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DISNEY DNA

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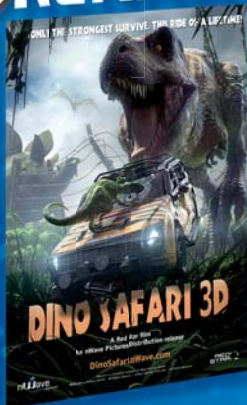
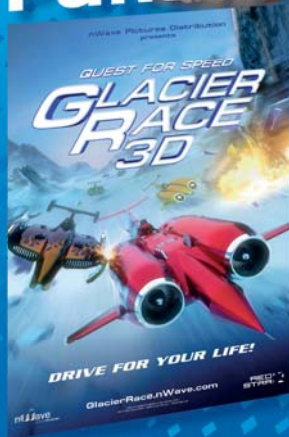
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PRESERVATION

The technology now exists to enable us to scan and preserve the most complex monuments, artefacts and buildings, so they can be reproduced now or in the future. At a time when thousands of irreplaceable antiquities have been destroyed, the need for this technology has never been greater

It's been a challenging time for the heritage sector.

Widespread destruction of temples and other ancient monuments has been reported in Kathmandu following the Nepal earthquake, along with huge loss of life.

In Syria and Iraq, the devastation has been man made, with the tearing down of antiquities by ISIS. Many agencies and governments are calling for action: UNESCO has suggested the creation of protected zones, the Italian government has called for the UN to intervene and Iraq's tourism and antiquities minister has asked the US to protect the country's archaeological sites.

It's significant that the tourism minister has been the one to make the call, because heritage drives a high proportion of tourism visits and as Iraq and other war torn countries work towards rebuilding a peace-time economy, tourism will have an important role to play in the regeneration.

Kathmandu has a huge tourism economy too, so making the city safe and attractive for the return of tourists will be a priority.

In this issue of *Attractions Management* we look at how technology can help in situations where historic sites are under threat. Our interview with Elizabeth Lee on page 74 examines the CyArk project, which is working tirelessly to digitise precious objects and locations so they can be replicated – either to preserve the original, or to recreate it.

CyArk is a non-profit organisation, founded in 2003, which uses state-of-the-art laser scanning technology to compile highly detailed 3D representations of cultural heritage sites, so they can be recreated using 3D printing and modelling.

The use of replicas is an area of the attractions industry which looks set to grow significantly over the next few decades. There are many reasons for this in addition to natural disaster, war and wilful destruction: perhaps the items in question are in inaccessible locations, or they're too fragile to handle being exposed to visitors, for example.

In France, the government has invested €56m (US\$60m, £40.2m) recreating prehistoric cave paintings at the Grotte Chauvet-Pont d'Arc, a huge collection of paintings of horses,

mammoths and rhinos which are among the oldest documented art on earth. The paintings, which are anything up to 37,000 years old, were discovered in 1994.

The project will enable people to experience the incredible cave art while keeping the delicate originals from harm.

Replication also allows

more widespread access to cultural heritage when combined with touring rather than static exhibitions. Where a location is fascinating, with a widespread appeal, there will be opportunities to replicate it and take it on the road for guest appearances in museums' temporary exhibition spaces.

In addition to being priceless in every sense, cultural heritage is of educational significance and a huge driver of tourism. The technology now exists to enable us to permanently capture the form of the most precious things on earth so they can be understood by future generations. We need organisations such as CyArk to step up the pace before more is destroyed.

Liz Terry, editor. Twitter: @elizterry

**The technology now exists
to enable us to permanently
capture the form of the most
precious things on earth**





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PHOTO: FERNANDO ALDA

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PHOTO: EDMUND SUMNER



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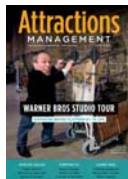
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A source of attractions services



On the cover: Harry Potter star Warwick Davis at the Platform 9¾ launch

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- Hamleys debuts theme park concept in Moscow, Russia

INDUSTRY OPINION

Business Bistro is vital to Ecsite – it connects businesses with sector

Mikael Holmgren

As the owner of Robeto, a Swedish family business that's been supplying toys to museum shops for 30 years, I'll be gathering hundreds of samples and a handful of staff and heading to the pretty Italian town of Trento to attend the Ecsite annual conference and its trade fair, the Business Bistro.

The 2015 edition takes place from 11 to 13 June at MUSE science museum, designed by Renzo Piano.

It's our fourth time as exhibitors at the Business Bistro, which usually has 50 or 60 booths. We're now gold sponsors of the conference, and on top of our booth, we have access to promotional opportunities.

We're really happy with the visibility we get. It helps us to be remembered. The return on investment is not immediate but it pays off. Over time, we've built great relationships with many decision makers in the science centre sector who visit us at the Bistro each year.

At Robeto, we believe an attraction's shop is a crucial part of the visitor journey, where customers purchase a tangible memory of their time at the attraction. We think the shop should be conceived together with the whole experience and the merchandise tailored to exhibitions – exactly what the MUSE team in Trento have been doing with our help since they opened two years ago.

I'm looking forward to meeting old and new customers and colleagues from the industry. The Business Bistro Happy Hour on the conference's second day is always a fun event.

(I also heard there'll be a Business Bistro competition giving attendees the chance to win one of three free registrations for the 2016 Ecsite conference in Graz, Austria.)

Mikael Holmgren, owner of Robeto, a gold sponsor of the Ecsite conference



Italy's MUSE gears up for Ecsite forum

The European network of science centres and museums is set to descend on the Renzo Piano-designed MUSE (Museo delle Scienze) in Trento, Italy, for its annual conference.

From 11 to 13 June, 1,000 delegates from the science centre community are expected to attend.

The event is one of the foremost stages for showcasing research into public engagement with science.

The schedule features 90 sessions, including talks by guest speakers, debates and workshops and a trade show with 50 exhibitors.

The theme is Food for Curious Minds, though other subjects are on the menu, such as immersive experiences, travelling exhibits, teen audiences and synthetic biology.



■ MUSE provides the stage for the 26th Ecsite conference

Ecsite is also keen to highlight the role the sector has to play in tackling the problems people face today.

"The Ecsite conference showcases the growing importance of museums and science centres in facilitating debate on themes of critical societal importance and creating an environment that

fosters informed, evidence-based decision-making and action," said Rosalia Vargas, president of Ecsite.

Professionals working in science centres or museums, natural history museums, zoos and aquariums, academia, research and firms in the sector are invited to attend.

■ Details: http://lei.sr?a=e8MSU_A

KKT unveils concept for weather museum

Kinslow, Keith and Todd Architects (KKT) unveiled plans for the Oklahoma Weather Museum in Tulsa's so-called Tornado Alley.

The structure, standing at up to 90 metres (295 feet) tall, takes design inspiration from a hurricane and has aptly been dubbed Tornado Tower. The plans feature a top-heavy spiralling tower, clad in glass with perforated metal panels, using LED lighting to accent sections to make it appear to rotate.

With interactive exhibits that explore weather phenomena globally and in Oklahoma, the spiralling tower destination would provide the traditional infrastructure of a museum but also act as a branch of the National



■ The design of Tornado Tower makes it appear to rotate

Oceanic and Atmospheric Administration's (NOAA) severe storms laboratory.

If the project proceeds, there will also be spaces for weather research, educational areas, storm chaser training, storm safety information, storm shelter displays and event space for public use.

Although the project is still in the concept phase, it is gaining traction.

Several investors have made offers of support and developers are interested in exploring the residential and office space the building could potentially offer.

■ Details: http://lei.sr?a=W5p2k_A

New York's One World Observatory sets May opening date

New York's One World Trade Center will open its doors to the public on 29 May, with tickets now on sale for the western hemisphere's tallest skyscraper.

The Hetta Group are behind the design of the 120,000sq ft (11,148sqm) One World Observatory observation deck and visitor experience. Legends Hospitality was chosen in 2013 by the Port Authority Board of Commissioners to run the attraction, which sits at the top of New York's skyline.

The experience starts from the ground up as visitors walk along a multi-sensory passageway telling the story of the tower's construction. From there, visitors board one of five "Skypod" elevators, which will take passengers 1,268 feet (386.5 metres) up to the tower's top floor, using HD screens to give riders the experience of New York seemingly rising up from its foundations.

"The Port Authority wanted something unique," a spokesperson for Hetta Group told *Attractions Management*. "They wanted it to compete with other observatories. It was an early goal not to focus on 9/11 as this is about the future and the vibrancy of New York City."



■ The tower, designed by SOM architects, cost \$3.9bn (£2.6bn, €3.6bn) to develop

The attraction features a series of multimedia exhibits, presenting One World Trade Center as a "global nexus of 21st-century commerce, culture and community, set in the heart of the most dynamic international city in the world".

Included on the observation deck are several dining options, a gift shop, space for special events and the See Forever theatre where visitors can learn about the future of New York City.

■ Details: http://lei.sr?a=MTE8p_A



■ The site is popular with Star Wars fans

Threat of ISIS puts Tataouine off-limits

The threat of Islamic State (ISIS) to tourists in Tunisia means Star Wars fans must avoid Tataouine – the inspiration for Luke Skywalker's home planet.

The UK's Foreign Office has advised against all but essential travel in the area, warning: "There is a high threat from terrorism, including kidnapping. Attacks could be indiscriminate, including in places visited by foreigners."

■ Details: http://lei.sr?a=E4q5_A

Shrek's Adventure steps up midway format

Eddie Saul, creative lead for Merlin Entertainment's upcoming Shrek's Adventure, has said the experience will push the company's linear attraction model to new heights.

The London, UK-based attraction, which opens in July, will feature a cast of fairytale characters, themed sets, a 4D bus ride provided by Simworx, special effects and new DreamWorks animation.

Speaking to *Attractions Management*, Saul – who operates as creative lead for Merlin's highly popular Dungeon experiences – explained how the Shrek version is a step up from what's currently on offer.

"These are batch linear experiences," said Saul. "People can go on an



■ The experience is designed to be completely immersive

experience and feel like they can influence a story.

"The added layer with DreamWorks is that world of content. They've created characters that stick in everyone's mind. We're pushing the model further to see what it can do."

Saul said that the script for the experience – which

will last around 1.5 hours – is completely new and has been written exclusively by DreamWorks for the multi-million pound project.

A further six Shrek midways are planned worldwide over the next 10 years.

● See *The Art of Collaboration*, AM Q3 14, page 24

■ Details: http://lei.sr?a=FTW4H_A

INDUSTRY OPINION

ASTM International focuses on standards and harmonisation

Aleatha Ezra

The waterpark industry can greatly benefit from its members joining the standards organisation ASTM International as waterslides and wave systems come under review.



For standards for the design and operation of amusement and waterpark rides and attractions in the US, all roads lead to ASTM International's F24 Technical Committee on Amusement Rides and Devices.

The committee has been primarily focused on creating standards that would apply to US facilities, but in the past few years, in order to help achieve ongoing common ground in standards development for the global amusement sector, the ASTM F24 Committee established a subcommittee (F24.80) specifically focused on harmonisation.

Last year Canada approved standard practices for the design, manufacture and operation of amusement rides prompting three more countries to move forward with their own harmonisation standards based on the Canadian model.

Anyone can become a member of ASTM and the costs are low. Members have the power to review new standards or revisions and vote on whether they should be approved.

Now is a good time to join ASTM as revisions are currently underway on F2376-13 "Standard Practice for Classification, Design, Manufacture, Construction, and Operation of Water Slide Systems" and new standards are under review that would address the design, manufacture, construction and operation of standing wave systems and the use of waterslide conveyors for rafts, tubes and guests.

For more, see www.astm.org.

Aleatha Ezra, director of park member development, WWA

Slagharen expands with Aqua Mexicana

Slagharen theme park and resort in the Netherlands has expanded its public offering following the opening of its new €6m (\$6.7m, £4.3m) Mexican-themed waterpark.

Launched on 1 May, the 5,200sqm (56,000sq ft) development – known as Aqua Mexicana – consists of 10 slides, supplied by Van Egdom, totalling 546 metres (1,791 feet) in length. Madrid-based Rocas & Design has worked on the design of the waterpark, while construction work has been carried out by Slagharen with the help of local sub-contractors.

It adopts a Mexican theme and includes a Caribbean pirate ship, Mayan temple and 18th century-style houses.



■ The Netherlands waterpark follows a Mexican theme

Aqua Mexicana includes both indoor (3,172sqm, 10,406sq ft) and outdoor (2,083sqm, 6,833sq ft) facilities. Three of the waterpark's slides will include special effects, sounds and 3D animations designed specifically for Slagharen. The park will

also feature a "bubble bath" with capacity for 70 people. For kids, the park includes an aquatic play area, while there will also be a terrace with seating and dining options. More than 100 companies worked on the expansion.

■ Details: http://lei.sr?a=G7w8E_A

Turkey's Crystal Aura debuts new waterpark

A new waterpark has opened at the Crystal Aura Beach Resort & Spa in Kemer, Turkey, with the destination now offering visitors access to both the new waterpark and the nearby Nomad theme park in the Antalya Province.

Owned and operated by the Kilitt Group, the waterpark uses slides designed and installed by Polin, which also supplied the resort's sister properties at Crystal Sunset and Crystal Waterworld.

Included at the Crystal Aura Waterpark is Polin's Magic Sphere – a two person slide using natural lighting effects which sends riders on a high-speed journey from one sphere to another. Also



■ Polin has supplied all of the waterpark's slides

installed are Polin's Aquatube, Black Hole, Big Hole and Black Hole/Flying Boats combination.

"Nearby attractions might once have tempted [visitors] to leave our property, but once they begin riding the slides, they can't get enough," said Crystal Aura resort's

general manager, Erdogan Turan. "They can spend all day at the resort and never tire of the offerings we provide to them."

The waterpark is a welcome addition to the resort, which has 416 bedrooms and a private section of beach.

■ Details: http://lei.sr?a=C603y_A

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Photo courtesy of Attnaf Fair, Liseberg

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Hunger Games attractions confirmed for Motiongate Dubai

Following news that movie studio Lionsgate was "deep in conversation" with potential theme park partners on four different continents for a Hunger Games theme park, the team behind the upcoming \$2.7bn (£1.8bn, €2.5bn) Dubai Parks and Resorts development has confirmed Motiongate Dubai will include a Lionsgate Zone, featuring the popular IP.

Slated to open in October 2016, the Lionsgate Zone will include rides and a retail facility inspired by the franchise. In addition, the zone will feature a live stage show based on the Step Up dance films, with the possibility of further expansion in the future.

"Our franchises are continuing to drive location-based entertainment opportunities around the world," said Lionsgate chief executive officer Jon Feltheimer. "We're partnering with Dubai Parks and Resorts to create a thrilling experience designed to attract millions of new fans."

The Hunger Games brand has gone from strength to strength since the first film, *The Hunger Games*, was released in 2012. Several attractions related to the brand are in the works, including a set tour in the US.



PHOTO: LIONSGATE

■ Rumours of a theme park based on the franchise have been swirling for several months

The series culminates in November 2015 with *The Hunger Games: Mockingjay - Part 2*.

"Lionsgate's Hunger Games, Step Up and other signature properties are the perfect centrepiece for one of the most visionary new theme parks in the world,"

said Dubai Parks and Resorts CEO, Raed Al Nuaimi. "Through this partnership we're confident that Motiongate Dubai will set a global benchmark as the ultimate movie-themed destination."

■ Details: http://lei.sr?ae6j3s_A



PHOTO: MOVIE WORLD GOLD COAST

■ Village Roadshow's Movie World

Village Roadshow signs up with CITIC

Australia-based theme park operator, Village Roadshow, has formed a \$392m (£263m, €359m) joint venture with China's CITIC to invest in its theme park arm.

Speaking to *Australian Business Review*, Village Roadshow co-chair, Robert Kirby, said the company wants to operate a multi-billion-dollar portfolio of theme parks and property in Southeast Asia by 2020.

■ Details: http://lei.sr?ae448f_A

Moscow Hamleys debuts theme park concept

Global toy retailer Hamleys has taken the first step to becoming an experience brand after opening a mini theme park in its new Moscow store – also the largest toy shop in Europe.

"When we open a 70,000 sq ft (6,967sqm) toy store, it can't be a normal toy shop – it's just too big," said Hamleys chief executive Gudjon Reynisson. "We decided to create something new – an interactive world where brands interact with attractions in a manner akin to a theme park."

The new retail/theme park concept offers shoppers and visitors nine "worlds of play" and was developed by design studios Fitch and Paragon Creative.



PHOTO: HAMLEYS PARAGON CREATIVE

■ The new Hamleys in Moscow's Desky Mir building

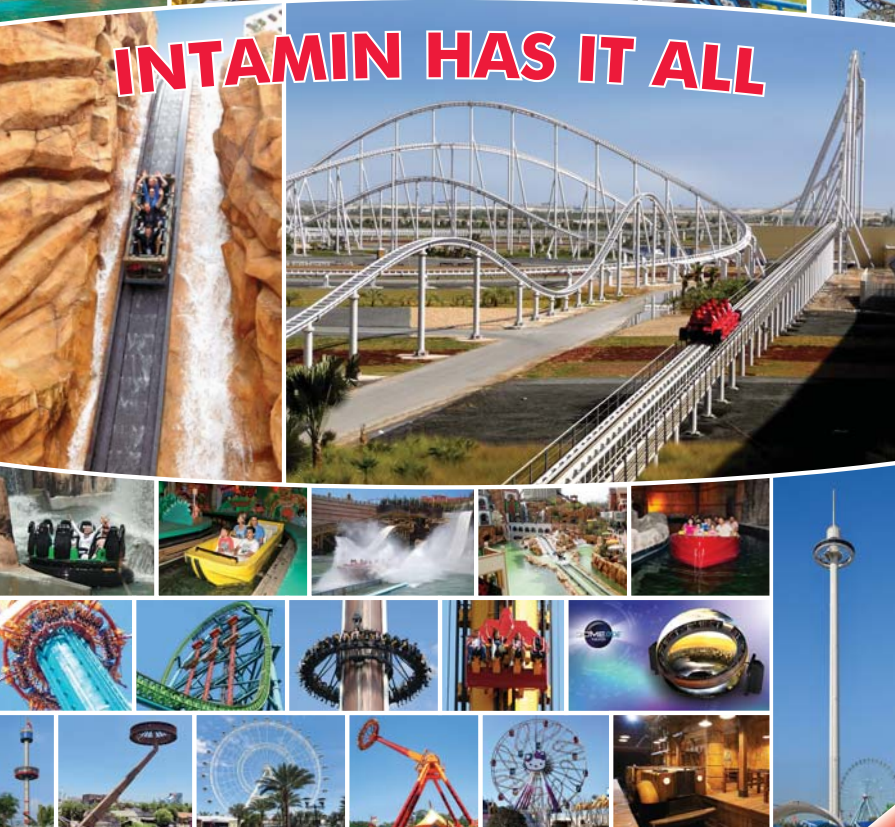
"Over the past two years, Paragon has been working closely with Hamleys to develop the new format and morph it into a theme park environment," said Mark Pyrah, director of Paragon speaking to *Attractions Management*. "We turned what would have been a flagship Hamleys

store into what we're now calling 'Hamleys World' – a Hamleys which incorporates retail and leisure. We've been working with Hamleys to see what the potential new format of the brand could be, which certainly starts to work its way into a theme park environment."

■ Details: http://lei.sr?ae44t4_A



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2015 *TrendsWatch* report forecasts the future of museums

The 2015 edition of the *TrendsWatch* report, which highlights trends in museums in the coming year, has been released. Rising tides, wearable tech and open culture are all on the agenda.

The report, from the Center for the Future of Museums (CFM) and the American Alliance of Museums (AAM), annually identifies six trends that will shape the way museums worldwide handle affairs, do business and engage visitors.

Written by Elizabeth Merritt of the CFM, the 2015 report highlights open culture and data movements, consumers' heightened awareness of ethical issues, personalisation, climate change and rising sea levels, plus wearable technology, and the slow culture movement.

The first identified trend – the "Open Economy" – looks at open sources of information, software and government.

The "Ethical Everything" trend, suggests an increased demand for ethical sourcing and production, transparency and accountability for these things, while "It's Personal" looks at the bespoke treatment of visitors.



PHOTO: TIANWANG / SHUTTERSTOCK.COM

■ The annual report highlights six key trends to watch for in the year ahead

Combating rising tides was also identified as a trend, with museums having to protect cultural heritage from oncoming elements. Wearable tech – such as the Apple Watch and Google Glass – was also seen as key for the future. Finally, the slow culture

movement signifies a return to a slower way of life, which Merritt suggests can present the opportunity for a museums to position themselves as refuges from an increasingly overwhelming world.

■ Details: http://lei.sr?a=3F7Q6_A



PHOTO: METROPOLITAN POLICE

■ The Black Museum opened in 1874

Secret artefacts to form crime exhibit

A selection of 500 items from Scotland Yard's Black Museum – open only to serving police and select guests since its formation in 1874 – is to go on display later this year at the Museum of London.

Using evidence from real-life crime cases, visitors will be taken on a journey through some of the UK's most notorious crimes. The exhibition will be on display for six months.

■ Details: http://lei.sr?a=H3m2G_A

Museum gets art haul in wake of oil scandal

A museum in Brazil has been donated 139 works of art, all seized from individuals involved in a high-level corruption scandal relating to oil giant Petrobras.

Prosecutors are currently investigating Brazil's state-run oil company, having filed charges against 35 people so far, with nearly \$1.3bn, (£878m, €1.2bn) taken by the individuals in a kickback scheme. Over a 10-year period, money siphoned off from inflated contracts allegedly generated a flood of dirty money, which was then used to bribe company officials and pay off politicians.

Works seized by police and subsequently donated to the Oscar Niemeyer Museum in the city of Curitiba, include art by



PHOTO: OSCAR NIEMEYER MUSEUM

■ The Oscar Niemeyer Museum received 200-plus works

Spanish artist Joan Miro, Brazilian composer and painter Heitor dos Prazeres, and more. The museum was already in possession of another 64 seized works relating to the scandal, including pieces by Salvador Dali and Vik Muniz.

The works were allegedly used to launder money

and cover a trail of bribes. Since the scandal broke, 20 galleries and art dealers have been asked to explain transactions involving the seized pieces. Currently 15 are on display, with the full collection likely to join them following a quarantine examination period.

■ Details: http://lei.sr?a=H3m2G_A



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Italy calls for UN force to protect world's ancient heritage sites

Italy's minister for culture has backed plans for the creation of a UN peacekeeping force to protect heritage sites across the world following the destruction of Iraq's ancient cities by Islamic State (ISIS).

