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BEHIND THE SCENES OF THE 9/11 MUSEUM



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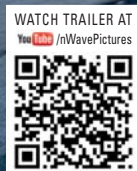
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9/11

The terrorist attacks of September 11 2001 left many scars that will never heal. Commemorating the events of that day in a memorial and museum was always going to be a huge challenge, demanding nuanced thinking, sensitivity and incredible staying power from all involved

Rarely has one moment in time so defined an age and a place as Ground Zero, New York City on September 11 2001. It's almost impossible to imagine how daunting the task appeared when the first meeting was called to discuss the development of a lasting memorial on the site.

Apart from negotiating the many and varied political and financial hurdles, the challenge for those creating the 9/11 Memorial and Museum was to evoke emotion but not to traumatise, to record contemporary events, while putting them in a historical context and to look at the big picture, while still sensitively commemorating the individuals who died.

Most importantly, they needed to find positive messages among the tragedy and to give hope.

All this has been achieved by a combination of excellent design, storytelling, placemaking and good judgement.

At the opening, Michael Bloomberg, 9/11 memorial chair and former New York mayor, said: "The museum tells heart-breaking stories of unimaginable loss, but also inspiring stories of courage and compassion. Its opening honours the commitment we made to 9/11 family members and to all future generations: That we would never forget those we lost or the terrible lessons we learned that day."

In our feature on page 64 we talk to the people behind the project about how they made it. Their approach was to enable visitors to opt-in to the level of information they choose, so they can view the exhibits on their own terms.

The museum is deep underground – built among the foundations of the Twin Towers – with its entrance at surface level within the 9/11 Memorial Park at Ground Zero.

The Memorial Park has two reflecting pools which fill the footprints of the towers and are edged with the names of the dead. Their mesmerising falling curtains of water run away to darkness and create a focus for contemplation.

The museum is housed in vast, cathedral-like spaces which are beautifully lit, with dark floors, restful acoustics and the best air you'll breathe in New York City.

I felt an intensity of concentration from visitors which I've never experienced in a museum before – things seemed heightened and people respectfully engaged with everything around them.

In addition to the excellent, well documented main

exhibits, there are unexpected gems, such as one explaining the vision behind the World Trade Centre, which was conceived as a global community. This has extra resonance, as people from 90 countries lost their lives on 9/11.

In the US, opinions are divided over everything from the presence of a museum shop, to the keeping of human remains on the site, but there's also an acceptance that controversy was always part of the project's DNA. When it comes down to it, the designers and architects have created exquisite work in the most challenging circumstances and for that, we owe them our respect and admiration.

Liz Terry, editor, twitter: @elizterry

**I felt an intensity of
concentration from visitors
around me that I've never
experienced in a museum before**





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the team

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Science Centres

The amusements sector can inspire new approaches

HANS GUBBELS

I've worked in both the amusement and the science centre sectors, and I know that entertainment and learning are fully compatible.

At Continium Discovery Centre in the Netherlands, we're adopting amusement park techniques as we expand. We want to diversify our audience and extend our thematic offer to include sustainable development and the design process.

We're creating two new venues next to Continium: a design museum and a planetarium. They'll have distinct target audiences, branding strategies and separate tickets from Continium, while belonging to the same institution.

It will be part of a new museum quarter called C-City, a multiple day destination opening in Q3 2015.

The planetarium, named Columbus, is an innovation I'm proud of. We wanted to engage audiences with sustainable development – readers will know how hard it is to turn this concept into a visitor experience. I was struggling with this thought when I met three astronauts. I asked them about the most striking experience they had had in space, and they all agreed: it was seeing the earth from above. "And then," they said, "everything falls into perspective."

The idea of the Earth Theatre was born, the world's first inverted planetarium. It will consist of a 16-metre (53-foot) hollow projection sphere visible from two rings of glass balconies, rendering the illusion of looking down on our planet from space. It will provide a powerful big data visualisation tool, illustrating both planetary phenomena and local trends.

What sounded like an amusement technology is proving to have serious learning and research potential. I'm looking forward to discussing it with colleagues at the Ecsite Annual Conference in Trento on 11-13 June 2015.

Hans Gubbels, director of Continium and former Ecsite president



Museum of Science Fiction gathers speed

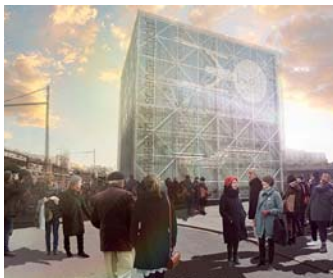
The world's first Museum of Science Fiction is coming to Washington, DC, with a preview facility currently in the works before a full-scale museum opens in 2018.

Expected to launch by the end of 2015, the \$3m (£2m, €2.5m) preview museum will test concept exhibitions and offer a glimpse into the process of building the final full-scale attraction.

One of the museum's first exhibits will explore how ideas in science fiction have become a reality, such as the mobile phone.

The museum aims to use science fiction as a tool to inspire science, engineering, technology, maths, art, history, literature and philosophy.

Jerry Vanek is operating independently as the lead architect for the project. The museum has been



A rendering for the preview museum for the Museum of Science Fiction

designed to be portable for easy relocation to other locations across the US.

Once open in 2018, the 4,000sq ft (371sqm) preview museum will tour the country before being added as a permanent wing to the new facility.

The museum proposes seven galleries focusing on TV, film, music, art, literature, comics and video games. Its mission is to "create a centre of gravity where art and science are powered by imagination." Details: http://lei.sr?a=A5u9m_A

VR game, *Planetarium*, launches

US-based company Leap Motion has unveiled a new program using Oculus Rift technology combined with its own hand-tracking sensors that allows users to explore a virtual planetarium.

The game, *Planetarium*, is available from Leap Motion's website as a free download. It allows players to explore the night sky, travel the globe and look at the stars as they would appear from different given locations and time periods.

Using the combined Oculus Rift and Leap Motion technology, players use their hands to travel the world and "time travel" using a virtual arm-mounted heads-up display (HUD). Players can reach out and "grab" star constellations, revealing distances from earth and temperatures.



Players "time travel" using an arm-mounted heads-up display (HUD)

Planetarium is due to be released by Leap Motion as open-source technology, allowing developers to use the programming in their own projects.

Following the March 2014 purchase of Oculus VR and its Rift headset by Facebook founder Mark Zuckerberg,

Attractions Management looked at implications for the attractions industry, with Zuckerberg predicting that virtual and augmented reality will become part of everyday life.

● See Face Reality, issue 3 2014, page 50
Details: http://lei.sr?a=A4u8Z_A

Visitor Attractions

Hogwarts Express comes to Harry Potter Tour

The Warner Brothers Studio Tour London – The Making of Harry Potter, has announced it will unveil a 20,000sq ft (1,858sqm) expansion to include the original Hogwarts Express steam engine along with a recreation of Platform 9 ¾.

Opening on 19 March, the new permanent addition to the studio tour will offer fans of the Harry Potter franchise a glimpse into how some of the films' most iconic scenes were created.

Visitors to the tour will be able to climb aboard and explore the train's carriage.

The Hogwarts Express – formerly steam train no. 5792 "Olton Hall" – was used in all of the Harry Potter films and was featured in the very final scene where Harry and his friends Ron and Hermione are grown up sending their children off to Hogwarts.

The 78-year-old engine will return to its production home in Leavesden, near London, where it will be displayed on a set of tracks with steam billowing out of its chimney as visitors step onto the fabled platform.

The platform's glass roof, yellow brick walls and luggage racks have been designed by Oscar and BAFTA winning production



Platform 9 ¾ and the Hogwarts Express are two of the most iconic features of the Harry Potter franchise

designer Stuart Craig, with a team led by construction manager Paul Hayes to recreate the station as seen in the films.

"We can't wait to open our first expansion, Platform 9 ¾, just before the Studio Tour's third anniversary in

March," said Sarah Roots, vice president of Warner Bros Studio Tour London.

"The Hogwarts Express is the piece that visitors have most requested to see and we're expecting a fantastic response." Details: http://lei.sr?a=M2p7h_A



The drones have been in development since 2013

Drones join flagship show at Puy du Fou

French historical recreation theme park Puy du Fou has introduced an "intelligent" drone fleet to enhance its attraction. The drone technology was specially created for the park's flagship show Cinéscénie, which at more than 23 hectares (57 acres) is one of the largest night shows in the world.

After two years, four patents, the work of 50 engineers and a €2m (\$2.2m, £1.5m) investment, the Neopter fleet is the first drone fleet capable of flying outdoors while synchronising with music, video and lights – alongside more than 3,400 actors. Details: http://lei.sr?a=k3y2k_A

Iceland's IceCave attraction nears debut

A new visitor attraction is set to launch later this year in Iceland in the shape of IceCave – a network of manmade tunnels and glaciers running inside the Langjökull Glacier.

Stretching back as far as 300 metres (984 feet) into the solid ice glacier – the second-largest in Iceland – and a further 30 metres (98 feet) below the surface, the ice cave will be an enormous structure once complete.

In the works since 2010, the \$2.5m (£1.6m, €2.1m) development will allow visitors to see "blue ice".

Each year the ice cap is covered in 6 metres (20 feet) of fresh snow, which on one side is compacted by the weight, and on the other is melted by the warmth from the sun. The compacted snow turns to ice, which over time



The IceCave attraction is currently being built inside the Langjökull Glacier

becomes denser until it eventually becomes the blue ice formed only under these specific conditions.

Backed by leading pension fund investors and the Icelandair Group, the project has an impressive raft of expertise, including

one of Iceland's leading geophysicists and glacial experts, Ari Trausti, plus a team of specialist construction workers. Icelandic engineering firm EFLA is digging the man-made tunnels in the glacier. Details: http://lei.sr?a=j2J9A_A

Waterparks

Waterparks could capitalise on 2015's 'braggie' craze

ALEATHA EZRA

According to the folks at the website Marketwatch,

there are a few key travel trends for 2015 that leisure facilities might be able to capitalise on.

You can bet that hoteliers and other travel destinations will be keeping these in mind as they fine tune their services and marketing plans, so make sure your water leisure facility is on board as well.

First, and most important, is your mobile presence. More and more people are booking tickets and making travel plans online, so make sure your website can keep up with mobile bookings, answer questions and provide responsive customer service to potential guests. Just as important as design is your site's ability to translate well across all devices – be they tablets, mobiles or computers.

Second, potential guests are looking for more personalised vacation experiences. Take the time to find out what sets your attraction apart from those surrounding it and make sure you market these unique and potentially thrilling qualities. For example, if you have the area's tallest waterslide with a launch box exit, make sure this information features prominently in your marketing campaign.

Third, get ready for guests who want to "showcase their destination" using phones and GoPros. According to a recent World Travel Market Global Trends Report, "while 2014 was the year of the selfie on social media, 2015 is expected to be the year of the 'braggie'." Guests want to share cool shots of where they are and what they are doing. Whether it's taking a photo from the top of your slide tower or wearing a GoPro cam down the speed slide, plan for this type of guest interaction within your attractions. And, be ready to capitalise on it across your social media platforms.

Aleatha Ezra, director of park member development, WWA



Melbourne mulls surf park plans

Architecture firm Damian Rogers, in partnership with Arup, has unveiled a concept for a beach and surf park for Melbourne's Central Pier in Australia.

The development would include a floating wave pool, filled with filtered water from Victoria Harbour, as well as a new sandy beach front.

The heated wave pool would be one of several attractions featured in the new development. It would offer surfers a chance to catch waves reaching heights of between 1 to 1.8 metres (3 to 6 feet).

Planned to cover 16,000sqm (172,222sq ft), swimming, kayaking and winter beach soccer will also be offered onsite. A grassy bank and a pavilion provide space for retail and restaurant facilities.



PHOTO © DAMIAN ROGERS, ARUP, SQUAMEDIA

The water filling the pool will be filtered from the surrounding harbour

Arup urban and transport planner Phil Carter said: "This could enhance the Docklands by giving the public a space they will want to use and attracting events and businesses."

The wave size can be adjusted from a beginners' swell to a 6-foot wave for experienced surfers who

could ride the 30-metre (98-foot) breaker for 160 metres (525 feet).

The development, if approved by Melbourne City Council and Places Victoria, would cost around \$6.45m (£4.2m, €5.4m) and will be privately funded by developers. Details: http://lei.sr?a=W2Y9x_A

Eco-friendly Vana Nava opens in Thailand

The eco-friendly Vana Nava Hua Hin waterpark has opened in Thailand, following a \$31m (£20m, €27m) investment.

Supplied by WhiteWater West, the waterpark opened on 1 December 2014 and offers 19 stations and rides, with more than 800m (2,600ft) of water slides. The park's highlights include the Abyss, Thailand's largest slide, Vana Nava Fall – Asia's tallest manmade mountain waterfall – and the company's first AquaCourse outside of North America. WhiteWater Attractions are supplying dry attractions such as rope courses.

The recently opened waterpark development is the first phase of a larger 57,000sqm (613,000sq ft) mixed-use development that also consists of a



Vana Nava was developed by Thailand's Proud Real Estate

300-bedroom family hotel and premium residences.

With more than 200,000 trees in and around the park, Vana Nava Hua Hin aims to set itself apart with its rainforest-inspired theme, positioning itself as an "ecologically aware"

leisure destination. The development aims to be environmentally responsible and energy efficient, using water recycling and a careful selection of flora.

● See Thailand Makes a Splash, this issue, page 48
Details: <http://lei.sr?a=T4Z4B>

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Theme Parks

DreamVision announces \$7bn theme park plans

Plans have been officially unveiled for two \$3.5bn (£2.3bn, €3.1bn) theme parks in Fort Worth, Texas, and Muscle Shoals, Alabama, to be opened by multimedia entertainment company DreamVision.

The parks, tentatively titled DreamVision Mountain, Dreamscape, Texas and DreamVision Soundscape are being developed simultaneously with openings scheduled for 2020 and 2019 respectively.

In Texas, the year-round winter wonderland will be anchored around a "mountain" and will include shops, restaurants, a transportation centre, a performing arts centre, an entertainment version of New York City known as Dreamscape Metropolis, a similar Hollywood version known as Dreamscape Tinseltown, Nadia's Storybook Land and a Wild West experience. The park will feature one of the largest indoor snow experiences in the world, offering guests winter sports including skiing, snowboarding and bobsledding.

As with the Texas park, DreamVision Soundscape will be anchored by a central mountain with surrounding music-themed neighbourhoods showcasing country, pop,



Bryan Robinson, Ron Logan and Rick Silanskas (left to right) are behind the ambitious project

gospel and jazz, among other genres. Announced rides include the Soundscape Singing River, a rollercoaster, drop ride Slide Guitar and Oceanica – a domed water playground. There'll be performance venues, golf courses, hotels and retail outlets.

Both multi-billion dollar theme parks will be developed by DreamVision CEO Rick Silanskas, developed in partnership with Bryan Robinson, CEO of Provident Global Capital. Details: http://lei.sr?m=M2p7h_A



The hotel will be staffed by humanoid robots

Robots to run hotel at Japanese theme park

Huis Ten Bosch theme park in Nagasaki, Japan, is soon to open a new hotel staffed almost entirely by robots.

The 72-bedroom Henn-na Hotel is scheduled to open on 17 July. In line with the hotel's name (which translates to "change"), the hotel will "evolve with cutting-edge technology," according to a spokesperson for Huis Ten Bosch.

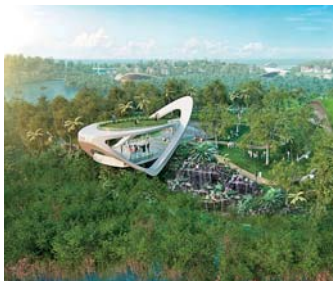
The robot staff will be responsible for the porter service, room cleaning, front desk management and other services at the futuristic hotel, which will also include face-recognition technology. Details: http://lei.sr?m=R4u9C_A

Indonesia soon to unveil eco-theme park

Work is progressing on what's being billed as "the world's largest eco-theme park" – a \$240m (£158.5m, €202.2m) development on Indonesia's Riau Islands.

Set to open in late 2015, eight key "eco-zones" are currently under construction in the 300-hectare (741-acre) development, including a multi-sensory rainforest. There will also be land and river-based safaris, snorkel and scuba zones, an interactive dolphin habitat and an aquarium where guests will be able to swim with whale sharks.

Initially masterplanned by Singapore's Wow Design Studio – it's not currently clear if the studio will work on this project going forward – the eco-resort, dubbed Fantasy Island, will be home to private villas, a



Love Island is a proposed venue for weddings on Fantasy Island

hotel and spa, 1,200 holiday villas and apartments, adventure and watersports, shopping, restaurants and live entertainment.

According to developer Seven Seas Fantasy Development, roughly 70 per cent of the islands will

remain in their natural state. Eco-themed activities will include aquaculture tours, as well as nature trails allowing visitors to explore the unspoiled environment just 16km (9 miles) off the coast of Singapore. Details: http://lei.sr?m=Q2S3f_A

THUNDERBOLT



THIS SIZE CAN FIT ANY PARK



Total track length
681 m (2234')



Maximum track height
35 m (115')



Maximum Speed
25 m/s - 90 km/h - 56 mph



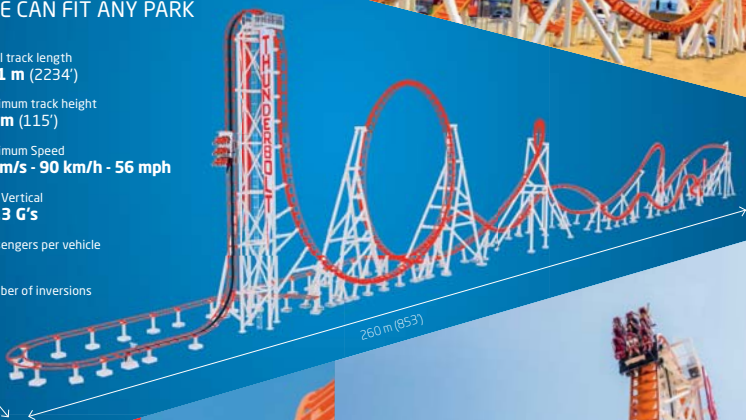
Max Vertical
+4.3 G's



Passengers per vehicle
9



Number of inversions
5



First 9 seats vehicle and new
patent pending lap bar restraint.



Museums & Galleries

Smithsonian eyes UK as first international site

The US-based Smithsonian Institute is working to finalise a deal to open its first international location near the site of the former Olympic Stadium in London.

London mayor Boris Johnson and developers of the Queen Elizabeth Olympic Park site have already secured £33m (\$50m, €44m) in private contributions for the proposed Smithsonian, which would help anchor the new "Olympicopolis" when it opens in 2021.

At present, the Smithsonian has a total of 19 museums in the US, 17 of which are in Washington, DC, and one in both Chantilly, Virginia, and New York City, New York. The National Zoo in Washington is also part of the Smithsonian Institute, which has research facilities globally. However, it is yet to open a visitor attraction outside the US.

The 40,000sq ft (3,700sqm) Smithsonian gallery would be part of the Olympicopolis educational and cultural quarter at the Queen Elizabeth Olympic Park.

In September, Boris Johnson launched a major design competition for the new £400m (\$650m, €503m) educational and cultural quarter, with more than 960 international firms having already



The culture and university district of "Olympicopolis" will be created on this triangular site

registered interest. Several high-profile names, including the Victoria and Albert Museum, Sadler's Wells dance theatre and the University of the Arts London, are already involved in the project.

"We envision this as being a Smithsonian facility that allows us to show the breadth and depth of everything that we do," said Smithsonian acting secretary Al Horvath. Details: http://lei.sr?a=c2M6v_A



The design for the New Taipei City Museum of Art

Kris Yao wins contest for Taipei art museum

Kris Yao | Artech has been selected to design the New Taipei City Museum of Art after winning an architectural contest with its design, which he named Contemporary Museum of Art among the Reeds.

The \$69m (£44m, €61m), 44,000sqm (473,600sq ft) development, located in Taipei, Taiwan, is being funded by local government. Kris Yao's winning design will incorporate the site's historical, cultural and geographical features to form a sustainable vision for the proposed plan. Details: http://lei.sr?a=CSN3F_A

Sir Ian McKellen supports Hobbit museum

With the final installment of *The Hobbit* hitting cinema screens, fans are visiting the franchise's home of New Zealand in record numbers, leading to calls for a "Middle Earth" museum.

At present, fans of *The Hobbit* and *The Lord of the Rings* can visit the Hobbiton Movie Set on New Zealand's North Island as part of a two-hour guided tour.

Speaking at the latest film's premiere in London, Sir Ian McKellen, who plays Gandalf in all six of the Middle Earth films, said: "The next development, I hope, is that Peter [Jackson] is going to devise, not more films, but a situation where you can [visit a place] that is as much theatrical as cinematic.

"A living museum, where you'll actually



Ian McKellen plays Gandalf in *The Hobbit* trilogy

have the experience – as you sometimes do in the greatest exhibitions – to go into it and be there."

According to a recent survey by Tourism New Zealand, between July 2013 and June 2014, around 13 per cent of international

visitors to New Zealand said the films were a factor in their choice of destination. Since 2012, when the first Hobbit movie was released, visitor arrivals have surged from 2.4 million to a record annual rate of 2.83 million. Details: http://lei.sr?a=F6G4W_A

Heritage

Peru plans 'second Machu Picchu' in Chachapoya

Peruvian officials are planning to create a historical site to rival that of Machu Picchu, in the form of one of its best kept secrets – the Chachapoya ruins of the northern "cloud people".

While Machu Picchu has been on the tourist map for many visitors to Peru, Chachapoya is largely unexplored by most foreigners, save some adventurous backpackers. But the government plans to change that and ease traffic off its crown jewel of Machu Picchu – which has been at risk from increased footfall – and increase traffic to the northern Amazonas region of the country.

In the government plan, a cultural heritage site known as Kuelap will act as the centrepiece of a "second Machu Picchu", with use of surrounding sites dating back to the 9th century.

Such sites remain largely unexplored due to inaccessibility, but in the government's plan, a cable car system will be built to allow easy public access to the area, which sits on the top of a mountain ridge in the "cloud forest".

"Kuelap could be a second Machu Picchu, easily," said Peru's President



Chachapoya remains largely unexplored due to a lack of easy access and awareness

Ollanta Humala. "With Kuelap, we can create a tourist circuit that will be as competitive as the south."

Set to open in 2016, the \$18m (£12m, €15.2m) cable car system will be able to transport 1,000 passengers per hour.

Telecabinas Kuelap SA – a consortium formed by the French firm Pomagalski SAS and Lima-based Ingenieros Civiles y Contratistas Generales SA – will work on developing the site and cable car system. Details: http://lei.sr?a=p7e3a_A



Egypt's government sees heritage as a top priority

Egypt banks on art and heritage for prosperity

The Egyptian government is hoping to reinvigorate its art and heritage sector through heavy investment into the renovation and restoration of its historical cultural sites and institutions.

