

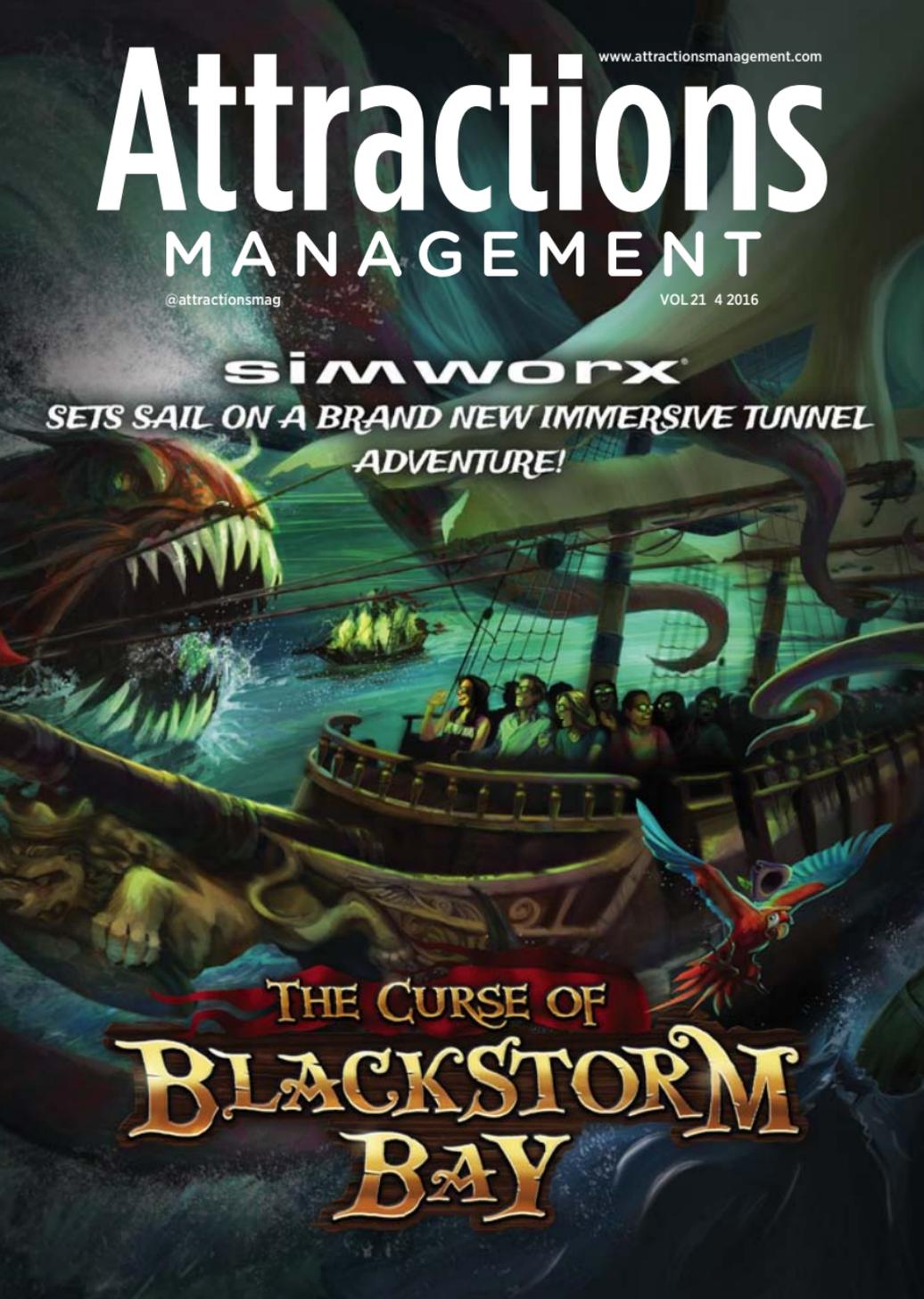
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ADVENTURE!*



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THE CURSE OF **BLACKSTORM BAY**

**Brand new pirate themed Immersive Tunnel
experience now available**

Simworx has teamed up with design and theming specialist Jora Vision to create a brand new attraction concept based on its popular Immersive Tunnel.

Utilising a pirate theme, The Curse of Blackstorm Bay is a fully immersive experience which combines Simworx's expertise in dynamic simulation attractions and Jora Vision's theming and creative concept design skills to create a next generation version of the former's Immersive Tunnel. With an original storyline based on the world of pirates, The Curse of Blackstorm Bay immerses guests from the pre-show and queue line areas all the way through to the main show element.

The full turnkey attraction features a dark ride scene with projections and physical theming as part of the show, while the ride vehicle is not the usual train or tram but a pirate galleon. A real water basin around the galleon helps to simulate a journey on the sea and 30 or 60 seat versions are available.

Contact us for more details on this exciting new attraction.



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VOL 21 4 2016

Creating
the perfect
soundscape

11
Future
STEM
projects



WWA report
SATE review
IAAPA news

Statue of Liberty Museum

Diane von Furstenberg
leading the investment drive

ON THE COVER

Pamela Landwirth

Celebrating 30 years of
Give Kids the World

LINDA CONLON

on the big issues facing
science centres

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GOOD DEEDS QUIETLY DONE

When illness strikes, it's normality which suffers, along with time with loved ones and family fun. But there are charities working hard to mend this gap, by offering seriously ill children and adults the opportunity for days out, with all the care they need to make these the best they can be

This issue, we celebrate the 30th anniversary of charity Give Kids the World (GKTW) (page 52), which works to create magical moments for children with life-threatening illnesses and their families.

Led by CEO Pamela Landwirth, GKTW raises around \$40m every year in cash and kind to run its specially adapted village in Kissimmee, Florida, where children stay while visiting the state's many attractions. Over 8,000 children are hosted each year, while many more are given access to the on-site facilities while staying elsewhere.

This is just one example of the amazing work which is quietly going on, day in and day out across the attractions world, enabling children to make great memories with their families and to have fun in spite of the many and varied health, mobility and financial challenges they face.

Also celebrating its 30th anniversary in 2016 is Dreamflight, a UK-based charity co-founded by Patricia Pearce and Derek Pereira to raise money to take deserving children to Walt Disney World and other attractions in Florida.

Dreamflight gives the children a holiday of a lifetime, with adventures, camaraderie and life-changing experiences worth many thousands of dollars, much of it donated by attractions operators. It has helped over 5,000 children to date.

Also working to support children in a range of challenging circumstances, Merlin's Magic Wand, the charity arm of Merlin Entertainments, gives tickets and assistance to children who are in foster care or who have recently been adopted or

orphaned, as well as children of terminally ill parents, those who are victims of abuse and also young carers.

And this special work isn't limited to the theme park sector. In the Netherlands, Stitching Ambulance Wens Nederland (Ambulance Wish Foundation) has helped 6,000 people to fulfil their last requests since its formation in 2007.

With a staff of 200 medically-trained volunteers, the charity helps those who have become immobilised by illness, fulfilling wishes varying from museum and cultural visits to theatre trips and sailing experiences.

Last year, the Rijksmuseum played its part by working with Stitching Ambulance Wens to organise for three terminally ill patients to see The Late Rembrandt exhibition, which included more than 100 works by the artist during the final phase of his life. The patients were taken to the museum by

ambulance on hospital beds with nurses in attendance and given private after-hours access to the exhibition.

These organisations and attractions – and those like them – put compassion before profit to enrich the lives of children, adults and families whose circumstances mean they need additional care, assistance and resources to enjoy quality of life.

Such work represents our industry at its very best. It also shows just how much it means to many to be able to spend time in attractions they personally identify with. A yearning for normality is a huge part of illness and in offering this, these business are doing a power of good. We applaud them all.

Liz Terry, editor. Twitter: @elizterry

These organisations and attractions put compassion before profit to enrich the lives of children, adults and families who need additional support



■ p44 A panel of experts delves into the world of sound design, with tips, advice and trends



■ p18 Diane von Furstenberg's Liberty Stars



■ p34 Science centre champion Linda Conlon



■ p62 The 2016 SATE Conference took to New York City, exploring risk-taking and reward

07 Editor's Letter

12 People

The people in the news, from director Ang Lee to fashion queen Diane von Furstenberg

20 Science Centres news

21 Visitor Attractions news

22 Waterparks news

24 Theme Parks news

26 Museums & Galleries news

28 Heritage news

30 Zoos & Aquariums news

32 Technology news

34 Interview

Linda Conlon

LIFE CEO and ASTC chair Linda Conlon talks about the issues impacting science centres and the wider attractions industry, including migration, the ageing population and workplace diversity

40 Science Centres

Millennium Innovation

More than £1bn was channelled into the UK's Millennium Projects, which included pioneering science centres. We look back at the legacy

44 Ask an expert

How Can Sound Be Used to Create Incredible Immersive Experiences?

Our panel of experts reveal the secrets of sound design

52 Profile

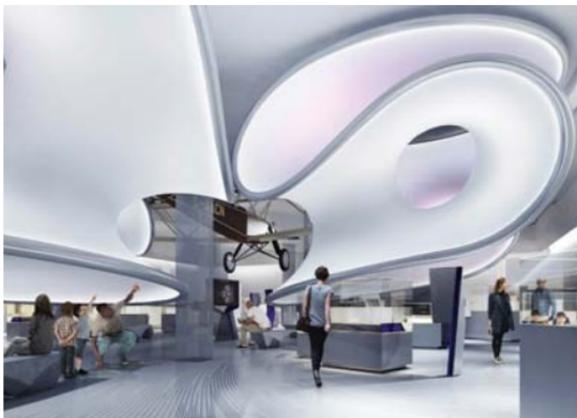
Pamela Landwirth

We sat down with Give Kids the World CEO Pamela Landwirth as the charity turns 30

62 Show report

SATE 2016: Walking the Tightrope

The theme at the SATE conference was taking risks. Christine Kerr filed this report



■ p70 Rounding up the most exciting upcoming science centre and museum projects



■ p92 WWA: waterpark professionals gather



■ p52 Pamela Landwirth on wish granting



■ p82 Take a tour of the new Ark Encounter attraction and the Creation Museum

70 Science centres

STEM Gems

Exciting science attractions opening soon

78 Analysis

The Attractions Business

Consultant David Camp talks planning in part four of the series



82 First person

A tour of Ark Encounter and the Creation Museum

Scott A Lukas visited a Noah's Ark attraction and found some of the best examples of immersive theming in the US

92 Show report

Best in Class

Looking back at the recent WWA Show & Symposium in New Orleans, Louisiana

96 Attractions-kit.net

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102 Web Gallery

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On the cover: Pamela Landwirth

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- Diane von Furstenberg supporting the Statue of Liberty Museum
- LIFE's Linda Conlon on challenging times
- Inside a supesize Noah's Ark attraction

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- Threat to parks is a 'threat to activity'
- UK Prime Minister Theresa May commits to elite sports funding



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- Global spa industry worth almost \$100bn
- Delos expands Stay Well programme to cruise ships and airports



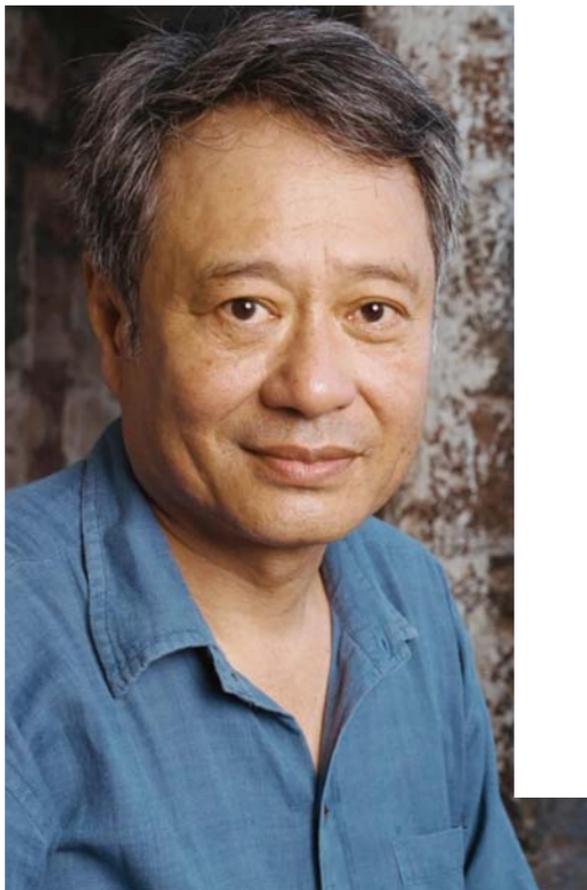
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- Science Museum debuts £6m Wonderlab
- South America's largest aquarium nears opening date
- Disney's Electrical Parade moves to California for swansong

Attractions People

“At 120 frames per second your eyes get greedy”

Ang Lee film director



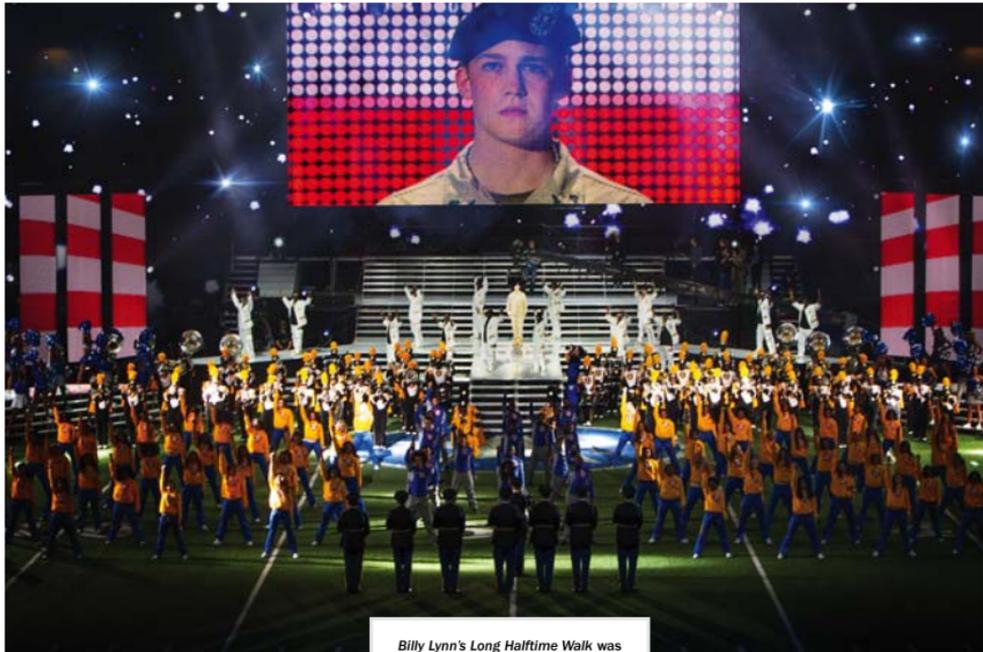
Very few people will have yet had the opportunity to experience footage shot at 120 frames per second (fps) – perhaps just those who’ve been on Disney’s brand new Soarin’ Around the World rides. Oscar-winning film director Ang Lee is changing all that, as his pioneering use of the technology may signal a new way of filming for both the cinema and attractions industries. If dark rides, 4D cinemas and flying theatres one day employ this process more widely, visitor immersion could be lifted to a whole new level.

Lee’s new film, *Billy Lynn’s Long Halftime Walk*, is the first movie to be shot at 120fps, in 4K 3D and with a screen luminance of 28 foot-lamberts – a technique that brings extreme clarity and almost hyperreal quality to the images for an immersive digital experience. Based on the book by Ben Fountain, the film tells the story of a 19-year-old soldier who suffers flashbacks from his time in Iraq whilst attending a Thanksgiving Day football game. “4K, 3D, 120fps capture gives extraordinary clarity to a film,” says Lee, who also directed *Brokeback Mountain* and *Life of Pi*. “It allows us to explore new ground in cinema and engage the audience on a more emotional level.”

There are challenges, Lee says, such as the actors being unable to wear make up and the ability to see more than ever before in the faces and expressions of the cast.

“We could see everything,” says Lee. “That’s the scary part – you see the acting. The way we are used to actors

Ang Lee is the first to use the technology in the cinema, though it has been seen in theme parks

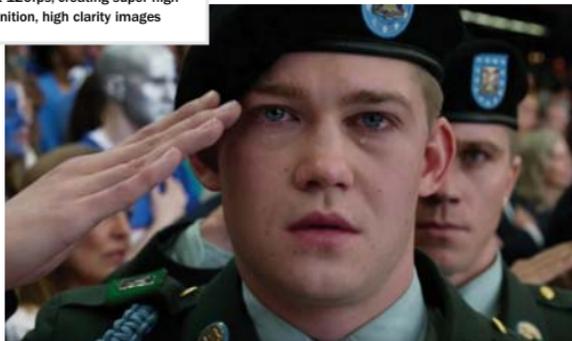


Billy Lynn's Long Halftime Walk was shot at 120fps, creating super high definition, high clarity images

looking at each other looks dead and if you try to act, it looks like you are trying to act. The film language has to change. I didn't have much choice but to stick close to Billy Lynn. You feel how they feel, see the thoughts in their eyes."

Data capture

At September's IBC show in Amsterdam, the Netherlands, clips from the Sony TriStar release were shown to a live audience, powered by two Christie Mirage 4KLHs projectors, with video processing bandwidth of 1.2 Gigapixels per second and the world's brightest laser system. 7thSense's Delta Infinity media server handled the demanding playback requirements.



Lee explains how he made the film at the IBC Show in Amsterdam

Lee's editor on the film, Tim Squyres, has pointed out that not all movie theatres have the ability to screen the film this way, but Billy Lynn can still be released in 2D 24fps, for example.

"The normal paradigm is you shoot a bunch of frames and then project those frames in the movie theatre," says Squyres. "With this, it's more like we're capturing data. We're shooting with a 360-degree shutter and using that data we can create all kinds of different formats and all kinds of different looks."

In 2013, Peter Jackson filmed *The Hobbit* at 48fps, considered a huge jump from the industry standard of 24fps.

“We’re looking at the Fourth Industrial Revolution and how it is likely to affect our business”

Alberto Zamperla CEO, Zamperla



Antonio Zamperla is perhaps one of the most recognised and respected names in the attractions industry – and no less the name Alberto, who took over from his late father more than 20 years ago. And the company – the world’s biggest manufacturer of amusement rides – has gone from strength to strength, increasing ride design and production from 50 to almost 250 units per year.

This year, the family business celebrated its 50th birthday, but the loss of his father makes the occasion bittersweet for the current president.

“Replacing my father as the head of the company when he passed away in September 1994 was definitely the biggest challenge I have faced,” Alberto Zamperla told *Attractions Management*. “But I was able to make it through thanks to the things

he taught me, including common sense and values, and thanks to the unconditional support from my family and my employees.”

The ride company, which was born of a 100 years family history in the circus tradition, was established in 1966. In 1976, Antonio Zamperla moved the sales office to Montreal, Canada, and soon his son went to set up an office in New Jersey. The company grew rapidly, helped along the way by some high-profile contracts.

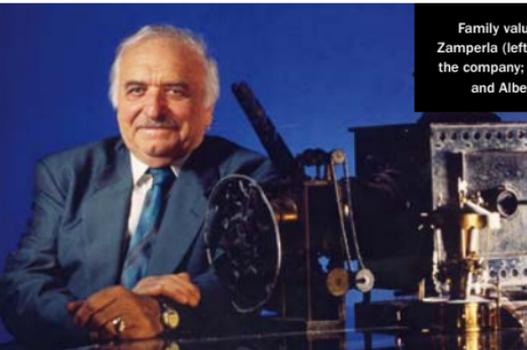
“One of the real turning points for us was when Disney came to Europe and we were selected to build seven of the initial 12 rides for Disneyland Paris,” Zamperla says. “Because we delivered the job on schedule, Disney asked us to make another ride for California, and so we started a very good collaboration which is still progressing to this day. We have sold 25 rides to Disney, with more to come.”

Zamperla is continuing the tradition of keeping the company in the family, as his sons Antonio Jr and Alessandro are both actively involved in the business. Alessandro is in the US, while Antonio manages the company – which has an annual turnover of €70m (£63m, \$76m) – in Italy. But he says nothing is to be taken for granted: “They have to demonstrate they have the qualities to run the business in the long term.”

Innovation

Innovation has been central to the Italian company’s growth over the years, whether that’s with the success of the family thrill coaster Thunderbolt or the brand new multi-feature Factory Coaster (which is themed like a factory). More innovations will be unveiled at IAAPA in Orlando, Florida, in November, including an Oculus-powered VR ride and 100 per cent Zamperla theme park concept.

“We have a natural inclination for innovation and for questioning our decisions and strategies in an effort to improve constantly,” he says. “We’re working on



Family values: Antonio Zamperla (left), who founded the company; and Antonio Jr and Alberto (right)





Zamperla made its reputation as a maker of family coasters and kids rides



Zamperla is set to announce a VR ride concept and its concept for an accessible family amusement park

- ▶ the first Factory Coaster for an important Chinese customer. We're also looking in depth at the so-called Fourth Industrial Revolution and how it's likely to affect our present way of working and doing business."

Another area where Zamperla is one of the few companies leading the way is in accessible ride experiences. The company donated an adapted Magic Bike Ride to the Give Kids the World park in Kissimmee, Florida, in 2014 (see page 84) and has since pursued this line of ride development. Zamperla admits that it's difficult, if not impossible, to create universally accessible rides because everyone has unique needs, but says it's important to start somewhere.

"Zamperla is already working on the development of a family amusement park concept where people of all ages and abilities can come together and have fun in a safe environment. Giving seriously ill kids the opportunity to have fun is highly rewarding and a way to give back a little bit of the richness that a child's smile offers."

Plagiarism

Protecting the innovation and intellectual property of the company is something Zamperla is passionate about, even more so since the company was forced to issue a statement in May this year following a ride accident that killed one and injured 23 people in Chennai, India.



Watermania is a duelling Tea Cup ride on water, with each rider armed with a blaster to shoot water at fellow riders

The Disco Dancer, which bore similarities to Zamperla's Disk'O came off its rails and crashed. "It is important for the public to know that the ride involved in this accident was not a Zamperla product," said a statement at the time. "The ride involved in this accident was an unauthorised, poorly executed forgery of the Zamperla design."

