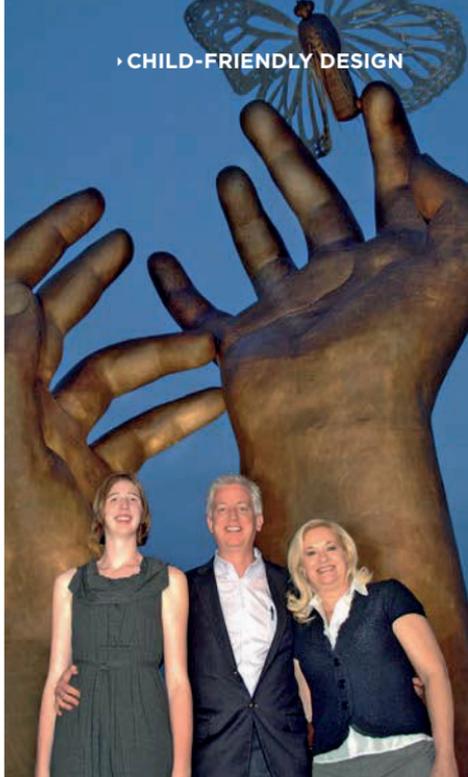
Opened in April 2010, Morgan's Wonderland has 25 rides and attractions. Specific design features cater for the needs of guests with disabilities. For example, visitors get an RFID wristband and location station monitors throughout the park enable them to see where another

Rides were custom-designed to look like regular rides. The carousel is accessible to wheelchair users



Attractions are designed with accessibility in mind

▶ CHILD-FRIENDLY DESIGN



Gordon Hartman built the park for daughter Morgan

member of their group is by scanning their own wristband. Guaranteeing safety and security gives caregivers peace of mind so they can also relax and enjoy themselves. Limiting the number of people allowed in the park is another strategy that helps guests who are uncomfortable in overly stimulated situations.

Rides were custom-designed and made to look like regular rides, as opposed to rides for people with special needs. Chance Rides built a carousel which is sunk into the ground

so that people in wheelchairs can access it. The wheelchair is secured to a platform which goes up and down to give the same motion and experience as guests going round on the horses. There are also benches for guests who are not able to mount the carousel horse. On all rides, lights flicker before they start to indicate to people who are hearing impaired that motion is about to begin. For the visually impaired, an announcement counts down to the start of the ride so guests can anticipate the movement.



**why**



**immersion**



A Merlin midway attraction immerses guests in Far Far Away, home to Shrek and friends

**matters**



## How do we truly immerse guests in a space?

Cultural researcher

Scott A Lukas examines the purpose of and keys to effective immersion

From 2008 to 2011, a strange and curious experiment played out in San Francisco, California. Everyday people began to stumble upon signs with cryptic messages of the Jejunite Institute – many of which directed them to call telephone numbers or visit specific areas of the city.

As many as 10,000 people participated in the experiment and as people got deeper into the experience they discovered a complex array of characters, backstories, events and philosophies that added even more intrigue to the mysterious experience.

The Jejunite Institute was the idea of artist Jeff Hull. He created an alternate reality game that encouraged people to rethink their experiences with the city and which ultimately blurred the line between reality and fiction. The experiment is profiled in a 2013 film called *The Institute*, directed by Spencer McCall. The Jejunite Institute highlights how far people are willing to go in order to immerse themselves in a fantasy world where they play a vital part.

Immersion may be defined as the state of being deeply engaged in an activity, situation or place. For any themed or consumer space, immersion is a necessary quality of space that may guarantee greater enjoyment of the visitor. The etymology of immersion is from Latin words that mean “in, plunge and dip”. Apply these meanings to a consumer experience and an immersive space is one that goes beyond the superficial



and instead engages the visitor in varying levels of depth and experience.

The example of the Jejunite Institute highlights how immersion takes place at the level of the individual. It's not enough for writers and designers to create a space that will, it's assumed, be immersive. It's up to those unique creative professionals to imagine spaces that will immerse every guest who enters that space.

Immersive spaces are about desire – the desire of the visitor – and thus present some

Thousands of Californians were immersed in Jeff Hull's alternate reality game, The Jejunite Institute

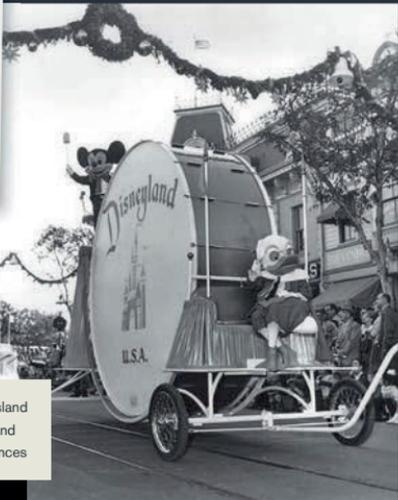
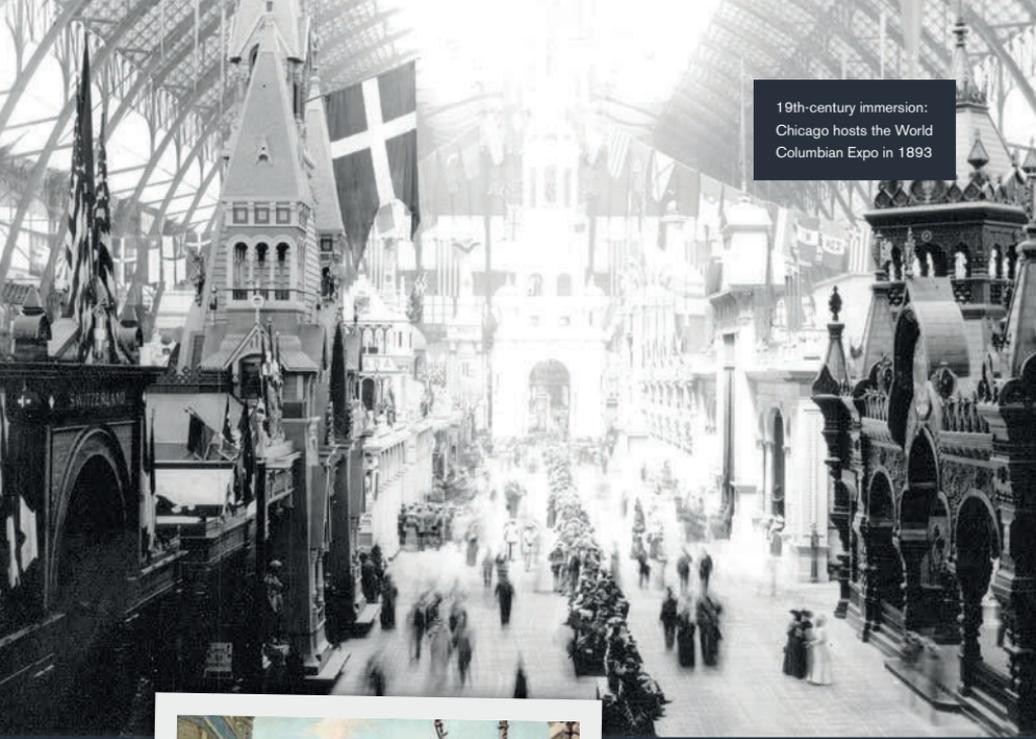
of the greatest challenges to contemporary designers of themed and consumer spaces.

### The history of catharsis

The desire to be wrapped up in a themed or consumer space is not a new trend. If we consider Aristotle and his idea of catharsis, we realise that people – whether reading poetry, watching drama or seeing a movie – have always enjoyed the opportunity to suspend their disbelief and connect with characters, situations and events in a creative, artistic or fictional form in such a way that they feel moved deeply, even changed, by the whole enterprise.

Achieving the effects of catharsis in a themed or immersive space is not easy. The designer of a space does not have the luxury of lengthy backstory that allows a novelist to create meaningful connections with readers. Very often, in a space or an attraction, the time given to make that connection with the

19th-century immersion:  
Chicago hosts the World  
Columbian Expo in 1893



Early attractions like Coney Island  
(left), Luna Park and Disneyland  
(right) had immersive experiences

Disney uses story, interaction and theming to immerse visitors in the Iron Man Experience

▶ visitor is much shorter, plus there are the obvious limitations of capital, technology and other material matters.

Outdoor and consumer entertainments have always had the potential to create effective immersive experiences. Consider the visitors to the World's Columbian Exposition in Chicago, Illinois, in 1893. The sight of the Ferris wheel, the exotic displays of people from around the world and the many other cabinets of curiosity would have excited visitors who lingered at the fair.

Early amusement parks of Coney Island – including Sea Lion Park, Steeplechase Park, Luna Park and Dreamland – offered similar forms of exoticism and excitement, particularly as guests could visit the moon, witness reenactments of great disasters and historical events and even experience firefighting spectacles on a first-hand basis.

In 1955, Disneyland expanded beyond singular attractions of a cathartic nature to entire themelands that could extend the time and quality of the visitor's immersion. The attractions within the themelands used new technology, innovative design schemes and detailed stories and narratives to make personalised connections with guests.

Corporations like Six Flags, Universal and many more have expanded on Walt Disney's innovations and placed similar attention on the key goal of creating spaces where guests feel fully connected. Contemporary themed casinos, such as those of the Las Vegas Strip, have extended the ways in which theme parks create fantasy worlds through theming by creating incredibly detailed and nuanced worlds that replicate specific places, cultures, even moods.

These places share the idea that the space is never a space in and of itself. It's only



© DISNEY/MARVEL

**These places share the idea that the space is never a space in and of itself. It's only a themed or immersive space when the visitor interacts with and completes it**

a themed or immersive space when the visitor interacts with and completes it.

### Foundations and desires

Venues like the Chicago Expo and the amusement parks of Coney Island used shock, exoticism and spectacle to make an initial connection with the visitor. Like these historic venues, there are a number of foundations that are present in many contemporary themed and consumer spaces that provide a most basic level of engagement of the visitor with the space.

The *form* – or “genre” – of a space, the *brand* entailed within a space and the *social components* of a space can allow for intense feelings of immersion on the part of guests.

These foundations illustrate that spaces have many qualities that assist in immersion, but since immersion is about

fulfilling the longing and desire of the visitor, none of these foundations of space will be enough necessarily to meet their complex and subjective needs.

Many contemporary spaces that are less successful in creating effective immersion rely too heavily on the foundations and do not effectively expand on them by connecting them to their guests' desires.

In his influential book, *Lovemarks*, Kevin Roberts suggests brands orient themselves more closely with guests by establishing deep, love-like connections with them. Like brands, themed and immersive spaces should not forget to think deeply about their connections with consumers.

The etymology of desire includes meanings of “expectation” and “awaiting what the stars will bring”. Guests have expectations that go beyond the mere ▶



Visitors to Gardens by the Bay in Singapore are completely removed from the nearby city

### A designer does not have to read the work of philosophers, but might benefit by thinking through the most intimate, even existential, needs of the visitor

► foundations of the space. Designers need to meet and surpass these expectations. The key to immersion lies in the subjective territory of “what the stars will bring”.

#### There is something there

Years ago, I was struck by the fact that in the theme park industry we rarely reflected on whether guests were truly being immersed in a space. We developed guest-first approaches that met their foundational needs – any employee could direct the visitor to the restroom or café – yet we failed to consider the visitor’s desire.

For the visitor, the difference in reactions relates to the sense that – not unlike the participants in the Jexune Institute – there is something there, something more that beckons them. The guests want to stay until the last minute a place closes because they feel they are a part of it.

Of course, achieving the state in which the visitor feels such a close and personal connection with a space is perhaps the greatest of all challenges that are faced in themed and immersive design. Here are a few ideas that may speak to the ultimate desire to immerse guests within a space.

#### Consider differences:

Every visitor brings their own backstory. A veteran will have a different experience in a war museum to someone who hasn’t experienced war. It’s impossible to consider

all viewpoints, but it’s worth considering different angles when telling a story in a space. Another option is to leave the meanings within a space open, allowing guests to reach their own understandings.

#### Don’t underestimate the visitor’s knowledge or experience:

Don’t assume that the “typical” guest is looking for an uncomplicated and superficial time. In fact, more and more guests are desirous of experiences that speak to their intelligence, knowledge and cultural backgrounds. Immersive experiences may place greater demands on the visitor, but such demands may actually increase the levels of connection that the visitor feels with the space.

#### Immersion isn’t always positive:

Many powerful museums and interpretive centres have illustrated that the emotions that connect guests to spaces do not have to be positive ones. Dark tourism and the desire to experience immersion at disturbing and existential levels show the need to consider all options and emotional potentials when designing or updating a space.

#### Keys to immersion

Cultural anthropologists often refer to the emic – or insider – perspective. This is the view of culture and everyday life as a person from the culture that the anthropologist is studying would view it. Most anthropologists would agree that the emic perspective is gained through years and years of living among the people in that culture – also called immersion.

Designers of themed spaces can reflect on these ideas from cultural anthropology, a few approaches that may assist in effective attention to the immersion of a guest.

**1 Theming:** Theming is perhaps the most evocative design approach of the contemporary leisure world. Theming relies on a familiar and memorable theme or story – such as the Wild West – to offer the visitor a sense of an other, fantasy world. Theming has great potential for immersive effects because of its ability to create and maintain an entire world. At the same time, because of the popularity of theming, contemporary designers need be aware of how to avoid forms of theming that seem old-fashioned, staid or artificial. ►



Visitors to the German pavilion at Milan Expo 2015 used a "seedboard" to interact with the physical and digital exhibits



## IMMERSIVE DESIGN

**2 Storytelling:** The use of storytelling or narrative development to connect guests with the space is an effective means of achieving the suspension of disbelief within the visitor. Effective and well thought out storytelling offers some of the greatest immersive potential within a space, reaffirming for the visitor why he or she is there and, ultimately, why he or she cares about what is happening within that space.

**3 Design focus:** It's vital to maintain a clear design focus in any space. A venue or space need not be all things. It should be a space that reflects the advantages of details, precision and a honed vision of what the space is intended to do for the visitor.

**4 Connectors and transitions:** Successful themed spaces like Disney's Animal Kingdom create immersion at very high levels because they pay close attention to the overarching ways that connect one space to the next. Whether forms of material culture, technology, techniques of storytelling, or other means, designers may consider the connectors and transitions that link the parts of the space to the whole.

**5 The visitor's purpose:** Themed and immersive design must clearly focus on the needs of the visitor, beyond



The touring Jurassic World exhibition plunges guests into the world of the film franchise

their immediate needs to focus on their short- and long-term purposes. "What does the guest really desire in this space?" A designer does not have to read the work of philosophers, but might benefit by thinking through the most intimate, even existential, needs of the visitor.

**6 Willingness to Change:** As the guest changes, so too the space. This reminds us that spaces that were once exhilarating to the visitor will only become tired and boring the next day. Competition and innovation within all sectors of the industry should inspire designers and operators of spaces to constantly assess and reinvent their spaces.

### The guest's role

Theme park staff go beyond the typical expectations of the service industry when they build relationships with guests. In many cases, the deep ethos of love that Roberts spoke of in *Lovemarks* is present in the ways they exceed visitor expectations. Most guests appreciate this concern; indeed, some express their own concern and love – they might offer feedback on their experience. Such guests feel a sense of loyalty to the park. They're willing to offer feedback to workers who are

willing to listen. This mutual concern for the space is a powerful aspect of immersion.

We may begin to think of the nature of themed and immersive spaces through the sense of dialogue. While designers think up the designs schemes, attractions, technologies and other aspects of consumer spaces, the visitors have a key role to play. They're not simply consumers in immersive spaces: rather, they are active participants in the themes, stories, events and situations that unfold in those spaces.

Designers and operators should take approaches that parallel the modes of appreciation that develop between popular authors of fiction, science fiction and fantasy and their dedicated fans. Especially given the trends within the worlds of media – in which media is spreadable, convergent and participatory – they can be more open to ways in which guests can more fully participate in, provide feedback for, even alter the structure of the narratives, themes, stories and other elements that make up the space.

In such a world, immersion is the shared undertaking of story that unfolds over time. And immersion is never an easy undertaking, but this is why it is an art. □



Scott A Lukas is a researcher, anthropologist and author who specialises in immersive worlds, theming and cultural remaking.

#### FURTHER READING

- *The Immersive Worlds Handbook: Designing Theme Parks and Consumer Spaces* (Scott A. Lukas, Focal, 2013)
- *The Art of Immersion: How the Digital Generation Is Remaking Hollywood, Madison Avenue, and the Way We Tell Stories* (Frank Rose, W. W. Norton & Company, 2012)
- *Spreadable Media: Creating Value and Meaning in a Networked Culture* (Henry Jenkins, Sam Ford, and Joshua Green, New York University Press, 2013)
- *Lovemarks: The Future Beyond Brands* (Kevin Roberts, powerhouse, 2005)
- *Convergence Culture: Where Old and New Media Collide* (Henry Jenkins, New York University Press, 2008)



**BHSTS Master Plan**  
Brighton



**Fashion Hotel**  
Dubai



**Rainforest House**  
Hannover



**Int. Sports Village**  
Cardiff



**Ripleys BION  
Museum**  
London



**VW Brandland**  
Autostadt



**Bentley Pavilion**  
Autostadt



**Marwell Wildlife  
Cafe Graze**  
Hampshire



**London Paramount**  
London



**Grand Pier**  
Weston-Super-Mare



**Restless Planet**  
Dubailand



**Railway Station**  
Castellon



**Kidzania London**  
Westfield, White City



**Dreamland**  
Margate



**Sports Campus**  
Newcastle



**VW Pavilion**  
Autostadt



**Master Plan  
ZSL London Zoo**  
Land of Lions



**Balloon  
Apartments**  
London



**Gorilla Enclosure**  
Durrell Wildlife



**Lingfield  
Racecourse**  
Surrey



**Snowdon Summit  
Visitor Centre**  
Wales

# rayhole architects

...museums brandlands cultural attractions botanic gardens  
zoos safari parks visitor centres themed attractions mixed  
development heritage centres science centres hotels restaurants...

RETAIL DESIGN



# DESIGNER LABELS

Brands like Dior have turned to famous architects to design their stores

The world's most famous architects and their buildings can yield influence far beyond their footprint. David Fraser examines the phenomenon of the starchitect and its effect on the world of top-end retail

**I**n recent years, and despite a deep recession, the profession of architecture has undergone a transformation, and today's elite architects have become highly influential in the creative business world.

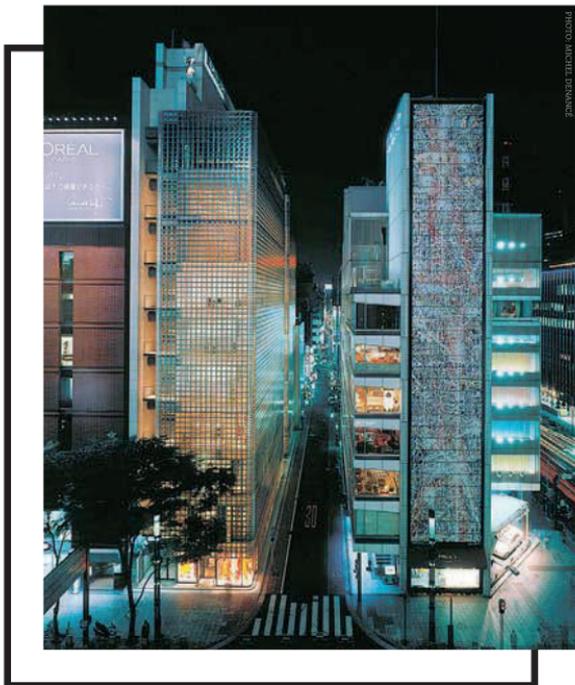
In the 1990s, boosted by the globalisation of the English language, both US and UK-based architectural practices began to set up offices across the world.

While this global expansion was taking place, a parallel trend was turning architects into celebrities. History is full of famous architects, but contemporary architects such as Norman Foster, Richard Rogers, Renzo Piano, Rem Koolhaas and Jean Nouvel took this fame to new heights and had the power to reach a truly international audience.

Emerging countries and cities seeking international recognition saw the value of an endorsement from architects like these, and international investors wanted them for their developments.

### THE 'STARCHITECT' IS BORN

The relationship between power, art and architecture has a long and distinguished history, and the three have been bedmates since Ancient Egypt. The difference between that relationship and the birth of the starchitect was that for the first time the trend was broadcast in the global media.



Renzo Piano was hired by Hermès to design the fashion house's Tokyo store

## Breathtaking buildings make great stories with massive media appeal

Breathtaking buildings make great stories with massive media appeal so for architects like I M Pei, Zaha Hadid and Frank Gehry, these were to be busy times.

There are fascinating upsides to this new monopoly of architectural supply. Evidence has emerged that suggests schemes endorsed by celebrity architects have a greater chance of gaining planning consent and passing through the minefield of development than those proposed by other architects.

Following Bilbao's Guggenheim, it became an accepted wisdom – wrongly in many cases – that a city could reverse struggling fortunes with a famous building (usually a cultural attraction) and a celebrity architect's signature. It's sometimes forgotten that there are many buildings by famous architects that have failed, undermining the idea that starchitects can single-handedly regenerate or reposition a city or region. ▶



#### ▶ VALUE IN STARDUST

However, further investigation reveals that, in the right hands, these architects do indeed deliver a development premium. Research from the London School of Economics (January 2014) shows developers have realised that a starchitect can help play the planning system in a way other architects cannot. Research by Paul Cheshire and Gerard Derricks surveys 515 buildings around the world to reveal the appointment of a starchitect leads to, on average, an extra 19 storeys of development being granted (also see: *High Expectations*, CLADbook, p174).

Perhaps it is this – plus the fact that the supply of starchitects is by its very nature limited – that justifies their fees, with valuations of certain firms running into the hundreds of millions. These practices have become very big business indeed.

#### THE BRAND ARCHITECT

These firms have built themselves up as brands through hard work and exceptional

## Starchitects protect their brands precisely by being exclusive, expensive and by limiting supply

creativity. The buildings these architects create frequently exceed our dreams and change our expectations of what architecture can deliver in our towns and cities. It's also a highly valuable export industry and a wonderful career for many.

Starchitects are a creative elite servicing a global über-elite with more money and higher expectations than ever before. Increasingly we see developments which lean in the direction of fantasy in a way that the architecture of old cannot do.

#### BRANDS SEEKING BRANDS

Having been recognised as brands in their own right, starchitects have become

the designers of choice for luxury stores around the world – brand temples for the most exclusive labels. In the better shopping streets of Tokyo no self-respecting brand would create its new store without employing the likes of Toyo Ito (Tod's), Sanaa (Dior) and Piano (Hermès).

In fact, Herzog & de Meuron's signature can be seen on the entrance of the Prada building in Tokyo's Omotesando District. This is the first time we have seen the architect's signature etched into the door of a store – and it won't be the last.

A small band of ambitious architects is targeting this sector with extraordinary precision. The architect Peter Marino

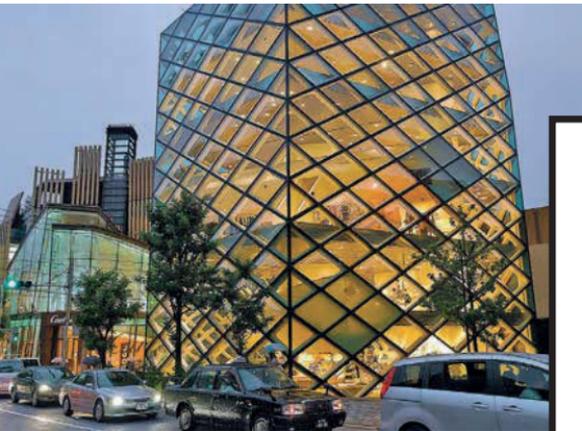


PHOTO: FLICKR / YELLOW MAO

Like an artwork, Herzog & de Meuron signed the Prada store they designed for the Italian fashion house. The store opened in Tokyo in 2003





PHOTO: LUCKY / JAGOR HOTEL



PHOTO: FELICE / FORNEMANO ARCHITETTURA

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Toyo Ito designed Tod's store in Tokyo's fashionable Omotesando shopping district (above), while Peter Marino made his name designing flagship stores for brands like Louis Vuitton

built a portfolio designing stores for the most iconic luxury brands, including Louis Vuitton, Chanel, Fendi, Giorgio Armani, Christian Dior, Donna Karan, Ermenegildo Zegna, Hublot and Valentino.