Beyond backing projects – such as the ongoing renovation of the Egyptian Museum in Cairo – the government is looking to protect its existing treasures, recently calling on UNESCO in a bid to help preserve the nation's heritage and strengthen and develop its museum culture, amidst widespread chaos. Details: http://lei.sr?a=m5W4c_A

Jurassica attraction to put Dorset on the map

The £80m (\$121m, €104.4m) Jurassic dinosaur attraction proposed for a limestone quarry in Dorset, UK, could generate £20m (\$30.3m, €26.1m) for the local economy every year, according to the charity behind the planned attraction.

If the plans go ahead, the attraction is estimated to bring in 960,000 visitors annually. The subterranean geological park – backed and supported by Sir David Attenborough, the Eden Project's Sir Tim Smit and science writer Michael Hanlon – could be ready by 2020, creating more than 150 permanent positions.

"Jurassica has the ability to capture people's imagination and is a powerful concept. Funders are individuals and businesses who love



Sir David Attenborough is backing the plans for the Jurassic attraction

the idea, or who see the potential for Dorset," said Hanlon. "Jurassica will create jobs and put Dorset on the global map; a real focus that will drive tourism upwards and pour more than £20m into the county's businesses every year."

The 40-metre (132-foot) deep Yeolands quarry will be given a 103-metre

(340-foot) glass roof – with designs by architect Renzo Piano – and will house swimming robot plesiosaurs, fossils and interactive displays. Engineering firm Arup, management consultancy Oliver Wyman and exhibit designer David Lazenby are also involved in the project. Details: http://lei.sr?a=T3N2N_A

Zoos & Aquariums

Zoos and aquariums work hard to protect local wildlife

ELLIOT ZIRULNIK

AZA-accredited zoos and aquariums are often lauded for their international conservation efforts, but equally important is the work that's being done to protect the wildlife in our own backyards.

To prevent bird injury and death from collisions with glass, many AZA-accredited institutions apply paint or tape to windows and other reflective surfaces. This disrupts the reflections or transparency that birds sometimes mistake for open space. Virginia Zoo turned the process into a creative opportunity, inviting community members to place animal-themed "tape art" on the glass around its tiger and orangutan exhibits. The zoo is working with the American Bird Conservancy and a university to look at the efficacy of bird tape on large windows.

Off-campus space owned by the Cincinnati Zoo and Botanical Garden was reclaimed as wetland. Over time, species began making their homes in this new habitat after they'd been absent from the region for years.

Smithsonian's National Zoo and Conservation Biology Institute installed feeders to attract migratory birds, and the Central Florida Zoo and Botanical Gardens draws hundreds of wild Mexican free-tailed bats nightly with its bat boxes.

Sometimes, highlighting a pre-existing natural area is all that's required. In 2012, the Detroit Zoo constructed a boardwalk through a marsh, providing visitors the opportunity to view the wild herons, ducks, turtles and fish that live there.

While these investments help to protect native wildlife, guests also enjoy observing these species, creating serious potential for education programmes and increased public engagement with nature.

Elliot Zirulnik,
communications intern, AZA



Singapore plans wild nature zone

Temasek Holdings, in partnership with the Singapore Tourism Board, is to reinvent the country's Mandai precinct to turn the area into an integrated wildlife and nature heritage precinct. Singapore's Ministry of Trade said the partnership will help realise the government's vision for Mandai – which is home to Singapore Zoo, Night Safari and River Safari – to become a world-class nature attraction.

The proposal will see the existing Mandai area redeveloped, building on existing attractions to create a leading nature destination. Once complete, the 120-hectare (297-acre) area will be full of green spaces with wildlife in its natural habitat, in addition to new waterfront



The proposal will see the existing Mandai area redeveloped and expanded

trails, treetop walkways and public spaces.

Speaking to *Attractions Management*, a spokesperson for Temasek said:

"Phase one, which will involve the relocation of the Jurong Bird Park, some reforestation and opening of some public spaces, is roughly a S\$1bn

[S\$800m, £526m, €688m] project. Subject to the necessary environmental and development approvals, we hope phase one will open in 2020; the project is a decade-long one, and some elements – especially reforestation – will take much longer to fully effect." Details: http://lei.sr?a=A6V7r_A

Foster + Partners design Taiwan aquarium

Award-winning British architecture firm Foster + Partners has revealed its designs for a \$4.8m (£3.1m, €4.1m) aquarium to be built at the National Museum of Marine Science and Technology (NMST) in Keelung City, Taiwan.

Scheduled to open in 2018, Foster + Partners' plans for what will be the country's largest aquarium employs titanium and green designs to create a modern light-filled environment, reminiscent of the ocean shallows.

Conceived as a social hub for the community, the attraction's focal point will be a new public plaza which will feature a shop, café and a restaurant.

Work on the 1.4 hectare (3.5 acre) development, which will house more than 300 species of



The aquarium – designed by Foster + Partners – will open in 2018

marine creatures, is now underway following a recent groundbreaking ceremony.

"This makes the facility an attraction in its own right as it differs considerably from what is on offer at the National Museum of Biology and Aquarium in southern Taiwan's Pingtung County," said deputy minister of education Lucia Lin at the

groundbreaking ceremony, adding that the aquarium will showcase the marine biodiversity of northern and eastern Taiwan.

Keelung City mayor Lin Yu-chang added that the project is a major undertaking that is expected to help transform the northern metropolis into a national tourist destination. Details: http://lei.sr?a=e3v4M_A

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Shanghai, China



CCTV Dream Factory Theme Park
Shanghai, China



BBC Entertainment Centre
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Chongqing, China



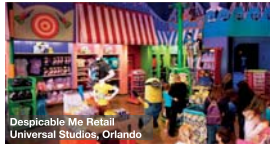
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Simpsons Springfield
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DOMINIQUE COCQUET

The sky's the limit for Villages Nature. It's a next-generation approach to theme park accommodation with wider appeal, diverse recreational options and leading eco credentials. Resort manager Dominique Cocquet has been involved since the start

Alice Davis, managing editor, Attractions Management



PHOTO © VILLAGES NATURE



A view of the hanging gardens, promenade and lake at the upcoming Villages Nature resort

It's been talked about for a decade, but finally the development of Euro Disney's ecotourism destination is gathering speed, with opening scheduled for 2016. The vision for the €700m (\$871m, £554m)

Villages Nature project is ambitious, and it's a departure from typical theme park accommodation offerings.

Villages Nature – a collaboration between Euro Disney and Pierre & Vacances-Center Parcs – is a sustainable tourism destination for the family market, located in Marne-la-Vallée, 32km (20 miles) east of Paris, France. The concept revolves around short and medium-stay vacations in cottages and apartments surrounded by forests, lakes and gardens.

"It's about relaxation and discovery and having a responsible attitude towards the environment," says Villages Nature general manager Dominique Cocquet.

The 259-hectare (640-acre) total site will be developed in stages. The first phase of 180 hectares (445 acres) consists of 1,730 cottages and apartments, with a capacity of approximately 8,000,

and is expected to be completed between 2020 and 2022. Villages Nature's official figures forecast an estimated 900,000 guests per year, generating local tax revenues of €7m (\$8.7m, £5.5m) annually and creating around 1,600 direct jobs.

Phase one will open in two stages, with phase 1A opening in two parts in 2016 and in 2017/2018, and phase 1B open by 2022.

Phase one includes 16 hectares (40 acres) of recreational facilities and attractions. The flagship attraction is the AquaLagoon, a large indoor waterpark and open-air geothermal lagoon. There'll also be an interactive working farm that teaches visitors about agriculture and animals, two forest adventure areas with activities such as rope courses, tree climbing trails and bungee jumping. There'll also be play areas, a library, a bowling alley, hanging gardens, a spa with saunas and Turkish baths, and 10,500sqm (113,000sq ft) of retail and dining.

The first part of phase 1A opens in Q3 2016, comprising 916 cottages and apartments and two-thirds of the recreational facilities, including the AquaLagoon.

Phase 1A has a budget of €500m (\$623, £398m). The rest of the €700m is for the further 241 cottages opening by 2018.

JOINT VENTURE

Les Villages Nature de Val d'Europe SAS is a joint subsidiary formed as a 50/50 venture between parent company Euro Disney SCA and Pierre & Vacances-Center Parcs. The entire project, from property planning to design to construction, is being managed by Villages Natures SAS, which will form an operations arm of the company in 2016 to manage the resort.

Villages Nature is the project owner for the design, development, construction and operational planning. The cottages and apartments will be sold to individual investors according to Pierre & Vacances-Center Parcs' property financing model – a leaseback scheme where investors own the units, which are then managed and maintained by Villages Nature. Institutional investors will take ownership of the central shared facilities.

Villages Nature is supported by the French government, which recognises



A scenic walk tracks the rising tiers of the AquaLagoon. The structure will house one of Europe's largest indoor waterparks

PHOTO: © JACQUES FERRIER ARCHITECTURES

ONE PLANET PRINCIPLES

1. Zero Carbon

Strive for a zero-carbon footprint for building emissions; use deep geothermal energy

2. Zero Waste

Reduce waste sent to landfill by recycling; limit overall production of waste

3. Sustainable Transport

Guests use public transit for local excursions; prioritise bikes, walking paths, horseback riding trails

4. Sustainable Water

Manage rainwater sustainably and reduce water use; install water-saving systems in accommodations

5. Sustainable Materials

Select lower-impact construction materials; promote sustainable goods; reuse 100 per cent of excavated material from the site

6. Natural Habitats and Wildlife

Develop the site's biodiversity; raise guest awareness about conservation; minimise impact on existing species

7. Local and Sustainable Food

Offer healthy food with products prepared on-site or sourced locally or organically; create a working farm

8. Economic Development

Support the local economy by maximising positive impacts of the project; involve local community

9. Quality of Life

Emphasise the human dimension of sustainable development; make communal facilities accessible

10. Culture and Heritage

Promote local culture and heritage; involve local artists in the creation of land art at the resort

► it as a project of national and public importance. The Sector IV Marne-la-Vallée 30-year framework established in a 1987 Agreement between Disney and the French state was amended and renewed in 2010 to allow for the Villages Nature development. The Amendment to the Main Agreement of March 24, 1987 forecasts Villages Nature could generate investment of €1.8bn (\$2bn, £1.3bn) by 2030.

GREEN DESTINATION

Cocquet says the resort's sustainability credentials, extensive recreation facilities and proximity to Disneyland Paris and Paris give it the ammunition to become an innovative green destination of the future.

"Villages Nature started 13 years ago as a research project," says Cocquet. "Market research showed the attractiveness of the concept and also the way it complemented the Disney parks."

The research reported high interest among European tourists in the nature-oriented, recreational vacation concept, particularly from key Euro Disney markets



Renderings of the farm (top),
the hanging gardens (below left)
and cottage accommodation



PHOTO © THAUAINFSCHE JEAN DE GASTINES ARCHITECTES RELATION



PHOTO © THAUAINFSCHE JEAN DE GASTINES ARCHITECTES RELATION

such as France, Belgium, the UK, the Netherlands, Luxembourg and Germany.

"With the high-speed rail and air travel connections, an international clientele can come here to enjoy the recreational facilities," says Cocquet. "Villages Nature is also for French people who want to combine a visit to Disneyland Paris or Paris. For those who live in the metropolitan area of Île-de-France – a population of 11 million – it's an escape, a long weekend without travelling far."

The new-generation tourist destination ticks a lot of boxes. Villages Nature is following a sustainable development plan inspired by WWF International's One Planet Living Framework, making it one of just 10 endorsed One Planet Communities in the world. The framework tracks 10 criteria, including zero waste, sustainable water and a zero carbon footprint.

With its own aquifer, enough geothermal energy will be harnessed to heat not only the resort complex but also the local area of Seine-et-Marne and Disneyland Paris in the long term.

KEY FIGURES

900,000 visitors predicted per year

8,000 maximum guest capacity

32 kilometres from Paris

100 per cent geothermal energy

The accommodation and built facilities are inspired by organic and green architecture. Plants play a major role in the building designs. The grounds will be covered by forest, landscaped gardens and two lakes totalling 15 hectares (37 acres). The built environment accounts for just 10 per cent of the total site.

STAR ATTRACTIONS

Storytelling leads the artistic direction, which is steered by Joe Rohde, Walt Disney Imagineering senior vice president. Rohde, who's worked on the Fantasyland

refurbishment at Disneyland Anaheim, Animal Kingdom at Walt Disney World Florida and with James Cameron on the upcoming Avatar-inspired attraction, is creating a story for Villages Nature about the human relationship with nature.

The Aqualagoon is the star attraction. Designed by top architect Jacques Ferrier, the 9,000sqm (97,000sq ft) waterpark is set in a towering, tiered pyramid covered with aquatic hanging gardens. Wave pools, slides and waterfalls feature inside, while outdoors there's a geothermal lagoon for year-round swimming.

Architect Lionel de Segonzac designed the farm and Jean de Gastines designed the accommodation, Cocquet says.

Acclaimed landscape artist Thierry Huau, who designed the amusement and botanical park Terra Botanica in Angers, France, worked with Rohde to imagine how this organic city should come to life.

"We've taken several potent visual metaphors," Rohde says of the project. "First is the garden, which gives a sense of nature and mankind working in harmony. ▶



A design for the Nature theme apartment. There will be three design themes for the interior décor – Bulle, Nature and Clan

The market research shows Villages Nature presents an opportunity for people who would probably not have come for Disneyland Paris alone, especially from the UK and Germany

► A second metaphor is the geothermal energy, embodied in the AquaLagoon. "It's a great story and a genuine approach in the way it's iterated," Cocquet says. "Rohde and Huau designed the story and then we went to architects like Ferrier, de Segonzac and de Gastines and asked them to contribute their signature to the story. The hanging gardens and the AquaLagoon are going to be incredible pieces of architecture in their own right."

NEW CLIENTELE

Disneyland Paris, which received 14.2 million visitors in 2014, has high hotel occupancy rates – and that's a major contributing factor in the Villages Nature investment. The parks' hotels registered occupancy rates of 84 per cent, 79 per cent and 75 per cent from 2012 to 2014 respectively – the fall this year, Euro

Disney says, is explained by the renovation works at the Newport Bay Club hotel.

Disneyland Paris remains Europe's most visited tourist attraction and, the argument goes that a strong new offering in 2016 will attract both returning and new customers. In the business model, a four-day stay at Villages Nature is expected to yield at least one day at the theme parks.

Euro Disney is eyeing a new customer base. It hopes to attract a different type of visitor to Disneyland Paris: one who might not normally plan to visit a theme park, families who want to be close to nature and enjoy the outdoors, who like to self-cater on their holidays. They're likely to build their own itineraries, ones that include a wide range of activities. Cocquet, who's been with Euro Disney since 1989, is confident Villages Nature provides the perfect base.

"In the Ile-de-France region, there's so far no way of combining the cultural aspect of Paris and the imagination aspect of Disneyland Paris. You can stay in a hotel or an urban residence, but you can't combine that with relaxation and discovery. Villages Nature will change that," he says. "Those who want to be immersed in Disney will continue to stay in the on-site hotels because there's a seamless experience between the hotels and parks."

"But those who want an extended stay and a bit of diversity will stay at Villages Nature. The market research shows Villages Nature presents an opportunity for people who would probably not have come for Disneyland Paris alone, especially from the UK and Germany. However, because of the vacation component of Villages Nature, they will come: it will attract a new clientele." ●

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Can data analytics benefit your attraction?

Could finding out that your customers buy online tickets in the middle of the night improve your revenue? Absolutely, say our experts – data is gold

Data analytics allows operators to mine vital information about their customers, leading to decisions which boost the bottom line and improve customer experience.

Already well established in the retail and sports industries, data analytics is just starting to get a foothold in the attractions industry. It can help you find out who your customers are, their habits, what they like and don't like; it can even help operators predict how many staff to book according to the weather forecast.

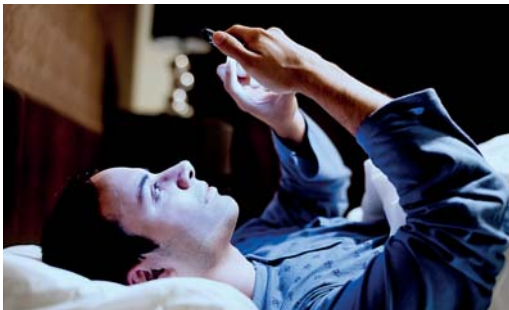


PHOTO: SHUTTERSTOCK/AMBERA STROOK

Understanding customer behaviour can help attractions make more intelligent decisions

This data can help operators develop more efficient, better targeted and more cost effective marketing campaigns. The data can be used to offer customer experiences which are attuned to them.

But is there a downside? To get the most out of the system you need to be strategic or you'll drown in information. We asked the experts about the rewards and potential pitfalls of big data.

JOHN LUCAS

Director of
Solutions Delivery
Avnet Services



Before embarking on data analytics, attractions must decide, at a strategic level, what they want to achieve for the business. If you jump in feet first, you can drown in information, so it's important to refine the search to two or three key goals.

Most attractions face the same challenges – usually an inability to see basic information, like who's visiting and their concessions data. Getting a near real-time view of who's coming and what they're spending their money on will help an attraction shape its marketing.

Most attractions use blanket campaigns from a purchased list to attract new members. They'd expect a 1.8 to 2 per cent capture rate. At Cincinnati Zoo, rather than a carpet-bomb email, we did analytics on existing members, profiling them and asking how many children they had and how many cars they owned, for example. Then we identified

other people who matched that criteria and emailed them. For a fraction of the cost of the email campaign we achieved a 10 to 12 per cent capture rate.

Data analytics boosted profits at Cincinnati Zoo by identifying a market for ice cream in the morning. More than \$2,000 (£1,312, €1,750) was taken at one outlet in an hour. In one year, food sales increased by 25 per cent.

With data analytics, it's like going from blind to 20:20 vision, but it can be overwhelming. Attractions must evolve from being reactive to proactive, which means re-training staff. We usually provide this role and support for up to six months.

After the initial dramatic improvements the company evolves from reporting to true

analysis, asking more complex questions, such as: based on Sunday's weather forecast, how many staff will we need?

Then, instead of looking backwards, operators can start using predictive analytics, so they move from the past to the future. This evolution takes one to two years. Then they start using it in other departments, such as how to save on electricity.

Cultural attractions have only discovered data analytics in the past two years. Retail is leading in this area. The next stage is to get closer to understanding the end user in order to improve engagement and become more personalised with marketing.

■ services.avnet.com
@Avnet_Services

A polar bear at Point Defiance Zoo, Tacoma, Washington. The zoo has mastered data analytics



We got our return on investment within six months, with the biggest savings on labour. We're going to use analytics to reduce utility costs and implement a customer loyalty programme

DONNA POWELL

General Manager
Point Defiance Zoo
and Aquarium

We went live with data analytics in January 2013, for our zoo and aquarium, which receives 700,000 visitors a year. Our main aim was to understand the customer and improve communications with them, so we could provide a better service and experience. We now have a rich dialogue with them throughout the year.

One of the first things we discovered was that people were buying tickets online in the middle of the night. This changed the way we do promotions. Instead of sending out daytime offers that



customers need to act on by 5pm, we started sending them out at midnight to redeem by 7am. This led to a 40 per cent increase in click through.

Our online sales have increased by 800 per cent in the last two years and 32 per cent are being bought in the middle of the night. We've also been able to inform our media buyers of visitors' zip

codes, so they can target those areas in promotions.

Our education programme manager has used data analytics to maximise capacity on our education camps. We now have the highest attendances in 10 years because he can look at the data, see which camps are selling out and add another, or if some aren't selling well, he can do an email blast or offer a discount.

Data analytics allows us to predict attendance according to weather forecasts and history. On the last 4 July, we predicted attendance to within 100 people. This means, for the first time ever, we've been confident enough to cut the allocation for part-time labour and build next year's budget accordingly.

We got our return on investment within six months. The biggest savings have been on labour and the rest of the benefits have come from increased earnings. Next, we're going to use analytics to reduce utility costs, manage the animal records and to implement a customer loyalty programme to improve membership lifetime and the customer experience.

Before we started using data analytics, our point of sale information was closed. Now, we can query the system and get information in seconds. Anyone who wants to find out more about their customers can benefit from data analytics: that data is gold.

pdza.org
@PtDefianceZoo

KAREN LOLLICH

Assistant Director of
Finance, Fort Worth Zoo

We started using data analytics in May 2013 to get results more quickly and become more pro-active with our decision-making. Prior to this we were always a month out with our reports and playing catch-up.

Data analytics has helped with product sales, enabling us to determine what's selling, optimise our sales, produce inventories and decide on staffing levels at outlets.

It's a comprehensive data source to track attendance and produce visitor statistics, so we can make staffing decisions that keep costs down and improve the visitor experience.



Traditionally, we looked at revenue when making staffing decisions, but now we're able to look beyond revenue and focus on more accurate predictors like the number of transactions (regardless of how high or low the revenues are). We've found more transactions equals more guests. By further breaking it down by hour, we can

proactively bring staff in or move existing staff at slower locations to the busier areas.

Overall, it's made us much more efficient, cutting down the hypotheticals and "what ifs". We've been able to drill down into what's happening and draw accurate conclusions about why it's happening.

For example, when our attendance revenues were up but parking revenues were down, we assumed that it was because there's a finite number of parking spaces. However, analytics showed it was because the attendance was driven by more members visiting, and members receive complimentary parking. We also discovered a trend for buying tickets online, but a percentage of those going unredeemed.

The biggest challenge is learning to use a complex system. If you don't have knowledge of all of the data sources, it can be hard to know which data to use for a report.

I create daily point of sale reports, and monthly reports on attendance, promotions and event sales. Geographical data allow the marketing department to measure the results of campaigns.

We'll start looking in more detail at our members, so we can compare their behaviour with non-members. We'll also start trying to influence behaviour and spending in-park, for example, to see how far people will travel in the park to redeem offers.

■ [fortworthzoo.org](#)
@FortWorthZoo

Data analytics can inform loyalty programmes, so customers can earn incentives when they spend. A loyalty scheme can improve the customer experience, whilst giving a reason for further data collection

TOM BETTLES

Marketing Manager
Green 4 Solutions

When collecting data it's important to have a strategy about what you're going to collect and how you'll use it. A current trend is for getting better quality data on the customer from ticket purchases and other spend. This information can inform targeted marketing, which brings down marketing costs. We've seen revenue increases of 7 to 8 per cent in the first year of using data analytics with joined-up technology.

Many attractions don't know who's actually coming, so they spend too much money on above-the-line marketing campaigns. It's much cheaper if operators can capture the data and do the marketing



themselves. The more you can find out about the customer, the more you can design products and offers to encourage repeat business.

For example, the Snow Centre, the UK's most profitable indoor real snow centre, discovered there was a market for people who wanted to ski in the summer. They didn't come in winter as they don't like it when it's busy, but they were happy to

come in the off-peak months. The resulting summer skiing membership now accounts for 23 per cent of revenue.