"A 'blue helmets of culture' are needed, as there are blue helmets that intervene to protect in situations of war," said Dario Franceschini, speaking to *The Guardian*, referring to uniforms worn by the UN's peacekeepers.

"There should be an international rapid response force to defend monuments and archaeological sites in conflict zones."

Iraq's heritage has been at the mercy of ISIS as the terrorist group wages war in the Middle East. Most recently, Iraq's tourism and antiquities minister, Adel Fahad al-Shershah, called on the US-led coalition carrying out air strikes against the radical group to also protect the country's archaeological sites from them.

UNESCO also recently called for an emergency meeting of the UN Security Council to discuss how to protect Iraq's cultural heritage. The world heritage body previously suggested the formation of



PHOTO: AGENCE FRANCE PRESSE

■ Deliberate attacks by ISIS on Iraq's historical sites prompted the call for protection

protected cultural zones – areas where there would be an enhanced focus on preventing attacks on cultural heritage and illicit trafficking in cultural properties.

"At one time great monuments were hit accidentally in wars during bombing.

Now they're hit precisely because they are symbols of culture and religion," said Franceschini, who added that a protective force couldn't be established by one country, rather an international community.

■ Details: http://lei.sr?n=B3v4V_A



PHOTO: LINCOLNSHIRE COUNTY COUNCIL

■ Lincoln Castle is popular with tourists

£22m Lincoln Castle works completed

Lincoln Castle in Lincolnshire, UK, has reopened following a £22m (\$32.5m, €30.2m) refurbishment, restoring the centrepiece of the city to its former glory and providing a new home for the historic Magna Carta.

The work includes a new high-security vault to house both the 1215 Magna Carta and the 1217 Charter of the Forest – the only place both documents can be viewed at the same time.

■ Details: http://lei.sr?n=H3m26_A

More natural heritage funding needed: study

The world's national parks and nature reserves are thought to be worth \$600bn (£389bn, €535bn) a year, with around 8 billion tourism visits annually. That income, however, is not being supported by adequate investment into heritage protection, according to the team behind the research.

A study published in *PLOS Biology* revealed the statistics and highlighted the need for more investment in protected natural heritage areas. Compared with the \$600bn spend generated by national parks and nature reserves, only \$10bn (£6.5bn, €8.9bn) is spent safeguarding those sites.

According to the study, by a team from Cambridge



PHOTO: SHUTTERSTOCK.COM / A. ROY ZEMCHUK

■ Golden Gate national park attracts 13 million visitors yearly

University, natural capital and the worth of natural assets – based on assigning economic value to the natural environment in order to better preserve it in the future – is increasingly becoming an issue in policymaking.

The top 10 most visited national park sites were

in either the US or UK, the study revealed.

Protected areas cover around one-eighth of the world's land and further investment into protection of these areas could yield economic returns as well as helping to preserve precious landscapes.

■ Details: http://lei.sr?n=b3kf9_A



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INDUSTRY OPINION

Zoos and aquariums teach wonder of wild through nature play

Elliot Zirulnik

In a time when real-world experiences are constantly outpaced and replaced by technology, it's more critical than ever that we encourage children and families to "unplug" and experience the wonders of nature firsthand through nature play.

Nature play is characterized by free, unstructured play in an outdoor setting, where children are encouraged to explore animals, plants, weather, habitats and landscapes without any specific direction from adults.

Facilities accredited by the Association of Zoos and Aquariums (AZA), championing the conservation of wildlife across the globe, have long understood that the connection between families and nature is one of the most potent forces in the world.

To cultivate and enhance this relationship, AZA applied a gift from the Disney Worldwide Conservation Fund to provide 30 member zoos and aquariums a total of \$220,000 (£146,000, €205,000) in nature play funding. This is financing programming as diverse as family nature clubs, portable hands-on displays, sensory gardens, camping trips, workshops and art projects, all of which ultimately aim to inspire the next generation of conservationists.

Zoo and aquarium educators agree that nature play must stretch beyond the gates or walls of an institution. AZA-accredited zoological attractions are ideal venues for children to engage in nature play and inspire families to create their own games or activities, or simply explore wild environments. Quite simply, nature play taps into the instincts that drive us to touch, listen to and question our natural world.

Elliot Zirulnik, communications intern, Association of Zoos and Aquariums



Safari park planned for Egypt resort

Plans for a leisure development in Egypt, which were derailed by the Egyptian Revolution in 2011, are back on track, according to one of the key players behind the \$1.1bn (£1bn, £738m) safari, theme park, hotel and housing scheme.

A consortium – made up of Egypt-based 300 Years History, UK-based Chipperfield Companies Group, Canada's Maple Leaf, South Africa's Glen Afric and Italy's Pinfari Coasters – is behind the New Cairo proposal, which has been submitted to the Egyptian Housing Ministry for approval.

Adventure City is the brainchild of Tariq Bahgat, chair and CEO of 300 Years History. He has been working closely with consortium partner John Chipperfield.



■ A safari park is part of the Adventure City proposals

"Back in 2009 [Bahgat] contacted me to look into what it would take to get the project started and since then it has progressed significantly," Chipperfield, MD of Chipperfield Companies Group, told *Attractions Management*. "We were

making great progress and then the political situation changed in Egypt with the revolution. Now the country is getting back into its stride, [Bahgat] has resurrected the project, working for the last year to form the consortium and develop the plans."

■ Details: http://lei.sr?a=C4t9E_A

Police to give zoo employees firearms training

New legislation has been introduced in Pittsburgh, Pennsylvania, that allows police officers to train zoo and aquarium employees to use a firearm when dealing with a dangerous animal.

Pittsburgh City Council enacted the legislation in response to the 2012 mauling of a toddler, who died after falling into Pittsburgh Zoo & PPG Aquarium's African painted dogs enclosure.

The legislation authorises weapons training for the next three years. The police will train employees to use firearms in cases where an animal poses a danger, while zoo staff, in turn, will school police on animal behaviour and the zoo's layout to improve emergency response time.



■ An attack by African painted dogs kickstarted the move

"The zoo and the police department have had an informal agreement now for the past five years or so," said Pittsburgh Police spokesperson, Sonya Toler. "This proposal is an attempt to formalise the arrangement. It's important to note this is cross training – police

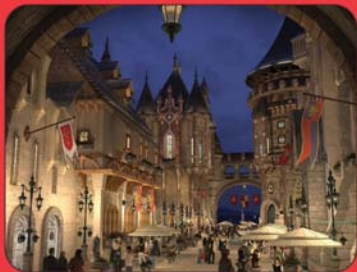
will learn about the zoo animals and their behaviours and become familiar with the grounds of the zoo, while zoo employees will learn what to do when and if there is a situation with a dangerous animal that has got loose."

■ Details: http://lei.sr?a=Y3s9P_A

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INTERVIEW

MARTY SKLAR

**Disney Legend Marty Sklar reveals the secrets of
Imagineering, the legacy of the 1964 World's Fair
and the lessons he learned from Walt Disney**

Jak Phillips, Journalist, Attractions Management



Discounting the great man himself, there can be few people who've played such a key role in Disney's success as Marty Sklar. During a 54-year career, in which Sklar started out as the writer of Walt Disney's narratives and ended as the realiser of his visions, the IAAPA Hall of Famer played a hand in the opening of all 11 Disney parks around the world.

When he retired from his position as head of Disney Imagineering in 2006, after more than 30 years in the role, former Disneyland International chair Jim Cora referred to him as the "keeper of the keys" – someone who understood the Disney way because "he learned it at Walt's knee."

Sklar was hired to write Disneyland marketing materials in 1955, when he was still a UCLA undergraduate. Working closely with Disney helped instill in him a sense of the "Disney DNA", which he circulated to his Imagineers through the doctrine of "Mickey's Ten Commandments."

"As I began to learn to write things that sounded like Walt Disney, I found a little book called *Words to Live By*. It was from the 1940s," says Sklar. "There was an article from Walt in there called 'Take a Chance.' I realised that was Walt's model – take a chance. He was a big risk-taker."

"Everybody thought Disneyland was going to be a disaster and that it wouldn't work.

PHOTOS: DISNEY PARKS



It's a Small World at the New York World's Fair (top), Walt Disney films *The Wonderful World of Color* (left), and songwriters Richard and Robert Sherman rehearse their song, 'A Small World', at the Walt Disney Studios in this 1964 photo

Walt was never interested in what he did yesterday. He was only interested in what he was going to do today and tomorrow. We had to grow all the time to keep up with him

But Walt believed in it so strongly and he convinced people that it was going to work – including the bankers – and ultimately, that's why we're all in this industry today."

"Walt was never interested in what he did yesterday. He was only interested in what he was going to do today and tomorrow.

So we all had to grow all the time to keep up with him and that was a great challenge and a great opportunity," Sklar says.

Having excelled as a writer, Sklar quickly rose through the creative ranks at Disney and became head of Imagineering in 1974. From there, he presided over

Disney artist John Hench (left) and Marty Sklar during the construction of Epcot

- unprecedented expansion, taking the number of Disney theme parks from two to 11. Throughout this period, Sklar maintains that motivating his fellow creatives was the most important aspect of his job.

"It was vital to instill self-belief and imagination in the team," says Sklar. "I always said there are two ways to look at a blank piece of paper – it's either the most frightening thing in the world or the greatest opportunity. You need to get people to see it as a chance to let their imaginations run wild and create a new thing."

When the magic happens

As for the creative process, Sklar believes a key framework of goals and objectives is essential in keeping a team focused.

"Sometimes we had a blank piece of paper and we had to turn that into a theme park. When we started on Epcot, we had Walt's concept of a city, but turning that into the park was a huge challenge that took eight years," he says.

"You have to figure out where you're going and motivate people to help you get there. As a creative leader, I was focused on getting people to follow the foundation that we had set up and getting them to buy into and understand it. If you have a team of talented creative people, once they understand where you're going, they really respond. That's when the magic happens."

Despite the fact that the Imagineering

If you have a team of talented creative people working together, once they understand where you're going, they really respond. And that's when the magic happens

team were effectively creating theme parks from scratch, there wasn't any room for egos or resting on personal laurels. Sklar would encourage risk-taking and innovation, but at the same time would remind his colleagues that at Disney "there's only one name on the door" and if they wanted their name in lights, they'd need to look elsewhere.

It wasn't like showbusiness, adds Sklar. There was no individual glory – Imagineers had to take their satisfaction from contributing to a successful team.

But there was one major pay-off. "What we all enjoyed more than anything was watching the people coming to the parks and having a great time with their families," Sklar says. "Boy! That's a great satisfaction, witnessing people taking such great enjoyment from something you helped to create."

A true world stage

Disney was able to expand its empire extensively after the launch of Walt Disney World in 1971 thanks to the capital it was able to raise through commercial partnerships.

The seeds for this strategy – which was revolutionary among attractions at the time

– were sown through Disney's starring role at the 1964 World's Fair in New York.

As Sklar recounted at the IAAPA 2014 Legends Session commemorating the Fair's 50th anniversary, the Imagineering team produced four major pavilions for corporate sponsors – Ford, GE, Pepsi and the State of Illinois – all of which were launched on the same day, using previously untried technology.

Walt Disney took a huge gamble and diverted the entire Imagineering team's efforts from Disneyland towards the World's Fair projects, hoping to showcase the famous Disney magic on a true world stage.

"The World's Fair was extraordinary as it was a stepping stone to Walt Disney World in Florida and brought huge growth for Disneyland. We didn't know the details of the deals Walt made with the companies, but here we were stopping work on Disneyland for five years. We later found out that as part of the contract, Walt owned everything we produced for the World's Fair, so everything we developed – even the troughs for the boats for It's a Small World at the Pepsi pavilion – all came back to Disneyland as ►

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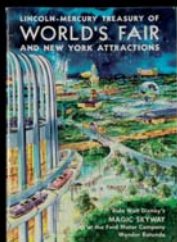


PHOTO: FROM THE COLLECTIONS OF THE HENRY FORD



The Magic Skyway was made by the Imagineers for Ford Motor Company's pavilion at the 1964 World's Fair in New York

The pavilions were viewed as a huge success and laid the foundations for Disney's later commercial partnerships. Firms could see what Disney could do for them

- new attractions. It was brilliant marketing on Walt's part," says Sklar.

As well as being involved in the writing for the World's Fair – Sklar scripted Walt Disney's narrative for the Ford World exhibition – he was Disney's main liaison to the major corporate sponsors. As part of the process for creating the Ford Pavilion, he spent three weeks touring parts of the Ford Motor company trying to understand what they wanted to communicate. "Show us as an international and innovative company" was the message, and Sklar was tasked with communicating this in a 3D format.

The results – and the World's Fair overall – were viewed as a huge success and laid the foundations for Disney's later commercial partnerships. The legacy of these early partnerships can be seen today in the prominent brand experiences being created by firms like BRC Imagination Arts – which, incidentally, has just completed an immersive factory tour experience for Ford.

"With Epcot we had to get sponsors to help defray the cost. When we opened in 1982, we had many big companies as sponsors: GM, Exxon, Kraft Foods and AT&T."



"The 1964 World's Fair was where we got that foundation for understanding what we had to do to sell Epcot," says Sklar. "We got the understanding of how to work with big companies – and firms could see from the World's Fair what we could do for them."

Love what you do

Despite the valuable collaborations with big business, there was never confusion as to which company was calling the shots.

"We made sure people understood that, in Disney parks, Disney creates everything and the sponsors present the show. So the system we developed, at the beginning of Walt Disney World, was we'd put the name of the attraction, followed by 'Presented by...'. We never put the name of the company first – we always wanted people to know that it's something Disney created."

The 81-year-old Sklar is still involved in a number of projects. He recently published his autobiography, *Dream It! Do It!* and will release its sequel, *One Little Spark!*, later this year. He also wrote the introduction for fellow Disney legend Bob Gurr's book. Sklar remains president of Ryman Arts, which he co-founded 25 years ago. The organisation has provided 6,000 scholarships to high-school students in Southern California through the Ryman Program for Young Artists.

Sixty years since he met Walt Disney, what advice does Sklar pass on to those creating the next generation of attractions?

"You have to be truly passionate about what you do as you'll be happier and what you design will be better," he says. "Most important is to do what you love and love what you do. That still holds true." ●

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THE \$100 BARRIER

Disney has pushed its headline ticket price up to \$105 in a bold move that got the industry talking. What does this mean for pricing in the sector?

Walt Disney World's Magic Kingdom crossed the \$100-mark for its headline one-day ticket price in February this year, when the

cost of a one-day one-park ticket was increased from \$99 to \$105.

Universal Orlando Resort followed suit, raising its one-park adult ticket to \$102.

This was a bold move by Disney, not because of the price rise – ticket prices are increased every year – but because it crossed the \$100 threshold.

In return, guests are getting more for their money. In the past five years, Disney has invested more than \$8bn into improving its US parks and opening new attractions.

So far, however, price hikes haven't deterred visitors. The jump to \$105 represents a 6 per cent price increase, and in 2013-2014 the ticket increased from \$90 to \$99 – a 9 per cent hike. Despite this, there's been strong attendance at Disney's US parks and resorts, with Walt Disney World Resorts posting a 7 per cent increase in revenue year-on-year.



At Disney and Universal, a \$100-plus price tag is partly symbolic, as many guests won't pay the headline price, due to the plethora of special tickets and marketing offers available, but for regional parks, changes in pricing require more caution in implementation to avoid upsetting regular customers.

Walt Disney World in Orlando isn't a typical park – it has data analysts working on every decision it makes and a strong tourist market to draw on, so there's a limit to how transferable lessons can be. So what's the industry's reaction and what should you look at when pricing your tickets? We asked the experts.

Lesley Morisetti

Morisetti Associates

Optimising admission prices is fundamental to the successful operating performance of visitor attractions. Setting the price too high can depress attendance; setting it too low can reduce profit. Hence attractions place great importance on price strategy, taking many factors into account in setting annual price changes, including:

- Mission – is your objective to optimise volume or value? Some non-profits are required to do the former, most commercial attractions do the latter.
- Changes to the visitor offer – is anything being added which supports an above inflation price increase?



- Your visitors' views – how price sensitive is your current and potential customer base?
- Your discounting strategy – the lead price needs to have sufficient headway to allow discounts to be applied for web sales, concession tickets and promotions, as well as account for annual pass holders.

- VIP access – will some of your audience pay premium prices for added value options?
- Competitor pricing, including perceived price per hour – based on current prices and any information on competitors' future plans
- The economy – projections for inflation and currency exchange rates (for attractions with international markets)

So crucial is setting the right price that attractions are increasingly turning to consumer research to test the price sensitivity of their key audiences, finding the optimum point between being so cheap it raises concerns over quality and so expensive they're not perceived value for money.

Once prices are set, it's

crucial to monitor visitor response. Downward trends in customer satisfaction ratings for value for money and enjoyment can provide an early indicator of dissatisfaction, allowing you to adjust prices before they substantially impact attendance.

There's been much debate about Disney and Universal breaking the \$100 barrier. For any attraction, deciding when to cross one of those landmark price points is tough.

Undoubtedly it's easier to do this in a year when you're providing a substantial addition to the experience, enabling you to cross the barrier confident that you'll continue to provide excellent value for money.

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Nikki Nolan

Nolan Consulting

When Disney established its \$99 price point in 2014, it could no longer continue to walk in micro-steps towards a perceived \$100 "wall" – instead, it had to move the wall. Someone had to do it at some point and, as the market leader, Disney was the logical first mover.

Disney's bold 2015 pricing decision is supported by historic double-digit growth of underlying financial performance, indicating there's been no significant resistance to their price points and strategies so far.

A company shouldn't necessarily be bound by something as artificial as a triple-digit price barrier. It's not that there isn't a psychological barrier, but that recent pricing policy at Disney

World hasn't actually had a negative impact on overall park and resort performance.

In taking its pricing decisions, Disney would have looked at its own wealth of internal data as well as broader tourism data and trends and economic indicators, including household expenditure surveys, consumer confidence and much more.

In fact, when one compares historical growth of Disney's lead price against any number of proxy measures and comparables in the US – including leisure services expenditures and pricing for cinema tickets and sports events – Disney's price growth, is pretty consistent with the upper end of the leisure industry.

Increases in the consumer price index (CPI) tend to be similar over time to inflation – a 2 to 3 per cent average annual

growth rate – and overall growth in expenditures for leisure services is just over 3 per cent.

Over 10 and 20-year periods, growth in average cinema ticket pricing is a little higher again, and sports tickets are in the 5 to 8 per cent growth rate range. Disney's lead price growth – at an average annual of 5 to 6 per cent over the same periods, puts Disney towards the upper end of the range, but certainly not as an outlier.

Also important to the Disney pricing policy is the "destination" factor – i.e., hardly anybody pays the walk-up price. Instead, the lion's share of Disney World's customers, including international visitors, purchase tickets online, in advance, and typically as part of a multi-day pass and/or package, which offer savings.

A more cynical hypothesis, I suppose, might say that

the more you communicate a lofty lead price while simultaneously offering significantly discounted package pricing, the greater the perception of savings by customers. This year's headline price increased 6 per cent, but multi-day tickets went up between 3 and 4 per cent.

For regional parks, who rely on fixed markets and repeat visitors and face resistance to price rises, there's an awareness about what Disney's charging and, as a result, a \$62 or \$67 lead price at Six Flags or Cedar Fair – which, again due to season passes and promotions, no one really pays – suddenly seems a relatively good deal.

In that way, I suppose it's fair to say that Disney is pulling the whole train along in terms of the industry's lead price point.

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A more cynical hypothesis might say the more you communicate a lofty lead price while simultaneously offering significantly discounted package pricing, the greater the perception of savings

Tim Baker

Touchstone Partners

Pricing is a touchy, tricky and critical issue. Everyone has a view about price levels that are or are not acceptable, and – given the chance – we're all forthright in broadcasting these views.

But what price levels really are acceptable? As business operators, it's as wrong to under-price our services as it is to overprice. We need to hit the sweet spot where our visitors agree they're getting great value for money while we're maximising our revenue opportunity.

Finding that sweet spot needs objective evidence. This evidence can come from three routes: looking at what's



around you in the immediate vicinity; understanding what is in the consideration set for those who choose (or choose not) to visit you; and through indirect questioning.

What else is available to leisure visitors to the area? How do they compare with you in terms of what they

offer (dwell time, age appeal, interactivity etc)? Is there a "going rate" for your area?

Where else did visitors think of visiting before they came here today? Where else will they go on this trip? What do they compare you with? Can you get a fix on pricing in the consideration set?

Most importantly, what is the value of your equity? Are you seen as a value-added or commodity player? This massively affects where you should pitch your price. We can't directly ask the target audience what they're prepared to pay for entry – this almost always generates undervalued estimates as people try to haggle the price down. But by using indirect

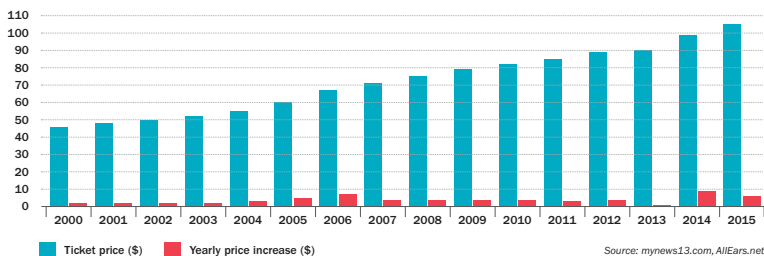
questioning and modelling, we can generate highly accurate insights into price thresholds and the effects of raising – or lowering – your price.

Disney and Universal will have carefully modelled pricing scenarios before making these decisions. They'll know how many fewer visitors they'll get, and that their businesses will improve at these prices.

The visitor experience may improve with slightly fewer numbers, higher spenders will still come and maybe spend more. Is \$100 too far for these attractions, in this location? Not for these attractions, in these locations. But that doesn't mean it's OK for you.

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Figure 1: Evolution of prices at Walt Disney World from 2000–2015



The entry price has increased by approximately 130 per cent since 2000, which is an average annual increase of 5.6 per cent.
If prices had been linked to inflation, today's ticket would be \$63

Nigel Bland

Deloitte

The price to enter a Walt Disney World theme park has increased almost every year since 1971, when entry cost only \$3.50. Now the single-day adult price has surpassed \$100, does it still represent good value for the customer?

First, let's ask if price increases have been fair. The entry price has increased by approximately 130 per cent since 2000, which is an average annual increase of 5.6 per cent. If prices had been linked to inflation, today's ticket would be



\$63. In real terms, it's one and a half times more expensive to visit the Magic Kingdom in 2015 than it was in 2000.