Marino was introduced to Andy Warhol as a young architect in 1974 and worked for him in 1978. Entering Warhol's circle gave Marino exposure to a cosmopolitan milieu allowing him, over the years, to make connections that would shape his career. He worked privately for people in that circle until he was offered his first retail job in the late 1980s, for Barneys New York.

Marino famously swapped his tailored suit for a full leather outfit, using this unconventional look as a trademark, blending in with the world of the fashion designers. He looked at retail design in a new light and has been credited with pioneering the modern shopping environment we know today. ▶

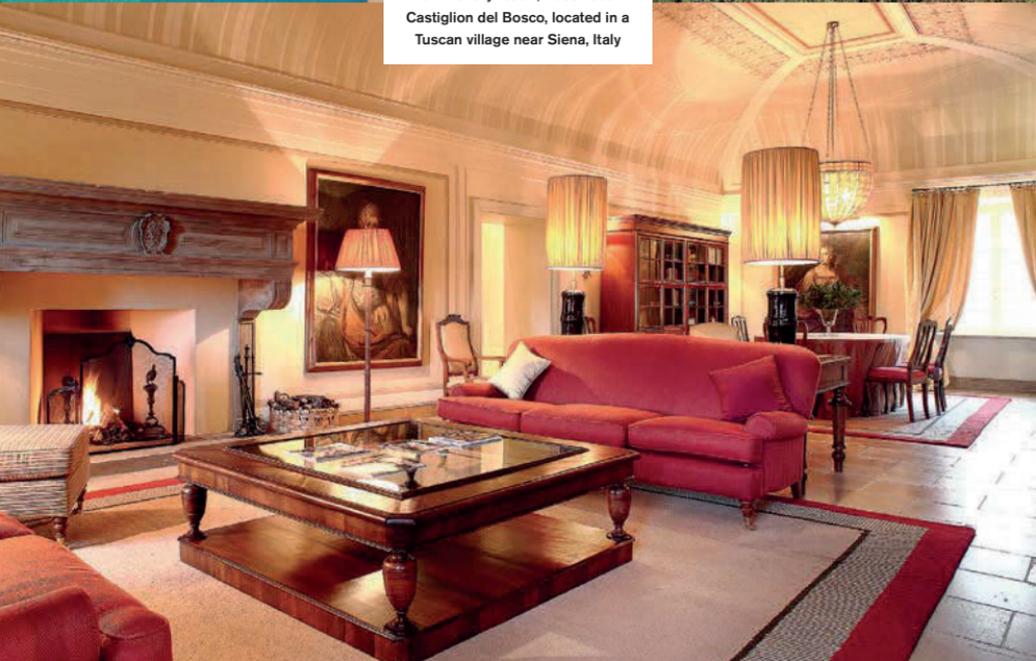


PHOTOS: SHUTTERSTOCK / SAHACHAT SANEHA AND PA / FRANCOIS MORE

**RETAIL DESIGN**



Massimo Ferragamo created his own luxury resort, Rosewood Castiglion del Bosco, located in a Tuscan village near Siena, Italy





## The cachet of a luxury fashion brand adds kudos to a development

### ► NEW COMPETITION

The latest move in the drive to express the glamour of the brand is the emergence of buildings designed by the luxury brands themselves. Here the cachet of a luxury fashion brand adds kudos to a development; whether hotel, residential or mixed-use.

The Milano Residences in Manila, Philippines, is not presented by the developer or by its architects, Broadway Malyan, but by interior designers Versace Home.

There are several more notable examples. The first Armani Hotel opened in 2010 in the Burj Khalifa, Dubai. A second hotel operated by the brand opened in Milan, Italy, in 2011 and more are promised.

In Jamaica, Pineapple House, a 36-room hotel, was remodelled under Ralph Lauren leadership, including designs for the cocktail bar, restaurant and spa and decoration of the rooms. In Italy, Massimo Ferragamo has converted an entire Tuscan village into a luxury resort, Rosewood Castiglione del Bosco. Close to Siena, it boasts its own vineyards, orchards and chapel with medieval and Renaissance period frescoes.

Porsche Design Tower is being built in Miami, Florida. This 60-storey residential tower includes robotic parking garages, with 284 parking spaces for 132 units, allowing residents space for up to four cars outside their apartment – on all levels. Units are expected to cost from US\$4m to US\$33m.



Porsche has designed a 60-storey residential highrise in Miami, Florida

So where does all this leave the architect? As more practices seek to expand, pressure will rise for them to present themselves in a different way. Compare most architects' websites and brochures today and you'll find little difference between them. The art of tone, building an image and creating a distinctive brand personality doesn't yet come naturally to most practices.

However, this is going to change. Some architecture firms will make changes

instinctively, while others will need help. But what is clear is that the international practices of tomorrow will need to have brand thinking high up on their agenda if they are to have a hope of being noticed in a highly competitive market. □



David Fraser has more than 20 years experience building brands. He is partner at Harrison Fraser brand and design agency.

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# SET THE TABLE

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## set the stage

**When the interior design is right, a restaurant can become legend. James Biber looks at the theatre in restaurant design and some enduring projects from the New York scene**

James Biber, chair, James Beard Foundation Restaurant Design Committee

**R**estaurant design is no ordinary design task.

Other than home design, no design challenge is so intrinsically human as restaurants. Cooking, anthropologists tell us, allowed hominids to become human – and eating food is the most universal of all human experiences. Restaurants combine this primal need with a social context that helps define eating as social, and therefore societal. Put this way, restaurant design addresses the most essential touchpoints of humanity.

Design for dining occupies the world between retail and domesticity, between



experience design and functional efficiency, between extravagance and austerity, and somewhere between the familiar and the new. These ambiguities help us understand the attention restaurants have and consequently the attraction of shaping restaurant to its designers: one is able to define an entire world in a few square feet.

While all this may seem grandiose, it's no more exaggerated than our varied expectations of dining out. We are here we eat much more than what we eat. The definition of what constitutes a restaurant is remarkably broad in part to accommodate the wide range of humans and social types. The permutations, like music or art, or for that matter food, are endless.

We can likely agree that restaurant design is more basically human than, say, designing a health club, an office or a shoe store. Our agreement on what makes a restaurant beautiful, successful, appropriate, classic, trendy or vernacular is probably less certain. Because eating is universal, and social eating is nearly so, everyone has an equally valid view of what these places should look like.



The Gotham Bar and Grill in New York has been running for 30 years



There are five components to any good restaurant: achieving three is usually enough for success



But restaurant design is really just a small part of what a restaurant really is. The old saw is that there are five critical components to every restaurant: location, value, food, service and design. And the punch line is, to succeed, pick any three.

An eatery can survive on food, service and value (by which we mean the cost/quality equation) without location or design mattering at all. Likewise design, location and food can overcome service inadequacies and prices that don't make much sense. The 'pick any three' idea establishes a baseline of success, but more than three can elevate a restaurant to another level.

When restaurants hit all the notes and add the intangible qualities that make a diner stand taller, stride with more confidence, look better in the lighting

**Few other places, aside from actual sacred spaces, can achieve the level of impact and power that restaurants can**

and feel more important because of the service, they are entering the realm of sacred spaces. Few other places, aside from actual sacred spaces, can achieve the level of impact and power that restaurants can.

#### DESIGN THAT LASTS

When designing my first restaurant I was blessed with an utter naivety about the task. It led to a design I could never duplicate, the Gotham Bar and Grill. It's both unique and enduring, and born of

a consortium of novices that only 1980s' New York could devise. Four owners with no food experience and a heady sense of their ability to succeed hired an architect with similar credentials (me) and a consultant in the American cookbook author and *New York Times* columnist Barbara Kafka. The restaurant opened in 1984 and is still going strong.

In 1985, chef Alfred Portale came in, providing the Gotham Bar and Grill with the chef-personality that was becoming de rigueur for serious restaurants. (The owners went for another celebrity chef in our next collaboration, Mesa Grill, finding Bobby Flay.) Portale has held court at Gotham for more than 30 years. And Flay's Mesa Grill stayed open for more than two decades before closing in 2013. ▶



Architects Phillip Johnson  
and Mies van der Rohe  
(centre) plan the Four  
Seasons' opening in 1958



The Four Seasons creates a number  
of theatrical sets in which the  
diner is always moving between  
stage and audience in an effortless  
and seamless procession





New York's  
Oyster Bar has never  
changed and thus  
become a landmark

PHOTO: TIMOTHY SCIENCE

► Design works best when fully informed by the owner and/or chef as a full participant. How a restaurant will work, feel, serve, last and sound are all part of the formula, but the genesis for design ideas does need to have a footing in some kind of fixed reality. A chef will do, as will a strong location or focused food idea. In some cases, a narrative and referential place is all that is required.

While the five components I have mentioned are the restaurant owner's touchstones, architects and designers have other, sometimes surprising, hierarchies of design values to consider.

I have always tried to put lighting and sound design near the top of the list: lighting has everything to do with how you look, and acoustics make it possible to be heard as well. The ability to slide a chair back to get up from the table (without an attendant helping) matters as much as the ability to see the room from any seat.

We all love booths, in spite of the discomfort. Design a restaurant outside Manhattan and banquettes are referred to as New York Booths. We designed a restaurant where every single seat was a booth and, in spite of the inherent inflexibility of seating, it succeeded brilliantly.

The ability to turn tables quickly has become a science in some restaurants where waiting diners get wireless buzzers to get them back to the host and queued up to sit within seconds of a vacated table. Reducing this time can allow one more dinner at the same table (and at, say, US\$40,000 per seat per year, it adds up).

Perhaps the single most influential factor in the personality of an eatery is the owner. If they are warm and gracious everyone will mimic their grace. We have all arrived at a restaurant been treated like a long lost friend – and we have all been treated the opposite way.

So when a restaurant strikes a cultural chord among enormous swathes of society, and does so for enormous swathes of time, it is notable. When the design remains a significant and consistent feature in a long-term eatery it is especially notable to those of us who design and aim for longevity.

**Perhaps the single most influential factor in the personality of an eatery is the owner. If they are warm and gracious everyone will mimic their grace**

### THE FOUR SEASONS

Design is one of the few things that can remain a constant feature of a restaurant; staff and even ownership change, chefs come and go, food evolves over time and locations rise or fall based on real-estate transitions. In New York, when design is unchanged it can be nostalgia (McSorleys or Canters come to mind) or landmark designation (like the Oyster Bar) or even laziness that drives the decision not to change. When change would simply erase the design value of the space – and when the design is so integral to the character of the restaurant that change is unimaginable – we have something unique.

The Four Seasons is just such a place. It has been, from the moment it opened until the present day, a design of such quality, luxury and weight that change is simply unimaginable. (Fortunately, change is unimaginable to the New York City Landmarks Commission as well, which will ensure the design survives past its current five and a half decades well into the future.)

Opening to astonished critical and public reviews in July 1959, the Four Seasons has, and may still have, the most refined modern pedigree of any restaurant since Adolph Loos designed the American Bar in Vienna, but at a truly American scale. At 2,000sqm, the Four Seasons reflects the outsized ambition of Mies van der Rohe, its architect, and his associate Phillip Johnson, played out in a monumental building of nearly classical proportions and American, or rather New York, gargantuan size.

The cost was equally astronomical: US\$4.5m (about US\$35m today), when the Guggenheim Museum that was being built up Fifth Avenue was US\$3m. To this day it's in the running for the most expensive restaurant ever built.

The cost assured every single detail was bespoke, and four entire sets of everything (livery, menus, typewriter ribbon colours, trees and table linen) that changed with each season alongside the food. The art ►

► included Picasso, Miro and Jackson Pollack. And the menu itself was almost comically large, with 20 or 25 hot appetisers, 25 cold appetisers and 25 variations on steak.

As nearly everything changed seasonally the space itself was remarkably permanent. Highly geometric with long vistas and even longer walks from downstairs to the bar, from the bar to the pool room. It's organised as a set of promenade spaces, each with its own character.

The Grill Room (now the Bar) is warm and wooden and arrived at from the lower level. Rising up into the vast high room from the compressed travertine lined base below is an expansive act that emphasises the enormity of the space. Half lined with French walnut and half with full height glass walls, the warmth of the glass is helped with the swags of copper chain that line each panel and ripple in the slightest breeze.

The hall connecting the Grill and Pool Rooms is nearly as grand as the rooms themselves – more museum than restaurant.

**In New York financial wealth is all that matters. If one can pay the check at the Four Seasons one can dine at the Four Seasons**

The Pool Room is focused on a marble pool occupying the centre of the room and making it clear that there's enough real estate to waste a bit for the purposes of privacy and, cleverly, making the central tables as sought after as the ones lining the windows. A similar trick is at work in the Grill Room, with the terraced levels making both proximity and distance from the centre of the room desirable for different reasons.

### RESTAURANT AS THEATRE

Presaging the 1980s trope about 'restaurant as theatre', the Four Seasons creates a number of theatrical sets in which the diner is always moving between stage and

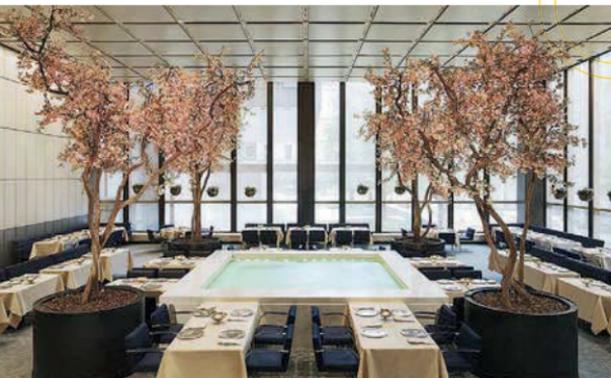
audience in an effortless and seamless procession. Even the connecting hall is several steps up from the lobby level to make it more runway than mere balcony.

Lined in calfskin panels and more walnut, the Pool Room makes it clear finally that this is entire assemblage from the building to the seat at your table is an intensely masculine affair. The women's bathroom is the perfect key to that, with a separate room for makeup and lined in pinkish marble, it seems remarkably out of place in the clubby space. The men's room by contrast is lined in slabs of grey veined marble as crisp and tailored as a fine worsted wool suit.

That The Four Seasons has not only lasted (it lost money for years) but thrived has as much to do with the democratisation of prestige as with the quality of the experience. In New York, money is the both the literal and social currency.

In London, one can only advance so far without the right name and school diploma; in Los Angeles, celebrity is everything; in Washington, DC, political power is valued more highly than money; but in New York financial wealth is all that matters. It's the great leveller, and if one can pay the check at the Four Seasons one can ultimately dine at the Four Seasons.

No longer the most modern, or the largest, or the most expensive dining experience it is still the oldest and the first truly modern restaurant in New York, and likely in America. It set a standard of design as something to live up to, not just something to inhabit. It will remain intact beyond its current operator, its current name and its current clientele. It may very well outlive us all as a place, and it will always be The Four Seasons, just as the central tower in Rockefeller Center will always RCA Building, regardless of an NBC or GE or Comcast sign. □



Spring in the Four Seasons' Pool Room looking over the park

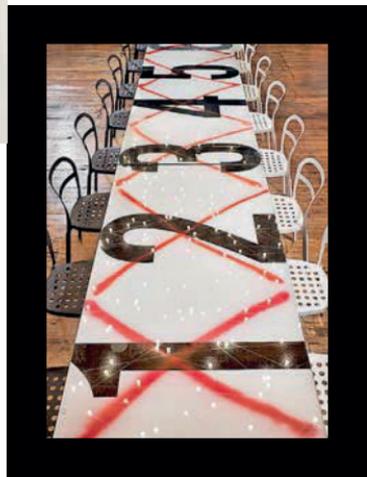


Biber Architects designed Food Truck Nation, inspired by US street food culture, for Expo Milan



27 days of Food:  
Biber Architects designed  
a pop-up restaurant for the  
James Beard Foundation

Restaurants combine  
a primal need with a  
social context that helps  
define eating as social,  
and therefore societal



# PURE INDULGENCE

LIFE'S GREAT PLEASURES INSPIRE WTS INTERNATIONAL'S  
FOODIE SPA IN THE EPICUREAN HOTEL, FLORIDA

Spa Evangeline offers a unique experience inspired by two of life's greatest pleasures: food and wine.

The spa is in Epicurean Hotel in Tampa, Florida – a Marriott Autograph Collection property that celebrates food and wine through a range of gastronomic offerings. Epicurean Hotel was developed in collaboration with Mainsail

Lodging & Development and Bern's Steak House, which is located across the road. Established in 1956, Bern's is a legendary dining venue state-wide and beyond, thanks to its dry-aged steaks, 200-plus wine list and famous cellar, with one of the largest private wine collections in the world.

"We're crafting a foodie's paradise, a wine lover's dream. There's no greater

homage to life than to indulge in and explore all the flavours that it has to offer," steak house founder Bern Laxer once said.

That's the spirit that infuses the Epicurean Hotel – which boasts a state-of-the-art culinary classroom, restaurant, rooftop cocktail bar, patisserie and Bern's Fine Wines & Spirits shop – so when WTS International was hired to design and manage Spa Evangeline, it picked up the culinary lead from there.

Introducing a product offering that reflected the values of the hotel was an important starting point for WTS. ▶

Spa Evangeline is  
a **day spa** with a  
**foodie twist**



Andrea Dubois (left) and Mary Lynn Mellinger were on the design team

Both Epicurean Hotel  
and Evangeline Spa  
take inspiration from the  
farm-to-table movement





Guests can enjoy a glass of wine or chocolate desserts while they relax at Evangeline Spa

## Promotional feature



▶ Farm-to-table brand FarmHouse Fresh and vinotherapie line Caudalie were chosen for their clear kinship with Epicurean's stories.

"These products inspired not only the menu, with their brand stories that emphasise the use of fresh ingredients and making the most of each part of what nature gives us, but also the design of the space," says Mary Lynn Mellinger, WTS director of planning and design services. "We pulled from the rich and vibrant colours of the ingredients that go into these product lines as we chose the colour palette and materials for the space."

### VIBRANT HERB WALL

Inside the boutique spa, which has two massage rooms, two couple's rooms and one skincare room, the food and wine themes are brought into play. A vibrant herb wall offers guests the chance to select ingredients to add to their treatments, referencing the farm-to-table movement that underlines the values of the hotel, Bern's restaurant and FarmHouse Fresh. Working with a spa sommelier, the guests can introduce herbs, fruits and essential oils to their treatment.

"Spa Evangeline is a day spa with a foodie twist," says Mellinger. "Just as the hotel

## Up to 30 plants can grow happily in a single square foot on the vertical wall

seeks to whet the appetites of its guests, the spa offers a way for guests to enjoy the food-inspired surroundings and choose edible ingredients to add to their body treatments and massage scrubs – and the herbs are even used to flavour the drinking water that's served. It's a fun way to carry the farm-to-table concept into the spa."

Created and maintained by Uriah, Alabama's Urban Farms, the herb wall includes cilantro, mint and decorative plants. Up to 30 plants can grow happily in a single square foot on the vertical wall and they are nurtured organically without harmful pesticides. The herbs are also used by the hotel's high-end restaurant, Eleveage.

Weaving the oenology and viticulture theme into the design of the spa, WTS drew on the extensive wine collection at neighbouring Bern's Steakhouse to create a full-scale cork wall made from 28,000 wine corks, re-purposed from the restaurant and assembled one by one. The living herb wall

### SPA EVANGELINE

Spa area  
280sqm

Cost of hotel and spa  
US\$40m

Opened  
March 2014

Spa owner  
Epicurean Hotel / Mainsail  
Lodging and Development Group

Spa manager  
WTS International

Design  
WTS International, Urban Studio,  
Gettys Hospitality Design

Design inspiration  
Bern's Steak House

Treatment rooms  
Two massage rooms, two couples  
rooms and one skincare room

is mounted in the middle of the cork wall located in the nail salon, The Cellar.

Evangeline Spa has thus created a mini-concept and spa experience that reflects the wider values of the hotel and its partners and pays tribute to Bern's advice on life: "indulge in the flavours it has to offer". ●



The full-scale cork wall is made from 28,000 wine corks, with the herb wall at the centre



# CLADbook 2017

## green

- 146 **Green developments**
- 158 **Sustainable sports design**
- 166 **Green accreditation**



## GREEN IT UP

Three leaders in sustainable design tell us how buildings can bring wellbeing to people, even in high-density cities

Neena Dhillon, journalist, CLADbook

Stress, heat, pollutants, artificial light, sedentary lifestyles ... it's little wonder the planet's city dwellers are seeking respite when they travel. Whether drawn to the prospect of reconnecting with nature or investing in time to enhance their sense of wellbeing, more people today are electing to holiday in destinations with a wellness offering. Just as Asia has proven a pioneer of the spa resort, so too has the region been leading a movement to reverse the decline in quality of our built environments. Populations may explode, metropolises may sprawl, high-rises may climb ever higher but perhaps our urban spaces need not be the natural enemy of wellbeing. That's certainly the thinking behind the green strategies being developed by progressive design studios in Asia and America. They believe it's possible to create a sense of wellbeing both for people and the planet through a commitment to sustainable building design in urban settings and beyond.



A view of Parkroyal on Pickering in Singapore, designed by WOHA to have 15,000sqm of greenery – double the area of the site

## We believe it's essential to maintain the ratio between building density and naturally calming environments

Richard Hassell, WOHA

### Holistic approach

"It's been well documented that being connected to nature has positive psychological and physiological benefits," says Richard Hassell, director of award-winning WOHA Architects.

"Greenery is wonderfully effective at combating the heat islands created by cities, while removing polluting volatile organic compounds such as benzene and formaldehyde from the air," Hassell says. "So when we build an urban hotel or residence, we think of it from the outset as a resort in the middle of the city. We believe it's essential to maintain the ratio between building density and space allocated to naturally calming environments. Indeed by working to a minimum ratio of 100 per cent, whereby the world is just as green as it was prior to our site being developed, we apply what we call our 'do no harm' quantum."

Based in Singapore, WOHA set benchmarks over 10 years ago with its design for Newton Suites, a 36-storey residential development in which an area of landscaping equivalent to 130 per cent of the site was generated. The high-rise was partly responsible for Singapore's planning authorities moving towards the 2009 implementation of its Landscaping for Urban Spaces and Highrises (LUSH) programme, applicable to private developments in the residential, hospitality, retail and office sectors. Covering designated 'strategic areas' of the city, one of the programme's core stipulations is that private developers must replace greenery lost as a



Richard Hassell says his firm follows a "do no harm" philosophy



■ The low-maintenance green spaces are easy to access by hotel gardeners

result of their project's construction with landscaped areas equivalent, at least, to the development's site area. This replacement greenery can be provided in the form of landscaping, roof gardens, sky terraces or planter boxes, and should incorporate communal facilities. Developers of existing mixed-used properties meanwhile are rewarded with bonus gross floor area for outdoor dining facilities if they make an application to convert their rooftops into a garden or green space.

### Parkroyal on Pickering

Applying learning from the residential to the hospitality field, WOHA has since been responsible for one of the 12 hotels to be awarded Green Mark Platinum certification by Singapore's Building and Construction Authority. Set within the bustling Central Business District, Parkroyal on Pickering opened in 2013 with 15,000sqm (double the site area) of sky gardens, reflecting pools, waterfalls, planter terraces and green walls.

"You can't achieve this level of integration without an operator who understands that there has to be a commitment to harmonised architecture, interior design and landscaping from the get-go," points out Hassell. "When these responsibilities are allocated to separate firms, it's all too easy for architecture to be driven into an enclosed box, especially when there are restrictions on height and floor space due to commercial considerations. It's difficult to carve out an internal courtyard or plan for a sky garden, for example, once the architecture has been signed off." ▶



The pool at Parkroyal on Pickering is set amongst lush plantlife, which can be explored via a network of pathways



New Cuffe Parade in Mumbai, India, is built around expansive green space and courtyards, designed by landscape firm Sitetectonix

## WOHA recognises that its innovations need to be beautiful, practical and capable of showing quantifiable benefits

▶ A shift in the mindset of hotel operators means that more are interested in the long-term advantages of green design, even if this means their spend on mechanical and technical systems is higher in the initial stages of their project. In return, WOHA recognises that its innovations need to be beautiful, practical and capable of showing quantifiable benefits.