We recommend "little and often" from a data collection point of view, so that customers aren't overwhelmed or put off. Initially we suggest finding out first name, last name and email address. One of our clients managed to establish that each email address collected is worth about \$11 (£7, €9) to them. The more you engage with the customer, the more you can capture. For example, find out their birth date by tempting them with a birthday offer.

The Eden Project has 10 to 15 audience categories which it needs to engage in different ways, so it's important for them to know enough about their customers to ensure they send them targeted emails.

They don't want people to opt out of the mailing list because they are receiving too many irrelevant emails.

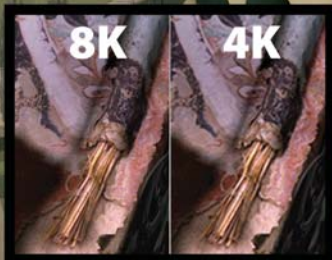
Data analytics can also be used to inform loyalty programmes, so customers can earn points or incentives when they spend money. When done correctly, a loyalty scheme can improve the customer experience, whilst giving a reason for further data collection. A card swipe at the point of sale, venue entry and other data collection points will identify the customer so that data is collected, without detracting from the experience. This is very popular in the retail and sports industries, but attractions are only just starting to embrace this. ●

■ [green4solutions.com](#)
@Green4Solutions

This is 8K.

Mogao Caves Visitor Center, Dunhuang, China

Twin 18-meter domes



LSST Corporation

This can be too.

8-meter dome

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Attractions Foresight™ 2015

What's coming down the track for attractions? *Attractions Management* examines the trends, technologies and strategies shaping the the future

TOP 20 PREDICTIONS 2015

1. Remote tasting
2. Attractions in space
3. Brain scanning
4. Reactive environments
5. Mindmeld
6. High-speed travel
7. The end of orca?
8. Cage free zoos
9. Robots workers
10. BYOD & BYOW
11. Crowdfunding
12. Drones
13. Online reviews
14. Facial recognition
15. Hospitality
16. Virtual reality
17. 3D modelling
18. Ride enhancements
19. Scenting
20. Wearables



SENSORY TECH

1. REMOTE TASTING

Attractions designers are on a quest to perfect the fully immersive digital experience, with the aim of extending the attraction beyond its four walls to get more engagement with guests.

In working towards this aim they have all five senses to play with – sight, hearing, touch, smell and taste.

Stimulating sight and hearing have been the mainstays of most tech interactions to date – especially those which are screen-based, so this tech has been well developed. The quest is on to find ways of digitally sharing touch, smell and taste.

In this year's predictions (see numbers 4 and 20), we look at the ways in which

smell and touch will be transmitted digitally. We believe that, in addition, technology will be developed which enables people to share different tastes digitally from anywhere in the world.

We expect this type of technology to utilise readers and 3D printers: a substance would be scanned, analysed, encoded, transmitted and reconstituted remotely by 3D printer.

So if you want to share a taste with somebody from the other side of the world, this will be possible once technologies like these are combined.

Remote tasting will give attractions designers another great tool to play with.



Attractions Foresight™ is published annually in the *Attractions Management Handbook* attractionshandbook.com

Want to share a taste from the other side of the world?

The substance will be scanned, analysed, encoded, transmitted and reconstituted remotely by 3D printer

INTO ORBIT

2. ATTRACTIONS IN SPACE

With commercial space flight just a few years away, and plans for hotels in space already on the drawing board, we're wondering who will be the first operator to announce an attraction in space? Disney? Universal? Merlin? Or an up-and-coming and ambitious Asian or Middle Eastern player?

The creative possibilities of zero gravity are mind boggling when it comes to designing ride concepts, while the journey there, the views and opportunity to space walk would be part of the experience.

We imagine a resort and attraction in space which combines the best of theme park and science centre with an overnight stay.



Blasting off: who will be the first attractions operator to plan a space theme park?



The system used brain scanning headsets

INTERACTIVE TECH

3. BRAIN SCANNING

South African Breweries created an imaginative, interactive game for customers: the Extra Cold Mind Reader. The game challenged drinkers to keep thinking cool thoughts, even when presented with images of extreme heat and other distractions.

The more they concentrated on thinking cool thoughts, the more ice cold beer they were rewarded with.

The brain-powered technology was created for Castle Lite beer.

The system was designed by Hellocomputer and built by Thingking, using an EEG headset to measure spontaneous brain activity. The device also picked up on conscious thought, emotion and facial expressions, which it used to control the experience. This tech has huge potential for attractions.



Haptic screens and reactive tech will fully immerse visitors in experiences

CUSTOMISATION

4. REACTIVE ENVIRONMENTS/HAPTICS

Traditionally attractions were static, with all input coming from the visitor. Then the industry moved to interactive environments, where visitors could learn by doing, but the experiences were still pre-programmed, with limited outcomes.

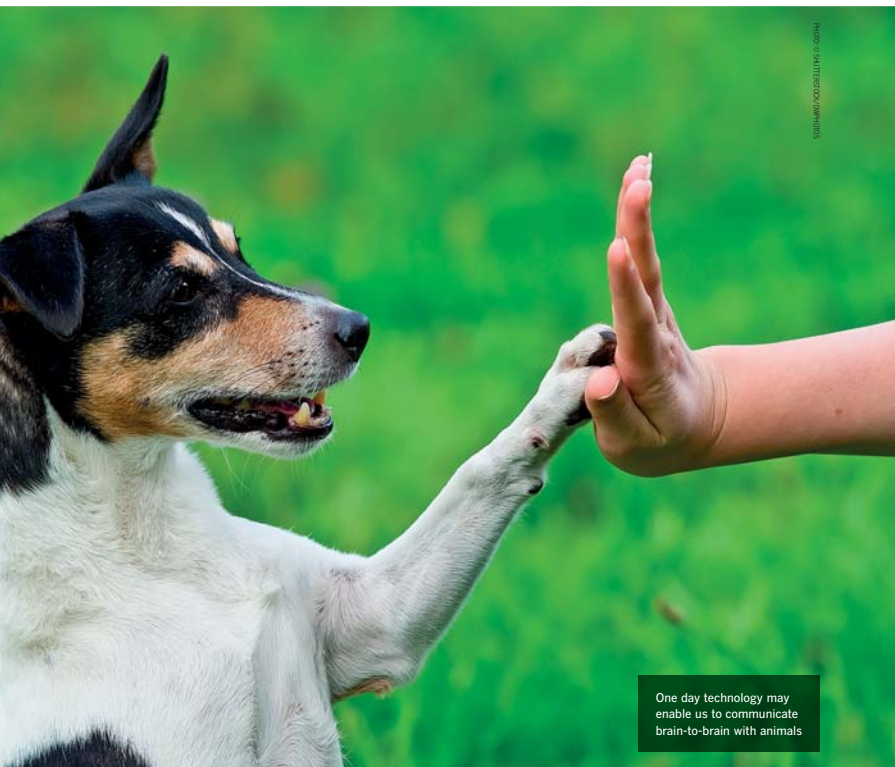
The next generation of attractions will be built with reactive environments, where multiple outcomes are possible depending on the actions of the visitor.

All sensory elements of the experience will be reactive, so each visitor will have a journey through the attraction which is initiated by them and customised for them based on how they react to the elements. This is the next level of engagement and part of the trend

towards customisation. The guests experiences will resonate with them personally and engage all their senses.

We'll see haptic surfaces which react and change; lighting and sound which respond to the actions of visitors; walls, floors and ceilings which move, and built-in tech, such as screens which have sensors that enable them to react to visitors.

Attractions will be able to combine these environments with live (or robot) actors, making it possible for each group member to have a different experience based around a shared core. This principle is being used by operators such as Punchdrunk, with its award winning *Sleep No More* production in New York.



One day technology may enable us to communicate brain-to-brain with animals

BRAIN TO BRAIN

5. MINDMELD

Scientists have announced the first ever brain-to-brain communication.

Alvaro Pascual-Leone, professor of neurology at Harvard Medical School, a team from Starlab Barcelona, Spain, led by Giulio Ruffini and Carles Grau, and Axilum Robotics CEO Michel Berg and his team in Strasbourg, France, collaborated to transmit words in a "computer-mediated, brain-to-brain transmission" between people in India and France.

They used two technologies to conduct the experiment – internet-linked

electroencephalography (EEG) and robot-assisted, image-guided transcranial magnetic stimulation (TMS).

Four people took part – one sent words via a brain-computer interface and the other three received and had to understand them. Using EEG, the team translated the words *hola* and *ciao* into binary code and emailed the results from India to France. Once there, a computer-brain interface transmitted the words to the receivers through non-invasive brain stimulation.

The subjects experienced the words as flashes of light in their peripheral vision in a numerical sequence. They decoded and accurately reported the greetings.

It's the first time people have communicated across thousands of miles without speech or writing. The researchers say it's the first step in "bypassing traditional language-based or motor-based communication." Once refined, this could find applications in attractions. It may even eventually enable communication between species.



Elon Musk is pioneering super-fast travel

A GLOBAL MARKET

6. HIGH-SPEED TRAVEL

Inventors are working on technology which will enable super-high-speed travel and make long-haul day trips a reality.

Elon Musk's Hyperloop, for example, will use reduced-pressure vacuum tubes, linear motors and air compressors to move people by capsule at top speeds of 1,220kph (758mph), and although this kind of thing is unlikely to be operational

for 20 years, in industry terms this is soon, because international-level visitor attractions are a long-term play.

Being aware of where future customers might come from will inform the way attractions are designed, to allow for cultural differences. Transport links approaching supersonic speeds will also mean competition becomes more global.



PHOTO © SHUTTERSTOCK/OLIVIERO TONDI

The days of orca in captivity could soon be numbered

CAPTIVITY

7. THE END OF ORCA?

The appetite for keeping orca in captivity is diminishing and industry insiders say the days of "fish shows" using large mammals are numbered.

We believe the trend is that animals in captivity should be limited to those whose natural behaviours can be expressed in the habitats we have the space, funding and ability to build.

RADICAL ZOO DESIGN

8. CAGE FREE ZOOS

Architectural practice BIG (Bjarke Ingels Group) has been commissioned to create a new format for Givskud Zoo in Denmark.

Called Zootopia, the design effectively cages the people while giving the animals freedom to roam. Visitor and nature will become entwined in the attraction, which will be divided into three "continents", each with its own mode of transport. Visitors will "fly" over the Americas (in a cable car), cycle or hike through Africa and sail across Asia in pods which take them close to the animals.

Animal attractions are popular but, in spite of improvements, still raise ethical concerns and we expect to see a radical rethink in the way animals are cared for.



PHOTO © BJARKE INGELS GROUP

BIG's design for Zootopia has a pod transportation system and raised viewing platform



Robots will replace people in some functions

CUTTING COSTS

9. ROBOT WORKERS

The ability to perceive the minds of others is emerging in robots and this, coupled with advances in sensor design, will take us to a point where robots will become viable as workers, going from being attractions exhibits to being front of house and delivering guest services.

Robots are being prototyped for use in a number of leisure sectors. Starwood, for example, announced it's trialling room service by robot in its hotels. Robot butlers deliver trays and trolleys, which helps to keep costs under control while retaining the ability to offer this kind of service.

The hotel industry is struggling to keep room service viable – hotels are abandoning it, or cutting back on the 24-hour service – and operators are seeking ways to salvage the situation. Robots may be the answer.

Staffing costs in attractions are a significant and fixed proportion of overheads, so there's a financial incentive

to deliver services without increasing costs and robots meet this need.

In addition to representing a reduction in costs, money spent on robots will also count as infrastructure investment, so they'll be treated as balance sheet assets, making them a more attractive option than incurring higher overheads due to increased salary and employee costs.

The attractions industry will have a great fit with a robot workforce, especially in science centres and theme parks, where they can become part of the story. Robots are already being successfully used in education and we think they'll become a valid and valuable part of the attractions workforce as technology improves.

Corporate America had its best year last year at a time when unemployment was at its highest, so as a trend, there's a move towards making more money from less people. We see the move to robot workers as an inevitable part of this wider trend.

SHIFTING THE COST OF TECH

10. BYOD & BYOW

Bring Your Own Device and Bring Your Own Wearables are the future, as operators shift the cost of acquiring hardware to the consumer and concentrate instead on providing the apps to create experiences.

Smartphones can open up opportunities to increase profits by passing costs back to users: we've seen this in systems such as Sonos, which couples wireless speakers with an app, enabling listeners to use their mobile device to control the music.

Operators can take advantage of the trend to engage with customers, extend the experience beyond the facility, drive down costs and offer more customisation.

THE NEW PATRONS

11. CROWDFUNDING

Crowdfunding websites such as Kickstarter – which launched in the US in 2009, Europe in 2012 and Canada and Australia in 2013 – are transforming the funding of attractions, arts and culture projects. In the US, for example, Kickstarter channels more funding into the arts than the government does.

Crowdfunding websites are proliferating rapidly worldwide and being used to raise finance for a wide range of attractions-related investment, from new museums to technological innovations.

● See Kickstarter in *Leisure Management*
Q1 12: <http://bit.ly/1jPnstr>



An image in Disney's patent application features a marionette version of Jack Skellington

CONTROL OF THE SKIES

12. DRONES

Drone tech is advancing fast and early adopters are looking at applications.

Three drone patents filed by Disney suggest larger-than-life puppets could be drone powered, bringing characters to life with greater control than previous airborne characters which have simply been filled with hot air or gas.

The application indicates drones could replace Disney's fireworks with an aerial display system based on the floating pixel, or "flixel", which would fill the sky with giant screens.

In addition, it appears Disney plans to use drones "where it's desirable to provide an aerial display" for large-scale shows in both indoor and outdoor settings.

Drone-mounted cameras have potential applications in attractions for a wide range of uses from education – where they can take camera feeds to show aerial views – to guest photography. They could also be used to monitor safety and security, especially on larger sites.

STAR PERFORMANCE

13. ONLINE REVIEWS

Online reviews have a huge impact on service businesses. Although few operators embrace them to the degree seen in the hotel and restaurant sectors, the opportunity is there to increase business by encouraging and managing reviews across all areas of leisure, including attractions.

A study by economists at the University of California, Berkeley, found a variance of just half a star rating can determine whether a service business grows and thrives or goes bust.

Researchers focused on restaurant reviews on Yelp and found that the difference between 3 and 3.5 stars increased the chance of a business reaching capacity at peak times from 13 per cent to as much as 34 per cent.

Further reinforcement of the impact comes from a TripAdvisor study which found that properties with 11 reviews or more on the website benefit from a 28



PHOTO © SHUTTERSTOCK/OLIVIER ETIENNE

Good customer reviews can build your reputation. Bad ones need to be carefully managed

per cent rise in user engagement when compared to those with 10 or fewer.

Dealing with complaints relating to online reviews is also important, according to a PhoCusWright report which found 84 per cent of TripAdvisor users said an appropriate management response to a bad review improves their impression of a hotel or restaurant.

In the attractions industry, monitoring reviews can act as a feedback loop for complaints, while managing them helps to neutralise the impact of bad reviews which have been shared by consumers.

As more attractions build hotels, spas and restaurants, managing these reviews also becomes an important part of the reputation management of the operation.

TUNING IN OR JUST CREEPY?

14. FACIAL RECOGNITION

Understanding consumers' true feelings and motivations has been the concern of neuromarketers for years: what we say we want and what we really want are often two completely different – and sometimes contradictory – things.

Knowing what people are thinking gives valuable insights for operators. With facial gesture recognition and profiling software coming to market, retailers are able to identify mood and respond accordingly to improve the customer experience.

For example, coffee brand Douwe Egberts conducted a PR stunt by installing a coffee vending machine at Johannesburg's OR Tambo Airport. The machine had facial recognition built in. Travellers were given a free cup of coffee when the software detected them yawning.

We expect theme parks, stadiums and other high-footfall facilities to deploy facial recognition software both to profile customers and to assess their mood before and after experiences.

This will enable better product development and give insights into operational variables when it comes to delivering evermore enjoyable experiences. It will also give operators valuable feedback about areas for improvement.

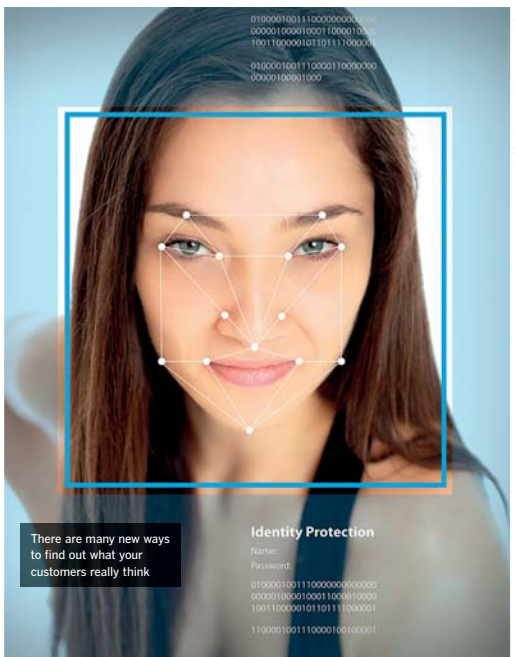


PHOTO © SHUTTERSTOCK/FRANCK BOSSON

There are many new ways to find out what your customers really think

Identity Protection

Name:
Password:

01000010011100000000000000
0000010000100011000010000
1001100000101101110000001

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Sleepovers are popular money makers

HOTELS & SPAS

15. HOSPITALITY

Attractions are diversifying into accommodation to add additional days (and nights) to the experience.

This can take the form of hotel and self-catering accommodation, as well as a host of other creative options, and hotels are adding things like spas and resort services.

It isn't just at the luxury end where operators are making money from accommodation – attractions with no conventional bed space to sell can welcome overnight guests. With a little creative thinking museums, science centres, theme parks, historic attractions and zoos can all host sleepovers. From themed tents in castles to bunking down next to the dinosaurs in museums, attractions are finding ways to host visitors overnight.

● See Ultimate Sleepovers in *Attractions Management Handbook 2014/15*: <http://lei.sr?a=e1u8J>



VR headsets will be used in combination with other experiences to heighten them

SOCIAL IMMERSION

16. VIRTUAL REALITY

Facebook's acquisition of the virtual reality (VR) gaming company Oculus VR – the developer of VR gaming headsets – is bringing VR applications back to the top of the agenda for attractions.

Although the idea is nothing new for the industry, the purchase is opening up more opportunities and driving down research and integration costs.

Facebook's Mark Zuckerberg said the move will create the critical mass necessary for more standard multifunctional hardware that could be used in many different situations, saying:

"After games, we're going to make Oculus a platform for many other experiences – this is really a new communication platform. By feeling truly present, you can share unbounded spaces and experiences with the people in your life. Imagine sharing not just moments with your friends online, but entire experiences and adventures."

Headsets will be used as enhancements in combination with other experiences and also as tools for augmented reality.

● See Face Reality in *Attractions Management Q3 14*: <http://lei.sr?a=P4n8E>

Virtual Reality headsets will be promoted by Facebook as a new communication platform to share entire experiences and adventures with others

RE-CREATION

17. 3D MODELLING

The Science Centre Singapore (SCS) has signed an agreement with French software company Dassault Systemes to develop modelling to support education – Dassault creates software that allows people to explore places through interactive virtual 3D models.

The two have said they are developing Visual SG, which will utilise virtual-reality technology to enable people to explore unusual sites and gain scientific knowledge.

Included in the development are 3D models of medieval Paris and the Giza plateau, which will be available for free.

For the SCS, this type of experiential learning environment helps children to retain and understand information.

FINDING NEW COMBINATIONS

18. RIDE ENHANCEMENT

Rollercoaster manufacturers are eyeing the possibilities of combining rides with immersive technologies, such as incorporating the Oculus Rift VR headset (see number 16) to create new kinds of ride experiences.

Thomas Wagner, professor of Virtual Design at the University of Applied Sciences Kaiserslautern, Germany, created a research and testing programme for Oculus Rift which he synchronised with Mack Rides' rollercoasters at Europa Park, Germany. Wagner discovered the technology was more exciting without rails (in the VR world). The track can be virtually adjusted if desired and virtual canon can be added to effectively turn the rollercoaster into a full game.

THE POWER OF AROMA

19. SCENTING

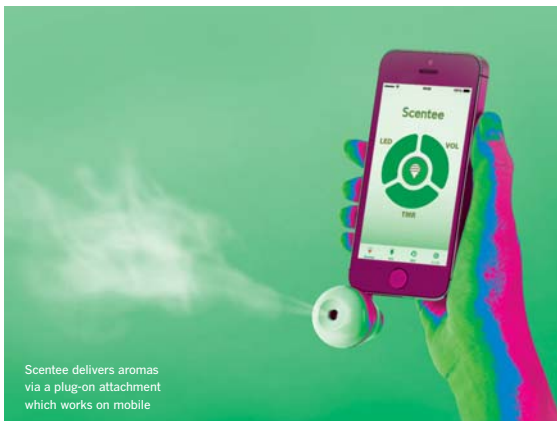
A powerful way of evoking emotion, scent is increasingly being used by attractions to enhance the customer experience.

Most sensory offerings relate to mass experiences, with scents puffed out to large groups of people. For example, Lotte World, South Korea, has a new sensory entrance, which was installed by theme designers the Goddard Group.

However, the development of chemically-mastered scents which are created and released using handheld devices is on the increase and this technology has the potential to make the experience a more personal one, with aromas delivered via mobile phones and tablets.

Professor Adrian Cheok, founder and director of Singapore's Mixed Reality Lab, has been working on numerous products related to the human senses and his latest invention, Scentee, is making its way to the commercial market.

The Scentee attaches to a mobile device and emits scents through chemical cartridges kept inside a



Scentee delivers aromas via a plug-on attachment which works on mobile

plug-on attachment. The cartridges take instructions from an app on the device, allowing users to send each other scents.

Scentee is being used at one of the world's leading restaurants, Mugaritz, in San Sebastian, Spain. The restaurant uses the device to give guests a sniff of what

they can eat before they book. Aside from its obvious potential to enhance theme park rides, the people behind Scentee are aiming to introduce the technology in museums, science centres and other attractions. This could open the door to a new world of experience for visitors.

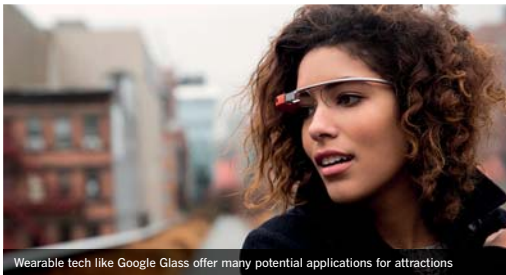
PERSONAL TECH

20. WEARABLES

We're moving from an era when we use keyboard and mouse to a time where touch and voice will be the norm. Wearable technology will find both business- and consumer-facing applications in the attractions industry. Google Glass, for example, presented a number of immediate opportunities.

The Google Glass prototype was introduced in April 2013, and the underlying idea is an exciting one. As Google pauses its production of Glass while it develops the product further, we expect this type of wearable tech to be used by the attractions sector in a myriad of ways from ride enhancement (see number 18) to educational applications.