It was an important move by the ride maker, drawing attention to the level of engineering and manufacturing needed to achieve the high safety standards and the to the matter of creative ownership. It also sent a message to manufacturers of forged rides and the operators who buy them. Zamperla's determination to act severely on these incidents is clear.

"We are very proud of our designs, whether special projects such as branded IP rides or 'ready-to-go' themed attractions," says the 64-year-old Italian. "I am very proud of our technical, art and prototyping departments and we invest considerably in research and innovation, so I think it's not only my right to protect my investments and IP but it is also my duty to protect the hard work of my employees."

"I am very serious in addressing the issue of knock-off rides and I have no intention of backing down," he says.

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Fashion designer Diane von Furstenberg is leading the fundraising for the Statue of Liberty Museum



“It is my hope that the Statue of Liberty and her incredible story will live on and on”

Diane von Furstenberg fashion designer and philanthropist



Officials have broken ground on a new museum dedicated to the Statue of Liberty, which is being championed by project “godmother” Diane von Furstenberg.

The legendary fashion designer, who has backed the Liberty Island museum since its conception, is leading the fundraising effort for the development through her philanthropic organisation, the Diller-Furstenberg Family Foundation. Slated to open in 2019 and expecting to welcome 4.3 million visitors a year, the Statue of Liberty Museum already has \$40m (£33m, €37m) of the \$70m (£58m, €64m) required in the bank.

“Lady Liberty is a symbol of everything America’s about: freedom, hope,



Von Furstenberg and Mayor of New York Bill de Blasio are among those at the groundbreaking event in October

possibility and resilience,” says Von Furstenberg. “It is She that millions of immigrants saw first as they arrived in this country, their hearts full of dreams for a brighter future.

“Now it is my hope that the Statue of Liberty and her incredible story will live on and on, inspiring generations for years to come. What she represents out there is everything we love about this country and everything that has to be protected.”

With an impressive network of rich and famous contacts, Von Furstenberg came up with an idea to convince them to support the project – to create a sculpture using original iron bars from the statue. The iron bars, which were created by French engineer Gustave Eiffel, supported the statue for a century before they were replaced during restoration



The new Ellis Island museum, which should open in 2019, has been designed by New York-based architecture firm FXFOWLE

works in 1986. The metal will now be used to create a mural of 50 stars, one for each state, which can be bought by donors for \$2m (£1.65m, €1.84m).

"People like what is limited," explains the Belgium-born Von Furstenberg.

Those who have bought a Liberty Star so far include Amazon founder Jeff Bezos for the Bezos Family, former New York mayor Michael Bloomberg for Bloomberg Philanthropies, Comcast CEO Brian Roberts for Comcast NBCUniversal, Star Wars creator George Lucas, Chanel, Coca-Cola, the Diller-Furstenberg Family Foundation and the Walt Disney Company.

Designed by Nicholas Garrison, principal at architecture firm FXFOWLE, the 26,000sq ft (2,400sqm) museum is a key part of the beautification plan for Liberty Island, with the grass-roofed building seemingly rising out of the ground. The museum will blend

into the island surrounds and not compete with the statue. Inside, ESI Design will handle the exhibits and interactive displays, while the big reveal will be the original torch, which was also replaced in the 1986 restoration. The Statue of Liberty-Ellis Island Foundation and the National Park Service are overseeing the plans.

As well as its philanthropic work to support human rights, education and community building initiatives, the Diller-Furstenberg Family Foundation has raised funds for a number of cultural projects in New York, including the High Line and the Whitney Museum of American Art. The

upcoming Thomas Heatherwick-designed floating park, Pier 55, has also been largely funded by the foundation with contributions of more than \$100m (£83m, €92m).

The designer, who became an icon of women's fashion when she invented the wrap dress in the mid-1970s, is known for being a shrewd businesswoman, with her fashion empire now rooted in 55 countries worldwide. In 2015, she was named one of *TIME*'s 100 Most Influential People.

Bloomberg donates \$50m to museum

Philanthropist and former New York City mayor Michael Bloomberg has donated \$50m (£45.4m, £40.6m) to Boston's Museum of Science – the single largest gift in the institution's history.

The contribution will be used for endowment payments to support the institution's education division, renamed the William and Charlotte Bloomberg Science Education Center, in honour of Michael's parents.

Bloomberg grew up in Boston and has credited the museum for sparking his intellectual curiosity, recalling travelling as a child at weekends to visit the museum and take in its educational programmes.

"I know how important this museum is and what an

PHOTO: TWITTER/PAULBLOOMBERG



■ Bloomberg is a supporter of Boston's science museum

impact it can have on young people because I was one of those young people," he said. "Those mornings were the highlight of my weeks – and they helped define the course of my life."

Bloomberg has long been a supporter of the institution, funding a

number of other initiatives, including the \$9m (£8.1m, £7.3m) renovation of the Charles Hayden Planetarium in 2011. He has donated hundreds of millions of dollars to other cultural projects through Bloomberg Philanthropies.

■ Details: http://t.ei.sr?a=s2k5b_1

INDUSTRY OPINION

Shifting practices and techniques in face-to-face facilitation

Brad Irwin

The thinking around face-to-face interactions in science centres and museums is changing. Previously, "explainer"



was the go-to-noun for people who interacted with the public within our institutions, the key figures who were responsible for connecting scientific ideas to visitors' hearts and minds in new and meaningful ways.

But, there are other approaches. For example, many informal science institutions now deploy a variety of practitioners to participate in public engagement including artists, volunteers and members of the public. Many institutions ask their scientists to spend time on the floor. This not only provides the public with direct access to expertise previously hidden behind closed doors, but also enables scientists to disseminate their work, seeing the impact it has on our visitors. The museum floor is no longer the reserve of the explainer.

Engagement techniques are also changing. New perspectives such as tinkering and making are emerging, and with new models of practice, new challenges arise. The way we think about facilitation, training and professional development is shifting.

European practitioners have come together to form the Facilitation Group, a dynamic "thematic group" banded together to address the concerns of staff who deliver learning experiences. At the Ecsite Annual Conference we challenged current and future thinking around facilitation and explored new and controversial methodologies. In 2017, we'll push the thinking in this area, exploring the notion of the research-informed facilitator. Join the conversation in Porto, Portugal, at the Ecsite pre-conference on 13-14 June. ●

Brad Irwin, partnerships development manager, Natural History Museum

London Science Museum opens £6m Wonderlab

London's Science Museum has launched the latest part of its transformation, with the debut of its new £6m (\$7.3m, €6.6m) permanent exhibition – Wonderlab: The Statoil Gallery.

Featuring a number of live demonstrations and immersive experiences, Wonderlab is the UK's largest interactive science gallery.

The new space features a range of more than 50 exhibits across seven zones, all centred around "the wonder of science and mathematics", with a team of science communicators on-hand to explain how the science works. The gallery is also home to three live demonstration areas and a 120-capacity showspace, which the Science Museum



■ Flash Bang Whallop show in the Wonderlab Showspace

says was inspired by the Royal Institution's world-renowned Faraday Theatre.

Among the exhibits on display in the gallery, visitors will be able to ride a giant rotating model of the solar system to understand why we have seasons, learn about the forces of friction with a slide installation, and take

part in live science shows featuring electricity, rockets and lessons about space.

The gallery was designed by muf architecture/art – a firm renowned for working with artists on innovative projects celebrating the social and playful aspects of public spaces.

■ Details: http://t.ei.sr?a=TSBVr_A

TripAdvisor bans ticket sales to hundreds of animal attractions

TripAdvisor will no longer sell tickets to attractions that include direct contact with wild animals or endangered species following a change in company policy.

The travel website has said the decision, which will affect hundreds of animal attractions worldwide, including but not limited to elephant rides, petting tigers, and swim with dolphin attractions.

In addition to the change in policy, TripAdvisor will also partner with a number of trade groups, conservation organisations, academic experts, tourism experts, and animal welfare groups to launch of a new education portal. Working with the likes of the Association of Zoos and Aquariums (AZA) and People for the Ethical Treatment of Animals (PETA), the new initiative will help inform travellers about the standards of care for wild, captive, and endangered species in tourism and their interactions with tourists, and their impact on conservation.

While some attractions will cease booking through TripAdvisor immediately, the company plans to have both the portal and policy changes fully-launched by early 2017.



■ Dolphin swims are among the list of attractions now excluded via the new policy

Viator – TripAdvisor's booking service – says for several years it has prohibited travel bookings where wild animals are "killed or injured for blood sport". TripAdvisor has already banned reviews for businesses promoting attractions such as bullfights or

captive hunts. The new policy does have some exemptions, such as horseback riding and children's petting zoos, as well as aquariums, zoos or sanctuaries where there is supervised physical animal interaction.

■ Details: http://lei.sr?a=c2P4M_T



■ The attraction will include top BBC IPs

BBC theme park planned for China

The BBC is teaming up with real-estate developer Luneng Group to develop an amusement and leisure park on the island of Wenchang in the South China Sea at a cost of C¥10bn (\$1.5bn, €1.34bn, £1.15bn). Luneng Group will use the BBC's Top Gear and BBC Earth IPs for the new venture, which is expected to attract 5 million visitors a year when it opens in 2019.

■ Details: http://lei.sr?a=F9k8Q_T

Saddam Hussein's palace becomes museum

The palace of former Iraqi dictator Saddam Hussein has been given a new purpose, with Iraq's government turning the former stronghold into the country's first new major museum since its occupation in 2003.

Funded through UK charity Friends of Basra Museum and oil company donations, the former home of Hussein has now become the home of Iraq's national antiquities museum.

The project was initially allocated \$3.5m (£3.1m, £2.7m) for the development, but those funds failed to materialise. Friends of Basra Museum raised the lion's share of the \$750,000 (£668,000, £577,000) used to initially open one hall, which is showcasing



■ The museum showcases artefacts dating back to 400 BC

a collection of antiquities dating back to 400 BC.

The institution says it hopes to unveil three more sections as originally planned. These would focus on the Sumer, Babylon and Assyria periods, with projected costs of \$585,000 (£521,000, £450,000).

Qahtan al-Abeed, director of Iraq's State Board of Antiquities and Heritage for Basra, said in April that the long-term plan is to establish a heritage area with hotels and restaurants and a heritage museum. This plan will be implemented over 20 years.

■ Details: http://lei.sr?a=h8D2y_T

WhiteWater developing active attraction

Investment group Sanad Capital is planning a AU\$400m (\$302m, €271m, £245.6m) "active lifestyle" destination in Queensland, Australia, and has recruited WhiteWater West to develop its waterpark.

Sanad – the Australian offshoot of Dubai-based investment firm Najibi Group – is financing the "never-before seen in Australia" project, which will feature extreme water facilities and an Olympic-standard training centre.

The development will include a number of records and first, including Australia's largest wave pool generating 9-foot (2.7-metre) waves; the world's largest interactive aquaplay structure, able to accommodate 2,000 people at any one time;



PHOTO: SANAD / WHITEWATER

■ The attraction offers 'active lifestyle entertainment'

and the first slide boarding area in the region. The mixed-use project will also have a four-star hotel, conference and exhibition centre, restaurants and retail elements.

The development is expected to officially break ground in 2017, with further

details to be released later in the year. Los Angeles-based Thinkwell Group have been named lead consultant on the Sunshine coast project, which is expected to inject AU\$30m (\$22m, €20m, £16.5m) into the local economy each year.

■ Details: http://lei.sr?a=b3C6b_T

INDUSTRY OPINION

Every waterpark has a story – make sure your staff are telling it

Aleatha Ezra

Hundreds of waterpark professionals came together for the World Waterpark Association Show, held from 11-14

October in New Orleans, Louisiana.

One of the memorable messages came from Michael Donnelly, a WWA best speaker recipient and recognised expert and consultant in the principle of building successful corporate cultures. During his keynote, Donnelly shared insights on the power of world-class customer service and how it can only be achieved when it is communicated to every member of the team and incorporated into every touchpoint.

"Every waterpark has a story. Leaders can, and should, leverage the power of their story. Why? Because your people want to know that they are a part of something larger than themselves," said Donnelly.

He also explained why it's necessary to give team members the tools to deliver on-brand messages that share a facility's unique story.

"Positive emotional connections lead to positive economic outcomes," he said. "Seek emotional connections with employees through sharing and celebrating your organisation's heritage, and with guests through providing exceptional experiences."

According to Donnelly, any waterpark that wants to be truly successful needs to find the sweet spot in the centre of people, place and process. If any one of these is lacking, the guests will not have the kind of experience that makes them want to repeat it again and again.

And everyone in the leisure industry knows that you need guests to want to come back if you hope to continue upward growth in your business. ●

Aleatha Ezra, director of park member development, WWA



Eight cleared of charges for Taiwan firestorm

Taiwanese prosecutors have dropped all charges against a group of executives at the waterpark where an explosion of flammable coloured powder killed 15 people and severely burned hundreds of others.

More than 500 people were injured and 15 people died when the starch-based powder ignited during the Color Play Asia event at the Formosa waterpark in New Taipei City on 27 June 2015. The flames engulfed a large portion of the dance area almost instantaneously.

Charges against Formosa waterpark chair Chen Po-ting – one of eight people connected with the blast – were dropped after prosecutors said he could not be held responsible as he was only in charge of



PHOTO: STRAMPRESS ASSOCIATION IMAGES

■ Hundreds were severely burned in the accident

general operations and not in the planning of the event.

In addition to Chen Po-ting, Formosa executives Chen Hui-ying and Lin Yu-fen had charges dropped, as did the manager and four employees of the company that leased the space.

Among those dismissed are two workers responsible

for blowing the colour powder into the crowd.

To date, Lu Chung-chi – the man responsible for organising the waterpark party – is the only person to have been prosecuted, receiving a jail sentence of four years and 10 months for his role in the tragedy.

■ Details: http://lei.sr?a=b3N3J_T

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Four killed at Australia's largest theme park on river rapids ride

Four people have died following an accident on a ride at Dreamworld – Australia's largest theme park.

Police and park officials confirmed that two men and two women were killed on the Thunder River Rapids ride on 25 October, when reports indicate a malfunction of the conveyor belt system caused a raft to be flipped.

During the incident, two of the people were thrown from the ride and the other two were reportedly trapped in the conveyor belt, which takes riders back to the station. Water in the station area was drained by emergency services trying to rescue the people trapped by the conveyor belt. Six people were on the ride, including two children who escaped.

"Dreamworld is working closely with police and emergency services to establish the facts around the incident," said Dreamworld chief executive Craig Davidson. "We are shocked and saddened by this and our hearts go out to the families involved and their loved ones."

"Police are currently investigating an incident that occurred this afternoon at a theme park on the Gold Coast," said a statement from Queensland Police.

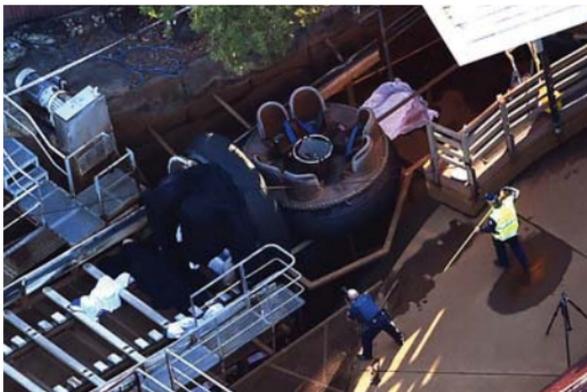


PHOTO: DON MCELROY/AP IMAGES

■ The raft flipped after leaving the conveyor belt to take riders back to the ride's station

"Police were called to the site at Coomera around 2.20pm (GMT 4:20am) following reports that a number of people had been injured by a conveyor belt. Four adults have been confirmed as deceased."

The family friendly attraction, which opened in 1988, includes a float down a river with artificial rapids. It can reach speeds of up to 45kph (28mph).

■ Details: http://lei.sr?w=P3Zu_T



■ The park will now open in phases

Dubai Parks & Resorts staggers 2016 launch

Dubai Parks and Resorts has undergone a rebranding, with the multi-billion-dollar venture's owners also announcing plans for a staggered launch. Now known as DXB Entertainments, the opening of LEGOLAND Dubai and Riverland Dubai went ahead as scheduled on 31 October, with Bollywood Parks opening on 15 November, and then Motiongate Dubai on 16 December.

■ Details: http://lei.sr?w=4x2f_A

Wanda hires Disney executive to run parks

As Disney and Wanda's public war for dominance across China continues to rage on, Wanda chair Wang Jianlin has hired former Disney executive Andrew Kam to lead its charge into the theme park sector.

Kam, who is former managing director of Hong Kong Disneyland, resigned from his position in March earlier this year, citing "personal reasons" for his departure after spending eight years in the role.

According to Reuters, well-placed sources have confirmed that Kam will lead Wanda's theme park business, fueling the flames of a power struggle between the two entertainment giants. Earlier this year, Wang Jianlin compared



■ Kam has joined Wanda to lead its theme park division

Wanda's plan to build 15 multi-billion dollar amusement parks in China before 2020 as a "pack of wolves" versus "one tiger" – referring to Disney's newly-opened \$5.5bn (£5bn, £4.5bn) Shanghai resort.

With its Wanda City plan, Wanda is attempting

to topple Disney as the world's largest tourism enterprise by 2020. By that time, Jianlin wants his parks to have welcomed more than 200 million people and be earning annual tourism income in excess of \$14.9bn (£13.5bn, £12.2bn).

■ Details: http://lei.sr?w=Q4T6z_T

African American history museum tickets sold out until March

The new Smithsonian National Museum of African American History and Culture has proved so popular that the museum has sold out tickets through March of 2017.

When the museum opened its doors on 21 September, Smithsonian officials expected around 7,000 visitors per day. That number has now more than tripled, with 30,000 flocking to the institution on a daily basis.

Entrance to the museum is free for visitors, but date-specific tickets are required for entry. Visitors can queue up for a "day of" pass but thanks to overwhelming online demand, these tickets are limited.

"The historic significance and high visibility of the museum are attracting an unprecedented number of local, national, and international visitors," said a museum statement. "Due to this, the museum implemented the Timed Pass system to serve as many visitors as possible while maintaining a secure, safe and smooth flow of people."

The 400,000sq ft (37,000sqm) museum, which focuses on themes of African American history, culture and community, is located on a five-acre site on Constitution Avenue next to the Washington Monument.



PHOTO: SMITHSONIAN

■ Officials expected around 7,000 visitors per day but are actually welcoming 30,000

The nine-story building features exhibition galleries, an education centre, a 350-seat theatre and a café. Signature spaces are the Contemplative Court, a memorial area for reflection; the Central Hall, the

primary public space in the museum; and a reflecting pool at the south entrance.

The building was designed by the Freelon Adjaye Bond/SmithGroup collective, with architect David Adjaye leading the project.

■ Details: http://lei.sr?r=V9w7u_T



PHOTO: WASHINGTON POST

■ The campus will transform the area

Motown Museum campaign launched

Perkins + Will is leading development for Detroit's recently announced \$50m (£45.6m, £40.6m) Motown Museum – a 50,000sq ft (4,650sqm) attraction dedicated to the music genre.

The capital campaign will add 40,000sq ft (3,700sqm) to the existing 10,000sq ft (929sqm) space. Planned improvements include new interactive exhibits, a theatre, recording studios and a bigger store.

■ Details: http://lei.sr?r=s8c7X_T

Washington gallery finishes \$69m renovation

The National Gallery of Art in Washington, DC, has reopened its East Building following a three-year, \$69m (£61.5m, £54.2m) renovation process.

The IM Pei-designed building gains an additional 12,250 sq ft (1,140sq m) of floor space, split between two new galleries to house the works of Alexander Calder and Mark Rothko, and a new rooftop terrace.

Katharina Frithsch's giant Hahn/Cock – a giant blue sculpture of a cockle – sits on the new terrace after moving from London's Trafalgar Square where it resided between July 2013 and February 2015.

Movement through the East Building has also been improved, with a



PHOTO: THE ARTS AND CULTURE FOUNDATION

■ A giant blue cock now stands on the gallery's roof

new stairway and elevator installed to better-connect the different levels of the museum. The flooring has also been replaced.

The \$69m (£61.5m, £54.2m) renovation was funded in-part by the federal government, which granted \$39m (£35m, £30.6m). The remaining \$30m

(£26.7m, £23.6m) was sourced through private donations including former gallery president Victoria Sant and philanthropist David Rubenstein. Washington-based architects Hartman-Cox were in-charge of design for the renovation work.

■ Details: http://lei.sr?r=e9a5c_T

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Africa mining plans for UNESCO sites ‘short sighted’: WWF

The World Wildlife Foundation (WWF) has responded to reports that African nations are arguing for countries to extract oil, gas and minerals from beneath natural World Heritage sites, calling the approach “short-sighted” and a risk for “the long-term value of some of the planet’s most ecologically-rich places”.

Noting locations including the Democratic Republic of Congo’s Virunga National Park, Botswana’s Okavango Delta, Zimbabwe’s Mana Pools and Tanzania’s Selous Game Reserve, Frederick Kwame Kumah, director of the WWF’s Regional Office for Africa, said that more than 60 per cent of Africa’s natural World Heritage sites are threatened by oil, gas and mining.

“When faced with the imperative of alleviating poverty through economic development, it is understandable that our leaders may feel a strong urge to exploit Africa’s resources, even if they are to be found underneath World Heritage sites or other protected areas,” he said. “But a narrow focus on mineral resources overlooks other, more sustainable options for achieving human and economic development in some of the continent’s poorest countries.



PHOTO: CHRISTIAN CONWAY OF TANZANIA

■ Uranium mining in Tanzania would cause significant damage to the Selous Game Reserve

“Once pristine places are damaged and changed, sometimes irreversibly. And that’s to say nothing of the risks that extractives industries pose to sensitive ecosystems, such as oil spills, toxic tailings from mining, pollution and contamination of water.”

Kumah added that with limited capacity and expertise to limit or respond to such risks, governments must consider if the benefits match the cost for the loss of natural heritage, for “short-term unsustainable gain.”