With this in mind, Parkroyal on Pickering maximises natural daylight through its open-sided courtyard configuration while vertical greenery shields the hotel's west-facing walls to keep them cool and prevent heat radiating into guest rooms. Corridors, lobbies and washrooms have been arranged with planting and water features to generate more natural light and fresh air, avoiding them turning into 24-hour energy-guzzling spaces. In fact, there is no air-conditioning installed in external corridors but with the combined shading from sky trees and overhanging plants as well as radiant heat absorbed by vertical greenery, the ambient temperature is always cooler than outside the building. Lush landscaped terraces and sky gardens, planted with species selected for their durability in the tropical climate, complete the scheme.

"Studies by the National University of Singapore have shown a temperature drop of 3.3°C behind green walls, which means that developers in tropical climates are less reliant on air-conditioning to keep their buildings cool," says Hassell. "Alongside this resulting reduction in electricity bills, other benefits of a green scheme are the ability for areas such as landscaped gardens and rooftops to be hired out as event spaces, generating revenue in their own right."



■ **The New Cuffe Parade development features green residential skyscrapers, leisure facilities, pavilions and parkland**

As an architecture and design practice that works closely with operating teams, WOHA is all too aware of the practical issues that can arise with vertical greenery.

"In the case of some green walls, we've seen owners forced to hire a maintenance gondola simply to replace a dead plant," Hassell adds. "So we've divided the Parkroyal building into blocks with linkways and terraces to allow ease of access for a gardener and a wheelbarrow to attend to every section of planting. The selection of low-maintenance plants such as ferns and palms, coupled with an automatic irrigation system, minimises the needs for constant maintenance. Currently gardeners are scheduled to conduct checks and regular trimming twice a week across the property."

As well as the hotel's self-sustaining irrigation system, which collects rain to

water the plants, rooftop solar panels power the grow lamps and softscape lighting installed throughout the landscaping.

### New Cuffe Parade

This holistic approach to design is undoubtedly at home in a country known as the garden city-state but perhaps its application makes most sense in those cities under threat of losing their green spaces.

Mumbai, a case in point, is the site of a high-rise residential complex with Indian developer Lodha Group. New Cuffe Parade in the Wadala district comprises 10 64-storey residential towers and a commercial tower, clad in a shimmering aluminium screen that diffuses light and creates shade. Apartments overlook a 10-hectare recreational garden while the external façades are dressed in vertical green walls. It's the first time a green high-rise of this ambition and scale has been attempted in Mumbai, says Hassell.

Meanwhile WOHA's mission continues, now over in Phuket. Aiming for LEED certification from the US Green Building Council, Rosewood Phuket is being constructed according to passive design principles. Large overhangs are a characteristic of the building structures, cross-ventilated spaces are commonplace and all existing trees have been secured and incorporated into the design. Photovoltaic cells for energy collection, massive water-storage dams embedded into the landscaping, reverse osmosis water-filtration systems, grey water recycling and coral reef restoration are some of the additional features that will ensure this resort, due for completion in 2017, moves the green hospitality agenda forward. ▶

## By harnessing nature, we can make environments that are both non-toxic and cost-effective

Professor Jason Pomeroy, Pomeroy Studio

### Vertical urbanism

Named 2014's Young Green Advocate of the Year by Singapore's Building and Construction Authority, Professor Jason Pomeroy heads another pioneering studio in the garden city-state.

Pomeroy's B House was Singapore's first operational carbon-negative property, a 1,000sqm residential proposition that optimises natural light and ventilation, reduces energy and water consumption, while also generating more energy than its occupants can consume through the installation of cost-effective, locally manufactured photovoltaic cells, generating more energy than is typically consumed by an average household in a year (between 12,000kWh and 20,000kWh in gas and electricity use annually). In fact, since the energy footprint is only 8,000kWh



Jason Pomeroy says there's an increasing will to build sustainably

per year, B House frees its owners of all their electricity bills, thereby pushing the envelope of passive green design.

A leading expert in vertical urbanism, Pomeroy has noticed increasing levels of interest in sustainable building methods from the hotel industry.

"It's natural that forward-looking hospitality developers are thinking not only about energy and water costs, but also about ways they can weave renewable resources into their sites without compromising the guest experience," he says. "The way we're moving forward with hoteliers is to design properties with contemporary comforts and amenities, while factoring in subtle references to the local culture alongside inherent sustainability."

"For example, one of our Malaysian projects, a development called Jahabah in Penang, showcases innovative architecture, yet it's inspired by the Islamic gardens and geometry of the past," he says, underlining the importance of vernacular. "People are no longer seeking bland pastiches when they travel, rather something modern that also captures some essence of the locality."

### Carbon sponges

Designs at Pomeroy Studio tread the line between creative and academic rigour. Advanced environmental modelling software, developed by the team, is used to optimise building façades to maximise natural light and air while reducing solar heat gains. Interiors are cross-ventilated and truncated to achieve the same. Vertical greenery and rooftop gardens are embraced to both bring down temperatures and reduce storm water run-off, which in turn helps with the management of flood risk; "one square metre of garden can absorb six litres of water," says Pomeroy.





In his 2013 book, *The Skycourt and Skygarden: Greening the Urban Habitat*, Pomeroy explains how plants and trees act as carbon sponges in cities, removing noxious pollutants and carbon dioxide from the atmosphere by metabolising them into harmless by-products. Carried out in 2004, a Johnston and Newton study revealed that urban settings with trees have a number of dust particles of 1,000-3,000 per litre compared to greenery-free environments that typically contain 10,000-12,000 particles per litre. Assessing a number of studies that have measured how greenery cools the urban environment, Pomeroy notes that drops in temperature of between 3.6°C and a whopping 11.3°C have been recorded.

This scientific understanding is filtering its way into the latest hotel developments by Pomeroy Studio. At Bateau Blanc in Malaysia, for example, rainwater will be harvested, low ecotoxicity materials will be installed, indoor and outdoor planting

■ **Pomeroy Studio has designed a flower-shaped resort in Malaysia that features water villas and eco pods**

will help absorb dust and pollution, LED lighting will illuminate interiors and there will be recreational green spaces in the sky. Pomeroy says none of these green techniques will make the construction phase of this or similar projects any more expensive than if they were being realised through traditional building methods.

“So much of sustainable design is about returning to the basics, before technology arrived on the scene. By harnessing nature, we can make environments that are both non-toxic and cost-effective.”

### **Eco pods**

Another hospitality project that called for an innovative construction solution is part of a tourism destination called Lexis Hibiscus Port Dickson, Malaysia. The flower-shaped

resort features 544 water villas and suites with private pools and gardens. It's the largest water villa community in the world.

“The developer, Kuala Lumpur Metro Group, was committed to a lightness of touch on the landscape so we designed 20 Passive Eco Pods based on modular construction methods,” says Pomeroy. “They were transported to the site in sections and assembled there, avoiding earth preparation and clearing costs.”

Built of fibreglass and inspired in form by the Venetian Vaporetto, the eco pods harness light, air, solar and water optimisation techniques common to other Pomeroy Studio developments, as well as intelligent storage units and walls that conceal technology, equipment and belongings.

Each Passive Eco Pod, designed as a self-enclosed two-bedroom villa, results in a 70 per cent reduction in energy bills and 50 per cent reduction in water bills compared to a typical hotel unit of the same size. ▶

## Sustainability is an integral aspect of our design philosophy, not an additional approach

Gordon Gill, Adrian Smith + Gordon Gill

### Less is more

When Adrian Smith + Gordon Gill Architecture (AS+GG) was founded in 2006, it was with the intention to specialise in high-performance, energy-efficient, sustainable design. Today the Chicago, Illinois-based firm is perhaps best known for the Kingdom Tower in Jeddah, set to be become the world's tallest skyscraper at over 1,000 metres high when construction is complete. Yet it is largely in Asia that the firm's portfolio of architectural projects is rooted, with the practice commissioned to create environmentally sustainable spaces measuring anything from 2,000sqm to more than 500 hectares in size.

AS+GG partner Gordon Gill believes the growing movement for urban environmentalism is being driven by a combination of opportunity and need.



Gordon Gill says technology and nature can co-exist in architecture

"As Asian cities proliferate, there is a massive amount of stress being placed on resources and infrastructure," he says. "This

need to start protecting natural resources has opened up opportunities where sustainable design lessons can be applied."

Although AS+GG works across hospitality, leisure, residential, civic and commercial sectors, there is a common approach to all the firm's projects regardless of their function.

"Sustainability is an integral aspect of our design philosophy, not an additional approach," says Gill. "So we start any project by asking the same thing – how can we design buildings to need less while ensuring that people feel comfortable?"

### More than a facade

To minimise energy demand, the firm employs a combination of passive design principles and interrelated systems.

Gill says: "A well-designed facade system is directly related to the heating





and air-conditioning loads required of a building. If you correctly orientate a facade to blast out heat gains, this can lead to operational cost savings in a hot climate.”

The savings that developers can achieve will vary significantly according to the requirements of each project, but AS+GG’s approach typically brings about a 30 per cent reduction in heating, refrigerating and air-conditioning costs beyond ASHRAE standards. ASHRAE sets international codes in building system design and industrial processes, with a particular focus on the advancement of heating, ventilation and refrigeration sciences.

Another advantage of designing façades that respond to the climatic conditions around them is that they organically yield interesting spaces in the body of buildings. Designed to meet or exceed LEED Gold Certification, the new Sanya Bay Haitang Resort in China uses AS+GG’s self-shading ‘veil’ system. In addition to bringing about energy savings, the facade itself presents

■ **AS+GG is working on the master plan for the 2017 Expo Astana; and the luxury Sanya Bay Haitang Resort (left) in China**

unique social and meeting facilities that take full advantage of the mountain or sea vistas towards which they face.

#### **Future energy**

Hospitality forms just one of the components of an exciting master plan that is currently keeping many of the practice’s employees busy. Expo 2017 in Kazakhstan’s capital Astana is set to rise from a 174-hectare site and while the theme of the forthcoming world fair – Future Energy – is wholly appropriate, it is the legacy component of the project that has afforded AS+GG the opportunity to deploy its latest and, in some cases, experimental green techniques. Post-fair, the majority of the expo buildings, with the exception of fixed cultural sites, will be converted into permanent structures as part of a long-term

community comprising offices, residences, retail, hotels and educational facilities.

“The legacy mode is the primary concern of our design for these buildings and the core mechanical and engineering systems are tied to this long-term use,” Gill says.

Responding to site-specific climate and land studies, buildings are being located to form mutually supportive structures that will protect one another from prevailing winds and snow drifts in the winter, allowing for the greatest percentage of solar absorption on-site.

Building-mounted photovoltaics will enable the harvesting of solar energy year-round, generating an estimated 20 per cent of the project’s energy needs, although in summer months, the glazed areas of façades will become self-shading. A vacuum waste-control concept will minimise the amount of waste management vehicles required throughout the site by funnelling garbage from disposal points located in all buildings to a central utility plant. Here, the waste will ▶

## GREEN DEVELOPMENTS

The Expo 2017 site in Astana comprises pavilions, residences, service areas and site-wide parks

▶ be sorted, cleaned, recycled and converted into energy. Instead of every building being equipped with an individual cooling tower, a district-level water-cooling system will respond to day and night behavioural usage patterns, improving efficiency of distribution across the community.

In one of the more experimental features, two giant wind turbines embedded into the main Expo Kazakhstan pavilion – which will remain as a centrepiece museum – will generate about 3 per cent of that respective building's energy. It's a low level of output compared to solar, but AS+GG also intends to link the turbines to the community's urban parks, where they will assist in planned agricultural production by powering the nearby urban farms.

Furthermore, the very act of punching holes for turbines can be beneficial because it reduces wind load and drag coefficient on building surfaces. In some cases, this has resulted in buildings demanding 20 per cent less structure to deal with wind forces, an advantage that neatly feeds into the firm's mission to "build less while maintaining comfort."

As award-winning green advocates, Gill and his partners Adrian Smith and Robert Forest believe that developments in urban environments can cater to people's wellbeing while simultaneously sustaining the environment. But in designing the projects of the future, the aim is to foster a relationship between nature and technology.

"We have to find a balance between our internal desires for the natural environment and the latest technologies," says Gill. "In urban settings in particular, these two pursuits need not be in conflict. As architects, we are striving to develop communities where the two become mutually supportive." □







# GOOD SPORTS

Chris DeVolder, sustainable design leader at architects HOK, explores how designing sustainable sports venues improves communities – and the bottom line

**H**undreds of years ago, a sports facility served as a city's hub. It occupied the main public square or area where citizens assembled to support

civic activities and housed functions including hospitality, food and retail.

By the mid-20th century, many new sports venues were built outside the central business district. Such facilities are often surrounded by parking space and focus on a single use, resulting in disconnection from the city's day-to-day life and infrastructure.

Today, many new sports facilities are returning to city centres as part of sports-oriented, mixed-use

“ There's a focus on engaging residents, daytime workers and visitors every day of the week – not just on game or match days ”

developments. There's a focus on engaging residents, daytime workers and visitors every day of the week – not just on game or match days.

Developers of arenas in cities including Edmonton in Canada and Detroit, Michigan, are following the successful model of the Kansas City Power & Light District and the Nationwide Arena District in Columbus, Ohio, which integrate sports, entertainment, retail, office and

residential. These projects promote related development and maximise return on investment while creating vibrant, sustainable urban communities.

As well as economic sustainability, design strategies related to the site and landscape, transportation, materials and resources, energy and the indoor environment can help operators minimise impact on the environment while improving the bottom line. Here are a few inspiring examples.

The project will see the creation of urban farming and open recreation spaces in the community



## Mercedes-Benz Stadium ■ Atlanta



The HOK-designed Mercedes-Benz Stadium features a retractable roof inspired by a falcon's wing

The Mercedes-Benz Stadium in Atlanta, Georgia, will be home to the NFL's Atlanta Falcons and MLS team Atlanta United FC when it opens in 2017. One of the world's most sustainable sports venues, it's targeting LEED Platinum certification and it's designed to save 34 per cent more energy and 45 per cent more water when compared with a baseline design. Rainwater captured on site will be used for cooling towers and for irrigating the landscape, including the edible gardens. The stadium design team is working with dozens of manufacturers to advance transparency in ensuring the sustainability of building materials: manufacturers must provide information about a product's energy use, waste generation, chemical makeup and manufacturing processes.



The design strategy for the renovation of Husky Stadium focused on protecting local waterways

PHOTOGRAPHY: JAMES W. HARRISON

## Husky Stadium ■ Seattle

The renovation and expansion of the University of Washington's Husky Stadium in Seattle is an example of how client organisations, designers and facility operators can collaborate to create a venue which is both beautiful and sustainable. The new design preserves the history of the 1920 stadium

while transforming it into a state-of-the-art, 70,000-seat venue. Low-flow plumbing fixtures, dual-flush toilets and native landscaping have reduced water use by 40 per cent, while strategies implemented in the design and operations divert 75 per cent of the waste from Husky Stadium. This is achieved

through the strategic placement of recycling and compost receptacles and the building's loading dock accommodating composting and recycling containers. A buffer of trees and shrubs separates Husky Stadium from the wetlands and the venue received Salmon Safe certification through

the Pacific Rivers Council, which recognised its pollution capture, stormwater capture and construction activity pollution reduction strategies. It also won the inaugural Sustainability Award from the National Association of Collegiate Directors of Athletics and USG Corporation.

## Auburn Recreation and Wellness Centre ■ Auburn

On a small scale, Auburn University's Recreation and Wellness Center in Auburn, Alabama, pushes the boundaries of design from both a sport and a sustainable design perspective. On track for LEED Gold certification from the US Green Building Council, the centre includes an innovative, figure-8 suspended

track, open-air exercise and fitness studio, daylight throughout the facility and exterior courtyards for reflection. It's satisfying that sustainable design strategies in recreation centres like Auburn's reflect students' requests for healthy buildings – and it's great to see the desire of administrators to meet their demands.



New Jersey's MetLife Stadium is made of an outer skin of aluminium louvers and glass



## MetLife Stadium ■ East Rutherford

The 82,500-seat MetLife Stadium in East Rutherford, New Jersey, is the only US stadium to house two NFL franchises and it provides unparalleled flexibility in accommodating the needs and personalities of the New York Giants and New York Jets. Through a partnership with the design

and construction team and the US Environmental Protection Agency (EPA), the project has achieved cost savings of approximately US\$23.5m over the past five years from green initiatives related to energy efficiency, renewable energy, water conservation, mass transit, waste reduction and recycling.

A group of solar panels above the stadium's catwalk generates 350,000kW hours of electricity per year – enough to power 34 homes. The EPA named MetLife the NFL's Greenest Stadium, and the Green Sports Alliance acknowledged its role in advancing sustainability in sports venues.



### The Green Sports Alliance

Last summer, HOK entered into a partnership with the Green Sports Alliance, an international non-profit organisation which advises professional and collegiate leagues, teams and venue operators about strategies for sustainability.

The Alliance helps sports organisations understand how investment in sustainability can lead to long-term savings. With more than 300 members consisting of teams,

## GREEN SPORTS ALLIANCE

facilities, leagues and universities from 14 countries, the Green Sports Alliance is making a difference in developing and sharing best practice in sustainability. The Alliance's Corporate Membership Network engages corporate partners to learn from

each other and accelerate the pace of integrating sustainability into their facilities.

The Alliance hosted a climate and sports presentation as part of the UN's Conference of Parties' (COP21) international climate negotiations, which took place in Paris in late 2015. The panel, which was attended by representatives of European sports organisations, NGOs, government officials and the public, highlighted the opportunities sustainability in sports offers to the wider climate change effort.

# The future of sustainability

HOK's Chris DeVolder says design strategies for the high-performance sports venues of the future will be based on these ideas

**Abundance, not scarcity**, is the lens for all design decisions. The venue harvests water, creates energy, turns waste into food, enhances the habitat and adds value for the surrounding community and the owner. Decisions support the common good of the community, not just a standalone project.

Projects feature mixed-use programming that creates an **active, engaging venue seven days a week**. The space synergies include sports, recreation, entertainment, transportation, food, healthcare, retail, hospitality, conferencing, urban farming, housing and education.

**The design creates multiple solutions.**

A canopy that provides shade for daily activities and game-day parking, for example, has a roof structure with solar panels that generate energy for the building and cars parked beneath.

The canopy also directs rainwater into cisterns for reuse in the building, site and community. The venue is the focal point of an eco-district, where resources are shared among facilities. Excess heat from equipment in an arena, for example, is used to heat water at an adjacent hotel.



**Amsterdam Arena, Netherlands:** Home to football club Ajax, Amsterdam Arena is carbon neutral thanks to a range of sustainable features including solar panels



**Fenway Park, Boston, Massachusetts:** The home of the Red Sox has a rooftop garden that grows vegetables and herbs for the stadium's restaurants



**Waterbank Campus, Kenya:** This high school campus, by design group PITCHAfrica, harvests rainwater and includes a 1,500 capacity football stadium



Levi Stadium, Santa Clara, California: The LEED Gold-certified stadium hosted the 2016 Super Bowl



CenturyLink Field, Seattle, Washington: This stadium acts as an anchor for a co-operative approach to the purchase of sustainable goods and services

## ▶ SUSTAINABLE SPORTS DESIGN

The venue serves as an anchor for a **co-op approach to the purchase of sustainable goods and services**. It may bring together a ballpark, local school district, hospital system and retail centre, for example, to pool the buying power for green products, renewable energy, commercial composting and local food.

**Biomimicry** influences how the design responds to the local climate, allowing the building to breathe, provide comfort for every human sense and adapt to year-round requirements.

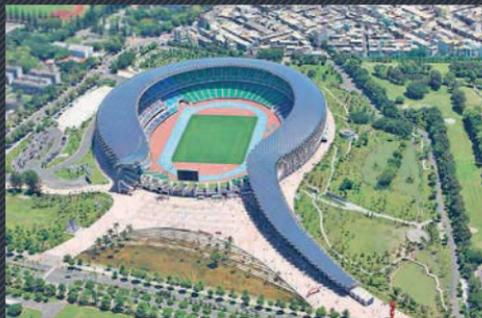
The site's **biodiversity** is enhanced through local or adaptive landscaping, edibles and the tree canopy.

**The venue generates all its own energy** through solar panels, wind turbines or other renewable energy solutions.

Future venues will be **net positive** when it comes to stormwater, accepting more water than they create, cleaning it naturally and reusing it.

With its mass appeal and ability to unite people worldwide, sport offers a **powerful platform** for demonstrating and communicating the importance of sustainability.

By establishing new paradigms for **environmentally friendly design** and acting as a hub for related sustainable development, sports venues can become critical assets for an individual location, a community and a region. □



**Kaohsiung Stadium, Taiwan:** Toyo Ito's dragon-shaped stadium in Taiwan is covered in solar panels and is 100 per cent solar powered



**Grande Stade de Lyon, France:** Populous' new Stade Lyon features a 'green car park' which is used as a public park on non match days



**Al Ain Football Club, Abu Dhabi:** This project sees the creation of a mixed use community around the 25,000 seat football club and sports facility



**US Bank Stadium, Minneapolis, Minnesota:** The Minnesota Vikings' stadium is under construction and is due to open this summer. It features a huge ETFE roof



**TCF Bank Stadium, Minneapolis, Minnesota:** Almost all of the construction waste was recycled from this LEED Silver certified University stadium

# FIVE STAR SUSTAINABILITY

A sustainability rating brings a hotel operational cost savings and differentiates it from competitors. And, addressing environmental issues might not be as costly as you'd think. Tom Harvey of BRE explains



Green luxury at the Bulgari, London

PHOTO: OFFICER GLOMER

**T**he first purpose-built luxury hotel in London for 40 years, the Bulgari in Knightsbridge, boasts not only an impressive range of luxury facilities and an outstanding location, but also superb environmental credentials.

The Bulgari was assessed under BREEAM, a scheme used around the world to rate and certify the sustainability of buildings. The Bulgari achieved the coveted Excellent rating in recognition of its sustainable design and environmental performance in areas such as sustainable management practices, energy and water use, impact on local ecology and minimising pollution.

Geothermal ground-source heat pumps built into the fabric of the building provide substantial carbon savings, while the green roof incorporates boxes for bats and birds, including peregrine falcons. Among a multitude of other features, electric car charging points support environmentally friendly forms of transport, and 20 bikes are available for guests to explore London.

## Being green saves money

In the past there has been the perception that buildings focusing on sustainability are necessarily more costly to construct, extend or renovate than those that simply comply with building regulations. But



Costs can be paid back within two to five years through utility savings



**BREEAM helps hotels promote their green credentials to eco-conscious customers**

there is a growing body of research that now challenges that perception.

A recent study by Sweett Group and BRE, for example, has applied cost data from real construction products to a range of case study buildings to produce detailed capital and operational cost information. To examine the capital costs of achieving overall levels of building sustainability, the researchers used the costs associated with gaining Pass, Good, Very Good and Excellent ratings under the BREEAM New Construction scheme.

They concluded that achieving the lower BREEAM ratings can incur little or no additional cost. Targeting the

higher BREEAM ratings, and so more challenging levels of sustainability, incurs some additional cost, but this is typically less than 2 per cent. The investigation of lifecycle operational costs showed that any additional cost can be paid back within two to five years through utility savings.

This can be particularly significant in the leisure sector, as running hotels and leisure centres demands high levels of energy and water consumption, along with the extensive use of chemicals for cleaning, the disposal of large quantities of waste and other activities that impact on the environment. While this presents challenges, it also represents an opportunity

to make savings through sustainable building design and practices that reduce resource consumption and waste.

### The rise of eco-awareness

It's not just luxury hotels like the Bulgari that are turning to BREEAM to enhance and demonstrate their sustainability – and to differentiate themselves from less green competitors. With an increasing number of eco-conscious holiday and business travellers to cater for, more than 200 hotels in the UK and internationally have registered for a BREEAM assessment.

Like the Bulgari, a number of these are achieving impressive levels of sustainability. ▶



One of the best performing BREEAM hotels to date is the Radisson Blu East Midlands Airport in Derby, UK

## BREEAM®

### What is BREEAM?

BREEAM is widely recognised as the leading system for assessing building sustainability in the UK and across the world. Known for driving best practice in the sustainable design, construction and operation of the built environment, BREEAM schemes cover both new buildings and those that are in-use, along with refurbishment and fit-out projects and community developments.

