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DUBAI

Three parks
behind the
tourism drive

Björk

Bringing
VR to the
masses

JOEL MANBY

SeaWorld's
CEO is changing
the industry



Does Disney
Shanghai deliver?

Science centres and
the need to diversify



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PLACE-SHIFTING

New technology is giving us the power to Place-Shift experiences to create on-demand, immersive attractions in any location. Combining live streaming, haptics, AR and virtual reality with authentic artefacts and storytelling, this thinking will open up huge new markets for growth

The Place-Shifting of attractions has a long history, partly through the development of touring exhibitions: if what you have to show is unique, or guests can't get to you, then you can simply pack up and go to them.

Another Place-Shifter is replication, most famously used by the Lascaux caves in France, one of the first attractions to offer a facsimile to enable the preservation of the original.

Lascaux II, which opened in 1983, was built 200 metres (656 feet) from the Lascaux caves, so people could still view the prehistoric wall paintings after the impact of previous visitors visibly damaged the original caves, forcing their closure.

But there's been little radical innovation in Place-Shifting in the past 30 years and I believe we're about to enter a new era of innovation, as rapid advances in affordable technology open up amazing opportunities to recreate and enhance experiences at great distances and with high levels of immersion for the visitor.

Attractions are already offering visitors glimpses into other worlds via webcams and robots, but it's possible to take this to a completely different level by harnessing all the available tech – VR, haptics, high definition, real-time streaming, wraparound screens and augmented reality.

Using this technology, we could head down a number of paths – if an historic location is too far from transport links to work as a visitor attraction, it could be recreated as either a touring or permanent attraction in a suitably sized population centre using technology. If an attraction is unique, it could be replicated, or visitors could be given remote immersive access.

Wraparound screens and VR headsets would take visitors there and enable them to wander around, while real-time streaming would enable them to interact with storytellers at the location to bring things alive. Haptics would enable tactile interactions and accompanying audiovisuals and artefacts would satisfy the urge to touch and feel the authenticity.

A whole new raft of attractions could be developed as technology gives us the power to Place-Shift experiences to create on-demand, immersive attractions in any location.

This would open up new markets, as well as enabling the creation of attractions which can be reprogrammed when demand for their content diminishes.

Being rooted to the spot can be a disadvantage – your visitor base is comprised of people who can make the journey and there are many places which would make great visitor

attractions but which are simply too remote, or too fragile. Place-Shifting would nail all these issues and more.

A real-life, UNESCO-backed example is in the news as Dualchas Architects and Reilulf Ramstad Architects reveal their master plan for the St Kilda Visitor Centre in Scotland (page 34). They say the attraction should be built not on St Kilda, but on the more accessible Isle of Lewis, 50 miles (80km) away.

What will we be able to achieve as technology sets us free to create and recreate experiences for our visitors without being tied to a single location? As a creative and innovative industry, the limits are only our imaginations.

Liz Terry, editor. Twitter: @elizterry

Technology is giving us the power to Place-Shift experiences to create on-demand, immersive attractions in any location



■ p12 Björk Digital: the exhibition incorporates VR storytelling, art and music



■ p46 Elizabeth Rasekoala calls for action



■ p40 Exclusive: SeaWorld CEO Joel Manby



■ p66 David Willrich heads to China to find out if Disneyland Shanghai lives up to expectations

07 Editor's Letter

12 People

The people in the news, from musician Björk to mountaineer Reinhold Messner

26 Science Centres news

27 Visitor Attractions news

28 Waterparks news

30 Theme Parks news

32 Museums & Galleries news

34 Heritage news

36 Zoos & Aquariums news

38 Technology news

34 Interview

Joel Manby

It's been an eventful ride for SeaWorld. Will CEO Joel Manby's honesty and radical decisions be enough to save the company?

46 Science Centres

Diversify + Unify

At the Ecsite Annual Conference, we learned how science centres must do more to promote and facilitate inclusive societies

50 Analysis

TEA/AECOM 2015 Theme Index

Interpreting industry attendance data

58 Theme Parks

Desert Operations

On the brink of an entertainment revolution, Dubai looks forward to three major theme park openings. *Attractions Management* caught up with key decision-makers from the upcoming attractions

66 Mystery Shopper

Disney Delights

Disneyland Shanghai is the company's first new theme park resort since 2005 and its biggest investment to date. TEA president-elect David Willrich went undercover to find out what Disney's doing differently



■ p76 Attractions should learn from the film industry, says special effects studio Framestore



■ p86 Waterpark suppliers share their news



■ p58 Lennard Otto on Dubai's development



■ p80 Exhibitionism, a Rolling Stones retrospective, and more in this multimedia round-up

72 Analysis

The Attractions Business

Consultant David Camp asks how we measure success as he focuses on benchmarking and market penetration rates in part three of the series

series
Part 3

76 Opinion

Media Frenzy

Is it time for media-based rides to raise their game? Gavin and Jason Fox, creative directors from Oscar-winning special effects studio Framestore, believe Hollywood-standard content is the next step for the industry

80 AV & Multimedia

Image Conscious

The latest AV projects, from the Flying Aces rollercoaster to a Rolling Stones exhibition

86 Attractions-kit.net

Let the Good Times Roll

Waterpark news ahead of the WWA Show

88 Attractions-kit.net

Euro Attractions Show

News from the EAS trade show floor

92 Web Gallery

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On the cover: Björk

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- Björk's travelling exhibition brings VR to the masses
- CEO Joel Manby on SeaWorld after orcas
- Shanghai Disneyland: we go undercover

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- British Triathlon launches campaign to target 10,000 people



SPA OPPORTUNITIES

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- Spa finalists named in design awards
- US spa industry hits record-breaking \$16bn mark: ISPA



AM2

- New TEA president outlines plans for 2017
- Prague Zoo states panda ambitions
- Waterpark opens in Iran's holy city of Qom
- Disney strong in Q3

Attractions People

“The narrative of the album is ideal for the private circus virtual reality is”

Björk musician

Björk Digital is an exhibition that's a celebration of technology, art and music, imagined and created by Iceland's most famous contemporary musician.