■ Details: http://lei.sr?m=944J9_T



PHOTO: IJUNO NIKIWAHARA/REUTERS

■ The site is rich in ancient fossils

Fossil park unveils plans for revamp

Rowan University in Glassboro, New Jersey, has announced plans to develop its fossil park into an attraction comparable to the likes of the “Smithsonian and Franklin Museum.”

Following a \$25m (£22.7m, £20.3m) donation, the site will be transformed to include a museum and visitor centre, fossil lab, nature trail, palaeontology-themed playground and social spaces.

■ Details: http://lei.sr?m=7H6S_T

Japan designating 88 anime ‘sacred spots’

Japan’s government wants the nation’s popular anime and manga franchises to boost tourism in the country, with plans to designate 88 “animation spots” nationwide in places where popular characters are presented.

The heritage plan will identify train stations, school campuses, shrines and other landmarks depicted in manga or anime as “seichi” – or “sacred spots”.

Anime and manga fans worldwide can now vote on which landmarks are designated, through a website set up in several languages, including Chinese and English.

“It is impressive that the presence of Japan’s pop culture in the world has grown into something that can be on par with



PHOTO: IJUNO

■ Shows such as *Your Name* will be used to promote Japan

Hollywood,” said Tsugihiko Kadokawa, vice president of the Anime Tourism Association and the chair of publisher Kadokawa Corp, which is backing the scheme.

Anime tourism has proved popular for Japan on an unofficial basis, with examples of popular destinations including

a railroad crossing near Kamakura, Kanagawa Prefecture, which is popular with fans of anime series *Slam Dunk*, and a stairway leading to a shrine in Tokyo, which has seen an increase in visitor numbers thanks to the runaway success of *Your Name*.

■ Details: http://lei.sr?m=M6x6H_T

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Hot weather delays AED150m Dubai Safari

After more than a decade of development, visitors hoping to explore Dubai's new state-of-the-art safari park will have to wait just a little longer after the opening date was pushed back until the end of March next year.

Originally scheduled to launch at the start of January, the park will now open on 31 March 2017, thanks to delays caused by an extremely hot summer, which slowed construction and hampered plans to import and home a number of rare animals.

According to safari park director Tim Husband, the entire park is around 60 per cent finished, with 70 per cent of the drive through section and African village also completed.

The park replaces Dubai's zoo – an outdated



■ A number of animals have already arrived at the zoo

development which first opened its doors in 1976 – with plans dating back to 2005. During that timeframe, the project has been scrutinised, reworked and revised for a method of relocating around 1,000 animals from their existing habitats.

Financed by the Dubai Municipality, the AED150m (\$40.8m, €37.1m, £33.5m) project by design and construction firm Cape Reed will eventually include a zoo, safari, butterfly park, botanical garden, hotel and golf course.

■ Details: http://lei.sr?a=V4M7p_T

INDUSTRY OPINION

Four facilities host US Department of State's first Zoohackathon

Jennifer Fields

Poaching and wildlife trafficking are decimating populations of animals such as elephants, rhinoceroses, and tigers. The US government is working with governments and members of the public around the world to reduce demand of these products.

The US Department of State organised a Zoohackathon, which occurred from 7-9 October at conservation centres in Sydney, Australia, and London, as well as at four zoos accredited by the Association of Zoos and Aquariums (AZA) in the US: San Diego Zoo in San Diego, California, Woodland Park Zoo in Seattle, Washington, Saint Louis Zoo in Saint Louis, Missouri, and the Smithsonian National Zoological Park in Washington, DC.

Supported by the US government's Task Force on Combating Wildlife Trafficking and other partners, the event gathered teams of coders, programmers, designers, and conservation experts in a friendly competition. The participants' goal was to use their technological skills to develop applications, systems, and tools to combat wildlife trafficking and other conservation challenges, raise public awareness about these issues, develop demand reduction technology, and highlight international collaboration.

At the end of the Zoohackathons, teams presented their ideas to an expert panel of judges, who announced the local winners. The winning teams from each site are now eligible to compete in a global competition, with the winner to be announced in November 2016.

For more information, visit www.zoohackathon.com.

Jennifer Fields,
communications coordinator, AZA



Put Harambe incident 'to rest', says zoo director

Cincinnati Zoo has said that while interest in Harambe remains high, it must close the book on the incident in which the gorilla was shot and killed to protect a three-year-old who fell into its exhibit.

Speaking to Hamilton County commissioners, Thane Maynard, the zoo's director said that the zoo and its staff are having to adapt to a post-Harambe world.

"There's still a lot of Harambe interest," he said. "We've got to put this to rest because our constituents have asked us to."

Following the gorilla's death, famous sportspeople and other celebrities have paid tribute to the gorilla, which has become an online sensation in the form of an internet meme.



■ Harambe has become an online meme sensation

Officials approving a tax levy before it went to ballot, said they were "satisfied" with the handling of the incident.

"You did it right," said commissioner Dennis Deters. "The measure of an organisation is how you deal with adversity."

The zoo has completed work on increasing the

safety of its gorilla exhibit, making the barrier 42 inches high – six inches taller than the previous wall – also including a mesh fence from top to bottom to prevent small children from crawling through. The barrier had been active for 38 years without incident.

■ Details: http://lei.sr?a=j5Z8j_T

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Atari founder Nolan Bushnell launches new VR company

Atari founder Nolan Bushnell has launched a new VR company which is introducing a hands-free, moveable version of the medium that can be used over large areas.

The Los Angeles-based Modal VR has been co-founded by Bushnell and Modal tech developer Jason Crawford. The company touts itself at the high end of the virtual reality market, pitching its products to businesses rather than the consumer.

The new technology uses standing sensors the follow and record movement. Combined with a full-body tracking suit, Modal's technology offers a wireless platform that works in an area as large as 900,000sq ft (83,600sqm) with a latency of less than 10 milliseconds, offering near perfect visuals for multiplayer action.

"We have been working to bring ambitious mixed reality content to our fans and Modal VR is well beyond the limitations we thought possible," said Shaun Novak, senior director of production at Machinima – a company using Modal's technology to develop software. "The wireless portability, full-body tracking and massive play area really allows for



■ The Modal VR system is currently still in the prototype stage

compelling experience in and out of the headset. Modal VR has been a great partner in showing the fun of VR."

The Modal system is currently still in prototype stage, according to Modal, with Beta developers kits shipping soon.

The Modal VR tech's advanced system could well provide competition to market leaders such as the Microsoft HoloLens and Oculus Rift, which are aimed at consumers rather than business.

■ Details: http://lei.sr7a=p6U2R_T



■ The system helps solve balance issues

Disney revolutionises 3D printing with tech

Disney's research lab has taken the 3D printing process up a notch, using movable embedded masses to act as counterweights, creating solutions to complex balance issues.

Using a set of hollow capsules and embedded metallic spheres, the method can change the centre, or centres, of mass within 3D models, resulting in objects that can change their centre of gravity depending on pose.

■ Details: http://lei.sr7a=7X4w7_A

HoloLens gets public outing at Mars experience

Legendary astronaut Buzz Aldrin was among the first to try out Microsoft's HoloLens technology in a new exhibition at the Florida's Kennedy Space Center allowing visitors to virtually explore the surface of Mars.

Open until the end of the year, Destination: Mars has been developed by NASA's Jet Propulsion Laboratory (JPL) in collaboration with HoloLens. Using the augmented reality headset, visitors can explore parts of Mars as observed by NASA's Curiosity rover.

Using JPL's OnSight technology, which allows NASA's researchers to participate in a shared AR experience, a holographic version of Aldrin and Curiosity rover driver Erisa



■ Buzz Aldrin experiences the power of Microsoft's HoloLens

Hines, explain the work NASA is doing on Mars today. Using the HoloLens headset, visitors can explore geographic features on Mars and even plan future routes for the Curiosity rover.

"Technology like the HoloLens leads us once again towards exploration," said Aldrin. "It's my hope that

experiences like Destination: Mars will continue to inspire us to explore."

Microsoft made its HoloLens developer kit available for pre-order in March 2016 at a price of \$3,000 (£2,750, £2,150) ahead of the technology's public release.

■ Details: http://lei.sr7a=w9H3m_T



LINDA CONLON

Linda Conlon, a longtime champion of science centres, talks about the issues impacting the attractions industry, including migration and workplace diversity, warning it's time to strategise for a different future

Alice Davis, managing editor, Attractions Management

Linda Conlon warns of a post-Brexit "new divide" in a recent speech





This year's ASTC Conference was held at the Museum of Science and Industry (MOSI) in Tampa, Florida



The event featured workshops and live demos, while seminars covered diverse topics, including transgender visitors, the migrant crisis and fundraising trends



When *Attractions Management* caught up with Linda Conlon, CEO of the International Centre for Life (LIFE) science centre and chair of the Association of Science and Technology Centres (ASTC), she had just returned from the organisation's annual conference in Tampa, Florida. The conference, which was attended by more than 1,700 delegates from 45 countries, is an important opportunity for members of the science centres and museums community to network, learn, exchange ideas and debate the issues of the day. And there's no shortage of issues to discuss – many of them impacting (or set to impact) huge swathes of people and even humanity itself. Climate change, migration, war, mass inequality, water and energy crises, the ageing global population;

The pace of change in the world has accelerated to the point where it's becoming critical

these are problems that science centres and museums tackle on a daily basis. "When I gave my speech at the ASTC conference, I said that the pace of change in the world has accelerated to the point where it's becoming critical," says Conlon, from her Newcastle office. "And I would say that the burning topic for the sector is globalisation and changing audiences." Science centres, of all the attractions sectors, are uniquely placed to address these global and local issues. It is part

of their mission, and by design they must tackle such topics in an impartial, evidence-based and educational way. But, it's also time to take stock of how these changes are affecting science attractions – in fact, all types of attractions – themselves.

Tipping point

"The world is on the move and globalisation brings tremendous benefits, but it also brings challenges," Conlon says, reminding us that one of the principal drivers behind Britain's vote to leave the EU was the issue of immigration. "Every business – not just attractions – has to reassess its model because the audiences are going to change in a relatively short period of time," she says. "The business model of today may not be fit for purpose tomorrow. We're going to come to a tipping point where the majority ▶



It's more than being accessible to everyone, it's about being relevant to everyone and that's "a big ask"

► audience of today is going to be the minority audience of tomorrow."

Reexamining who a business or an organisation actually serves is a huge undertaking, but a vital one. Conlon points out that if the demographics of your community are going to change radically, you need to make sure you know how to communicate with and cater for those people. Some attractions are already doing this. There are art galleries that run special programmes focused on visitors who suffer from dementia – catering to an ageing audience. There are waterparks that offer ladies-only sessions and sell burkinis and modest swimwear – catering to an increasingly multicultural audience.

Conlon likes looking at megatrends, defined as huge, decades-long shifts in environmental, social and economic conditions that will substantially change the way people live and have an impact on everyone. The world getting older is one.

Redefining the visitor

Always ready with facts and statistics, Conlon says that in 2012, 11 per cent of the world's population was over 60. By 2050 it's going to double to 22 per cent. She says we've reached "peak child" – a term coined by statistician Hans Rosling.

"There'll never be more children in the world than there are today. That's quite a staggering thing, isn't it? We've reached peak child," she says. "Soon, 90 per cent



Refugee children take part in Deutsches Museum's Science Without Borders programme (top left); Explora adopts a "listen, welcome, co-create" approach to collaborating with diverse audiences

of the global youth population will be in developing countries. Is it going to be possible to integrate these young people into saturated labour markets? Are those young people going to stay or seek work elsewhere? What all of that means for people in leisure, not just science centres, is we're going to have to start redefining our definition of the typical visitor.

"Does it mean that we need to start thinking more about older people? Does it mean that our workforce is going to be made up of older people? And that brings us back to the argument about audiences – and workforces – being increasingly diverse because people are moving round the world more than they've ever done."

There are examples of actions sciences museums are taking to address these matters at grassroots level. In Munich, Germany, the Deutsches Museum is responding to the refugee crisis by offering German lessons and workshops. At the Explora science centre in Albuquerque, New

Mexico, efforts have been made to engage with – and employ – people from Mexican, Vietnamese and Chinese immigrant groups in the community, showing diversity of staff is as important as diversity of visitors.

"It seems to be a success. Visitors liked that there were people like them working there," she says. It's more than being accessible to everyone, it's about being relevant to everyone and that's "a big ask".

Living LIFE

But how about closer to home? Conlon, who in 2015 received an MBE for her services to science, is highly regarded for the success she has made of the Newcastle attraction. With a background in regional development and large-scale urban regeneration projects, Conlon was able to nurture LIFE when other so-called "millennium projects" failed. LIFE receives no funding but manages to be 100 per cent financially self-sustaining thanks to its commercial partnerships. ►



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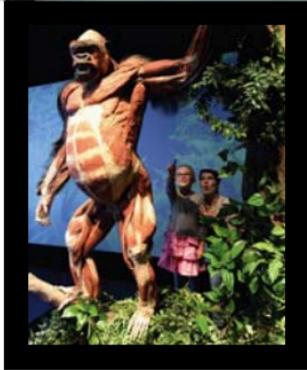
We've been wanting to do something of a global stature for some time

Science Centre Day will be on 10 November to raise awareness of both individual attractions and their unifying missions. The news came after long talks between the ASTC and UNESCO. A "Year of the Science Centre" was considered, but they thought a one-day celebration every 12 months would pack more punch, with UNESCO willing to continue the initiative for years to come.

"We've been wanting to do something of global stature for some time. It's about getting greater recognition for science centres and a recognition of the role they play in helping to address some of the really critical issues facing the world."

UNESCO's Sustainable Development Goals are designed to improve education and alleviate societal inequalities, protect the environment and the oceans and preserve culture and heritage for future generations. Conlon says science centres have long been addressing these issues, whether looking at gender equality, health and wellbeing, clean energy, climate change, sustainable cities or numerous other universal topics. "All of the goals as expressed through UNESCO are things that science centres are already doing."

Every science centre in the world is invited to sign up to do something to celebrate on 10 November, with a few hundred ASTC members set to participate. There will be a high-level forum in Paris,



Animal Inside Out is a major travelling exhibition currently on show at LIFE

with UNESCO's director general Irina Bokova in attendance – "quite a coup," says Conlon – and live video links to science centres around the world.

Looking further forward in the diary, Conlon is involved in the triennial Science Centre World Summit, which is coming to the Miraikan science centre, Tokyo, in November 2017. The super-conference is led by ASTC in association with Ecsite and ASPAC, making it a truly global occasion.

"It's an opportunity for us to elevate ourselves from the everyday and to look at things from an international point of view, look at things strategically," Conlon says. "We bring in significant external speakers – commentators, science communicators, politicians, business people – so that it's not simply the field looking in on itself, we're getting the perspective of external parties as well. It's a big event for us." ▶

► LIFE is part of a £90m (\$109m, €100m) science village, which has diversified to include a university medical research institute, two National Health Service (NHS) clinics, a fertility clinic that's helped create more than 5,000 babies, biotechnology businesses, a nightclub and a pub. The science centre benefits from increased visitation because of these facilities and amenities, which draw in 500,000 people per year. They raise money, too – about 75 per cent of LIFE's income is from rental from the pub and nightclub and leasing the outdoor square for concerts and events. (It's an ice rink for three months each year.)

"In the UK, the wave of science centres that came into existence around the millennium has done an incredible job in being entrepreneurial in their approach," Conlon says (see page 40). "They're entrepreneurial because they have to be."

"LIFE is unusual in that our income is 100 per cent earned. This was inherent in the original concept and business model. Newcastle is not a big city. It doesn't have a large population and it's not a destination so it was absolutely critical to introduce complementary income generators."

Conlon admits it's an unusual mix of ventures in the village, but they work in synergy and attract different people.

"Every attraction works differently, but the key is to identify and establish a business model that is going to work for you, given the product that you have and the environment in which you operate."

World Science Centre Day

The international science centre community recently announced the first ever World



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**WHERE THE
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Millennium Innovation

In the run-up to the millennium, £1.3bn of National Lottery money was invested in more than 200 projects. Some were controversial, a tiny number failed, but these science centres have gone from strength to strength

@Bristol

Location: **Bristol**

Twitter: **@AtBristol**

Cost: **£96m**

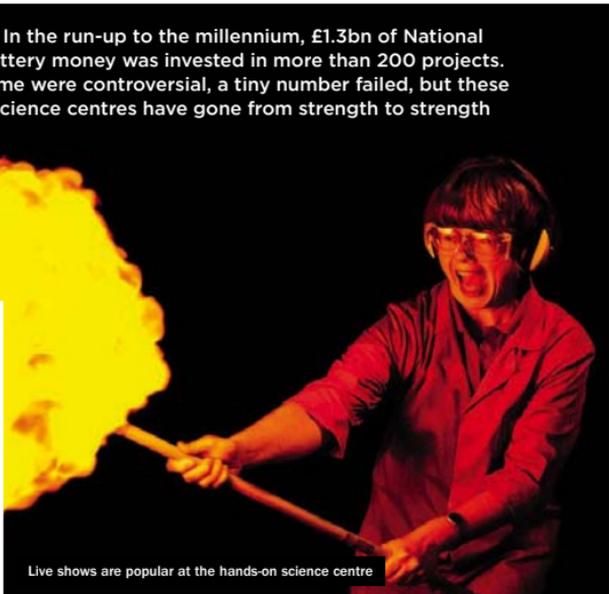
Millennium funding: **£44m**

Opened: **July 2000**

@Bristol, which recently installed the UK's only ultra-HD 3D planetarium, attracts more than 300,000 visitors a year.

Live shows are popular at the hands-on science centre

IMAGE: LEE PALLEEN



The 4D motion ride at LIFE

The International Centre for Life (LIFE)

Location: **Newcastle**

Twitter: **@scienceatlife**

Cost: **£67m**

Millennium funding: **£33m**

Opened: **May 2000**

LIFE explores human biology through hands-on exhibits and multimedia displays. It welcomes 250,000 visitors per year.

Magna

Location: **Rotherham**

Twitter: **@MagnaScience**

Cost: **£47m**

Millennium funding: **£23m**

Opened: **April 2001**

Magna is set in a former steelworks and tells the story of the region's steel industry. In recent years, the science centre's financial stability has been in question.



The venue is often used for events and gigs

IMAGE: JOHN DILLER

Moon rock and rockets are on show



National Space Centre

Location: **Leicester**

Twitter: **@spacecentre**

Cost: **£84m**

Millennium funding: **£32m**

Opened: **June 2001**

Featuring a state-of-the-art dome theatre, this attraction uses personalities and technology to explain our understanding of space.



Winchester Science Centre

Location: **Winchester**

Twitter: **@WinSciCentre**

Cost: **£11m**

Millennium funding: **£6m**

Opened: **March 2002**

Previously known as INTECH, this Hampshire science centre attracts 150,000 visitors a year, and sells 100,000 tickets to its digital planetarium.

Glasgow Science Centre

Location: **Glasgow**

Twitter: **@gsc1**

Cost: **£71.5m**

Millennium funding: **£35m**

Opened: **June 2001**

Glasgow Science Centre is one of the most popular paid-for attractions in Scotland, attracting more than 350,000 visitors annually.



Our Dynamic Earth

Location: **Edinburgh**

Twitter: **@ourdynamicearth**

Cost: **£39m**

Millennium funding: **£18m**

Opened: **July 1999**

Our Dynamic Earth is located behind the site of the Scottish Parliament and formed part of the £150m regeneration of the area.



Millennium fails

Projects like the Tate Modern, the Millennium Bridge and the Eden Project have seen great success, but a few Millennium Commission attractions did not do so well and were forced to close their doors:

- The state-of-the-art £5m National Millennium Faith Experience in Bradford, which predicted 40,000 visitors a year but drew less than 10,000. It closed in 2001
- The £42m Earth Centre in Doncaster, a project that received £36m from the Millennium Commission but went bankrupt in 2004
- The £14m Big Idea in Irvine, North Ayrshire, a museum about inventions and inventors, closed in 2003 due to lack of finances and low visitor turnout

New technology and guest personalisation are transforming theme parks

A park-wide interconnected ecosystem, powered by Holovis's mixed reality Extended Experience technology, enables guests to engage before, during and after their visit

New technologies are transforming theme park attractions and the guest experience. New forms of interactivity, real-time media and virtual and augmented reality (VR/AR) are taking guests to places they have never been before. When combined with exciting, narrative-driven storytelling, compelling IP and effective personalisation, experiences can deliver new levels of engagement and immersion.

At Holovis, this is all part of the Total Attractions offering. By adding guest personalisation, new engagement formats, gamification techniques and back-end database connectivity, a completely new kind of product offering becomes possible. No longer are attractions standalone three-minute events with long waiting times, but they're part of a park-wide, interconnected ecosystem, giving guests completely new ways to plan their visit, more intensive engagement during their visit and the ability to share the experiences and memories afterwards.

ABOUT HOLOVIS

Holovis Attractions has always been at the forefront of creating experiences. Whether conceptualising and advancing early dark ride formats, devising the most effective Immersive Tunnel experience or adding new levels of immersion to Media Coasters, 4D Theatres or FEC solutions, Holovis always delivers something extra.

Holovis has heavily invested in in-house media creation to achieve high-quality guest experiences, with a particular focus on rendering content in real-time using advanced game-engine systems and bespoke middleware technologies. This allows each guest to participate more effectively in the storytelling, giving each person a different and personalised experience depending on the decisions made during their engagement and play.

Holovis calls it the Extended Experience (EE). Based around the guest's own smart phone or tablet and a dedicated downloadable app, EE unlocks a rich, interactive park-enabled environment where Holovis's own proprietary Augmented Mixed Reality technology gives the guest a variety of opportunities to enhance their visit.

"Augmented reality is aptly named – it's about transforming the ordinary into something extraordinary, making magic out of the mundane," says Stuart Hetherington, CEO of Holovis. "There's something exhilarating about watching the real world come to life through a layer of AR magic."

Expert delivery

EE has been developed partly in response to changing park usage patterns and the need to increase repeat visits. Parks simply have to deliver more bangs per buck. But how do we deliver this most effectively?

"As experience designers, we need to effectively use the available tools and the smart phone/tablet is a fantastic device to



Holovis is working on ways to extend and personalise ride experiences

“Augmented reality is aptly named – it’s about transforming the ordinary into something extraordinary, making magic out of the mundane”

Holovis created the app, Battle for Cedar Point, to gamify the park experience for guests



work with—they’re slim, powerful, with an expanding sensor array, everyone has one and most regularly upgrade,” he says.