Using independent licensed assessors, BREEAM examines scientifically based criteria covering a range of issues to evaluate energy, water use, health and wellbeing, pollution, transport, materials, waste, ecology and management processes. BREEAM certified assessments are rated on a scale ranging from Pass to Outstanding.



► The design of the £22m Radisson Blu hotel at East Midlands Airport in the UK, for example, has been awarded one of the highest BREEAM scores for a hotel to date.

The Radisson Blu uses a range of low-energy technologies to reduce energy demand, such as interior and exterior motion sensitive lighting. These are supplemented by an on-site combined heat and power (CHP) engine with a pure plant oil (PPO) tri-generation energy centre – which exports electricity to the national grid outside of normal occupancy hours. The Radisson Blu has reported that this system delivers an 87 per cent reduction in CO<sub>2</sub> and supplies up to 90 per cent of the consumed energy from a renewable source.

Other sustainability features include a surface water drainage system that uses porous paving in the car park, attenuation tanks and a rainwater harvesting system.

### Chain reaction

Well-known chains are also represented on the list of BREEAM assessed hotels, including Travelodge and Holiday Inn. Whitbread has gone a step further, working with BRE to develop a set of sustainability criteria that is tailored specifically to the company's chain of Premier Inn hotels. The bespoke BREEAM Whitbread Premier Inn scheme is applied to the development of all Premier Inn hotel buildings.

## Royal Christiana, Oslo, used thermal modelling to optimise comfort levels inside the hotel building

Furthermore, a new sub-brand, Hub by Premier Inn, launched in 2015. The Covent Garden branch became the first hotel in the UK to receive an Outstanding rating at the design stage. The £30m hotel uses cutting-edge technologies to achieve energy efficiency, with sustainability embedded into the project from the pre-planning stage through the design and construction process and on into the building's operational life. There are now three of the high-tech city Hub hotels in London, while two more are under construction in Edinburgh.

### European impact

A growing number of BREEAM-registered hotels are outside the UK, in countries such as Switzerland, France, Belgium and Norway. They include the refurbishment, carried out by Skanska, of the 532-room Royal Christiana in central Oslo – the design of which achieved a Very Good rating.



Hotels can be assessed on energy and water use, transport, materials, waste, ecological land use, pollution and innovation

▶ noise levels. In addition, a large terrace offers staff, guests and visitors access to an outdoor space with seating.

The use of environmentally responsible materials was an important feature of the redevelopment. The stone wool insulation used on the project, for example, was made from naturally occurring volcanic diabase rock, which is a renewable raw material. The insulation also contains around 20 per cent coke and slag materials – a valuable use of these common waste products from industrial processes. In addition, stone wool insulation is also almost entirely recyclable when no longer required.

The project also considered the wider issues of sustainable urban development, for example, by demonstrating the environmental management of storm water – the hotel basement is equipped with an oil separator to avoid contaminating the city's storm water systems.

### Making the difference

Meanwhile, in Spain, the NH Ribera del Manzanares has received an Outstanding BREEAM certification for its environmental

#### More information

The BREEAM family of environmental assessment schemes was developed more than 20 years ago by the BRE Group, which continues to manage and continually develop and update the scheme. For more information visit [www.breeam.com](http://www.breeam.com)



Energy and water consumption are reduced at Le Méridien in Barcelona, Spain

PHOTO: BRECORP/LEA



Madrid's Del Manzanares has a BREEAM rating for environmental management

PHOTO: NH HOTELS/STEFAN SPANO

management, the first hotel in the world to achieve the rating. The Madrid-based Del Manzanares, which is setting the standard for other locations in the NH Hotel group, was assessed on the categories of management, health and wellbeing, energy, transport, water use, materials, waste, ecological land use, pollution and innovation, receiving Excellent-rated scores.

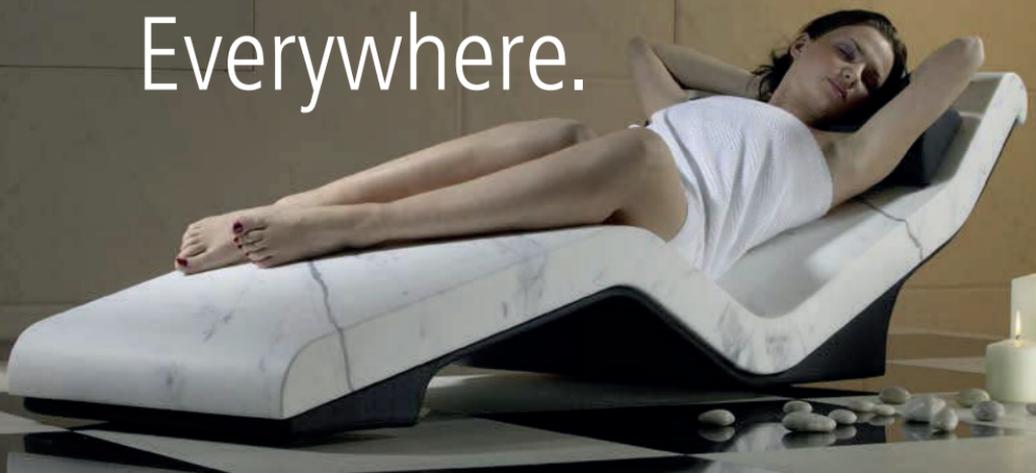
The carbon-neutral hotel also has to meet the company's own water-saving and energy-saving targets, which are tracked regularly. LED lighting, an environmentally sound purchasing policy, electric vehicle charging, bike rental and an eco-friendly conference package are further initiatives in place. The hotel also achieved a BREEAM rating of Very Good for the building itself.

In Barcelona, Le Méridien received a BREEAM rating for sustainable construction after the original building was renovated and modernised. It's aiming to reduce energy consumption by 30 per cent and water consumption by 20 per cent by 2020.

Le Méridien Barcelona has energy and carbon dioxide emissions meters that are constantly surveyed, waste and recycling separation in all parts of the hotel, LED lights and electric car charge points, as well as a "green choice" programme when it comes to conferences and meetings.

All these things can help a building qualify for BREEAM certification, as well as saving money and the environment. It shows, beyond doubt, that in hospitality, small changes make a big difference. □

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**CLADbook** 2017

research &  
commentary

174 **Research: building high**

182 **Architects and fiction**

186 **Placemaking**

200 **Architects in film**

In a city like London where space is tight and planning rules are strict, are developers building taller by employing a famous architect? And after that investment, are they better off? Economists Paul Cheshire (LSE) and Gerard Dericks (University of Oxford) share their research

# HIGH EXPECTATIONS

**B**uildings are rooted to the ground and architects tend naturally to work within their local systems of regulation: building regulations, environmental regulations or planning/land use regulation. Most are familiar with their own systems and think of those as the norm. In Britain, we assume our planning system is just the way planning systems are, but this is very far from true. The British system has many features not commonly found and these make it a real outlier in the world – especially together with the UK's very centralised tax system, which gives almost no reward to local communities who accommodate development.

This article focuses on the effects of just one of the peculiarities of the UK planning system. Unlike most, it is not 'rule-based'. In Continental Europe, the master planning system is all but universal. The community democratically adopts a plan which specifies

what can be built on each parcel of land. The developer has a building designed that conforms to the rules applying to the plot and to local building and environmental regulations – and permission to build is all but automatic. Planning systems modelled on the US have zoning ordinances and building regulations and while it may be possible to obtain a zoning ordinance waiver, the default is that the developer builds what zoning and building regulations allow – and a permit is automatic.

## RIGHT TO APPEAL

This is not the case in Britain. All changes to the use of any parcel of land which legally constitutes 'development' are subject to 'development control': that is, permission to develop is dependent on the decision of a committee of local politicians, advised by planning officials. In deciding whether to grant planning permission they're not bound by the local plan – if they have

one. Indeed, they often take little notice of its provisions. As it's a quasi-legal process, if the would-be developer does not get permission from the local planning committee they can appeal: first to the Planning Inspectorate and, if that fails, to the Secretary of State – the politician in charge of the planning system. In the face of protests, local government representatives may refuse permission to avoid criticism from voters, but remain confident that the Inspectorate or the Secretary of State will ultimately grant permission.

It's only worth the developer's money to go to appeal for bigger developments so the UK's decision-making process not only encourages opposition – every development is contestable – but it imposes considerable, if difficult to estimate, costs of both delay (the money is not earning while decisions are pending) and uncertainty. Since all decisions are contestable and politicised their outcome cannot be known in advance. ▶

Eric Parry Architects has designed a new London skyscraper, but it's not easy to build tall in the capital



## Employing a Trophy Architect increased the overall sale price by 140 per cent

As the system keeps development scarce, there are considerable rents to be obtained if you can successfully 'game' the system to get permission. Recent research (Cheshire and Hilber, 2008) shows the scarcity of office space induced by the UK's planning system imposed the equivalent of a tax of 810 per cent on the costs of building additional space in London's West End.

### GAMING THE SYSTEM

We recently (Cheshire and Dericks, 2014) set out to measure one particular way of gaming the system and estimate what success in that process added to the value of a site. We did this by estimating how much extra lettable space a developer could get by employing a 'Trophy Architect' (TA).

We obviously had to have a definition of what a TA was and decided on anyone who had been awarded one of the three major international prizes for lifetime achievement – the Pritzker, RIBA or AIA Gold Medals before the building was designed. We also needed to know what

the typical extra construction costs of such buildings were. Gardiner & Theobald kindly supplied us with estimates of building costs per floor for buildings designed by 'normal' or Trophy Architects so we could estimate the net profit associated with getting additional space in a building by gaming the planning system by design.

Since development is a competitive process, however, it's reasonable to assume there aren't many £50 notes lying around on the streets of London waiting to be picked up. This implies that since any developer could in principle use a TA to get extra lettable space (assuming the data showed it happened) the extra net revenue is also a reasonable estimate of the costs involved. This is because the normal process of competition should mean that a developer



PHOTO: MICHAEL DERRANCE

The Shard: Renzo Piano's 95-floor skyscraper is the tallest in the EU

cannot expect consistently to make more money by employing a TA to get extra space or else they would all do it. And they do not.

### ADDED VALUE?

The bottom line is that we could estimate this effect and it was very large indeed. On average a TA could get an extra 18.77 floors on a site where heights were not absolutely constrained. While construction costs were greater, on a representative site in the City of London, employing a TA increased the overall sale price by 140 per cent (from £82m to £197m). Allowing for the additional construction costs typically incurred, the extra 'value' achievable on an average site in the City of London was still a hefty £73m.

However, as we argued above, since only some developers used TAs, the implication was that this £73m of apparent 'profit' was really just a measure of all those hidden costs: the extra time and the greater uncertainty of getting permission at all. This uncertainty reflects two separate sources of cost: 1) the attempted development may fail, so all funds employed are lost; 2) more uncertainty will be translated into greater risk so no project will go ahead unless there is a 'risk premium' – that is, expected returns are even bigger to cover the risks.

We estimated these effects by putting together a very rich data set on office buildings in London sold between 1999

Fig 1 The Sample of Buildings Sold between 1999 and 2011

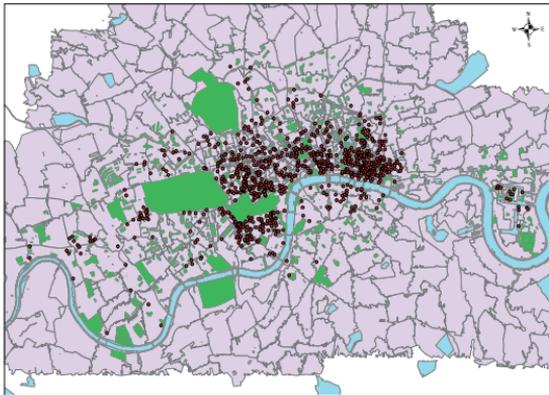
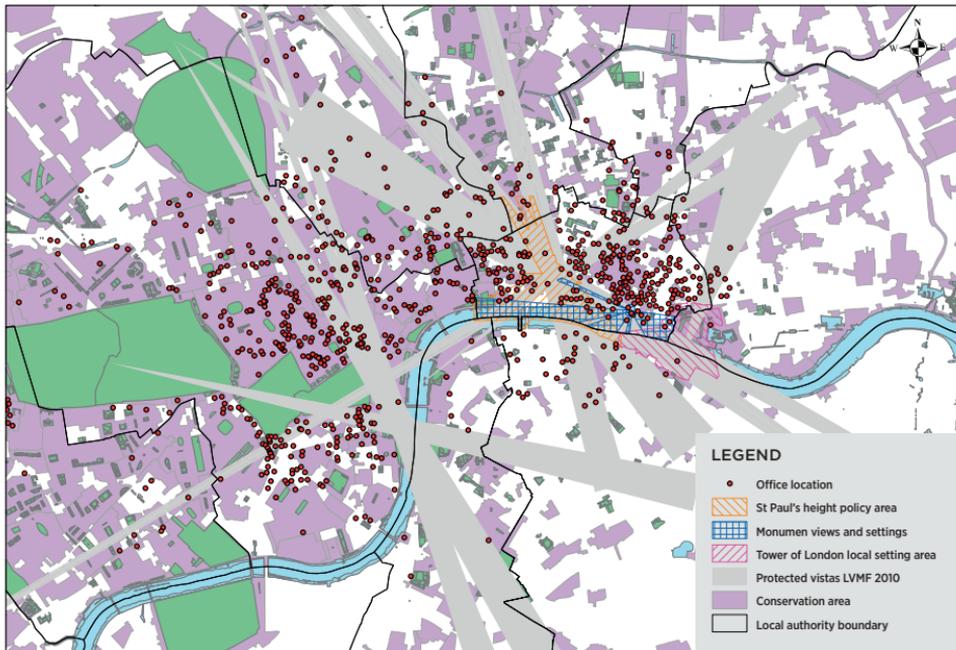


Fig 2 Height Restricted Areas | Central London (Does not include Borough of Islington)



and 2011. We not only had a very full range of characteristics of the buildings, including their architects and the awards their architects had won, and their exact locations – see Figure 1 – but a rich set of characteristics for the area surrounding their location: for example accessibility, the local concentration of jobs in the office sector, proximity of parks, gardens or water, proportion of surrounding area which was Conservation Area, the density of Listed Buildings and the planning restrictiveness of the Boroughs in which they were located (measured as refusal rates from 1990 to 2008 for applications to build offices).

One thing that was immediately apparent was over how much of at least Central London it is impossible to build tall buildings at all. For example, this is not possible in a Conservation Area (75 per cent

## One thing that was immediately apparent was over how much of at least Central London it is impossible to build tall buildings at all

of the City of Westminster is Conservation Area) or if the site is occupied by a Listed building. But there are also the sight lines of St Pauls, the Monument and the area around the Tower of London which are protected. Since writing the paper we have discovered the whole Borough of Islington – which borders the City – prohibited building anything above seven stories until 2007. Even now they only allow buildings taller than seven stories in a very small area close to the boundary with the City. Figure 2 shows these 'height restricted areas' for Central London and it's obvious

why London's skyscrapers seem to be so randomly distributed: they can only be built on sites which are not height restricted and these are few and far between.

Using data from Real Capital Analytics and *Estates Gazette*, we identified a total of 2,932 unique sales. After cleaning, we ended up with a sample of 515 distinct buildings which, allowing for those sold more than once, yielded a total of 625 sales. We then statistically estimated two types of model. The first identify the 'implicit prices' of the characteristics of the buildings, including those of their neighbourhoods. ▶

► The second was to identify the role of each factor related to the total floorspace of each building. Full details are given in Cheshire and Dericks (2014) but we show a short version of the results in Table 1.

Because the London Council Act of 1890 imposed an absolute prohibition on building above 27 metres plus two-storeys in the roof, which was reduced in 1894 to 24 metres and 6 metres to the rooftop, there were virtually no tall buildings at all until these provisions were repealed in 1956. Therefore, we divide buildings and their architects into two groups, 'pre-Modern' building before 1956 and 'Modern' – all those built from 1956 onwards. Moreover because of the absolute height restrictions that continue to exist in all that part of London covered by Conservation Areas or subject to sight line restrictions, we also divided our buildings into those built in 'Height Restricted' areas and those not subject to that control.

## In non-Height Restricted areas, a TA gave the developer an extra 18.77 floors

The results in Table 1 tell us that the price for a building per m<sup>2</sup> was substantially higher in areas where there were strong concentrations of employment in office employing sectors and that this effect was quite localised. We experimented with cut-offs from 100 to 1,000 metres and found the best results where we only included employment density within 600 metres of the building. One reasonable interpretation of this is that quite localised agglomeration economies are important determinants of a building's productivity and so what occupiers will pay for space within it.

There was no evidence that space in buildings designed by Modern TAs commanded any premium at all. On the other hand, buildings of Pre-Modern TAs and also Listed Buildings did command a premium per m<sup>2</sup>; and prices were higher where the Borough's planning system made it more difficult to build, so the supply of office space was relatively more restricted.

### BUILDING TALLER

On the other hand the results reported as model (2), in the right hand panel of the table, show that TAs certainly could build much taller buildings – but only where there was no absolute restriction on heights. On sites in these non-Height Restricted areas, employing a TA gave the developer an extra 18.77 floors on average. Even if we eliminate the three tallest buildings from the sample, this effect remains highly statistically significant though naturally somewhat reduced in terms of number of floors.

**Table 1: Explaining the Price and Height of Office Buildings in London**

Price of office buildings in London		Height of office buildings in London	
VARIABLES	Ln(Price/m <sup>2</sup> )	VARIABLES	Floors
Modern TA designed	0.0645 (0.0615)	Modern TA, non-Height Restricted	18.77*** (4.669)
Pre-Modern TA designed	-0.168** (0.0846)	TA designed	0.400 (0.887)
Within Height Restricted Area	0.00931 (0.0324)	Built in Height Restricted Area	-1.746*** (0.402)
Listed	0.0770* (0.0457)	Local Planning restrictiveness	-5.553 (8.602)
Local Planning restrictiveness	0.0240*(0.0137)	Employment Density 600m	1.41e-05 (1.23e-05)
Employment Density 600m	0.185*** (0.0315)		
Decade Built	YES		
Submarket	YES		
Year Sold	YES		
Constant	5.306*** (0.507)	Constant	6.019*** (1.121)
Observations	625	Observations	515
R-squared	0.546	R-squared	0.567

NOTES: 1) \*, \*\*, \*\*\* statistically significant at 10, 5 or 1%; Standard Errors in parentheses. 2) Both models contained additional building and area controls. Most were significant with signs as expected. For more detail see Cheshire and Dericks (2014)



## LONDON'S NEWEST SKYSCRAPER

Eric Parry Architect's plans for a new skyscraper in London are equal in height to The Shard

The results for this sample did not show any significant increase in the size of the floor plan for a site of given area (although we have now expanded the sample size to 835 buildings and find a small but significant increase in the average floor plan, too, while the increase in the number of floors remains almost the same). In other words employing a TA did not get the developer a premium per m<sup>2</sup> of building but because it delivered so many more m<sup>2</sup> of building on a given site, it generated far more value per unit area of site.

This extra value can be estimated for an average building – that is, we take the observed mean value of building and site characteristics for a representative

Plans to build the tallest skyscraper in the City of London have been unveiled by Eric Parry Architects, who say it will feature the UK's highest free public viewing gallery and put the public interests first.

At a height of 309.6 metres, Parry's commercial tower, named 1 Undershaft, will be as tall as its Renzo Piano-designed neighbour The Shard – currently the tallest building in western Europe. It will be located

in the heart of the capital's financial district, between Norman Foster's Gherkin and the Cheesegrater tower by Rogers Stirk Harbour + Partners.

The design envisions large areas of public space at both the top and bottom of the skyscraper. A new public square will be created at the base, while the top floors – featuring a 200-capacity restaurant – will be open to the public seven days a week. A budget has not yet been released.

non-Height Restricted site in the City of London (though in principle it could be anywhere in London). We then work out the total estimated value of the building if it is of the average height it was observed to be if built by a non-TA and again if it was built by a Modern TA. From these two estimates of total building revenue we

subtract the estimated costs of building using the data supplied by Gardiner & Theobald for non-TA and TAs respectively. What this tells us is that employing a Modern TA for a typical non-Height Restricted site increased the value of that site by 140 per cent – a total of £73m. We can also work out what the 'profit ▶

► maximising' height of a cheaper, non-TA office block would be if its height was not restricted by the planning system: about 90 floors! This assumes that other things stay the same – that is, only this particular building is not height restricted at all. If one could build to the profit maximising height everywhere then the supply of space would greatly increase and its price would come down and so – since the cost rises with a building's height – buildings would end up being lower. We can make two final points. The first is illustrated in Table 2.

The cities with the most skyscrapers are New York followed by Hong Kong. Neither

## Commercial clients are not willing to pay any premium for space in such buildings

are shown above in the table because this is designed just to highlight the extremes related to the influence of planning restrictions – or lack of them.

Chicago has its share of TA buildings, but it is a lightly regulated land market

and these amount to only 3 per cent of its total of 302 skyscrapers. Brussels – a smaller city but also lightly regulated – has fewer skyscrapers and none of them designed by a TA. The same in Benidorm, Spain – a good bit of trivia for the pub quiz; this is the city with the highest incidence of skyscrapers per resident of any in the world. The great majority would have been built when the city was hardly regulated at all and hotels and apartments were designed to provide at least a glimpse of the sea: lightly regulated, few residents as opposed to visitors and not a single TA designed building.

PHOTO: SHUTTERSTOCK / JANA CIE



Benidorm is the city with the most 100-metre-plus buildings per person (384 per million)

Table 2: Skyscrapers in selected cities

City	Buildings >100m per million Population	Total Buildings >100m	TA Buildings	TA Percentage
London	7	52	14	27.9%
Chicago	111	302	9	2.99%
Houston	40	85	5	5.88%
Brussels	15	17	0	0.00%
Benidorm	384	26	0	0.00%
Sao Paulo	20	75	1	1.3%

Source: [www.emporis.com](http://www.emporis.com)

London wins one prize. It has very few skyscrapers for such a big and prosperous city, but we have already explored the reason for that; regulation makes it difficult to build anything taller than seven floors over most of London. The prize it wins is for the percentage of its skyscrapers designed by TAs, nearly 30 per cent, reinforcing the conclusion that employing a TA is a way of gaming the British planning system to persuade politicians to allow the developer to get more space on a given site. As the Secretary of State said when overturning the refusal of permission for London's tallest building, the Shard: "For a building of this size to be acceptable, the quality of its design is critical ... the proposed tower is of highest architectural quality". And, he knew its design was exceptional because the architect was Renzo Piano.

#### DEADWEIGHT LOSS

The final point is that gaming the system in this way seems to be a pure deadweight loss in terms of welfare. Looked at through an economist's lens the £73m extra revenue obtained using a TA on a typical city site is,



New York is the city with the most 100-metre-plus buildings in the world (762)

in fact, a cost. It is a cost because it represents what needs to be spent to successfully game the system and that, as Ann Krueger showed a long time ago (Krueger, 1974), is in welfare terms a deadweight loss. If it was offset by any measurable gain then the cost would be less than £73m but as our work shows commercial clients are not willing

to pay any premium for space in such buildings – so no offsetting value there. It remains possible that tourists, occupants of other offices with views to TA buildings or, indeed, Londoners get some value from TA buildings but as yet there is no evidence that they do. This is something on which we are working now so watch this space. □

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# MULTI STORY

Writers tell stories in time and architects build stories in space. Maybe the two professions aren't so different

Gordon Grice, creative director, FORREC

“Tell me a story.”  
We've probably all said that, at one time or another, possibly as kids, ready for bed, needing a release from reality and an entry into the land of dreams. Later on, we were told that storytelling – and the world of imagination – was only for kids. The real world relies on fact, not fiction.

But as adults, we never really abandon the world of stories. We still have TV, movies and novels. The truth is, we can never outgrow stories because our lives are built around them. We're made of them. And as the 20th-century mythologist Joseph Campbell said, the very earliest stories, ancient myths, continue to live within us.

## Architecture fiction (Architecture AS Fiction)

For architects involved in the design of entertainment environments, it often seems as though we've slipped over to the dark side. Our professional education, still echoing the Bauhaus, insisted that form must always follow function. And, according to the three architectural qualities proposed by Vitruvius 2,000 years ago, “delight” must always come after “firmness” and “commodity.” Furthermore, any connection between fiction and architecture was unthinkable. Architecture is never about anything; architecture just is.