We'll see customers being given smart glasses pre-loaded with content to create augmented reality experiences, or used to



Wearable tech like Google Glass offer many potential applications for attractions

display instant information on artworks as visitors walk round museums and galleries.

There'll be many applications once it becomes a mass market product.

There'll also be challenges, as we'll need protocols in place – do we allow

visitors to use wearables to record and share experiences, for example?

The growth in image technology like Snapchat and Instagram turns photo and video into mediums that replace words – valuable resources in a global economy. ●



ABOUT THE AUTHOR

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DREAM BIG

Dreamland, Britain's oldest theme park, is being brought back to life thanks to Hemingway Design, a new operator and a healthy dose of heritage funding. We meet the "Dream Team" making it happen

Dreamland amusement park in Margate in Kent, UK, is being redesigned and restored. After years left derelict, the well-loved attraction is receiving a new identity, courtesy of über-cool studio Hemingway Design. The Dreamland Trust, which waged a long campaign to save the site, secured £18m (\$27m, €24m) in funding from the Heritage Lottery Fund (HLF) and Thanet District Council to make the dream a reality. In addition, the new operator, Sands Heritage Ltd, has invested an undisclosed sum.

On the following pages, Dreamland Margate's key players – designer Wayne Hemingway, the HLF's Stuart McLeod and Sands Heritage director Eddie Kemsley – reveal how they've been bringing the iconic seaside attraction back to life.

The Dreamland renovation is one of a number of major attractions investments in the area. Kent's scenic countryside and proximity to London make it an attractive



The cinema and Scenic Railway star in Dreamland Margate's new logo

proposition for tourists and daytrippers from the capital and a high-speed rail network makes travelling to the county easy.

The opening of the £17m (\$26m, €23m) Turner Contemporary art gallery in Margate in 2011 helped rejuvenate the seaside town. Further investments in Kent include the £2bn (\$3.2bn, €2.5bn)

London Paramount development in Swanscombe, expected to open in 2020.

DREAMLAND'S HERITAGE

Dreamland has always been an icon and its history helped it get the heritage funding it needed. From its visionary beginnings, it was more than a visitor attraction. It shaped the future and fortunes of its quintessential seaside home, and simultaneously became a catwalk for the fashion and music trends that defined the nation's youth through different eras.

The site dates back to the 1860s, when it was a venue called the Hall by the Sea. But Dreamland was really born in 1920, when its founder John Henry Iles returned from New York and saw Londoners were using the new railway to visit Margate, creating a demand for an exciting attraction with all the dazzle of New York's Coney Island.

He purchased the Hall by the Sea for £40,000 and developed the attraction, inspired by what he'd seen in New York.

Wayne Hemingway and his wife Gerardine first found success with their fashion label Red or Dead



**"Dreamland was
the heartbeat of
Margate and its
main economic driver
for a century"**

People go-karting at Dreamland (far left) and riding the Tumblebug in the late 1950s

It immediately installed the mile-long wooden rollercoaster – the Scenic Railway – and Dreamland's popularity was instant.

"It was one of the UK's most loved amusement parks and in its heyday it was welcoming an impressive 2.5 million visitors a year," says Kemsley, who's leading today's Dreamland revival.

In 1935, an Art Deco cinema further transformed the town. The 2,200-seater Dreamland cinema and its unmistakable fin-style design heralded a golden era of Modernist cinema architecture in the UK. "It was one of the first examples of a real leisure complex, with its cinema, restaurants and bingo hall alongside the amusement park," she says.

Dreamland was visited by the pioneers of youth culture, from the Teddy Boys and Girls of the 1950s to the punk rockers of the 1970s. But the 1970s also brought air travel to the British and Margate began to lose its popularity as a tourist destination as people started going abroad. "The

decline of Margate happened over a period of about 40 years, and Margate's decline was Dreamland's decline," Kemsley says.

During the 1980s, under the ownership of the Bembom Brothers, investments were made in the park and it was marketed as a family-friendly attraction. It was sold to Jimmy Godden in the mid-1990s – its demise was not reversed. By 2005, the site was often closed and rumours that Dreamland would be redeveloped were constant. Although the site became derelict, its closure provoked a huge reaction from the public.

"Dreamland was the heartbeat of Margate and its main economic driver for a century, so after the closure a protest group was formed by locals," says Kemsley.

Thanet District Council gave its support to the group – the Save Dreamland campaign – and years of lengthy legal battles ensued as the site was wrangled from Godden. The council won control in 2013, using a compulsory purchase order.

"The Save Dreamland campaign worked incredibly hard for 10 years to save the site, and their work is what got us where we are today – on the final stretch before Dreamland reopens to the public," she says. ►



The Pinball Parlour, the largest in Europe, captures a classic part of Dreamland's heritage

"It will feel fresh, colourful and of the now."

There's no other visitor attraction in the world like it"

WAYNE HEMINGWAY

Founder, Hemingway Design

What was the appeal of the Dreamland project?

What isn't appealing! It's a wonderful heritage story in Britain's most happening seaside town. Margate has everything a young, creative community would want. It's evocative. It has an amazing amount of things to Instagram! And Dreamland is the right thing to be happening in Margate.

What's driving the change in Margate?

The best regeneration happens when a place gets colonised by communities of artists, designers and musicians, not when governments throw money at a place that's fallen on hard times. These creative communities look at life differently. They don't wait to be "regenerated" – they want to do something organic.

The Mitte district in Berlin is an example. The community created one of the most talked about and culturally vibrant places in Europe. And what made Brooklyn cool? It wasn't Mayor Giuliani throwing millions at it, but the unfairly derided hipsters who saw an opportunity, found unbelievably cheap spaces in Williamsburg compared to Manhattan, and made a new New York.



Recognisable branding – from the logos to the website to ticketing – is fundamental at Hemingway Design



The same is happening in Margate. Every time we visit we see something new, whether it's a vintage shop, a cool café, a gallery or design studio.

The Turner Contemporary art gallery opened in 2011. Did that kick off the Margate renaissance?

It was the catalyst. The gallery legitimised the youthful creativity that had been happening in Margate. It also brought 500,000 people into the town, spending in the fledgling businesses. Visitor numbers have reached 1.5 million in three years.

What is the basis of the Dreamland concept?

We're not putting everything back exactly as it was, but we're making heritage feel very current. This won't feel like a museum. It will feel fresh, colourful and of the now. There's no other visitor attraction in the world like it.

The two major elements of the first phase are the re-imagined seaside amusement park and the event space.

Who else is on your team?

My son, Jack Hemingway, is project leader and he's directing a young team of twentysomethings. It's great to have a fresh generation leading the design.

"Dreamland will be the Arctic Monkeys of the visitor attraction world"

Hemingway Design illustrates how the approach to Dreamland Margate might look



WE CATER FOR PLEASURE The Top Dreamland Attractions You Won't Want To Miss!

1 SCENIC RAILWAY The brakeman-operated wooden ride is one of only eight remaining in the world and it's the UK's oldest rollercoaster. Dreamland's signature ride for 90 years, it has survived two fires and one arson attack. It received Grade II* listing in 2002

2 HURRICANE JET Dreamland is restoring a Jets ride almost identical to

a ride resident at the park until 1970. The height of the ride path is controlled in-car by the rider. This Lang Wheels ride was sourced from a travelling fair

3 CATERPILLAR Once found at parks all over the US, the Caterpillar is now incredibly rare. It was loved by courting couples who could enjoy a few moments of privacy while the ride went under a

tent-like covering. Installed in Dreamland in the 1920s, John Henry Iles had sole European rights to the ride, which he licensed to Barry Island, Southport and Battersea Pleasure Gardens.

4 GALLOPERS An original 1920s four-abreast Galloper is also being restored. The popular carousel was one of Dreamland's staple rides

Would you describe the new Dreamland as vintage?

The Arctic Monkeys are a cool band with vintage appeal, but they're also completely current. The same goes for Paloma Faith. It's an aesthetic that's cool and mass market at the same time. Dreamland Margate will be the Arctic Monkeys of the visitor attraction world.

How are you achieving the retro look?

Original artefacts and rides have been sourced from places like Pleasureland Southport and other historic seaside amusement parks and they've been restored. They're absolutely beautiful. Items are being upcycled into seating

for cafés or decorations for photo opportunities, for example. We're designing the site so that wherever you stand it will make a great photo. We expect it to go crazy on social media.

How important was it to create a brand?

We start with the vision and the brand for every project. The brand is always bigger, but it's got to have substance beneath it.

The branding is contemporary and has the feel of the British seaside. We show the history in the famous fin of the cinema building and the Scenic Railway in the logo. The new name is Dreamland Margate, because they are intrinsic to one another and the name reflects that.

Have you enjoyed working on Dreamland Margate?

It's certainly the thing at the studio that we talk about the most, agonise over the most and root for the most – and that's because as well as the excitement of the concept there's a sense of duty to the community.

When the Dreamland site was unlocked after being unattended for years, 3,000 people turned up to clean, pick up rubbish, remove the weeds. You do it because you're part of something. There's a spirit that's not just making Dreamland happen, but making Margate happen. It's a dream to be involved and we'll do everything we can to deliver on this. It's become part of our DNA as well. We've caught the bug. ▶

“The Turner Contemporary is bringing in about £5 million in additional spend to Margate annually”



STUART MCLEOD

Head of HLF South East
Heritage Lottery Fund

How is the Heritage Lottery Fund supporting Dreamland Margate?

Part of every pound spent on National Lottery tickets goes directly to good causes like heritage, the arts, sport and charities. HLF's share is 20 per cent.

Heritage has an open definition, but generally we see it as anything people value from the past that they wish to conserve and share with future generations.

HLF awards start at £3,000 [\$4,579, €4,047] and go to over £5 million [\$7.6m, €6.7m]. We awarded the Dreamland Trust £5.8 million [\$8.9m, €7.8m].

It's the 20th anniversary of the National Lottery so it's a period of reflection for us. Over £600 million [\$916m, €810m] has been distributed across our region.

People might not expect we'd be able to support something like Dreamland, but it does deliver against our funding criteria.

What is your role?

I manage a team who assesses applications and monitors awards that



PHOTO: © SCOTT SHAW

WORKING ON DREAMLAND

Architects: Ray Hole Architects

Project Management: Spider

Ride Dealer: Sean Brian

Ticketing: Langdale Solutions

are made. We deal with about 400 applications a year – about half receive funding – for the UK's southeast region.

Do you have any examples of other projects you've funded?

The Mary Rose Museum in Portsmouth received a cumulative series of grants totalling about £25 million [\$38m, €34m].

How do you assess a case?

We look for engaging projects that share and conserve heritage. We also look at the viability and sustainability of the operation.

Can you outline why the Dreamland Margate application was successful?

If you looked at the derelict Dreamland site, the need to do something was

absolutely apparent. The great affection with which Dreamland is held has always been very clear, both locally and regionally, so the demand was there. It captures the imagination and that's always been a very persuasive element with this particular project. You have an audience who's been ready and waiting for years.

Is this a risk-free investment?

No, it's a risky project because whatever may have happened in the past, you are effectively starting afresh.

Do you believe Dreamland will benefit the local community?

The location of Dreamland is critical. In terms of national indicators of deprivation, Margate scores highly: unemployment is high, skill levels are low, and so on.

Heritage-led regeneration can contribute to building a more sustainable economic future. Margate was historically extremely dependent on tourism but that economy disappeared almost entirely. But the Turner Contemporary now brings in about £5 million in additional spend to the town annually and people see Dreamland as a critical piece of the jigsaw for the longer term regeneration of Margate. ►



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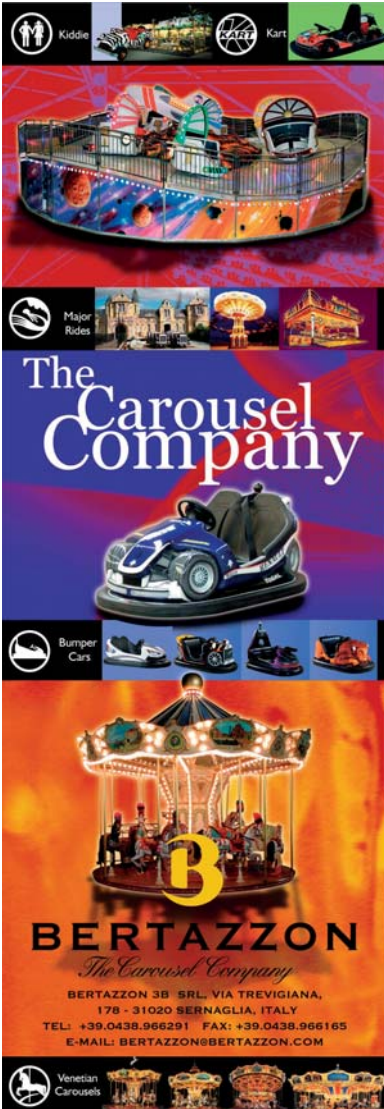
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EDDIE KEMSLEY

CEO, Sands Heritage Ltd

What are your three highlights from working on the Dreamland project?

Building the senior team, with experts across retail, catering, service, rides and marketing, has been a personal highlight.

Second, working with Hemingway Design. They've pushed far beyond industry standards to deliver something that's going to exceed expectations.

Thirdly, the Scenic Railway is fantastic and it will be great to see it running again.

What will we see at Dreamland Margate?

As well as historic rides and the amusement park, you'll see the largest pinball parlour in Europe, a dance hall and an education centre. In the event space, we'll hold festivals, live music and cabaret as well as weddings and corporate parties. There's also going to be an amazing new twist on an FEC.

The food offering is going to be different, with bespoke cafés, kiosks and roaming catering. Destination dining is a big part of it too. We want people to come for dinner.

Will the attraction have knock-on effects on the surrounding community?

With job creation and its support for peripheral industries like B&Bs, retail and restaurants, it will have a huge impact.

There's a strong design element. Is that something we'll see more of?

Yes, I think so. With global influences and best practice widely shared, standards



For Eddie Kemsley, it's been important to recruit the Dreamland workforce from the local area

are going up. Attractions are challenged to raise the bar all the time.

There's a vintage twist to the park, but it is very modern. It's the best of the past 100 years married with the design and technology of today's market.

Branding is also very important. We're lucky we have this fantastic heritage to draw on which allows us to create a brand that has real value from day one.

Could Dreamland Margate be an inspiration for other seaside towns?

I hope so. We're reinventing seaside fun. We want to show that seaside amusement parks can be done differently and that there's a new lease of life for them.

Seaside towns have got to do something to reinvent themselves and create a compelling reason to visit when there's so much choice available to tourists. You've got to be bold and daring and put yourself out there if you want to attract visitors in today's economic climate.

So the market is there, but you need to stand out to persuade people to come?

Yes, the market is there, but you also have to create an audience. Provide something people want, or maybe something they don't know they want. Your business has to be something that people are compelled to go to.

The excitement is building, isn't it?

Dreamland was built all those years ago on Iles' memories of Coney Island. There's so much nostalgia, history and fondness for Dreamland. We estimate 150 million people have been through Dreamland's doors and everybody I meet has their memories. We need to capture that. It will be an opening like no other. ●



Upcycled amusement park artefacts and fairground paraphernalia are part of the design



Siam Park, Spain

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THAILAND MAKES A SPLASH

Thailand's shaken off its image as a destination exclusively for partying backpackers, and developed into a more sophisticated travel option. The tourism industry is maturing and it's now a more family-friendly vacation. Western backpackers who fell in love with Thailand years ago are returning with their families in tow, yet they make up just a fraction of its visitors.

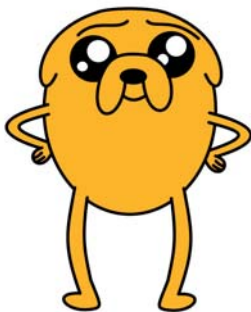
The rise of budget airlines in the region makes it easier for Asian tourists to travel, and an adventurous young generation of holidaymakers from countries like Singapore, Malaysia and Indonesia is discovering the delights of the Land of Smiles. Southeast Asia's expanding middle class has disposable income to travel in the region and Thailand is affordable and safe. As visa requirements relax this year within the Association of Southeast Asian Nations (ASEAN), movement will only increase.

With high tourism numbers and an enthusiastic domestic market, Thailand is a prime example of a location where the waterpark industry is aiming for growth.

Tourism will increase further with the opening of the ASEAN common market – the ASEAN Economic Community (AEC) – later this year. In 2015, the ASEAN regional common visa – similar to the EU's Schengen visa system – is scheduled to be fully implemented for its 10 member states and research suggests that could generate between 6 million

The waterpark industry has taken off in many parts of Southeast Asia, and the potential for growth is huge. Thailand is a prime example of a country that's beginning to find its feet

Alice Davis, managing editor,
Attractions Management



▲ Adventure Time character Jake is one of the rides at Cartoon Network Amazone

and 10 million extra visitors by 2016. Talk of an ASEAN single-visa for non-ASEAN citizens has also been tabled as an idea that would encourage foreigners to travel more widely in Southeast Asia.

"Tourists to Thailand have diversified so much and once the AEC is formally introduced we're all going to be part of a common market with a regional common visa. That's almost a billion people," says Liakat Dhanji, chairman of developer Amazone Falls, who opened a Cartoon Network-themed waterpark in Thailand. "There'll be a big increase in tourists; and the vast majority of growth over the next five years will be from Asia-Pacific."

WATERPARK REVOLUTION

The Chinese contingent can't be forgotten either – Thailand's biggest tourist group by origin, with almost 7.5 million Chinese visiting in 2013, and that's only the start.

Thailand waived visa fees for Chinese tourists for three months in 2014, and Beijing has repeatedly asked the Thai government to negotiate mutual visa-free privileges for Thais and Chinese. "There'll be even more Chinese tourists. It's a huge market that's just starting to go overseas," Dhanji says.

Thailand – like other countries in Asia – has experienced problems in the past with its waterparks, too many of them built to poor standards and with questionable safety records. This is often due to inexperience in operations, lack of investment, inadequate build and

WhiteWater West installed their SuperBowl, Boomerango, Rattler, Freefall, Abyss and more at Vana Nava Hua Hin, Thailand



“ A NUMBER OF BIG-BUDGET, WORLD-CLASS WATERPARKS HAVE RECENTLY OPENED OR ARE UNDER CONSTRUCTION. THESE ATTRACTIONS ARE SETTING THEIR SIGHTS ON ACHIEVING INTERNATIONAL STANDARDS AND COMPETING AT THE HIGHEST LEVEL ”

installation standards and not having a clear approach to park safety. Where the attractions industry has developed quickly, in some cases the development and actioning of best practices got left behind.

However, a number of big-budget, world-class waterparks have newly opened or are under construction in the country. In terms of designers, manufacturers, technology and even IPs, these attractions have set their sights on achieving global standards and competing at the highest level.

There will be more investments like these and there are several reasons why Thailand is enjoying a waterpark revolution.

FAMILY FOCUS

The Cartoon Network Amazone waterpark in Bang Saray opened at the end of 2014 and has already won a number of industry accolades. The \$31m (£20m, €27m) project - set to become a fully developed resort with a hotel and potentially a theme park by 2018 - was masterminded by Dhanji. He wanted to create a family-oriented resort destination, and his nine-year-old son, a Cartoon Network fan, inspired him to go for the IP.

“Cartoon Network is the top channel in almost every country in the region, with 200 million-plus viewers,” Dhanji says.

Cartoon Network Amazone is well positioned for Bangkok's 8.5 million population, situated near Pattaya, a couple of hours from the capital. It's close to the international Suvarnabhumi airport and a popular destination, putting the waterpark



Polin worked closely with Cartoon Network to build slides that represent the brand

in the catchment area of the 9 million-plus foreign tourists who visit Pattaya annually.

Dhanji has a mix of 60 per cent local to 40 per cent foreign customers.

The demand for family-oriented experiences in Thailand is strong. In Phuket, another enduring destination located in the south of the country, Levante Perjesi is opening the \$25m (£16m, €22m) Phuket Aquapark later this year.

Phuket's tourism industry has been expanding since the 1980s, but family

attractions are thin on the ground. This potential market is enormous and the island is still developing to keep up with demand - there are nearly 5,000 new hotel rooms in the pipeline for this year and next. In 2013, 12 million tourists visited Phuket, according to the Tourism Authority of Thailand (TAT).

“Year on year, there are more families coming to Phuket and there's a demand for family activities,” Perjesi says.

“Tourists are looking for something else in ▶

WATERPARKS

► addition to the beach. Both tourists and residents want a new kind of experience."

Perjesi, who's from Hungary, is director of Csenki Co, and the company (like Amazone Falls) has benefited from support from the Thailand Board of Investment (BOI), which provides incentives for entrepreneurship.

INCENTIVES

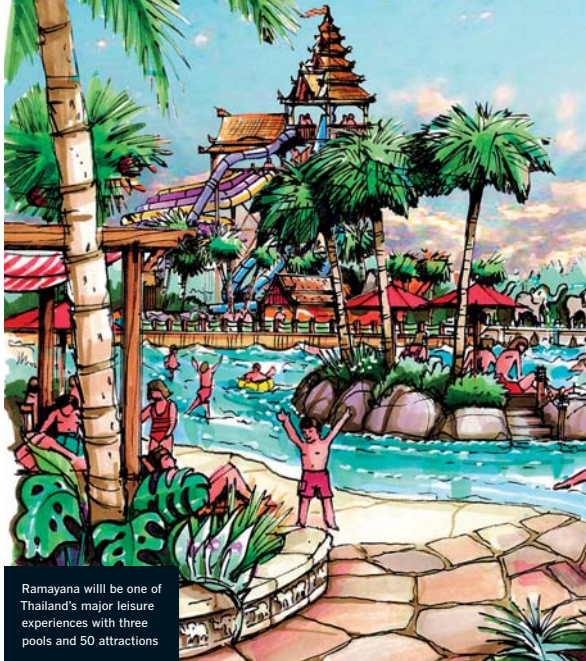
The government agency helps domestic and foreign businesses set up operations in Thailand. The agency encourages investment in the country by offering a range of incentives, which include corporate income tax exemption and tariff exemption or reduced tariffs on importing machinery and materials. The BOI also helps foreigners get permission to own their own company and land, and gain exemption from work permit and visa rules.

"Thailand is a safe country for investments. BOI privilege means support from the Thai government," says Perjesi.

Thailand's government has been doing what it can to encourage the development of this type of attraction, announcing in 2013 that more manmade tourist sites were needed to add value to tourism. The government believes the time is right to build these attractions, as investments are being made in the nation's infrastructure and transport systems.

"Another benefit for the Ministry of Tourism and Sports is that the introduction of more manmade attractions can help delay the erosion of beaches and coastlines," Dhanji says. "They want to see if more manmade attractions will help take some of the pressure off natural sites, and Cartoon Network Amazone is an attempt to do that."

The TAT and the tourism ministry have been promoting the animation-themed waterpark, keen to show off the globally



Ramayana will be one of Thailand's major leisure experiences with three pools and 50 attractions

recognised brand and characters like Ben 10 and Gumball. "Cartoon Network Amazone is being promoted as a must-see destination to Japanese, Chinese and Malaysian tourists. It's being actively supported," Dhanji says.