From the moment they download an app, guests can start engaging with the theme park, earning points ahead of their visit and answering cleverly hidden questions about their interests. All of this can be used to personalise the experience when they arrive at the attraction.

Game play

The game play continues during the visit, with more hidden AR “treasure” to find around a site, again leading to extra points and incentives which could mean queue jumps or the ability to trigger something magical nearby, such as a water explosion from a cannon overlooking the queue line by pressing the virtual button that appears.

“Once users are in the attraction space, the app draws upon a variety of sensors to blend the physical and virtual worlds, using the phone’s camera to recognise key elements in the park and overlay digital media to create epic videos for sharing on social media,” says Hetherington.

“This is an excellent way of eliminating queue boredom, as people are engrossed

BATTLE FOR CEDAR POINT

Holovis recently delivered its Extended Experience (EE) solution for Cedar Fair through The Battle For Cedar Point. This is an AR experience accessed through a custom-designed app that gamifies the park, revealing various levels of interactivity. Five key park coasters each represent a “clan” from which guests then select a favourite and engage throughout the day to earn points and incentives, with the overall winner announced during the Luminosity show in the evening. Points are earned by guests scanning

the environment around them with their mobile device to discover hidden content, complete quizzes and ride the attractions. They can even save captured video content and share with friends across social media channels. Guests are incentivised to reach point targets to access special merchandise that is only available to the winning clan. Holovis and Cedar Fair are now working on major new upgrades to the existing Cedar Point installation, as well as rolling out the product to multiple parks in 2017.

in the game. It’s another layer of entertainment, turning a passive activity into a participative experience. It can also benefit the whole park ecosystem by driving footfall to all areas.”

Brand merchandise can be given a whole new lease of life, with AR characters jumping from T-shirts or specially created pin badges and merchandise. This encourages people to keep using the app outside of the park,

showing friends, sharing on social media and wanting to collect them all.

“The next step for Extended Experiences is to sync them with the content people are experiencing during media- and motion-based dark rides. Combine with real-time media, and when a group of guests ride an attraction, the content can be personalised to them based on demographics, interests or even skill level. With other innovations to come, the future of EE is very exciting.” ●

How can sound be used to create incredible immersive experiences?

Sound and music can make or break an attraction, so how do we make sure guests reach maximum aural pleasure? We asked a panel of experts



Sound has just as much influence on the way we interpret and feel the world around us as the things we see and touch. Some argue it's an even more visceral sense, yet sound designers are too often the unsung heroes of a winning exhibition or theme park experience.

As audiovisual technology continues to advance, guests are able to be more deeply immersed in experiences than ever before. With the rise of VR has come the

rise of 3D sound, a binaural technique that creates a sound environment that's like the real world. Binaural sound needs to be fed through headphones and – like VR – can be considered too isolating for most attractions. However, with clever sound design and cutting-edge sound systems, ultra-realistic sound is being used in projects like *You Say You Want a Revolution? – Records and Rebels 1966-1970*, which is currently showing at London's Victoria & Albert Museum.

Here, Sennheiser used sounds from Woodstock festival in 1969 to create an authentic, historical experience (page 48).

But operators don't have to invest in top-end equipment to create an immersive soundscape for their attraction, ride or exhibit. Planning how and when to use sound, building in suspense and considering how to make the most of the available technology are all vital ingredients that can make a real, emotional difference on any scale.

“ I visually map out where the moments of emotion, tension and drama should occur ”

DAN SAVAGE

Founder

Dan Savage Design & Sound

To create a cutting-edge aural experience in an attraction, I visually map out the sound experience on paper first and pinpoint where the moments of surprise, emotion, tension and break, peaks and troughs and drama should occur. All of this is invisible to the visitor, but they will feel it – if only subconsciously. My aim is always to create something that the visitor will recall later: an earworm melody, a mood, a surprise or reveal. Sometimes, silence is as powerful as noise.

If I'm making sound to synchronise with moving

images, there will be moments where the two can combine with impact. Some of the tricks employed in the cinema can be used in attractions, but in a more three-dimensional way; for example, physically moving the sound around the space and using ultra-low-frequency sound, which is not necessarily heard, but can unsettle people.

A suitable sound system is essential, but it doesn't have to be technically complex or prohibitively expensive to be a success, it just has to be deployed in the right way. As a 3D designer, I'm always thinking about sound in 3D – where it should be and how it could be used to maximum effect. One of the most important processes



Dan Savage uses soundscapes to enhance visitors' emotional experience

is the on-site mix. You could have the best sound system in the world, but if you don't sit in the space and "design" the sound to work in it, you will never get the best results.

In summer 2016, with Centrescreen Productions, I designed my most immersive piece of work yet: a 30-minute walk-through experience at the Rio Olympics, which followed the journey of an athlete. At certain points, you heard the narrator talking directly to you and at others you'd be visually and aurally submerged in water, standing in a field of corn or experiencing the rush of

entering the Olympic stadium. There were surprises around every corner. Musical refrains came in and out of focus and each scene enveloped visitors in sound at different intensities. In some places the rhythm would play a key role: the sound of running steps formed part of the rhythm track; using sub-bass and volume swells to hit hard at certain points.

In the last scene, I created a natural high by resolving the musical refrains heard throughout and combining them with the final uplifting speech. The whole experience was an emotional rollercoaster.

“ Sound is the glue that holds an attraction together. You can't have a great attraction with a mediocre soundtrack ”

JOEL BECKERMAN

Founder

Man Made Music

The most important elements are immersion, contrast, surprise and white space.

Immersive sound, where the sound and music pulls audiences "in", is vital. If we constant pushing sound "out" at people, it can get wearing.

Contrast is key to creating a soundtrack story. Surprise after surprise raises the heart rate, but there are no effective surprises without contrast. It's like a horror movie soundtrack, where the set-up before the scare is everything. It's tricking the mind into thinking it knows what's coming next and then breaking that expectation.

White space, or perceived silence, is more important as attractions become more complex. We simply need a break from the action. The trick isn't to try to create "silence" but create ambiances that mask sound. These ambiances can be quite specific in terms of their emotional takeaway. They can make you feel a sense of calm, anticipation, magic, wide open space. It's an incredibly powerful tool.

When we start a project, the first thing we want to understand is what audiences should feel at every moment. Thinking equally about foreground, mid-ground and background sound, we find opportunities where sound can make a big difference – and



where it can't. We're looking at where sound can complete the picture, and thinking about what sound exactly that might be.

A tremendous amount of the work is done iteratively through trial and error. We set up a 20 channel sound system in our facility and we'll run the soundtrack for long periods

of time, thinking about guests and employees. We explore, experiment, add and subtract.

One trend we're seeing is that less is more. The more realistic and exciting experiences are not made up of highly layered sound, but soundtracks that are more sparse and carefully crafted, where every single sound element is perfectly refined, but still very rich.

Sound and music are the glue that holds an attraction together, tying every stage of the experience together to complete the illusion. The vast majority of the time when an attraction is not all that it could be, it has something to do with the soundtrack. You can't have a great attraction with a mediocre soundtrack. ▶

BRIAN EIMER

President
Images in Sound

To create a thrilling aural experience, there are some key points to remember: keep the sound design as “clean” as possible; move as many elements as you can; wrap the audience in sound; and use all the speaker channels you’ve been given in the venue.

As venues get larger, allowing more guests to experience the attraction at the same time, the challenge is how to maintain this thrilling aural experience for audiences. Attractions are adding more speaker channels to their configurations, filling the

“One of the most significant technical challenges is the on-site mix. It’s the only way to maximise the audience experience”

ceiling, the side and rear walls, adding additional speakers in headrests and “butt kickers” under seats. Depending on the screen size, there can also be upper and lower rows of speakers behind the screen.

One of the most significant technical challenges is doing the on-site mix. It’s the only way to maximise the audience experience. To do the on-site mix, we need to interface with the on-site technology. The easiest way to do this, for these



large speaker configurations, is through the use of MADI. This allows for up to 128 channels through a single light pipe. There are other technologies, but MADI is the most efficient. I tap into the audio chain at the top of the signal flow, to see how the audio is effected all the way from player to speaker. In China, at Chimelong’s Ocean Kingdom, I did the sound

design for Kiki and Kaka’s Big Adventure, a 5D attraction with motion seats for 1,000 guests at a time. The soundtrack’s audio channel configuration was 27.1. The task was to maximise the speaker configuration to create the most immersive sound design possible. I did this by creating “zones”, designing elements specific to those zones, then having other elements move through all the zones.

At Guangzhou Chimelong’s Alien Attack, the system was 27.2. This venue had two 3D screens on either side of a tram. The design of the soundtrack had unique elements for each screen, but then I needed to move elements from one side of the tram to the other to create a fully immersive environment.

Eimer designed the sound for Alien Attack at Guangzhou Chimelong



“The new generation of audioguides automatically streams soundtracks depending on a visitor’s location”

PETER KEY

Sound consultant
and producer
Peter Key Sound Design

To create a pleasing aural experience, visitor attractions need to engage the services of a sound professional early in the design process. This ensures the correct equipment is specified and capable of reproducing the required effects, loudspeakers are successfully integrated into the exhibition design and the acoustic properties of the space are recognised and tamed to prevent that unwanted ‘bathroom’ effect.

One of the most important elements of a successful

sound experience in open gallery spaces where many sound sources may be playing simultaneously is to ensure narrative is clearly heard and interaction between adjacent sounds is kept to a minimum. That’s easily said but a challenge to achieve!

When it comes to the latest trends in sound in attractions, I particular like the new generation of audioguides where visitors are given specialised “headphones” containing small speakers positioned over the ears, but without touching the ears, to automatically stream soundtracks to them depending on their location in the attraction. This technique



ensures critical sounds such as speech and music are heard with clarity and audio spill issues are eliminated. As visitors can still hear everything around them, they don’t feel isolated from their surroundings or companions. Add loudspeakers playing

synchronised sound effects and one can create a truly immersive audio experience.

Binaural sound can create a powerfully immersive aural personal space. Unfortunately, this does not work well over loudspeakers so, in its present form, it can only be a one-to-one experience. 3D sound over loudspeakers can provide inspiring spacious soundscapes, but again can only be experienced as the producer intended by small numbers of listeners seated in the “sweet spot”.

In my experience, a fully immersive experience uses a variety of audio techniques depending on the situation and visitor effect required. ►



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You Say You Want a Revolution? explores the music and the political issues of the late 1960s



UWE CREMERING

AMBEO 3D Audio co-lead
Sennheiser

For a visitor attraction or museum to have the greatest impact on their visitors, it is of paramount importance to fully immerse them into the experience. Perhaps more than any other, hearing is the sense that makes this possible with the greatest of ease.

Whether you want to create complete soundscapes or use music to subtly evoke a certain atmosphere, 3D audio is able to transport visitors to other realms. Sennheiser's AMBEO 3D audio program has been used in several high-profile exhibitions and forms the sonic heart of the Victoria & Albert Museum's new show, *You Say You Want a Revolution? – Records and Rebels 1966-1970*. You can hear it in action in the Woodstock area, where the curators have expertly and lovingly recreated the sound and feel of the original concert.



As the exhibition's audio partner, Sennheiser enabled the creation of this experience with a 14.1 AMBEO installation.

For this, high-quality stereo audio files (24 bit, 192 kHz) of the original analogue Woodstock filmtracks were converted to 3D using an AMBEO upmix algorithm – the very same algorithm that was also used for producing the 3D audio installations for a previous V&A exhibition, *David Bowie is*. As the original Woodstock tapes had only little atmosphere, careful attention was paid in post-production to

Effects were added to restore the 'live' feeling – to make visitors feel like they're in the Woodstock audience

add effects that would restore the "live" feeling – to make visitors feel as though they're in the Woodstock audience.

In the exhibition, the AMBEO 3D sound is played back via 14 Neumann KH 420 loudspeakers for an increased impact, with the LFE being played back by four KH 870 subwoofers. As is usual for such high-quality installations, the subwoofers reproduce all bass frequencies below 80 Hz, so that the 14 KH 420 can ensure the highest reproduction quality for the mids and the treble.

ABOUT

Sennheiser supports the sound experience for the V&A's *You Say You Want a Revolution?* exhibition, where AMBEO 3D audio technology helps to immerse visitors in the music and ambience of the time. The 3D sound installations evoke the political issues and anti-establishment protests of the late 1960s and the Woodstock festival using authentic audio material.

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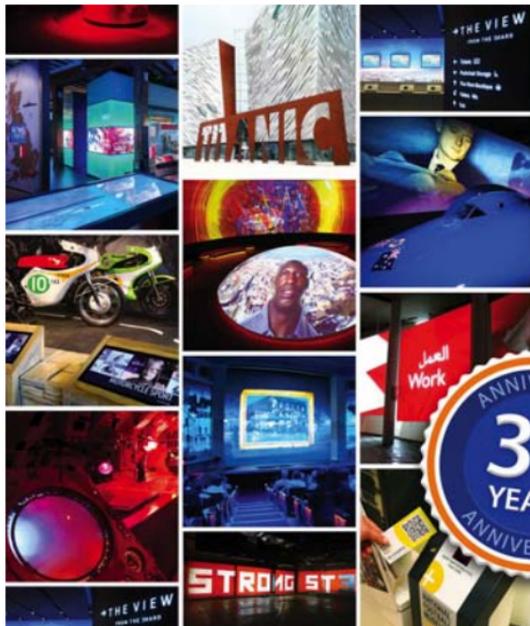


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We look at three projects, in Shandong, Hainan and Ningxia



JINAN ADVENTURE THEME PARK

LOCATION: Jinan City, Shandong Province, China

BUDGET: \$135m

AREA: 100 acres (40 hectares)

CLIENT: China Resources

DESCRIPTION OF PROJECT:

Jinan Adventure Theme Park is where the magic of storytelling happens everyday. Stories are constantly created by a unique device in the centre of the park, the Storymaking Machine. This peculiar machine works around the clock producing stories that guests can enjoy through immersive environments and exciting rides and attractions. The park, which is scheduled to open in July 2017,

features four original thematic lands, each representing a storytelling genre: **Lost World** – adventure stories of lost civilisations, exotic animals and wild jungles; **Fairytale Valley** – fairytale stories about magic kingdoms and their inhabitants; **Cosmic City** – science-fiction stories about space adventures and distant planets; **Frozen Kingdom** – mystic snow-covered mountains and icy worlds.



Main Street at Jinan Adventure Theme Park, masterplanned and designed by IDEATTACK



SEAWORLD ADVENTURE PARK

LOCATION: an artificial archipelago off the north coast of Hainan Province, China

BUDGET: \$240m

AREA: 32 acres (13 hectares)

CLIENT: Evergrande Group

DESCRIPTION OF PROJECT:

SeaWorld Adventure Park is conceived as highly immersive, entertaining and experiential destination, not as typical animal exhibit-based ocean park. The project features four distinct zones: Boardwalk zone, Polar World zone, Deep Sea Fantasy zone and Tropical World zone, combining high-end themed environments with rides, a lifestyle centre with original dining and retail offering, a vacation leisure park and an educational, interactive animal exhibit complex.

Each zone features a diverse and original set of attractions, ranging from animal enclosures with interactive information displays, virtual animal displays, live animal show stadiums, motion-based rides with multimedia technology, interactive science pavilions, aquariums, special effects shows, edutainment halls, to numerous smaller attractions enriching the visitor experience including event areas for weddings and parties.



IDEATACK introduces the storytelling elements of a theme park to the oceanarium concept at SeaWorld Adventure Park in Hainan, China

EONTIME WORLD

LOCATION: Yinchuan City, Ningxia Hui Autonomous Region, China

BUDGET: \$100m

AREA/SIZE: 50,000sqm (540,000sq ft)

CLIENT: Eontime

DESCRIPTION OF PROJECT:

The theme of the Eontime World, an indoor theme park that's part of larger mixed-use development, draws inspiration from the cultural and natural background of its location. The inspiration comes from the notion that water brought life to the desert and as a result, a beautiful, glowing "Oasis City" appeared in the area. The project is envisioned as the main family entertainment destination in the city of

Yinchuan, an ultimate fantasy place and dreamlike twist on the setting of Yinchuan City. Eontime World is a fantasy dream world consisting of three realms. Once visitors pass through the exterior entrance to the building, they find themselves in front of the guarded Magic Gate. The world behind the Magic Gate



A rendering illustrates Eontime World indoor theme park

represents a romanticised city which is themed on the Silk Road, Xi Xia Kingdom and local legends, and myths. The park is divided into three zones: City and Palace, Oasis and Water, Desert and Sky.

PAMELA LANDWIRTH

This year, Florida's best-loved charitable resort turns 30 and welcomes its 150,000th family. Its president and CEO talks about the legacy of Henri Landwirth and her ongoing work with **Give Kids The World Village**

Alice Davis, managing editor, Attractions Management

Can you describe Give Kids The World (GKTW) Village?

We have a 79-acre (32-hectare) 'storybook resort' in Kissimmee, Florida, especially made for children with life-threatening illnesses. Wish-granting organisations arrange for the children to come here while they visit Florida's many attractions.

There are 144 two-bedroom villas, where the child and their family stay for a week. We're building 24 additional villas because visitor numbers keep growing.

We've got a number of attractions, such as a carousel, which was donated

by Vekoma in 1994, a train ride and a beautiful wheelchair-accessible playground.

A new addition is our magic bike ride, Lori's Magical Flight, which was donated last November by Zamperla. The ride is wheelchair accessible and it's amazing to see a child go on a ride for the first time.

The entire Village is wheelchair accessible, even the resort area pool, which has a zero-entry pool where kids in wheelchairs can go right into the water.

In terms of theming, what is it like?

It's very whimsical, like it's right out of

the Candy Land game. Everything is childlike, such as the Ice Cream Palace, which looks like a huge banana split, the Gingerbread House where families dine at breakfast and dinner and the dinosaur-themed miniature golf course.

How many visitors do you normally have?

About 80 per cent of the year, we have to locate families off property because we're full. Those families can still come and enjoy all the activities, but it's our goal to get as many families staying on-site as we possibly can. We host about 8,000 families per year.

What's the process for families who want to visit?

GKTW is for children between the ages of three and 18 who have a life-threatening illness. After a diagnosis, a child life specialist or social worker sometimes sits down with the family to talk about the things that are going to happen next.

One of the things the families learn is that they're eligible for a wish. They'll be given a list of wish-granting organisations that they can call when they're ready to have their wish. The organisation will send someone out to meet the child and discuss what they would like.

About 50 per cent of children wish to come to Central Florida and experience the magic it has to offer. It's pretty impressive – and shows what an amazing industry it is.

What do families get to do?

Families get to go to Walt Disney World, SeaWorld Orlando, Universal Orlando, LEGOLAND Florida and the local attractions like Gatorland completely free.

Thanks to the IAAPA World Passport for Kids, families can visit any participating member park in the world for 12 months after their stay with us. With around 200 participating parks, it extends the wish.

Do you provide special medical facilities?

Our whole mission is to take children away from the environment they're



CEO Pamela Landwirth is pictured with 'Princess Alyssa', an alumni wish child



GKTW Village has a number of rides on-site, with a carousel donated by Vekoma and a wheelchair accessible ride donated by Antonio Zamperla





IMAGE: BRIAN FERRELL PHOTOGRAPHY

A number of fundraising activities take place at the IAAPA Expo, including a popular fun run and a golf tournament

► accustomed to, so we don't want to have anything that will remind them of doctors' offices. We've got a wonderful relationship with the local hospitals, in case there's any need for the child to have any treatments that need to be pre-scheduled while they're there, or in case of emergency. However, if the child needs any specific medical equipment, we'll have that waiting for them in the room.

When people see a child who's very ill, they tend to stare or ask awkward questions – out of curiosity, compassion, concern or whatever – but at the Village nobody stares. Even if a child doesn't show the outward manifestations of illness, these kids are so used to being in hospital, seeing other children with, maybe, bald heads or in wheelchairs, so they feel normal for a while again. Just feeling normal is just a great feeling for a family that's going through so many struggles.

How do you go about fundraising?

We raise about \$17m (£14m, €15m) every year to operate the Village. Then there's an additional \$24m (£20m, €22m) in time, tickets and those other things, so it's pretty expensive and takes a lot of fundraising.

We're very proud of the fact that our costs are under 7 per cent, so 93.3 cents of every dollar spent goes directly to the mission. We've considered one of the best charities in the world because of our transparency and our financial accountability. You're considered good with costs of 25 to 30 per cent, so to be under 7 per cent is pretty impressive.

IAAPA is a wonderful partner of ours, and we raise money especially around the IAAPA Expo in Orlando. We have a golf tournament, a fun run and a motorcycle ride, and a lot of different activities to raise money throughout the trade show. IAAPA just opened their hearts up to us.

We're able to do what we do because of all of the donations, but also because we rely heavily on volunteers. We fill roughly 1,500 volunteer shifts every week.

Who are the volunteers?

It could be people from the local area or college kids who come down on their breaks. We have a lot of senior citizens, visiting volunteer groups and youth groups. We get volunteers from around the world. We have approximately 170 full and part-time staff, but 1,500 volunteers a week, so it's predominantly volunteer-driven.

Are there any specific risks or challenges involved in running a resort like this?

There are some things that are unique. Most non-profits don't have a facility like

HENRI LANDWIRTH

Henri Landwirth was born in Antwerp, Belgium, in 1927. He spent his teenage years in Nazi concentration camps, including Auschwitz. Both his parents died during WWII, but Landwirth was eventually reunited with his twin sister Margot, and they headed to the US with just a few dollars between them.

Landwirth studied hotel management and in 1954

got a job running a hotel in Florida. His career as a hotelier progressed steadily and Landwirth began to host terminally ill children who were visiting Florida's theme parks with wish-granting organisations. They stayed in his properties for free, with their families.

Landwirth noticed, though, that there were few rooms for the families to stay in and they often had to wait a long time for their trip to be possible. In 1986, a girl called Amy

died while waiting several months for a place to stay to be available. Landwirth was so moved by the story, he founded Give Kids The World, calling on his contacts in the hospitality industry to help him host the children. By 1989, he had opened an entire 31-acre resort where wish-granted guests could stay.