As Adrian Forty wrote in *Words and Buildings: A Vocabulary of Modern Architecture*, “the meaning of architecture lay solely



**The truth is, we can never outgrow stories, because our lives are built around them**

in the immanence of its perception, and that architecture could represent nothing beyond its own immediate presence.”

Now what happens when we place “delight” at the head of the list and design for the visitor experience, when we create environments where form follows feelings and, to compound the sin, we regale users and visitors with architectural stories? Must we abandon our professional principles?

With this in mind, it feels at least a bit perverse to be discussing architecture as a form of fiction, or – possibly worse – fiction as a form of architecture. Yet fiction and architecture have always made excellent companions.

French philosopher Paul Ricoeur thought of architecture and narrative as

two different ways of telling stories, and “making what’s absent present.”

If narrative tells a story in time, architecture builds a story in space. In both cases, something is constructed, whether in the physical or the mental space, and that something becomes inhabited with memories and experiences. It comes from the mind of its creator, who has to plot it and structure it, and becomes a part of the life of somebody else, who establishes a relationship with it.<sup>1</sup>

Planner and author Lewis Mumford believed that the connection between architecture and storytelling goes back to the very foundation of civilisation. Cities, he has suggested, are the result of our desire to express ourselves as *dramatis personae* in a public forum. The Acropolis, then, might be viewed as a grand stage (or page) and the Parthenon an extravagant set.

The Ancient city, then, is above all things a theatre, “in which common life itself takes on the features of a drama, heightened by every device of costume and scenery, for the setting itself magnifies the voice and increases the apparent stature of the actors.”<sup>2</sup>

I find myself using the phrase “tell me a story” more frequently these days, when I work with architects, designers and illustrators – for the reasons that Ricoeur and Mumford suggest, but also for the original reason: to ease the passage into a structured dreamland – the one we call design creativity. ▶



## Night of the Living-Client



I ALWAYS PREFER WORKING INTO THE NIGHT, NO INTERUPTIONS OR DISTRACTIONS, JUST ME AND THE NIGHT AND THE MUSIC.



Art by Iain McCusker based on an idea by Gordon Gray

### More than words

For years, the journal OAA Perspectives has been publishing works by architects, including creative non-fiction, architectural fiction, flash fiction and graphic fiction. The journal has published a fiction special, and held writing workshops



UNION

Images (Clockwise From Top Left): Paul McCusker, Luke Andritsos, Cathy Capes, Luke Andritsos, Alex Temporale



## Architectural fiction (Architecture IN Fiction)

Now, let me tell you a story.

Two decades ago, our quarterly architectural journal, *OAA Perspectives*, began exploring the potential of creative non-fiction, “a genre of writing that uses literary styles and techniques to create factually accurate narratives.”<sup>3</sup> This was not a huge stretch for our readers or writers, we believed, since the material was still factual, but written in a more entertaining way. We asked our contributors to write about their projects, their lives, their aspirations and their profession from a more personal viewpoint: not what they did, or how they did it, but instead, how they felt about it, and what difference they thought it made.

Our reason for pursuing creative fiction was simple. Writing and architectural design share certain creative similarities. So we reasoned that architects are – or should be – relatively good writers. Furthermore, if architects became more comfortable with creative writing, not only would they be able to express their views in a more understandable way to a wider audience, they might also be able use narrative ideas in their architectural design.

It took some getting used to, but before long, we were reading about hobbies, personal living and working spaces, important professional experiences, odysseys, pilgrimages, obsessions, learning, teaching, and a host of other topics that affect architects’ lives. Today, after almost 80



PHOTO: JEFFREY COOPER

## Writing and architectural design share certain creative similarities

issues, we have a constantly growing record of how architects live, work and dream.

We added a new chapter to the story by moving to the next logical step: architectural fiction. Last summer, we conducted a weekend writing seminar, focusing on flash fiction (stories shorter than 1500 words) and graphic fiction (stories in cartoon form). If storytelling actually does have parallels to architectural design, our seminar attendees should have no trouble creating amazing fiction – even after a short workshop. We were not proved wrong.<sup>4</sup>

There exists a substantial catalogue of fiction written by architects, and reflecting sensibilities that might be typical of an architectural viewpoint. Examples include Thomas Hardy’s *Under the Greenwood Tree*, Arundhati Roy’s *The God of Small Things*, and (former architecture student) Orhan Pamuk’s *My Name is Red*. There are online lists of architectural fiction titles – almost none by actual architects – that draw on

separate definitions of the term, but contain a surprisingly large number of entries.

There are also many TV shows and movies about architecture, or featuring an architect as a lead character. In these instances, the title “architect” provides a bit of background information about the character, so that the problem-solving skills, creative dreaminess or idealism that he or she displays isn’t unexpected.

These stories rely on certain assumptions that the audience or reader makes about architects. They may be far from accurate, but you can’t blame a writer for taking the shortcut that an unfair generalisation provides. At the same time, these stories do very little to promote an awareness of architectural issues, ideas and concerns.

More recently, architectural fiction has found a new lease on life, thanks to the internet. Websites such as [architect.com](http://architect.com), books such as *Dear Architecture* and the annual architectural Fairy Tales Competitions have brought a new focus on architectural writing, in the form of flash fiction that relies not on technical knowledge and dry exposition, but on creative imagination.

This appeal to the creative imagination brings us back to the most interesting connection between architecture and

■ The annual Fairy Tales competition brought a focus on architectural writing





(Far left) OAA Perspectives held an architectural fiction writing workshop last summer; The illustration goes with an architect's story about travelling with a baby



storytelling: how storytelling can help to create architecture, not just reflect it.

### Fictional architecture (Architecture THROUGH Fiction)

As our society becomes more and more concerned with the quality of things – quality time, quality of life, quality of experience – architects are beginning to acknowledge that architecture cannot survive as simply a science or even an art. It has to create experiences. To this end, narrative has begun to assume an important role in architectural design.

The most conspicuous examples are in entertainment and themed environments, where the combined efforts of architects, illustrators, landscape architects and designers – interior, industrial and graphic – are brought together to create an experience. Such a diverse group of design professionals requires something that will generate unity; a project narrative or backstory is a perfect solution. When I ask my collaborators to tell me a story, I mean it literally, because that's where our design begins.

Stories are also important in design for another reason: everybody loves them. They can generate enthusiasm among the designers and a personality for the project that will make it distinct and memorable.

Normally, a finished project expresses the story that generated the design in the first place, maintaining a tangible connection to the architectural concept. Sometimes, the narrative is only subtly evident in the final project. In such cases, the story has served as a "backstory" – in fiction and drama, a means of building a character through an invisible history. So, before an entertainment environment is realised, a

### Architecture cannot survive as simply a science or an art. It has to create experiences

narrative can provide character, settings, mood and a temporal framework, around which a unified concept can grow.

#### An example

One past project stands out in particular because it demonstrates how architecture and fiction can converge at several levels: architecture *in, as and through* storytelling.

We'd been invited to design a pool and garden for a resort in Thailand, but our experience told us that the project needed something more to distinguish it from its nearby competitors. A strong site narrative was needed. Our story began:

When the first people came to the land that would one day be called Thailand, the wisest and strongest of the spirits who ruled its natural world appeared to them in a dream. One appeared as an old and wise turtle, another as a beautiful crane, a third as a white tigress and the fourth took the form of an elephant.

This invented myth goes on to tell of an ancient tribe that revered their natural environment. In its modern incarnation, the story is reflected in a transformation of the hotel grounds into a jungle adventure, with forests, gardens, rivers, chutes, cascades and pools, connected by meandering wooden walkways and treetop bridges. In this re-imagining of a lost jungle world, each guest becomes a participant in a living story. Just as the ancient tribe celebrated the transition from day to night with a torch-lighting ritual, modern visitors gather every evening, as the sun sets on the Gulf of Thailand, to re-enact the sacred ceremony.

The project is a good example of architecture and storytelling working together. It touches on architecture *in* fiction (the site narrative, describing the tribe's ancient environment), architecture *as* fiction (the ongoing adventure that takes place on the site) and architecture *through* fiction (the realisation of the story in three dimensions). Architecture and storytelling can interlock in many different ways to create a visitor experience that is, at the same time, personal and universal – a way of existing in the real world and the world of imagination, both at the same time.

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PLACEMAKING

# Build & THEY WILL COME

A secondary effect of great architecture has long been that it can draw tourists. Today, attracting tourists can be a primary objective for a new building. Terry Stevens explores the fine art of placemaking when a tourist attraction has the power to make or break an economy

By Professor Terry Stevens, Stevens & Associates



Making a statement: the Frank Gehry-designed Marqués de Riscal Winery near Bilbao, Spain





Gehry's Guggenheim opened in 1997, boosting tourism to the Basque city – in what became known as the “Bilbao effect”

In 2015, there were 1.2 billion international tourist arrivals around the world, a 4.4 per cent increase on the previous year, according to United Nations World Tourism Organisation (UNWTO). The organisation forecasts that global tourism will grow another 4 per cent in 2016, and that the figure will reach 1.6 billion by 2020.

Destinations want to capture the interest of leisure and business global nomads, and as tourism has grown, we've entered a period of über-competitiveness. Every serious destination – urban and rural, countryside and coastal, mountain and desert – is working hard to create destinations that people want to visit.

In this ruthless business environment the role of architecture has emerged as a major factor in creating appealing, sustainable and successful destinations, but architecture and fine buildings have always been at the heart of international travel.

From Hagar Qim on Malta – purported to be the world's oldest structure – to Rome's Colosseum and Frank Lloyd Wright's Oak Park in Chicago, Illinois, great structures have helped draw tourists to a destination.

From the allure of the wonders of the world to the traditional “Grand Tour” taken by the elite around Europe, great buildings have always characterised destinations. Over the past two decades, contemporary architecture, iconic buildings and the commissioning of “starchitects” has become the new paradigm in destination differentiation. The works of Frank Gehry, Santiago Calatrava, Daniel Libeskind, Richard Rogers and Norman Foster now pepper landscapes and cityscapes around

the world. To name a few: the Dublin Canal Theatre (Libeskind); MGM Mirage, Las Vegas (Joel Bergman); the Denver Art Museum (Libeskind); the Pérez Art Museum in Miami (Herzog & De Meuron); the Yangi Lake Kempinski Hotel in Beijing (Shanghai Huadu Architect Design) or the Lofoten Islands Opera House in Norway (Snøhetta).

## THE GEHRY EFFECT

Nowhere is this better experienced than in the Basque Country. Bilbao has embraced many of these names in one form or another to acclaimed success since the city first invited Gehry to design the city's Guggenheim in 1993. San Sebastian, the Basque Country's centre for gastronomy and film has followed suit.

Some 80km south of Bilbao in Elciego, the Marqués de Riscal Winery has created a City of Wine, a 10-hectare complex devoted to making and studying wine. A €66m



investment involved spending €30m on improving wine production and €36m on creating a Gehry-designed iconic building and restoring old buildings.

Hiring Gehry to create a masterpiece of architecture and design at the heart of the City of Wine was a pure marketing statement. The company made a calculated decision that the most effective, dramatic and sustainable way to capture the world's attention about Marqués de Riscal was through Gehry. It was a way to compete on the world stage.

Alejandro Aznar Sainz, chairman of Marqués de Riscal, says the investment far exceeded their expectations.

"The building is an expression of the philosophy of Marqués de Riscal. The values of the company are heritage, tradition, modernity and innovation. Gehry has captured our ambitions in this building and its boldness has captured the imagination of the world's media," he says.

A new business model aims to take "someplace" or even "no place" to a world-class destination – and it's increasingly predicated upon an investment in bold, fresh, often provocative new architecture

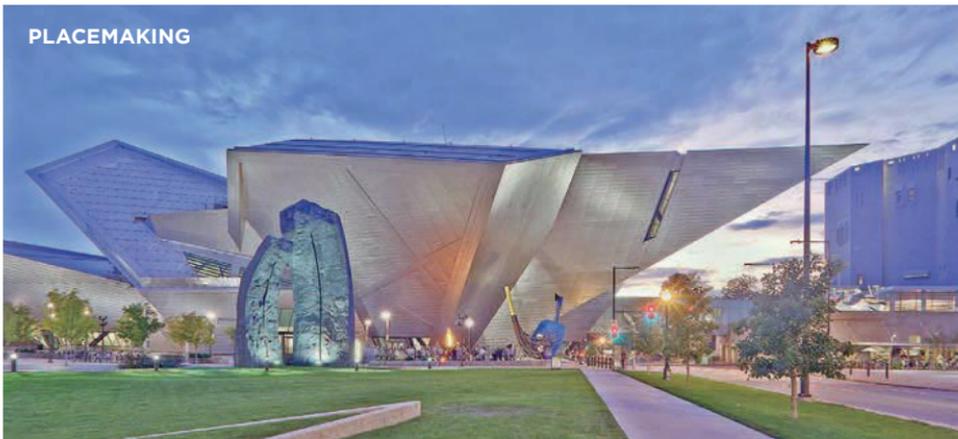
The new business model aims to take "someplace" or even "no place" to a world class, competitive destination, and that model is apparently increasingly predicated upon a heavy investment in bold, fresh, often provocative new architecture.

Today – as never before – architecture features as a major component of destination development and marketing. There is a fast-growing trend where leading destinations are placing their architectural heritage and contemporary urban designs at centre stage.

#### THE OPPORTUNITY FOR DESTINATIONS

The first objective study of the power and impact of architecture on tourism – *Architecture Attracts Visitors* by Pla'tou (the Platform for Architecture in Tourism) – was undertaken in Austria in 2007.

"The topics of architecture, culture of construction and design are capturing the attention of the public," the research paper asserts. "However, the innovative potential which lies within contemporary ▶



Denver Art Museum's Frederic C Hamilton Building, designed by Daniel Libeskind, has become an architectural icon for the Colorado region

► architecture is still hardly used in the tourism industry."

The study interviewed over 50 tourism entrepreneurs and surveyed 150 tourism operators, investors and developers.

It set out to answer these four questions:

- What are the experiences of entrepreneurs using contemporary architecture?
- What are the factors that attract visitors?
- What are the critical success factors for investors who want to use contemporary architecture for success in tourism?
- What are the positive tourism impacts of using contemporary architecture?

The key findings are strong, positive and unequivocal. They show that:

- Success and enhanced profitability was directly correlated to the use of contemporary architecture for 88 per cent of respondents with 97 per cent stating that it was a vital marketing tool;
- In terms of the factors that attract visitors, the survey highlights: (a) the positive first impression, (b) the sensual and emotional connections with visitors, (c) the memorable and exciting interactions, (d) the functionality, sustainability credentials and the wellbeing aspects of the architecture and (e) the association with lifestyle and zeitgeist;

## Tourists equate contemporary architecture with cultural vitality, sophistication, innovation, quality and creativity

- Contemporary architecture is directly linked to positive branding, positioning, marketing and communication;
- The opportunities for destinations are all about positioning and competitive advantage; respondents cited the following benefits of using contemporary architecture as perceived by tourists: cultural vitality, sophistication, innovation, creativity, added value and quality.

### REFINE / DEFINE

Copenhagen, Aarhus, Oslo, Liverpool, Zurich, Bilbao, Barcelona, Abu Dhabi, Dubai, Chicago, Las Vegas, Denver, Singapore, Melbourne ... These city destinations are taking full advantage of these opportunities.

In most instances architecture's role in city tourism is to refine identity and image, as can be seen in relation to Bilbao and Liverpool. In other places, the approach is used to define the identity of a place, such as in Copenhagen, Dubai or Las Vegas.

In *Liverpool: Shaping the City* by Stephen Bayley, the importance of the contemporary (such as the new Museum of Liverpool by 3XN of Denmark and the Echo Arena and Convention Centre by Wilkinson Eyre Architects) being informed by the city's heritage is clearly explained:

"For many outside the city, the stereotypical image of Liverpool is a denuded and struggling place ... But Liverpool is a UNESCO World Heritage Site with one of the most recognisable waterfronts in the world. Its historic buildings have been re-discovered as Liverpool has surged ahead with regeneration projects. These buildings and spaces demonstrate that the city not only understands the importance of respecting its heritage but how to add to this unique legacy, producing buildings and spaces that are dynamic, exciting and informed."

Along with Bilbao, Copenhagen has harnessed the potential of architecture tourism in the most strategic fashion. The ►



The Museum of Liverpool, designed by 3XN, played a part in the British city's regeneration

To modernise its industrial areas and ports, Copenhagen invested in a cascade of new architecture

past decade is widely regarded as being one of the most important in the city's development, with former industrial areas and harbours converted into city districts and star architects and local talents creating new buildings and public spaces.

Copenhagen's creative thinking and innovative approach to city development are captured in its headline buildings, including Dr Concert Hall (Jean Nouvel), the Royal Danish Playhouse (Lundgaard & Tranberg), Ordrupgaard Museum (Zaha Hadid), the Opera (Henning Larsen) and the Den Blå Planet aquarium (3XN).

The new urban spaces such as the Harbour Baths and Kastrop Sea Baths add playfulness and serendipity to the city. Beyond the northern suburbs of Copenhagen the contemporary theme continues as you travel past the Louisiana Contemporary Art Gallery into the town



of Helsingør, the home of the new M/S Maritime Museum of Denmark (BIG).

In an interview in *Leisure Management* (issue 1, 2014), then-mayor for culture and leisure, Pia Allerse, talked about the innovation witnessed in Copenhagen.

"If you want to have a fantastic city, you have to be brave and take chances," she said. "We had to walk the walk to make Copenhagen an active, vibrant, open city."

## SUCCESS IN THE WILD

In rural destinations there are two outstanding examples of destinations where contemporary architecture is now driving tourism. The first example describes how a rural area with a flagging agricultural economy has developed a global reputation as a world class destination by using the power of architecture. In the second example, the experience of a country harnessing contemporary architecture in an innovative manner is discussed.

The first example is of Bregenzerald in Austria, bordering Germany, Switzerland and Litchenstein. This area of attractive pasture and forest is home to some 24 small communities and a population of 30,000.

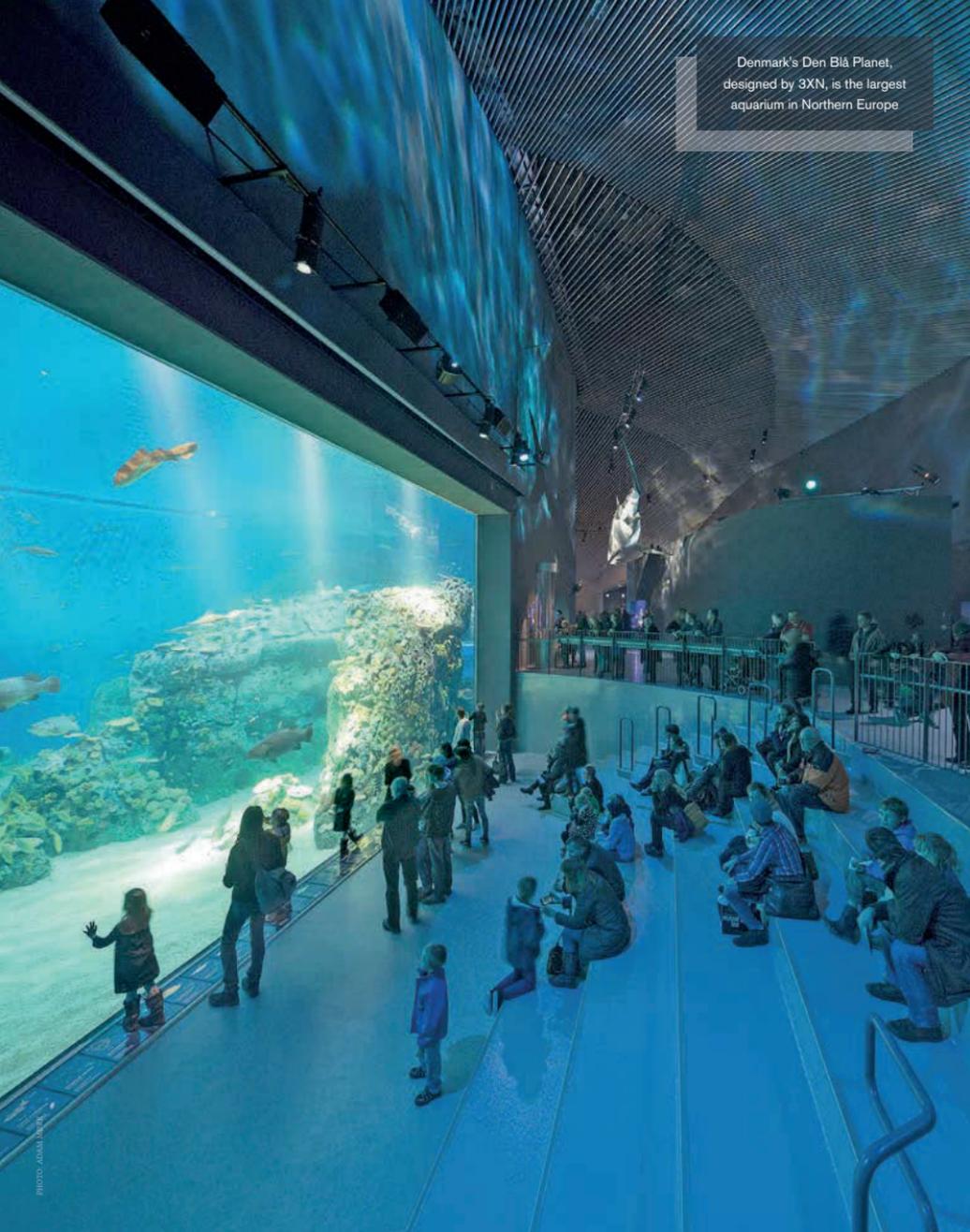
From the early 1970s, the communities of the region had developed a super-municipal authority to improve the quality of life for the residents. Decreasing real incomes from the area's agriculture in the 1990s generated the need to look to alternative sources of income.

In 1992 the Nature and Life Bregenzerald initiative commenced with Bregenzerald Tourism taking a lead role in creating "an integrated eco-social living and experience space". Regional ▶

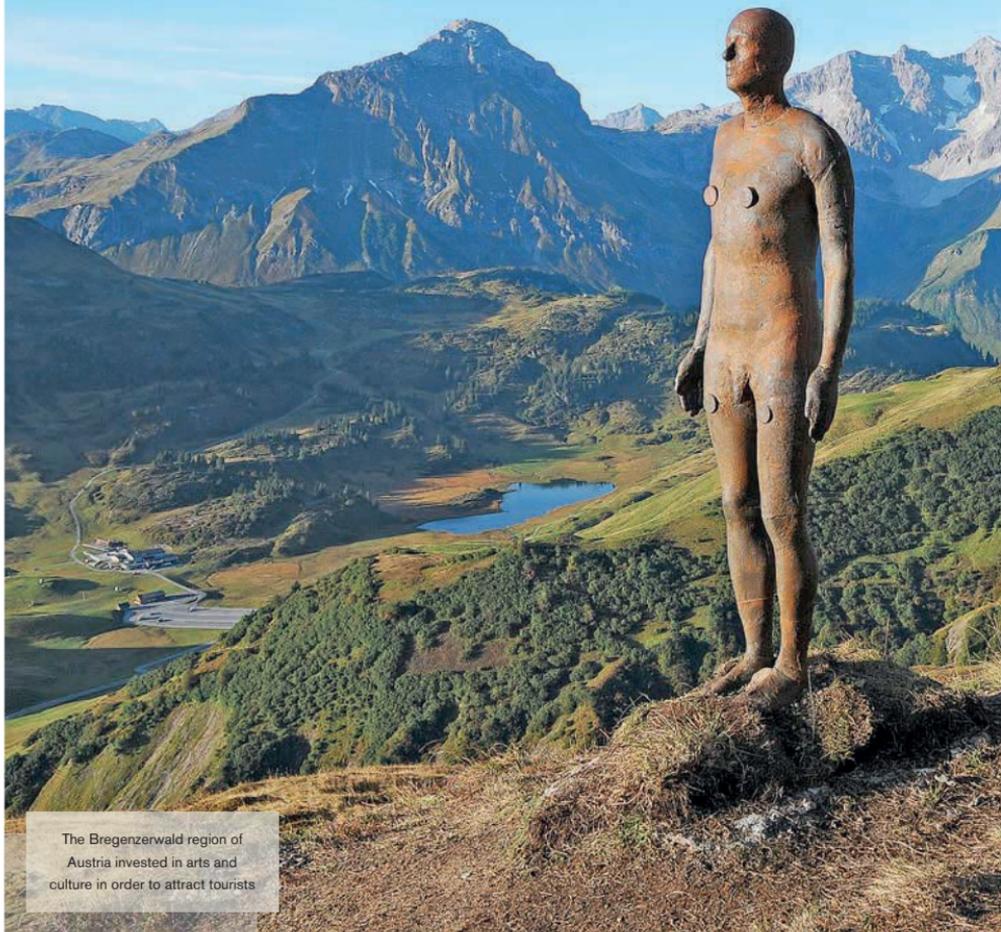


Royal Danish Playhouse was designed by Lundgaard & Tranberg and opened in 2008

Denmark's Den Blå Planet, designed by 3XN, is the largest aquarium in Northern Europe



## PLACEMAKING



The Bregenzerwald region of Austria invested in arts and culture in order to attract tourists

The region's walking and cycling routes are linked by a landscape installation of Anthony Gormley's Horizon Field, with a 100 life-size bronze figures spread across the high Alps



## PLACEMAKING

### National Tourism Routes in Norway

Some of the key architectural highlights on the 18 routes include:

The Stegastein Viewing Platform along the Aurlandsfjellet NTR in Fjord Norway

The Trollstigen Plateau complex

The Sohlbergplassen stop on the Rondane NTR

The Akkarvikodden public toilets on the Lofoten NTR

The Steilneset attraction on the Varanger NTR

► Development Bregenzerwald Plc was established to manage the programme.