Björk has long been a pioneer and fan of technology and in this immersive exhibition her own music is used as a vehicle to explore some of the latest innovations, especially VR. Björk sees the medium

as offering new ways to communicate and engage with her audience. Her goal is to release a complete VR version of 2015's album *Vulnicura*, and the Björk Digital exhibition, which has already visited Sydney and Tokyo and is on the way to London, has been part of that process.

Songs from the album are the inspiration for full 360-degree VR films that can be tried out by visitors to the next leg of the exhibit, which runs from 1 September to

23 October at Somerset House and is supported by Intel, AMD, HTC, Bowers and Wilkins and Barco. Each VR experience has been a collaboration between Björk and top visual artists, programmers and filmmakers.

"I'm so excited to invite you all to Björk Digital at Somerset House," says Björk.

"We're showing the virtual reality videos from *Vulnicura* on dozens of headsets and premiering some pleasant surprises. This is a further step to completing the full *Vulnicura* VR album which will be out soon."

"I feel the chronological narrative of the album is ideal for the private circus virtual reality is – a theatre able to capture the emotional landscape of it," she says.

It's not the first time the singer of the 1995 smash hit "It's Oh So Quiet" has been involved with cultural institutions. In 2014, MoMA in New York made history when it acquired an app for its collection, Björk's *Biophilia* app that used graphics and animations that allowed users to interact with the album's music.

Furthermore, last year, MoMA held a retrospective that chronicled the career of the experimental star, presenting videos, visuals, costumes and instruments from her first album *Debut* in 1993, to *Biophilia* in 2011 and the most recent *Vulnicura*.

MoMA commissioned *Black Lake* for that show, a visually and aurally immersive film directed by Los Angeles-based director Andrew Thomas Huang. *Black Lake* will be shown at Somerset House, alongside *Stonemilker* VR, shot on a windswept Icelandic beach, and *Notget* VR, where Björk is transformed into a giant digital moth.

Björk Digital debuted in Sydney in June and moved to Tokyo and London. The next stop is Montreal



PHOTO: SANTIAGO FELLICE



Clockwise from top: Album art from Björk's album, *Vulnicura*; Andrew Thomas Huang directed *Black Lake* for MoMA; The immersive film *Stonemilker VR* is part of the Björk Digital exhibition; A still from *Notget VR*





Tate Modern senior curator Mark Godfrey expects visitor numbers to rise following the opening of the extension

PHOTO: COURTESY OF TATE

Artists will respond to the space to create installations

Mark Godfrey senior creator, Tate Modern, London

The opening this June of the long-awaited expansion to London's Tate Modern opens up a new world of opportunities to artists as well as visitors, according to Tate Modern senior curator Mark Godfrey.

Back in 2000, a derelict power station by the River Thames was transformed, by Swiss architects Herzog & de Meuron, into the Tate Modern. The same architects are behind the newly opened extension building, which has been constructed on the site of the power station's former Switch House. The 10-storey "twisted pyramid" adds 60 per cent more space.

Cylindrical underground tanks, which were formerly used to hold the power station's oil, form the physical foundation of the 65-metre (213-foot) tall, 21,500sqm (230,400sq ft) building and provide space ►



PHOTO: HATES DAVIDSON

A view of London's Tate Modern and new extension from the other side of the Thames

The multi-storey building, described as a "twisting pyramid" offers different perspectives and experiences on each level

PHOTOS THIS PAGE: IWAN BAAN



The Switch House was designed by Swiss architects Herzog & de Meuron and cost a reported £260m



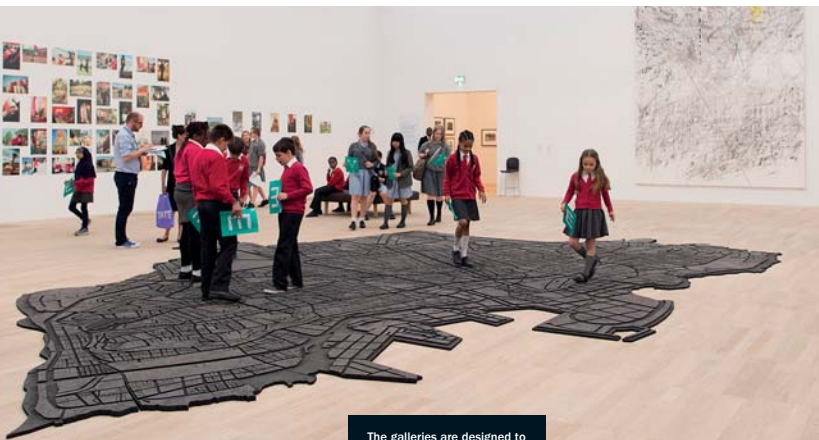


PHOTO: J. FERNANDES, TATE PHOTOGRAPHY

The galleries are designed to accommodate different styles of art, such as installation art, performance art and film

PHOTO: IVAN BAAH



► dedicated to live art, installation and film. The new floors above are connected by both lifts and a sweeping concrete staircase, while two bridges connect the Switch House with the Boiler House and the museum's original facilities.