Thirty years later, Give Kids The World Village covers many acres and has 144 villas, as well as its own selection of rides and water attractions.



Henri Landwirth, a Holocaust survivor, used his experience as a Florida hotelier to build a resort to help terminally ill children get their wish



The Ice Cream Palace at the Village is a favourite with kids, who can order a sundae at any time of the day



we do, where we are welcoming families from all over the world and they're living with us 24/7. The other challenge is that so many of our families do have children who are in wheelchairs or have very specific special needs or who are just very fragile, so we have to be very careful.

The theme park industry wants to provide the perfect guest experience so families will keep coming back. But for us, we try to provide the perfect guest experience because our families can't come back – it's a once-in-a-lifetime experience.

Do you look to the industry for ideas about your own operations?

I had a wonderful career at Disney before GKTW, and I learned many things that I was able to bring over. Safety is the number one priority at the Village, as it is in the whole industry, so our rides are inspected to the same standards and as often as any theme park.

The training process is critical for our volunteers, who all have to go through strict background checks. We have new volunteers coming in and operating those attractions every day, where in the corporate world you'd have the same employees operating them, so we have to do training on a daily basis.

When the volunteers arrive, they have to go through an orientation about the Village and how to approach the children, because the circumstances are very different. We want to interact with the families and make them feel welcome, but we also have to be respectful of the fact that you can't just pick a child up and hug them, because maybe they've had surgery or maybe they have a port, for example.

At the Village, you don't ask what's wrong with a child. You don't ask questions, but let the family talk to you if they want

IT WOULD BE WONDERFUL IF THERE WAS A WISH-GRANTING PARTNER IN EVERY COUNTRY, BUT RIGHT NOW THAT'S NOT THE CASE

to. Volunteers learn how to get down to the child's level to communicate with them, they learn what's appropriate and inappropriate behaviour, what language to use, those sorts of things.

Since we're getting families from all over the world, there are also cultural differences too, so in a very short time we have to make our volunteers aware of all the different challenges they may face.

Did GKTW start as a US-based vision?

We started getting international families right from the beginning because we are partnered with all the different wish-granting organisations. Today we have families from all over the US and 76

countries and we would get them from many more countries if there were wish-granting organisations. We just recently welcomed our very first Portuguese family and that's because there was not a wish-granting organisation in Portugal before. It would be wonderful if there was a wish-granting partner in every country, but right now that's not the case.

This experience is really meant for the whole family. Some of these families are falling apart because the siblings get forgotten, often shuttled off to grandparents or babysitters while the attention is focused on the wish child. They don't get the big Christmas, the vacations, and so this is an opportunity



Landwirth, who will soon welcome the Village's 150,000th family, says kids get to feel normal during their stay



Every wish child receives a gold star to personalise and place on the ceilings in the Castle of Miracles

► to re-connect the family. We hear over and over from families that they can just enjoy being there. They don't have to worry about doctor appointments, their next meal or the mortgage. They can just relax.

You must all be very proud of Henri's legacy?

He has such an incredible story. He has not been as active with GKTW over the past 10 or 15 years and he's 89 now, but he's still an inspiration.

When you think about somebody who went through what he went through as a child, you can see that he understands what it's like to lose your childhood. He was in concentration camps from the age of 13 to 18. Many people come out of that situation feeling really bitter about the world, and rightfully so, I mean, I can't even imagine the horrors of going through what he went through, or feeling like he was spared for some reason, and I think that's what his thought has always been.

He made it through such a horrific childhood, he felt there must be something that he needed to do to give back. And that's been his mission, to give back.

I think Henri was especially involved in children's charities because he didn't have his own childhood. It's his way of making sure that other children will have a childhood. Some of the kids who visit us may not live past childhood – and they don't have a normal childhood because they're in hospitals and unable to do things that normal kids do.

How many families have visited since the Village opened?

We're close to 150,000 families in 30 years, which is pretty amazing. When you

HENRI MADE IT THROUGH SUCH A HORRIFIC CHILDHOOD, HE FELT THERE MUST BE SOMETHING THAT HE NEEDED TO DO TO GIVE BACK. AND THAT'S BEEN HIS MISSION, TO GIVE BACK

put it into perspective, though, roughly 27,000 children are diagnosed with a life threatening illness every year in the US alone. So worldwide, that number is staggering. If half of all children wish to come to visit the theme parks in Central Florida, we should be doing a lot more wishes than we currently are.

It's a matter of awareness of GKTW and of having more wish-granting organisations.

It must make a huge difference to those kids who do get to go.

The children have such an amazing time. I mentioned the Ice Cream Palace. We serve ice cream from 7.30 in the morning to 9.30 at night, so the kids can have ice cream sundaes or banana splits for breakfast. I just learned this story a few weeks ago,

about this little four-year-old girl, who visited the Village. On her return home, a pastor sat with the child and asked whether she had any questions about Heaven.

'I've already been there,' she said.

He replied: 'You've been to Heaven?'

'Yes, my whole family and I were there in Heaven,' the little girl said.

'You and your family went to Heaven?' the pastor asked again, confused.

'Yes, it's in Florida. And, do you want to know a secret about Heaven? They let you have ice cream for breakfast.'

And so it was in her mind, Give Kids The World is like Heaven on Earth. That gives the parents such a feeling of peace, that their child isn't afraid of what lies ahead. I get goose bumps every time I even think about that little girl. ●

Product Manager – Waves

Location: Richmond, BC
Reports to: Chief Operating Officer

The Product Manager is responsible for the product planning and execution throughout the product lifecycle, including gathering and prioritizing product and customer requirements, defining the product vision, and working closely with engineering, product development, manufacturing, sales, marketing and project services to ensure revenue and customer satisfaction goals are met. The Product Manager's job also includes ensuring that the product supports the Company's overall strategy and goals.

Throughout all the stages of the product lifecycle, the Product Manager represents the needs of the end-users, evaluates market trends and competition, and uses this information to determine what features to include. The Product Manager is the team leader



for a given product, products or family of products, in this case, Waves.

Experience and Qualifications:

- Electrical or Mechanical Engineering degree with Product Management experience
- 5+ years' experience in a product management role
- Professional business acumen
- Experience in, or knowledge of the waterpark business is mandatory

To Apply:

Applications will continue to be accepted until position is filled. Include

your cover letter and resume in your application with "Product Manager - Waves" in the subject line of your email to careers@whitewaterwest.com

As a part of ensuring a safe and secure place to work, successful candidates may (role dependent) have to complete a pre-employment drug & alcohol test and/or background check (references, credit, identity check and criminal).

Only candidates who are eligible to accept employment in Canada WITHOUT sponsorship will be considered.

No agencies please. Thank you for your interest in this position!

For more information about this role and to apply please visit: <http://lei.sr?a=s2s1L>

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■ Simworx and Thorpe Park worked alongside illusionist Derren Brown

Real and virtual worlds collide in Derren Brown's Ghost Train

Simworx plays a central role in bringing the groundbreaking multi-sensory attraction to fruition

Derren Brown's Ghost Train – one of the most hotly-anticipated attractions in UK theme park history – opened this summer, with Simworx working closely with Merlin Magic Makers to make the illusionist's mind-bending vision a (virtual) reality.

The groundbreaking addition to Thorpe Park, near London, is touted as a ghost train reinvented for the 21st century, with Brown himself claiming the multi-million-pound ride would "rewrite the rules of what a theme park attraction can deliver".

"I firmly believe that this kind of multi-sensory, mind-blowing attraction represents a glimpse of what the future holds for theme parks the world over," says Brown.

Simworx played an integral role in the design, manufacture and installation of the complex 13-minute experience, which plays with guests' perceptions, pushing them to their psychological limits. The ride is Thorpe Park's largest single investment to date.

Park owner Merlin Entertainments approached Simworx to oversee the provision of the ride systems and various ride elements. Simworx combined VR and AR technology, grand illusion and live action with motion simulation and advanced dark ride vehicles, central to which is a

"This was probably our most challenging project to date"

20-metre (66-foot) Victorian train carriage – seemingly suspended in mid-air.

Simworx worked with Severn Lamb, Figment and HTC on the project, delivering three 58-seat motion-based passenger train carriages and 110 metres (360 feet) of train track. Each train carriage is fitted

with 58 HTC Vive headsets, an array of special effects and a vibrating floor. In the pre-ride area of the attraction, Simworx supplied effects like smoke, sound, AV projection, and a groundbreaking motion base capable of a 35-ton lift.

"This is a very different attraction to anything people will have experienced before and is truly a Ghost Train for the 21st century," says Simworx managing director Terry Monkton. "This was probably our most challenging project to date, with many bespoke elements designed and created specifically for this unique attraction. The technology involved has taken this form of entertainment to a completely new level and we are absolutely thrilled with the end result."

The theming throughout the ghost train is modelled on a real Victorian train depot near Willesden Junction, with every stylistic and architectural detail recreated by the Merlin Magic Making team. ▶



■ The ride building is modelled on a disused Underground station



■ The VR content can differ for each person on the ride



■ The order includes 360° cinemas

Simworx to deliver 30 attractions to Chinese partner

Simworx has secured a major contract to supply three attractions each to 10 venues worldwide, with the first two in China in the next two years. Each location is being equipped with a 360° 4D cinema with seats in a circular configuration inside the panoramic screen and a new-generation simulator themed as an explorer's vehicle with LED screens for windows. Each venue will also take delivery of a VR motion simulator experience. Each rider in the 12-seat 3DOF simulator will have a VR headset.



■ Further advances in the signature ride

RCX robotic attractions continue evolution

Simworx has been working on the development of its RoboCoaster RCX product portfolio. Based on the new three-axis robot motion base for a smooth dynamic ride, the RCX attractions will be available in various configurations and with on-board or off-board dome screens, incorporating a projected AV media system, audio solution and guest management load station. The RCX line supports the best media-based simulation attractions currently available. A demonstration track should be ready for clients early next year at the Simworx premises in Kingswinford, UK.

Blackstorm Bay joins Dino Island in Simworx turnkey offerings

Ever-popular pirates, a readymade fun-time solution for operators



■ The Curse of Blackstorm Bay is an exciting pirate-themed Immersive Tunnel experience

Simworx and Dutch design and theming specialist Jora Vision have created a brand new pirate concept for the ever popular Immersive Tunnel experience. The Curse of Blackstorm Bay is an original storyline that immerses guests from the pre-show and queue line areas through to the main show. The full turnkey attraction features a dark ride scene with projections and physical theming as part of the show, while the ride vehicle is not the usual train or tram, but a pirate galleon. Water surrounds the galleon to simulate a journey on the sea. The ride comes in 30 or 60 seat versions. The Curse of Blackstorm Bay follows the success of Simworx's in-house Dinosaur Island concept. An example of the dino-



■ Simworx has had success with its Dino Island IP

"We believe Curse of Blackstorm Bay will be a popular addition for theme parks worldwide"

themed Immersive Tunnel was installed in 2015 on the Malaysian island of Langkawi, a 30-seater version of Simworx's tracked tram ride accompanied by an original dino ride film.

A jeep-style simulator takes visitors into the show area, where the experience includes 3DOF motion with platform drops and immersive 3D projection to the front and two sides of the car.

■ *Dragon Age* has been reinvented as a quarter dome four-seat RoboCoaster ride



Game changer: Video games come to life in Dubai's immersive entertainment park

Simworx installs three high-throughput attractions at Meeras' Hub Zero in City Walk

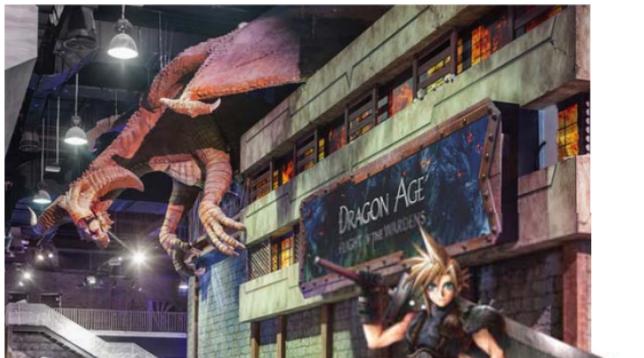
The computer games *Asura's Wrath*, *Final Fantasy* and *Dragon Age* have been reinvented as immersive rides by Simworx for a brand new state-of-the-art indoor entertainment destination in Dubai.

Hub Zero, which is located in the Meeras-owned City Walk retail complex, is the first gaming theme park in the Middle East, boasting eight global games IPs and the latest in attractions technology.

Final Fantasy, an IP from Square Enix, is the basis for a 30-seat futuristic Immersive Tunnel, while Sony's *Dragon Age* can be experienced as a quarter dome four-seat RoboCoaster ride. Meanwhile, Simworx also installed a 50 1DOF-seat 4D cinema based on *Asura's Wrath* from Capcom. The Japanese video game is more exciting than ever when experienced with leg ticklers, air blasts, water sprays, wind and special effects lighting.

Other experiences at Hub Zero are based on Electronic Arts' *Battlefield*, *Resident Evil* from Capcom, *Gears of War* from Microsoft and PopCap's *Plants vs Zombies*. There is also an exclusive VR shooting game, *Time Zombies*, built for Meeras by VRStudios.

And in addition to Hub Zero, Simworx has also completed a Thomas and Friends-themed 4D cinema at the nearby Mattel Play! Town, also in City Walk.



■ *Dragon Age* attraction at Hub Zero in City Walk, Dubai (above); Simworx created an Immersive Tunnel inspired by characters from *Final Fantasy* (left)

“Hub Zero is a gamers’ paradise, bringing another immersive dimension to these hugely popular games”



WALKING THE TIGHTROPE

Risk-taking was the big theme at this year's SATE Conference. Christine Kerr filed this report

The Themed Entertainment Association's (TEA) annual storytelling and experience conference hit the bright lights of New York City and Broadway, New York, in October.

Taking SATE 2016 to New York was a change of pace for the TEA, shifting from successful partnerships with educational institutions over the past three years to a location in the heart of Manhattan's theatre district. The vibrant setting enhanced the pace and dynamic of the conference.

In many ways, a tightrope walk aptly represents the project development journey – preparing oneself to traverse an unknown void. This void represents risk, which is dependant on many factors. The risk is mitigated by factors like whether the right safety net(s) are in place (such as a good team, a realistic schedule and budget) and the team's response to the inevitable challenges along the way. Of course, there is also the omnipresent sense of tension and risk represented by the tightrope itself. Using tension and risk to your advantage can yield unexpected results and much greater success.

The essence of SATE is founded on the idea that Storytelling + Architecture + Technology = Experience. Conference co-chairs Traci Klainer of Luce (a subsidiary of JBA), Chris Conte of Electrosonic and Michael Blau of Adirondack Studios brought together an excellent team of segment chairs – Paul Osterhout from Universal Creative (Storytelling), Deanna Siller from Gensler (Architecture) and Chris Manson from Fox & Crow (Technology) – to curate a series of speakers and conversations that each embodied the essence of risk-taking.

Each set of speakers explored experiences from their own unique perspectives and helped the attendees become more aware of the risks we all take everyday, often without realising it.



Christine Kerr is vice president at BaAM Productions and a former president of the TEA. For more information about the SATE conference and the Themed Entertainment Association, visit www.teaconnect.org

And they challenged the group to embrace risk and move outside their comfort zone in order to achieve even more.

RISKS VS REWARDS

The speakers were consistently excellent. Some stood out for the contrast they represented, the newness and boldness of their work and indeed the risks they took.

Manon Slome shared the story of her non-profit initiative, No Longer Empty, which makes transitional use of public spaces to make contemporary art accessible to underserved communities. The installations go beyond being simply "pop-ups" because they are connected to the people who live and work in the area, along with the artists who work there.

The installations make transitional use of generally abandoned public spaces of historic or architectural significance. While the art is the hub of the experience, programming is the key to attracting and connecting with as many members of the local community as possible.

The risks for No Longer Empty are palpable – they include precarious funding to bring art to seemingly tough neighbourhoods with no previous exposure to such culture. But the rewards are significant, creating lasting legacies and connecting communities beyond the duration of the installation itself. The installations also connect other businesses within communities, creating cultural tourism opportunities within each area.

The work of No Longer Empty is currently focused on the five boroughs of New York City, but Slome and her team of five have a dream to create a franchise which introduces art to underserved communities throughout the world. It's a risky dream, but one that, given the success and impact of the programme over the past seven years, is on the right track. Initiatives to programme under-utilised spaces are



TEA president Steve Birket and TEA COO Jennie Nevin kick off the proceedings at SATE 2016 in New York City, New York, this October

THE RISKS FOR NO LONGER EMPTY ARE PALPABLE - THEY INCLUDE PRECARIOUS FUNDING TO BRING ART TO SEEMINGLY TOUGH NEIGHBOURHOODS. BUT THE REWARDS ARE SIGNIFICANT, CREATING LASTING LEGACIES



Top to bottom:
Cirque du Soleil
Theatrical's
Scott Zeiger and
Thinkwell's Francois
Bergeron; Christine
Kerr and colleagues;
Manon Slome and
Universal's Paul
Osterhout; and
Electrosonic's
Chris Conte



Paramour, Cirque du Soleil's first resident musical theatre show at the Lyric Theatre on Broadway, New York

SHOW REPORT

growing throughout North America, with varying levels of success. No Longer Empty seems to have developed an approach that has the right mix of impact and legacy. The audience was in awe of the commitment and courage of Sloane and her small team.

OUTLAWS AND ICONS

As the focus shifted to Architecture, Siller introduced a group she described as "outlaws and icons"; leaders in their industries who were "fearless thinkers". She encouraged the attendees to expand their comfort zone, first by stretching it, which will lead to growing it and eventually lead to risk-taking. She also reminded the group that they should not walk the tightrope alone – there is strength in numbers, the team is important. And if they have a long leash, the team will take risks and know they have support if they fail.

The first of outlaw/icon was David Schwarz, creative partner at HUSH, an experience design agency working at the intersection of the physical and digital space. At HUSH, says Schwarz, they can tolerate risk but not failure. He talked about the legendary baseball player Babe Ruth who was famous for saying, "Never let the fear of striking out get in your way". It's important to build experimentation into what you do, make it part of the process,

and part of doing business. If failure creates knowledge, then why are we so afraid of it?

KILL BORING

Viacom's MTV creative director Sean Saylor took the audience on a journey through the re-defining of MTV International as they challenged themselves to "evolve or die ... or become irrelevant". Given that most SATE attendees were not MTV's target audience or had not watched MTV in the past year, Saylor first provided a reminder that the scale of impact of the audience share MTV has globally is massive. But, they still compete for the time of their ever-changing audience – and its decreasing attention span.

MTV went to external agencies for their help on the development of a completely new approach, but they ultimately came up with the mission after a select internal team spent many days in typical (and some atypical!) brainstorming.

Their new mission as of 2015 became "Kill Boring". Imagine presenting that to a board of directors or your CEO. However, it has ultimately been embraced and



Viacom's Sean Saylor presented MTV's Kill Boring campaign, designed to encourage user-created content and appeal to an edgy young audience



Cirque du Soleil's *Paramour*, inspired by the Golden age of Hollywood, has double the cast of a regular Broadway show

the rollout is focused on making MTV different, creative, young, real and fun. The MTV platform is now built around the idea that "I am my MTV". The style guide is at once clear and yet very loose. MTV has become very interactive, it encourages user-created content and provides the tools for viewers to be creative. The new look is fast-paced, edgy and contemporary and the target audience loves it. It feels chaotic, very risky and definitely not boring.

CIRQUE ON BROADWAY

The SATE 2016 "Conversation with" featured Scott Zeiger, president and managing director of Cirque du Soleil Theatrical, with questions posed by Francois Bergeron, COO of Thinkwell Group. Bergeron spent many years working with Cirque and his insights into the traditional working of the business and their creative processes were invaluable in asking the right questions.

Zeiger is a veteran of the theatrical touring industry who is leading the Cirque organisation through new waters with the production of *Paramour*, their first Broadway show, which opened in May 2016.



Clockwise from top left: Chris Manson (Fox & Crow); Deanna Siller (Gensler); Kathryn Woodcock (Ryerson University) Tracey Klainer (Luce)

IT'S IMPORTANT TO BUILD EXPERIMENTATION INTO WHAT YOU DO, MAKE IT PART OF THE PROCESS, AND PART OF DOING BUSINESS. IF FAILURE CREATES KNOWLEDGE, THEN WHY ARE WE SO AFRAID OF IT?

From its inception, the production process was far from traditional, for many reasons. *Paramour* has twice the cast of a typical Broadway production, incorporating an acrobatic corps and an acting (singing and dancing) corps and required a rehearsal period more than twice what is typical, in addition to five weeks of previews. The scenic design integrates the required circus equipment, traditional spectacular scenic elements and some clever integration of new technology.

The approach to music was very different from Cirque's typical process and results in a score that is the best of Broadway with the soaring unique musical interludes more typically associated Cirque. The orchestra includes a core band that is very well rehearsed and can respond to the timing challenges associated with the unpredictability of circus-style acts.

Attendance and response from the typical Cirque fans and international

visitors has been strong. The producers have used audience research as a way to fine tune the show with a focus on attracting more of the traditional Broadway audience. Applying their learning with a recent refresh of the show has already impacted the attendance numbers significantly. Many conference attendees were able to see a sold-out performance of *Paramour* during their visit to New York, with an overwhelmingly positive response.

DANGER CUES

A highlight from the Technology stream came from Dr Kathryn Woodcock, human factors (ergonomics) professor at Ryerson University in Toronto, Canada, who challenged the group with the idea of "the necessary risk". Woodcock's research is focused on ride safety and she shared the fact that most ride incidents are the result of poor decisions made by users. When designers and operators provide all the

information required to make an informed decision, guests can choose whether to participate. Therefore, safety is not about things that are forbidden.

Woodcock also suggests that it is the designer's job to "make the invisible visible and provide authentic danger clues so that things look as dangerous as they are". If the right clues are provided, there is inherent safety built in. She reminded the group that if we don't provide guests with the full story within the experiences we create, they will be more likely to personalise or modify things to complete the story for themselves.