SAFETY FIRST

Another upcoming waterpark, scheduled to open in mid-2015, is Ramayana, which is also in Pattaya. The BOI-certified \$50m-plus (£32m, €44m) attraction,

owned by a group of private investors, has likewise "received strong endorsement and support from the local Thai authorities," says Johannes Pattermann, Ramayana's director of marketing and sales. "There are concrete plans in place to invite the public to participate in the project: in line with Thai regulations, Ramayana plans an IPO in 2016."

It's on course for a big future. Ramayana will be the largest waterpark in Southeast Asia, and it expects to attract

AN EXPERT VIEW

Alan Mahony, director at Mahony DMC, is a waterpark industry expert who's worked in Asia since the mid-1990s.

He oversees design management and advises on the development of operations for waterparks. He was a consultant on Chimelong Waterpark, Guangzhou, Beijing Watercube Waterpark, and Ramayana. He says:

- Family outings are very important to Thais, so parks need a quality ride selection to cater for all ages with high levels of safety.
- The waterpark experience needs to be about more than just the rides: there needs to be entertainment, quality F&B plus shaded relaxation areas.
- On entering the market it's critical to research the

consumer, the competition, possible sales channels and audience mix to produce a marketing strategy.

- From your research, the guidelines for the waterpark's parameters should be established. These parameters need to cover the size of the waterpark, waterside selection and suppliers, plus the guest experience from entry to exit.

- The Thai market has great potential for growth, but as we've seen in the market in China, it's important to get the formula correct. Waterparks need to be properly designed, using the correct ride mix and quality international suppliers and then followed up with a professional operation offering the highest standards in service and safety.



“RAMAYANA’S RESEARCH REVEALED NINE OUT OF 10 THAIS ARE CONCERNED ABOUT SAFETY ASPECTS OF BOTH SLIDES AND OF THE WATER, WHILE FOREIGNERS ARE LESS CONCERNED ABOUT SAFETY THAN THEY ARE WITH THE TYPES OF RIDES ”

1 million visitors in its first year, and 2 million per year by 2020. The 16-hectare (40-acre) property – which will host events and functions for up to 3,000 people – predicts a visitor split of 60 per cent foreign to 40 per cent domestic. “One-quarter of Pattaya’s overnight visitors are Thai. Ramayana is within the two-hour drive limitation that waterparks normally experience so it’s able to attract the huge Bangkok market,” Pattermann says.

Jungle-themed eco-waterpark Vana Nava Hua Hin, which opened in December 2014, is also targeting the capital’s market. Proudpuh Liptanop, managing director at developer Proud Real Estate, forecasts about 70 per cent of customers will be Thai, with most travelling from Bangkok.

“Hua Hin is a high-end beach town just one hour from Bangkok,” Liptanop says. “In recent years, Hua Hin has changed dramatically, with new leisure projects,

hotels and residences,” she says. “We’re confident it’ll be the next international tourist destination. It’s a beloved beach town with a strong identity and heritage.”

Vana Nava will be a family destination complex, with a hotel, residences and retail, in addition to the waterpark.

“Thailand needs more international-standard leisure projects to lift our image as a destination,” she says. “Projects like this waterpark increase our ability to attract tourists from around the world.”

With inbound tourism numbers to Thailand more than doubling in the last decade to almost 25 million in 2014, tourism is today worth an estimated \$35bn (£23bn, €31bn) annually.

Taking this increase and the warm climate into account, it’s surprising the industry hasn’t established itself more rapidly. This slow start seems to be related to concerns about three

important factors: safety, water quality and international standards.

DEMAND FOR QUALITY

Those concerns make safety something to highlight to customers who want to know they’re in good hands, but also to operators and developers coming into the market. As investment is ushered towards manmade attractions, the best quality becomes affordable, which is very reputable partners like WhiteWater West and Polin are finding they’re in demand. As well as reaching international safety levels, areas of operation such as security, ticketing and F&B are being undertaken with more professionalism.

As that happens, waterparks are becoming “something the Thai middle class sees as a form of regular entertainment,” Dhanji says. “Waterparks are a safe activity for Asians, ►

SIX WATERPARKS TO WATCH

Cartoon Network Amazone

Developer: Amazone Falls
Location: Bang Saray, Pattaya
Cost: \$31m (£20m, €27m)
Open: 2014
Suppliers: Polin, Neptune Benson, FlowRider, Murphy's Waves
Ticketing: Centaman

Ramayana

Developer: Cornerstone Management; JWS Construction
Location: Na Jomtien, Pattaya
Cost: \$46m (£30.5m, €40.5m)
Open: 2015
Suppliers: WhiteWater West, Pentair
Designers: Hassell Architects
Ticketing: Gateway

Phuket Aquapark

Developer: Csenki Co
Location: Kathu, Phuket
Cost: \$25m (£16m, €22m)
Open: 2015
Suppliers: Polin
Ticketing: Not confirmed

Vana Nava Hua Hin

Developer: Proud Real Estate
Location: Nong Kae, Hua Hin
Cost: \$31m (£20m, €27m)
Open: 2014
Suppliers: WhiteWater West, WhiteWater Attractions
Designers: A49 Design, Belt Collins
Ticketing: Centaman

Dino Waterpark

Developer: Dino Park Co Ltd / Arin Construction
Location: Khon Kaen
Cost: \$60m (£39m, €52m)
Open: 2015
Suppliers: Polin, Murphy's Waves, Atlantis Pool Systems
Designers: W-Design Consultant, P&F
Ticketing: Not confirmed

Samui Water & Adventure Park

Developer: AVAR (Thailand) Co Ltd
Location: Khon Kaen
Cost: \$31m (£20m, €27m)
Open: 2015
Suppliers: Polin
Designers: Polin
Ticketing: Not confirmed



Phuket Aquapark is expected to open in Kathu, in central Phuket, this year

“ THAILAND IS DISCOVERING THE ECONOMIC AND VALUE BENEFITS OF INTRODUCING MORE TOP-GRADE MANMADE ATTRACTIONS TO TOURIST-HEAVY AREAS ”

► who often love water but find the ocean can be daunting. A waterpark lets them enjoy the water without the risk.”

“It’s going to be a growing trend in Asia because it’s an immersive, engaging experience that brings the whole family together for the whole day,” he says. “The industry is going to boom in Asia.”

Pattermann agrees that the industry has plenty of room to grow. “There’s a market gap for high quality attractions,” he says. “Both local residents and foreign tourists want places which combine activity and leisure with uncompromising safety.”

At Ramayana, extensive qualitative and quantitative market research was carried out before the project began. The research revealed nine out of 10 Thais are concerned about safety aspects of both slides and of the water, while foreigners are less concerned about safety than they are with the type and selection of rides.

“Thais are currently quite cautious when it comes to waterparks,” explains Pattermann. “They’ve heard about bad experiences and therefore the safety of a waterpark is absolutely key to them. They relate safety not only to slides, but equally to the quality of water used in the park.”

To allay those fears, Ramayana will use clear drinking water from on-site natural wells paired with Pentair’s state-of-the-art filtration system. Thais also want to relax at the waterpark, demonstrating that most people would look for leisure and recreational activities beyond water slides. “There’s huge demand for high quality waterparks in Thailand,” says Pattermann.

“But, a small city waterpark with views of the motorway and no regard for quality will not be a successful proposition here.”

THAILAND’S CHALLENGES

Of course there are challenges, and it’s not necessarily smooth sailing ahead for either the waterpark or tourism industries. The country’s prone to political volatility – officially it’s been under martial law since the junta took control last summer – and when a coup takes place, hundreds of thousands of visitors reroute. There’s rising competition from neighbours, with Cambodia, Laos and Vietnam vying for tourists’ dollars; and Thailand’s infrastructure needs improvement if it’s to cope effectively with the volume of tourists.

Tourism has been hit by the Russian situation, as sanctions and the fall of the rouble have had a knock-on effect on one of Thailand’s biggest markets; Phuket and Pattaya had become especially popular with Russian holidaymakers. “The significant drop in Russian tourists is not going to be short term,” says Dhanji.

Thailand is doing what it can to modernise its tourism industry and at the same time it’s discovering the economic and value benefits of introducing more top-grade manmade attractions to tourist-heavy areas. It must nurture its tourism industry if it’s to remain competitive.

“New government initiatives like clearing beaches and organising public transport have been applauded by international visitors,” Pattermann says. “They’ll come to Thailand more than ever before.” ●

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STEVE BIRKET

The TEA's new president talks about his recent appointment and how he might help give a voice to some of the industry's quieter members

What do you do in the attractions industry?

Birket Engineering designs and builds ride and show control systems for the themed entertainment industry. The company was started by my brother Glenn in 1984 after leaving Walt Disney Imagineering. Glenn was responsible for the electrical systems for Epcot's American Adventure. Today we have about 60 employees with offices in Orlando, Hong Kong, and Shanghai.

What's happening at the TEA?

TEA is experiencing exciting growth in several areas, including our membership, international reach, and in the quality and quantity of projects. The interest we're seeing in our association and our industry has never been greater.

Our staff, Board, Committee and Division leadership has never been better in my opinion. We're benefiting from the economic growth we see internationally. The world is increasingly aware of the possibilities of themed entertainment. Guest expectations continue to rise – and our industry rises to meet them!

What do you hope to bring the TEA table?

I would like to see further development of TEA's SATE conference, SATE Academy Days and everything TEA does that fosters a variety of dialogue and networking around the world.

Within TEA we're optimising our processes and communications.

With your engineering background, do you bring a different perspective to the TEA?

Yes, I think I do. People associate a ride, show or museum project with the things they see and do. The things they see and do are the result of the great efforts of designers, producers, renderers, artists, and storytellers. For every one of those, there is an engineer or technical person who made the project work. You generally don't hear from the technical people because their personalities often don't



For educational topics, there are many areas relevant to the industry that haven't been explored

make them very talkative. I can say this coming from a family of engineers.

What do you want to achieve as head of the TEA?

I'd like to continue to expand the Asia-Pacific and the Europe & Middle East Divisions, and increase our overall visibility. For educational topics, there are many sectors and areas relevant to the industry that haven't been explored.

Do you have any concerns about the industry?

Our industry is at its most vibrant ever, with exceptional growth globally. Guest expectations have been set and I don't think the appetite is going away. In the

US, the leisure industry is now the number two producer of jobs in the private sector.

What trends are you noticing?

The industry continues to extend and integrate with others and we see more well-known IPs and global brands.

We are also seeing see new ideas layered on top of existing facilities.

The globalisation of the industry has brought new energy to storytelling. Out-of-home leisure options are more exciting and varied than ever.

What's next from the TEA?

We've planned a fantastic few days for the TEA Summit and the Thea Awards Gala at Disneyland Resort Anaheim in March. ●



3D/4D ATTRACTION AND RIDE FILMS



THE RIDE MAKERS

Family rides are restricted with speed and G-force, so how do the ride manufacturers differentiate themselves?

Kath Hudson, journalist, Attractions Management

ZIERER

JEROEN NIJPELS PRINCIPAL

Zierer has a wide portfolio of more than 20 family rides and has invented some perennial favourites including its flying chair ride and the free fall tower, both of which sell strongly despite being in circulation for a number of years.

"We're different because lots of family ride manufacturers design rides which only children can go on, whereas we have rides which parents can go on with their kids to share the emotional experience," says Zierer principle Jeroen Nijpels.

Nijpels says Zierer is seeing an increasing interest in using intellectual property to differentiate an off-the-shelf ride. This year it completed a new ride for Norwegian family park Hunderfossen



based on the car from the famous Norwegian movie *Jul i Flåklypa*.

The Il Tempo Extra Gigante represents the park's biggest investment in over 30 years. "They wanted a car which would be suitable for all the family, including teenagers, so they didn't want it to be too small or too tame," says Nijpels. "They've had very positive feedback. The ride has increased attendance tremendously."

Copying patented ideas is a problem in China. Legal action can have repercussions: one company was cut out of the Chinese market altogether

On the request of Legoland Billund, Zierer adapted one of its major rides for the family market this year. The result was the Polar Express, which is suitable for children over six years old.

Nijpels says the family ride market is buoyant, partly due to the activity in Asia, but also because family rides are always popular. "Our rides are evergreens – every park wants to have them, so it makes us more resistant to crisis," he says. "Every start-up park needs some family rides. When times are bad the big parks invest in a family ride because they can't afford a big ride and in the good times the smaller parks invest."

A main concern for Nijpels is the copying of patented ideas in China. "It's not so much about loss of income than that the rides are made to look like ours but are inferior quality. If there was an accident it could damage our reputation," he says. "China has less respect than Europe for intellectual property so they see no harm in it. Legal action is difficult, costly and has repercussions. One manufacturer took a Chinese company to court and found themselves cut out of the Chinese market altogether."

During the next 12 months, Zierer is re-engineering its portfolio to meet new European regulations. After that, it will turn its focus to creating new concepts.



Zierer's Wave Swinger ride, with an apple tree design, at Nigloland in France

The first installation of a 4D Free Spin will be Batman: The Ride, at Six Flags Fiesta Texas in 2015



S&S

TIM TIMCO VICE PRESIDENT OF SALES & MARKETING

S&S Sansei Technology has a broad portfolio of family rides, ranging from the entry level Frog Hopper to tower rides and the Screamin' Swing, up to those rides which push the envelope in terms of thrills.

Vice president of sales and marketing Tim Timco says the company focuses on quality and performance and produces high-capacity rides to a small footprint.

The El Loco coaster is a popular ride, which includes a steep first drop, barrel rolls and a 45-degree outwardly banked turn. "Our El Loco coaster has been a real hit. The combination of a small footprint, unique elements and economical price point has made this ride extremely attractive," says Timco.

A new ride was unveiled this year at IAAPA, using the company's patented 4th Dimension Technology. Like El Loco, the 4D Free Spin family thrill coaster, is aimed at an older age group and even promises to give parents a few thrills.

It's a modified – and cheaper – version of its standard 4D Coaster, X², introduced at Six Flags Magic Mountain in 2002. Through magnetic technology, each



rider gets the right amount of thrill, regardless of weight. Independent seat balance technology gives a superior ride experience. The pivot centre of gravity is in the front part of the stomach, making for a natural spin rotation, rather than behind the rider, which causes whip and puts pressure on the chest, stomach and front of shoulders.

"The response at IAAPA was fantastic. There was non-stop interest in the 4D Free Spin coaster which led to several inquiries, resulting in three new installations in contract negotiations," says Timco. "Family rides with unique elements and small footprints seem to be popular now and I personally don't see trends changing much in the future."

Timco believes the amusement industry is robust at the moment. "It's probably in the best place I can remember in many years," he says. "There was great energy

on the show floor and upbeat spirit in those in attendance at IAAPA. My only concern would be that the industry may be growing at too fast a pace and that can only be sustained for so long."

In the short term, S&S is increasing its internal resources to comfortably take on the surge in business it's experiencing. It's expanding the brand in Europe, with an aggressive new marketing campaign. ▶

Older children enjoy rides like S&S's El Loco rollercoaster





Zamperla's Watermania takes the form of a duelling tea cup ride on water

ZAMPERLA

MARCO MAZZUCCHI MARKETING MANAGER

Zamperla has a long tradition of family rides, with over 35 rides, including the popular Magic Bike and Disk'O, which both appeal to a wide range of people.

Marketing manager Marco Mazzucchi says Zamperla is best known for its custom-built rides and characterisation: "We make a reliable partner and can build exactly to the brief of an attraction."

Because the rides need to be very simple, there aren't many breakthroughs in this market. Mazzucchi says there's also increased interest in interactivity to further involve people in the experience. For example, in the ride Watermania, families battle by shooting water at each other.

The Magic Bike ride has people seated in bikes and the harder they pedal, the higher they fly. If they stop pedalling the bike goes down. "This is great fun for families to do together," he says.

At IAAPA, Zamperla unveiled a version of Magic Bike that's been modified to allow wheelchair access. "We want to open our rides up to the widest market," says Mazzucchi. "Ten per cent of people suffer disabilities, so it's important to



respond to this market. We've created an all-access programme to understand the accessibility of our rides and to find ways to widen accessibility. We're also working on solutions for blind and deaf people."

Mazzucchi believes the attractions market is healthy at the moment, boosted by the fact that people have cut back on second holidays, but are spending more on days out. China and the Far East are increasingly important, making up around 35 to 40 per cent of Zamperla's income.

"The challenge now is applying the new EN regulations to rides," he says, "we're still trying to find the right solution for the market, without making rides too expensive." ●



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EXCLUSIVE

DEVELOPING IP EXPERIENCES

There are many IP success stories as attractions incorporate popular brands in a variety of ways. But there's plenty to consider before taking the plunge.

Lesley Morisetti presents her exclusive research

The recent success of intellectual property (IP)-led developments like the Wizarding World of Harry Potter at Universal Orlando Resort has encouraged more IP owners to consider bringing their characters to life within visitor attractions.

To understand this trend better I conducted research into the development of IP experiences at attractions, including interviews with attraction and IP owners, supported by my own experiences.

We define IP as "knowledge, creative ideas, or expressions of the human mind that have a commercial value and are protectable under copyright, trademark, design rights and patent law."

Examples include brand names, registered designs, and works of an artistic, literary or musical nature.

WHY DEVELOP IP EXPERIENCES?

Visitor attractions typically benefit from existing knowledge and awareness of the IP (and, in the case of Harry Potter, a vast fan base across the globe). But what about the IPs – is it all about the money?

Many IP owners are looking at attractions as a potential new income stream (particularly as core areas such as DVD sales decline). But typically income from visitor attractions is only a small proportion of an IP's total turnover and so it's definitely not all about the money. For example, when Walt Disney developed the Disneyland theme parks it

was to ensure – very successfully – the longevity of his mainly film-based IPs.

Brands like Lego and Warner Brothers have followed the Disney route, creating whole attractions based on their IPs, but the majority of IP development involves existing attractions adding an IP branded experience to their offer.

THREE LEVELS OF INVESTMENT

When it comes to the depth of the commitment to the IP, there's a range:

1. Temporary Events

Entry level commitment can involve costumed characters appearing for short periods of time. This is a low-cost option which tests characters against the attraction's audience with limited risk if the IP turns out not to be popular.

The character Peppa Pig "visited" Paultons Park, UK, in 2008. The IP proved highly popular and aligned with the park brand and as a result, Peppa Pig World opened at the park in 2011.

Temporary exhibitions can associate attractions with popular IPs for relatively low investment. They can also shift perceptions, as at Britain's Beaulieu National Motor Museum where a James Bond-themed event – Bond in Motion – retained the motor connection which is crucial for the brand, but also widened the appeal of Beaulieu beyond car enthusiasts.

2. IP Branded rides/experiences:

The next level of IP development is to brand a single ride or experience within the attraction. The incremental costs of adding the IP to a development or



Stars of the Harry Potter films tour Diagon Alley at Universal Studios Florida



► attraction can vary from a simple ride-naming exercise to creating highly immersive, IP-branded experiences.

The IP adds an extra 'incentive to visit' and/or supports the re-positioning of the attraction. Well-chosen IPs can increase the emotional connection with the visitor, taking the pressure off expensive ride hardware to deliver the experience, and support attendance growth.

3. IP Lands within attractions:

Attractions and IPs increasingly recognise the benefits of going a step further and recreating the IP's environment to truly immerse the visitor in the world of the IP.

However, investment levels are higher, with £6m to £9m (\$9m to \$14m, €8m to €12m) quoted for developments in the UK such as CBeebies at Alton Towers, Peppa Pig World, Thomas Land at Drayton Manor Park, and over \$400 million (£262m, €353m) for Diagon Alley at Universal Studios Orlando, US.

Other examples include the perennially popular Asian IP Hello Kitty. Hello Kitty Town already exists at Puteri Harbour in Malaysia and Hello Kitty IP lands are planned for Ancol Dreamland in Indonesia and Drusilla's in the UK. PortAventura is adding to its existing IP-led areas with Ferrari Land in 2016.

Returns on these investments can be substantial, particularly for mid-scale attractions where the addition of an IP land can dramatically shift both attendance and income. However, the risks are also greater and the impact of choosing an inappropriate IP or failing to meet the expectations of the IP's fans can be highly detrimental to the attraction.



▲ Hello Kitty Town at Puteri Harbour in Malaysia taps into the IP's popularity

SUCCESSFUL IP DEVELOPMENT

My research identified the following areas as being critical:

- 1. Have clear objectives**, such as extending the offer to attract new audiences – for example, young families, as shown with the addition of CBeebies at Alton Towers or SésamoAventura at PortAventura – or shifting the image of the attraction. Have a clear view of the type of development – temporary or permanent – and the investment you can commit.
- 2. Identify best IPs to achieve these objectives.** The right IPs rarely come to you but are the result of proactively

looking for IPs which are the best fit and which will survive long enough to warrant the investment being made. The higher the investment the more reassurance required that the IP will endure. Critically, ensure both parties' ambitions are aligned. If you want to brand a small children's ride, but the IP wants the equivalent of the Wizarding World of Harry Potter then walk away and find a better fit. Select an IP which can be successfully translated into an attraction environment in a way which will satisfy its fiercest fans.

- 3. Allow time to build strong relationships**

CASE STUDY: NATIONAL MEDIA MUSEUM, BRADFORD, UK

For the past three years the National Media Museum in Bradford has run temporary IP-branded events. IP partners have included Moshi Monsters, Horrible Histories and Horrid Henry. Entry to the events is free, with any charges for activities aimed at just covering costs.

The museum aims to boost visitor numbers and to use the IPs to increase engagement with its collection.

Potential IP partners have to have a close fit with the collection – TV, film or

game-related IPs fit best – and appeal strongly to the museum's audience.

Critically, the IP has to feel the association with the museum brand and its audience is worth the agreement as the museum is not in a position to pay licence fees for the events. The fact the event is temporary and the museum is free helps with this.

RESULTS

- Including IPs in the advertising posters increases

cut through (up to 80 per cent recall compared to 25 to 30 per cent for generic posters)

- Events have grown in attendance an estimated 20 to 30 per cent
- Events have helped broaden the area from which visitors travel and increased the number of first time visitors
- Income through IP-branded merchandise sales

Moshi Monsters have proved a popular draw





▲ Bond in Motion is currently showing at London Film Museum

with both the IP owner who negotiates the agreement and the IP creative team who oversees and approves the development process. Simple temporary events can take up to six months, while major developments can take 2-3 years.

4. Inspire and enthuse the IP team.

An incremental source of revenue is important to them, but protecting the reputation of the IP, and hence their core income streams, is going to always be their main concern. Provide reassurance that you will respect and protect the IP and have the capacity to bring it to life in a way film or television cannot do.

5. Ensure negotiations for licence agreements are based on solid business planning. IP owners are rarely aware of the realities of attraction economics. Enter negotiations with a good estimate of the incremental impact of adding the IP in both revenue and cost terms to ensure you negotiate a fair agreement which allows both parties to benefit.

Look over the full term of the agreement, as following the launch year the impact often diminishes. The term of the agreement should be sufficient to pay-back on investment, for example, a 10-year period with options to renew.