With the emerging success of the culture house, a contemporary art gallery (Festspielhaus Bregenz) and the extraordinary Bregenzer Festspiele, an annual open air opera on a floating stage on Lake Constance in the city of Bregenz, the development company decided to focus on a tourism strategy that would forge a strong connection between contemporary architecture, design and nature. This would create a platform for adding value to the landscape, attracting international visitors and growing civic pride.

The result has been impressive. There are now around 10 five-star hotels, all featuring contemporary designs, including the Gams Hotel, the Martinspark Hotel and the Krone Hotel. The region's walking and cycling routes are linked by a landscape installation of Anthony Gormley's Horizon Field, with

a 100 life-size bronze figures spread across the high Alps. And a new scheme has been completed where bus shelters have received a unique contemporary architectural treatment to align them with the fleet of new eco-buses that run between each village every 15 minutes.

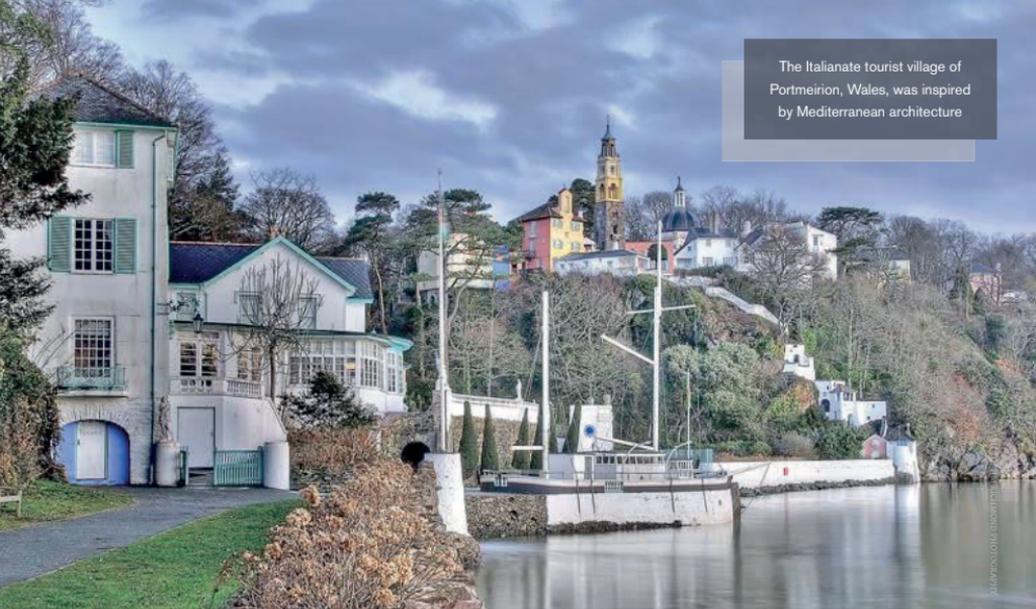
The second example is the story of Norway's tourist routes, which started in 1994 as a trial project to offer motorists an alternative to main roads that gave them access to stunning architecture along the way. An architectural committee was established by the Norway Public Roads Administration and architects assembled. Following a pilot project in the period 1994-1997 the Norwegian government decided to take the concept forward.

There are now 18 National Tourism Routes (NTR) in Norway, all of which have to be completed by 2020. Running along the coast and fjords, through countryside



*Turandot* on the Lake Stage at the Bregenzer festival, which celebrates art, design and nature

The Italianate tourist village of Portmeirion, Wales, was inspired by Mediterranean architecture



and mountains the routes offer world-class scenery and architectural installations.

Upon its conclusion, the project will cover 2,036km of roads, have been 26 years in the making and will have received investment from the government worth NOK3.5bn (US\$430m). The routes are very different in their scenic qualities and each has its own identity. The NTR have become one of the main attractions of Norway

"These are exciting, functional and innovative solutions," says Jan Andersen, project manager at NTR. "They have been created to be durable and to age with dignity. All projects are taken before an architectural council, which agrees the final locations, designs and quality in order to achieve the goal of creating unique experiences of our landscape."

### THE OLD WITH THE NEW

What constitutes good design or appropriate design is, of course, subjective. Disneyland is superbly designed but the increasing

## These trophy buildings rapidly become the symbols and images of the destination itself

'Disneyfication' of parts of the cultural landscape may be wholly inappropriate.

Award-winning Swiss architect Gion Caminada, whose innovative work integrating heritage preservation of traditional buildings with a contemporary approach in the small alpine village of Vrin in Switzerland, makes an interesting observation on this issue, saying: "In evaluating good design, nostalgia has no place ... nor has the schematic adoption of global concepts."

This suggests the prominence of "sense of place" as the starting point for new architectural interventions. However, especially within the world of tourist attractions, there are many successful exceptions to this rule, such as Clough Williams-Ellis' extraordinary Italianate

village of Portmeirion resting on a cliff edge in Snowdonia or William Burgess and William Morris' opium-inspired masterpiece that is Cardiff Castle and its outlier, Castell Coch.

### THE ICON

The role and significance of the "iconic building" designed by the "iconic architect" in destination development is often contested. The topic certainly stimulates considerable debate.

What is incontestable is that for many destination planners the iconic is essential. These trophy buildings – be they stadia, museums, galleries, hotels, resorts or public architecture – rapidly become the symbols and images of the destination itself. ▶

Running along the coast and fjords,  
through countryside and mountains  
the routes offer world-class scenery



Stegastein viewpoint juts out  
from the mountain, 650 metres  
above the Aurland fjord in Norway



The Trollstigen viewing platform on the network of National Tourist Routes in Norway

► Charles Jencks, one of the leading figures in creating destination land art, explains the contribution of the iconic in his book, *The Iconic Building: The Power of the Enigma*.

"A new type of building has emerged in the last 10 years: the iconic landmark building, which challenges the traditional architectural monument," Jencks writes. "In the past, public buildings expressed shared meaning and conveyed it through well known conventions. Today a new type of global landmark has a more difficult task."

Jencks then explains the rationale for the phenomena that is the surge by destinations to have their own iconic buildings.

"This is driven by social and commercial forces and the need for instant fame; it has to be an amazing piece of surreal sculpture and something that appeals to broad audiences. At once, provocative and practical without the past justifications that religion and ideology provided."

## INHERENT SENSE OF PLACE

So, instant fame – capturing the attention of the world's media – providing destinations with the imagery and tone that will encapsulate their tourism brand and position. It's "the war of the hot labels", Jencks says, referring to the whole process of place promotion and marketing.

So where does this take us? Rob Burns, urban design and heritage manager for

## We must look to hybrid thinkers and embrace alternative voices, skills and talents

Liverpool City Council, neatly expresses the conundrum facing all destination placemakers and place promoters:

"Each destination has its own DNA created by the combination of its people, culture, climate and the built environment. The latter is frequently a multi-layered townscape or landscape resulting from residual heritage buildings through to contemporary structures, with the public realm a glue that provides a cohesive element."

"Each urban centre and rural location is unique," Burns says. "People, and in particular designers, inevitably make their own mark on a place and cities are characterised by constant change. While this is inevitable, and welcomed, without a feel for context and local distinctiveness some changes can lead to a dilution of character. The key starting point for any new design is assessing and defining the particular qualities of a place and ensuring these are reflected in the design approach."

Plagiarism doesn't work. Every destination needs to find its own narrative

and convert this into a design specification for placemaking. This must be informed by the destination's core values, its territorial, cultural and heritage assets and its inherent sense of place.

In the increasingly competitive global tourism market, destinations are striving to stand out. However, too many are following others when their real need is to be different. As a result, we are drowning in a sea of sameness. We must break from this trend by looking to hybrid thinkers to deliver hybrid solutions. It means that the architecture and design industries together with its paymasters in the tourism industry must be willing to embrace alternative voices, skills and talents.

Patrick Torrent Quell, deputy director of the Catalan Tourist Board responsible for the development of architecture-related tourism initiatives in Catalonia, says: "Interesting things happen when you allow different clusters to collide."

We are entering a period of unprecedented experimentation where, according to the editor of *Wired*, "old formulas no longer hold true ... traditional forms of partnership and collaboration will have to change ... hybrid solutions will prove to be winners." □



Terry Stevens is a consultant specialising in feasibility studies and economic appraisal for the leisure and tourism industries

# Character Building

The way architects are portrayed in film runs the gamut of personality types, from idealistic dreamers to harried workaholics. Gordon Grice delves into the psychology of the big-screen hero

Gordon Grice, creative director, FORREC

Architecture is complicated, which is one reason why hardly any of the movies and television shows that feature architects show them doing any actual architectural work – or spending time in a studio that’s even remotely authentic. The other reason is that architectural practice, although endlessly fascinating to architects, can be deadly boring for everyone else.

And yet movies continue to feature architects in lead roles. On my Architects on the Big Screen Master List – which I

have spent many years compiling (*100 + 25 Years: OAA Perspectives on a Quarter-Century*, Ian Ellingham and Gordon Grice eds.) – there are more than 100 movies. If architecture is so complicated and boring, why are movie architects so popular?

The answer to this question is not in what an architect does, but rather in what an architect is – or is imagined to be. And here, things get even more complicated, although thankfully, more interesting.

Screenwriters employ stereotypes to establish mood and character. After all, time is short: a film typically allows barely 90 minutes to tell a story. So by introducing a



Wallace Shawn plays architect Halvard Solness in *A Master Builder* (2013)



puppy dog (unconditionally affectionate), a Tyrannosaurus rex (relentlessly dangerous), a private detective (clever and devious), some necessary storytelling information has already been done. The writer can then build on perceived characteristics.

But when an architect is introduced, what information is conveyed? What exactly is a stereotypical architect?

### **Evolving stereotypes**

Way back in 1926, in the silent film *The Temptress*, we get our first glimpse of a fictional architect as a leading character: a swashbuckling Argentinian architect-engineer played by Antonio Moreno, who steals the heart of a beautiful woman (Greta Garbo). In these early days, leading

### **Artistic dilemmas vex Gary Cooper (left) in *The Fountainhead* (1949)**

characters were virtually required to be handsome and swashbuckling, and the international architect filled the bill perfectly. Movie architects would henceforth be romantic and dashing.

In the 1934 film *Peter Ibbetson*, based on George du Maurier's novel, Gary Cooper took on his first role as an architect, playing the film's romantic, impulsive and idealistic title character. In this morose fantasy, nothing ends well, but the architect remains a quixotic dreamer until the very end.

Fifteen years later, Cooper assumed his second architect role as Howard Roarke, hero of *The Fountainhead*, based on Ayn ▶



This revised architectural stereotype proved so amazingly successful that even today, the profession is often viewed as aloof and insensitive

## ARCHITECTS IN FILM

► Rand's 1943 novel. Once again the architect was a dashing romantic dreamer, but this time, with an arrogance that aligned more closely with the popular perception of the architectural genius – generously supported by such public personalities as Frank Lloyd Wright. This revised architectural stereotype proved so amazingly successful that even today the profession is often viewed as aloof and insensitive, even by its own members.

Then, in the postwar era, almost unnoticed, a new and far more appealing movie architect began to emerge.

In Stanley Donen's 1967 film *Two for the Road*, the new architect-hero is cast as a family man (Albert Finney as Mark Wallace)

whose demanding career threatens to alienate his wife (Audrey Hepburn as Joanna Wallace) and damage his family. The film follows a journey of trial and discovery. There's a demanding client, a rift with old friends and marital infidelity. Just when the marriage seems doomed, the wisdom of the architect and his understanding wife prevails and the family is saved.

### The lovable architect

In many later films, this plot is adapted to suit a wide range of actors and stories. There is, for example, the sensitive dreamer (Tom Hanks, *Sleepless in Seattle*, 1993; Keanu Reeves, *The Lake House*, 2006);



The creators of popular fiction have really come to the rescue, pointing us in the direction of what an architectural identity might actually be



Albert Finney plays architect Mark Wallace and Audrey Hepburn plays his wife, Joanna, in *Two for the Road* (1967)



PHOTO: IBC FILMS

the harried, workaholic parent (Michelle Pfeiffer, *One Fine Day*, 1996; Adam Sandler, *Click*, 2006); the charming wit (Jon Stewart, *Playing by Heart*, 1998); the romantic optimist (Mira Sorvino, *At First Sight*, 1999; Zach Braff, *The Last Kiss*, 2006; Joseph Gordon-Levitt, *500 Days of Summer*, 2009); and the working class superhero (Luke Wilson, *My Super Ex-Girlfriend*, 2006).

In every case, the character of the architect – a contemplative, lovable romantic – faces a crisis involving family and friends. Often, it's the demanding career or the unreasonable client that provokes the crisis. In the story's pivotal moment, the architect must act decisively to right the wrong, possibly at the expense of his or her career. Finally, the architect emerges as a wise decisionmaker – aware that the sanctity of family and friendship is more important than career – and, predictably, lives to design another day.

**Kate Winslet plays landscape architect Sabine de Barra in *A Little Chaos* (2014)**

People of all professions have often complained about being inaccurately represented in popular fiction and film. “People get the wrong impression about us,” they invariably say. But, for architects, the creators of popular fiction have really come to the rescue, pointing us in the direction of what an architectural identity might actually be and, by extension, what an architect might realistically hope to accomplish in this world.

Maybe the lesson we've learned is that it's not so complicated after all. Architecture is a collaborative profession that brings people together to solve important problems; wisdom and experience can overcome great odds; people are more important than things. Well, that's what we've been trying to say all along. □



Gordon S. Grice is a creative director at FORREC, an entertainment design company in Toronto, Canada. Grice is also an architect and editor of the quarterly journal *OAA Perspectives*. Much of his writing seeks to discover what it means to call yourself an architect in the 21st century.



# CLADbook 2017

## people

- 206 **Richard Rogers**
- 208 **Philippe Starck**
- 210 **Irene Forte**
- 212 **Joyce Wang**
- 214 **Naoko Ito**
- 216 **Wolfgang Buttress**
- 218 **Carsten Holler**
- 220 **Tim Stonor**

# CLAD people



Leisure space is at the very root of democracy. We have to defend our public spaces



**Richard Rogers** partner RSHP

**R**ichard Rogers has warned that the "erosion of public space by the private market is a really serious problem in cities."

In an interview with *CLAD* at the launch of the 2016 Venice Architecture Biennale, where his firm Rogers Stirk Harbour + Partners were exhibiting, he urged architects, developers and the public to "defend our public spaces."

"Leisure space – public space – is at the very root of democracy, and architecture is about democracy," he says. "When I studied architecture in the 1950s, 80 per cent of architects in England worked for schools, hospitals and other public buildings. Today, I gather the number is 20 per cent, which in a way reflects the need to defend the public domain."

Rogers says that it's the responsibility of all architects to try to help solve today's social and environmental challenges.

"We have a responsibility, no question. We have a responsibility not only as architects, but also as citizens. Our responsibility is to defend the quality of life of the individual."

Rogers said that architects could still work for private clients and contribute to the public good. He cited the example of RSHP's Leadenhall office building, saying "we managed to persuade the local government and the owner to have the bottom of the building as public space."

RSHP designed a new architectural façade for the Berkeley hotel in Knightsbridge, London, adding "a touch of contemporary theatre" to the 1970s



**Richard Rogers of Rogers Stirk Harbour + Partners calls on architects to contribute to the public good**

building, which incorporates restored features from the original hotel that was on Berkeley Street.

The hotel's entrance has been extended outwards and fitted with glass, steel and carbon fibre beams to create what the hotel's developers describe as "a unique and show-stopping canopy which will take our London landmark into the 21st century."

The new façade is part of a wider redesign at the Berkeley which includes the lobby, the Blue Bar and the Collins Room.

Construction work also recently began on the RSHP-designed International Spy Museum in Washington, DC, due to open in 2018. ▶





The Berkeley recently unveiled its new RSHP-designed façade, which is part of a wider redesign of the hotel





# Le Nuage is a factory of energy for everyone and for the town of Montpellier



**Philippe Starck** designer

PROJECT: LE NUAGE CLUB



Philippe Starck, whose first company was set up to create inflatable objects in the 1960s



**F**rench designer Philippe Starck has created an 'inflatable' health club in Montpellier, France, by cladding the building with fluorine-based ETFE to create a bubble-like façade housing health and fitness facilities over five floors.

Opened in October 2014, the Le Nuage club includes a fitness studio and gym, swimming pool, café, children's area, hairdressers and beauty salon. The striking interior features a range of Starck-designed furniture; the exterior can change colour with the use of external lighting.

Roxim, the developer, says the building was inspired by the gymnasiums developed into baths during the Greek and Roman times, which were designed to be places for both training and relaxation.

"The beauty and richness of life arises from diversity, translucency and projections," says Starck. "This building is the opposite of an

architectural gesture. It is a 'nearly nothing'; an urban space, a chaotic and free town, a magic bubble; virtually indestructible, even though it only has the thickness of a few tenths of a millimetre. Le Nuage is a factory of energy for everyone and for the town of Montpellier."

While something of Starck's meaning may be lost in translation, the building speaks for itself. Unusually-designed health clubs are something of a rarity, and this one stands out. The exterior is striking, but doesn't feel gimmicky, and the interior is original and welcoming.

**The health club was designed with a series of air-filled 'pillows' on the façade to give an impression of lightness**



# I really like having a simple and clear concept



**Irene Forte** brand manager

PROJECT: ROCCO FORTE SPAS

Irene Forte quite literally grew up in the hotel business – her father is the famous hotelier Sir Rocco Forte, her aunt is renowned hotel interior designer Olga Polizzi and her cousin is hotelier Alex Polizzi who also presents UK TV series *The Hotel Inspector*.

Now, aged 27, Forte has developed the group's first brand-wide spa concept, Rocco Forte Spas, which has just rolled out across its 10 luxury properties in Europe.

"We had very nice individual spas, but we had no overall unified concept," says Forte. "And there was no health and fitness aspect. I saw a real gap there."



**Irene Forte, brand manager for Rocco Forte Hotels, says developing the spa concept was a huge project**

She set out to create a concept that would work for existing spas – which include its flagship 4,000sqm spa in Sicily, Brown's Hotel in London or the Hotel Astoria in St Petersburg. While each spa will incorporate local flavours through decor and nutrition – a crucial part of the concept – the rituals and branded skincare will remain consistent throughout.

The Rocco Forte spa concept combines spa treatments (Rocco Forte Rituals) with food (Rocco Forte Nourish) and in-house beauty products (Forte Organics) as well as Rocco Forte Fitness.

"I really like having a simple and clear concept," says Forte. "We have four notions, which are easily understandable for guests. We can also continue build upon them."

While Forte headed up the development of the spa concept, she also benefitted from the insight of her aunt, sister and father – with each family member playing to his or her strengths and interests.

Forte worked with her sister Lydia – just two years older than herself, and the bar and restaurant development manager for Rocco Forte – to create Rocco Forte Nourish. This involves using area chefs and nutritionists for local cuisine, as well as changing the minibar selections and offering a healthy corner at breakfast, with choices like sugar-free almond or soya milk and granola.

"It was the first project we worked on together," says Forte. "It was quite good to do something together and I think our Nourish element really stands out."



Irene Forte and her sister  
Lydia, who helped with the  
spa's Nourish offering





A project should make  
people dream and  
ponder and intellectually  
think about the space



**Joyce Wang** interior designer

PROJECT: ISONO AND VASCO



**H**ong Kong restaurants Isono and Vasco represent the latest offering from rising interior design star Joyce Wang, whose Mott 32 Bar & Restaurant in Hong

Kong was awarded the World Interior of the Year at the INSIDE World Festival of Interiors in 2014.

Isono and Vasco are located in the Police Married Quarters complex in Hong Kong. Isono serves Basque-influenced food, while Vasco offers a Spanish fine dining experience.

"For Isono, we used rustic interiors, raw materials and an open-plan design to convey a relaxed vibe that is conducive to communal dining," says Wang. Vasco is a more formal space, with two semi private dining rooms and two entirely private rooms.

"Gold, burnt caramel, deep green and tar reference the ageing process of Spain's celebrated olive oil but also reference the dominant palette of colours evident in the mid-century era in Europe and in the US," says Wang.

Mott 32 is located in the basement of the Standard Central Bank in central Hong Kong, and is reached via a long escalator and stairwell. To counter the absence of natural light in the space, Wang introduced two architectural octagonal skylights, which can be lit to simulate daylight or dimmed during the evening.

The venue features a variety of spaces, including the tangerine room, the mah jong private dining room, the main dining room and the alcoves, which are divided using screens.

For Wang, it's important to reference the history of the areas the projects are located in, but also





to look to the future. "It's very important for our studio's projects to pay tribute to their past, but also be forward-looking. To us, a project should essentially be both, so it's contradictory, but at the same time it can create a really surreal feeling, making people dream and ponder and take their time to intellectually think about a space."

Wang launched her practice, Joyce Wang, in 2011. Other projects include the renovation of the Roosevelt Hotel, Hollywood, California; AMMObar and restaurant, Hong Kong; and a number of private residences.

"My inspirations come from film, music, fashion, and from spending time with people who engross themselves in these mediums," says Wang. "I get excited when I work with talented individuals – designers, craftsmen, fabricators, artists, clients – and when I hear their personal take on the value of design."

**Mott 32 (top and left) features a large dining area and five private rooms; Vasco's luxurious dining room (above)**



I thought it would be interesting to capture the positive feeling that occurs when running



**Naoko Ito** creative

PROJECT: NARITA AIRPORT TERMINAL 3

Japanese creative lab Party are behind the innovative design of Narita Airport's Terminal 3, which features a running track designed to help passengers find their way through the airport.

A tight budget meant the architects couldn't install moving walkways into the Japanese airport. The solution turns this into a positive, using colour-coded running lanes to promote activity ahead of the 2020 Tokyo Olympics.

"I was on the track team in elementary school and I thought that it would be interesting if we could capture the positive feeling that occurs in the moment of running," Party chief creative officer Naoko Ito says.

"To offer an exciting walking experience that is easy on the feet, we implemented running tracks used for track and field, which also serve as clear signage for user-friendly guidance."

The Narita Airport project was three years in the making; the lack of expensive walkways and illuminated signage used in the terminal kept costs very low. Ito said the airport's preparations for the Olympics and the fact that Terminal 3 will be exclusively used by low-cost airlines meant that 'physical activity meets economy' was a perfect theme for the project.

"For me, the key to great architecture and design is fitting two into one," added Ito. "We always seek to consolidate two or more functionalities into one in pursuit of economic reasonability. In short, we as an agency treasure innovative designs which provide an affordable twist on the norm."