GARBAGE IN, BEAUTY OUT

Darren David, CEO of Stimulant, works in the world of architectural scale interactivity. He shared perspectives on how technology can be used to bring people together and how the devices we all own – smart phones, tablets, etc – have raised the bar



Stimulant's Darren David says everyone is a creator (left); Gensler's Vaki Mawema says design is about people, not things

and changed people's expectations and behaviour when they encounter something they perceive to be interactive.

In today's world, everyone is a creator so experience designers need to leverage this in their work. The way to exceed expectations is to provide experiences that empower the user and make them feel like they have superpowers. Digital interactive experiences can make this happen if they are programmed to ensure success from every interaction: "garbage in, beauty out," he said. This helps people move out of their comfort zones to the place where they will feel able to take more risks. They are not simply building magic, they are becoming magicians.

PEOPLE FIRST

Vaki Mawema from Gensler is a passionate and inspiring architect who's committed to the redevelopment of his adopted hometown of Washington, DC.

He is excited and inspired by the change in the city, a shift in the demographic of the population and culture sparked by the influx of Millennials into the city during US President Barack Obama's administration years. The result is a new vibrancy to the cultural landscape that is influencing development projects in the city. Mawema drove home the idea that design is about people, not things. That's why it is critical to use the stories of the community and the place as design drivers.

The Union Market District retail centre owned and developed by EDENS in Washington, DC, was a risky project that is reaping huge rewards. It has been called one of the five best food halls in the US and, during SATE, one of the restaurants located in the complex was awarded a Michelin star. This is certainly true of Union Market which was brought from disrepair and ruin to the vibrant, community-centred space it is today.

Attendees then heard from Richard Brandenburg, director of cultural strategy, and Norma Perez, director of design, at EDENS, who talked about disrupting architecture through food. The strategy is to use architecture as a theatrical stage and not as a mould. They have created an open space where there is no behind-the-scenes, where food preparation and creation is out in the open for all to see.

It is a true community space. There's an opportunity for small businesses who produce great products to develop and grow, moving from a shared incubator-style space to a more permanent location in the complex. EDENS selects the right mix of people and products and gives them access to Brandenburg's expertise to grow and succeed. Union Market is rooted in human relationships and the stories of food.

LIVING UP TO THE THEME

SATE 2016 lived up to its risk-taking theme. The speakers provided varied perspectives on risk and the countless rewards that come from stepping outside one's comfort zone. They emphasised that with greater risks come greater rewards. The strong sense of community that flowed through the presentations was an important part of the risk-reward equation.

Everywhere from Union Market to the new approach to user-generated content from MTV, it's all community. Projects in the themed entertainment industry require a community of like-minded individuals ready to support each other as they step out onto the tightrope. If we have any doubts, we just need to look around at the incredible successes – large and small – that come from working outside our comfort zone, doing things we've never done before and learning as we go to accomplish great things. ●



Union Market in Washington, DC, was a risky project that's reaping big rewards

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at

EXTRA SENSORY

Meet 7thSense Design, whose mission is to deliver unbeatable display experiences and the highest quality visual content

7thSense Design supplies the media servers that power some of the industry's most breathtaking digital environments, from state-of-the-art 8K planetariums to dark rides in top tier theme parks to exhibitions in the world's most visited museums.

The company's high-performance uncompressed Delta Media Servers are the product of choice wherever high quality, high resolution, high frame rate, high fidelity video content is required. And those products are fully supported by 7thSense's Stack content management framework, which can be used to intelligently design, schedule, control and develop shows and content of any kind.

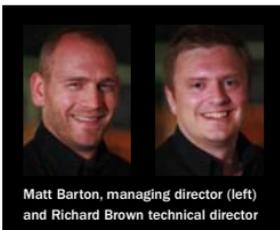
7thSense Design managing director Matt Barton and technical director Richard Brown explain more about the company.

What's the driving force behind 7thSense?

MB: For the company, the team and the product, it's always been about getting as many good high-fidelity pixels on the screen as possible. The architecture of Delta from day one has been

uncompressed and every evolution of the product has stemmed from that baseline.

RB: The amount of uncompressed pixels



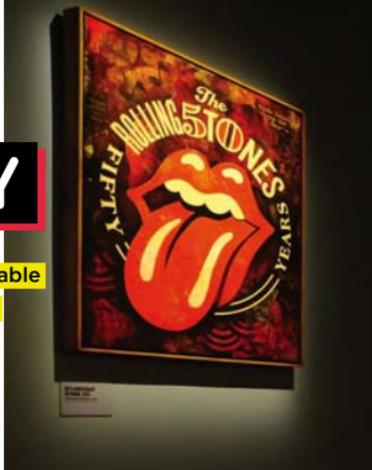
Matt Barton, managing director (left) and Richard Brown technical director

we can process is our claim to fame. We believe our server is capable of processing the largest throughput, the highest performance and highest number of pixels on the market. Our niche is high quality image rendering, so the timing, the frame rate and the bit depth are core elements.

MB: For example, the use of Delta Infinity technology marked the world's first ever live-action uncompressed 4K 120Hz per eye 3D test during previews of Ang Lee's technologically groundbreaking film, *Billy Lynn's Long Halftime Walk*, in September.

Why is 7thSense a good fit with the attractions industry?

MB: It's about the feeling of immersion



through quality. The core team of 7thSense has a background in flight simulation, so from early on they knew that for an experience to really work, a fighter pilot has to truly believe he's on a mission. To do that the simulation has to be so realistic and seamless that he can't be distracted.

BACKGROUND BRIEFING

7thSense Design was founded in 2004 by simulation experts Adam Neale and Ian Macpherson, who wanted to take what they knew about display systems and apply it to the entertainment industry. They developed software which they were able to sell into the planetarium market, and since then the company has consistently innovated and improved the solution to build the highest quality product.

In 2015, long-term colleagues Matt Barton, Richard Brown, Ian Cannell and Ken Showler took over the growing company, which today has a UK office, a US office serving its busiest market and trusted distributors around the world.

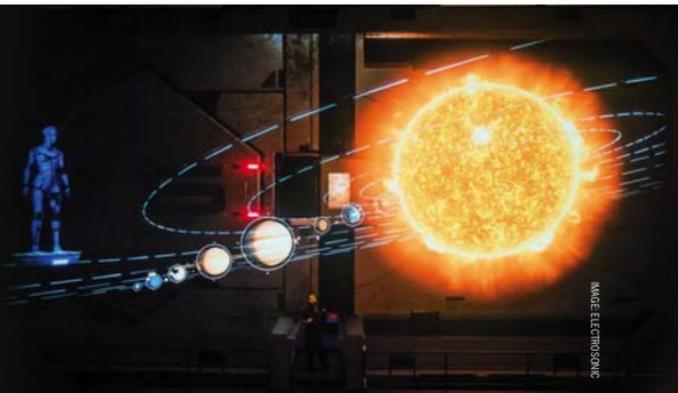


IMAGE: ELECTROSONIC



7thSense has supplied numerous projects, including the Rolling Stones' Exhibitionism show (above); the Ultimate Energy Theatre at Wuhan Movie Park (left); and Mass Effect: New Earth, a 4D Holographic Journey (bottom left)

IMAGE: I.D. COMMUNICATIONS AND ELECTROSONIC

In a theme park ride, the audience has to be entirely immersed in the story from the minute they step into the queue. They will see the story in the theming, in the written text, on monitors, all the way through to when they load into the vehicle. Everything builds up to this point, so it's essential that when the ride starts, the visuals are as immersive and believable as everything else they've seen. We're ideally suited because we have that background of understanding what it takes to fully immerse someone in the experience.

How do you work with clients?

MB: We enjoy in-depth relationships with the most respected AV integrators in the world and with experience designers. We talk to them at a detailed level about the product and how it can be used.

RB: Some clients just buy what they need. They know how it works, plus 7thSense has a comprehensive support system, including a customer portal, live chat and trained customer support representatives.

MB: We often contribute to the project design and development process. We can get involved at the early stages of

PRODUCT OFFER

Delta Media Server

Delta Media Servers are an integral part of numerous cutting-edge AV attractions. The product provides real-time uncompressed video serving, show creation and display matching. The range starts with Infinity, the most powerful, and includes the Nucleus, Proton and Nano, so there's a model to suit the requirements of any project.



Stack

Stack is an intuitive advanced modular framework for content management. Developed hand in hand with Delta, Stack enables remote access show control and, through special modules, access to digital signage, closed captioning and more.

the big projects, to make sure that the configuration from architects is as good as it can be, consulting on how best to approach the configuration for a particular display system on an attraction. As well as working with leading-edge integrators, we also work directly with the large theme park operators in the US, China and Europe.

What other projects can you talk about?

MB: We work on big-budget rides, but also on unique or smaller scale experiences. For example, Madame Tussaud's in New York is using a Delta Nano to create a Pepper's Ghost of Slimer in the Ghostbusters Experience. We're also involved in 3D projection mapping projects, such as New York's One World Observatory. We support digital signage in Times Square. We're upgrading some high-profile planetariums. And interactivity, whether gesture based, or through VR or AR, is something we increasingly deliver as part of a solution.

We're involved in a new 3D LED computer game-based ride. Delta is ideally suited to projection, large format, high resolution LED walls – and pretty much any complex display environment you can think of. ●

STEM GEMS

Attractions Management's round up of new investments in science-related museums and planetariums across the world

The marine science museum and aquarium will house at least 300 species



National Museum of Marine Science and Technology

KEELUNG, TAIWAN

Foster + Partners is designing the \$5m (£3.9m, €4.5m) National Museum of Marine Science and Technology (NMMST) in Keelung City, Taiwan. It will be the country's largest aquarium, housing more than 300 species of marine creatures.

The design features titanium and green to create a modern light-filled environment, reminiscent of the ocean shallows. Conceived as a social hub for the community, the museum's focal point will be a new public plaza which will feature a shop, café and a restaurant.

OPEN
2018



► The attraction will attract tourists but also act as a social hub for the local community

OPEN
2018

Bell Museum and Planetarium

MINNESOTA, MINNEAPOLIS

Minnesota's Bell Museum of Natural History has broken ground on a \$79m (£71m, £62m) complex near the State Fairgrounds on the University of Minnesota's Minneapolis campus.

To be renamed the Bell Museum and Planetarium, a 120-seat domed

planetarium and theatre will be one of the main new features, in addition to expanded galleries and a host of interactive exhibitions. The museum's dioramas will be integrated with new exhibits to create a journey through Minnesota's biomes.

Minneapolis-based architecture firm

Perkins+Will have created the box structure, which will be partially clad in white pine and weathering steel. The environmentally-friendly development will be landscaped with native trees and plants, while rainwater ponds will be included, as will a pollinator garden for the museum's bees.



The gallery aims to explore stories behind mathematics, making it more accessible and fun to the general public

Mathematics: The Winton Gallery

LONDON, UK

OPEN
2016

The late architect Zaha Hadid's design for a new maths gallery at London's Science Museum will explore how mathematicians, their tools and ideas have helped to shape the modern world over the last 400 years. Mathematics: The Winton Gallery is expected to cost £5m (\$6.4m, €5.7m).

More than 100 objects from the Science Museum's collections – including

a WWII Enigma machine, an early aircraft and a 17th century Islamic astrolabe – will show how mathematical practice “has shaped and been shaped by money, trade, travel, war, life and death.”

Mathematical principles define Zaha Hadid Architects' curving design for the gallery. The 3D swooping surfaces around the exhibited aircraft represent

the patterns of airflow that would have streamed around it when in flight.

“Mathematical practice underpins so many aspects of our lives and work, and we hope that bringing together these remarkable stories, people and exhibits will inspire visitors to think about the role of mathematics in a new light,” says exhibition curator David Rooney.

Science Island

OPEN
2018

KAUNAS, LITHUANIA

SMAR Architecture Studio, SimpsonHaugh and Partners, and Donghua Chen Studio have been shortlisted in the design competition to create a Science Island for the Lithuanian city Kaunas.

The centrepiece of the 18-hectare (44-acre) Science Island – the new name for the currently disused Nemunas Island – will be the National Science and Innovation Centre of Lithuania. As a museum and innovation centre, the 13,000sqm (140,000sq ft) facility

will celebrate recent achievements in science and global technologies with the aim of inspiring visitors to expand their knowledge and support innovation.

“The initiative has clearly resonated, being both universally and humanly relevant, as well as of great national importance for Lithuania,” said the country’s prime minister, Algirdas Butkevicius. “We believe that Science Island will show how science can inspire positive change for the planet and humanity.”



Science Island will have a museum and innovation centre celebrating global technological advancements

Carnegie Science Center

OPEN
2018

PITTSBURGH, PENNSYLVANIA

Pittsburgh’s Carnegie Science Center has detailed plans for its \$21m (£16m, €19m) Science Pavilion to include 1,300sqm (14,000sq ft) of new exhibition space.

Designed by Indovina Associates Architects, the three-storey building will be built around the existing Omnimax Theater with the pavilion facing out over the Ohio River. In addition to temporary exhibition space, the extension will feature nine STEM learning labs and a top-floor space capable of hosting corporate events and social gatherings.

“With this new travelling exhibition space, we’ll be able to bring to Pittsburgh the kind of blockbuster traveling exhibitions that are all over North America now, that come to Philadelphia and Chicago and Washington DC, but bypass Pittsburgh because there isn’t adequate space,” said the science centre’s co-director, Ann Metzger.

The pavilion’s development is part of a larger \$34.5m (£30.7m, €26.5m) campaign to expand the science centre’s STEM programme. Dubbed SPARK!, the campaign will also fund two new permanent exhibitions for the science centre, as well as a giant screen digital theatre and future endowment costs.



Carnegie Science Centre is getting new space for touring and permanent exhibitions





Esplora

KALKARA, MALTA

OPEN
2016

Esplora is at the site of the largest naval military hospital in the Mediterranean, responsible for treating numerous sick and injured soldiers through the years

Malta's first interactive science centre, Esplora, officially opens on 28 October. The €26m (US\$28.7m, £23.5m) science attraction is located in the former naval hospital site on the Grand Harbour, overlooking the historic capital city of Valletta. The project is supported by the Malta Council for Science and Technology.

The site consists of four buildings and an outdoor space, each displaying exhibits and presenting live science. Esplora's thematic areas include the universe, electricity and magnetism, earth

science, eco life, human biology, motion and forces, light and optics, illusions, music, nature of matter, engineering and telecommunications.

The building was designed by Malta architecture studio DRT. Dutch design agency NorthernLight and museum technology experts Bruns are designed the universe exhibition and the ground floor of the main building, featuring over 100 interactive hands-on exhibits. There is also a brand new planetarium with a Colorspace 4K full-dome theatre system from SCISS.



Experimenta

HEILBRONN, GERMANY

OPEN
2018

Experimenta in Heilbronn, Germany, is expanding with a next-door museum funded by the Dieter Schwarz foundation and designed by Berlin architects Sauerbruch & Hutton. The extension will include four permanent galleries, a glass biosphere, a dome, workshops, studios, a restaurant and shop.

Bruns and Northern Light are working on two galleries, dedicated to world perspectives and living matter. Big German companies like Audi and Lidl are said to be collaborating as well as Berlin studio Inges, construction manager Drees & Sommer and brand agency Milla & Partner. Kraftwerk Living Technologies is responsible for AV and show control in the Science Dome.



► The Experimenta extension will include new galleries, workshops and studios ►



Cairo Science City

OPEN
2021

CAIRO, EGYPT

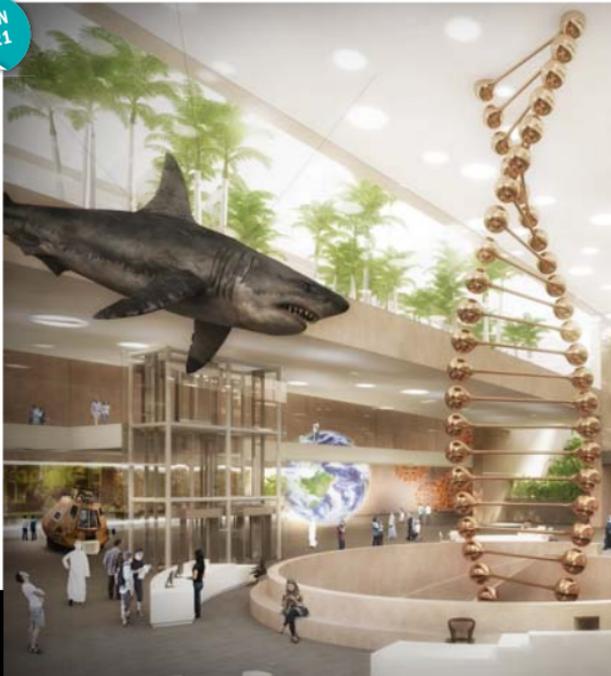
Architecture studio Weston Williamson + Partners is designing a Science City for Egypt. The firm won a competition to design a concept for a 12.5-hectare (30-acre) complex that will promote scientific knowledge to the public.

The Science City will be built in the desert in a new town on the western edge of the Egyptian capital. The complex will house interactive science exhibitions, a museum, a planetarium, an observation tower, research and development facilities, workshops, plus a conference centre. It will be the first 21st-century science museum, learning and research facility in Egypt.

The brief called for “a set of buildings and spaces that must be inspiring on the outside and motivating and exciting on the inside to visitors and employees alike.”

“Needless to say that Egypt has a unique cultural heritage, but we were also attracted by the ambition of the project, clearly expressed through the brief,” says studio co-founder Chris Williamson.

Architects Weston Williamson + Partners say they aim to design a facility that will serve Egypt’s future generations



Science Centre: The Planetarium and The Exploratorium

QUY NHON, VIETNAM

OPEN
2017

Construction of the first visitor science complex in Vietnam’s coastal province of Binh Dinh is under way, with the state-funded project costing around \$8m (£6.3m, €7.2m).

The 38,000sq m (409,000sq ft) Quy Nhon-sited development – designed by French architect Jean-Francois Milou of Studio Milou in collaboration with Vietnamese firm TAD Consultancy and Architecture – will include an 80-seat 4K planetarium, exploratorium, science centre

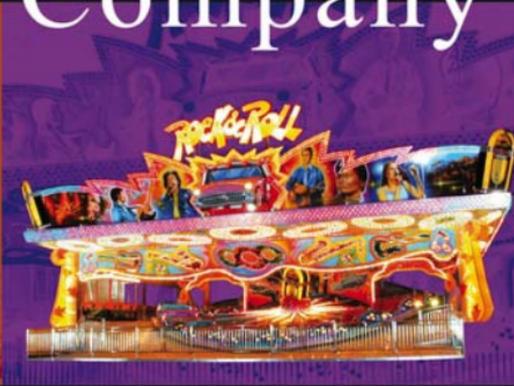
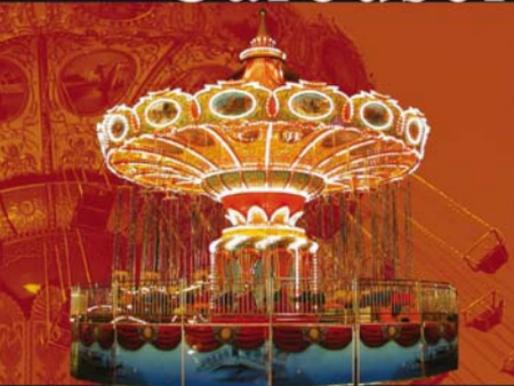


► The new facility will have a planetarium

and a space observatory complete with a café, library and souvenir shop.

Designed to “be in complete harmony with the area’s natural landscape and space”, the eco-friendly complex will aim to provide a public science space and foster scientific engagement among the younger generation. The complex – which is being built beside the three-year-old International Centre of Interdisciplinary Science and Education (ICISE) – will also act as a hub for scientific tourism development.

The Carousel Company



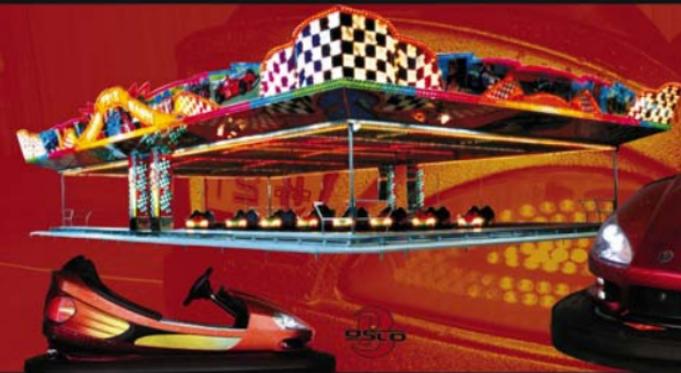
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Shanghai Planetarium

SHANGHAI, CHINA

OPEN
2018

The 38,000sqm (409,000sq ft) Shanghai Planetarium – a part of the Shanghai Science and Technology Museum in the city's new Linglang district – will explore the mysteries of space, celebrate the history of Chinese astronomy and reflect the future ambitions of China's space exploration programme.

The attraction will feature an optical planetarium, a digital sky theatre, an IMAX cinema, a solar telescope, an observatory and a range of galleries. The futuristic planetarium design is by New York-based Ennead Architects.



The new attraction will look at the history of Chinese astronomy and the future ambitions of China's space exploration programme



Patricia & Phillip Frost Museum of Science

MIAMI, FLORIDA

OPEN
2017

The embattled \$307m (£251m, €281m) Patricia and Phillip Frost Museum of Science is set to open next year after multiple delays. The three-storey, 250,000sq ft (32,225sqm) facility is sited on a prominent location on the Miami waterfront. Structured around a 'living core' comprised of terrestrial and aquatic exhibits, the attraction will have a 510,000 gallon aquarium, planetarium, a health gallery, hands-on exhibits and interactive digital technology. It's being touted as the "next generation" of science museum.



The project, which was designed by Grimshaw Architects, will include a planetarium and aquarium



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David Camp

SERIES ROADMAP

This eight-part series outlines the patterns and dynamics that define every attraction – from visitor behaviour and guest spending to operating costs and profitability

CONTENTS

1. An overview
2. How are you perceived?
3. Benchmarking
- 4. Planning a new attraction**
5. Driving revenues
6. Controlling costs
7. Is it worth it?
8. Benefits and impacts

THE ATTRACTIONS BUSINESS

Planning a new attraction

In part four of our series, David Camp explains the step by step evaluation process that every new venture should follow

Visitor attractions are like restaurants; everyone visits them, and everyone feels they could run them better than the current operators. I've lost track of the number of people I've met who have no background in the leisure, entertainment or hospitality industries, but are convinced they know exactly what Disney did wrong in Paris or why a particular attraction is not performing well.