IP owners are more used to negotiating two to three year licence agreements so again "education" is often required.

6. Be clear about your ongoing needs.

Specify what support you require, such as exclusivity within a region or sector and commitment for the term.

AN IP NEEDS TO BE TRANSLATED INTO AN ATTRACTION ENVIRONMENT IN A WAY THAT WILL SATISFY ITS FIERCEST FANS

LICENCE AGREEMENTS

Licence agreements typically have two components:

- A fixed upfront fee, which guarantees exclusivity for the development period and funds the IP's costs for supporting the development.

- An annual share of the incremental revenue or profit for the term of the agreement. A fixed fee helps attractions plan and avoids complications determining what growth is specific to the addition of the IP. Or it's a percentage of incremental revenue, in which case the IP owner needs a guaranteed fixed amount, normally about 50 per cent of the expected total.

Individual licencing agreements vary considerably. To generalise, the annual cost can range from 4 to 10 per cent of incremental admissions revenue and 8 to 10 per cent of IP branded merchandise income. You'll also incur costs relating to time spent liaising with the IP team and possibly higher investment costs relating to the addition of the IP.

IMPACT OF IP DEVELOPMENT

The impact of IP development varies considerably but the majority of attractions I

reviewed experienced volume growth.

For most, increases in admission price related more to the scale of the development than the involvement of the IP. Hence the main driver of income growth was higher attendances, with IP-related merchandise sales a strong secondary benefit. The greatest impact was often at mid-scale attractions adding an IP land, with examples of attendance growth of 30 to 100 per cent. On a larger scale, the Wizarding World of Harry Potter grew attendance at Universal's Islands of Adventure by over 70 per cent in its first two years.

But it's not all about money. The emotional connection that a visitor has with an IP experience can be far greater than for other attraction experiences, a considerable benefit for both the attraction and the IP owner. ●



Lesley Morisetti launched Morisetti Associates in 2010 to work with visitor attractions and experience providers, building on 30 years of international operational and consultancy experience. www.morisettiassociates.com

A LIVING MUSEUM

The 9/11 Memorial Museum's achievements in curation, in architecture and design, in storytelling and in technology should be celebrated. It's a place of personal stories, collective memory, learning and inclusion

Never before has a museum been built to tell the story of an event that was witnessed by one-third of the world's population. Across the globe, people stopped what they were doing, wherever they were, and watched the attacks unfold, live, on television. The National September 11 Memorial Museum in New York City, New York, opened in May 2014 to try to tell that story. It's had 2 million visitors to date.

The scale of the plot, the confusion that followed, the horrifying images of the day and the tragedy of the lives that were lost – it's incised into the minds of those who watched from afar.

"All of us carry a story of 9/11 with us," says museum director Alice Greenwald.

"The premise of the museum is to tell history through the vantage point of those who experienced it, which means it's inclusive of those nearly 2 billion people."

For those in Lower Manhattan, New York, Washington or Shanksville and for those who survived, knew victims

PHOTO © JIM LEE



9/11 Memorial Museum director Alice Greenwald, and Tom Hennes, of Thinc, who led the exhibition design

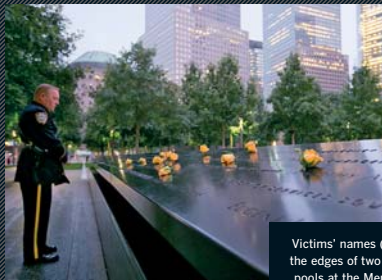
or responded to the emergencies, 11 September, 2001, is not history, but a part of their lives, and a "museum" must seem misplaced in time. "It was important to hear from those who lived that experience, who evacuated the buildings and survived, the first responders, and those who lost their lives," Greenwald says.

It's hard to imagine a more challenging project than conceptualising and realising

the 9/11 Memorial Museum. Every aspect and every detail had to be considered with thought, assessed from every angle and meticulously judged. As Greenwald describes a walk through the museum, you can see that this is true for every single decision that was made.

REFLECTING ABSENCE

Understanding the relationship between the Memorial Plaza and the museum is important to the visitor experience. Two inverse fountains now fill the footprints of the Twin Towers, set in a public park scattered with trees, surrounded by skyscrapers. Standing there, visitors wouldn't necessarily know that there's a museum beneath their feet. It's marked only by a glass pavilion, some way away between the two pools of water. The park is a place of contemplation, and there are no signs of the devastation that happened there, save the names of the almost 3,000 victims inscribed around the bronze edges of the pools.



Victims' names (left) carved around the edges of two acre-sized waterfall pools at the Memorial Plaza (right)

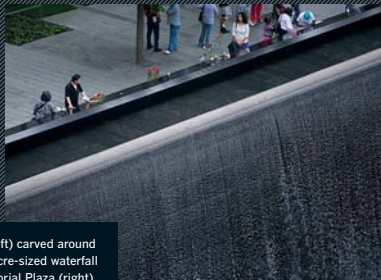
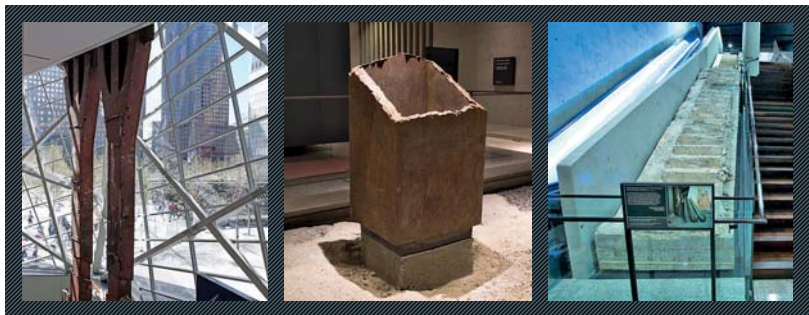


PHOTO © JIM LEE



The eco-friendly public plaza (above), where over 400 trees surround the reflecting pools (below)





The North Tower tridents (left), a standing box column (centre) and the Survivors' Stairs (right)

► “The Memorial Plaza is about the absence of verticality and what’s no longer there,” says Greenwald. “The plaza was always intended to be a horizontal environment. It’s about the absence of the buildings and the people we lost. It’s about reflecting absence, which was the name given to the design by its architects, Michael Arad and Peter Walker.”

The museum itself is in the very foundations of the North and South Towers of the World Trade Center complex, roughly seven storeys, or 21 metres (70 feet), below ground. “It’s essentially the cavity of the foundations,” says Greenwald. “It’s an archaeological environment with *in situ* remnants of the original World Trade Center still visible.”

CONNECTING CONTEXTS

For the Norwegian architecture firm Snøhetta, who designed the pavilion – the glass atrium forms the entrance and foyer of the museum – a balance had to be struck between the absence represented by the horizontal plane of the Memorial Plaza and the descent into the museum space below. The space below, Greenwald says, is about “reflecting presence”.

“The museum is about what remains, whether it’s the remnants of the buildings or the artefacts that represent those lives or the material that tells the story of the events of the day,” she says.

Snøhetta architect Craig Dykers needed to build a connection between the two contexts. His glass structure rises from the ground, though it’s not too tall, to create a deep atrium inside, filled with light by day, and uplit by night. Inside the atrium, the entrance hall gives

“It’s extraordinary to take in the authenticity of the site, the enormity of the space, and begin to contemplate the narrative of the museum exhibit”

way to a staircase down to the exhibition. Two 24-metre (80-foot) steel tridents, once part of the structure of the North Tower, are situated there.

“The pavilion suggests presence without being overly vertical, though it gives you verticality in the tridents,” says the museum director, who’s led the team since 2006. “Inside the pavilion, you look at these tridents and you look through the window. Not only do you see both of the pools, where the Twin Towers stood, but you also see the new One World Trade Center, rising 1,776 feet [541 metres] into the sky. You immediately get the proportions of what was here. It was critical in the design that when you entered the pavilion you were still within the memorial context – you were not separate from it; there was a continuity.”

AUTHENTICITY AND SCALE

Down the first flight of stairs, the visitor enters the main museum space, designed by New York architects Davis Brody Bond. The descent features different levels leading down to the Foundation Hall, passing the Survivors’ Stairs, which enabled hundreds of people to escape the burning towers. The museum is not really a building, but an expansive interior

space, punctuated with original pieces of engineering – now historical assets – such as the slurry wall, twisted pieces of steel and the box columns that have been excavated to reveal the outline of the North Tower footprint.

Greenwald says: “The architects created a ramped descent with vistas that show how enormous the space is. Scale was always the story of the World Trade Center – the scale of what was here, the events, the potential for redevelopment and recovery. It’s all conveyed in the architecture. It’s extraordinary to take in the authenticity of the site, the enormity of the space, and begin to contemplate the narrative of the museum exhibit. Davis Brody Bond designed what I think is one of the great built environments in New York, if not in the world.”

FREEDOM TO CHOOSE

Inside the museum, Greenwald and the design teams decided early on to create a segregated area where visitors opt in – the most difficult artefacts wouldn’t be encountered unless a visitor chose to do so. In the North Tower that space became the historical exhibit, while in the South Tower, it houses the memorial exhibition.

Tom Hennes and his studio Thinc Design conceptualised the exhibition, with the help of media and technology partner Local Projects, and designed about 80 per cent of the exhibits. Layman Design took charge of the historical exhibit.

For Hennes, the most important consideration when designing the exhibition was a respect for the trauma that was engendered by the attacks, and finding a way to present the story without ►



The pavilion is designed to encourage interaction and reflection. It's the only building on the plaza

PHOTO © AMY DUBISS



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PHOTO © JANE

The new One World Trade Center (left) and the steel tridents inside the pavilion's atrium (right)

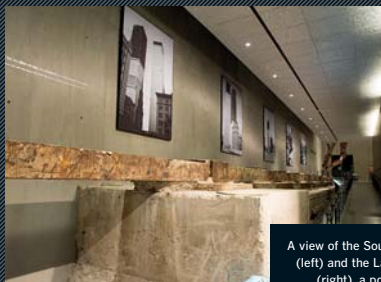


PHOTO © AMY DUBISS

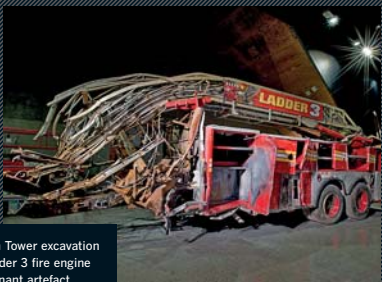


The slurry wall in
Foundation Hall (above)
and a view of the exhibit
In Memoriam (below)





A view of the South Tower excavation (left) and the Ladder 3 fire engine (right), a poignant artefact



When do you cross the line between documentation and exploitation? We debated that question endlessly and we worked very hard not to cross that line

► forcing visitors to relive that trauma. "Trauma plays a central role at the personal and the social scale," Hennes says. "That's most significant for the people who were directly involved, but the ripples of trauma travelled through society. Our world view was disrupted on that day. For many people it became a singular event that changed everything."

The designers worked closely with advisers, including historians and psychologists, to create a layout that permits each visitor to determine his own route. As long as he's informed about what's coming next, the visitor is able to "regulate the intensity" of his museum experience. There's no definitive route through the exhibition, so the visitor has the freedom to choose his journey. "Visitors understand they are in a museum, and not in 9/11," Hennes adds. "Here and now is a museum on the site of one of its attacks, not a re-immersion in 9/11."

ETHICS AND APPROPRIATENESS

As the visitor experience was devised to avoid being unduly traumatic, every artefact was tested by the same principles before it was deemed right for display.

One unique challenge lay in the fact that so much of the material was audio media, such as cockpit recordings, voicemails and radio transmissions. "The timbre of the human voice has an immediacy and a power that is very real," says Greenwald. "Our advisors cautioned early on that we needed to be extremely prudent in our selection of audio materials."

Hennes offers an example, describing how he'd trawled through video of the towers falling countless times, but on one

occasion listened with the volume on and heard female screams from out of shot.

"I found that more difficult than just about any of the material I've seen because it took me to that raw, unprocessed, emotional experiencing of terror and disbelief of the moment," he says. Imagining a museum that has this type of subject matter demanded a sense of responsibility from the project team. "In some ways, that intensity is what we have to shield people from – unless they really want to go there – because it can trigger trauma. Trauma is a felt experience that, by definition, is not fully understood."

Discretion was applied to every type of artefact, Greenwald says. "When do you cross the line between documentation and exploitation? We debated that question endlessly and we worked very hard not to cross that line."

A case in point was the telling of the story of United Airlines Flight 93, which crashed in Shanksville, Pennsylvania, killing all on board. Little survived the impact that could document the attack, but 37 phone calls were made by crew and passengers during the onboard siege.

"We made choices to include certain voicemail messages that are heartwrenching, but we felt they were appropriate in a museum setting," says Greenwald. "There were also recordings that we chose not to include, and they were discretionary decisions based on a question of ethics and appropriateness."

As Hennes says, curatorial vigilance is necessary to prevent throwing visitors into a state of trauma. "To expose people to the unprocessed experience is to invite a kind of shock reaction and it is traumatic."

However, he says, the healing of trauma is about making sense of our felt memory and our narrative memory. "Trauma is a splitting between what we feel and see, which is recorded in one part of the brain; and the story and the sequence we give it, which is recorded in another part of the brain. The healing of trauma brings the two aspects of memory together into something coherent."

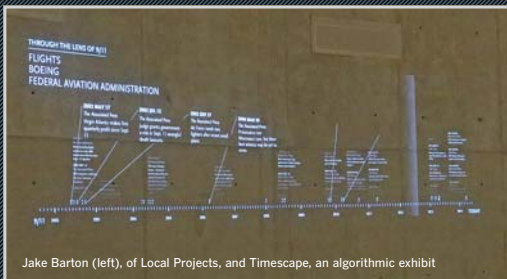
"Coming to the site of one of the attacks is a kind of pilgrimage for many people," says Hennes. "We wanted the journey through this horrible event to be bearable. With most museums the central design challenge is bringing the materials to life, but in this museum the material is all too present and all too alive. The problem is making it bearable to witness it."

REMEMBRANCE AND EVOLUTION

A salient point is that the 9/11 Memorial Museum has managed to reflect to the resilience of the city, the strength of the spirit of the people who were affected the most. It seems vital to the museum that in places it has this energy within it, and that it's closely related to the words of the people who did not die that day.

There are listening alcoves in the history exhibit where visitors can hear recordings made by people who escaped the Twin Towers and the Pentagon or by the rescuers. "There's something powerful in hearing their experiences spoken in their own words, not filtered through the curatorial voice," says Greenwald.

In the memorial exhibit, first-person recordings by relatives and friends of victims strike a similar chord. "The stories they tell are the same stories all families



Jake Barton (left), of Local Projects, and Timescape, an algorithmic exhibit

JAKE BARTON

Principal, Local Projects

What was your role in the 9/11 Memorial Museum?

I was half of the team, with Thinc Design, that won the international competition to masterplan the museum and design its exhibits and media. Local Projects produced all of the 100 media pieces.

How did you approach the project?

We spent an enormous amount of time looking for authentic narratives about the event to use in a way that would make the museum a platform for visitor self-expression. This would allow the museum to change and respond to every visitor's

story, meeting them where they were, which allows the museum to evolve over time.

How did you use media in the exhibition?

We used media to execute the concept that the museum was a platform for collective memory. Visitors can record memories, hear others' stories, share messages which are then projected onto the slurry wall. This is all in the midst of the massive artefacts that make the museum epic. The interactive media makes it an approachable experience, and each visitor can add to it.

What was the most challenging decision?

The decision to stop trying to design experiences in the abstract and jump into prototyping, to make the designs real as

fast as possible. It was critical to move the project forward as for a while it wasn't making much progress. It was all too abstract. This approach – we now call it "prototype first" – lets us and the client see what's successful or not, enabling progress on even the most challenging project.

Which digital exhibit stands out for you?

Timescape is an algorithmic exhibit that culls meaning from the 3 million-plus articles from 11 September 2001 to today. We authored an experience that creates links and meanings between these different articles. It's updated daily. The timelines that it creates link today's events back to the date of 9/11 and illustrate some of the causal roots of our post-9/11 world.

► tell, stories that celebrate lives and remember people for the best of who they were," she says. "The stories are not about how they died but about how they lived."

It's debatable whether the commemorative nature of parts of the museum corresponds to the typical definitions of what a museum is and should be. Hennes refers to an article in the *New Yorker*, published in July 2014, that questioned the case for the museum, saying "nothing is really taught... [the designers] are in constant peril from the enormous American readiness to be mortally offended by some small misstep of word or tone. They can be felt navigating the requirements of interested parties at every turn."

Perhaps it's because this event belongs to everybody. For whatever reasons, everybody has a claim on this piece of history and, as Greenwald said, their own 9/11 story. So, isn't it right to build a museum that can be something to

everybody? The design teams see the museum as organic, evolving as years pass, as fresh audiences come, as the event moves out of memory – into a place more securely in the past than it is now.

"To say a memorial museum is a contradiction in terms is missing a fundamental point about the potential of a memorial museum, which is that it's there to help society wrap a story around a traumatic event so it can come to terms with it. It's a way of turning it into history," Hennes says. "It's about maintaining an alive awareness of the meaning of 9/11. It isn't over. The events of 9/11 are a symbol of a larger and much more significant unfolding story. A museum which purely historicises would be out of place here."

"The museum should help visitors put their experiences into a more fully realised context; help them be more engaged in the complex post-9/11 world. That's a radically different mission for a museum."

Without its human voices, faces and names, it would be a dissonant experience. And, it's hard to imagine that a cold, hard, faceless version would be well received by the visitors who arrives from all over the world, people who have been there, as Hennes points out, in some way, before. The repercussions of 9/11 reach beyond Manhattan, after all.

For Greenwald, that humanity is central. "These were people just like you and me, who got up in the morning and went to work or boarded an aeroplane, and got caught in the vortex of a global event," she says. "Over 90 nationalities were killed. They were from two to 85 years old, from every sector of the economy, every faith, every ethnicity. They were us."

■ For more on the 9/11 Memorial Museum see the Editor's letter on page 7

FIRST PERSON ACCOUNTS

JAK PHILLIPS Head of News, Leisure Media

Turning tragedy into a tasteful and fitting tribute is one of the most difficult visitor attractions to create.

When done well – Cambodia's Killing Fields, Berlin's Denkmal, Poland's Auschwitz and London's World War I centenary poppy installation at the Tower of London – these monuments shine light on the darkest days of humanity and, hopefully, help us gain the wisdom to prevent further atrocities.

The 9/11 Memorial Museum focuses on the human aspect of that tragic day. The victims and their families whose lives were torn apart are central.

At the memorial pools, you read the names of the victims, while the museum is a window into their experiences that day. A comprehensive interactive database of the victims – each complete with photograph,



biography and tributes – makes the event more real than a plaque or statue ever could.

Touching also is the provision for families to read out the names of loved ones and remember them through audio recordings in the memorial exhibition. In fact, the museum is as much a shrine for the victims' families as it is a retrospective of the event, best demonstrated by the 60 foot (18 metre) Victims' Quilt on the lower level wall.

Media debates surrounding London's WWI poppy installation showed how an audience's relationship with an event can change over time. This presents challenges in creating a structure and narrative that does justice to those affected and stays relevant for years to come. In humanising the museum, the design team created an experience that will stay with you for a lifetime.



PHOTO: J. MALE

The museum is a window into people's experiences that day ... Photographs, biographies and tributes make the event more real than a plaque or statue ever could

ALICE DAVIS Managing Editor, Attractions Management

When you're standing in the queue for the 9/11 Memorial Museum, you know what happened, and you know it happened right there. You watched it happen on TV. You've seen the footage.

Before I entered the museum, I was apprehensive. I hoped it wouldn't be sensationalised. The nearby pools are poignant and emotional, but I wanted the museum to be, well, like a museum.

I decided to download the free audioguide app – produced by Acoustiguide and Tristan Interactive – to determine the route of my visit. The app offers a choice of three tours, in eight languages, as well as an audio description tour for the blind and signed video tour for the deaf. The tours are Witnessing History, Discovering History (for children and families), and Building History (with a focus on



archaeology and architecture).

I chose Witnessing History, narrated by Manhattanite actor Robert de Niro and including first-person accounts from police, firemen, a news anchor, an FBI investigator and survivors. It describes the significance of 13 major artefacts, accompanied by these witness accounts.

The audio tour tells the story of these huge artefacts – the Survivors' Stairs, a fire truck crushed by the North Tower's collapse. These artefacts make everything more real. We live in a world of rolling news and vast amounts of online content, and the screens we watch through anaesthetise us. But the sheer size of those artefacts – a steel column buckled by the impact of a plane; the Foundation Hall itself – convey the true magnitude of what happened that day.

TOM ANSTAY

News Editor,
Attractions Management

The personalisation and the storytelling at the 9/11 Memorial Museum creates an undoubtedly powerful experience.

Entering the museum,

you hear voices of people recounting stories of where they were on that day. These personal touches are everywhere – you can even record a video message to future visitors.

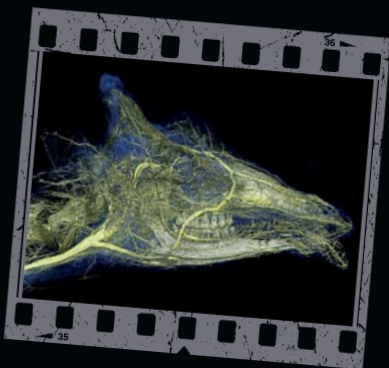
But possibly the most emotional aspect of the museum is the docents.

These volunteers play a critical role in providing a meaningful experience for the thousands who visit the museum each day. They provide interpretive services and give talks about the artefacts. My docent spoke of a destroyed fire engine and its crew.

The docents are passionate about their work. They must work at least four hours a week for a minimum of one year. To get to this stage they have to complete 60 to 70 hours of comprehensive training over a period of four months. Only then are they able to interact with the public.

The museum alone makes a powerful statement, but the addition of the docents takes it to another level of understanding and compassion. ●



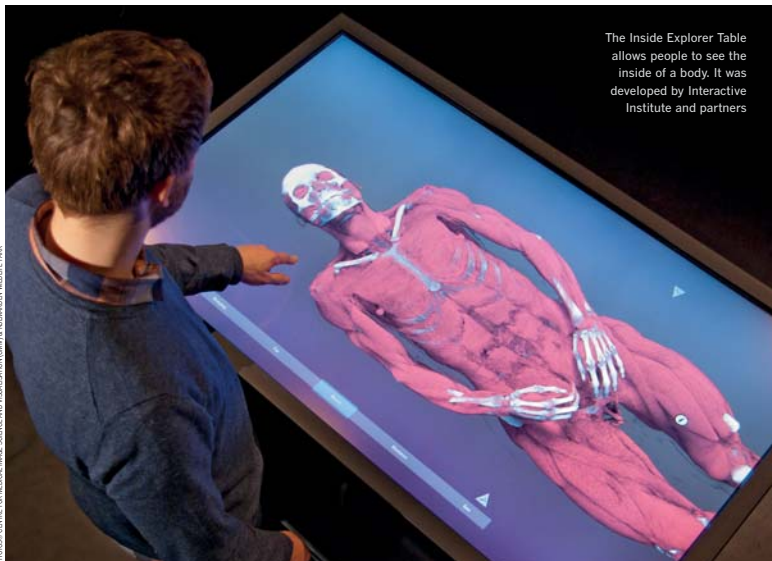


THE SECRET LIVES OF ANIMALS

CT scanning offers zoos and aquariums new ways to understand and interpret animals' lives and behaviours



Living animals have been CT scanned resulting in highly detailed visuals, which have potential applications for zoos



The Inside Explorer Table allows people to see the inside of a body. It was developed by Interactive Institute and partners

n November 2012, curators at the British Museum in London, UK, collaborated with a team of medical experts to create a computerised tomography (CT)-scanned mummy.