"Throughout the galleries we have more flexible spaces. In the basement are the tanks, huge circular areas, where there's no daylight, but it's rigged for performances and different types of live art," says Godfrey. "It's the kind of space I think that artists will come to and be inspired – respond to the possibilities, the shapes, the materiality, the concrete, the circularity of those spaces."

The Switch House has cost a reported £260m (\$345m, €310m) – almost £50m (\$66m, €60m) more than expected. The Tate Modern currently receives 5 million annual visitors – a figure which is expected to rise in the years ahead.

"The second floor offers vast areas without pillars, creating very long sightlines. It can be partitioned, but we don't need

to regiment the space with walls," Godfrey says. "The space offers a lot of flexibility in terms of how you might structure an exhibition or create conversations between artworks over quite a lot of space. There are also higher ceilings and natural light. Natural light is really important in several of the artworks we have in the collection – it really brings the work alive."

"The third floor is a smaller space with possibilities for blackouts and film projections. On the fourth floor you've got two wonderfully proportioned galleries with high ceilings – and again it's exciting

to see how artists won't just have their works placed here, but will respond to the space to create installations. There are so many ways in which an artist would look at the shapes, angles, textures, lighting, brickwork, and would be motivated by those factors," he says.

The Switch House's debut exhibit draws on work from across the Tate collection, with a focus on newly acquired works and an intention to show a more diverse array of international artists – from Lebanon, Nigeria, Turkey, Egypt, Ethiopia, Brazil, Japan and China – and more female artists.

PHOTO: J. FERNANDES, TATE PHOTOGRAPHY



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“The NASA budget correlates with the number of PhDs earned in STEM subjects”

Jean-François Clervoy astronaut, ESA

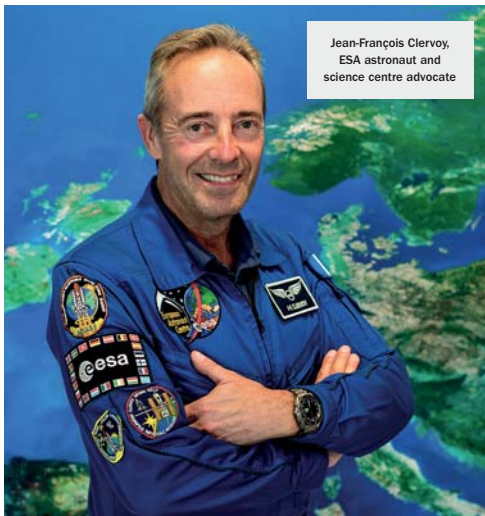
Space is sexy again. So say leading scientists who've seen a resurgence in interest following recent blockbusters like *Gravity*, *Interstellar* and *The Martian*. That's led to renewed interest in real-life astronauts and inspired thousands to engage in space-related activities.

Jean-François Clervoy, of the European Space Agency, is one of the world's most experienced astronauts. A veteran of three NASA Space Shuttle missions and 28 days in space, the 57-year-old was advocating the importance of space exploration for science centres and STEM education at the Ecsite Annual Conference in June.

"Space programmes motivate engineers and scientists to find solutions to problems that can be spun off on Earth," Clervoy told *Attractions Management*. "The lessons we are learning in space, we're then teaching to the next generation via our science centres and planetariums."

Clervoy, who carried out his first space mission in 1994, says he used part of his time in space to inspire those thinking about following in his footsteps.

"The ISS [International Space Station] airs live links with astronauts to schools, science museums and planetariums," says



Jean-François Clervoy,
ESA astronaut and
science centre advocate



Leonardo DiCaprio narrates
Hubble 3D, an alternative for
those who can't go to space

principia mission



Astronaut Tim Peake stimulated public engagement and interest in space on his recent mission

Clervoy. "Tim Peake is a recent example. Every astronaut does this several times within the course of a six-month mission."

STEM students

Clervoy believes the success of NASA has a direct effect on the number of students who pursue science and engineering.

"The NASA budget correlates with the number of PhDs earned in STEM subjects," he says. "The inspiration for young people to take up science is clearly demonstrated. When you have an attractive programme and good promotion, it can get a lot of people invested in science."

A 2015 report by NASA highlighted the fact that it creates the demand for

aeronautic research and development which persuades graduates to choose these subjects. "As the funding for aeronautics has decreased by more than half over the last decade, the number of younger faculty and graduate students decreased," it says.

Space tourism

Much has been touted about the rise of space tourism. Clervoy, however, says the costs of such a trip will continue to limit the experience to a select few. "We will see more space tourism in the coming years, and by the 2020s, we'll also see some kind of outpost for space tourists."

While space tourism is unobtainable for most, Clervoy proffers cheaper alternatives.

"If you want to experience the feeling of being in space, sub-orbital flight is an option," he says. "It's far less energetic than orbital flight and far less expensive. It costs a few hundred thousand euros – and the market says there are thousands of people ready to pay for that."

If several hundred thousand is still outside your space budget, Clervoy suggests the best alternative on Earth.

"If you cannot go to space yourself, watch IMAX movies made by astronauts," he says. "Space Station 3D and Hubble 3D are great options. And I think thanks to new entertainment technology like VR we will soon be able to give people a sensation that feels close to the real thing."