Like all businesses, there are multiple factors impacting attractions, and the most common problem is not treating them as businesses. Attractions are expensive to create, challenging to operate and are completely reliant on the public being interested enough to make a visit. Visiting a leisure attraction is a discretionary activity and there are many external factors affecting attendance levels.

This footfall risk is the biggest concern to funders, yet is often subject to the

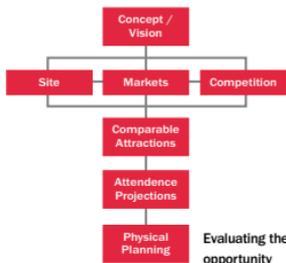
least amount of early-stage research. All too often developers secure a site, have designs drawn up and build up a business case to support their vision, sometimes solely based on their belief that if they build something that they think is entertaining then people will come.

It is only when they go to seek funding and the potential investors undertake an external due diligence assessment that they realise that the basic assumptions underpinning their plan are flawed.

For new attractions, it's critical developers are realistic with their proposals and design and plan for market opportunities.

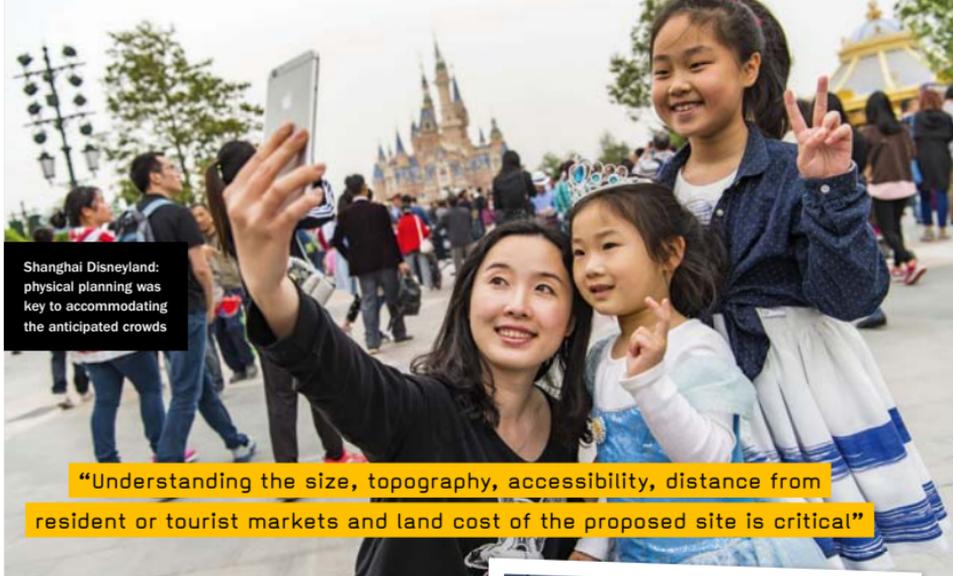
The worst thing they can do is to look at what total attendance a similar attraction in a different location is achieving and use that figure to set the target. It takes no account of markets, competition, product, price or operations, but is often the most common basis for forecasts.

When we assess the potential attendance that a new attraction could generate, we follow a well-established, sound evaluation process. In this article we'll cover the core aspects of this assessment process, shown in the diagram below:



The first step in evaluating a proposal is to look at the concept





Shanghai Disneyland: physical planning was key to accommodating the anticipated crowds

“Understanding the size, topography, accessibility, distance from resident or tourist markets and land cost of the proposed site is critical”

Vision, site, catchment markets

The first step is to understand the **vision** for the attraction. Attraction developers often declare that their concept is unique. While this may be true for the city or region that they're operating in, there are always attractions somewhere in the world that are the same, or have similar characteristics. It's important to recognise this and look to learn from how these have performed.

An assessment of the **site** is important. Understanding the size, topography, accessibility, distance from resident or tourist market centres, adjacent land uses, constraints, environmental considerations, planning context and land cost of the proposed site is critical.

The most important aspect is the size and nature of the available **catchment markets**. In this respect, size is important, and bigger markets are generally better than smaller ones, but the dynamics of the markets can change this.

Evaluating the market

We look to evaluate the market within the four segments discussed in the previous article, which looked at benchmarking: 0-60 minute residents; 60-120 minute residents; overnight domestic tourists; and international tourists staying in the area.

Within resident markets, age profile, employment levels, income, expenditure, and leisure behaviour patterns need to be considered. Among tourists, aspects such as visitor origin, age profile, party composition, purpose of visit, length of stay and expenditure patterns are all factors, so a market that attracts two million all-

inclusive package tourists may not offer as much potential as one that has 500,000 independent, mobile tourists, for example.

In a similar way, 1 million young, affluent residents may be a stronger market than one with 3 million low-paid people.

It's important to evaluate which segments of the market are the core targets for the attraction. Nothing attracts everyone. As discussed in part two of this series, different attractions appeal to different age groups, while some attractions are interesting to tourists but actually hold little interest for people who live locally.

This analysis needs to reflect likely future changes in market sizes and demographics. In most European counties population growth is low, for example, and the market is ageing. In the Middle East, by contrast, counties have young, rapidly-growing resident markets.

Often schemes are devised with the aim of growing tourism to an area. While this can happen over time, it is rare for a single attraction to fundamentally change the market. It is, therefore, important to evaluate the potential based on the current tourism market and if the market grows over time this can be factored in. Basing an attraction's success on significant growth in the tourist market is a recipe for disaster.



Catchment needs to be assessed: Guinness Storehouse attracts more international tourists and fewer locals

Competition and comparison

The scale and nature of the local area **competition** needs to be examined to understand pricing, attendance levels, audience profile, length of stay and the dynamics of the market. Any new attraction needs to reflect local area pricing, although it's possible for new, stand-out attractions to change the nature of a market.

Learning lessons from **comparable attractions'** performance is critical. As discussed in part three of the series, an examination of market penetration rates achieved by similar attractions around the world within the four catchment market segments provides an important base appreciation of the potential for a new attraction. This is an important stage



One World Observatory, New York: high-up attractions are a growing area for investment

IMAGE: EMMANUEL JOSEPH IMAGES

- ▶ in the research process and is often the most time-consuming, as it should include an assessment of pricing, physical planning and the financial performance of a wide range of attractions.

It's important the benchmark attractions which are selected are relevant to the concept. There's no use comparing a small kiddie park against Disneyland or a local museum against a national collection. Comparable attractions should have a similar product, be located in similarly-sized markets and have similar pricing.

Once the base data has been gathered, then it's possible to make an assessment

of the potential for the attraction. In this regard it's important to undertake a qualitative review of the scheme to complement the quantitative data. This needs to consider the proposed scheme in relation to the local area market and will include the relative strength of the concept, pricing policy, site considerations, market size and demographics, and the competitive environment.

Attendance and planning

From here it's possible to prepare high, medium and low **attendance projections** for a stable year, along with five- or 10-year

projections. In this regard it should be recognised that attraction attendance rarely increases over time. In fact, attendance often declines after the first year or two, and it will certainly do so if the business plan does not allow for regular ongoing reinvestment to be made.

The next step is to determine the **physical planning** requirements for the attraction to meet the anticipated attendance levels. This takes account of the target audience, likely seasonality of visitation, guest length of stay and area available for development. In designing an attraction, it's important to allow for enough space to accommodate guests on busy days but not so much that it feels empty during quiet periods, and so the planning is typically based on a "design day" attendance volume rather than a peak day.

This provides an output of design day and peak on-site attendance volumes, guest area space requirements and parking demand levels, which equip the design team with guidelines that help them plan or refine the size and scale of attraction that will meet the opportunity.

Obtaining a sound assessment of potential demand is the cornerstone of a good business plan. In future articles we'll examine how to evaluate potential revenues and operating costs and how to carry out a valuation of the business. ●

Get in touch with David Camp at D&J Consulting: david.camp@djntcon.com website: www.djntcon.com



IMAGE OF STALDA VISITOR CENTRE: DUALCHAS ARCHITECTS

The evaluation process needs to assess the location and accessibility of the attraction

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A Tour of Ark Encounter and the Creation Museum

Look beyond the controversies surrounding the monumental Ark attraction and its sister museum and you'll find some of the best examples of immersive theming in the US, says Scott A Lukas



About the author

Scott A Lukas is a cultural anthropologist, consultant, and videographer of themed and immersive spaces and author of *The Immersive Worlds Handbook* and the newly released *Reader in Themed and Immersive Spaces*.

Ark Encounter is built to the exact scale described in the Bible. Inside, the exhibits illustrate how Noah and the animals lived

In August, I had the opportunity to tour two attractions that have been on my themed and immersive spaces map: Ark Encounter, which opened in 2016, and the Creation Museum, which opened in 2007.

The two biblically-themed attractions, separated by a 45-minute drive through Northern Kentucky, are significant in many senses, not least because they represent a growing awareness among spiritual organisations that religious experiences may have more impact when developed through contexts of theming and immersion.

A quick Internet search of these attractions will result in numerous articles,

videos and blog entries that focus on a number of controversies, ranging from concerns about tax funding, "ideology" tests for potential employees, political and religious differences between Answers in Genesis (the fundamentalist Christian apologetics organisation who also founded the attractions) and Ken Ham (the CEO behind the attractions), and disagreements about whether it's appropriate to use evocative techniques to present religious information to the public.

These last concerns stem from the nature of Answers in Genesis' (AIG) specific and unique beliefs. As we'll see with a tour of the two attractions, each promotes a

It took 3.3 million board feet of lumber to construct the Ark, making it the largest timber structure in the world

IMAGES SCOTT TALUKAS

IN NUMBERS

Young Earth and literalist view of the Bible (with an emphasis on the book of Genesis). Yet, this interesting and unique Christian worldview is not the focus of my tour.

I'm a cultural anthropologist. I wrote about my experiences working at a Six Flags theme park and I now travel the world making its museums, theme parks and attractions my field sites.

When I had the opportunity to visit Ark Encounter and the Creation Museum, I wanted to keep at the forefront of my experiences what we anthropologists call an "emic" or insider's perspective. The idea being that we try to understand our field sites from the perspectives of

- **\$40** - price of adult entry to Ark Encounter
- **\$60** - price of adult Ark + Museum combo ticket
- **2 million** - estimated annual visitors
- **155 metres** - length of the Ark structure
- **19,122sqm** - area of the Ark
- **\$150 million** - total cost of Ark Encounter
- **\$18 million** - amount received in tax credits
- **3.3 million board feet** - amount of lumber used to build the Ark
- **30** - Amish carpenters who built the Ark

those who visit them. The tour of these attractions that I offer reflects on the guest experiences of the attractions that I observed in my two-day visit to the spaces. Ultimately, we may discover that such insider's views of themed and immersive spaces provide designers and other professionals within the attractions industries a valuable opportunity to better understand design approaches.

The complete space

I approach Ark Encounter with openness and mystery. After parking and the ticket line, I board a bus. I glance around on the bus and I detect notable excitement and



A range of exhibits tackle the practicalities of living life on the Ark

► anticipation on the faces of the guests who join me on the tour. The driver says little during our trip, and he doesn't have to as we all look in awe at the structure as it enters our fields of vision. You can't quite grasp the attraction's scale of 155 metres (509 feet) long, 26 metres (85 feet) wide and 25 metre (82 feet) high from photographs, but needless to say, a structure of such magnitude reminds us of the impact that scale and exterior form may have on our being immersed in a space.

The Ark's structure serves an immersive purpose. Here, the guest is enveloped fully in an enclosed space, all the while reflecting on what Noah, his family and the animals experienced during the Flood event.

We exit the bus and enter the queue area as we might at any theme park. Incidentally, the operators of Ark Encounter refer to the space as a "theme park." I realise that in the world of edutainment, the lines between themed and immersive spaces have blurred, but for me the Ark is

a museum that uses design and interactive approaches from the world of theme parks. It's worth noting that AIG's key attraction designer is Patrick Marsh, who may be remembered for his work on Universal's Jaws and King Kong attractions.

As I move through the queue house of the Ark and enter its first spaces, video loops remind guests of the monumental design and construction efforts behind it – the world's largest timber frame structure. I recall the influence that theme parks have had on contemporary spaces of all types.

The first thing I note is a remarkably designed deck that includes mockups of urns and food storage devices that were used for the animals aboard the Ark, as well as cages that hold a number of curious animals, dinosaurs (which were part of the bestiary inside Noah's vessel), and "proto animals" that represent earlier forms of today's creatures.

The designers originally planned to house some live animals inside the Ark,



but complications resulted in these real versions being relegated to petting zoos outside the Ark and the sister museum. The animal pens that house these many species are supplemented by audio effects that include the animals' sounds as well as those of raging sea waves and storms.

The outside world

During the first hour of my tour, I visit the first of three decks. I realise the challenge of striving for "total immersion" in a space, or the condition in which a guest has completely left the other or outside world behind, suspended his or her disbelief and has entered the new world.

No doubt, I think to myself as I wander the first of the Ark's decks, that the Bible's texts, coupled with a dose of devotion come in handy during the guest's first experiences inside the space. The many families I observe – and I have taken care to respect my media representatives' requests to not interview guests while on site – appear to move from states of joy, awe and admiration as they explore the Ark's interiors.

In addition to the evocative animal pens, visitors are treated to an array of explanations and illustrations that give context to the events of Genesis. Notably, one encounters reminders of AIG's task of providing context for its attractions. Keep in mind that much more than revenue is at stake here at Ark Encounter – think salvation and life change – and thus the providing of such context is no easy task.

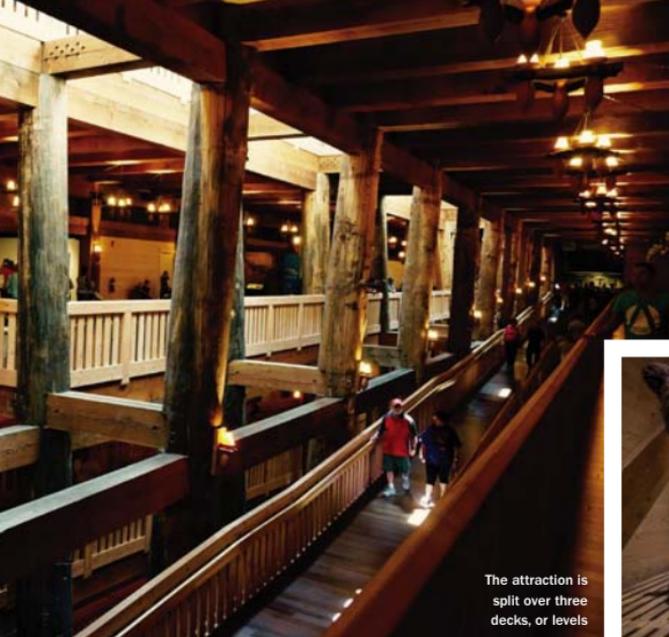
THE STORY OF THE ARK

Ark Encounter, a biblical theme park in Kentucky, opened on 7 July. With a full-size recreation of Noah's Ark at its heart, Ark Encounter explores the Biblical account of the Great Flood and Noah's work to build an ark to save his family and two of every animal on the planet.

The boat was built to the exact dimensions mentioned in the Bible, converted from the cubit measurements, following nautical engineering practices from the era. The project was designed and engineered by Troyer Construction Group and erected by Amish carpenters. Ark Encounter is operated by Crosswater

Canyon, a non-profit subsidiary of Answers in Genesis. The attraction also consists of a zoo, a lake, a zip line tour, a garden and a 1,500-seat themed restaurant. Plans are in place to build a theatre, a flood-walled city, a recreation of the Tower of Babel and a first-century village.

During development, the project came under fire several times, mainly after AIG allegedly refused to hire anyone who doesn't believe in the biblical flood. This initially led to the state withdrawing \$18m (£16.3m, £14m) worth of tourism tax credits from the project, but this move was successfully challenged by AIG in January.



The attraction is split over three decks, or levels



IMAGES: SCOTT ALYKES

Ark designers were allowed some artistic license in their interpretations of things like "proto animals"



"Total immersion occurs when a guest has completely left the outside world behind, has suspended disbelief and entered the new world"

What is most interesting in this regard is emphasis on interpreting Genesis. A video loop of designers speaking about how they interpreted the proto animals and a text discussing "artistic license" illustrates a sense of design awareness in terms of the creative processes behind the Ark. Yet, context of this sort will go only so far in terms of guest immersion. It is, after all, about the design.

Design and aesthetics

By the time I make my way up and around the three decks of the Ark, it occurs to me that what makes any themed or immersive space relevant is the care designers have given to the elements of design and the aesthetics of their space. This sounds brutally obvious, but it's a reminder of the many mantras that have been passed down from the attractions eras of early 1900s' Coney Island, Disneyland of the 1950s, and those of the present. Clearly, AiG has taken great care to create an exterior and interior space that is likely not to be seen anywhere else in the world. The overall effect of the space's design reminds me of the powerful combination of aesthetics and story that is noted in the impressive Dennis Severs' House in London.

Surprisingly, for all the remarkable timber and woodworking on the exterior and interior of the Ark, less attention to detail seems to be the case in terms of the attraction's technological interactive design. While there were a number of creative video screens that explained the water, waste and food handling procedures used aboard the vessel, there is no opportunity for the guest to interact with the contexts of their visit.

My wife, who accompanied me on my visits, disagrees with me on this point. She suggests that this could be a deliberate effort to not intrude on the guest's consciousness with the distractions of technology, but I would say that, one can design such technology and interactivity in a way that complements the theming of the space. Inside the Ark, I yearned for a similar device or technology. As the attraction was about a month old at the time of my visit, it is likely that some of the empty spaces on the decks will be filled in with new attractions. Perhaps they will provide this missing level of interactivity.

I used the second day to focus on the Creation Museum. To review, AiG's museum predates the Ark by nine years and the success of the former allowed AiG and Ham to open the Ark attraction. There

are also plans to expand Ark Encounter to include the Tower of Babel, a pre-Florida walled city, and many other attractions.

Unlike the religious-themed Holy Land Experience in Orlando, Florida, which I visited in 2005, neither Ark Encounter nor the Creation Museum stress performance and music, which could be seen as lost opportunities to immerse the guest in the worldview promoted by AiG.

Creation Museum

I now turn to my tour of the Creation Museum. At the onset, the guest should be aware that the two attractions complement one another and, while almost an hour apart, it is valuable to experience the two within the same period of visit.

One could say that Ark Encounter represents a clear and more detailed expression of the cosmology or worldview behind AiG and related groups that practice Young Earth and literalist interpretations of the Bible with emphasis on Genesis. On many occasions inside the Ark, I found myself asking, "What, exactly, is desired of the typical guest?" This question is answered fully at the sister museum space.

My tour begins on an overcast morning touring the lush gardens outside the



IMAGES: CREATION MUSEUM

The Creation Museum has a clear focus on educating visitors about its Young Earth interpretations of the Bible

► Creation Museum. I was impressed with the grounds and the relaxing opportunities they provided. Next to them is a petting zoo that resembles the similar space at the Ark, though this one seemed to more clearly articulate how the chosen animals connect to specific Biblical events, parables and values. Stepping inside the museum, I was quite surprised to discover how vast the spaces were. In fact, the museum covers over 7,000sqm (75,000sq ft) and includes over 50 videos interspersed throughout the many rooms and individual attractions.

One of the most effective aspects of the museum's approaches to theming and immersion is its use of AIG's "7 Cs of History". These are Creation, Corruption, Catastrophe and Confusion, and three additional areas that will be represented in future exhibits of Christ, Cross and Consummation. Each of the Cs is expressed through one or more rooms of the space and each is reinforced in various senses throughout the museum.

The museum has a clear focus on pedagogy or education so, in the senses of promoting its specific Christian cosmology, it has a very clear organic appeal. The Cs are expressed through a number of plaques that typically greet the guest at the entrance of a new exhibition area. Again, I would say that they ground the visitor as well as give a purpose to the overall message of the Creation Museum. I have been to many museums that lack this sense of grounding as they never seem to express to the visitor what is expected of him or her during the visit.

Key symbols

The focus on the Cs is complemented by the use of symbols throughout the museum spaces. Such symbols are given physical dimensions as they are constructed as major points of emphasis within the museum's many spaces. I should mention

WHO IS LUCY?

Lucy, or AL 288-1, was the name given to the hundreds of pieces of bone fossil from a female hominid (*Australopithecus afarensis*) skeleton found by paleoanthropologist Donald Johanson in 1974 in Ethiopia.

The bones, thought to be about 3.2 million years old, showed that Lucy walked upright and the discovery explained a missing link in understanding human evolution. In the Creation Museum, the Lucy exhibit is used to illustrate how one piece of evidence can be interpreted in many different ways, meaning that, ultimately, Christians must trust the word of God when seeking explanation.



The Lucy exhibit questions the scientific interpretation of Donald Johanson's 1974 AL 288-1 discovery

that these sorts of key symbols are also found at the Ark, not just in the form of the Ark itself but in a door of the ark that is interpreted through a focus on a devout Christian stepping through, symbolically, the door so as to accept Christ. In their use in the Creation Museum, the symbols have been more clearly interpreted along the lines of AIG's teachings. This use begins with the first two rooms, which focus on the Grand Canyon, geology and paleontology and explanations of the past. The museum here relies on short yet effective video loops that contextualise the goals of AIG in the context of the Cs. Like the other displays in the attraction, these are not dull and instead provoke the guest in line with AIG's missions.

One of the most curious of symbolic displays, and what I would say is perhaps the centrepiece of the entire museum,

is the Lucy room. You may have studied Lucy (*Australopithecus afarensis*) in an anthropology class, as did I, but her place in the museum serves a different purpose.

While on site, I made four passes through the room and in each case I paused to reflect upon the conversations taking place among the many guests in the space. Some common expressions included: "She is supposedly related to you" and "They say we came from apes", among other variations.