From the scans, new insights were gained into life and death in Ancient Egypt more than 5,000 years ago.

The same technology has potential for use in the attractions industry, not least because it offers an exciting new way for visitors to experience data.

The groundbreaking techniques, which digitally unwrapped the mummy layer by layer, revealed unprecedented information about his age, health and even diet, as the technology uncovered hidden interior details that had not been seen before.

The data gathered was transformed into 3D visualisations thanks to volume graphics software like that used in the auto engineering industry.

A temporary exhibition, Virtual Autopsy: Exploring a Natural Mummy from Early Egypt, at the British Museum, used detailed images created from high-resolution CT scans to build interactive installations. These 3D digital installations, using visualisation software known as Inside Explorer, allowed visitors to delve into the interior layers of the mummy, thanks

PUBLIC ENGAGEMENT ACTIVITIES AROUND HUMAN ANATOMY IN SCIENCE CENTRES COULD BE REPLICATED IN ZOOS

to the zooming, panning, rotating and peeling functions available via an interactive touch screen.

The success of Virtual Autopsy led to the installation of a permanent exhibition at the British Museum and a second temporary exhibition last year entitled Ancient Lives, New Discoveries. The exhibit presented the scans of eight mummified humans from various points in history, using pre-rendered video sequences.

TECHNOLOGICAL ADVANCES

The technology is improving. It's becoming easier to use and producing ever more comprehensive results. In fact, the technology is the same as that used in hospitals for clinical work and for human forensic investigation.

Owner of the software, the Interactive

Institute Swedish ICT, has identified interest from zoos and aquariums in using the same technology to offer visitors a new perspective on the creatures in front of them. As the cost and radiation dosages of modern CT scanners come down and image quality improves, CT scanners are starting to be used more frequently in zoos and veterinary clinics.

"The technology is getting better images with lower dosages, which has always been one of the goals of scanner manufacturers," says David Hughes, manager of solution development at Interactive Institute Swedish ICT.

APPLICATIONS IN ZOOS

The scans of the animals, as well as being used for medical purposes, could also potentially be used to engage visitors, not only in science and history museums, but in a wider range of sectors in the attractions industry.

"Public engagement activities around human anatomy in science centres could be replicated in zoos and potentially aquariums," he says. "There's no real reason as to why this couldn't be repeated, certainly with vertebrates."

The scanning of live animals presents several key points that could be



A CT scan of the British Museum's mummy Gebelein Man – the technique and images have been central to some popular exhibits

► interesting to educators in attractions.

The data and its format offers new perspectives to the visitor, the scans can be used to tell stories about the animals being highlighted and to illustrate the work of animal carers and they can facilitate a deeper understanding of what's in front of the visitor's eyes.

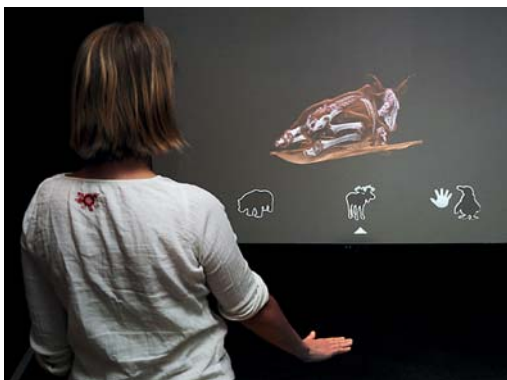
Interactive Institute Swedish ICT worked with Visualisation Centre C, Centre for Medical Image Science and Visualisation (CMIV) and Kolmården Zoo, Sweden, on an exhibition, built around authentic scan images of animals – a moose, a penguin and a brown bear. Visitors used arm and hand gestures to interact with the 3D display. This first-of-its-kind exhibit could be the start of something new for zoos.

CLOSER TO RESEARCH

"This was a part of an exhibition called Animalistic, which described how scientists are using state-of-the-art technology to understand how animals live, behave and perceive the world," says Hughes. "We've received a lot of interest from aquariums and zoos worldwide, who see Inside Explorer as a way of creating new user experiences bringing visitors closer to the research."

In fact, the success of Inside Explorer has meant the team at the institute has started up a new dedicated company called Interspectral that will continue to develop and market the Inside Explorer solution and provide services in the 3D digitisation domain. This is normal practice for the institute, which takes promising research, incubates solutions around it and spins them out.

"With a sick animal, you could present the latest developments in its recovery through this technology," Hughes says. "If



The Animalistic exhibit at Visualisation Centre C, Norrköping, used gesture recognition

USING THIS TECHNOLOGY, VISITORS COULD FOLLOW AN ANIMAL'S RECOVERY, WHICH PROMOTES THE VETERINARY WORK

an animal broke a leg, you could have a public station where visitors would follow the story of the treatment and recovery. That could bring people back regularly and it would promote the work of the veterinary side of an institution."

"Animals have health challenges, as

we do, and I think there are stories to tell there that aren't being told at the moment. The scans are there so why not use them?" Hughes says.

PHYSIOLOGICAL INSIGHTS

"The technology also provides great insights into animal physiology," he continues. "What does a leopard look like on the inside? Why is it built the way it is? Scans reveal the orientation of the bones and muscles, and visitors can learn how a leopard's abilities are reflected in its physiology. An installation could show a visitor details inside the animal even while he's looking at the real thing, so he can understand why they are the way they are. It's something that's not really been done and I think it would be fascinating." ●



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OCEAN ODYSSEY

China's big-budget Chimelong Ocean Kingdom must learn the importance of the details if it wants to keep pace once overseas competition arrives

Jennifer Harbottle, journalist, Attractions Management

When the world's largest ocean theme park opened in Hengqin, Zhuhai, near Macau, in 2014 [see *Attractions Management* Q3 14], there was much excitement and fanfare in China. As the second "world-class" theme park in China for national developers Guangdong Chimelong Group, Chimelong Ocean Kingdom quickly began gathering accolades for being the biggest and best. It holds five Guinness World Records for its enormous whale shark aquarium.

Nearly 12 months on, Chimelong Ocean Kingdom has established itself as a major attraction. Competition however, is beginning to heat up. China is undergoing a theme park boom at the moment, with a number of established international operators either in construction or signing on dotted lines, including Disney, Universal, Atlantis and Village Roadshow Theme Parks.

I paid a visit to Chimelong Ocean Kingdom to find out if it lives up to the hype, not only as a domestic park but also as a serious international player.

LOCATION

Chimelong Ocean Kingdom is located at Chimelong International Ocean Resort on the tropical island of Hengqin, Zhuhai, China. It's an hour from Hong Kong by ferry and 10 minutes from Macau by car. Coaches run from Hong Kong, Macau and Guangzhou airport. Shuttle buses and public buses serve the site

OPENING HOURS

10am – 9pm, 365 days a year

ADMISSION PRICES

Adult tickets cost RMB350 (\$56, £37, €48), and child's tickets cost RMB245 (\$39, £26, €33). The Ocean Kingdom and International Circus City Package costs RMB665 (\$107, £71, €91) for adults and RMB480 (\$77, £51, €65) for children for the first-class package, and RMB560 (\$90, £60, €76) for adults and RMB350 (\$56, £37, €48) for children on the second-class ticket

THE OFFER

A visit to Ocean Kingdom is a full day experience, especially if you plan to ride all the major rides and see the shows, parade and fireworks display which are included in the ticket price. The park's eight themed areas include the main street entry precinct, 11 marine animal exhibits, five shows and 10 attractions, including a games arcade. For an additional charge, you can purchase a ticket to the circus performance, which is a major part of the Chimelong Ocean Resort mixed-use development.

The park closes at 9pm with the spectacular Glamorous Sky Over Hengqin fireworks. The circus performance begins at 8pm and the fireworks begin at 8:30pm, so guests with a combination ticket would miss the fireworks display.

TICKETING

Tickets for Ocean Kingdom are available via numerous sites online, including the official theme park and Chimelong's Hengqin Bay Hotel website, as well as websites for the major Chinese package tour providers. You can also buy tickets in ►



Ocean Kingdom has taken the concept of a hybrid park up a gear



The fireworks and light shows are truly world class and if guests stay long enough to see them, they'll leave with great memories



► person at one of the 32 ticket booths at the front gate. Packages include single-day tickets, season passes and bundled tickets that include entry to Chimelong's International Circus City. Most tickets are only valid for the day. Family tickets cover two adults and a child – typical for China, but not enough for many foreign families.

ATTRACTIONS

Guangdong Chimelong Group takes the “hybrid” park to the next level at Ocean Kingdom, locating rides alongside animal exhibits. The best example is the Polar Explorer flume ride, which weaves through the bear enclosure for an up-close view of the animals. The 10 major rides include coasters by Bollinger & Mabillard and Mack. Smaller rides include dodgems and a carousel. This mix is commensurate with other world-class attractions and complements the aquariums and exhibits without dominating the park.

EXHIBITS

The aquariums and marine exhibits have all been built on a grand scale. The behemoth-sized whale shark aquarium

that presides over the main lagoon is testament to this: it's the first and last thing you see as you enter and leave the park and creates an impressive background for the fireworks and light shows. Both shows are truly world class and if the guests stay long enough to see them, they'll leave with great memories.

However, the quality of the exhibits is not world-class. Water quality in the aquariums is poor and floating debris from fish and animal waste is clearly visible. Underwater viewing is also negatively impacted by the level of algae growth on the rock and reef formations. This points to an incorrect balance in the life support systems within the park – an aspect that is critical to long-term animal health and welfare, as well as visitor experience.

Animal husbandry also appears to fall below industry standards. The brown bear exhibit is no more than a series of narrow ledges and didn't include any enrichment for the animals, other than guests throwing food at the bears at feeding times. The pool in the polar bear enclosure was fenced off to them by a heavy duty wire fence (no explanation

was offered to guests) and the remainder of the enclosure did not contain any entertainment for the animals, all of which seemed extremely lethargic on display.


Marine exhibits and shows are a big hit at Ocean Kingdom. Live animal shows are popular with Chinese and when I visited, each show was packed. In Chimelong's literature, it says the park is “committed to inspire public awareness on animal care and conservation” yet the sea lion, beluga and dolphin shows are acrobatic performances with little or no information on the animals' habits, habitat, status or conservation challenges. Similarly, the exhibits' interpretive and educational signage does not touch on conservation.

FOOD AND BEVERAGE

For Asian visitors, F&B options at Ocean Kingdom are plentiful, appetising and suitably priced by theme park standards. The park offers a good mix of buffet-style restaurants, fast-food kiosks and carts throughout the park. Western options are limited and as more international operators enter the market, the variety and quality of F&B will need to improve.



Mack Rides' Polar Explorer combines a variety of elements



The aquarium has the wow factor, but needs to improve on the operations side

STAFF

Staff were well presented, friendly and approachable. Ride operators were diligent and performed their safety tasks with discipline. Basic English was spoken in much of the park. Service in some areas lacked urgency and needs to improve.

RETAIL

Ocean Avenue – the park's main entry precinct – is lined with retail outlets. It's the familiar retail range, but the quality of the merchandise is surprisingly good considering the price points. Retail designers have gone to a lot of effort to create a range specific to the park. Ride photography is available on four attractions but quality is compromised because photos are printed on paper stock. Camera placement is quite poor.

CLEANLINESS

Attendance was relatively low on the day of my visit so staff were not under pressure. On the whole, the park grounds were clean, bins were emptied, restroom staff plentiful and attentive. While the absence of rubbish and the presence of staff are good, a closer inspection revealed a build-up of dirt and grime in corners and crevices. This is unacceptable in a park that's only a year old and a stark reminder of the power of experienced line management with an eye for detail.

In China, air quality is a major problem and you can already see evidence of pollution building up on external

WHAT'S THE SCORE?

Toilets	7 / 10
Staff	8 / 10
Cleanliness	5 / 10
Value for Money	8 / 10

Domestic park rating	8 / 10
International park rating	6 / 10

decorations and facades. Management needs a system to deal with this to prevent the park from looking tired too quickly, which it already does in parts.

DESIGN

There's a great deal to like about the Ocean Kingdom design. From the giant Manta Ray, complete with LED screen underbelly, that spans the entire main street precinct, to the 68-metre (223-foot) whale shark hero sculpture in the background, the scale of Chimelong's endeavour is impressive.

The site takes excellent advantage of its bayside location on one aspect and the mountain vista on the other. Together, the large-scale design features and Zhuhai's natural beauty make a truly awe-inspiring arrival statement for guests.

Theming is intricate and the colour scheme is vibrant and eye-catching. Soft landscaping is plentiful with established trees and bushes creating natural shade. There are signs that the paint

scheme is starting to fade. Wear and tear is beginning to show on coloured and textured hard surfaces and the joinery is showing some distress. In the aquarium, exhibits show obvious signs of cracking and spalling in the concrete work and in one instance, an entire viewing window had been removed for "maintenance" after less than 12 months. Combined with the obvious deficiencies in the water quality, these maintenance issues impact on the overall enjoyment of the experience.

SUMMARY

Chimelong's Ocean Kingdom is certainly a major step forward in theme park development for the domestic Chinese market. However, it takes more than an innovative concept and colourful design to create a truly world-class attraction.

In general, where Chinese developments start with innovative ideas, too often they fail to deliver a quality product due to a lack of experience and attention to detail in construction and operations. As it stands, Ocean Kingdom doesn't quite deliver a international-standard experience.

As long as Chinese consumer expectations remain relatively unsophisticated in the attractions market, Chimelong may retain its position as a leader. However, once the major international operators establish themselves in China and showcase first-class attractions benchmarked by world-class standards, Ocean Kingdom will need to raise its game to compete. ●



Estate manager Will Brix worked closely with Heatherwick Studio to create the attraction

SPIRIT MAKER

Bombay Sapphire has set down roots at Laverstoke Mill, in Hampshire, UK, where all its gin will now be distilled. Visitors are invited to make themselves at home

Bombay Sapphire has founded a brandland in the heart of the English countryside. The site is surrounded by woodland, just an hour from London.

The Bombay Sapphire Distillery at Laverstoke Mill is indeed a working distillery, but the public is also invited to explore the production facility, the architecture and the picturesque site, which is on the banks of the River Test.

Central to the experience are the two striking glass houses, designed by award-winning designer Thomas Heatherwick. In a clever twist, the glass houses recycle the heat created by the distillation process to create the warmth needed for specimens of the gin's botanicals to grow. Inside the glass houses, visitors learn about the plants and their origins, through the educational listening posts and interactive touch screen displays.

It's interesting to see the Georgian and Victorian buildings and learn about their history – British bank notes used to be made here. Visitors can go inside the renovated buildings – only a few are off limits – and they'll see two huge copper stills from the 1830s and learn about the distillation process in the Dakin House.

The heritage of the site is explained clearly through photographs and other artefacts, signs, and audio information.

A highlight for the visitor is the interactive Tasting Adventure. Samples of the 10 botanicals are on display for visitors to sniff, taste and touch as they experiment with flavour and scent. This is enjoyable for children as well as adults.

The Self-Discovery Experience – £15 (\$23, €20) for an adult and £10 (\$15, €13) for a child – allows you to explore the whole riverside site and enjoy a complimentary cocktail in the bar. The experience takes a couple of hours.

Visitors who do not wish to drink or who are driving are offered a soft drink in the Mill Bar, and receive a free takeaway cocktail kit for when they get home.

Tickets can be upgraded to include a gin workshop for £15 (\$38, €34) or a cocktail masterclass for £35 (\$54, €48).

When Heatherwick designed this multi-million-pound brandland, he made the visitor experience integral to the masterplan. His addition of tropical "greenhouses" got Bombay Sapphire instant publicity.

Meller, GWP, Arup and Giles Quarme heritage consultants and SKM Enviro were among others involved.

Will Brix, estate manager at Bombay Sapphire Distillery, says brandland attractions appeal to modern consumers. "They want to know and verify everything," Brix says. "We want people to see the craftsmanship behind our gin because, whatever you make, if you say it's high quality, people want to see it with their own eyes." ►



An aerial view of Laverstoke Mill, with the glass houses central to the attraction

PHOTO © JIMMY BARN

LAVERSTOKE MILL **TIMELINE**

903

First mention of a mill on site

1086

Laverstoke Mill recorded in Domesday Book

1718

Acquired by Henry Portal

1719

Portal built the existing mill to manufacture paper

1724

Mill produces watermarked bank note paper for the Bank of England

1950s

More than 800 people worked at the mill

1963

The last bank note left for Western Samoa. Laverstoke Mill ceased milling paper

2000

Laverstoke Mill officially declared derelict

2005

Site purchased by St James Homes

2008

Recession prevented housing development plans from advancing

2010

Bombay Sapphire bought the site

2012

Work begins to transform site into a visitor experience and working distillery

2014

The Bombay Sapphire Distillery opens in October

VISITOR ATTRACTIONS

- Brix has been with Bacardi, the parent company, for 10 years and with Bombay Sapphire Spirits Company for the past seven. He talked to *Attractions Management* and gave us a facility tour.

What does your job entail?

As estate manager I handle visitors and publicity. I work with the master distiller, Nik Fordham, who's in charge of production – 25 million litres of gin a year.

Can you describe the visitor experience?

It's going behind the curtains of Bombay Sapphire, seeing the people and the place where it's made, where all the ingredients come from. Visitors can come and see the distillery, the raw ingredients, the production process.

Beyond that, if you're interested in history, architecture, sustainability, horticulture or ecology, then there's something for everyone to come and have a look at. Laverstoke Mill is a fascinating place in its own right, but being the home of Bombay Sapphire is the jewel in the crown, if you'll excuse the pun.

The site was already amazing, but the glass houses add a bit of modernity, and Bombay Sapphire has always been about the old and new juxtaposition, and I think this lives up to it perfectly.

How did the project come about?

There was a fire in 2006 at the facility where Bombay Sapphire was produced by our contractor. After the fire we decided we were big enough to set up our own distillery. The operations side was trying to deal with rising demand while producing the gin as sustainably as possible. On the experiential and marketing side, we wanted to show the craftsmanship and skill that go into every drop of Bombay Sapphire. We also had huge traditional copper stills, dating back to 1831, to distil the gin, which we've made central to the new home.

How did you end up at this Victorian paper mill in the countryside?

We wanted the English countryside to be the setting for our iconic English gin. We also wanted a site which was suitable

for redevelopment. We were inspired by the Campaign for the Protection of Rural England, which says the English countryside is a finite resource that needs to be preserved. We wanted to repurpose or bring a building back to life instead of building fresh.

This Hampshire site dates back to 903. We achieved our commercial aspirations and restored a piece of English heritage.

How many visitors do you hope to attract?

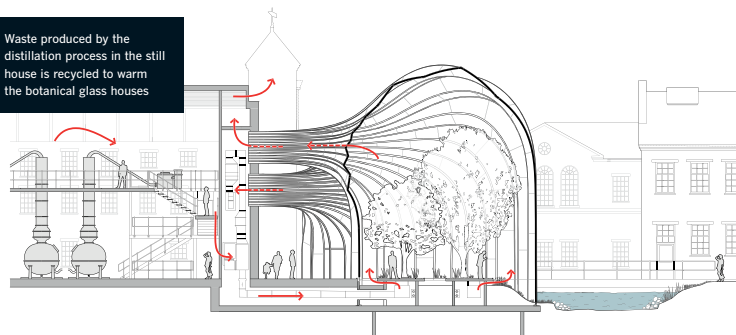
We have a visitor target of around 80,000 a year. We have a maximum daily capacity, but we have a well-considered system to restrict numbers as needs be.

Why did you commission Heatherwick Studio?

We had a long-standing relationship with Thomas Heatherwick. He won a glass design competition we ran about 10 years ago and he's judged competitions for us in the past. There was a natural tie-in with their ideas. Heatherwick Studio had that added insight about who we are and that was big for us. We didn't want to just

Waste produced by the distillation process in the still house is recycled to warm the botanical glass houses

PHOTO © HEATHERWICKSTUDIOS



THE GLASS HOUSES

Eliot Postma, project manager, Heatherwick Studio

"A lovely thing about Bombay Sapphire is the crazy lengths they go to source their botanicals, from India, China and Spain. We loved that as part of their story. A quirk of the distillation process is that it produces a huge amount of

excess heat. These two things came together and we saw an opportunity to create a couple of greenhouses that could use the excess energy to grow specimens of the botanicals that go into the gin. The hot air is circulated from the still building into the glass houses. We created a tropical and a Mediterranean glass house alongside the stills, right in the heart of the site.

There's an amazing Victorian heritage of glass house engineering in the UK – like the Palm House at Kew Gardens. We brought that Victorian elegance to the 21st century by applying the most innovative glass technology. We created a very contemporary glass structure that isn't afraid of the steel, using the steel to accentuate the form of the glass houses."



PHOTO © ELIOT POSTMA



In the glass houses, iPad posts teach visitors about the botanicals and their origins

do it, we wanted to do it how Bombay Sapphire would do it. Thomas was part of the team who first came to this derelict site and he was as excited as we were.

The distillery received a BREEAM outstanding certification. What are its sustainable attributes?

We generate hydroelectricity, we've got photovoltaic panels and at the heart of the operation we've got a sustainable biomass boiler. The boiler burns locally sourced renewable woodchip as well as the spent botanicals from the distillation process.

The site has such a long history. Did you work with heritage consultants?

We worked with English Heritage and we worked extensively with the conservation office and the local community as well. As they made bank notes here, everything had to be destroyed for security reasons, so there was no archive. There was nothing here but a couple of artefacts.

We wanted to know what had happened. We'd heard stories but we had

to verify them ourselves so we hired an archivist and she spoke to everyone in the local area. She probably got enough information to write a book, so we've built a dialogue with the local community. People were happy that we wanted to compile an archive and we're going to introduce heritage tours later this year.

Was it important to have the local community on board?

Before we acquired the site, a developer was planning to build 70 houses, which would have radically altered the character of the village. People favoured this return to industrial usage. It's uncommon for a big project, but we had unanimous backing. We're bringing high-quality goods manufacturing back to Laverstoke.

Are there any benefits for locals?