In the past nine years prices have increased by 66 per

cent, not dissimilar to the 60 per cent increase at the UK's leading park, Alton Towers.

However, when you compare them to some other destination leisure products they appear disproportionate. For example, the average cost of an NFL ticket has "only" risen 35 per cent since 2006 (to \$82.50).

Comparing headline prices can be misleading, as joint ticketing and discounting have evolved considerably over the period. In Florida particularly, many guests buy packages of tickets with implicit discounts, assuming they have the energy to maximise value for money.

In addition, there's the impact of new product. Disney points out its recent price rises are supported by new experiences on offer at its parks such as the Festival of Fantasy Parade.

So, how does it compare today? Disney leads the world theme park market in terms of pricing, based on the brand and the quality and depth of investment it makes both in park infrastructure and also in live on-site entertainment. Universal Studios has raised the price of a one-day ticket to \$102, only \$3 less than

Disney and hardly likely to be a differentiator to consumers.

Theme park pricing, as shown in the table (Figure 2), is quite consistent with other parks in Florida at a 10 to 20 per cent discount to the "big two" and major regional parks at about 30 per cent discount.

At face value that doesn't seem like an unsustainable price differential against the other theme parks. Indeed there are many experiences that are more expensive – Discovery Cove, for example.

In conclusion, the real test is if customers keep coming and I believe they will. Disney prices have been rising ahead of inflation for many years, and yet Walt Disney reported domestic park attendance rose 7 per cent in the three months ending 27 December 2014 – a company record.

Walt Disney World Resorts also reported a 7 per cent increase in revenue year-on-year. This seems to indicate that despite the increasing cost, customers still value the experience and are willing to pay the premium. ●

nbland@deloitte.co.uk

Figure 2: Price comparison between Disney and its competitors

\$60–\$75	\$85–\$95	\$95–\$105
Major Destination Parks	Florida non-studio parks	"The big two"
<ul style="list-style-type: none"> Six Flags Cedar Point Alton Towers Legoland UK Busch Gardens Williamsburg 	<ul style="list-style-type: none"> Legoland US Busch Gardens Florida 	<ul style="list-style-type: none"> Disney US Universal

Source: Theme park websites

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



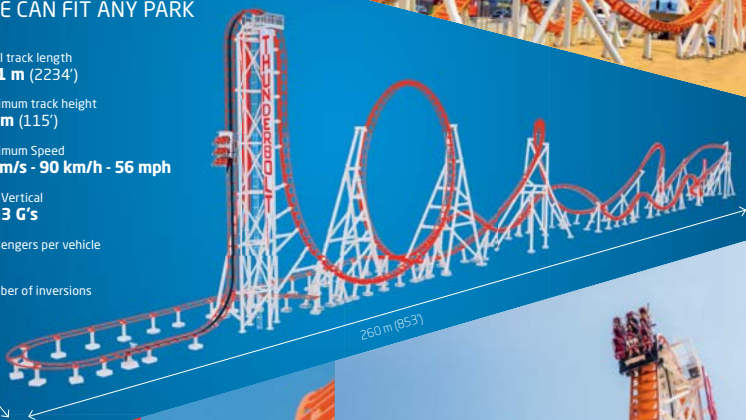
Max Vertical
+4.3 G's



Passengers per vehicle
9

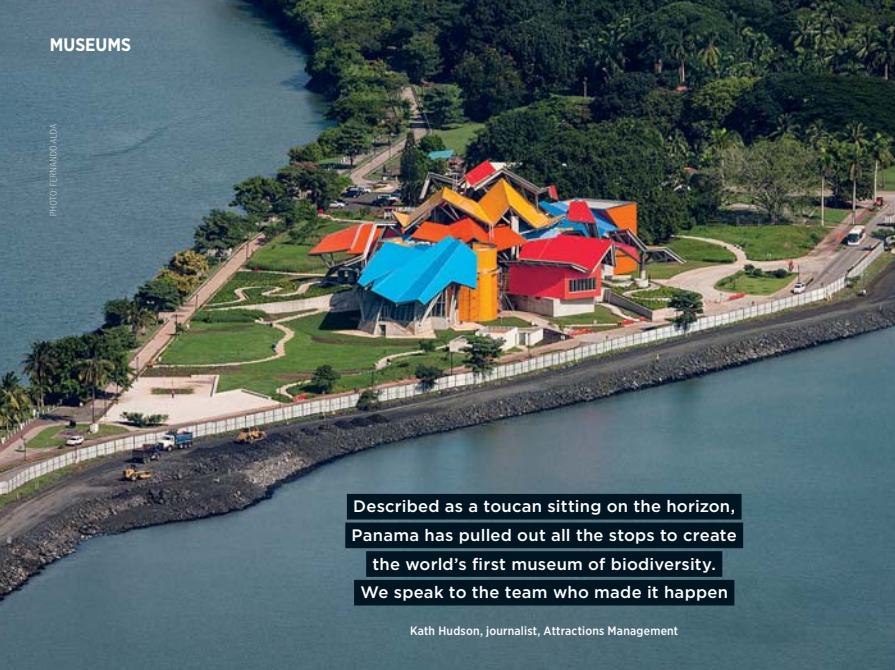


Number of inversions
5



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





Described as a toucan sitting on the horizon,
Panama has pulled out all the stops to create
the world's first museum of biodiversity.
We speak to the team who made it happen

Kath Hudson, Journalist, Attractions Management

BIOMUSEO

Biomuseo is a piece of statement architecture, rising from the Panama Canal in a concertina of primary colours.

Designed by internationally renowned architect Frank Gehry, whose wife is Panamanian, the natural history museum focuses on the importance of the isthmus and its biodiversity.

The scientific content was researched and curated by teams from the Smithsonian Institute and the University of Panama, and the galleries were created by Bruce Mau Design.



PHOTO: FERNANDO ALDA

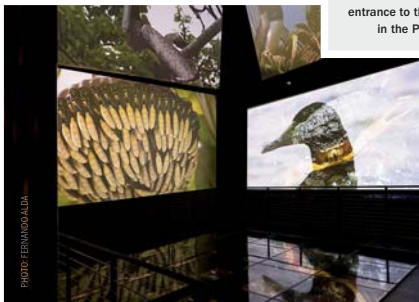
The site of Biomuseo on the Panama Canal. The Canal itself is undergoing an expansion project to double its capacity by 2016

BIOMUSEO BY NUMBERS

- Project conceived: 1999
- Ground broken: 2005
- Museum opened: October 2014
- Initial budget: \$60 million
- Final cost: \$100 million
- Funding still required: \$15 million
- Visitors since opening: 80,000
- Resident admission: \$12
- Non-resident admission: \$22
- Number of galleries: 8
- Age of the isthmus of Panama: 3 million
- Size of Panama: 75,000km²
- Size of museum: 4,000sqm
- Size of museum gardens: 24,000sqm



Biomuseo, by architect Frank Gehry, is located on the Amador Causeway at the entrance to the Panama Canal in the Pacific Ocean



DARIEN MONTANEZ

Curator
Biomuseo

When was Biomuseo first mooted?

Back in 1998, Panama was going to receive a batch of land from the Canal zone, so the government organised a series of workshops to determine how best to incorporate those lands into Panama City.

We knew we wanted an architectural building, so a team of international designers was brought in, including Frank Gehry. He was invited to propose a series of projects along the Canal to be the cherry on top of the cake.

As this was four years after the Guggenheim Bilbao opened, everyone in the world was aware of the power that an architectural masterpiece could have to breathe new life into a city.

Unfortunately the project was shelved the following year when there was a change of government, but at that point



the Amador Foundation was formed by Panamanian and foreign businesspeople, who still wanted to bring the project to fruition. They lobbied the new government and eventually convinced them to support it; they have also organised the funding.

What's the relationship with the Smithsonian Institute?

The Smithsonian Institute has had a research base in Panama for 100 years and this has generated most of the content for the exhibits. We worked

very closely with both the Smithsonian Institute and the University of Panama and have become the only Smithsonian-affiliated museum outside the US.

What story does Biomuseo tell?

The museum aims to be a showcase to bring the scientific knowledge generated in Panama to the general public.

It tells the story of the isthmus of Panama: the different geological processes which made Panama rise out of the ocean. We see Panama as a bridge between two continents, but also as a barrier which split the tropical ocean in two.

We look at the consequences that event had locally, regionally and globally. We look at how Panama changed the world, such as redirecting the Gulf Stream, so Europe has milder winters than North America.

Panama rising caused Africa to change from a continent of forests to one of savannahs. Some palaeontologists believe that this led to the formation of the human race, as primates had to come down from the trees and had to be more gregarious to survive.

Thinking big and aiming high are what has made this museum successful.

The building is the bridge between the science world and the art world

How is the story presented?

Unlike most science museums, we didn't have a collection of specimens to put on show. Instead, we decided the museum would be a collection of concepts.

Each gallery tells a story relating to Panama. Instead of exhibit cases we have large murals, sculptures and interactive elements. This approach meant that with every gallery we had to start afresh, because nothing is repeated.

The story is told in large items, which represent large ideas, and are complemented with small, detailed elements which will tell the whole story.

What were the main challenges?

The main challenge is the complexity of building a building with North American quality control, but with Panamanian labour. The style in Panama is usually fast and cheap, so a lot of processes took longer because of the learning curve and these delays cost money.

What stage is the museum at now?

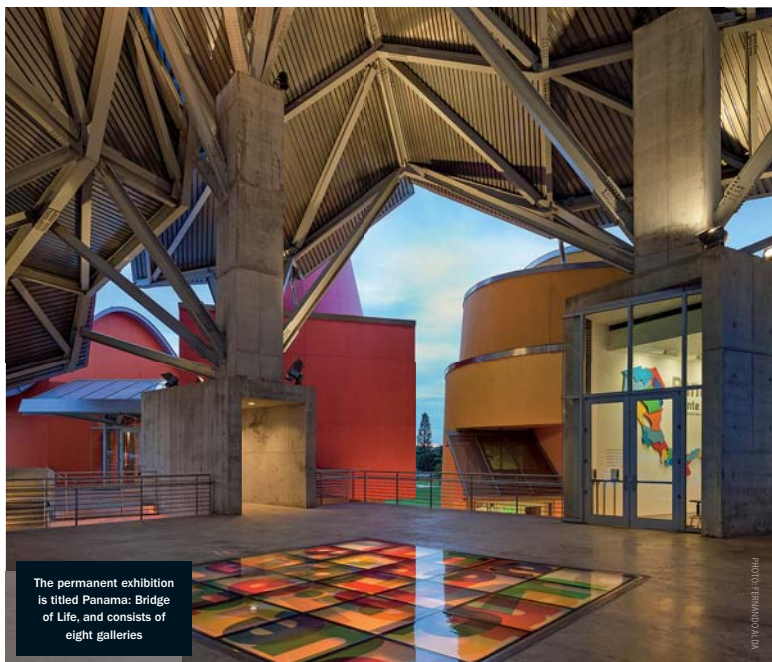
The first five galleries opened in October and we had more than 60,000 visits in the first six months: 60 per cent of which were from Panama. We're still fundraising for the final three galleries, which are architectural

spaces currently being used for temporary exhibits. They are the most expensive ones, and will house an aquarium.

It is a very expensive project. Was it the right move to be so bold?

Thinking big and aiming high are what has made this museum successful.

It's true that having an architectural masterpiece makes Biomuseo relevant to whole sections of the public who wouldn't otherwise be interested in biodiversity. The building is the bridge between the science world and the art world. It's been difficult, but it's undeniably been worth it.



The permanent exhibition is titled Panama: Bridge of Life, and consists of eight galleries

PHOTO: FERNANDO ALON



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

PHOTO: ERIC ANDERSON

BRUCE MAU
Exhibition designer
BRUCE MAU DESIGN



How did you get involved with the project?

I've worked closely with Frank Gehry on several projects. Frank's wife is Panamanian and one day she handed me a dossier and said: "You have to go to Panama."

Why did the project appeal to you?

Firstly, Frank is always an absolute dream. It's also a spectacular site, at the entrance to the Panama Canal, with the backdrop of the city. It couldn't get more impressive. And, this is the most important subject we could address at this moment: biodiversity is the future of life.

The boldness of this project was another draw: the investment it represents for Panama is the equivalent of the US building 63 Getty centres all at once.

How did the design process develop?

We started the design process from the inside out and Frank worked from the outside in. In essence, Panama itself is the

museum and we are building the lobby. In some parts of the museum, the landscape you are looking at outside is the content.

There was a three part mandate: to educate; to change the way people understand things so they see the world differently; and to protect biodiversity.

I didn't want to lecture people, but engage and inspire them. Once people are inspired, they learn things. It's delightful when you get that mechanism going.

Panama is full of wonderful stories, such as fish evolving differently in the two oceans and some bird species believing they still live on an island. Our job was to pull out those stories, creating a wonderful experience which inspires you, makes you wonder and then satisfies the wonder.

How were each of the galleries given their own identity?

We found the key concepts we wanted people to walk away with and we broke it

Panamarama is a cube-like cinema that completely immerses the visitor in the experience

PHOTO: FERNANDO ALDA

down to eight stories. If you get the eight ideas, you'll understand the impact of Panama on the planet and biodiversity.

One gallery is the Great Biotic Interchange. When Panama formed it connected two island ecologies. Two islands became one land mass, and one ocean became two. Life from the north went south and life from the south went north.

Some species flourished and others became extinct. That event is still taking place, with slow-moving things like moss, mushrooms and grasses still migrating.

In the gallery we create a stampede, so people walk in and wonder what on earth is going on. We create a state of wonder, then they are ready to absorb information.

What is your favourite show piece?

Panamarama, which is a cube of cinema. Visitors stand on a glass floor, so the cinema is below and all around them. It takes them into the ocean – a whale shark passes underneath – along the shore, to the mangroves, then the jungle, then the canopy and across Panama, showing the range of environments and species. People applaud when they see it. The children go crazy and adults sit on the floor, like kids.

What are you most proud of?

It's an intersection of art, science and design. We had to make a declaration. It couldn't be a modest building; it had to be something people would see and want to know what it was. Frank made that happen.

PHOTO: FERNANDO ALDA



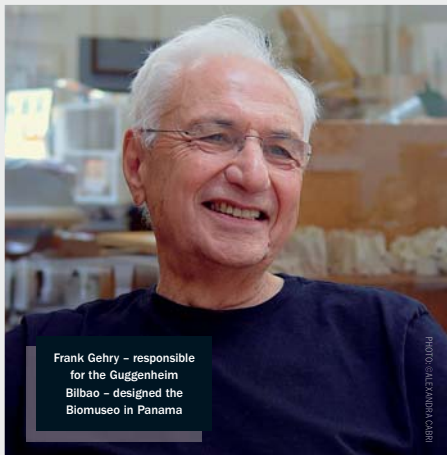
Corrugated metal roofing, plaster walls and exposed concrete were chosen by Gehry Partners

**The architecture
emerged as a synthesis
of multiple things,
including the story
lines of the museum's
narrative and the
amazing site location**

ANAND DEVARAJAN

Partner

GEHRY PARTNERS, LLP



Frank Gehry – responsible
for the Guggenheim
Bilbao – designed the
Biomuseo in Panama

PHOTO: ALEXANDRA CARRI

What appealed to Gehry

Architects about this project?

Frank had a strong tie to Panama through his wife Berta and was intrigued by the various landscapes and cultures within the region. When the client communicated to us the intent of building a museum for Panamanians to highlight the biodiversity of the region and advocating its conservation, the museum's mission became very interesting to our office. Additionally, the site they had chosen in Amador, overlooking the Panama Canal and Panama City, was incredible and primed for a special project.

Where did the inspiration come from for the architecture?

The expression for the architecture emerged as a synthesis of multiple things, including the story lines of the museum's narrative, a response to the amazing site location and understanding existing built structures in the region.

How does the architecture relate to both Panama and the museum context?

The architecture relates to Panama in a series of ways. The colours became a distinctive element that evoked a connection to the vibrant imagery we saw in Panama City on the buses and industrial structures, the built landscape of Colon, as well as the local textiles of the indigenous Indians. The roof shapes work similarly in principle to the naturally ventilated structures built in the local

climate – albeit with a geometry that is far more expressive. The volumes and roofs of the museum create views of the dramatic surroundings – the islands beyond Amador, the Bay of Panama and the canal entry, high-rises in Panama City, the bridge of the Americas, as well as the hills beyond.

Additionally, the use of corrugated metal roofing, plaster walls, and exposed concrete for the building's exterior were chosen to relate to local building materials we saw used in Panama City.

We wanted to express the museum's narrative in the architectural design. Each gallery and programme element took a unique architectural identity on the museum's exterior – responding to the internal exhibit contents as well as to space programme requirements.

We saw the park and the museum's setting as its own exhibition element with connections to the narratives of the galleries inside and wanted to blur that interior/exterior distinction. That required that we organise the building to create opportunities for museum visitors to reconnect to their surroundings and ways for landscape elements to engage the central atrium.

What were the challenges with this project?

The path to completing the project was very challenging and took a long time. The process and procedures of constructing a project in Panama was very different than what we would expect in other locales.

The unique geometry and quality control procedures required a steep learning curve from the team building the project.

Which aspect of the project are you most proud of?

One of the key design elements was the atrium. We imagined it as an exhilarating open-air civic space for Panamanians and are pleased about the way the space turned out. The way the exhibition elements knit together with the architecture has been fascinating to see, and it is very pleasing to hear responses from the museum staff about school groups getting excited by and engaged with the concept of biodiversity.

Can you talk us through the design process – did you spend time in Panama and get to know the area and culture before you began?

Since Frank had been visiting Panama with his family for many years prior to engaging on the project, he had a good amount of knowledge of the place. The rest of the design team learned about Panama during the process. As with all of our projects, the design process is highly iterative, testing out hundreds of design schemes while homing in on a unique response for the project. During the design process, Gehry Partners and Bruce Mau's team had a great group of collaborators, such as the Smithsonian Tropical Research Institute and local executive architect Patrick Dillon, who knew the region very well and participated in design decisions. ●



EAS

**Euro
Attractions
Show**

EAS 2015

Location: Swedish Exhibition
& Congress Centre, Liseberg,
Gothenburg, Sweden

Dates: 6-8 October 2015

Who's there: 425 exhibitors and
more than 9,000 attendees

What's on: 20 hours of
educational sessions and tours

Tickets: \$65 for members and
\$85 for non-members

Euro Attractions Show 2015

October's Euro Attractions Show promises to be bigger
and brighter than ever. IAAPA invites all its members and
friends to Sweden for the industry event of the year

The Euro Attractions Show (EAS) 2015, Europe's premier event for the attractions industry, will take place from 6-8 October 2015 at the Swedish Exhibition and Congress Centre in Gothenburg,

Sweden, next to one of the finest theme parks in Europe: Liseberg.

The trade show floor will offer more than 425 exhibitors from over 35 countries. More than 9,000 attendees will see products including rollercoasters and

attractions, ticketing services, 4D and 5D theatres, water rides, rides for small children, themed areas and much more. All EAS attendees will also have the opportunity to enjoy Liseberg.

EAS 2015 will also offer more than 20 hours of educational sessions, forums, attractions tours, leadership development and networking events to improve your business.

EAS 2015 is the one-stop destination for leisure and attractions industry professionals, including operators, suppliers, manufacturers, investors, developers and anyone interested in the industry.

More than 9,000 industry professionals are expected to attend from:

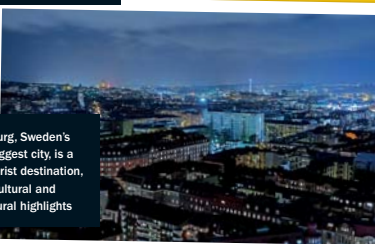
- Amusement and theme parks
- Hotels and resorts
- Waterparks and resorts
- Casinos
- Family entertainment centres
- Concessions
- Zoos and aquariums
- Historic and tourist attractions
- Museums and science centers
- Go-kart facilities
- Attractions
- and more!



Almost 11,000 attendees came to last year's Euro Attractions Show in Amsterdam, the Netherlands



Gothenburg, Sweden's second-biggest city, is a popular tourist destination, with cultural and architectural highlights



IAAPA Europe

To better serve our European members, IAAPA have opened up a European Office in Brussels, Belgium. With this initiative, IAAPA are committed to creating a full service association in Europe, which will offer monitoring, advising, lobbying and PR services, as well as the latest knowledge and education on ride safety, industry data and best practice among members.

IAAPA organises the Euro Attractions Show – the premier industry trade show in the region.

In Europe, the association is guided by the European Advisory Committee and four sub committees: Education, Government Relations, Manufacturers and Suppliers and Safety. With the Advisory Committee, they discuss and support the work of IAAPA. They are comprised of volunteers from IAAPA member companies from across Europe.

More information:

Visit www.IAAPA.org/EAS or contact the IAAPA Europe offices at Europe@IAAPA.org

IAAPA

The International Association of Amusement Parks and Attractions (IAAPA) is the premier trade association for the attractions industry worldwide. Founded in 1918, IAAPA is the largest international trade association for permanently situated amusement facilities and attractions, and is dedicated to the preservation and prosperity of the industry.

Headquartered in Alexandria, Virginia, US, IAAPA maintains offices in Brussels, Hong Kong, Mexico City and Orlando.

Mission Statement

"Our mission is to serve the membership by promoting safe operations, global development, professional growth and the commercial success of the amusement parks and attractions industry."

IAAPA hosts three trade shows on an annual basis:

- Asian Attractions Expo from June 17-19 in Hong Kong, China, in 2015.
- Euro Attractions Expo will be hosted in Gothenburg, Sweden, in 2015. It will be the first fully integrated trade show with – Liseberg – one of the major theme parks in Europe, just across the street.
- IAAPA Attractions Expo from 16-20 November in Orlando, Florida, US.

The first EAS fully integrated with a major park

Registration is now open for EAS 2015. The event will take place from 6-8 October 2015 at the Swedish Exhibition and Congress Centre in Gothenburg, Sweden, next to Liseberg theme park. This makes it the first fully integrated Euro Attractions Show, with the convention centre and hotel directly attached to one of the continent's major amusement parks.

Attendees receive evening access to Liseberg Park when they register for EAS 2015.