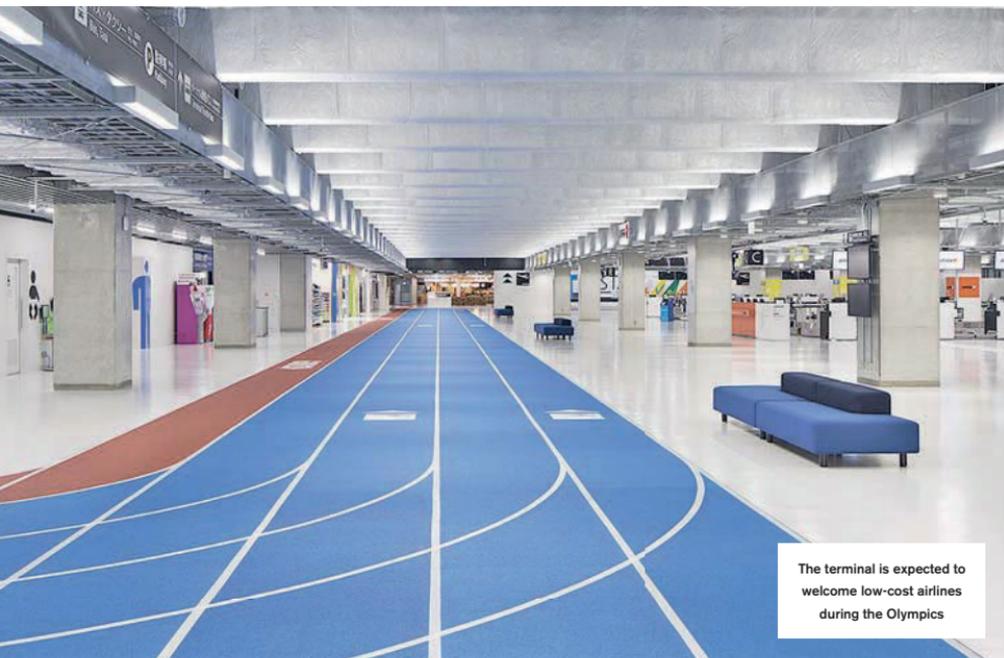


The running tracks in the airport are colour coded: red for arrivals and blue for departures. White stenciled symbols direct passengers to the correct part of the building



The running lanes aim to promote physical activity





The terminal is expected to welcome low-cost airlines during the Olympics





I wanted to express something that's universal, and that goes beyond language, age and intellect



## Wolfgang Buttress artist

### PROJECT: THE HIVE



UK artist Wolfgang Buttress worked with architects BDP on the pavilion, which has found a new home at Kew

Exploring the crucial role of a bee colony in the global ecosystem, The Hive – Wolfgang Buttress' award-winning multi-sensory pavilion – has been given a new home at London's Kew Gardens.

The structure was the centrepiece of the UK's entry at the 2015 Milan Expo, where it attracted more than 3.3 million visitors and was awarded the BIE Gold Award for Architecture and Landscape.

It moved to Kew – a UNESCO World Heritage Site containing 132 hectares of landscaped gardens – in June. Visitors are taken on an experiential journey through the life of a bee colony, from an outside orchard and wildflower meadow into the hive itself, while orchestral buzzes and pulses fill the air.

The 17-metre-high, 40-tonne aluminium structure was inspired by British scientific

research into the health of bees and their role in pollinating crops essential to human survival.

More than 1,000 LED lights are illuminated within The Hive, changing in sound and light intensity to relay information triggered by vibration sensors in a real beehive.

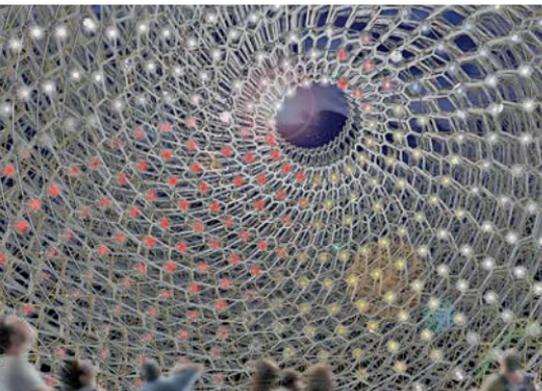
The pavilion was created in collaboration with architects BDP, engineers Simmonds Studio and constructors Stage One, who built the structure from 115,000 individual components.

"The Hive creates a powerful, immersive space for us to explore the urgent issues we face in relation to pollinators, their intimate relationships with plants and their vital role in helping us feed a rapidly growing population. To be able to bring those stories alive here at Kew – a centre of scientific knowledge and expertise and one of the planet's most biodiverse city landscapes – is a real honour," says Richard Deverell, director at Kew.

Kew scientists are using The Hive as a platform to share their research into the life of bees and how they can be protected.

According to Buttress: "The form and idea originated from dreaming and a hand-drawn sketch. I wanted to find a simple metaphor for the state of the planet in 2015. The bee can be seen as a sentinel for the health of the world. Pollination is essential to the wellbeing and feeding of the planet. I wanted to express something that's universal, and that goes beyond language, age and intellect."

"I wanted to create something reserved and conscious of its context, yet at the same time innovative and impactful," he says. "For me, the tension between those qualities is important."





The Hive was constructed by Stage One, who also built Thomas Heatherwick's Olympic torch

# It is impossible to travel down a slide without smiling

**Carsten Höller** artist

PROJECT: THE SLIDE



Artist Carsten Höller has wrapped a slide around the ArcelorMittal Orbit

The Slide will twist and turn 12 times, including a tight corkscrew section named the 'bettfeder' – after the German word for 'bedspring'. It's the world's tallest and longest slide, opening inside Anish Kapoor's ArcelorMittal Orbit London tower in June 2016.

The attraction is a collaboration between artist Kapoor and designer Carsten Höller. The 178-metre helter skelter, designed with Bblur Architects, includes transparent polycarbonate sections allowing riders to look at the surrounding Queen Elizabeth Olympic Park as they descend. Riders are expected to hit speeds of up to 15 miles per hour during the 40-second trip from top to bottom.

Höller says: "Since 1999, I have built a number of slides, both freestanding and attached to buildings, but never onto another artwork as in this case.

"Now that the two artworks will be intertwined with each other, I see it as one of these double situations that I am so interested in. I like it when a sense of unity is reached in two separate entities, and you can find this thought to repeatedly occur in my work."

In a recent exhibition at London's Southbank Centre, Höller caused a buzz with his specially-commissioned 15-metre-long slide on the Hayworth Gallery's exterior. It allowed visitors, as they reached the end of the exhibition, to travel down the exterior of the building in a rather unconventional fashion, rather than exit via the building's staircase. It constituted "a graceful, sculptural installation," according to Höller, leaving visitors "experiencing an emotional state that is a unique condition somewhere between delight and madness."





Carsten Höller's new slide is said to be the world's tallest and longest



# Our business plan is built around the idea of dissemination

**Tim Stonor** urban planner

PROJECT: SPACE SYNTAX ACADEMY

Space Syntax – a consultancy that uses an in-house “science-based, human-focused” methodology to guide the optimum planning direction for buildings and urban spaces – has always aimed to share its research, theory and findings.

Now, the long-held dream of launching an academy to educate industry students and professionals in evidence-based planning is taking off. Space Syntax theory and the application of its techniques is being taught to individuals and organisations who can use the approach to better understand human behaviour in space and how to achieve the best social, economic and environmental performance for their project and surrounding communities.

“Our business plan is built around the idea of dissemination. We’ve developed a powerful and effective urban technology and we’ve always believed that it should be used more broadly than just by us,” says Tim Stonor, managing director at Space Syntax. “We’ve been working on setting up the Space Syntax Academy for some time and now it’s really taking off. We recently taught a planning institute in northeast China in Changchun, a one-year contract where we trained 20 young planners to be hands-on using our technology. They created plans from scratch with



Planners in Changchun, China, study Space Syntax theory



Tim Stonor conducts on-site training programmes with planners and architects

Space Syntax embedded in their thinking. That’s a perfect example of what we want to do more of.”

Space Syntax offers three avenues for those who want to learn more. There’s a free-to-use online training platform, which people can use to self-teach. The next option is for Space Syntax to deliver the programme on-site, as they did with the Changchun Institute of Urban Planning and Design, where Stonor and his colleagues led five days of training per month. The course is taught through interactive workshops and hands-on technical training. The third option is for people to train at the Space Syntax studio,



These example maps illustrate accessibility and sprawl scenarios



where they can be hands-on with their own work work or with a Space Syntax project.

"Some people want to engage fully with the technology itself. Some want to learn the principles as rules of thumb to apply to their planning and design work. We don't want to be too prescriptive because all clients are different," Stonor says.

He adds that the course would benefit all stakeholder groups, whether they are architects, designers, planners, economists, politicians, developers or investors. Previous clients include Swindon Borough Council, University College London, the Architectural Association and Harvard University.



The Space Syntax Academy offers classroom training and internship programmes. There is also a free-to-use website



**CLADbook** 2017

architects  
& designers

224 **FaulknerBrowns**

226 **Forecast**

228 **Forrec**

230 **GOCO**

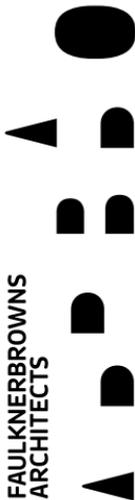
232 **GSM**

234 **Sparc Studio**

236 **WTS**



**FAULKNERBROWNS  
ARCHITECTS**



# FAULKNERBROWNS ARCHITECTS

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Mike Hall, partner

### About us

At FaulknerBrowns we are extremely proud of our rich heritage in the design of sports facilities. Since 1962 we have completed a rich portfolio of sports buildings winning numerous awards along the way, including more IOC sponsored IAKS awards than any other Architects worldwide. We continue to innovate and set new benchmarks for sports facility design, both nationally and overseas. The spectrum of participants in sport is varied and our approach carefully considers the needs of each individual user group. The result is architecture which enables people to play, train and perform.

### Key markets

Sport & recreation, mixed use & urban regeneration, retail, attractions & entertainment, community leisure, health & fitness, spa & wellness, schools, universities, workplace, arts & culture, hotels & hospitality, libraries. Our key markets globally are Europe, Middle East and Canada.

### Recent projects

Beacon of Light is a unique education, training and sports facility for the community of Sunderland. Sportcampus Zuiderpark, Den Haag, is a landmark development designed to create alliances between education,

sport and the community. Coventry Water Park is an iconic, high-octane leisure water destination.

### Key clients

Local authorities, international sporting entities, private sports and leisure developers, schools and universities.

### Further information

Our approach to sports and leisure design is underpinned by four key principles: creating a strong sense of place, inspiring internal environments, maximising usage and innovation. These form part of our 'DNA' and are a fundamental consideration in our design process.



Hebburn Central community hub: winner of the 2016 Special Civic Trust Award for Community Impact and Engagement

# FORECAST

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# FORECAST

## Forecast

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James Van Tromp and  
Nathan Aylott, founders

### About us

Forecast has a comprehensive track record and renowned reputation for creating exceptional interiors in some of the world's most iconic locations. Our projects have introduced new levels of boutique luxury and originality to the interior design world. We blend all of our knowledge of brands, market research, trend analysis and customers requirements with the finest luxury hard-line interior creativity to offer the very best in design services available today.

### Key markets

Health & fitness, museums & heritage, hotels & hospitality, spa & wellness, sport & recreation, retail, domestic interiors, branding & graphics. Just

like our clients we operate globally, providing interior and architectural design solutions worldwide, with active projects currently underway in Europe, Asia, the Middle East and the Americas.

### USP

Whether working for a small independent or an iconic brand spanning the globe, brands need stories and we create them. We help clients forge long-lasting relationships with customers through real world, engaging and beautiful architectural experiences.

### Key clients

Technogym, Chelsea FC, Adidas, Aston Martin, Qatar Olympic Committee, Wimbledon, Aveda, Nike,

The Connaught Hotel, Guess, Elemis, Kenneth Cole, St Georges Hill LTC, Odyssey Health Clubs, English Institute of Sport Sheffield, Bulova Watches.

### Further information

Since its launch, Forecast has earned a reputation as one of the most innovative design firms in their field, due in large part to the group's modern minimalist style, integrated design process and heavy focus on creating authentic experiences.

Forecast works with global brands and independent labels, offering clients a focus on authenticity and storytelling





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Retail and Mixed-Use

Resorts

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Facebook: [www.facebook.com/ForrecDesigns](http://www.facebook.com/ForrecDesigns)



Gordon Dorrett, president & CEO

### About us

FORREC is an entertainment design company that creates places of escape and destinations of distinction. Our creative house leads in the design of theme parks, waterparks, retail and mixed-use developments, resorts, and visitor attractions globally. We create guest experiences others don't, master plan like no one else can and give the world's biggest brands results they never thought possible. FORREC has built projects in 20 countries, with a history that spans 30 years.

### Key markets

Arts & culture, museums & heritage, attractions & entertainment, hotels & hospitality, greenspace, spa & wellness, mixed use & urban regeneration, waterparks, theme parks, visitor attractions, retail and mixed-use, resorts.

FORREC is a global entertainment company based in Toronto, Canada. The company has representatives in China, Europe, the Middle East and Africa, Latin America and the Caribbean and India. FORREC serves clients all over the world.

### USP

At FORREC, we have six attributes that guide our approach and our projects and make us unique in the way we work.

- Your projects never look like the every day.
- Your guests come first with us.
- We help you tell your story.
- We make fun pay off for you.
- You benefit from an experience worth remembering.
- Your project works. Period.

For more information about these guiding principles, visit our website [www.forrec.com](http://www.forrec.com) and look under the section titled How We're Different.

### Key clients

We work for some of the world's biggest brands and globally recognized companies, including Universal Studios, LEGOLAND Development Corporation, BBC Worldwide, Centre Parcs Europe, Nickelodeon, Herschend Family Entertainment Corporation, Wanda Group, Chimelong Group, Sanrio and HiT Entertainment.



"It's more than what we do: it's how we do it that counts – collaborative, creative and always with an entertainment mindset"

*We have created GOCO Spa Venice, the most comprehensive spa in Venice on the island Isola Delle Rose.*



THE SPA AT STEIGENBERGER  
FRANKFURTER HOF  
Frankfurt, Germany



GLEN IVY HOT SPRINGS  
Temescal Valley, Southern California



GOCO RETREAT UBUD  
Bali, Indonesia

## THE FUTURE OF WELLNESS HOSPITALITY

We are a design-led company that creates projects through a harmonious blend of innovation, authenticity and local culture. Our team is committed to creating unique, world-class wellness environments and delivering extraordinary sensory and service experiences for guests.

GOCO  
HOSPITALITY

GOCO  
DESIGN

# GOCO

## HOSPITALITY

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Ingo Schweder, founder & CEO

#### About us

As a complete wellness consulting and management firm specialising in designing, developing and operating wellness-based projects, GOCO Hospitality offers a turnkey solution for each phase of development. GOCO Design Studio, the company's design arm, is unique as it specialises in creating wellness projects based on an in-depth understanding of local culture, consumer needs and operational requirements. The team of urban planners, architects and interior designers ensures the creation of unique concepts that deliver a true experience for guests and adhere to the project's business plan. Services provided include

masterplanning, concept development, design and technical services.

#### Key markets

Health & fitness, hotels & hospitality, spa & wellness, mixed use & urban regeneration, sport & recreation, retail. GOCO Hospitality also develops wellness communities, which combine a wellness resort with residential offerings for wellness conscious guests and a living working village for artists and craftsmen, an organic farm and cooking school.

GOCO Hospitality is currently working on five continents, with active projects in Africa, Asia, Europe, the Americas and the Middle East. We have a large portfolio

of work and are anticipating a number of new openings in 2016 and 2017.

#### USP

GOCO Hospitality is a leading consulting and management company specialising in the development and management of wellness-based projects globally. Together with its GOCO Design Studio and sister company, Horwith HTL Health and Wellness, GOCO Hospitality offers a true turnkey solution for wellness-based projects from inception through to management.

#### Key clients

We are proud to work with leading hospitality providers, including Bulgari Hotels & Resorts, the Ritz-Carlton Hotel Company, MGM Hospitality, Wynn Hotel and Resorts, Starwood Hotels & Resorts, Steigenberger Hotels & Resorts, Viceroy Hotels & Resorts and Emaar Hospitality in creating successful spas for their international portfolio.

#### Further information

GOCO Hospitality envisions and designs wellness concepts that are based on a true understanding of the project's local culture, location, consumer needs and changing demands from guests. We create wellness-based projects that have wellness as an integral part of the project and not a facility.



GOCO Hospitality: wellness concepts based on an understanding of the project's local culture

**Let's create  
something  
that changes  
someone.**



## GSM Project

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### About us

Founded in 1958, GSM Project is a multidisciplinary design and production firm specializing in museum exhibitions, observation decks, and other visitor experiences. We offer complete end-to-end services, from strategic planning, concept development and design to technical development, production and operations, including turnkey. With over 1,000 projects completed

worldwide, we collaborate closely with our clients to create experiences that resonate at an emotional level, bringing visitors to a deeper understanding of the world around them.

### Key sectors

Arts & culture, museums & heritage, attractions & entertainment, interior design. Over the years, our portfolio has circled the globe many times, with

particular focus on North America, Europe, Asia and the Middle East. From our home bases in Montreal, Dubai and Singapore, we are uniquely poised to produce visitor experiences across the world. We want to work with you, wherever you are.

### USP

We believe that content should be the heart of every project; that's why design and technology are just tools for creating understanding. At GSM we pride ourselves on not having a signature; rather, every one of our projects is a unique combination of the subject of the exhibition, the context of the project, and the client's vision.

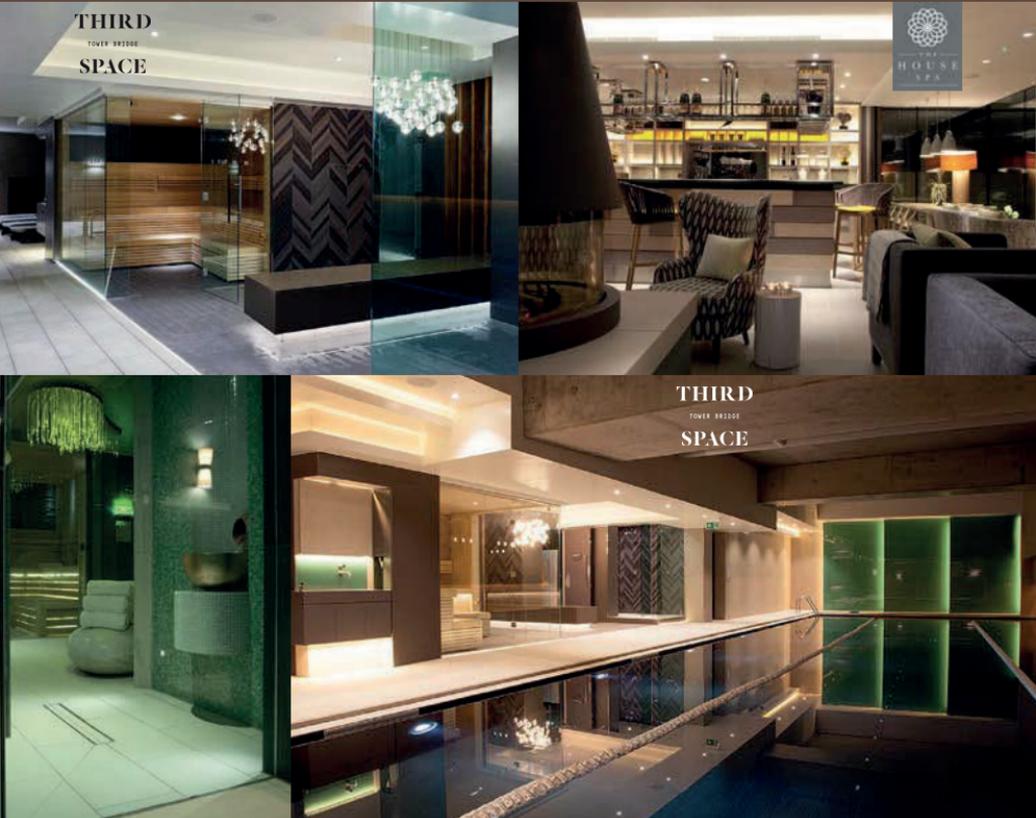
### Key clients

Canadian Museum of History, National Museum of Singapore, Smithsonian Institution, Cirque du Soleil, Ford, LucasFilm Ltd, Canadian Olympic Committee, J. Armand Bombardier Foundation, Amsterdam Football Club Ajax, Sellar Property Group UK, Musée de Strasbourg, Emaar Properties, Abu Dhabi Tourism & Culture Authority.



Lest We Forget, Abu Dhabi, UAE: a temporary exhibit and grassroots heritage initiative designed and built by GSM Project

*Sparcstudio deliver **inspiring, innovative & award winning** spa, wellness & hotel design with a real attention to detail. Our bespoke design approach combined with a deep understanding of the technical & operational issues ensures long lasting & unique spas that continue to win awards year after year.*



**OUR CLIENTS INCLUDE:**

THIRD SPACE, DORMY HOUSE SPA, EXCLUSIVE HOTELS, AB HOTELS SPA AT SOPWELL HOUSE, CALCOT MANOR HOTEL & SPA, SO SPA SOFITEL ST JAMES, ROCKCLIFFE HALL SPA

**CONTACT US**

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[www.sparcstudio.co.uk](http://www.sparcstudio.co.uk)

# SPARCSTUDIO

DESIGN CONSULTANTS

## SPARCSTUDIO

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LinkedIn: [www.linkedin.com/company/sparcstudio](http://www.linkedin.com/company/sparcstudio)

Facebook: [www.facebook.com/Sparcstudio-Design-Consultants](http://www.facebook.com/Sparcstudio-Design-Consultants)



Beverley Bayes, founder

### About us

Sparcstudio is a privately-owned creative design practice of designers and architects that has carved a reputation for designing highly creative, successful and award winning spas, wellness/fitness and hotel and resort facilities. Projects tend to be for independent owner / operators and within the high-end sectors. Sparcstudio offers a bespoke and comprehensive design service with a real attention to detail; logical and inspiring space planning forms the bedrock of their schemes. Sparcstudio

always looks to create a unique product that has a real sense of place. Dramatic lighting design is always a key / integral element of Sparcstudio design.

### Key markets

Health & fitness, hotels & hospitality, spa & wellness, high-end retirement villages. We work in the UK and Central and Eastern Europe. We are happy to work on projects that are further afield where we can provide a concept design/consultancy service working with local enabling architects on the delivery.

### USP

Sparcstudio delivers beautiful, quality and impactful design work that attracts much press coverage. Their design approach is driven by a deep understanding of what guests need and the desire to create an amazing journey and experience for them. Sparcstudio schemes have real "heart and soul".

### Key clients

Third Space fitness clubs, Calcot Spa, So Spa Sofitel, Dormy House Spa, Aspria clubs in Europe, Center Parcs Aqua Sana Woburn and other sites, Villages Nature, Exclusive Hotels, Richard Ward Salon and Carita Spa, AB Hotels Soppwell House, Rockliffe Hall Spa, English Care Villages.

### Further information

Sparcstudio is most proud of awards won, where business success is measured. Calcot Spa & Dormy House Spa have won multiple awards, including Mr & Mrs Smith's 'Best Spa Hotel' and the Times' 'Ultimate 100 British Hotels: Spa'. GQ magazine included Third Space in their "Nine coolest things in the world this week".

Sparcstudio designed Third Space, a high-end health club in London





AWARD-WINNING | UNIQUE  
DISTINCTIVE | EXPERIENTIAL  
CUSTOMIZED | EXCLUSIVE

For over 40 years, WTS has provided design consulting and management services for over 300 spas, fitness/wellness centers, leisure and lifestyle facilities worldwide.

To discuss our services or to learn more about WTS design services, **CALL** +1.301.622.7800 or visit **WTSINTERNATIONAL.COM**.