There's a season pass for locals. The bar, shop and Heritage Room are free of charge to all. We have regulars at the weekends who come in for cocktails. Everyone here has a connection to

this place. One of our hosts is a fifth-generation mill worker. In the Heritage Room, people point out their great-great-grandfathers and great-great-aunts – it's brilliant. They bring their friends and relatives to do the experience. They're offered a loyalty card which means they pay once but can return as many times as they like.

It seems the visitor experience has been central to the design process from the beginning?

It was designed from scratch with that in mind. We wanted it to be about self-discovery. We didn't want it to be a didactic museum experience with a "visitor centre" at a working distillery. A visitor centre is often 50 per cent about the amenities and 50 per cent about the attraction. We wanted to be 90 per cent about the attraction. That's a difficult brief to Heatherwick, who's not the biggest fan of "visitor centres" as a concept, and I think he responded really well by building different elements into an experience. ▶



In the dry room, visitors can try ingredients ranging from cubeb berry to cassia bark

THE BOMBAY VISITOR EXPERIENCE

Visitors to the distillery at Laverstoke Mill are free to roam around much of the site. With a simple map and a number of gramophone-inspired listening points, with multilingual audio, visitors determine their own route and pace around the attraction.

THE HERITAGE ROOM

The room introduces the history of the site with artefacts and photographs

THE GLASS HOUSES

Visitors learn about the different plants that form the ingredients of Bombay Sapphire in Heatherwick Studio's glass houses



The masterclass is an opportunity to practice making cocktails and learn about cocktail culture

BOTANICAL DRY ROOM

In the dry room, visitors embark on a "tasting adventure" where they can sample and smell specimens of the botanics. If they record their preferences, a gin cocktail can be tailored to their tastes at the Mill Bar

DAKIN STILL HOUSE

Visitors see the historic copper stills and learn about the vapour infusion process

THE MILL BAR

Visitors can enjoy a cocktail or two in the bar, which has no admission charge

THE GIN ACADEMY

For an extra fee, take a gin workshop or a cocktail masterclass in this event space

THE GIN SHOP

The retail offering includes Bombay Sapphire limited-edition products ... and gin ●

Let your brand shine,
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WORK MATES

Cut down time spent on routine tasks, eliminate confusion about who's working and streamline communications with staff; we look at how apps are making life easier for operators

WHEN I WORK

A staff scheduling app that manages holidays and shift trades, When I Work eliminates the human error and miscommunication that can occasionally lead to understaffing.

When I Work uses communication technologies – web, apps, text, social media and email – to make teams more efficient, accountable and better prepared. Spreadsheet tasks can be carried out quickly and easily and any employee can log into the system from their tablet or phone to find out his schedule.

"It's a simple, intuitive, mobile-first solution that owners and managers can implement and start using in five minutes, with no IT training required," says Rob Wormley, When I Work content manager.

Functionality includes creating, updating, cancelling and publishing shifts; filling open shifts quickly via SMS alerts to staff; sending SMS reminders about shifts, and monitoring time off requests and shift trades. When I Work is used by 500,000 people in 50 countries.



When I Work uses communication technologies – web, apps, text, social media and email – to make teams more efficient and better prepared



■ Face Amusement Group manages staff across diverse sites using When I Work

Face Amusement Group introduced the app in 2013 at its Big Top Arcade. The management was so pleased with the response to the app that it was introduced to four other attractions, including 7D Adventure and Rockin Raceway go kart track. It will continue to roll out the app.

"With five sites in a small area, we wanted to share our employees and managers. We were doing five different schedules weekly, with several accounts, but When I Work helped us to consolidate this information into one account and showed us how to use job sites instead of locations," says area manager William Cohen. "Now when we share employees between locations they're all visible on one schedule. Scheduling used to take days, but now it's done in hours. We also use the training videos to help train new employees. Staff no longer come to us with requests for holidays or shift changes, but use the features on the app."



■ The employee scheduling software is available on iPhone and Android

■ Fårup Sommerland uses the Park Check system to schedule and monitor ride safety checks



PARK CHECK

Park Check helps with the maintenance of a visitor attraction by measuring safety and quality routines. It issues daily reports on safety and quality procedures, provides mobile task management, organises work flow and gives a real-time overview of hot and cold areas in the park.

Each member of technical staff has a digital checklist on their phone or tablet detailing the work to be done on each ride. Defects are documented, instantly created as ad hoc tasks and forwarded to relevant team members, and made available on an online portal.

Every time a checklist is completed by a member of staff, the data is processed by the online portal. There are live updates on what needs to be done, dynamic charts and historic data.

As the information is centralised, communication is improved. Nothing is missed and it saves time on paperwork.

Last year, three parks were running the system and for the coming season five more European parks are introducing Park Check. Jens Holm-Möller, director of business development at Park Check, anticipates this will result in increased cost savings for the parks as ongoing task management is streamlined. Another advantage is that the app can be used to share technical manuals and inform decisions about replacing units.

"The historical data which can be tracked on each unit in the park informs the operator about previous solutions and lets them monitor exactly what's repaired on each unit and how frequently it's done. In the future this improved overview supports more qualified decisions about replacements," he says.

Danish theme park, Fårup Sommerland, introduced the app in 2012 and has found

■ Defects can be documented with the phone's camera

the documentation of morning checks in the park far more effective and accurate.

"The documentation is available to our administration in real time, which provides a great overview of what we've already completed and what's yet to be done," says general manager Niels Jørgen Jensen. "From a management perspective, it's much easier to organise our daily task management. Tasks no longer disappear on sticky notes, but are kept and tracked in the system until they are completed." ▶



The drag-and-drop system tracks qualifications, training, absence and availability. It communicates with staff and management and produces timesheets



PARiM

A new kid on the block, PARiM launched last year and although it's yet to debut in the attractions industry, client director David Duncan says its ease of use and success in staff engagement makes it a good fit.

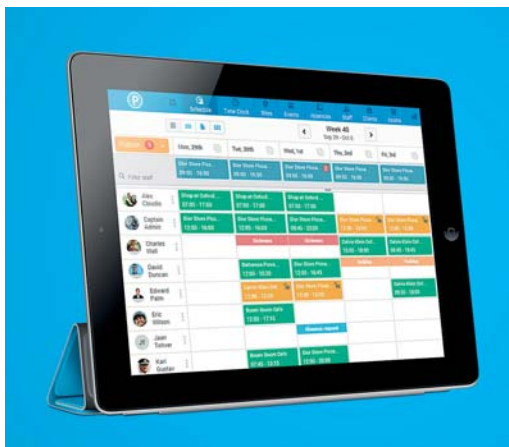
A cloud-based workforce management software programme, PARiM offers an efficient way of creating shift patterns and a staffing schedule which is emailed to staff and posted on the self-service portal.

The easy to use drag-and-drop scheduling system tracks qualifications, training, absence and availability, as well as company assets like uniforms and mobile phones. It automatically communicates with staff and management and produces timesheets.

"PARiM is striving to minimise the mundane tasks faced by operations departments within the leisure sector," says co-founder Riko Muttk. "With



PHOTO © SHUTTERSTOCK/NERO



■ The system can be customised for bigger companies according to their requirements

certificate and position match, you can ensure the right people, with the right qualifications, do the jobs. People can make their businesses more efficient."

PARiM encourages staff engagement by combining visibility and transparency with automated communication and a self-service portal. "The system allows management to create open shifts which staff can apply for. Some of our clients find the staff completely self-schedule, freeing the management from what was a time-consuming and paper-heavy task," he says. "Attractions can manage and monitor staffing at sites in more detail."

An iPhone and Android app is about to be launched, with GPS to locate staff and automatically clock them in, preventing timesheet errors.

There are no upfront costs, licence fees, ongoing support charges or contracts. Customers are billed per staff or site entered, so for companies with less than 500 staff, the front loaded bill is £0.015 (\$0.023, €0.019) per shift hour. For larger companies the prices are negotiable and PARiM can build bespoke programmes. ●

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Twinned race car simulators double the fun

CRUDEN

Andretti Indoor Karting and Gaming has gone all-in on the success of its Cruden Hexatech 3CTR by purchasing a second. Doubling up its race car simulators means visitors can play head-to-head.

The family complex decided to tap into the competitive nature of its visitors by creating the opportunity for on-one challenges playing the Cruden simulators.

"We were very happy with the popularity and satisfaction experienced by guests in relation to our first 3CTR," said Samantha LaMagna, marketing and social media manager at Andretti Karting in Atlanta, Georgia.

"When we learned they could be linked, we wanted another to offer our guests the chance to compete with



The head-to-head challenge setup of the Cruden Hexatech 3CTR in Andretti Karting

one another directly. Having seen the competitiveness brought about while karting, we knew our guests would be drawn to a new opportunity to claim bragging rights," LaMagna said.

The venue offers special pricing options for the challenge version and promotes the linked-up 3CTRs – with 6-DOF motion, immersive screens and surround sound – as a team-building experience. ■

Valkyrie shooting ride ready for action

SIMULINE

After making its prototype debut in November 2014, South Korea-based Simuline's new interactive ride system is nearing its commercial launch.

Having drawn large crowds at IAAPA, the Valkyrie shooting ride will be displayed at the upcoming DEAL Show in Dubai, marking its official release.

Simuline highlights Valkyrie's most innovative features as its dual screens, which show the on-screen action from two different perspectives, and the complementary back-to-back seating.



Specular Interactive created an interactive ride film for Valkyrie

The Valkyrie will ship with its first game, *Project Hades*, an Unreal Engine 4-based zombie shooter developed by arcade veterans Specular Interactive,

most recently known for the highly popular *Batman* arcade game. In addition, a second title is already in the works and will be available later in the year. ■



The Great Apes 3D is a 20-minute attraction feature on global release

Apes and dragons set to wow audiences

NWAVE

Film distributors nWave have debuted *The Great Apes 3D* at the Liberty Science Centre in Jersey City, New Jersey.

The VisionQuest film features mountain gorillas, chimpanzees and orangutans as it tells the story of zoologist and explorer Holly Carroll who, inspired by the

esteemed primatologist Dr Jane Goodall, heads off to the jungles of Africa and Asia, in search of great apes and their relatives.

The multinational film producer and distributor is also releasing an nWave dark ride film, *Dragon Mine Ride*, taking its audience deep into the dragon's den. ■

Magical stories capture imaginations

NICEBERG

Niceberg has announced its latest production, *Diving with Dolphins*, a 3D/4D attraction film targeted at aquariums and zoos and also suitable for museums and amusement parks.

Diving with Dolphins is a marine adventure story starring a young dolphin. The dolphin must navigate the dangers of ocean as he searches for his mother. The film has an underlying ecological message.

Niceberg is also distributing three new 3D/4D ride film titles available worldwide for rent. *Lost in Fear* is set on a haunted coaster track heading straight into zombie territory. *Fairy Balloon Ride* is a ride in a hot air balloon and *Journey to the West*

is a space cowboy trip on a motorbike through fantasy space landscapes.

"*Lost in Fear* is a classic for Halloween.

Fairy Balloon Ride has a winter touch that makes it a seasonal film for Christmas, and *Journey to the West* is a crazy and fun adventure that kids will enjoy all year around," said Thibaut De Lestré, sales manager at Niceberg Studios. "The films

are a direct response to the increasing demand for fairytale and magic-themed ride films."

The stereoscopic films are compatible with all major simulator and motion theatre brands, designed with 4D effects and motion in mind. ■ ►



Diving with Dolphins and Journey to the West are new from Niceberg

Zombie dark ride comes to life in Turkey

TRIOTECH

With an undead theme, Triotech has installed an interactive dark ride attraction at a family entertainment centre in Turkey.

The attraction, Zombi, at FunLab Cevahir, features four-person police-themed vehicles riding through four interactive and four non-interactive scenes. Canada's Triotech designed and produced the animation and gaming system for the



Interactivity is an important part of the new Triotech dark ride at Funlab Cevahir

66-metre-long (216-foot) 3D attraction, which is enhanced with 4D effects. The ride system is provided by Italy's Gosseto.

Gabi Salabi, vice president of business development for Triotech, said the

installation highlighted the "flexibility and scalability" of the company's media-based offering – with even an FEC being able to "afford to invest in an interactive dark ride – it's not just for large parks". ■

Supersonic film, 4D theatre installed in transport museum

METROPOLIS

Coventry Transport Museum, UK, opened a £9m (\$14m, €12m) Land Speed Gallery with a 14-seat 4D theatre by Metropolis Entertainment.

Metropolis has provided the theatre's debut films. The first 3D production, *Bloodhound SSC*, is about the supersonic car that attempts to set a new land speed world record of 1,000mph (1,609kph) in South Africa in 2016.

The state-of-the-art 4D theatre has fully dynamic 6-DOF motion, large screen 3D display, surround sound and sensory effects such as aroma and lighting.

"We've combined stunning 3D computer animation with great motion and special effects," said Paul Spence, Metropolis's creative director. London-based Flock provided the animation work. ■



Still from *Bloodhound SSC*

Playoke proves perfect for FECs

ATRAKTION!

Attraktion has just installed its popular Playoke Dance system at technology-themed Futuroscoope in Poitiers, France.

The Austria-based company has also announced it's about to open two Playoke systems in Manila, Philippines – one of which is at the Dreamplay FEC in City of Dreams Manila – as well as at an FEC called Boomers Amusement Centre in St Petersburg, Russia.

Playoke is Attraktion's virtual dance experience where participants compete against each other in real time. The interactive edutainment music-inspired gaming system can be set up in leisure facilities and attractions. ■ ►



Players movements are tracked, analysed and compared to generate scores

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Alterface Projects is working on dark rides for Lego Discovery Centres

PHOTO: CUNY

Marvel, Lego projects make their mark

ALTERFACE PROJECTS

Alterface Projects completed its original 3D-animated interactive gaming cinema as part of a project to build a touring attraction based on Marvel comics.

The Marvel Experience, a mobile interactive attraction run by Hero

Ventures, takes place inside a huge travelling dome complex, with the aim of providing an immersive experience for audiences who step into the Marvel universe to become a part of the story.

The \$30m (£19.6m, €26.5m) "hyper-reality" attraction tours the US this year.

Alterface Projects is also working on Justice League: Battle For Metropolis dark rides with Sally Corporation, Oceaneering and Pure Imagination, opening this year at SixFlags Over Texas and SixFlags St Louis.

Justice League dark rides aside, Alterface Projects is working on six more

IP-based attractions scheduled to open in 2015, including new interactive dark rides for Lego Discovery Centres. ■



PHOTO: 2015 CUNY

The Marvel Experience is touring now

AR app brings canal history to life for visitors

HOLOVIS

The visitor experience at Foxton Locks, the largest flight of staircase locks on the English canal system, and Foxton Canal Museum are undergoing a regeneration, and Holovis is using its cutting-edge virtual reality expertise to help bring the redevelopment to life.

Holovis created an augmented reality (AR) app and immersive curved screen theatre for the Leicestershire heritage site.

The AR app allows visitors to "see" a historic inclined plane engineering system that once existed at the site. Unlike the staircase locks, the inclined plane carried boats up and down the hill - almost like a funicular railway. Built in 1900, it was deemed a failure and dismantled in 1926.



The inclined plane at Foxton Locks was a feat of engineering, but later dismantled

Holovis says that using a fiducial marker system at Foxton Locks, visitors can use smart phones and tablets to view the inclined plane working, recreating the positions barges would have had to make their journeys and at the same speed.

"We're delighted to be deploying our knowledge and expertise to preserve this fantastic piece of local history by bringing

it back to life using the latest technology," said Stuart Hetherington, CEO of Holovis.

"Usually we use virtual and augmented reality to help our commercial clients create sophisticated 3D design environments," said Hetherington.

"The public has a chance to explore Foxton Locks as it once was through an interactive, immersive experience." ■

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London's famous Houses of Parliament

Three London attractions select Gateway software

Gateway Ticketing Systems UK will provide software solutions at three London visitor attractions after winning separate contracts in recent months. The Houses of Parliament selected Gateway to deliver ticketing and sales solutions for commercial tours of the Palace of Westminster. The other contracts were for the Royal Botanic Gardens in Kew and the new KidZania London attraction in Shepherd's Bush.

Keyword: Gateway



Photobooks are customised for guests

Photographic partnership provides visible results

Photographic solutions company Magic Memories has been awarded a new partnership contract with the Ripley's Believe It or Not! visitor attraction in London.

The use of Chroma key photography together with the Magic Memories hosted engagement model allows the partner companies to create a product customised to each guest.

Keyword: Magic Memories

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The Time Crystal pendant is an interactive device

Doctor Who draws in visitors with wearable tech

A newly invented bit of wearable technology is a hit with visitors to the Doctor Who Experience.

Sarner created the wearable Time Crystal pendant for the "regenerated" attraction in Cardiff, UK, in an attempt to draw visitors into the experience. Given out at the start of the attraction, the pendant glows,

flashes and goes through a sequence of colours at certain junctures in the storyline of the experience.

As well as infrared and LED components, the device also vibrates, creating a "more multi-sensory experience," according to Sarner projects director Ed Cookson.

Keyword: Sarner



Zoombezi Bay's Baboon Lagoon

Baboon Lagoon drives record park attendance

A WhiteWater-designed attraction not only won an IAAPA award but was one of the main reasons for record attendance levels at Zoombezi Bay, Ohio, this past season. The new AquaPlay RainFortress, Baboon Lagoon, replaced an existing structure at the waterpark, offering more than twice the waterslides and a more immersive play experience.

Keyword: WhiteWater



Waterslides at the New Zealand resort were selected following a public vote

Australian Waterslides adds thrills and spills at resort

Two curved racing hydroslides are upping the thrill factor at a New Zealand resort. Designed, manufactured and installed by Australian Waterslides & Leisure, the waterslides were installed in time for the Christmas holiday season at Taupo DeBretts Spa Resort.

Construction began on 16 November 2014, with the slide components arriving in mid-December and in just one week the slides were assembled and sections lifted onto the steel framing, piece by piece.

Australian's ride was selected following a public vote earlier in 2014 on the resort's website.

"This new development complements our accommodation, holiday park and day spa, and triples the thrill factor at Taupo DeBretts," said resort owner Barry Kirkland.

"The addition of the state-of-the-art ride supports the existing iconic Dragon Slide and Interactive Warm Water playground, set within our natural mineral pool complex."

Keyword: Australian Waterslides



Guests must help the turtles disable a security system in Laser Lockdown

Laser precision for hotel's Ninja Turtles attraction

"Turtle power" has been unleashed at the Nickelodeon Suites Resort hotel in Orlando with the opening of a laser maze experience created by SimEx-Iwerks. Teenage Mutant Ninja Turtles Laser Lockdown features high-visibility lasers and UV lighting. The use of graphic components, character dialogue, special effects and themed music immerse guests into the Ninja Turtle universe.

Keyword: SimEx-Iwerks



MPti in use at the Van Gogh Museum

Multimedia guide paints new picture for visitors

Imagineer's latest multimedia guide has launched at the Van Gogh Museum in Amsterdam, the Netherlands, as part of a new presentation of its collection.

Engineered for the repeat rental market, the mediaPacker touch interactive (MPti) provides a fully interactive touch screen and features a camera. Designed to be robust, the device is also WiFi, radio frequency, Bluetooth, GPS and FSK enabled.

Keyword: Imagineer



Sky Garden at London's Walkie-Talkie

TOR's booking system chosen for Sky Garden

TOR Systems has been awarded a contract to implement its booking system at the Sky Garden attraction at the top of London's newest skyscraper, 20 Fenchurch Street – dubbed the Walkie Talkie. Maxim will manage all bookings at the free-to-access Sky Garden, which occupies the top three floors of Rafael Vinoly's 37storey, 160-metre (525-foot) skyscraper.

Keyword: TOR Systems

to find out more, log on to www.attractions-kit.net and type the keyword into 'keyword search'



The Pacific Science Centre in Seattle

US cultural venues sign on for Accesso solutions

Four cultural venues in the US have recently signed agreements to use Accesso Technology Group's Siriusware Salespoint solutions for e-commerce, ticketing, access control, group sales and retail. The contract wins are for the Children's Museum of Indianapolis, the Whitney Museum of American Art in New York City, the Philadelphia Museum of Art, and the Pacific Science Centre in Seattle.

Keyword: Accesso



The museum's mascot is a walrus

Horniman Museum picks Syx Automations software

An anthropological museum in London has selected software from Syx Automations to manage its ticketing, membership and events. The Horniman Museum and Gardens, in Forest Hill, has an extensive collection of art and a natural history gallery. It will use Syx's ReCreateX software – a highly-integrated modular solution that can be expanded step by step.

Keyword: Syx Automations



Light shows were projected onto four of the Latvian capital's landmark buildings

PHOTO © ANTHONY/OLYMPIA

Watching out for a visual treat during Latvian festival

Dataton's Watchout multi-display software provided projection mapping on four landmark buildings in Riga, Latvia, as part of an annual festival.

The Staro Riga 2014 Festival of Light took place in November and attracted an estimated 500,000 visitors with light processions, art installations and architectural projections, while also celebrating the Latvian city as the joint European Capital of Culture 2014.

System integrator Solaris, based in St Petersburg and Moscow,

Russia, supplied Watchout systems and hardware for projection mapping on the facades of the Astor Riga Hotel, Congress Centre, St Peter's Church and the Academy of Arts during the five-day festival.

"The long nights in the north are a perfect backdrop for this kind of large-scale outdoor projection," said Lars Sandlund, COO of Dataton.

"We're proud to see Watchout used in such a spectacular and entertaining fashion," he said.

Keyword: Dataton



Charging stations encourage guests to congregate in certain areas

Outdoor phone-charging concept for theme parks

Running out of smartphone battery at an amusement park could be a thing of the past with a new charging station solution. CarrierClass Green Infrastructure's (CCGI) ConneCTable provides solar power for mobile device charging. Each table is a self-sustaining, off-the-grid solar power unit that features two commercial quality, 265-watt solar panels that also serve as a shade canopy.

Keyword: CarrierClass



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PolinWaterparks

The rush of water. The surge of adrenaline. The flow of energy. The screams of joy. You can not describe it. You have to feel, experience it.

Polin has been doing things with the same energy and enthusiasm for 40 years. Committed to safety and passionate about design, we've grown from a family business into a global leader, with 2500 waterpark projects in 93 countries worldwide. We're proud to offer the industry's widest range of waterpark and water play attractions.

Over time, our passion became our profession.

Our pioneering technologies and groundbreaking designs make us trusted suppliers to some of the world's biggest award-winning waterparks. We understand that every element within the waterpark matters. We know that our thrilling waterslides help break attendance records for our clients all over the world.

It's attention to detail and our desire for perfection that guarantees the quality and variety of our rides and ensures that every waterpark we work with delivers a unique experience. Game-changing innovations such as our landmark King Cobra and our L-RTM technology have set new industry benchmarks for creativity and excitement.

Where there's fun and joy, there's absolute perfection.

Our new logo reflects our evolving business and vision. Inspired by the products we're so passionate about, it represents a bird's eye view of a spiralling waterslide in the shape of our company's initials. And while our logo has changed, our passion and desire remains the same: to innovate and exhilarate.

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Polin Waterparks,
The Experience.