REGISTER HERE:

www.iaapa.org/expo/euro-attractions-show/registration

REGISTRATION
NOW OPEN



A rendering of a floating greenhouse, named Jellyfish Barge, in the thematic Future Food District area of the Expo

FOOD FOR THOUGHT

Expo Milano 2015 aims to be more than a vanity project as it sets its sights on solving some of the planet's fundamental problems, as Piero Galli explains

Alice Davis, managing editor, Attractions Management



Expo Milano 2015 kicked off on 1 May, promising to be an exceptional world fair. The Expo, which is taking place on a 200 hectare (490 acre) site about 15km (10 miles) northwest of Milan in Lombardy, Italy, features 145 participating countries and expects around 20 million visitors over its six-month run.

The Expo hopes to confront issues around agriculture, sustainable development and energy conservation, inviting the countries of the world to showcase the best in technology and innovation to guarantee the food supply the global population needs. The theme is Feeding the Planet, Energy for Life.

The event is being managed by Expo 2015 SpA, led by CEO Giuseppe Sala. The team's expertise cover event



Piero Galli, general manager of the Expo's event management division

management, marketing and design. Expo Milano is supported by the Italian government and the regional governments of Lombardy and the municipality and province of Milan.

Public investment in the Expo is €1.3bn (\$1.4bn, £950m), which is within the planned budget of €1.6bn (\$1.7bn, £1.2bn) proposed in 2012. According to the organisers, operating costs of €800m (\$869m, £584m) are balanced with €800m in revenues received from sponsors, ticket sales and merchandise.

Official participants have invested approximately €1bn (\$1.1bn, £730m). Italy's Chamber of Commerce and the University Bocconi in Milan have estimated the Expo is worth an extra €10bn (\$11bn, £7.3bn) to the Italian economy and €5bn (\$5.4bn, £3.7bn) to the tourism sector. It's thought the Expo will create more than 60,000 direct and indirect jobs.



MILANO 2015



imagery shows the designs submitted from France for the herb and hop-covered French pavilion (top left), the United Arab Emirates pavilion (top right), Pavilion Zero, which is the introductory stop at the Expo, and tells the story of humankind (right) and Austria's pavilion is named Breathe (left)



FEEDING THE PLANET

"With the theme of Feeding the Planet, Energy for Life, Expo Milano 2015 provides an opportunity to reflect upon and seek solutions to the contradictions of our world," says Piero Galli, general manager of the Expo's event management division.

"There were approximately 870 million people undernourished in the period 2010 to 2012. During the same time period, approximately 2.8 million deaths from diseases related to obesity or to being overweight occurred," he says.

"In addition, about 1.3 billion tons of food are wasted every year," says Galli. "We need to make conscious political choices, develop sustainable lifestyles, and use the best technology to create a balance between the availability and the consumption of resources."

"While the central theme is nutrition – human nutrition, first and foremost – it

also focuses on nurturing the environment in which we live, the place where the food we eat comes from," says Galli.

Milan and its home region of Lombardy make a prime place to begin to tackle the topic of food, and Italy's contributions to global cuisine are well known.

"In Milan and Lombardy, there are 60,000 prestigious agricultural production companies and another 20,000 businesses involved in food processing and nutrition," says Galli. "They are ready to meet the challenges of the Expo's theme in a skilled, capable way, representing an Italian tradition that has been exported to the whole world as a true model of food and culture."

Galli points out that Expo Milano is placing a strong emphasis on creating a collaborative and educational environment for the exchange of ideas in a serious effort to search for solutions.

"The Expo offers a unique, unrepeatable opportunity to create concrete solutions to nurture our planet and its inhabitants in a proper, healthy, sufficient and sustainable manner. It's a global and interactive event, whose key players are 145 participating countries, international organisations, civil society associations, the international scientific and economic communities."

Demonstrating this commitment, the theme of the Expo has been closely linked with the work of the UN. UN General Secretary Ban Ki-moon has already tied the world fair to the Millennium Development Goals – the deadline for them is also this year.

After the Expo, citizens, institutions, companies, associations, academia and international organisations will sign the Charter of Milan, which will be delivered in October to Ban Ki-moon, linking the Expo to the Millennium Development Goals.



The Supermarket of the Future is central to the Expo, featuring data analytics, robots and interactive technologies (left). ABB's robots (top) will interact with guests to select products based on data about characteristics, origin and history

THE EXPO TELLS THE STORY OF MAN AND FOOD, SHOWING THE PARADOX OF ABUNDANCE AND SHORTAGE, EXPLAINING WHAT THE FUTURE OF FOOD WILL BE

FROM NEAR AND FAR

As Italy is the fifth-most popular tourist destination in the world, attracting 49 million visitors per year, Expo Milano has made a particular effort to appeal to visitors from abroad. "We expect 40 per cent of the tickets, 8 million out of 20 million, to be sold abroad," Galli says. "We estimate one in five Italian citizens on average will visit the Expo, while in the Lombardy region the estimated rate is that at least every second person will visit."

During the Expo, which runs until 31 October, Galli says up to 250,000 people could visit on the busiest days. "Including the national and corporate pavilions, five thematic areas and nine 'clusters' – shared exhibition areas for countries that don't have their own pavilion – there are 90 buildings to see. To see the whole Expo, a visitor would need a week," he says.

VISITOR EXPERIENCE

For visitors, Galli says the content has been divided into two formats that will appeal to different levels and styles of engagement: experiences and focuses.

"Experiences" are aimed at people searching leisure, fun and entertainment. "Focuses" are in-depth analyses of the challenges of feeding the planet.

The "experiences" are organised by theme, and include topics such as food, family and lifestyle. The food theme, for example, involves 26 million meals being distributed over the course of the Expo, with cuisines from around the world on offer.

Expo Milano Legacy Plans

Expo organisers say that procedures and strategies are in place to prevent the site becoming derelict or abandoned after its October finale. The site itself, a statement from the Expo says, "will be ready to host a new city area of technology and innovation,

with perfect infrastructure, green spaces, environmentally friendly materials and renewable energy."

All countries were asked to build their pavilions in a sustainable way, where they can be disassembled and recycled. Countries like the UAE and

Azerbaijan have planned to return their pavilions home as landmarks.

In Milan, certain Italian pavilions will remain on the exhibition site after the Expo is over, such as Palazzo Italia, which will become Milan's centre of technological innovation.

The Supermarket of the Future is also part of the food experience, showing how food might one day be produced and consumed. Visitors can also learn about the Slow Food movement and food biodiversity.

The lifestyle theme promotes campaigns around the message of the Expo, such as the legacy of the Expo and the art and photography exhibits taking place. There'll also be live entertainment, such as the Cirque du Soleil and music concerts.

For deeper insights, three "focuses" include debates, talks and conferences. "The first focus tells the story of man and food. It shows the contemporary paradox of abundance and shortage, explains what the future of food will be, analyses why a fair world originates from the production of sustainable food, highlights the relationship between taste and knowledge," says Galli.

The second focus looks at food groups and agricultural zones, while the third focus

is on special projects such as the UN's Blue Spoon Against Hunger installation.

WIDER EFFECTS

Of course, it's good news for Italy and tourism. There should be an influx of visitors for years to come. However, beyond the exposition itself and the signing of the Charter of Milan (which Italy will propose to the world on the big global questions relating to food), Expo Milano also hopes to promote collaboration between people and nations.

"For the first time in its history, the Expo won't simply be an exhibition of human progress, but a chance for discussion and cooperation between nations, organisations and businesses to develop joint strategies to improve quality of life and support the environment," Galli says. "It's a platform to share ideas and solutions on the topic of nutrition; it's a way to stimulate creativity and innovation in companies." ●



PHOTO: HUTTON+CRUW

Exploring the crucial role of a bee colony in the global ecosystem, artist Wolfgang Buttress (bottom right) and architects BDP created a hive structure as the centrepiece of the UK pavilion at the Expo

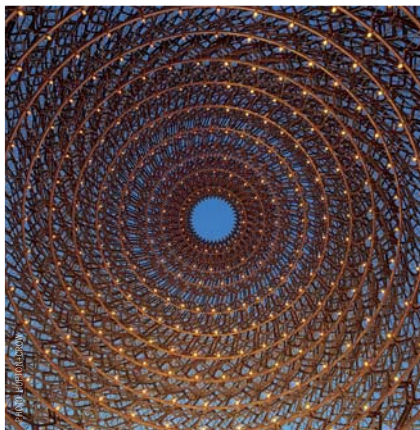
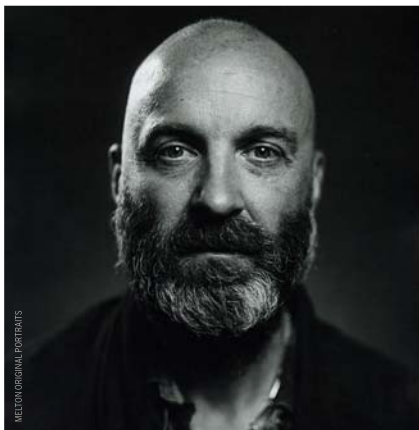


PHOTO: LINDA MC DONN



MELTON ORIGINAL PORTRAITS

On the SAFE side

AZA chair Dennis Pate on the association's historic initiative to save endangered animals, and why his zoo in Omaha has been voted the best in the world

Alice Davis, managing editor, Attractions Management

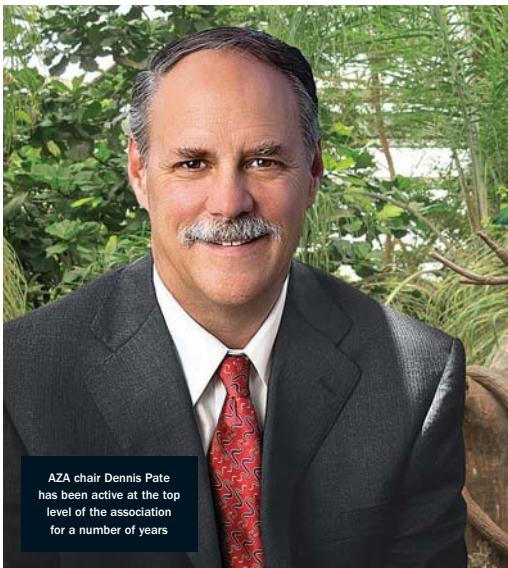
The Association of Zoos and Aquariums (AZA) is launching a major conservation campaign in response to the rapid rate of decline of species in the wild. The man in charge of the strategy is Dennis Pate, who's halfway through his AZA chairmanship and director

and CEO of Omaha's Henry Doorly Zoo and Aquarium in Omaha, Nebraska – voted TripAdvisor's number one zoo in the world.

When Pate met with *Attractions Management*, he explained how the Saving Animals From Extinction (SAFE) initiative is setting a new standard in conservation, and why it's down to the AZA and its members to take responsibility for protecting vulnerable species at this critical time.

What is SAFE?

Saving Animals from Extinction, or SAFE, is a new initiative by zoos and aquariums to direct more resources towards saving animals from extinction – those in the wild as well as those in zoos. The mission is to combine the power of zoo and aquarium visitors with the resources and collective expertise of AZA members and partners to save the most vulnerable wildlife species from extinction. That can mean intensive management in the zoo or aquarium or less intensive management in the wild.



AZA chair Dennis Pate has been active at the top level of the association for a number of years

How did SAFE come about?

What precipitated this is the rapid rate of decline of animals in the wild.

We also have recent data about animals in zoos that show in some cases the populations are not as healthy over a long period as we would like. We may be lacking founders, there may be problems with some species reproducing, or there may not be enough space to build a sufficiently large population to sustain some species well into the future. Some animals, such as gorillas, are doing well; but others, like elephants, not so well.

Is it a global initiative?

Other regions recognise the same issues as AZA zoos and aquariums – the escalating decline of animals in the wild. The SAFE initiative includes zoos and aquariums in the US, Canada, Mexico, Argentina, Singapore, Bermuda, the Bahamas and Hong Kong.

What are you doing first?

It is really a simultaneous effort. First, we need to better understand the populations in the wild and those we keep in zoos and aquariums, and find out what the issues



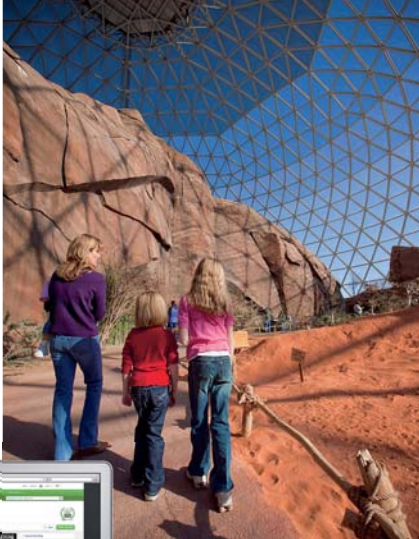
California condors have been greatly helped by zoos' conservation efforts



Conservationists teach planting techniques as part of Henry Doorly Zoo's field work in Madagascar



Daily elephant husbandry, from pedicures to trunk washes, is done in public view at San Diego Zoo



Omaha's Henry Doorly Zoo and Aquarium is a 130-acre attraction in Omaha, Nebraska. The zoo is famous for its animal conservation efforts and research and was TripAdvisor's best zoo in 2014

are regarding their sustainability. Currently, more biologists are being hired to zoom in on that. Then, once we understand what the barriers to sustainability are, we can direct more resources towards resolving them.

We want to pick 25 species to focus our efforts. Focusing on species where we can make the biggest difference has been successful for zoos, with black-footed ferrets and California condors, for example.

We have to consider the degree of endangerment and the animal's status in the wild, as well as the expertise we have and whether we can impact their situation.

With species that are predominantly wild, SAFE's aims will be more legislative. With sharks, for example, it's about how we curtail shark finning, how we mitigate bycatch. There are millions and millions of sharks being killed in these ways. These are legislative and political issues and we need to direct resources towards solving them, maybe in different ways than we're used to. As an association we want to put every effort into these first 25 species.

So it's a collaborative approach by different zoos and aquariums?

Exactly. So rather than a one-by-one approach with different zoos, we focus

all our efforts. Right now, the 229 North American zoos and aquariums spend \$160m (£109m, €151m) on field conservation – it's a major commitment. SAFE will bring a more organised approach to this. We're formulating the processes of how we're going to do this and we're in high gear on fundraising mode – it's being paid for just not by the members but also by independent fundraising. We've hired fundraising consultants Schultz & Williams to help us.

What's your role as AZA chair?

My role is to follow through on our strategic plan – to shepherd in the next steps under the plan and to keep things moving in a positive direction. It involves working with the executive committee, the entire board, committee chairs, and the AZA staff who really work to implement the plan.

What's happening at the leading edge of zoos?

Zoos are being more transparent about what they do and how they do it.

I visited Busch Gardens in Tampa, one of the leaders in our industry, and I was especially impressed with their veterinary hospital. At their Animal Care Centre, people learn about veterinary medicine,

observation, diagnostic techniques and treatment in innovative ways. The centre is behind glass and there are scheduled procedures that visitors can watch. It shows the care that goes into maintaining the health of animals in zoos and aquariums, rather than that being a back-of-house function. We need to understand that our guests are interested in how we care for animals and the science behind it.

At San Diego Zoo there's an elephant programme that's all carried out in full view of the public. The foot care, the trunk washes, examining their mouths, looking in their ears, drawing blood – it's all on view.

Many zoos are bringing the training they do to facilitate veterinary care and husbandry up-front, so people can observe it – whether its collecting blood or working on training behaviours.

In Omaha, we can collect blood from the tail of a lion with the lion's full cooperation. We can collect semen from a gorilla with his full cooperation. We've trained a Philippine crocodile, which are very endangered, to donate semen with its full cooperation. We can do heart echoes on a gorilla with its full cooperation without any anaesthesia whatsoever – just through operant conditioning and the use of reward. ▶



Visitors are invited to observe scheduled surgery at Busch Gardens Animal Care Centre

Busch Gardens Animal Care Centre

Q&A with Jeff Andrews, Vice President of Zoological Operations, Busch Gardens Tampa Bay

What is the Animal Care Centre?

The Busch Gardens Animal Care Centre is a state-of-the-art media facility designed to give our guests a firsthand experience of the animal care efforts here at the park. Guests can closely observe and even take part in the animal care experience. From nutrition to treatments, X-rays to surgeries, most of Busch Gardens' animal care is now conducted in guest view in this facility.

How did the centre come about?

At Busch Gardens, we want to educate our guests about animal care and conservation as well as connect them with wildlife and the world around them. What better way to connect people with animals than to let them see firsthand the amazing animal care work at the park?

When did it open and how much was the investment?

The centre opened in 2011 and has inspired millions of guests to learn more about the animals we care for. While we don't discuss specific investments, we can tell you that the centre represented a significant investment for Busch Gardens.



Jeff Andrews, zoological operations

How do the centre, the staff and the visitors interact?

Through an extension communications system, veterinarians are able to hear and talk with guests and onlookers at all times. Additionally, zoo educators and staff are always on hand to answer questions and talk with guests about the animal care

efforts and what goes in to caring for the 12,000 animals that call the park home.

What are the main aims of the centre?

We want to provide an opportunity for guests to connect with the animals and we want to inspire visitors to learn more about the ways they can help conserve these species for years to come.

In what ways is the centre state-of-the-art? What's cutting-edge about it?

The centre has state-of-the-art medical equipment, much of which can be found in hospitals and other medical facilities. The facility has been designed with a communications system that allows constant communication between veterinarians and guests, TV systems for onlookers, and much more.

How has the centre enhanced the visitor experience?

It's helped to inspire millions of guests to celebrate, connect and care for the world around them, as well as provide an exciting, unique look at the animal care efforts at Busch Gardens.



In August 2014, TripAdvisor said Omaha Henry Doorly Zoo was the best in the world. How does your zoo engage with the public?

We're part of the community and the people of Omaha really love their zoo. We engage with people from an early age, and we have high school, kindergarten and after-school programmes to turn children into passionate wildlife protectors.

The zoo is renowned for its conservation efforts. Can you give us some examples?

We have an extensive field programme, in South Africa, and with parks in Swaziland to help rhinos. We have a major field effort in Madagascar and a plant conservation unit that works in Bermuda and the US.

At the zoo, we have our amphibian breeding centre. We've been breeding thousands of Houston toads, Puerto Rican crested toads and other amphibians to return to the wild. These are things zoos can do to make a real difference.

It's still important to us to be a great Saturday afternoon visit for families, and we need to continue that to have a successful financial model, but we understand that we have a greater responsibility to animals in the wild and that zoos and aquariums need to be the reservoir for these assurance populations.

What do you think are the main challenges facing zoos and aquariums?

Having enough space to build these assurance populations in reasonable

Exhibits like San Diego Zoo's Elephant Care Centre and the Animal Care Centre at Busch Gardens are a hands-on way of educating the public

numbers is a major challenge. Zoos have moved from this postage-stamp collection, where if you had two of something that nobody else had, then that was a really big deal. Now, if you have two of something nobody else has, then it's a dead end and it doesn't contribute to sustainability.

Zoos have been working together since 1980 and we've been good accountants in putting together stud books, breeding programmes, deciding who should pair with who based on genetics and demographics. What's changing now is we need to understand those animals that aren't breeding. Now we can possibly use assisted reproduction technologies or import more founders to strengthen our populations genetically. It's problem solving.

A perennial challenge is funding. At my zoo I have to fund 89 per cent of the operation. I have to think of ways to generate revenue that aren't always necessarily related to raising the admission fees. Admission fees at our park are only 25 per cent of our total revenue, while 30 years ago they were almost all of it. By holding the admission fees down, more people can visit, whatever their income.

However, there are many ways to spend money inside the zoo on an elective basis.

Exhibits work for us more than eight hours a day now: we host weddings, corporate events, sleepovers at the aquarium and a camp next to the lion exhibit – all ways to make the zoo work after hours.

Do aquariums face the same challenges?

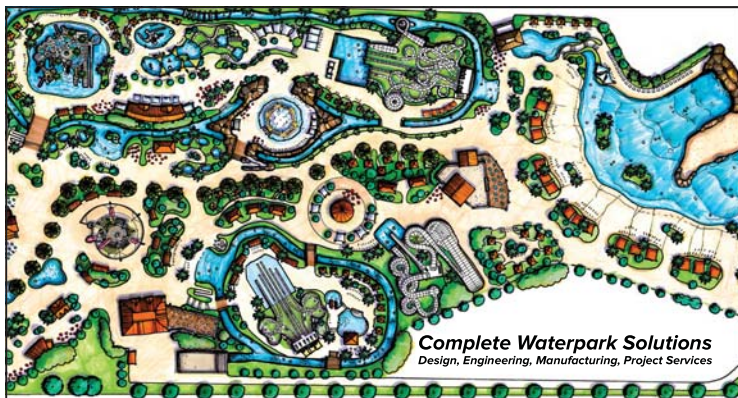
One of the major problems is with breeding and raising fish. We can breed and recover eggs and live young, but it's very difficult to feed these young fish. In the wild, they eat microscopic plankton among other things that can in and of themselves be difficult to raise. There's a research effort supported by the University of Florida and Seaworld to develop a way to culture the organisms that the fish will eat.

How would you describe the overall sentiment in the industry?

In the US, visitor numbers are up – 180 million people a year go to accredited zoos in North America. That's more than all of the professional sports together – football, basketball, baseball: zoos draw more.

They're educational and it's family time, but one of the things we're working on is understanding our responsibility beyond a nice Saturday afternoon, our responsibility to the animals in the wild, and then building public awareness.

I think the public expects us not only to exhibit animals but to be looking out for them in the wild. With the rapid decline right now of species in the wild, the role of zoos is becoming even more important. That's why the SAFE initiative is so important. ●



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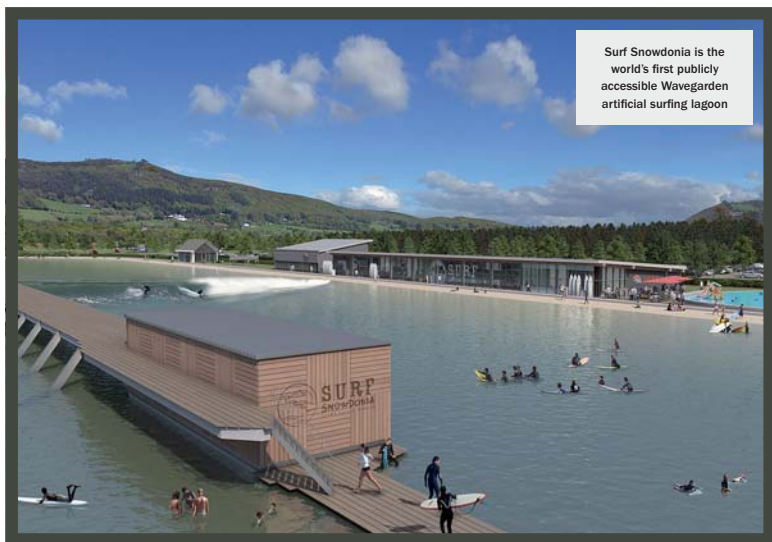
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SUPPLIER: WAVEGARDEN

LOCATION: CONWY VALLEY, WALES



Wavegarden technology has been endorsed by professional surfers like Dusty Payne

Surf Snowdonia, a massive surf facility in North Wales, UK, has announced an opening date of July 2015.