Space Station 3D is voiced by actor Tom Cruise – and recommended by Clervoy

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“I speak of triumphs and tragedies on the world’s most famous peaks”

Reinhold Messner mountaineer

Italian mountaineer and explorer Reinhold Messner is widely regarded as the world’s greatest living climber. And he can also be considered an attractions operator, having opened a series of six museums in the mountainous South Tyrol region of northern Italy.

The sixth and final museum, which opened in July 2015, is nestled in a mountain plateau surrounded by spectacular views. It was designed by the late architect Zaha Hadid and has recently been announced as a finalist in the culture category of the World Architecture Festival.

The network of Messner Mountain Museums (MMM), scattered throughout the Alps, reflects different aspects of mountaineering and tells stories of human encounters with the mountains. MMM Ripa focuses on mountain people, MMM Ortles focuses on glaciers and ice, MMM Juval is about mountain mythology and MMM Dolomites on rock and climbing, while MMM Firmian acts as the heart of the network.

The newest – Hadid’s MMM Corones – is devoted to the discipline itself and how the equipment and mountaineering culture have changed through history.

“Messner Mountain Museum Corones is the crowning piece of my mountain museum project, a place of quiet where people can slow down and enjoy the unforgettable

Mountaineer Reinhold Messner has opened a series of museums in the mountainous regions of northern Italy



PHOTO: PRESS ASSOCIATION



PEOPLE

► views," Messner says. "It is a place of withdrawal that opens up the human senses for the above and beyond, where the mountains become an experiential space and a part of our culture."

"I present the development of modern mountaineering and 250 years of progress with regard to the equipment," he says. "I speak of triumphs and tragedies on the world's most famous peaks – the Matterhorn, Cerro Torre, K2 – and the depiction of our activity, however contradictory it may seem."

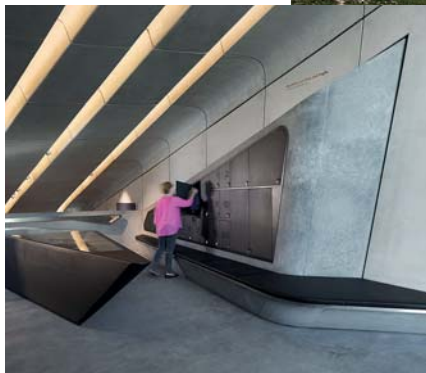
Born in South Tyrol in 1944, Messner was the first person to climb all 14 peaks over 8,000 metres (26,000 feet). He made both the first solo ascent of Everest, and the first ascent without supplementary oxygen. He's finished numerous expeditions, including – at age 60 – walking 1,900km (1,200 miles) across the Gobi desert.

"As the storyteller of traditional mountaineering, it's not my intention to judge or dramatise, but simply to condense human experience of a world that is my world, of the 250-year-old contest between man and the mountain," Messner says. "The focus is not on sport and records, but on people – on the key contributors to mountaineering, including philosophers and pioneers who had the courage to take the 'golden step' from the idea to the deed."

Zaha Hadid Architects designed the sixth museum in the series, MMM Coronas. The design brief said visitors had to be able to walk through wearing ski boots



PHOTOS: ZAHA HADID ARCHITECTS



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Chef Ollie Dabbous is cooking for a charity event at London Zoo

“Guests will enjoy a champagne reception overlooking Tiger Territory and have photos taken with llamas”

Ollie Dabbous chef, Dabbous



Ollie Dabbous, Michelin-starred chef and protégé of Raymond Blanc, is getting his teeth into a charity-led project at London Zoo –

and tigers will be present.

Dabbous is developing a special three-course menu for a fundraising dinner that will include encounters with the attraction's tigers, wallabies, kangaroos and more.

The event has been organised by bespoke catering solutions agency Ampersand and proceeds are going to Hospitality Action, a charity that helps support members of the hotel and restaurant industry who fall on hard times.

"I was approached with the idea for the event by Tim Jones and Bill Toner from CH&Co Group, the parent company of Ampersand," says Dabbous. "They asked and I said yes, very simply because it's a good cause, they're nice folk at

Ampersand and it sounded like fun, both for me and the diners. Of course, there is always a challenge when you are cooking away from your own kitchen, but by being smart with the menu and organisation, you can make things more manageable."

Dabbous, dubbed the "most-wanted chef in Britain", worked under Blanc at Le Manoir aux Quat' Saisons and at the Fat Duck and Noma. He opened his eponymous award-winning restaurant in London in 2012 with business partner Oskar Kinsberg – and two years later the duo launched their second venture, Barnyard in Fitzrovia.

The charity dining event will incorporate different elements of the London Zoo attraction, including the opportunity to enjoy Indonesian and Australian-themed areas.

"Guests will enjoy a champagne and canapé reception overlooking Tiger Territory," Dabbous says. "On the way over to the Mappin Pavilion, where dinner will

be served, guests will be able to feed and have photos taken with llamas."

It's not the first time the star chef has prepared a menu for an unusual setting. In June, he led a pop-up restaurant for a charity event at Sotheby's New Bond Street galleries to coincide with a British art pre-sale exhibition. Designing the dishes for the tasting menu, Dabbous was inspired by the shapes and colours of the artworks on show. This time, however, he won't be taking inspiration from the surroundings.

"I haven't taken inspiration from the zoo itself. I'm just focused on serving delicious, seasonal food. Given the location, there will be enough sights and sounds going on all around the diners. Making the food themed as well may feel like overkill."