At first, I was startled by these comments, but later, as I reflected in my fieldnotes, I understood their foundation: "Leaving the Lucy room for the last time, I am thoroughly impressed with the degree to which designers have used Lucy in a symbolic sense. They have referenced Lucy knowing that many guests will have heard of her, but they have turned that knowledge on its head and have given guests a greater sense of purpose in the moment of their confrontation with what can only be described as contradiction. This is brilliant, evocative use of symbolism, albeit it in a ►



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The Culture in Crisis exhibition encourages visitors to look inwards

“By this time I realise that I’m experiencing one of the most evocative examples of a themed/immersive space that I have ever visited”

► political and controversial sense. The aim here is to use such symbolism to affirm group identity and to dissociate the guest from the outside world.”

In fact, the symbolic attractions illustrate the most unique and powerful senses of theming and immersion at the Creation Museum. Unfortunately, and somewhat surprisingly, in a few spaces like the Wonders and Flood Geology rooms, this symbolism is minimised in favour of a more explanatory, lecture-like approach. The museum loses some of its immersive potential when it falls into this didactic mode. One exception is the Culture in Crisis space. In this case, symbolism and lecture seem to work in a hand-in-hand sense.

Inwardness and the journey

In many ways, the Culture in Crisis section illustrates that theming and immersion may have an inward-looking purpose. Here is how I described this area in the fieldnotes that I composed during my visit:

“I enter into a dark and dirty corridor that resembles a city street. One window flashes a neon XXX sign, two walls are covered in magazine covers that speak of sin, terrorism, violence, evolution and other topics, while a pole is covered in images of missing children. Turning a corner, I note a sign that reads, ‘Today, man decides truth [in strike-outs] whatever’. By this time I realise that I’m experiencing one of the most evocative

examples of a themed/immersive space that I have ever visited. Another dramatic symbol – a wrecking ball with ‘millions of years’ written on it – buttresses one of four seven-minute video loops whose topics include pornography and video game violence, abortion, gossip, laziness and family decline, and the ineffectiveness

of churches that do not focus on the teachings of Genesis. Guest after guest pauses to view the video screens – each surrounded by what appears to be the broken windows of a home or church – and so many seem moved by what they are watching. Truly, a highlight of both of the spaces that I have visited.”

After capturing still photos and video of this attraction, I reflect upon the fact that such an evocative use of immersion is not only inward-focused on the individual, but it represents a method of creating doorways that further complement the guest’s journey through the museum. What is striking about the Culture in Crisis area of the museum is that it uses techniques of theming and immersion in the most political and confrontational senses imaginable. It is daring, pulls no punches, and reminds us of the possible effects of theming and immersion on the individual, especially those beyond a typical consumer agenda.

Both of AIG’s attractions, Ark Encounter and the Creation Museum, represent evocative projects that aim to impact guests at the most personal levels. As controversial as they have been to many, we must not lose sight of their innovative approaches to theming and immersion. Even if we do not agree with the values that they promote, we may visit them in order to better understand our own approaches to themed and immersive attraction design. ●



Different themes are addressed throughout the museum

IMAGE: SCOTT ALUMAS

IMAGES: SCOTT ALUMAS

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Polin Waterparks has products in 100 countries and has designed and installed major waterparks across the world to become a truly global enterprise



The Antalya waterpark has more than 70 slides

A WORLD OF WATERPARKS



Legends of Aqua opened at the \$1bn Land of Legends theme park in Antalya, Turkey, this summer

As it celebrates 40 years in the waterpark business, Polin Waterparks is working harder than ever before.

The company has hundreds of major and award-winning waterparks under its belt, including Europe's largest outdoor waterpark, Europe's largest indoor waterpark, the Middle East's largest waterpark, and the largest waterparks in Iran, Russia, Turkey, Vietnam, Ukraine, Greece, Czech Republic, and many more.

"Polin Waterparks has designed and installed more than 2,500 waterparks in 100 countries," says Sohret Pakis, director of marketing and communications, of the company's continuing rise. "Some were immense projects with 50 waterslides and many kids' play attractions; some were smaller parks with fewer attractions. Some were themed, some were not. Many were for parks with world-renowned reputations, and others were local venues. Some were indoor, and some were outdoor.

"We have worked with a wide variety of clients, installing our signature rides or creating specially designed rides based on that client's needs and desires."

LIVING LEGEND

Polin Waterparks is known for its work on some of the waterpark industry's most exciting projects and the brand new



Sohret Pakis, Polin

The Asia market is growing exponentially

Legends of Aqua in Antalya, Turkey, is no exception. Polin Waterparks delivered a wide assortment of waterslides, in addition to a water playground, a spray zone, wave and river systems, a SurfStream, a Wave Ball and an entire hydromechanical system, including water circulation and filtration to the park.

The \$1bn (£817m, €917m) facility opened its first phase in July. The family-friendly waterpark – with a Greco-Roman theme – is strategically located in a picturesque setting between the Taurus Mountains and the Mediterranean Sea. The 28-hectare (69-acre) waterpark

boasts 72 waterslides, plus many additional aquatic attractions.

Polin Waterparks' responsibilities included development and design, consulting, waterslides, rafts, tubes, FEC equipment, interactive play structures and other children's equipment.

ASIAN MARKET

"Cartoon Network AMAZON was another game-changing project and Thailand's very first internationally branded water theme park with themed waterslides," says Pakis.

In that park, every waterslide is themed and each attraction reflects a character from the Cartoon Network animation series, such as Ben10, Johnny Bravo and Power Puff Girls. But that's just the tip of the iceberg in Asia.

"Polin Waterparks has reached remarkably high export rates in the past three years," Pakis says. "With the increase in spending power of Asia's middle classes we have seen the increased potential of the waterpark market across the continent. The Asia market is growing exponentially."

COMPANY GROWTH

Further to that, Polin Waterparks' range of innovative signature rides, especially King Cobra, have helped create a 55 per cent increase in sales with company turnover almost doubling since 2012.

To support growth and ensure the highest quality, the company moved to a state-of-the-art facility in 2014. According to Polin Waterparks, it's the world's largest waterslide manufacturing plant.

"We also repositioned our brand," Pakis says. "As it's our 40th anniversary, we wanted to change our corporate image to better reflect our evolving business vision. We rebranded with a new logo and slogan that reflects both our heritage and the future vision. The logo represents a bird's eye view of a spiralling waterslide created from the company's initials. And our slogan, the Experience, refers to our 40 years of experience across the globe." ●



Experience the Innovation

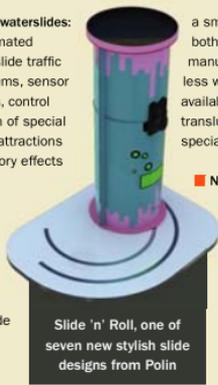
Polin Waterparks has developed a range of ride technologies to create the best possible experience for waterpark guests

Technology-integrated waterslides:

Slides that include automated systems, such as waterslide traffic control/signal light systems, sensor systems, timing systems, control units, and the integration of special effect and media-based attractions such as visual and auditory effects and augmented reality.

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BEST IN CLASS

The annual WWA Show, the highlight of the waterpark industry calendar, brought networking, workshops, educational programmes and a huge trade show to New Orleans



The WWA Symposium & Trade Show took place in New Orleans, Louisiana, in October, with visitors from 23 countries making the journey to the 36th edition of the annual event.

More than 1,500 waterpark owners, operators, developers, suppliers and designers were in attendance, an 8 per cent increase on the previous year. As well as American waterpark professionals, people travelled from as far as Australia, China, Southeast Asia, South America, the Middle East and Europe to be at the four-day event.

"It's incredibly exciting to see how much the waterpark industry continues to expand on a global scale," says Rick Root, WWA president. "With new projects in China, Turkey, the US, the UAE and beyond, we know that our show attendees came to hear from the best in the industry and uncover new ways to advance their businesses."

The organisers also debuted an app that would help people make connections and plan their activities during the show.

"This year we launched the WWA Show app. Before, during and after the show, WWA attendees were chatting, sharing photos, making dinner plans, beginning new friendships and generally enriching



The WWA Show provided a wealth of educational and networking opportunities, including a keynote speech from motivational speaker Aaron Davis, aka "the expert on attitude"

their show experience," says Aleatha Ezra, WWA director of park member development.

Education

As ever, the WWA conference thread covered a wide range of topics, including guest safety, operational excellence, quality customer service and employee training. Seminars were well attended and

interactive, presented by a selection of respected industry speakers.

Breakout sessions focused on trending topics, such as developments in water treatment, understanding the new FSLA law, employing trackable marketing strategies, improving lifeguard vigilance, hiring, training and retaining employees and motivating people to lead. ▶



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ProSlide's Rick Hunter and Nick Scott, Splash Lagoon, on the trade show floor (left); Attendees could visit 360 booths during the trade show



"As we face many challenges throughout the season, the WWA Show is the ideal place to collaborate, brainstorm and reflect with other industry leaders"

▶ "Continuous improvement is the name of the game," says Evan Barnett, general manager at Typhoon Texas in Katy, Texas. "As we are faced with many challenges throughout the season, the WWA Show is the ideal place to collaborate, brainstorm and reflect with other top quality industry leaders. We always leave energised and ready to take on another season."

There was also a keynote speech on leadership from motivational speaker and former College footballer Aaron Davis – known as "the expert on attitude" and "the enthusiast" – who gave attendees food for thought from a non-industry perspective.

"What are your HPAs?" he asked the audience. "High-Payoff-Activities. Those things that you and your teammates should be doing each day to elevate your customers' experience in your park."

The trade show showcased products from 360 different companies, including a

number of new exhibitors such as Surf 9, the company behind the wetsuit brand Body Glove, and Sentag, who promoted a new drowning prevention wristband.

Awards

The WWA Show recognises waterpark industry legends when it inducts people into its Hall of Fame. They can receive the honour for a variety of reasons, such as leading the way in safety, leadership or innovation and creativity.

Three people joined the WWA Hall of Fame for 2016: PR guru Tom Bergman of Bergman Communications, Roger Currie, sales director at Neuman Aqua and Steve Loose, general manager at Hyland Hills Water World in Denver, Colorado.

The WWA Board of Directors awarded a number of suppliers for their innovations over the past 12 months with its Leading Edge Award. The list of winners included



ProSlide, for Cyclone Saucers at Beech Bend Park & Splash Lagoon in Bowling Green, Kentucky; Aquatic Development Group for Cowabunga Beach at Hyland Hills Water World; Murphys Waves for the development of Surf-Air; Polin Waterparks for artistic theming of waterslides, and WhiteWater West for Massiv at Schlitterbahn Galveston Island, Texas.

The industry's best marketing campaigns were recognised with the Wave awards.

"The marketing professionals in the waterpark industry continue to dazzle us with their creativity and innovative campaigns both in print and through social media channels," says Ezra. "We are thrilled to be able recognise the work of so many parks that are using such inspiring approaches to building relationships with waterpark customers."

Winners included Splash Zone in Wildwood, New Jersey; Wild Wadi in Dubai, UAE; Hurricane Alley in Corpus Christi, Texas; Vana Nava in Hua Hin, Thailand; Wet 'n' Wild Phoenix in Arizona, and Splash Kingdoms in Hudson Oaks and Canton, both in Texas.

The 2017 WWA Symposium & Trade Show has been announced for 16 to 19 October at West Palm Beach, Florida.

"West Palm Beach delivers for our attendees on so many levels," says Root. "The weather is beautiful, our headquarters hotel Hilton West Palm Beach is affordable, accessible and practically brand new and we have an amazing waterpark partner located nearby. What could be better for 2017?" ●



A group photograph shows the winners of this year's WWA Wave Awards for marketing



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The biggest attractions trade show of the year is returning to Orlando, Florida. We asked industry names what's going on at their booths

IAAPA

Attractions Expo

Location: Orange County Convention Center, Orlando, Florida

Dates: 15-18 November 2016

Who's there: 1,000 exhibitors and more than 30,000 attendees

What's on: 100 educational opportunities

On-site tickets: \$209 for members and \$395 for non-members

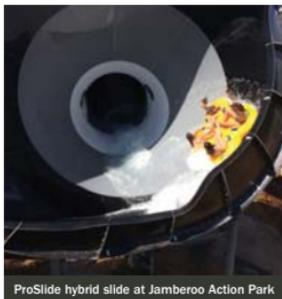


Triotech is unveiling a new technology

TRIOTECH

Triotech is coming to IAAPA's Orlando expo with its new technology that will be showcased in the Triotech Lab. This year's surprise, "will take you to the skies," the company says. In Triotech tradition, trade show visitors will be able to try the experience first hand with a demo unit on the show floor.

Booth #3254



ProSlide hybrid slide at Jamberoo Action Park

GATEWAY

Gateway's Galaxy Connect is a cloud-based platform that connects operators with third-party distributors to enable the selling of live tickets. It eliminates paper vouchers so guests can proceed directly to the gate, provides live tickets to capacity-managed events and streamlines implementation.

Booth #4847

INNOVATIVE LEISURE

Adventure attractions specialist Innovative Leisure is taking part in IAAPA with company representatives on the booths of three US manufacturing partners. Innovative Leisure supplies fun, physically challenging products, including high ropes courses and junior ropes courses from Ropes Courses (5400), climbing walls from Spectrum Sports (5110) and the Water Wars water balloon game from Water Wars (5106). **Booth #5106, 5110, 5400**



Ropes courses are on show

PROSLIDE

ProSlide is introducing Jamberoo Action Park in Jamberoo, Australia and Wanda Hefei Water Park, Hefei, China. Jamberoo features the first triple TORNADO hybrid slide (TORNADO 24+24+60) from ProSlide, delivering more than 60 seconds of ride time. Meanwhile Wanda Hefei Water Park, which was masterplanned, designed and installed by ProSlide, features the TORNADO 60, HydroMAGNETIC ROCKET, MAMMOTH, KrakenRACER, FreeFALL and more. **Booth #5140**

SIMEX-IWERKS

The Jim Henson Company and Herschend Enterprises have partnered with SimEx-Iwerks Entertainment to create a 4D experience based on the PBS KIDS pre-school series *Splash and Bubbles*. Like the series, the ocean-themed immersive experience encourages children to explore the marine world, featuring endearing characters and fun-filled storylines.

Splash and Bubbles 4D debuts in April 2017, with attendees able to see an exclusive clip at the booth. **Booth #2264**

Meet Splash and Bubbles at IAAPA



IDEATTACK

IDEATTACK is presenting, among others, a new waterpark project, CITIC Beihai Waterpark, in Guangxi Province, China. The theming revolves around the history of Beihai, transporting guests to a time when Beihai was a famous international harbour. The park mascot is an old sailor, Captain Dugong, who shares his tall stories with waterpark guests. Visit the booth to find out more about this and IDEATTACK's other China projects. **Booth #1054**



Five Nights at Freddy's is new from Sally

SALLY CORP

Sally Corp is unveiling a new interactive dark ride based on the video game *Five Nights at Freddy's*. Combining animatronics, large-scale video projection, special effects and immersive sets and scenery, the six-person motion-base ride makes guests feel like they've stepped into a life-size version of the game. At Sally's booth, find out about another

immersive dark ride, *The Walking Dead: Battle For Survival*, based on the post-apocalyptic AMC zombie series. Sally continues its partnership with Six Flags, installing three more *Justice League: Battle For Metropolis* rides next year. Finally, a ride is being installed at the upcoming *Movie Animation Park Studios (MAPS)* in Malaysia, featuring *Casper the Friendly Ghost* and a journey through a spooky mansion. **Booth #2254**



Kraftwerk's new SD SFX seats

KRAFTWERK

First-time exhibitor and leading provider of 4D attractions, Kraftwerk Living Technologies is showcasing its third-generation 4D SFX motion seat with an integrated special effects armrest. The seat, which is installed at Chimeelong Ocean Kingdom's record-breaking and award-winning 5D Castle Theatre, the world's largest 4D theatre, sets the stage to showcase various types of content in a variety of settings – from theme parks to museums, from entertainment to education. Visit the booth to experience the 4D SFX Motion Seats. **Booth #1075**



TECHNICAL PARK

Technical Park is launching Skydiving, one of its newest creations, at IAAPA – a scalable project that offers the possibility of customising the ride in different ways. Skydiving can be equipped virtual technologies such as augmented reality to enhance the guests view from the ride. **Booth #4734, 7110**

Empex

Learn about a range of Empex Watertoys' projects at the IAAPA expo, including a new splash park for children up to 12 years old at a Lake Garda camp site. A shallow area of the pool at the Italian San Francesco four star camping site was raised and covered with the Myrtha PEM soft non-slip surface on which Empex installed its creative, interactive watertoys. According to Empex, interactive waterplay is an ever-growing trend within the playground market, and the demand for splash parks is constantly increasing in municipal parks and recreation centres, hotels and resorts, campgrounds, zoos, FEC's, waterparks, theme parks and less obvious places such as shopping malls and

Waterplay is a growing trend



cruse ships. At the San Francesco camping resort, interactive spray nozzles, hand wheels, tipping buckets, water jets, spinning wheels, water games and water shooters have been added to the fun. **Booth #1401**

WHITEWATER

Following the success of last year's 'I heart waterparks' campaign, WhiteWater has launched a strategy to educate IAAPA visitors on the company's continued focus on customers' success. "Everything we do is driven by a single-minded, customer-centric objective, to make their parks safe and successful," WhiteWater says. The new campaign, 'With you', promotes that when clients choose WhiteWater, they embark on a partnership that lasts season after season. Find out more at www.whitewaterwithyou.com. **Booth #2240, 2037**



Vekoma's Space Warp coaster

VEKOMA

Vekoma Rides Manufacturing is one of the largest rollercoaster manufacturers in the world and a leading innovator in the leisure and theme park industries. With in-house concept design, engineering and manufacturing divisions, Vekoma is uniquely placed to offer

custom-designed attractions to clients. Vekoma offers design, engineering and manufacturing of a full range of coasters and attractions, including family coasters, thrill and mega coasters, indoor coasters, and attractions and specialities, all characterised by their innovation, high quality and durability. **Booth #5131**



Movie Base XS from Huss

HUSS

Huss Park Attractions has created the Movie Base XS, a compact version of its Movie Base Classic ride, which is being presented at IAAPA. It's a flying theatre-style immersive attraction, with sensory experiences integrated into the ride to include a 'flight' experience, with lifting and tilting seats, and 4D effects. The Movie Base XS is available from Huss as a full turnkey solution, including the AV and show control system. The first Movie Base XS has been sold to a European client. **Booth #4624**

PICSOLVE

Picsolve is launching its *Theme Park of the Future* vision report at IAAPA. The report will reveal how evolving technology is impacting visitor demand, highlighting growth areas over the next 10 years. The report finds visitors are demanding the latest technology, with a particular focus on integrating VR, wearables and AR in parks worldwide. By embracing such technologies, operators can enhance guest satisfaction, while stats suggest 87 per cent of guests are more likely to visit a theme park if it includes VR. The report will combine unique visitor research and exclusive industry expertise, with future visions and predictions from Picsolve and its partner Dubai Parks and Resorts.

FORREC

At IAAPA, Merlin Entertainments and FORREC are announcing plans for LEGOLAND New York, opening in 2018. The entertainment design company worked with Merlin on LEGOLAND Dubai and the upcoming LEGOLAND Japan. LEGOLAND New York will feature fully themed play areas, more than 50 rides, shows and attractions and a LEGOLAND Hotel. It will be the third LEGOLAND in the US. Visit the booth to find out more about FORREC's global project portfolio. **Booth #2069**

Holovis extends the experience



HOLOVIS

Holovis reveals the secrets of experience personalisation at IAAPA. Bespoke apps integrate with existing and new attractions to ensure guest engagement before, during and post visit. Gamification beats queue boredom. Data is tailored to attractions, making them unique and constantly updating to encourage repeat guest visits. **Booth #778**

JRA

Jack Rouse Associates is presenting a brand new project at IAAPA. Rixos Hotels' 64-hectare (158-acre) Land of Legends theme park in Antalya, Turkey, will add a landmark attraction to the Turkish Riviera. When fully completed, the resort will include a five-star hotel, theme park, shopping boulevard, wildlife park and FEC. The first phase of development, Legends of Aqua, has recently opened and features an aquarium, a dolphinarium and a waterpark with 72 slides. JRA provided master planning, concept and schematic design for the waterpark. **Booth #1369**



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Soaring With Dragon is an Intamin coaster

INTAMIN

An Intamin signature coaster, namely the Vertical Ring Coaster, themed around a soaring dragon, made its debut at the latest Wanda theme park in Hefei, China in late September. This unique LSM Launch Coaster features a swing launch (forward-backward

forward) and the highest non-inverted loop at 60 metres, reaching a maximum speed of 125kph. Another recent opening from Intamin is the Suspended Twin Hammer, named Doomsday Destroyer, at Warner Bros Movie World, Australia, a rotating thrill ride with spectacular theming. Visit the booth to learn more about Intamin. **Booth #3824**



6K flying theatre Wings Over Washington

DYNAMIC ATTRACTIONS

Dynamic Attractions has installed a state-of-the-art flying theatre at a historic attraction in Washington, Seattle. The Wings Over Washington ride offers guests a "flying" experience where they soar over the state's landscapes. The 20-minute ride experience, located at Pier 57's Miners Landing attraction, was created using the latest technology, including 6K cameras, innovative art laser projection, image capture drones, creative design agency Super 78's virtual reality collaborative planning tools and cutting-edge surround sound. **Booth #1078**

IPLAYCO

International Play Company is displaying its new Turbo Tube with clear top and side views, and side by side features, at the IAAPA trade show. The slide does well in both smaller and larger entertainment centre playgrounds. The Turbo Slide made its debut at the 2015 IAAPA Show. Since then Iplayco has installed over a dozen and is forecasting 30 or 40 more will be installed in the next 12 months. **Booth #3862**



Iplayco's Turbo Tube

ALTERFACE

Interactive ride technology company Alterface is celebrating its 15th anniversary at IAAPA with a new tagline, Enjoy the Ride. "Enjoy the Ride" reflects the experiences of our customers during the exciting period when they create their dream ride with our technology and team," says the company. "They keep us excited and remain at the centre of our activities." Attendees can meet the team and experience Alterface's latest technology in an interactive demo unit at the booth.

Booth #862



enjoy the party
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