The outdoor adventure destination features a 29,000sqm (312,000sq ft) lagoon – with waves courtesy of Spanish wave technology company Wavegarden.

The Wavegarden system creates consistent waves of up to 2 metres (6.5 foot) over the length of the 300 metre (984 foot) lagoon. Up to 52 surfers can be accommodated in the lagoon at one time, with rides lasting up to 18 seconds.

The £12m (\$18m, €16.6m) Surf Snowdonia development caters for surfers of all levels, with its own surf academy teaching surfing, bodyboarding, kayaking, stand-up paddleboarding (SUP), surf yoga, surf fitness and open-water swimming. At least 75,000 visitors are expected per year.

A Crash and Splash obstacle course, supplied by Rigby and Partners, is being installed at the activity lagoon, as well as a Blob supplied by Blob Europe. Catering includes a lagoon-side café bar. There's camping accommodation and sleeping "pods" along the lake's waterfront.

Surf Snowdonia is using 100 per cent rainwater to fill the surf lake thanks to a UV disinfection system by ATG UV Technology.

"The rainwater in the lagoon will be cleaned by UV disinfection and filtration, so the water will not be chlorinated," says Surf Snowdonia spokesperson Louise McWatt. "This will ensure a more natural and pleasurable experience."

It was designed by Seven Architecture and developed by Conwy Adventure Leisure Ltd, allied to the Ainscough Group, who acquired the brownfield site in 2012.

Go! Wet waterpark focuses on child-friendly rides in Jakarta, Indonesia



\$13.4m Waterpark Comes to Grand Wisata

SUPPLIER: WHITEWATER WEST

LOCATION: JAKARTA, INDONESIA

Asian property giant Sinar Mas has opened a \$13.4m (£9m, €12.6m) waterpark at the centre of its new masterplanned community in Jakarta, Indonesia.

With a capacity of 6,000 people, the 75,000sqm (807,200sq ft) Go! Wet waterpark is the largest in Indonesia and has been supplied by WhiteWater West. Special features include the world's first Kid's Boomerango and Kid's AquaSphere slides. Also fitted are two AquaPlay

structures, Indonesia's largest wave pool and a wave river, as well as WhiteWater's signature SuperBowl, Boomerango, Rattler, Constrictor and Python slides.

The Grand Wisata masterplan in eastern Jakarta has been developed by global architecture firm AECOM with an ecologically friendly approach in mind. The development also incorporates shopping, a lake, gardens, housing districts, a business park, a market place and school.



BH Mallorca's Twisted waterpark features adrenaline slides and chill-out areas



A £10m (\$11.3m, £7.4m) redevelopment of a hotel in Magaluf on the Spanish island of Majorca is celebrating the opening of its on-site over-18s waterpark, beach club and stage area.

Following a takeover by the Cursach Hotel Group, the former Mallorca Rocks hotel has revamped its facilities under its new name, BH Mallorca.

Open since April, the Twisted waterpark features the only Aqualoop slide

Twisted Waterpark Strictly Adults Only

SUPPLIERS: WHITEWATER WEST, AMUSEMENT LOGIC

LOCATION: MALLORCA, SPAIN

in Europe. The slide – designed by WhiteWater West – drops riders through a trap door before sending them at speeds of up to 40mph (60kph) into a freefall and then loop.

Amusement Logic has provided the rest of

the park's slides, which include a four-lane mat race slide and two rapid descent Kamikaze slides.

The waterpark also has a 576sqm (6,200sq ft) wave pool and three jacuzzis.

The BH Mallorca complex includes Majorca's only open-

air festival venue, which will host some of the world's biggest DJs through the summer months, and Island Beach Club – a pool area with a resident DJ and cabanas.

BH Mallorca is targeted at tourists aged 18 to 30 as an all-in-one holiday complex. Guests have unlimited access to all areas during their stay. Further developments on the rebranded hotel are expected at the end of the tourist season, to be completed in 2016.



Aqua Wave is central to the sprawling La Viva urban development, and aims to set a new standard for waterparks in China

Aqua Wave Waterpark Forms Heart of Urban Development

LOCATION: TIELING, CHINA

SUPPLIERS: PROSLIDE, NEPTUNE BENSON

Work is progressing on an experience destination in Tieling New Town, Liaoning Province, China, with a waterpark set to launch in the first phase of development when it opens later this year.

La Viva is developer Hsin Chong's first large-scale integrated project to be built in mainland China. Aside from the waterpark, once complete the eco-friendly, urban space will include retail, entertainment, tourist attractions, restaurants, hotels, office space and residential apartments.

At the heart of La Viva, the 30,000sqm (322,000sq ft) Aqua Wave waterpark – designed by Forrec – offers visitors a range of facilities, including a lazy river, wave pool, Double Flow Riders, a sand-bottomed pool with cabanas and slides. Neptune Benson is supplying the aquatic filtration system.

Of the slides to be installed at the park, the most interesting is the first ever

Topsy Turvy Explosion combination slide by Proslide, who are providing all of the waterpark's slides. Also included will be an Explosion Bowl combination slide and the Tantrum Tornado raft ride, which will include a unique light and sound show as riders descend the slide. The waterpark's slide tower will include a Sky Box drop launch, sending guests straight down as the floor disappears from beneath them.

Aqua Wave will also offer a snorkel pool, themed to resemble a Mediterranean coastal city and allowing guests to enjoy a pool with underwater views of tropical fish.

"For the Aqua Wave waterpark, we have brought our years of knowledge in producing different types of waterparks to create a truly unique facility," says Louis Vivic, senior director of waterparks at Forrec.

"Hsin Chong's direction was to redefine waterparks in China and to provide guests

with one of the most creative, innovative, thrilling and dynamic indoor water resorts with the best hygiene standards in China."

In addition to the waterpark, La Viva will include Xing Yue Southbank – a retail and commercial development split into five regions. Each region will offer its own unique architectural style, aiming to provide an "around the world journey in eight hours". The waterpark will be part of the "Nature and Science" region, which will also include a movie-themed hotel, a wedding world and high-end fashion and luxury retail.

The first phase of the La Viva development covers 180 hectares (445 acres) and will include the waterpark, retail elements, residential flats, an international school and a hotel. The first phase is reported to have cost around \$322m (£220m, €304m) with around two-thirds made up of residential apartments. ●





Siam Park, Spain

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IDEATTACK®

SURRENDER TO EXCELLENCE

IDEATTACK is a creative maverick with a new perspective, bringing custom-made one-of-a-kind attractions typologies to a world that needs something different



The Los Angeles-based company is inventing new types of leisure destinations that are more progressive, profitable, high quality and achievable on a realistic budget.

IDEATTACK specializes in the design of large-scale, mixed-use tourism destinations, but the magic happens at the human scale. The cultural values of the location drive the design process, and the IDEATTACK flair for originality, boldness and innovation

is what creates an unforgettable experience/attraction.

IDEATTACK was founded in 2004 by Natasha Varnica and Dan Thomas. Bringing together their expertise in architecture and entertainment design, they saw the need for planners of a new type of mixed-use project that requires expertise in both disciplines.

"These mixed-use projects need both areas of knowledge," says Varnica. "There are traditional architecture practices and specialised firms for entertainment design, but none of them fill the needs of mixed-use leisure tourism projects. We realised

that a combination of experience from both worlds would give the best results."

Varnica and Thomas are now running a company of 50 staff, with projects across the world. The hands-on founders manage every one of IDEATTACK's projects from conception through to opening day, offering a holistic service that's entirely tailored to each individual site and market.

Varnica and Thomas reveal IDEATTACK's approach to design, planning and client relationships, and why it's time the industry embraced new ways of thinking.

What are your roles at IDEATTACK?

Dan Thomas: Natasha and I are the founders, owners and partners of IDEATTACK. In general, I'm in charge of the creative and architectural design side and Natasha is in charge of organisation and execution, but our involvement is always mixed. The type of projects IDEATTACK does require a mixing of thinking.

Natasha Varnica: Since one of my backgrounds is in humanities, I'm also very involved in the cultural side of projects. It would be very hard to clearly separate our roles in the brainstorming phase.

What type of projects do you take on?

Dan Thomas: We focus on delivering the highest quality. Therefore, we don't take every project on. We choose projects where the developer has decided to take on the project in full so we can completely dedicate ourselves to it.

Natasha Varnica: Our policy is that a project we're involved in must be conceived



An attraction inspired by Chinese culture at "Fun Capital" theme park, Changping, China

Magic Farm, at "Fun Capital" theme park, draws on local farming traditions to create a fantasy eco-world of giant plants

Every project is an authorship project – you're the creator of a special world that's different from the one outside

by us. We don't provide services at random stages during project development. We work only on a project from the beginning, and wouldn't take over someone else's concept. You have to understand what the thought process was from the very beginning so it's very important for us to be on a project from the ideation and concept design stage and continue working on the project at consequent stages to the end.

What is the process you go through with a new client?

Dan Thomas: For the big projects, we meet the clients to discuss the project and visit the site. Then, we do the contract and proceed with the design. This is part of making sure we have the opportunity to choose projects that will be realised. We need to be clear who the client is, who the developer is, how experienced they are, and whether they have a similar understanding of what we all want to achieve.

It's really important for us to meet the clients because we do expect to be involved from the top to bottom of the project. We hesitate to work with

IDEATTACK Services

- International Tourism Zones
- Custom Theme Parks
- Lifestyle Centres and Themed Retail
- Cultural Attractions
- Immersive Interactive Environments
- Destination Resorts

IDEATTACK covers all stages of project development: Master Planning and Concept Design, Attraction Design, Architecture, Schematic Design, Design Development, Market and Feasibility study, Brand Design, Project Management, Equipment Selection, Construction Supervision, Operation Support

disconnected groups that are, for example, part of a bigger conglomerate and not truly in charge of the project and as such don't have deep interest in the project's future.

Natasha Varnica: In almost all the cases when a client invites us, they expect us

to give them direction. They often don't have a clear idea of what they want to do, and they like to listen to what we suggest. That's one of our services. We examine the location and we suggest the best approach and type of project for that location, taking into consideration our broad global knowledge of the industry and understanding of the world's dynamics.

You design and implement one-of-a-kind projects. Why is important for you to be bold and original?

Dan Thomas: There's a huge interest in leisure tourism projects across the entire planet, and we have to look for new options.

We have to look at solutions that are maybe new types of developments. Sometimes our approach is completely new, and sometimes the client is not ready for it or doesn't want to push the envelope – but that's what is going on now, creating new types of projects. We're breaking the mould.

Natasha Varnica: In some ways I feel we don't even have a name for this industry that we think we're a part of and a name for these groundbreaking new types of

IDEATTACK Clients

- Private developers
- High-profile investment groups
- Public conglomerates
- Real estate companies
- City governments
- Influential entrepreneurs

projects. It's not purely entertainment design, it's not typical architecture. It's time for a new term for the industry as a whole and the type of projects we're doing.

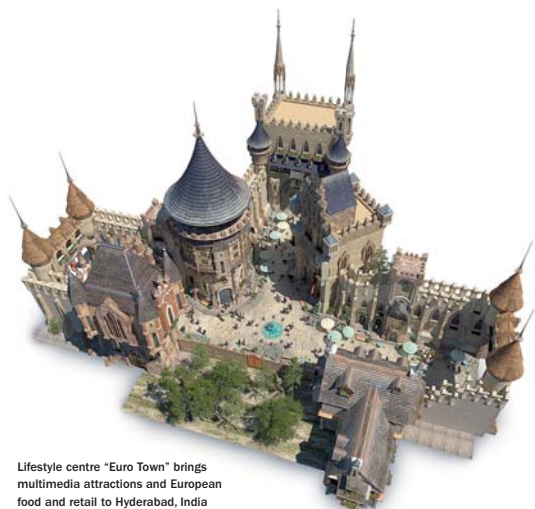
How do you see the industry landscape changing?

Dan Thomas: We're trying to open up the industry. People say the US is a saturated market; Japan is saturated, South Korea is about to be saturated. In fact, the US has 300 million inhabitants and maybe two major tourism destinations with quality theme parks. In the UK, for example, there are a couple of parks but they're leaning towards amusement parks – mostly rides.

So, so-called saturated markets actually have vast opportunities, especially today when most cities are not built at the human scale. In new markets, like China or Korea, the newly built cities are unappealing and most of the living space is not inspiring at all – most of these places are missing the human touch.

Natasha Varnica: At the weekend, people don't actually have many places to spend their leisure time. They used to go to shopping malls – which are dying now – and in many places in the world there's not anything to do that's special.

I think "theme park" is a term that usually describes traditional amusement parks, but for us, a theme park is much more. It's a rich, elaborate, human scale, soft, immersive environment with intangible values. These types of values are applicable in all kinds of tourism environments, from commercial



Lifestyle centre "Euro Town" brings multimedia attractions and European food and retail to Hyderabad, India

developments with mostly retail, F&B content, to historical heritage sites, national parks, destination resorts, entertainment centres and other types of tourism developments.

How important is it to draw inspiration from the culture and heritage of the site location?

Dan Thomas: Cultural values are very important. If you look at successful parks like Disneyland, they are based on culture, a Euro-American culture. The only problem is, it's the same thing repeated over and over again. New markets have cultures completely untouched in that way. In China, there's an extremely rich culture that's practically untapped – or when it's been attempted it's not been very successful.

Every country has unique cultural elements and we have a very deep interest in using these new cultural environments to develop attractions of world-class quality.

If you travel around these days, there's a good chance it'll be hard to tell where

you are because every place is starting to look the same – that's the impact of globalisation. For us that's also the challenge. We want to use these different cultural values to make unique projects. People appreciate that, not just those who live there, but those who travel there.

What's your design philosophy with these tourism projects?

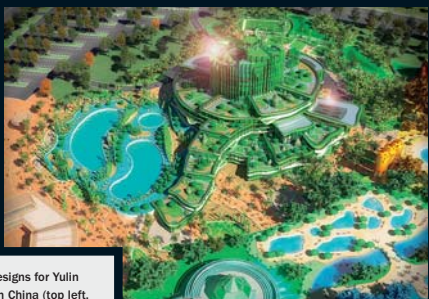
Natasha Varnica: We value encyclopedic knowledge, open-mindedness, imagination and innovation as key factors in the creation of original projects. We try to use cultures, historical and geographical settings in our design approach in a realistic, feasible way that fits unique environments of our projects.

Tourism projects are created in a comprehensive way so they have layers of gradual immersion into the theme or story of the project. They form a coherent world of rich, enhanced experience.

Our projects are about the environment. When it's mixed-use, it's not only about



"Old City", a fantasy theme park near Prague, Czech Republic, will incorporate oriental themes into its historical European setting



IDEATTACK designs for Yulin Tourism Zone in China (top left, top right) and Zilant City in Russia (bottom left, bottom right)



"Theme park" usually describes traditional amusement parks, but for IDEATTACK a theme park is a rich, elaborate, soft, immersive environment with intangible values

the attractions and rides but it's about what's outside and surrounding you – that's where people spend most of their time. In the creation of these soft spaces, it's that intangible value that we create that should connect all the elements in a way that makes sense.

Every project is an authorship project – you're the creator of a special world that's different from the one outside.

Is it difficult to balance the business needs of a project with the artistic vision?

Dan Thomas: We advise the client to balance the process in a way that business needs don't over-dominate the creative vision of the project, but we also understand that the business will bring income to the destination and keep it alive – it's a fine line. The two sides complement each other because if the environment is attractive, people will come and boost the business.

Natasha Varnica: The timing of when the project is commissioned is also important. We prefer to come to markets when they are in need of something special.

What challenges is the industry facing?

Dan Thomas: One of the main challenges in the industry is how to complete all potential projects in a quality way. In our industry this is so important because the quality is the value of the project. Without it, it loses the point. You can do residential blocks badly and people will still live there, but these projects are different.

You have to make them appealing so people can make the choice to visit them. Tourism destinations have to be special in order to attract people. The "specialness" of a tourism destination is a determining criterion for its success in comparison to other destination choices that people have.

Another concern is some of these projects tend to be extremely expensive to realise and can only be sustained in a few locations in the world at the time. They can exist in these certain locations, but what about the rest of the world?

We want to make the cost more realistic. We believe you can develop world-class projects with quality design and vision on a much more realistic budget, and then they can serve a lot more cities and countries.

What would you like to see happen?

Natasha Varnica: Our industry has a responsibility to educate itself about the cultures and countries where it is working. Without doing that, we're not able to interpret their stories, their cultural values.

We need to be more serious about what we do for the reputation of our industry. We're concerned that if the industry doesn't make good progress, the developers will give up – and that may happen.

What's IDEATTACK's greatest success?

Dan Thomas: We're constantly making steps forward and we've had many achievements. At the moment, several of our projects in China are under construction and we believe they will stand out in terms of quality of experience.

We're working on a special and different theme park located in Changping, between Beijing and the Great Wall of China.

It strikes the balance of budget and quality and we believe it will be an eye-opener to developers – hopefully, they'll realise you don't need billions of dollars to create high-quality projects. ●

THE RIDE MAKERS

The charm of the wooden coaster is well known. The traditional look, the sheer size and the unmistakable sound of the ride make a special addition to any theme park

Alice Davis, managing editor, Attractions Management

GREAT COASTERS INTERNATIONAL

ADAM HOUSE

LEAD DESIGN ENGINEER

What's the appeal of a wooden coaster?

Wooden rollercoasters hold a special place in the hearts of many. Many people have fond memories of a classic wooden coaster when they think back to their first rollercoaster ride. At Great Coasters International Inc (GCII), we create today's modern, yet classic, wooden coaster and keep this tradition alive. We want to create a ride that's thrilling, but still family friendly.

A wooden coaster can be an iconic centrepiece. People think of amusement parks and they think about carousels, cotton candy and wooden rollercoasters.

At GCII, our rides' signature elements include super twisted ride layouts and our own articulating Millennium Flyer trains.

What are you working on now?

GCII is currently building the largest wooden rollercoaster in China, called Viper. Located at Wanda (Nanchang) Culture Tourism City, Viper is our largest undertaking for any coaster in our history. At 160 feet (49 metres) tall and 5,111 feet (1,558 metres) long, this ride is our golden standard in wooden rollercoasters.

What's the difference between designing, building and installing a wooden coaster and a steel coaster?

Wooden rollercoasters require a very specialised team on the building and installation side.

Adam House has been with GCII since 2007



White Lightning, designed by GCII for Fun Spot America in Orlando, Florida, opened in 2013

The entire ride is built by our team on-site. Unlike steel coasters, we cannot fabricate everything prior to delivery and then assemble it. Each individual piece is cut, bolted and stood by our construction team.

From the design aspect, we try to achieve two main objectives which are different from steel coasters. The first one is that we want the ride to be a "work of art". We want the ride to be an icon for generations to come, and one of the iconic staples of the park.

The second difference would be the feel of the ride. We know that the feel and the sound of a wooden coaster differs greatly from its steel coaster counterpart, so we play to this. We want the ride to shake you around – but not too much! We want guests to hear the sound of the coaster and for that to

cause some hesitation about riding. Again, this plays back to making the ride thrilling, but still family friendly.

Is it difficult to maintain a wooden rollercoaster?

Wooden rollercoaster maintenance isn't any more difficult than a steel rollercoaster, but it does take a very specialised team to maintain the ride. Many of our customers have an incredible group of maintenance personnel and carpenters who are extremely talented at what they do.

One key advantage of wooden coasters is that they can literally last forever.

Think of it like this: if one board or section on a wooden coaster goes bad, it's fairly inexpensive to replace the board and keep the ride running. Compare this to a steel coaster, where if a section of the ride begins to deteriorate, it's extremely costly to make the repairs.

This is something that we're currently seeing for steel rollercoasters from the 1980s and early 1990s. Some theme parks are removing the rides because of costly maintenance and upkeep.



Balder, at Liseberg, Sweden, was the first coaster to use Intamin's prefabricated New Track Technology (NTT)



Hybrid versions, with a steel track and a wooden support structure, have gained in popularity, but some experts question if this is a true "Woodie"

INTAMIN

SASCHA N. CZIBULKA EXECUTIVE VICE PRESIDENT

What's the appeal of wooden coasters?

It's the natural look of the wood, to some extent the ride experience and, at least for older park visitors, a sense of nostalgia.

Wooden coasters seem to be popular right now. Would you agree?

Wooden rollercoasters are an integral part of a good ride mix, at least for larger parks. Yes, there's currently a slightly stronger demand than usual. However, this is normal as demand works in cycles.

Ten years ago, demand was also high, and suddenly it dropped and then it comes back. It's normal in our industry and doesn't apply just to wooden coasters. We've recently seen the same phenomenon with giant wheels and observation towers.

What boundary-pushing things you can do?

Really exciting layouts, resulting in rather high speeds and a lot of air-time.



Intamin's Sascha N. Czibulka

Are there many differences between designing and installing Intamin's wooden coaster and its steel coaster?

It depends on the system used by the wooden coaster. With Intamin's prefabricated track system – New Track Technology (NTT) — there are only small differences when it comes to designing, building and installing the two types.

In terms of engineering and design, what breakthroughs have you seen lately?

NTT is our pre-fabricated track based

on Kerto technology. As well as being a fully treated and sealed wooden support structure, it's also possible to establish highly dynamic layouts and especially keep the costs of ownership, such as maintenance and replacement, at a very low level, similar to those of steel coasters.

Lately, the hybrid versions, with a steel track and a wooden support structure, have gained in popularity. However, some experts question if this is then a true "Woodie".

Is it difficult to maintain a wooden coaster? Does this make them harder to sell?

This depends on the system of wooden coasters. For the traditional ones, the cost and efforts are pretty high, to say the least. In the case of Intamin, feedback from parks operating an NTT wooden coaster for a number of years now demonstrates that the costs are very similar to those for a steel coaster.

Can you describe the current market climate? Is business fast or slow? How do you stay ahead of the competition?

The climate is good and business is indeed fast. We try hard to constantly invest in new products and technologies and push the envelope.