Tickets cost £135 (\$175, €157) per person and are available at hospitalityaction.org.uk. The event takes place on 27 September.

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Work starts on Orange Coast planetarium

Ground has been broken on a \$16.4m (£12.6m, €14.8m) planetarium development for the Orange Coast College (OCC) in Costa Mesa, California.

Part of a larger seven-year \$965m (£625.2m, €854m) renovation to OCC's district campuses, the 125-seat planetarium will include a 3D immersion theatre with a 40-foot (12-metre) dome, a large Foucault pendulum and open space for exhibits. Newport Beach-based architects HPI are handling project design.

"The planetarium will provide opportunities for elementary students, college students and the general public to be totally immersed in exciting and engaging experiences which are part of the college's emphasis on all aspects of

PHOTO: ORANGE COAST COLLEGE



■ HPI Architects are handling design for the project

scientific endeavour," said David Grant, district board president. "Suffice to say, after eight years of planning and preparation, we are thrilled to be underway."

The new planetarium is expected to be completed within 18 months. OCC's previous planetarium, which

was built in the 1950s and had seating capacity for 30 people, closed more than a decade ago.

The planetarium will be the second in Orange County, with the Santa Ana College Planetarium currently the only offering.

■ Details: <http://lei.sr?a=M6g0y>

INDUSTRY OPINION

Education is the only antidote to disease of fear and hatred

Michiel Buchel

People feel uncertain and scared amid current events in Europe and beyond, including the Brexit, the coup in Turkey, racial tensions in the US and terrorist attacks around the globe. These events impact on our daily lives as global trends increasingly influence local situations.

Science centres and organisations that engage people with science advocate the strongest medicine against purely emotional responses and ineffective fears: education.

Education, decisions based on evidence and critical thinking, lively debates and respect for different opinions are the best remedies against fear and hate. Science, like sports and the arts, grows best in an open and culturally rich environment.

Science engagement practitioners stand for democratic values and believe in the power of true cooperation. The real threats to our planet do not care about borders, race or religion. They need smart solutions, brilliant technologies and an understanding we're in it together.

Especially the science engagement community will keep doing what it's really good at: engaging people with science and technology topics, connecting formal and informal learning, inspiring thousands of people each day with our lectures, programmes, workshops and debates. We nurture creative and innovative thinking every day and in many ways and places. That is what we do. Opening doors, finding new entrances and the starting points of new solutions for the next generations.

Responsible science to me goes beyond politics and economics. I'm convinced that we have a role to play in fostering democratic thinking.

Michiel Buchel, Esquite president and CEO of NEMO, Amsterdam, Netherlands



Cape Town planetarium gets digital upgrade

South Africa's Iziko Museums – part of the government's Department of Arts and Culture – is enhancing its planetarium in Cape Town with a \$2.2m (£1.7m, €2m) digital upgrade.

The Iziko Planetarium, part of the Iziko South African Museum, will get the much-needed upgrade to its 30-year-old facility, which has welcomed more than 2 million visitors through its doors since opening.

The digital upgrade project will culminate in the addition of a brand-new full-dome immersive theatre facility, which is expected to be completed by early next year.

An Iziko statement said: "Full-dome digital technology has become the norm for planetariums

PHOTO: IZIKO



■ A full-dome theatre will be installed at Iziko Planetarium

worldwide, with high-resolution multimedia image projection creating riveting immersive and multisensory experiences."

"This innovative evolution – from analogue to full-dome digital technology – will create a hub of creativity and learning for the general

public, as well as provide unparalleled educational and eResearch benefits."

The digitalisation of the planetarium comes as the result of a two-year fundraising campaign, which to date has raised \$1.6m (£1.3m, €1.5m) towards the upgrade costs.

■ Details: http://lei.sr?a=R5H5B_A

Dorset's Jurassic on track following death of project founder

Following the sudden death of its founder earlier in the year, plans are moving forward to create an £80m (\$105m, €94.2m) dinosaur attraction inside a former quarry in Dorset, UK.

Dubbed Jurassic, the project suffered a major blow when CEO Michael Hanlon died from a heart attack in February, aged 51.

The project's board however, which has the backing of the likes of Sir Tim Smit and Sir David Attenborough, made a unanimous decision to press forward with Jurassic, promising to bring to life Hanlon's "thrilling vision" for the prehistoric-themed attraction on the Jurassic Coast.

A new business advisory group was recently formed, tasked with briefing the project on business developments in the county and helping boost communication to businesses within the region to help secure planning permission in 2017 and realise the project.

If the plans go ahead, the attraction is estimated to bring in 960,000 visitors annually. The subterranean geological park could be ready by 2020, creating more than 150 permanent jobs.



PHOTO: JURASSICA

■ Michael Hanlon at the Dorset quarry where he proposed to build Jurassic

As part of development, the 40-metre-deep (132-foot) Yeolands quarry would gain a 103-metre (340-foot) glass roof designed by architect Renzo Piano. The attraction will also house robotic swimming plesiosaurs, fossils and interactive

displays. Engineering and design firm Arup has been linked to the project, along with business management consultancy Oliver Wyman and exhibit designers David Lazenby and Azeurus Design.

■ Details: http://lei.sr?a=A83N_A



■ The wheel will accommodate 30,000 a day

Delays hit New York Wheel development

Plans to open New York's largest Ferris wheel have been delayed, with project leader and CEO Rich Marin saying the 630-foot-high (192-metre) attraction will now open in April 2018. Originally scheduled for early next year before being pushed back to mid- and then late 2017, the \$580m (£514.8m, £447.1m) wheel has been delayed thanks to a "complicated engineering process".