**WTS OFFERS:**

Program-driven design backed by operational expertise

Unbiased purchasing recommendations with preferred pricing partnerships

In-house design team who are licensed, credentialed, and specialize in the leisure industry

Award-winning innovative design

Leading the industry in providing cutting-edge solutions

WTS  
INTERNATIONAL

# WTS INTERNATIONAL

## WTS International, Inc.

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Facebook: [www.facebook.com/wtsinternational](http://www.facebook.com/wtsinternational)



Mary Lynn Mellinger, director of planning and design

### About us

WTS International is one of the world's largest and most diversified spa consulting and spa management firms, creating memorable experiences while driving top line and bottom line results. WTS International's internal design team collaborates with the client's design firm to focus on creative aesthetics and functional considerations that impact profitability for spas, fitness centres, and leisure facilities of all types. WTS International offers clients programme-driven design backed

by operational expertise; unbiased purchasing recommendations with preferred pricing partnerships; an in-house design team who are licensed, credentialed and specialise in the leisure industry; award-winning innovative designs and cutting edge solutions.

### Key markets

Health & fitness, spa & wellness, sport & recreation. The WTS International team has worked on projects in every continent, in a multitude of different countries and cultures.

### USP

WTS' in-house designers are dedicated to leisure design to include spa, fitness, sport and lifestyle facilities of all shapes and sizes. With direct access to the WTS operations team, WTS designers are able to provide award-winning, programme-driven design that will be aesthetically appealing and operationally functional.

### Key clients

The WTS portfolio includes Bulgari Hotels and Resorts (Beijing, Dubai); Trump Hotel Collection (Washington, DC; Waikiki, Hawaii; Las Vegas, Nevada; Chicago, Illinois; Vancouver, Canada); Cachet Hotel in Bangkok and Baccarat Hotel & Residences in New York.

### Further information

WTS International's approach to programming offers outside-the-box thinking and solutions that are on-trend with developments in both domestic and international wellness markets. WTS is constantly researching industry innovations to keep our valued, forward-thinking clients at the forefront in spa and fitness design.

WTS International offers clients programme-driven design backed by operational expertise



the 1990s, the number of people with a mental health problem has increased in the UK, and the number of people with a mental health problem who are in contact with mental health services has also increased (Mental Health Act 1983, 1990, 1994, 1997, 2003, 2007, 2010, 2013, 2017, 2020).

The 1990s saw the introduction of the Mental Health Act 1990, which replaced the Mental Health Act 1983. The 1990 Act introduced a number of changes, including the introduction of a new set of provisions for the treatment of mental health problems, and the introduction of a new set of provisions for the care of mental health patients.

The 1990 Act also introduced a new set of provisions for the care of mental health patients, which included the introduction of a new set of provisions for the care of mental health patients who are subject to a community treatment order (CTO). The 1990 Act also introduced a new set of provisions for the care of mental health patients who are subject to a CTO, which included the introduction of a new set of provisions for the care of mental health patients who are subject to a CTO.

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**CLADbook** 2017

# suppliers

- 240 **Alliance Leisure**
- 242 **Craftsmen Lockers**
- 244 **Fashionizer**
- 246 **Gharieni Group**
- 248 **Holovis**
- 250 **Life Fitness**
- 252 **Matrix**
- 254 **Simworx**
- 256 **XN Leisure**



#TransformingLeisure

allianceleisure

**SUMMIT**  
INDOOR ADVENTURE

£5.3m development delivered by Alliance on behalf of Inspiring Healthy Lifestyles to the local community of Selby.

 *Inspiring healthy lifestyles*

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## allianceleisure

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Facebook: [www.facebook.com/AllianceLeisure](http://www.facebook.com/AllianceLeisure)



Sarah Watts, CEO

#### About us

Alliance Leisure Services was specifically established to respond to the changing development needs of the public sector, education and growing leisure trust market. The company's core business is the provision of facility development and support for local authorities, educational establishments and leisure trusts that want to improve or expand their leisure products and services they offer.

#### Key markets

Health & fitness, attractions & entertainment, hotels & hospitality, spa & wellness, mixed use & urban regeneration, sport & recreation. We cover the whole of the UK and Ireland.

#### Product range and services

Facility Development: Ranging from gym and studio developments to tenpin bowling and climbing installations, all project requirements are packaged into a fixed, single monthly payment. Support Division: We work with over 250 leisure centres to provide sales, marketing, retention and digital services.

#### Key clients

Local authorities, leisure providers, charitable trusts, universities and education, private fitness clubs.

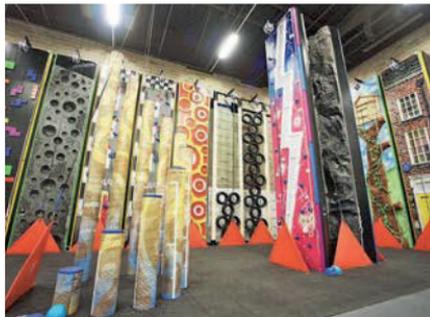
#### Recent projects

We recently completed work on Summit Indoor Adventure in Selby. This £5.3m

development included indoor skiing, bowling, adventure play with a dedicated area for toddlers, climbing walls, a skatepark and BMX park, aerial trek and a café – not your traditional leisure centre! The facility is linked to the existing Selby Leisure Centre via a new glass walkway.

#### Further information

As well as offering training and staff development, our client support division provides impact sales and digital marketing services. Alliance Digital delivers a range of services and solutions – from marketing to customer retention – and guarantees a better return on investment than current traditional methods.



Alliance Leisure worked on a £2.9m transformation of Howe Bridge Sports Centre into a first-class family fitness facility

CRAFTSMAN

CQL

QUALITY  
LOCKERS



# CREATING STUNNING CHANGING ROOMS

Tel: + 44 (0)1480 405396 Email: [johnhg@cqlockers.co.uk](mailto:johnhg@cqlockers.co.uk) [www.cqlockers.co.uk](http://www.cqlockers.co.uk)



### Craftsman Lockers Limited

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Email: johng@cqlockers.co.uk

Website: www.cqlockers.co.uk



John Gibbs, managing director

#### About us

Craftsman Lockers is the leader in designing innovative lockers and comfortable changing areas that fully meet the expectations of all who use them, according to the brand image of every client.

#### Key markets

Private health and fitness clubs; hotel leisure clubs and spas; leisure centres and swimming pools; corporate fitness centres; golf, football and sports clubs; university and college leisure facilities.

Craftsman works throughout the UK, Europe, Africa and the Middle East

#### Products and services

- Lockers designed to meet the storage expectations of individual users
- A complete range of changing and shower cubicles
- Free-standing and wall-fixed bench seating including upholstered
- Vanity and grooming areas
- Locking systems ranging from standard keys to keyless digital and smart card
- A comprehensive design

service through liaison with clients and their contractors

#### Key clients

Leading health club operators; major hotel operators; Europe's leading golfing venues; leisure trusts and local authority leisure departments; a range of universities, colleges and academies; high-profile corporate clients in the finance, legal and technology sectors.

#### Recent projects

We worked on the transformation of the changing rooms at the Colets Health and Fitness Club, a leading traditional fitness and squash club in Thames Ditton. We also recently finished the changing village, leisure and spa changing rooms at the Inverness Leisure Centre as part of their major investment in upgrading the facility for the next generation

#### Further information

Craftsman's philosophy is to understand the client's expectations and then deliver a result in line with their vision.



A view of a men's locker room designed and installed by Craftsman Lockers

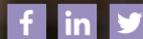
# FASHIONIZER

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Facebook: [www.facebook.com/FashionizerCoutureUniforms](http://www.facebook.com/FashionizerCoutureUniforms)



Debbie Leon, managing director

### About us

Fashionizer is an international designer of bespoke uniforms for luxury hotels, resorts and spas. We design and manufacture high quality, stylish uniforms that fully reflect the atmosphere and brand values of each property. We have a 25-year track record in providing great uniform solutions with a focus on delivering new openings across the EMEA region.

### Key markets

Hotels & hospitality, spa & wellness, retail.  
As a global company, our spa uniforms

can be seen in properties worldwide. Our bespoke design service is focused on five-star hotel and resort properties across Europe, the Middle East and Africa.

### Product range and services

Fashionizer provides a complete, 360-degree service, including uniform design, management and manufacture, delivered to budget and timescale. Our focus is on using high-quality fabrics to create uniforms that are both stylish and practical. We also have a luxury stock-supported spa uniform collection made from natural fibres.

### Key clients

The Connaught Hotel, London; One Aldwych, London; Four Seasons Hotels and Resorts; Six Senses Spas; The Merrion Dublin, Ireland; Brenners Park Hotel & Spa Baden-Baden, Germany; La Reserve Ramatuelle, France; Villa Diyafa, Morocco.

### Recent projects

The design of uniforms for The Ned London, a joint venture between Soho House and Syddell Group. This project involves the creation of 50 uniform styles for 500 staff. Fashionizer also designs and supplies the uniforms for Four Seasons Resorts Dubai at Jumeirah Beach, which opened in 2014.

### Further information

Our focus on natural fibres and fabric innovation is key. We believe uniforms need to be fit for purpose and climate. We have developed fabrics that are especially suited to climate and environment. These include a fabric treatment with antibacterial properties and a fabric specifically formulated for wet spa environments.



The Fashionizer Spa collection includes the Opeia spa tunic and Lyra trousers in Cotton Performance Fabric



High-end spa tables, beds and equipment for your spa.  
Made in Germany



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Facebook: [www.facebook.com/gharieni-gmbh](http://www.facebook.com/gharieni-gmbh)



Sammy Gharieni, founder

### About us

Gharieni Group is based in Germany and is a leading European manufacturer of high end spa and medical furniture, beds and equipment with 25 years of experience. All products are high-quality productions, made in Germany.

### Key markets

Hotels & hospitality, spa & wellness, beauty, cosmetics, furniture. Gharieni exports to more than 60 countries around the world. From offices in Dubai, the US, France, the Netherlands, Belgium and Germany, we

can provide the best possible service conditions for our customers worldwide.

### Product range and services

Our spa division offers the ultimate spa equipment solutions, treatment tables, loungers and furniture. Signature treatments, trainings and accessories deliver whole spa concepts for a new wellness experience. Our medical division manufactures sophisticated examination beds for podiatry and medical, which provide comfortable and optimized positioning for patients during medical procedures.

### Key clients

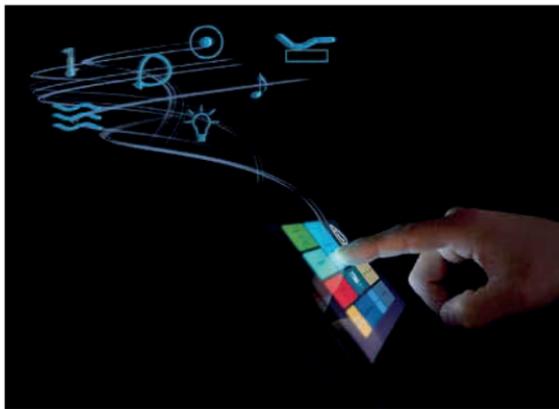
Our key clients are luxury spas, hotels and resorts around the globe, but we also sell many of our products to small, exclusive beauty salons or day spas.

### Recent projects

Some of our recently completed projects include: The Breakers, Palm Beach, US; Four Seasons Moscow, Russia; House of Elemis, London, UK; Goco Spa at JW Marriott Resort, Venice, Italy; Hilton Barbados; Cheval Blanc (St. Barth); IDW Esperanza Resort (Lithuania); Island Spa Catalina (US).

### Further information

In 2016, we celebrate our 25th company anniversary. During this special celebratory year, we will release some amazing innovations and new products.



Gharieni's smart remote system; Spa furniture (above) from the company's Quartz collection

# Holovis®

Transforming Sensory Experiences



Specialising in experiential design, we bring your data to life in virtual and augmented reality environments. Using desktop VR/AR to high end CAVEs, our 3D-volumetric interactive and collaborative environments immerse your teams in real time, 1:1 scale data.

## **RideView™ delivers immersive reviews that:**

- ⌚ Dynamically accelerates the development and design process
- ⌚ Supports multi disciplined, interactive team reviews and simulations
- ⌚ Delivers higher project efficiency, cost and time savings
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# Holovis

## Holovis

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Stuart Hetherington, CEO

### About us

Specialising in experiential design, we bring your data to life in high-end virtual reality environments. Using desktop VR or high-end CAVEs (multi-sided rear-projection 3D volumetric environments), clients are immersed in real-time data at a 1:1 scale. This accelerates development, allowing multi-disciplined teams to be immersed, review, simulate and interact, enabling higher project efficiency and cost and time savings. With dedicated solutions for purchase or hire, software developed to support the process and the ability to create bespoke applications, Holovis provides unique turn-key solutions and services.

### Key markets

Museums & heritage, attractions & entertainment, hotels & hospitality, mixed use & urban regeneration, sport & recreation, retail. Our solutions have been used extensively within the automotive industry and BIM (Building Information Modelling) for construction support. Across all sectors, we also create unique health and safety solutions for training purposes, simulating highly dangerous work environments through VR lesson plans that increase speed and competence, with zero risk.

Holovis works with clients globally, operating from offices located in the UK, US, China and the Middle East.

### USP

Unique in-house software development, creative media and industrial gaming teams, coupled with extensive industry expertise and one of the largest R&D and demonstration facilities of its kind in the world, creating one point of contact and accelerating the development of Mixed Reality (MR) design capabilities for our clients.

### Key clients

Flagship projects include visualisation, design and delivery of e-ticket attractions to Ferrari World Abu Dhabi and Dubai Parks and Resorts, design and turnkey delivery of multiple FECs in China, AR and gamification development extending whole park experiences for Cedar Fair, and several strategic partnerships with major construction groups.

### Further information

Holovis utilises its own proprietary software platform RideView™ to design, simulate and review experiences, attractions, whole site masterplans and products. This means that from an early stage clients are able to virtually ride, simulate, test and review their experiences and analyse facility impacts and sight-lines down to individual seat-level accounting for all permissible guest heights.



Holovis's RideView software was used to create a new experience at Ferrari World Abu Dhabi



For more than 45 years, Life Fitness have offered industry-leading fitness solutions that get the world moving, helping people lead active and healthy lives.

Our expert approach to facility design, layout and atmosphere creates a dynamic facility and captivating experience for users of any age and fitness level.

*LifeFitness*

**HAMMER  
STRENGTH**

**SCYBEX**

**SCIFIT**

 **inmovement**

**BRUNSWICK**  
EST. 1858  
MADE IN AMERICA



## Life Fitness UK Ltd

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Facebook: [www.facebook.com/lifefitnessuk](http://www.facebook.com/lifefitnessuk)

Blog: [www.lifefitness.com/blog](http://www.lifefitness.com/blog)



Danny Oliver, UK country manager

### About us

The Life Fitness family now encompasses Hammer Strength, Cybex, SCIFIT, InMovement and Brunswick Billiards, to offer an industry-leading portfolio of solutions to get the world moving and help people lead active and healthy lives. Through our Life Fitness Solutions Partners, we can deliver design and build services, finance solutions, management solutions, and marketing support.

### Key markets

Health & fitness, hotels & hospitality, greenspace, spa & wellness, sport & recreation. Our parent company, Brunswick Corporation, and the Life

Fitness global headquarters are near Chicago, Illinois. There are sales offices around the world, including in the UK, Germany, Hong Kong, Australia and Brazil. Our network of trusted distributors ensures that Life Fitness equipment and services are available in more than 140 countries.

### Product range and services

Life Fitness, Hammer Strength, Cybex and SCIFIT offer an extensive range of cardio and strength equipment, freeweights and accessories for both commercial facilities and consumer fitness.

InMovement has products and services for productive well-being. Brunswick

Billiards offers the highest-quality pool tables and games room furnishings.

### Key clients

Life Fitness works with facilities in all market sectors, including universities and schools, independent gyms, sports teams, hotels, rehabilitation centres, corporate gyms and the uniformed services.

### Recent projects

We have recently completed projects for Anytime Fitness, David Lloyd Leisure, Marriott Hotels, Newark and Sherwood District Council, University of Nottingham, Nuffield Health and Oriam Sports Performance Centre.

### Client feedback

"We wanted magnificent gym facilities to go alongside our new indulgent spa. It was an investment for our members, day guests and hotel guests alike. We selected Life Fitness for the quality and bespoke aesthetics they could provide, which perfectly complements our premium offering."  
– Ramside Hall Hotel

The Life Fitness portfolio includes Hammer Strength, Cybex, SCIFIT and Brunswick Billiards



**MATRIX**

TOTAL SOLUTIONS PARTNER



# CHALLENGING THE EXPECTED... DELIVERING THE UNEXPECTED

**EQUIPMENT SELECTION IS ONLY  
ONE PART OF YOUR SUCCESS STORY**

Whether you are designing a new facility, or refurbishing an existing one; equipping an entire site or adding one piece of equipment, our design team is on-hand from the outset, working with you and the latest AutoCAD technology to deliver your vision and develop a fitness environment that not only looks good, but works effectively too.

SCAN TO VIEW  
A SAMPLE  
WALKTHROUGH



# MATRIX

## Matrix Fitness

Johnson Health Tech UK Ltd, Riverside Park, Stoke on Trent, Staffordshire, ST4 4EY, United Kingdom

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Twitter: @MatrixFitnessUK

LinkedIn: [www.linkedin.com/company/matrix-fitness-uk](http://www.linkedin.com/company/matrix-fitness-uk)

Facebook: [www.facebook.com/MatrixFitnessUK](http://www.facebook.com/MatrixFitnessUK)



Jon Johnstone, managing director

### About us

Unrelenting drive to be the best at what we do underpins activity throughout our vertically integrated business life cycle. Consequently, more facilities are choosing to partner with us. As this network grows, we're able to step outside parameters of traditional supplier / customer relationships, to offer 'The Matrix Experience' – an all-encompassing solution supporting customers' ambitions, and increasing participation.

### Key markets

Health & fitness, hotels & hospitality, spa & wellness, sport & recreation, education, local authority, medical, military. Matrix Fitness is the commercial division of Johnson Health Tech Co.

Ltd; one of the largest manufacturers in the world. With headquarters in Taiwan, manufacturing plants in Shanghai and Taiwan, and 27 worldwide subsidiaries, Matrix is able to deliver on a truly global scale.

### Product range and services

Matrix provides fitness equipment to facilities in all market sectors, including private health clubs, hotels, local authorities, universities and schools, professional sports teams, and the uniformed services. We also offer a comprehensive backup support service; incorporating 2D and 3D AutoCAD designs, marketing support, and competitive warranty and maintenance contracts.

### Key clients

Key customers include Red Bull Racing, Renault Sport Racing Limited, Abbeycroft Leisure, The Club Company, Bicester Golf & Spa, Cranford Sports & Fitness Club, Handpicked Hotels, Blackpool Council, The Gym Group, Hatton Academy, Limehouse Marina Elite, Marriott Hotels, Pure Gym, The Swan at Stratley, Staffordshire University.

### Client feedback

"We've refurbished six sites in partnership with Matrix; utilising the CAD team's expertise and exceptional skill to help create and develop our vision with 3D renders and advanced layouts. The team is flexible, friendly, and accommodating and continues to deliver above and beyond our expectations" – Halo Leisure.

### Further information

Our design team is on-hand from the outset, utilising technology including AutoCAD to develop fitness environments that look great and work effectively. We consider trends, workout flows and ambience, while ensuring our designs address factors including space distribution, layout, accessibility, lighting, facility management, maintenance requirements and health and safety.

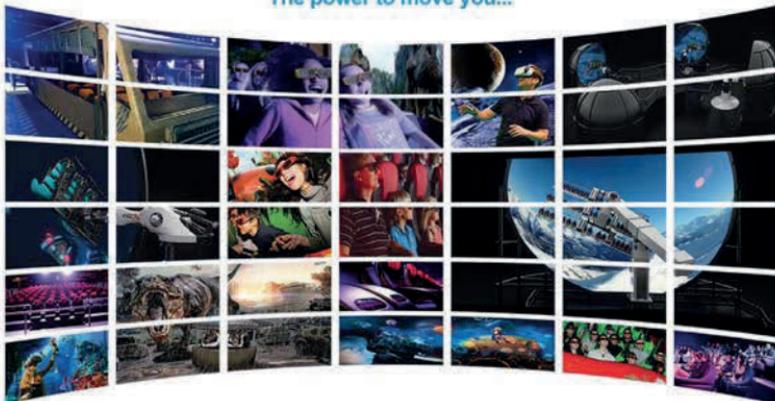


The Matrix design team uses AutoCAD to develop clients' visions using 3D renders

# simworx®

## ROBOCOASTER®

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**IMMERSIVE TUNNEL - DYNAMIC SIMULATION ATTRACTIONS**

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**IMMERSIVE VR ATTRACTIONS - FLYING THEATRE - AGV DARK RIDES**



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Terry Monkton, CEO

### About us

Simworx is a leader in the supply of media-based dynamic motion simulation attractions, continually developing and offering new, cutting-edge experiences. These include its new 360° Flying Theatre, Immersive Tunnel, AGV dark rides and RoboCoaster RCX attractions, using robotic, passenger carrying technology. Simworx can offer full turnkey solutions, custom and complete themed attractions, from our manufacturing facility in the UK.

### Key markets

Museums & heritage, attractions & entertainment. Simworx is also able

to offer attractions to the corporate sector, enabling clients to promote services and products through our attractions and media content.

Simworx are worldwide suppliers of attractions, with installations across Europe, North and South America, New Zealand, the Middle East and Asia.

### Products or services

As well as our media-based simulation attractions, including our ever popular 4D cinemas, our capabilities range from product development, concept design, theming, manufacturing, installation and service support, to film content and motion programming. Simworx

also offers full turnkey solutions and custom attractions to meet all clients' specific requirements.

### Key clients

Clients include major theme parks, museums, zoos and smaller family entertainment venues, as well as corporate customers.

### Recent projects

We are currently installing seven rides in Dubai, across four new parks. All of the experiences are based around popular IPs. From a motion theatre showing Kung Fu Panda, to an RCX attraction immersing riders into the world of Dragon Age, and 4D cinema; home to Thomas the Tank Engine.

### Further information

Many clients are keen to base their attractions around famous IP brands, which our media-based rides are ideally suited to. These attractions include Shrek's Adventure in London, the Marvel Avengers ride at Trans Studios in Indonesia and Angry Birds 4D cinema at Thorpe Park in the UK.

Simworx offers full turnkey solutions, custom and complete themed attractions





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## Xn Leisure Systems Ltd

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### About us

Xn Leisure is a leading software management solutions provider, with over four decades of experience delivering award-winning IT software. Thousands of users benefit from our wealth of knowledge and expertise. Our portfolio includes self-service and web solutions that enable improved control of resources to increase profitability and efficiency. Xn Leisure is ostensibly based in the UK and Ireland. The Jonas Group has worldwide coverage.

### Key markets

Arts & culture, health & fitness, museums & heritage, attractions & entertainment, greenspace, sport & recreation. Xn Leisure



Xn Leisure offers a range of self-service solutions

is part of the Jonas Group, a software supplier servicing a range of vertical markets with over 50,000 customers in more than 30 countries. Sectors include fitness, sports & leisure, food service, salons, attractions, education, retail, event management, construction, moving / storage, metals, laboratory systems, product licensing, payment processing and hotels & resorts.

### Product range and services

Our innovative product range includes:

- Web based membership and prospect management
- EPOS, bookings, ticketing & session management
- Online bookings and membership
- Self-service solutions
- Automated email and text

marketing • Checksheets • Course management with iPod mobile registers

- Event ticketing solutions
- Business Intelligence / Benchmarking / DataHub

### Key clients

Places for People Leisure, Freedom Leisure, BBC Clubs, Leeds City Council, Fife Leisure Trust, Circadian Leisure Trust, Everybody Sport & Recreation Ltd, Barnsley Premier Leisure, Wigan Leisure & Cultural Trust, Derby City Council, Imperial College London, University of Manchester, University of Leeds, Lisburn and Castlereagh County Council.

### Recent projects

Halton Council, Oxford City Council (Community and Parks), Ridgeway School, Warley Woods Trust, Robert Gordon University (Aberdeen), George Watson College (Edinburgh), The Climbing Centres Group (UK)

### Further information

Xn Leisure's ongoing development provides enhanced, feature-packed innovations that set industry standards, reinforcing its position as a leading solution provider. Xn's business culture reflects the friendly, people-orientated nature of the leisure sector with a focus on quality and high performance, especially within Xn's projects.

## Supplier profile



Jason Watts, sales director