Rocky Mountain updates wood coasters by turning them into wood-steel hybrids, like the triple-inversion Wicked Cyclone

ROCKY MOUNTAIN CONSTRUCTION

FRED GRUBB OWNER

What are you working on right now?

We're working on three projects right now. Wicked Cyclone at Six Flags New England and Twisted Colossus at Six Flags Magic Mountain are both opening this summer. Wildfire at Kolmården in Sweden is opens in 2016. We have three unannounced projects that will open summer 2016 as well.

In terms of engineering and design, what breakthroughs have you seen?

After repairing wooden tracks year after year, I thought that there had to be a better track system. I introduced the idea of the IBox Track to world-renowned coaster engineer Alan Schilke and the IBox Track system was born.

It's an all-steel track system, which eliminates the need for a wood stack as the new track sits on all steel ledgers. This new track allows you to add new thrilling elements to the coaster that traditional wood tracks do not allow.

Schilke is the genius designer behind our creations. We are constantly thinking of new ideas that have never been done before.

What are the differences between a wooden coaster and a steel coaster?

All our coasters are unique and custom made. The track and parts are



Fred Grubb founded Rocky Mountain in 2001

manufactured at our facilities in Hayden, Idaho, but the structure is built on-site by our crew. The structure isn't pre-made – each board is cut on-site to plan.

Steel coasters are all pre-manufactured and then installed on-site. Steel coasters are typically easier and quicker to install as there are fewer components and they don't need to be custom built on-site.

In terms of design, many steel coasters are "cookie cutter" and mass-produced. Typically, wooden rollercoasters are tailored to the terrain and the design process is ongoing as the coaster is being built.

In terms of engineering and design, what breakthroughs have you seen lately?

Our two track technologies, IBox and Topper Track – a steel track that overlays the wood to reduce the maintenance required and provide a smoother ride – allow us to take an existing wooden

coaster and re-profile it to create a new state-of-the-art ride. We can also design and build a coaster from the ground up, as we did with Outlaw Run at Silver Dollar City. Our track technologies allow us to incorporate inversions, steeper drops, high banking turns and so on, that traditional wood coaster tracks do not allow.

What boundary-pushing things you can do?

Our coasters continue to push the boundaries. Inversions, "high five" elements and extreme drops are all boundary-pushing as they have never been successfully done on wooden coasters.

Is it very difficult to maintain a wooden coaster? Does this make them harder to sell?

Traditional wood tracks are difficult and costly to maintain, but our coasters are popular as our tracks require very minimal maintenance. We also offer a five year warranty, which is unheard of in the industry. That makes them easier to sell.

Can you describe the current market climate? How's business?

Since we've offered these new track technologies, we're extremely busy. We stay ahead of the competition by offering unique products. We have built up a great reputation in the industry as we stick to our motto of quality, service and innovation.

What's on the horizon for Rocky Mountain Construction?

We have two new state-of-the-art coaster products that will be introduced to the market in 2016 and 2017. ●

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Nicolas de Villiers, president of the Puy du Fou theme park in the Vendée, France, is eyeing new opportunities

NICOLAS DE VILLIERS

The president of the award-winning historical theme park Puy du Fou in France discusses what makes the concept so attractive to new markets, and how plans are progressing with partners in Russia and China

Puy du Fou was founded by Philippe de Villiers, father of the theme park's current president Nicolas de Villiers, in 1978. As one of France's most popular attractions, which welcomes 1.5 million visitors a year, its success is beginning to go global.

New partnerships are being formed with Puy du Fou International, as investors sign up to use the park's expertise and knowhow to create unique variations of the concept which are tailored to individual sites.

Puy du Fou announced in 2014 it had signed a deal to work with entrepreneur Jonathan Ruffer, to create Puy du Fou's first international location at Auckland Castle in County Durham, UK. The first phase, which is an 80-minute nighttime show in the style of the Cinéscénie at Puy du Fou, is set to open in 2016.

The company is also working on a \$500m (£330m, €462m) park in the

Moscow region of Russia with billionaire Konstantin Malofeyev. That park is scheduled to open in 2017, and a second park is also planned for the Crimea.

Russian President Vladimir Putin signed a deal in August 2014 with Puy du Fou International to secure the plans for the two parks in the country.

According to Philippe de Villiers, who is a French politician and leader of the Movement for France party, the signing of the protocol marked "the start of developing two historical theme parks, which aim to highlight Russia's history and the significance of Russia's soul."

Nicolas de Villiers brought *Attractions Management* up to date.

Why did you decide to grow the Puy du Fou brand?

For a few years we've been approached by people from all over the world asking us to create attractions based on the model of

the Puy du Fou in France, but showing the culture and history of their own countries. We get about two enquiries a week, and we've had requests from as far away as Kenya, Cambodia, Brazil and Chile.

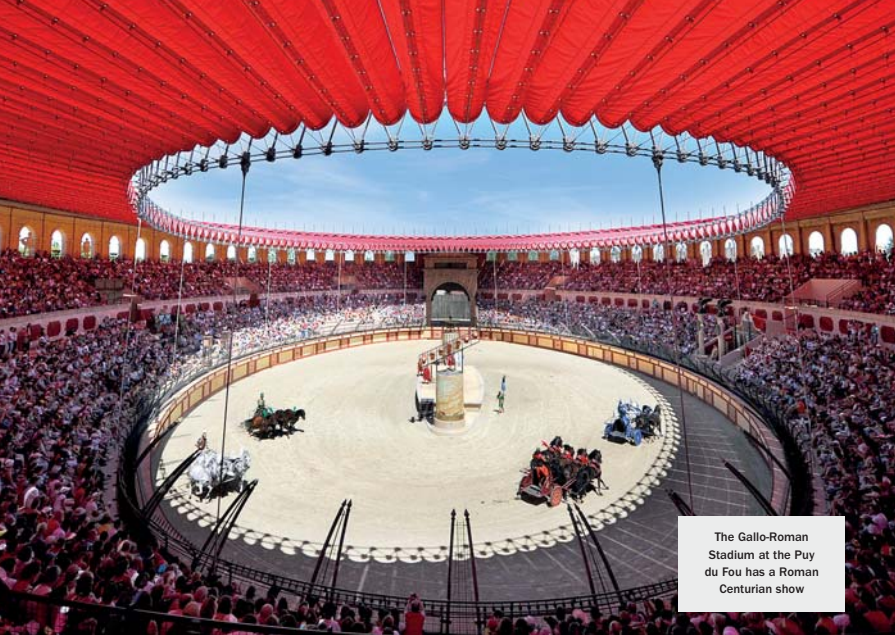
I realised that there was a demand to adapt our artistic model to other cultures, so I created Puy du Fou International to create parks and shows abroad.

How do you decide who to work with?

We have criteria to help us determine who's a serious potential partner: one who has means and money as well as ideas.

The first step is a one-month feasibility study. We send out a team – the partner pays – and this helps us determine whether the project and partner are right for us.

The next step is the design of the masterplan and business plan. Then we move into more detailed plans – the architectural drawings, the landscaping, the décor, the performers and the animals. ▶



The Gallo-Roman Stadium at the Puy du Fou has a Roman Centurian show



Viking warriors launch an attack as part of the Vikings Grand Show at Puy du Fou

President Putin has sweet eyes. He's very attentive. He says kind words to put you at ease.

The European media show him as a serious guy who never laughs, but that's not the case

- We build the project, train the staff and write the story. In our projects in Russia and the UK, we're following this methodology. Puy du Fou manages every aspect, but we're not investors and we don't put a single euro into projects abroad.

Are you planning a project in China?

For now, China is just a discussion. There are several interested potential partners. Any partner we work with has to accept our methodology: we need to agree on the budget; we need to agree on the staff. Moreover, we need to agree on the content.

Can you explain the creative inspiration?

We approach a number of historians in the search for good stories: a love story, a spectacular event, drama, miracles. In Russia, the scripts mix fact with legendary characters to make an original show.

So the content doesn't have to be completely historically accurate?

We're not teachers and we don't want to teach people history. We want to educate and entertain at the same time.



PHOTO: K. REYNAL/RFI

Puy du Fou's Philippe de Villiers (left) signed a deal with Vladimir Putin in August 2014

We've written the script for Durham and our partners are happy with it.

In Moscow, the script will be based on Russian history and in Crimea it will be based on Byzantine history. Everyone's fascinated by Russia because it's a compelling and attractive culture.

Is it challenging working in the Crimea?

Historically speaking, Crimea was Russian for centuries. It's complex and we can't judge. Now Crimea is Russian again. We hope our scheme can provide a peaceful means to help people find their identity, and also be an economic driver.



Puy du Fou offers four historically themed hotels, inspired by Ancient Rome or the Renaissance, for example. More hotels are in the works





Puy du Fou partnered Efteling park in the Netherlands to create the Raveleijn Show

Have you signed a deal with President Putin?

Yes, we met him. It was wonderful and completely unexpected. When he found out that we wanted to set up a park in Crimea, he wanted to encourage this kind of initiative and wanted to see us. We took a plane to Crimea to meet him and it was an amazing experience.

What's he like?

He's different from how we expected. He has sweet eyes and sweet words. He's very attentive. He says kind things to put you at ease. He's relaxed. The European media show him as a serious guy who never laughs, but that's not the case.

You've also worked with Efteling in the Netherlands?

We created a show for Efteling and we've had a team of 40 there for two years.

What's the commercial arrangement?

The commercial arrangement is that the partner is in charge of the financial aspect,

and they pay us not only for the brand but also for our team of staff. We bring the knowhow. We don't bring money.

If you had to sum up the genius of the Puy du Fou, how would you explain it?

It's original and totally different from other parks. We invent everything. Authenticity is one of our strengths. The materials and décor are real, the birds and horses are real. If we want an elephant, we find a real elephant – we won't have Dumbo.

We believe in stories and storytelling. We believe in emotion – another main ingredient in the philosophy of Puy du Fou.

People everywhere are trying to discover their own identities in reaction to the American model that has taken over the world. Puy du Fou is about roots and against globalisation. You're not just a citizen of the world, you're from somewhere – that's our message.

We fight against consumerism by not having aggressive merchandising. Puy du Fou has one village for merchandising, which you can go to or avoid. You don't

have to spend a euro in the park if you don't want to. You can bring a picnic. Of course, people buy a coffee or an ice cream, so we don't lose money. We just earn less money than we could.

Our turnover is small in comparison with other parks with the same attendance, but that's not a problem. That's not the issue. Nobody gets rich from the profits and that's our philosophy. I can look our staff in the eyes because if I work, if they work, everybody works and all the benefits of our work will be reinvested into Puy du Fou; not into a car for the boss.

For example, we have four hotels, and visitors can choose from several historical periods and styles of accommodation. We work with our hotel partner Sodexo, but we're the artistic manager. This season, our accommodation is fully booked and that's why we're designing new hotels.

We don't look at business with an American logic. It's not just about making money. It's about making a great painting about our history and our people. And now we can do the same in other countries. ●



The interior of the Reading Room was designed by AOC Architects as an experimental space

WELCOME CHANGE

London's Wellcome Collection receives five times the number of visitors it predicted when it opened seven years ago. To accommodate the crowds, the museum has been redeveloped. Head of Operations Donne Robertson explains what this means for the popular attraction

Kathleen Whyman, journalist, Attractions Management

What is the Wellcome Collection?

Our brand proposition is that we're the free destination for the incurably curious. The museum is known for its eclectic collection, which explores medicine, art and life.

On London's busy Euston Road, it's a sanctuary for enquiring minds. Our exhibitions and events explore the fascinating areas where art, life and medicine overlap. The Wellcome Collection is part of the Wellcome Trust, a global charitable foundation which is the legacy of Sir Henry Wellcome.

Wellcome was an obsessive collector. He had millions of objects and artefacts and a vision of a "Museum of Mankind" that would encompass his extraordinarily wide range of interests.

The Wellcome Collection building was originally the home of Wellcome's museum of medicine. It was for medical professionals, to assist them with their practice, and entry was by invitation only.

After Wellcome died in 1936, the Wellcome Trust used the building as its headquarters, staying there for the next 70 years. When the Wellcome Trust outgrew the offices and moved into a property next door, the building was free to become a museum again.



Wellcome Collection's Donne Robertson

Our visitors say the way we approach a subject is eclectic, weird, holistic, cutting edge, quirky and deep. What we're definitely not is dumbed down, boring, old-fashioned, commercial, daunting or hard work.

Why redevelop so soon after opening?

When the Wellcome Collection opened to the public in June 2007, it was uncharted territory. We anticipated getting 100,000 visits per annum and

that's what our services and facilities were predicated on. However, we were soon receiving over 500,000 visits a year.

The Wellcome Trust saw it as a fantastic opportunity to tap into that thirst for knowledge and information. Work started in spring 2012 and a bigger, bolder Wellcome Collection opened in February 2015.

What work was done?

Building and expanding weren't an option because of our footprint. Instead, we opened up existing spaces with creative interventions, such as reclaiming the central light well for space that we can use. The development project has increased our gallery spaces by 40 per cent and brought some new and exciting public spaces into play, which were previously back-of-house areas.

The highlight is this spectacular helical staircase designed by Stirling Prize-winning architects Wilkinson Eyre. The staircase greets visitors as they enter the venue, spiralling asymmetrically from the ground floor, punching through the first floor and up into the second floor. It's a powerful way to get visitors flowing around the building and can be seen rising up through the venue from outside through the windows. ▶



Wilkinson Eyre's spiral staircase encourages visitors to explore the building's upper floors



The Hub is a space at Wellcome Collection where researchers can collaborate



The Reading Room, on the second floor, is a mix of gallery, library and event space



The Medicine Man gallery (left) has been reopened and a new stairway and light well installed in the Wellcome Library (right)

“

WHAT WE'RE DEFINITELY NOT IS DUMBED DOWN, BORING,
OLD-FASHIONED, COMMERCIAL, DAUNTING OR HARD WORK

”

► Many think of the staircase as representative of the double-helix structure of DNA. In fact, it doesn't represent any single living thing, but its organic free-flowing shape is evocative of nature.

The staircase gives you different views of the building as you climb, offering new perspectives and glimpses of our spaces. We're excited about it – it's the building's signature, linking our spaces and activities and drawing our programme together.

How much did it cost?

It's a £17.5m (\$26m, €24m) redevelopment, which came in right on budget.

What's in the new spaces?

In one of the new spaces is a thematic gallery, which means we can host exhibitions for longer. Up until now our exhibitions have been relatively short – four months maximum.

One of our previous exhibitions was *High Society*, which explored mind-altering drugs in history and culture. As well as heroin and cocaine, we looked at a whole range of substances, including betel nut, opium, coffee, tobacco and alcohol.

Our research showed that people wanted the opportunity to come back and visit the *High Society* exhibition again, but it had moved before they had time. The new thematic gallery will allow us to hold exhibitions for a year and support them with an events programme. We'll also change the exhibition over the year with new commissions and interventions.

Our first year-long show, the *Institute of Sexology*, has been very busy. We'll still

have exhibits that run for a few months, but we'll also have a larger, year-long one.

Our two permanent exhibitions – *Medicine Man*, which is about Henry Wellcome, and *Medicine Now*, about contemporary medicine and culture – are on the first floor. Regular visitors who have already explored them don't always venture upstairs anymore, so we've been putting much more on our upper levels to encourage those visitors to keep exploring, including a restaurant and the transformed Reading Room, which allows visitors to delve deeply into a wide range of subjects and get to grips with Wellcome's collection.

We also have a dedicated youth studio space for 14 to 19-year-olds featuring work that young people have crafted and curated themselves.

What's the Reading Room?

Part gallery, part event space, the Reading Room is at the heart of the expanded Wellcome Collection at the top of the new stairs. It's entirely open to the public and contains strange and wonderful objects, artworks and thousands of books.

AOC Architects, who designed the interior, created an experimental space for curious minds surrounded by curious things. The Reading Room bridges the programmes and exhibitions of Wellcome Collection and the extraordinary holdings of the Wellcome Library which sits within the building and holds millions of books, journals, prints and paintings connected to health.

The Wellcome Library facilities have also expanded as part of the redevelopment and we've undertaken an



WHO WAS SIR HENRY WELLCOME?

Sir Henry Wellcome (1853-1936), the founder of the Wellcome Trust, was a businessman, collector and philanthropist. Wellcome co-founded a multinational pharmaceutical company that mastered modern techniques of advertising such as promotion, image and branding. The wealth that Wellcome's company brought him allowed him to amass an astonishing collection of historical objects, which at the time of his death was larger than that of many of Europe's most famous museums. He also funded pioneering medical research. In his lifetime, scientists funded by Wellcome made great breakthroughs into understanding how our bodies work. After his death, Wellcome's will provided for the creation of the Wellcome Trust.

“ BRING A SANDWICH IN YOUR LUNCH HOUR AND LISTEN TO A SCIENTIST, HISTORIAN OF MEDICINE OR ARTIST TALK ABOUT A SUBJECT ”

- ambitious digitisation programme to make its riches freely available to all.

If you're interested in what it means to be human, there's something for you. Novelists such as Sebastian Faulks and Ian McEwan have used the library and it's a renowned resource for both biomedical historians and the curious public.

Tell us about your overseas programme.

As we have global aspirations, an international emphasis is very important. The Wellcome Trust works overseas with programmes in Vietnam, Thailand and parts of Africa, specifically concentrated on HIV, TB and malaria, and has been involved in funding activities to combat ebola.

The Trust's biomedical research is linked to hospitals, scientists and universities. It provides funding for scientists to undertake vital frontline research, part of the Trust's mission to improve human health.

Wellcome Collection projects bring artists and scientists together from across continents. We've launched Medicine Corner in India, exploring the diverse history and traditions of medicine in India with a series of locally curated events and exhibitions across the country. Many of our exhibitions tour internationally and we also work with artists from around the world.

What's your events programme?

Our events programme is constantly changing. We encourage people to bring a sandwich in their lunch hour and listen to a scientist, historian of medicine or artist talk about a particular subject.

We also do interactive events. As part of an exhibition about death, *Death: A Self Portrait*, we ran an evening event across the building called *Seize the Day* featuring New Orleans jazz bands, a coffin-decorating competition and talks on risk and death. We asked people to think about what they'd do if they only had one day left to live.

Another event involved the *Handlebar Moustache Group of Britain*, a Crafts-like beauty parade with scientists explaining things like why our hair keeps growing after we die. And we contribute to the BBC World Service's *Exchanges at the Frontier* where scientists discuss their areas of expertise.

Who do you market to?

A huge proportion of our visitors are 16 to 24-year-olds. Many have a medical interest, but it may be from a humanities or artistic perspective. I get a 192-page evaluation of our audience demographic profile every year – how we reach them and how we can best align our activities to their interests. It's quite a read!

WHAT IS THE WELLCOME TRUST?

Established in 1936, the Wellcome Trust is a global charitable foundation dedicated to improving health. It provides £700m (\$1bn, €957m) a year to supporting bright minds in science, the humanities and the social sciences, as well as education, public engagement and the application of research to medicine. After the Bill and Melinda Gates Foundation, it's the second-largest charity in the world.

It has an endowment of some £18bn (\$27bn, €25bn) through its investment portfolio which gives it independence to support transformative work like the sequencing of the human genome and researching front-line drugs for malaria, as well as running Wellcome Collection. The Trust's five major areas are maximising the health benefits of genetics and genomics; understanding the brain; combating infectious disease; investigating development, ageing and chronic disease; and connecting environment, nutrition and health.

Wellcome Collection's main entrance has been transformed



The Youth Studio is a collaborative space for young adults for study days and projects



CURIOUSER & CURIOUSER

Creating a “home for the incurably curious” inspired the Wellcome Collection’s new look, as Wilkinson Eyre’s director Paul Baker explains

Can you describe your design?

It’s a refurbishment of the existing 1930s building. It transforms the main entrance and creates a new spiral staircase to encourage circulation. There’s also increased exhibition space, a destination restaurant, new youth events space, collaborative working space and an improved research library.

Our focus was on opening up the building. The main problem the Wellcome Collection had was that a lot of people went to the ground floor, which has a very successful café and a temporary exhibition space, but they didn’t venture any further. The new design is primarily to encourage people to visit more of the building and explore the amazing facilities and exhibitions contained within.



What was your inspiration?

In 2007, the collection was re-launched as a home for the incurably curious, which is a concept that really intrigued us – it inspired a lot of the work.

We’ve made it more accessible and raised public

awareness of the collection, the research and the facilities.

What was the brief?

The brief was to accommodate the increasing visitor numbers. We’ve created a vertical circulation route that brings people into the building and opens it up a lot more. The spiral staircase encourages better circulation between the floors, inviting visitors to the refurbished Research Library, existing and new gallery spaces and new restaurant. People should be excited about venturing upstairs – it should intrigue the incurably curious.

How do you expand a building without increasing its size?

Much of its expansion was made possible through the change in use. The building was

built in 1932 to house Henry Wellcome’s collection and primarily comprised laboratory and research spaces. It’s since become a public building so we’ve reimagined the spaces to be more exciting and more efficient.

How have you changed the entrance?

Before the redevelopment the entrance space was very exposed, as the sliding glass doors were constantly open with frequent people movement. The lobby was very cold, or wasteful of heat, and it was noisy as it opens onto Euston Road. We introduced two revolving doors either side of the main entrance to solve the environmental problems and presents a more approachable and better proportioned facade. ●

SAVERS OF THE LOST ARK



Elizabeth Lee, vice president of CyArk, on her organisation's mission to scan and share detailed heritage site maps from around the world

Protecting heritage sites from damage and destruction poses a unique set of challenges. The Islamic State (ISIS) is an example of a group causing willful destruction of antiquities and with swathes of the Middle East in conflict, sites which have stood for millennia are being destroyed – sometimes deliberately – on a daily basis.

Heritage sites are also lost to storms, earthquakes, decay, development, lack of proper care and many other causes.

CyArk's mission is to both preserve heritage for future generations and make it accessible to today's public.

The non-profit organisation was founded in 2003 and uses cutting-edge technologies to create detailed 3D representations of significant cultural heritage sites before they're damaged or destroyed by natural disasters, conflicts or the passage of time.

To create the representations that help preserve these sites for the future, CyArk uses an advanced system of laser scanners to mark millions of points that create an almost perfect 3D data set, which can then be used to create a solid 3D model.

Elizabeth Lee, vice president at CyArk, explains what measures the company is taking to protect the world's cultural heritage from disappearing completely.

"In museums there's an opportunity to license this data in a way that generates revenue back to the site"

What is CyArk?