■ Details: http://lei.sr?a=B7r7P_A

David Willrich named new president of TEA

David Willrich is to succeed Steve Birket as president of the Themed Entertainment Association (TEA) following a unanimous decision by the body's board for him to lead the organisation.

Willrich – managing director of UK-based AV and multimedia specialists DJ Willrich – will officially take up his position at the IAAPA Expo in November. Willrich has acted in an official capacity for the TEA for eight years, first as a member of the TEA Europe and Middle Eastern Division (EME) Board, then as TEA EME president. He also serves as a member of the TEA International Board.

Willrich said his goal as TEA president will be to steer the continued



PHOTO: THEMED ENTERTAINMENT ASSOCIATION

■ Willrich will officially take up his position in November

growth of the association, especially in Asia.

"I'm lucky to be coming in when the TEA is in the best position it's ever been," he said. "The TEA is about to celebrate its 25th anniversary and has matured a lot in that time. It's in good shape in terms of size, administration,

financial stability, reputation, programming, industry alliances, marketing and international presence. But I don't plan to stand still. Most things on my list are to do with further refining quality and structure."

● See Disney Delights by David Willrich, page 66

■ Details: http://lei.sr?a=r4M2C_A

Schlitterbahn death shocks industry

The waterpark industry was left reeling after the death of a 10-year-old boy on 7 August. The boy died in an incident on the world's tallest waterslide at Schlitterbahn waterpark in Kansas, Texas.

Caleb Thomas Schwab – son of state representative Scott Schwab and his wife Michele – died riding the record-breaking Verrückt.

The Kansas waterpark has closed the ride at least for the remainder of the waterpark season.

"Safety is our top priority at Schlitterbahn," said a statement from the operator. "All rides are inspected daily before opening. Our thoughts and prayers are with the family during this difficult time."

Schlitterbahn opened the ride in July 2014,

PHOTO: PRESS ASSOCIATION



■ Caleb Thomas Schwab died while riding Verrückt

bill it the world's tallest and fastest waterslide. The 168-foot (51-metre) ride's opening was delayed several times due to with technical glitches.

The WWA Office said it had received numerous enquiries about waterpark safety in light of the

extensive media coverage around the world following the tragic accident.

"We will work hard to represent our industry's strong overall safety record and to aid members if and when they are contacted by local media," the WWA said.

■ Details: http://lei.sr/a=W5D7X_A

INDUSTRY OPINION

New trends drive up attendance in waterpark industry

Aleatha Ezra

The TEA/AECOM Theme and Museum Index was recently released, charting attendance figures in the global attractions industry in 2015.



The report represents the 10th year that these two organisations have researched global attendance at theme parks and waterparks, providing the authors with a chance to reflect both on the growth seen in 2015 as well as in the last decade.

According to AECOM's John Robinett, the news is summarily good. "Over our 10 years of tracking the industry, we've seen steady improvements in business volume (despite a global recession), the introduction of new technologies and the continued internationalisation of the attractions world."

The report reveals that the waterpark industry in the EMEA region experienced a "5.5 per cent increase in attendance at the top 10 waterparks," going from 8.5 million to 9 million. The report suggests some of the elements that drove this upward tick included: combining waterparks with spas and water-based health therapies, incorporating hospitality in the overall entertainment complex and developing water rides that offer a ride experience that is reminiscent of a theme park ride.

It's also interesting to note the diverse locations of waterparks featured on the top 10 list, with three parks in Germany, three in the UAE and one each in Spain, the Netherlands, Denmark and the Czech Republic. The spread of successful waterparks throughout the region is another indication that the water leisure industry is strong and poised for another positive year of growth.

Aleatha Ezra, director of park member development, WWA

Tropical waterpark for Siberian climate in Russia

Local investment group Sibentel has revealed plans to develop Russia's largest indoor waterpark, with the all-season facility in Tyumen capable of handling a sub-zero Siberian winter.

The waterpark will include large translucent domes overhead to allow sunlight in while keeping the -16.7°C (1.94°F) temperatures out. Within the domes, palm trees will decorate the landscape, while Polin-supplied slides will offer thrill-seekers a number of experiences within the 10,000sqm (107,000sq ft) attraction.

The new attraction will include among 10-plus planned waterslides Polin's Turbulance, Windigo and Magic Hole models.

PHOTO: POLIN



■ The waterpark will have large translucent domes overhead

A children's area will also be included, while several large pools – including a wave pool – will offer a more relaxed experience.

In addition to the family-friendly waterpark, the facility will offer a 170-bedroom hotel, as well as a complex featuring

different styles of baths and saunas, with Finnish, Scandinavian and Turkish options all supplied by local mineral springs.

The complex in Tyumen is expected to attract a million visitors a year. It is scheduled to open in April 2017.

■ Details: http://lei.sr/a=x5z2d_A



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Iger downplays Orlando problems as Disney records strong Q3

Despite a decline in theme park attendance, Disney has recorded strong overall earnings in its recently released Q3 results.

Overall theme park revenue for the company increased 6.6 per cent to \$4.4bn (£3.4bn, €3.9bn), with spend per visitor increasing. Operating income also rose 8 per cent to \$994m (£759.6m, €888.4m), though those numbers were partially offset by a decrease for Disney's overseas operations.

Internationally, Disney's new Shanghai opening has been very successful so far, with the company reporting 95 per cent occupancy rates and visitors staying two hours longer on average than expected. Hong Kong Disneyland also saw improved results, though operating income was lower at Disneyland Paris.

Despite some concerns that outside factors have the potential to affect Orlando's economy, Iger said that so far overall international visitation hasn't dropped significantly, though some individual markets are being affected.

"While there's a fair amount of concern about the international tourists, the mix of



PHOTO: ALEXANDER/GETTY IMAGES ASSOCIATION

■ Iger says that overall international visitation so far hasn't dropped significantly

international tourists to our domestic parks hasn't really shifted that much," said Iger.

"We've had shifts market-to-market. Brazil's had some big issues in the last year for instance. But the mix from international versus domestic attendance is basically

in line with what we've seen. Interestingly enough, Britain has been fairly strong, which given what's gone on there, particularly the headlines and the Brexit issue, you'd expect otherwise. But business is quite strong there."

■ Details: http://lei.sr?n=b39k_A



■ The £2bn scheme will still go ahead

London Paramount director quits project

One of London Paramount's prominent figureheads has walked away from the project, giving no reason for his departure.

Fenlon Dunphy leaves his post having played a major role in progressing the plans for the £2bn (\$3bn, €2.8bn) Kent-based theme park and resort, attending many of the public consultations and exhibitions held by developer London Resort Company Holdings.

■ Details: http://lei.sr?n=M9G7p_A

Universal's Nintendo land will dwarf Harry Potter

Universal Studios Japan (USJ) has said its Nintendo attraction will be developed at a cost of ¥50bn (\$485m, £369.5m, €440m) – a significant increase on previous estimates.

By comparison, the new attraction – which will be a fully immersive Mario-themed land – will cost around ¥10bn (\$97m, £73.9m, €88m) more than its highly successful Wizarding World of Harry Potter attraction, which has been an unrivaled success since opening in 2014.

According to USJ, the attraction will exceed the size of its Harry Potter element and will feature multiple attractions, dining options and retail venues. The mainly Mario-themed



PHOTO: NINTENDO

■ USJ plans to open the Nintendo IP-themed land in 2020

expansion will take four years to develop at a cost of \$350m (£266.7m, €317.5m), with the opening timed to coincide with the 2020 Olympics and Paralympic Games, which are to be hosted in Tokyo.

Beyond its plans in Japan, Universal is expected to open further

Nintendo attractions across its parks worldwide, with the staggered rollout likely to be similar to that of Harry Potter, which is going from strength-to-strength, launching its most recent addition at Universal Studios Hollywood in April.

■ Details: http://lei.sr?n=V6N3X_A

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NFL's Luck working on \$35m 'sports utopia' in Indiana

NFL quarterback Andrew Luck is playing a part in creating a \$35m (£26m, €31.5m) hands-on indoor/outdoor sports exhibit for the Children's Museum of Indianapolis, Indiana.

The Indianapolis Colts star, who majored in architectural design, has been working with the museum and Ratio Architects to create the Riley Children's Health Sports Legends Experience, which he called a "sports utopia" that every child would want when it opens in Q2 2018.

"For me, as a youngster, sports and fitness was all about having fun, being active and learning how to be part of a team," said Luck. "I think there are so many skills to learn from playing sports – understanding teamwork, accountability, trust and preparation and pushing yourself to get better. This will be a tremendous venue for sports-minded folks of all ages. There is something for everyone."

The 30,000sqm (327,000sq ft) exhibition is being created to provide positive physical experiences in an effort to encourage families to integrate physical activity into daily life so it becomes routine. Included will be several big brand



■ Colts star Andrew Luck has been working with the museum and Ratio Architects

names, with an Indianapolis Colts football experience, Indiana Pacers and Indiana Fever basketball experience, Indianapolis Motor Speedway pedal car racetrack and a USTA family tennis experience among the features of the large-scale attraction.

Additionally Pete and Alice Dye – who have been designing golf courses since the 1960s and have been recognised for services to golf with the PGA Distinguished Service Award – will create a golf experience. ■ Details: http://lei.sr?m=r8G7A_A



■ Jordan donated his Chicago Bulls jersey

Michael Jordan gives \$5m to US museum

Legendary basketball player Michael Jordan has shown his philanthropic side, donating \$5m (£3.8m, €4.5m) to the Smithsonian's upcoming National Museum of African American History and Culture in Washington, DC. The donation by Jordan is the largest sum given from a sportsperson to the David Adjaye-designed museum, which will be opened by US President Barack Obama on 24 September.

■ Details: http://lei.sr?m=E3H6N_A

Discrimination affecting culture workforce

Discrimination within the museum sector is negatively affecting workforce diversity, leading to people leaving the field at mid-career level, according to the UK's Museums Association.

According to research from the Association, an "unconscious bias" is impacting recruitment-related decisions and individual salary, as well as investment into employee's ongoing development once part of an organisation. According to the study – titled *Valuing Diversity: The Case for Inclusive Museums* – this unconscious bias is also influencing decisions around programming, interpretation and representation within museum spaces.



■ Unconscious bias impacts decisions related to recruitment

The study pulled together the perspectives of 80 people working in a variety of roles across the culture sector and was also informed by key publications on diversity in regards to culture, and from other fields including higher education. "There is a wide literature on unconscious bias

and it suggests it affects everyone, is automatic and is rooted in background, personal experience, cultural environment and social stereotypes," said the report.