CyArk is a non-profit foundation with offices in the US and UK. Our mission is to use new technologies to digitally capture and preserve cultural heritage sites around the world. The principal technology that we employ is 3D capture using lasers and photography to create a detailed and highly accurate record of sites and monuments.

We archive all the data so if anything happened to these sites, we have engineering-grade data that can be used to reconstruct them. In the meantime, that same 3D data can be used for outputs like education and cultural tours.

Do you mean "reconstruct" the sites virtually or in reality?

The latter. If something were to fall down, the documentation we have is accurate enough to put into a traditional

architectural drawing, which could then be used to reconstruct the monument.

How does funding work for you?

We're fundraising all the time. We plan fundraising events around specific projects, but our funding comes from a number of sources, such as government grants, corporate and individual donations and support from our technology partners.

Who are your technology partners?

CyArk was founded by Ben Kacyra, a pioneer in bringing 3D laser scanning technology to the market via his commercial company, Cyra Technologies.

That company was acquired in 2001 by a surveying company called Leica Geosystems. We still work with them and with many of the other manufacturers of this tech, such as Trimble, Autodesk, Faro, Topcon – some of the big survey companies. On the archiving and data storage, we work with Iron Mountain and others.

What's the cost of mapping one site?

The costs are changing all the time and the technology is improving. To do everything from capturing in the field to processing the data then getting it online used to have a ballpark figure of \$50,000 (£34,000, €47,000) per project. However, we're seeing those figures start ▶



CyArk partners from the Archaeological Survey of India and Scottish Ten at Rani-ki-Vav well, Gujarat, India (left), Digital images of Pompeii, Italy (top right) and Ancient Thebes, Egypt



PHOTO © EDDY T. COUV



CyArk carry out field work in Somaliland, where the team document rock art sites, some of the first examples of writing in East Africa

“There’s a huge need to capture information in these areas. Ideally we’d capture information before a conflict arises”



KwaZulu-Natal University in Durban, South Africa, is a CyArk Technology Centre partner

WHAT ARE CYARK TECHNOLOGY CENTRES?

CyArk Technology Centres are a partnership between CyArk and a university, community college or high school. The centres build skilled teams to help with CyArk’s digital preservation movement, and transfer skill sets in technology

into the local workforce. CyArk says the programme benefits a range of studies, including historical preservation, anthropology, archaeology, architecture, the STEM topics and environmental and spatial technologies (EAST).

Students gain exposure to brand new technologies, training in the latest software and hardware, training in advanced documentation methodology, advanced skill development and CyArk certification.

to really come down. We work through local partner agencies, service providers and universities so that’s another way that price is continuing to drop.

What’s the rough cost now?

It’s closer to \$30,000 to \$40,000 (£20,000 to £27,000, €28,000 to €38,000) per project. That includes everything from the capture, to processing the data. On certain projects we do a “scan and can” – just capturing the data and archiving it for the future – and that can be done, in some cases, for less than \$10,000 (£6,800, €9,400) per site.

You’ve been operating for more than 10 years. How much has been spent so far on mapping these sites?

About \$10m to \$15m (£7m to £10m, €9m to €14m), in terms of cash investment, as well the technology and other kinds of supporting donations that we’ve received.

How do you manage to make large amounts of data available to the public?

One of the things that we prioritised from the beginning is making the archive accessible, particularly over the Web. We’ve spent a lot of time figuring out ways to manipulate the data and create derivatives from it that are easily shared and then consumed by the public.

In some cases we’ll develop lighter-weight or decimated versions of the 3D data and put that online. Sometimes we show the site with a fly-through animation or video, but there are different ways to make the data accessible, even if you’re not able to put a really large data set up online.

How does the scanning work from a commercial standpoint?

We haven’t explored that too much yet. Our focus has been on building the archive and having that information available, should it be needed for the future. One of the things we’re starting to see both

in museums and other similar venues is there may be a real opportunity to license this data in a way that is both respectful to and generates revenue back to the site so they can also benefit from it.

How big is one project in terms of data size?

Several terabytes per project. Some are a lot bigger and some are smaller, but very few projects now are under a terabyte.

We have capacity for two petabytes and right now we’re at a couple of hundred terabytes. We can always expand.

You’ve done apps in conjunction with specific projects. Is that another way to share the data with the public?

There’s always interest about how people are interacting with information and we try to get it to them in a format that’s relevant. We’ve worked on the mobile side and apps are great, particularly with some of the sites where connectivity is low. If you’re not going to get a good signal to pull up information on your phone, you can download the content of an app before you travel and augment your experience on site with this 3D data and the educational content we’ve developed.

Fort Laramie in Wyoming, US, for example, has an iPhone and iPad app with ▶

WHAT IS THE CYARK 500?

CyArk 500 hopes to preserve 500 heritage sites worldwide over the course of the next five years. CyArk wants to preserve these sites from war, terrorism, arson, urban sprawl, climate change, earthquakes, floods and other threats, particularly in areas that could become too dangerous to map.

Members of the heritage community can submit sites for consideration. Governments, organisations and individuals can nominate. The sites will be assessed and selected by an Advisory Council according to the criteria they helped develop. CyArk has completed 40 projects of the 500,

including Pompeii, Babylon, Mount Rushmore, the Leaning Tower of Pisa, the Titanic wreck, the Sydney Opera House and the Tower of London.

The feasibility of doing projects depends on access and funding. CyArk points out that it might be easier to raise funds for some sites than others.

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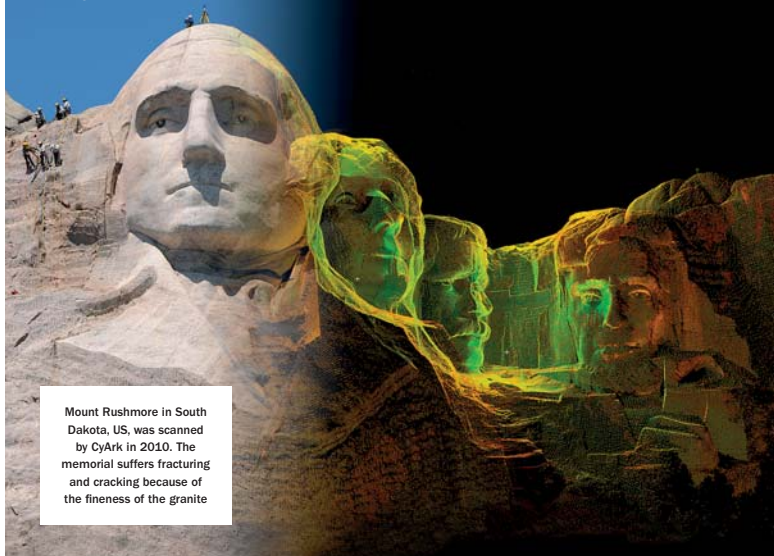
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Mount Rushmore in South Dakota, US, was scanned by CyArk in 2010. The memorial suffers fracturing and cracking because of the fineness of the granite

- 67 panoramic images, a detailed site map, 3D laser scan data and virtual fly-throughs.

With a lot of sites it's something that comes out of the discussion we have with the site operators. If there's a need and it can be beneficial, we try to get it done.

What partners do you have?

We've worked with a number of museums. We've started a research and development project with the British Museum looking at similar technology to scan collections to better document and interpret them.

Other museums we've worked with are more about showcasing the content in a museum setting. We've done some work with the Ars Electronica museum in Austria, doing life-size 3D projections of a handful of the sites within our archive.

How easy is getting access to sites?

If there was one body that could control access to all the sites, that would make things a lot easier, but the reality is that we have to work with different national and local governments and organisations that manage the sites. We spend a good amount of time co-ordinating things with the site authorities or representatives to get the access that we need. Those meetings also help us establish what output they would like to see for their site.



- ▲ The Fort Laramie app for iPhone and iPad augments the on-site experience, providing audio and virtual access to off-bounds areas

How many projects have you mapped?

We've got 130 sites to date in the archive and we launched an initiative last year called the CyArk 500 with the objective of scanning 500 sites over the next five years.

Would you do underwater mapping?

That technology is really exciting and getting better all the time. Applying underwater mapping tech to things like shipwrecks and submerged cities is possible. We don't have any projects in the works right now but we would love to.

As for the documentation, does that get digitised?

There's always a big effort to capture additional photographic information and historic data and narratives. All that's archived digitally so we can easily share it.

What is the overarching aim of CyArk? Is it to present history, to preserve it? Or both?

It's both. The primary focus is on preserving it. The focus is on going out and getting that information in the archive to preserve it. If we don't have that record it's very hard to interpret down the road. If we have that record we can always add to it, but if it's not here in the first place we're in danger of losing a piece of our history.



Have you entered sites where an element of danger is present?


There's a huge need to capture information in these areas. Ideally we'd capture information before a conflict arises. We haven't had much experience going into active conflict zones because it's just too dangerous. We've gone into higher-risk areas to capture information but there's a line between high risk and active zones.



In 2010 a team went to Babylon, Iraq, an area that was still fairly risky, but it was safe enough to do the capture. We've also done recent work in Somaliland as well.

Do you have any other comments?


We're very interested to see how this data can be used in other applications and we really want to call on people to participate in the CyArk 500 by nominating sites. ●






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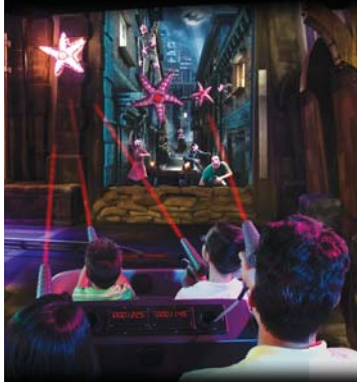
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WIZARDRY & WONDER

The famous Hogwarts Express steam train has pulled into Platform 9¾ at the popular Warner Bros Studio Tour near London. Does the new addition live up to the impressive standards the Studio Tour has already set?

Tom Anstey, journalist, Attractions Management

The Warner Bros Studio Tour – The Making of Harry Potter is a one-of-a-kind experience. Though the IP adorns other well-known attractions, with more on the way, the Studio Tour is the only place to house a vast collection of props, costumes, sets and gadgets from the movie franchise, and all in the location the films were made.

In essence, the Studio Tour is the world's only Harry Potter museum, and it has grown even bigger with the addition of the 20,000sq ft (1,858sqm) Platform 9¾. The crowning glory is the Hogwarts Express, which is stationed inside. It's an authentic British steam train, no. 5972 and once named Olton Hall. Today, the 78-year-old engine is probably the most famous train on the planet.

The tour lets you explore behind the scenes of Harry Potter. Following an impressive reveal when the Great Hall is unveiled, guests enter the studios and browse an array of Harry Potter props, costumes and sceneries, including Dumbledore's office, the Gryffindor

■ LOCATION

The Studio Tour is located in Leavesden, 20 miles north-west of London. Public transport links serve the attraction

■ OPENING HOURS

Opening times vary: check online. Guests must book slots in advance

■ ADMISSION PRICES

Tickets cost £33 (\$49, €45); children aged five to 15 are £25 (\$37, €34); a family package is £101 (\$150, €137)

common room, the potions classroom and the new dark arts section.

The entire tour is designed to demonstrate how much work and care went into producing the Harry Potter films.

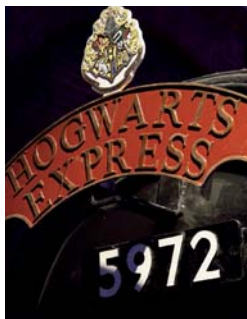
The new part of the attraction, Platform 9¾, creates another fantastic reveal as guests turn a corner to the sight of the Hogwarts Express billowing steam on 'King's Cross station', recreated by three-time Oscar-winning production designer Stuart Craig.

The attraction is participative. Guests board the Hogwarts Express and walk the carriage. Each passenger compartment represents a different film in the franchise. A modified version of a compartment, designed to accommodate a film crew, shows how the train scenes were shot.

Visitors can also experience one of the interactive carriages, equipped with false windows that demonstrate the process used to create scenery and action outside the train, such as movie scenes with the flying Ford Anglia or the dementor attack.

There's a new photo opportunity, similar to the one at (the real) King's Cross, in which visitors "push" a luggage trolley through the wall of Platform 9¾, as happens in the films. Guests can use their own cameras rather than having to have a professional paid-for photo, though that option is also available.

The Warner Bros Studio Tour takes between 90 minutes and three hours. With added attractions such as Butterbeer sampling and green-screen broom riding – expertly supplied by Picosolve – the experience can be lengthy, and potentially more costly if you do buy the extras.



Details from the new attraction and Warwick Davis, who plays Filius Flitwick, demonstrating a popular photo opportunity at Platform 9¾



Actor Mark Williams, who plays Arthur Weasley, poses with the Hogwarts Express

“ THE WORK AND ATTENTION TO DETAIL TO FAITHFULLY RECREATE THE NEW SECTION OF THE ATTRACTION AS IT'S SEEN IN THE FILMS IS CLEAR FOR ALL TO SEE ”

BOOKING AND TICKETING

The incredibly popular tour must be booked in advance through the Warner Bros Studio Tour website. Visitors are booked in for specific times and can then explore the attraction at their own pace. Discounted rates are offered to groups of 10 or more and to school trips. Platform 9½ and the Hogwarts Express are included in the Studio Tour ticket price.

FOOD AND BEVERAGE

Food at the Backlot Café is reasonably priced, starting at about £3.50 (\$5.19, €4.75) for soup. A burger costs upwards of £7.50 (\$11.12, €10.18). The quality is excellent, and the menu has wide appeal.

The attraction offers the franchise's signature Butterbeer – which seems to be cream soda topped with a marshmallow

foam. The foam creates a Butterbeer moustache and another photo opp for visitors. Definitely one for the sweet tooth, the non-alcoholic drink enjoyed by the characters in the book can be purchased with a souvenir cup (£4.95, \$7.33, €6.72) or tankard (£6.95, \$10.30, €9.44).

STAFF

The staff are very well presented, friendly and extremely knowledgeable about Harry Potter. You can tell from speaking with them that they're fans, which comes through in their words and actions.

RETAIL

The Studio Tour offers two shops. Most of the items are exclusive to the Studio Shop and you pay extra for that privilege. However, the products are very high quality. For collectors, high-end versions of many of the products are on sale, with Harry Potter-themed jewellery, for example, available for several hundred pounds. Merchandise can also be bought via the online store.

DESIGN

The tour feels more like being in a museum than the monster-sized aircraft factory you see on arrival. Thinkwell returned to design

RIGHT TO REPLY

Sarah Roots, Vice President
Warner Bros Studio Tour London

“We've received a fantastic reaction from visitors to the new expansion of Warner Bros Studio Tour London, featuring the authentic Hogwarts Express train on Platform 9 ½ and I'm pleased Attractions Management's mystery shopper enjoyed the experience too.”



the new addition, having also collaborated on the existing Studio Tour.

SUMMARY

The arrival of the Hogwarts Express adds to the magic of the Studio Tour. The attention to detail to faithfully recreate the new section as it's seen in the films is clear for all to see. The attentive staff and special effects only add to the experience, which is world-class. The attraction really has no rival; it's a unique experience that a Harry Potter fan in particular, or any visitor, would remember for a long time to come. ●

WHAT'S THE SCORE?

Toilets	9/10
Staff	10/10
Cleanliness	9/10
Value for Money	8/10
Overall rating	8/10



■ The planetarium consists of three major elements: the Oculus, the Inverted Dome and the Sphere. Shanghai Planetarium will be an addition to the Shanghai Science and Technology Museum, which in 2013 attracted 3.5 million visitors

SHANGHAI NIGHTS

Innovative architecture firm Ennead has designed a cutting-edge planetarium, inspired by astronomy and planetary science, for one of China's leading modern museums

Tom Anstey, Journalist, Attractions Management

Ennead Architects has unveiled a futuristic design for the new Shanghai Planetarium in Shanghai, China. The New York firm was selected after winning an international competition.

The 38,000sqm (409,000sq ft) project will be part of the Shanghai Science and Technology Museum in the Lingang district.

The design celebrates the continuum of time and space and, according to Ennead, the plans mirror the rich history of Chinese astronomy and the future ambitions of China's space exploration programme.

"In linking the new museum to both scientific purpose and to the celestial

references of buildings throughout history, the exhibits and architecture will communicate what it means to be human in a vast and largely unknown universe," says Ennead Architects partner and design principal Thomas Wong.

The Oculus, the Inverted Dome and the Sphere comprise the central body of the architecture, with the building form, programme and circulation incorporating orbital movement, supporting the flow of visitors through the temporary and permanent galleries and the main areas.

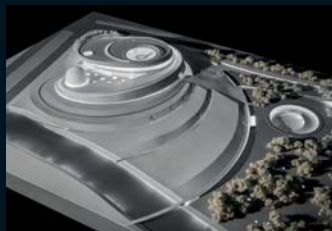
The Oculus has been designed so visitors can track a circle of sunlight on the ground across the entry plaza and its

reflecting pool. The Sphere on the outside of the building contains the 18 metre (59 foot) planetarium and acts as an icon and reference point to visitors within the museum; something Ennead says is "integral to the planetarium's identity".

Also included in the development will be an expansive green zone, as well as gardens incorporating an exterior exhibitory with a 24 metre (79 foot) solar telescope, youth observation camp and observatory. At this stage development costs are being kept confidential and other contractors working on the project are yet to be confirmed. The completion date is expected to be 2018. ●



■ Suspended above the main entry to the museum, the Oculus element of the building's design demonstrates the passage of time by tracking a circle of sunlight on the ground across the entry plaza and pool



■ Celestial bodies inspired the design (left). The Sphere (right) houses the planetarium itself. A skylight around it allows light into the museum below – it should create a perfect ring of light on summer solstice



■ The Inverted Dome, which allows the real experience of day and night skies, is on top of the central atrium. All the galleries are organised around the central atrium

Soft Machine's fulldome production *Life of Trees*, with 360° spatial sound, is showing at Planetarium Klagenfurt



PHOTO: SOFT MACHINE

RESOLUTION REVOLUTION

Higher resolution displays are enabling the creation of stunning virtual journeys, while the power of visualisations is advancing. We ask what's new in dome projection technology

SKY-SKAN

Creating crystal clear images for all budget types

After pioneering fulldome displays using a pair of then new 4K venue projectors 10 years ago, the next logical step for Sky-Skan was to use more of them to achieve 8K resolution on a dome, according to Glenn Smith, managing director of the US-headquartered company.

"Projectors are more compact today so we can more easily integrate the technology into the dome theatre architecture. As such we can even offer smaller domes an 8K configuration for about the same price as 4K cost a few years ago," he says.

Austria's Planetarium Klagenfurt is the first to take advantage, with its 12.5-metre dome theatre reopening with an 8K display based on six Sony GT-100 projectors.

8K dome displays are closer than ever to reaching the visual acuity of the human eye, says Smith, resulting in a sharp, crisp image. Dome theatres are known for movie



Glenn Smith

content, but the real-time visualisation systems that Sky-Skan builds also generate images in the display's native resolution.

"Our heritage is planetariums and a beautiful starry sky is all the more realistic and impressive in 8K. It draws gasps from our customers when they see it the first time," says Smith. "The resolution also finally represents a viable alternative to an opto-mechanical star projector for those projects where a realistic night sky is important but perhaps budgets don't allow for a mix of technologies."

Very high resolution images can also be displayed, and long, slow zooms can

be performed to investigate the smallest of details. With the general public accustomed to high resolutions in devices such as televisions and computers, a dome theatre must provide an experience that exceeds what they can get at home.

Another recent installation fulfilling this objective was at Prague Planetarium, Czech Republic, which has a 23-metre dome. Having installed a 4K system there about four years ago, Sky-Skan was challenged to raise the resolution to 8K by adding four more 4K projectors to the system.

"Prague and Klagenfurt both place a heavy emphasis on astronomy and science education," he says. "Their new systems allow them to bring in the latest astronomical and scientific data and visualise it on the dome in a setting not possible in a classroom or other environment."

Both planetariums offer a wide variety of programmes, and host cultural events such as lectures, book readings and concerts, so the display systems also come in handy in providing interesting backdrops and interactivity on these occasions.

In an industry that never stands still, Smith says the next logical step will be a doubling of the visual resolution. "We're already identifying the challenges and solutions and it won't be long before we'll be able to demonstrate a working system."

Eröffnungsveranstaltung IYOL Wiedereröffnung Zeiss Planetarium Deutsches Museum

Zeiss CEO Michael Kaschke (left) and Wolfgang Heckl, director general of Deutsches Museum

PHOTO: ZEISS

ZEISS

Historic German planetarium lit up by futuristic tech

When Munich's Deutsches Museum celebrated the opening of its new planetarium in late February 2015, it was relying on two unique technologies provided by Zeiss.

The German company installed the high-performance projection system for the 15-metre dome, which holds 160 visitors. It consists of Zeiss' classical opto-mechanical star projector, Skymaster ZKP4, synchronised with its six channel digital full-dome system, Velvet.

The new system has a lot to live up to – the world's first projection planetarium went into operation at the Deutsches Museum 90 years ago on 7 May 1925.

"Skymaster is equipped with fibre-optic projectors for the projection of the starry

**"Visitors can cover the
13.7 billion light years to
the edges of the visible
universe in just 10 minutes"**

sky, including fixed stars, nebulae, star clusters and other deep sky objects. Each of the thousands of fixed stars and each sky object is provided by one single optical fibre, using LED illumination systems as light sources," says Wilfried Lang, vice president at Carl Zeiss, Planetarium Division.

The combination of LED and fibre-optics provides a starry sky that's as natural as possible, because of both the brightness of the stars and the high colour temperature.

"The Velvet full-dome system, due to the absolute black image background, fits ideally to this starry sky avoiding any greyish frame behind the image content."

Lang says it's only the patented Velvet projector, with its extremely high on/off

contrast ratio (2,500,000:1), that can deliver this performance – a good thing considering the Deutsches Museum will use the dome for teaching astronomy, with four to six public shows per day.

"An advantage we have is the sharpness of the images because of the so-called checkerboard contrast, which is four times higher than standard video projectors," he says. "That's why Velvet is able to separate a white from a black pixel with a sharp line in between, aided by our specially developed lenses for this projector."

The result is that an image with the same number of pixels will appear much sharper with Velvet – a 2K Velvet projector is at least as sharp as any standard 4K projector, Lang says. This means a lower computer capacity can achieve the same result.

At the Deutsches Museum, Zeiss technology offers a plethora of opportunities. It can show not only illuminated dots, but also images and entire shows, and Lang says even virtual journeys through space are possible. Visitors can cover the 13.7 billion light years to the edges of the visible universe in just 10 minutes, fly by the planets of our solar system, or view the Milky Way from the outside in incredible detail.



Staffan Klashed

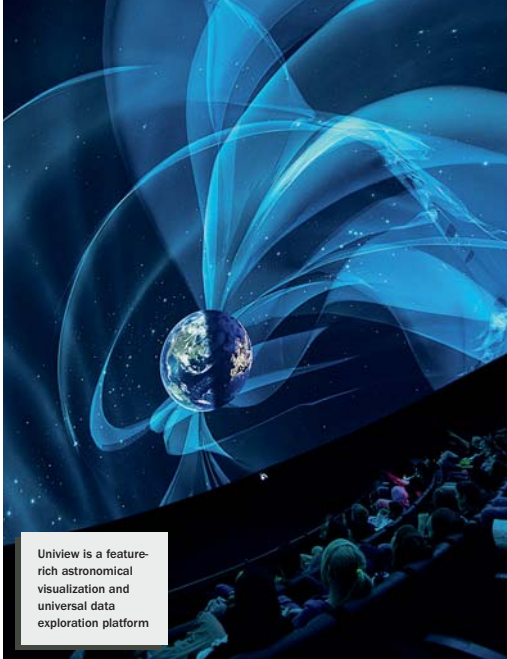
SCISS

Dome visualisation that gives guests lasting memories

Sweden's Sciss has created a new way for experts – whether astronauts, astronomers or neuroscientists – to tell their unique stories live to audiences in dome theatres around the world simultaneously.

"We build these beautiful, modern theatres and we equip them with powerful visualisation capabilities. And we know from past experience that audiences react extremely well to live and interactive visualisations, especially when presented by the very scientists whose data we're using," says Staffan Klashed, principal of Sciss, explaining the idea.

The result is Domecasting, a feature inside the company's software Uniview, which is the beating heart of its Colorspace line of high end hardware and display systems. Domecasting packages data visualisation in a redistributable form, and synchronises presentations



Uniview is a feature-rich astronomical visualization and universal data exploration platform

"The technology uses state synchronisation to ensure the visualisation is the same in all participating theatres"

and interactions with this data over the internet. The technology uses state synchronisation to ensure the visualisation is the same in all participating theatres.

"Domecasting allows a presenter to broadcast interactive visualisations to multiple dome theatres at the same time," says Klashed. "The presenter can reach a much larger audience with a single presentation than he or she would by travelling to a particular site, and dome theatres can offer a more exciting and varied type of programming to their audiences."

In early March, the Adler Planetarium in Chicago, Illinois, hosted an intriguing Domecasting event. Michael E. Brown, the 2012 Kavli Prize Laureate in Astrophysics, delivered a presentation there, entitled

Tales from the Outer Solar System. The special event was Domecasted live to three other dome theatres in the US – the planetariums of the Denver Museum of Nature and Science in Colorado, the Peoria Riverfront Museum in Illinois, and the Flandrau Science Center in Tucson, Arizona – meaning the same presentation was given to dome theatres using four completely different display systems, including the true 8K display at the Adler.

Another feature offered by Sciss is Neurotours, a presentation which uses three-dimensional neuroscientific data from scientists to give visitors unusual and thrilling dome-format film experiences, such as wandering through neurons or climbing the surface facets of the cerebral cortex.

"Display systems are growing increasingly powerful. We've now seen digital theatre systems that rival the quality of film," says Klashed. "The area where we really want to excel is when we bring the beauty and power of interactive, live visualisation into these high-end systems. That's when our theatres become gateways to understanding and appreciating science. That's when education and entertainment meet and we leave audiences with lasting memories, wanting to come back for more."



Sciss theatres become gateways to understanding and appreciating science, says Staffan Klashed



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7thSense's Delta Media Server used with content by NSC Creative, a computer animation studio specialising in immersive full-dome experiences



Matt Barton

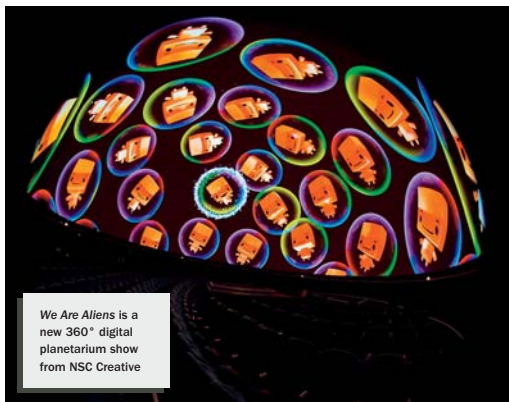
7TH SENSE

Behind-the-scenes solution powers creative visions

UK-based 7thSense's Delta Media Server system delivers fully uncompressed media playback for dome displays and is available in a range of hardware and software configurations, enabling the company to support multi-channel display layouts.

Many planetariums worldwide are powered by Delta Media Server, including the Morrison Planetarium at the California Academy of Sciences in the US, Moscow Planetarium in Russia, and the Hayden Planetarium in New York, US. Its technologies have also been supplied to a number of non-planetarium dome projects, such as the National Military Museum in the Netherlands and the Marvel Experience, a dome attraction touring North America.

"What's unique about Delta is that we're now able to drive multiple projectors from a single server," says company director Matt Barton. "In the past, you'd need at least one server per projector, and then another machine to control the other machines.



We Are Aliens is a new 360° digital planetarium show from NSC Creative

"The next step in dome display technology will be making the planetarium experience even more realistic and immersive"

This set-up is still in play for the really high resolution and meaty systems, or those needing advanced production capability, but the new simpler configuration of a single box makes things more affordable and manageable for many venues wanting to play content to their audiences."

7thSense's systems come with Full Dome Mode as part of the software package. This enables simple workflow of uncompressed, native fisheye dome masters with full warp, blend, auto-alignment and slicing.

"For content creators, this allows their media to be shown the way it was intended,

and with no introduction of compression artefacts, loss of visual quality or detail," says Barton. "For theatres, this gives them an incredibly reliable, fast, high-performance media solution."

7thSense recently completed projects at the ShowDome at Our Dynamic Earth in Edinburgh and the National Space Centre in Leicester, both in the UK – each had custom systems with new features and capabilities.

The company typically works with and supplies its technologies to specialist integrators, but occasionally works direct with theatres. "A common trend is that many customers come to us with very specific needs and requests, and we often add new features to help the customer achieve what they are after," says Barton.

7thSense is increasingly seeing 8K 60fps dome displays as content catches up with system potential. The company believes the next step in dome display technology will be making the planetarium experience even more realistic and immersive, encouraging more audience involvement in how data visualisation is shaped. ●



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Ticketing systems are becoming ever more advanced in order to improve the guest experience and the operator's bottom line. We investigate the sector's current and upcoming trends

Kath Hudson, journalist, Attractions Management

CRM

This is currently an area of intense focus and where attractions are set to make important gains.

"CRM and big data is hugely important: it's finding out who's coming, how often they're coming and other valuable information that can be used for marketing,"



Edwin Hemkes, Syx

says Edwin Hemkes, chief commercial officer at Syx. "You can't capture this information so well on the gate, but with more people buying tickets online, it's the perfect opportunity to find out about them."

Using data to understand the customer and their behaviour, attractions can create a much more holistic customer experience. The more they entertain and engage the customer, the more the customer is likely to want to come back.

"Information is very powerful when predicting with accuracy what people are likely to do, helping operators to build on their successes," says Peter Ferguson, head of operations, ticketing and electronic point of sale at the Access Group.

"Something as simple as ensuring you have the right stock, positioned in the right place within the shop can make all the difference to sales. Similarly, with food, it can help to better gauge what to buy and how much to cut down on wastage. Looking at the business in this way helps to cut costs and drive up revenues with repeat visits, and the ability to market and cross-sell to those visitors," Ferguson says.

Information is very powerful when predicting with accuracy what people are likely to do, helping operators to build on their successes

LOYALTY & MEMBERSHIP

There's an increasing focus on turning visitors into repeat business with membership and loyalty programmes.

"This is a fundamental change in the business model, but one which stands to deliver greater value," says Ferguson. "Firstly, it means it's easier to forecast income over time rather than taking the approach of seeing who turns up on the day. It also means operators are able to develop better relationships with their customers, making the experiences more targeted and relevant."

"With a membership scheme, operators create predictable revenue streams. If a company wants to sell an attraction, this makes it a more interesting proposition for investors."



Peter Ferguson, Access Group



PHOTO: SHUTTERSTOCK/ALUA PERLOANI

The multi-functionality of smart phones is changing the way we enjoy attractions

USING SMARTPHONES

Mobile sites need to be as accessible as desktop sites since more and more sales are now being made this way. Hemkes says mobile apps are a growing trend, as it makes it very easy for visitors and offers a great reporting tool for managers.

"Taking this one step further, if the ticket is delivered to the mobile device and stored in the Wallet or Passbook, the user doesn't even have to upload an email, but can use near field communication (NFC) to fast-track through admission points, which translates to fewer staff and an improved visitor experience," says Simon Kniveton, director at Vennergys.

Vennersys launched Apple Pay support in April, as well as support for the Apple Watch. This next generation of ticket handling allows visitors to wave their watch at the admission point.

Syx is working on systems which use GPS and bluetooth technology to recognise when members come back to the attraction and send them welcome messages, offers and promotions.

Gamification means visitors could gain points for coasters they ride, and compete against friends, working towards a reward

MAKING PREDICTIONS

Whether looking at the weather forecast to predict visitor numbers, or looking at sales reports to inform stock buying, cloud-based business intelligence tools are helping attractions tighten up their operations.

"It's possible to better predict everything, including how much revenue your attraction's going to make in a given month. You can learn much more about what your customers are buying and what's not selling," says Ferguson.

GAMIFICATION

The Embed Mobile POS (emPOS) solution is being used to reward children at each activity at the Landmark Group's FunWorks FEC at Yas Mall in Abu Dhabi.

Andrea Bisi, director of international business development for Embed, suggests this could be adapted by other operators, so visitors can gain points for coasters they ride, allowing them to compete against friends, but also working towards a reward. This could work well with a membership or loyalty scheme, Bisi says.

DYNAMIC PRICING

Already popular with airlines and theatres, dynamic pricing has yet to be widely embraced by the attractions sector. However, it's now starting to gain a foothold.

Particularly relevant for paid-for exhibitions at museums and galleries, those who book early get cheaper tickets and as tickets run low, they rise in price. The price reduces again to fill last-minute slots, allowing museums and galleries to maximise the income of an exhibition.

TJ Christensen, senior vice president business development North America and Europe at Accesso, says this can work for theme parks as well.

"From straight calendar based pricing, to packaging and bundling, many clients are looking for new ways to entice the customer to buy early, as well as shift the price-sensitive buyers off to shoulder or off-peak times," Christensen says. "When executed correctly, you get a happier guest because they can visit for a price they can afford, and the attraction is happy, because they've smoothed out variation in demand."

A potential future use for RFID could be to enhance safety for children, and make sure kids are leaving locations with the proper adult



TJ Christensen, Accesso

VIRTUAL QUEUEING

Not a new concept, but important because not only does a virtual queueing system provide another revenue stream, but spending hours in queues can put visitors off returning. More options are on offer now, such as using smartphones and RFID wristbands.

"By freeing the guests from queue lines, they're able to enjoy other shows and attractions and spend time in retail and F&B outlets, increasing guest satisfaction and in-park spending," says Christensen. "It all begins and ends with the guest. We know the simpler the process, the better the guest experience will be, resulting in higher per-cap spending and repeat visits."



Andrea Bisi, Embed

RFID

Radio-frequency identification (RFID) offers convenience for the guest and can encourage more spending as it enables a cashless visit, which works especially well with membership schemes.

A potential future use for RFID, or disposable wristbands, could be for enhanced safety for children, says Bisi.

With the use of specific "guest check" features, we can make sure kids are leaving the locations with the proper adult, he says.



Accesso's Qband has RFID capabilities that support cashless payments and locker rentals

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PHOTO: ILIOMBA/GETTY IMAGES

HACKING

With so much customer information being stored in systems, security has never been more important. The recent story of hackers who managed to jump to the front of the queue for Burning Man tickets emphasises how hackers will be quick to take advantage of any loopholes.

Ferguson says there are a number of basic steps operators can take to guard against attacks, such as keeping web-site software up-to-date, making sure new patches are applied, acting on third-party vendor mailings regarding security issues, using generic login error messages and ensuring complex passwords are used.

"But above all else, put websites and applications through their paces to test for all possible ways that someone might try to compromise the system," he says.

▲ Recent news reports said software engineers hacked into the Burning Man's Ticketfly ticketing system to cut to the front of the queue



Social media allows us to identify trends between guests and target a like-minded demographic

SOCIAL MEDIA

Social media creates immense potential to gain better insight into audiences, according to David Hancock, director at Langdale Attractions Solutions.

"Social media offers us the ability to identify key trends and similarities from each guest," he says. "This allows the attraction to target a like-minded demographic based on interests, age groups, locations and relationships. Tapping into this information for the attractions market is still in its infancy, but this will play a vital role going forward."



David Hancock, Langdale

REAL-TIME MULTI-CHANNEL DISTRIBUTION

Real-Time Multi-Channel distribution is tipped to become more significant as this helps operators to maximise income.

"Managing distribution of tickets through multiple channels at the same time, and clearing/reconciling accounts

with partners has always been complicated and time-consuming and reduced the opportunity to sell," says Bisi. "With a real-time solution, every sales channel is always up-to-date: there's no double booking, no ticket wasted and immediate calculation of partners' commission."

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Asian Attractions Expo

Taking place at the Hong Kong Convention and Exhibition Centre on 17-19 June 2015, the expo welcomes 7,000 professionals from the Asia market. We preview the news and products coming to the trade show floor

attractions-kit.net keyword: SimEx-Iwerks

▲ Scrat stars in *No Time for Nuts 4D*

SimEx-Iwerks

SimEx-Iwerks Entertainment is presenting the latest additions to its library of 4D blockbusters. From the creators of *Ice Age*, *No Time for Nuts 4D* is a custom 4D show starring Scrat, the loveable, acorn-obsessed squirrel in a time-travelling quest. Inspired by the best-selling app, *Angry Birds 4D* is a thrilling adventure for the whole family from the world's favourite feathered heroes. And, from the worldwide smash hit *Pacific Rim*, comes an action-packed 4D film that puts the audience inside the fight to save Earth. ■ Booth #1520



attractions-kit.net keyword: Severn Lamb

▲ The Mini Express electric train is ideal for FECs

Severn Lamb

Along with its range of People Movers, Severn Lamb is exhibiting the Mini Express, a small electric train manufactured by Wattman, represented exclusively in China by Severn Lamb. The Mini Express, which is fitted with proximity sensors, is ideal for shopping centres and FECs. At the last Asian Attractions Expo, the partnership sold three trains into Ningbo, Guangdong and Harbin in China. Severn Lamb is offering an exclusive show offer available to people who visit the booth. ■ Booth #627



attractions-kit.net keyword: Whitewater Attractions

▲ No Boundaries is a dynamic adventure experience from WhiteWater Attractions

WhiteWater Attractions

WhiteWater Attractions is exhibiting No Boundaries, an exciting dry attraction offering high-thrill and high-challenge activities for guests of all ages and skill levels. With an innovative visual presence, No Boundaries combines elements and activities for both harnessed and unharnessed participants. Weaving together a horizontal challenge course, radical vertical uphill climbs with downward controlled descents and a winding aerial zip coaster, No Boundaries offers a dynamic experience within a singular adventure park. ■ Booth #718



attractions-kit.net keyword: Vekoma

▲ A Vekoma's coaster at Tibidabo in Spain

Vekoma

Vekoma, one of the world's biggest ride makers, is demonstrating at the Asian Attractions Expo how its in-house design, engineering and manufacturing puts the company in a unique position. Vekoma specialises in custom-designed, innovative rides and, with its partner Brogent Technologies, offers a broad range of media-based and interactive attractions. Vekoma also partners Rocky Mountain Construction to bring a wooden coaster line to its clients (see page 62). ■ Booth #724



attractions-kit.net keyword: International Play

▲ A play structure for Discoveryland, Hong Kong

Iplayco

International Play Company (Iplayco) is a leader in the custom design and manufacturing of indoor play structures. At the Asian Attractions Expo, Iplayco is presenting new installations, such as Discoveryland, Hong Kong's largest FEC. It features the largest indoor slides in Asia and a variety of fun and learning activities for all ages. Iplayco fitted the attraction with an air trek obstacle course, slides, mini golf, a playground and more. ■ Booth #512

nWave

nWave invites guests to its immersive 3D/4D theatre to view its latest films. The multinational film producer and distributor is showing *The House of Magic 4D*, *Knights Quest 4D* and *Haunted Mansion 4D*.



attractions-kit.net keyword: nWave

Haunted Mansion and *The House of Magic* are both available in Chinese, while the others have no narration and are suitable for any audience. Top of the bill is an nWave dark ride film, *Dragon Mine Ride*, taking its audience on a journey into the dragon's den. ■ Booth #1218



attractions-kit.net keyword: Empex

▲ Empex's trademark colours at Seoul Hilton

Empex

Find out about Empex's recent projects, such as the Aquacircus at Seoul Hilton. A downsized layout makes it perfect for installation in hotels and resorts, recreation centres and areas with limited space. The South Korean capital's Hilton now has a water playground featuring an Aquacircus Aquadeck with circus theming and a tipping bucket. ■ Booth #628

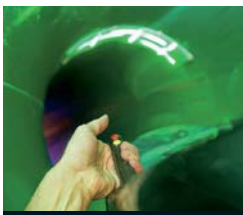


attractions-kit.net keyword: Holovis

▲ Holovis is combining virtual-reality technology with dark ride attractions

Holovis

Holovis is bringing its immersive dark ride experience to the trade show through the means of virtual reality. Using 360° filming techniques, the turnkey attraction will be showcased on Oculus Rift headsets. After the show, it will be uploaded to the Oculus download store and will be the first real ride experience to have been recreated on this platform. Using organic motion and special effects, riders enter a virtual world that feels more immersive than a traditional coaster. ■ Booth #1738



attractions-kit.net keyword: Whitewater West

▲ Slideboarding: gaming meets waterslides

WhiteWater West

WhiteWater West's slideboarding integrates gaming, skill and competitive sports into a futuristic waterslide experience. It uses a smart gaming system that tracks the rider's progress and scores over his run down the waterslide on an interactive vehicle. Slideboarding is designed to appeal to a variety of waterpark visitors, offering excitement without being too physically challenging. ■ Booth #818



attractions-kit.net keyword: TPG

▲ The Crane Dance at Resorts World Sentosa, Singapore

The Producers Group

The Producers Group (TPG), an overall Gold Sponsor of the Asian Attractions Expo and sponsor of the Leadership Breakfast, is inviting delegates to visit its booth and meet the company's new vice president of business development, Brian Paiva. Also representing TPG will be co-CEO, Edward Marks, and senior project manager, Judd Nissen. TPG is presenting recent projects, including four shows at Chimelong Ocean Kingdom in Hengqin, China; the Fortune Diamond at the Galaxy Macau; and the Crane Dance at Resorts World Sentosa, Singapore. ■ Booth #2806

SHOW PREVIEW



attractions-kit.net keyword: IdeAttack

▲ IdeAttack specialises in mixed-use projects

IdeAttack

IdeAttack is presenting upcoming projects to visitors of the Asian Attractions Expo. One of IdeAttack's major projects is "Fun Capital" theme park, under construction near Beijing, China, and set to open by the end of 2015. Located in ChangPing County, Fun Capital is part of Beijing Outlets World, a large complex that includes also a shopping mall, a resort and a conference centre. ■ Booth #1018

Niceberg

Niceberg Studios presents its new 3D/4D attraction film, *Little Dolphin*. The audience joins a young dolphin on a marine adventure, discovering the beauty and the dangers of ocean life. This high-quality Belgium-made production targets

3D cinemas and 4D theatres in parks as well as other attractions like aquariums, zoos and other venues. The 10-minute film has a subtle yet positive underlying ecological message: the future is bright and blue. ■ Booth #2016



attractions-kit.net
keyword: Niceberg

▲ *Little Dolphin* has an ecological message



attractions-kit.net keyword: Intamin

▲ Intamin's wheel at Hello Kitty Park, Anji, China

Intamin

Intamin is introducing its latest rides, including its Coaster Wheel at Hello Kitty Park in Anji, China. The 35-metre (115-foot) wheel has 16 gondolas, which move along a track according to the rotation of the wheel. A Looping Coaster is set to open at Romon World, Ningbo, China, a 560-metre (1,837-foot) long indoor ride with speeds of 80kph (50mph). ■ Booth #518



attractions-kit.net keyword: Zamperla

▲ Zamperla is presenting Thunderbolt to the Asian market

Zamperla

Zamperla is introducing the thrill coaster Thunderbolt. The ride – designed by Zamperla's rollercoaster department in collaboration with world-renowned coaster designer Stengel Buro – is custom built for an narrow area of just 15 metres (50 feet) by 260 metres (853 feet). With 681 metres (2,234 feet) of track, the ride reaches speeds of 90kph (56mph). With its small footprint, Thunderbolt appeals to parks with limited space looking for a thrilling coaster ride. ■ Booth #1023



attractions-kit.net keyword: Huss

▲ Huss's Condor is a signature ride

Huss

Huss's renowned attractions, like Sky Tower, Top Spin, Giant Frisbee and King Kong, remain in huge demand. After successfully bringing the Condor 2G (2nd Generation) back to life in 2013, with two attractions already delivered, Huss is working on the first Condor 2GH (2nd Generation Hybrid), opening in 2016, including a newly designed hybrid seat arrangement, a combination of suspended seats and classic gondolas. ■ Booth #727



attractions-kit.net keyword: ProSlide

▲ A new hybrid ride from ProSlide is under construction at Tieling La Viva in China

ProSlide

ProSlide is talking to expo guests about its latest stand-out projects. Shaoxing Mirror Lake waterpark, opening in 2015 in China, showcases some of ProSlide's iconic designs, including a custom complex with Turbo MAMMOTH and MAMMOTH, custom complex with TORNADO 12, three PIPEline, CannonBOWL 40 and TurboPIPEline. Other projects include Ocean Park, Indonesia, and Tieling La Viva in China (see page 54), which features a new hybrid ride incorporating a TORNADO 24/TORNADO 60, MAMMOTH, SuperLOOP (with SkyBOX) and TurboTWISTER. ■ Booth #414



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