"Unconscious bias is a live issue and does play out across the sector." ■ Details: http://lei.sr?m=6C9w2_A

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€25m restoration of Colosseum sets stage for future events

Rome's Archaeological Heritage Department has completed the first phase of a major €25m (\$27.8m, £21.2m) restoration of the historic Colosseum, aimed at returning the landmark to its former glory and possibly turning it into a regular entertainment venue.

With funding support from Italian fashion brand Tod's Group, the first phase of restoration has included the surface cleaning of the northern and southern façades, removing dirt and grime created mainly by vehicle pollution, which gave the Colosseum a darkened look.

Since work started in 2011, 13,300sq m (143,160sq ft) of the Colosseum has been washed with atomised water and then hand-scrubbed to remove dirt deposits. Any significant cracks uncovered in the crumbling relic have then been rebonded using an injection of lime mortar. The current arch enclosure system has also been replaced with new gates.

Phase two of restoration will include work on the Colosseum's underground vaults and passages – the areas where gladiators would wait before they entered the arena. Work will begin with a mapping survey, followed by the



PHOTO: SHUTTERSTOCK.COM

■ The Colosseum has been washed with atomised water and then hand-scrubbed

same procedure carried out on the building's facade. It will also grant new public access to parts of the Colosseum currently too fragile or dangerous to visit. The existing visitor centre, currently inside the Colosseum, will be relocated to the amphitheatre's exterior.

By the end of 2018, the arena's floor will also be replaced with one that could support modern-day entertainment, potentially turning the cultural icon into an entertainment landmark.

■ Details: http://lei.sr?m=W3P4P_A



PHOTO: ENGLISH HERITAGE

■ Jousting is a popular attraction in the UK

English Heritage lobbies for jousting

English Heritage has launched a campaign to turn one of its most popular summertime events into a fully-fledged Olympic sport, with the cultural body lobbying to get jousting recognised. Regarded by many as England's first national sport, English Heritage argues that jousting should be added to the Olympic portfolio as one of the world's oldest equestrian sports.

■ Details: http://lei.sr?m=m6C8r_A

Satellite visitor hubs could serve remote sites

Two architecture studios hope to show how remote heritage sites can be served by "satellite" visitor centres through their own design for a tourist hub which celebrates an uninhabited Scottish archipelago from a location on a nearby island.

Scottish studio Dualchas Architects and Norway's Reiulf Ramstad Architects unveiled a master plan for the St Kilda Visitor Centre, proposing the building be built on the more accessible Isle of Lewis 50 miles (80km) away.

St Kilda, in the Outer Hebrides of Scotland, was named a UNESCO World Heritage Site due to its dramatic geological formations. People lived across the archipelago for



PHOTO: DUALCHAS / RRA

■ The visitor centre would be built on a more accessible site

thousands of years, until the last community was evacuated in 1930.

With the backing of UNESCO, a number of organisations in Scotland have been developing a multi-functional visitor hub that will capture the story of St Kilda and showcase the Hebridean

landscape and culture, while regenerating the communities on the surrounding islands.

"We're trying to show how we can experience and represent World Heritage Sites that are very difficult to access," said architect Rory Flynn, from Dualchas.

■ Details: <http://lei.sr?m=H5E3c>

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Fresno Zoo expansion boosts numbers

Since opening its \$57m (£43.7m, €51.5m) African Adventure, California's Fresno Chaffee Zoo has experienced a 40 per cent upturn in attendance – and that's only the start according to the zoo's CEO and director, Scott Barton.

Funded mainly by a levy tax to help support new zoo projects and programmes, the 13-acre (5-hectare) project offers a modern home for a number of species, including African elephants, lions, cheetahs, wildebeest, giraffes, ostrich, springbok and more.

"It's by far the largest project we've done both in footprint size and cost," Barton told *Attractions Management*. "What's been remarkable is the impact it's had. Our attendance from when it opened is



■ African Adventure has caused a 40 per cent attendance leap

about 40 per cent up on the previous year. We're almost a year in now and still seeing very strong numbers. Because our summers get very hot, March, April and May are our busiest months and in each of those months we passed 100,000

guests – something we've only managed to do twice previously in the zoo's 87-year history."

The zoo is now in the next stages of expanding, entering the second phase of development, with the addition of a river expansion.

■ Details: http://lei.sr?a=43w2_A

INDUSTRY OPINION

Aquariums and zoos fight to save critically endangered vaquita

Jennifer Fields

With approximately 60 individuals left in the upper Gulf of California, the vaquita is one of 10 signature species included in AZA's

Saving Animals From Extinction (SAFE) programme. The AZA community is focusing expertise and resources on projects to ensure this critically endangered small porpoise species is not lost forever.

Since 2010, a number of AZA-accredited aquariums and zoos have taken part in field conservation projects benefitting vaquitas. In 2015, AZA SAFE facilitated a meeting with key individuals from US and Mexican governments to review vaquita conservation needs and identify conservation projects that are now included in the SAFE Vaquita Conservation Action Plan (CAP).

On International Vaquita Day in July, AZA-accredited facilities encouraged individuals to sign a letter requesting Mexican government officials permanently ban the use of gillnets and increase enforcement efforts in the Gulf of California. Issues impacting vaquitas were then discussed between US President Barack Obama and President Enrique Peña Nieto of Mexico on 22 July.

People from all over the world have called for action, and their voices have been heard. Both presidents committed to a stronger bilateral cooperation for vaquita conservation, which includes Mexico permanently banning gillnets throughout the vaquitas' range, increasing enforcement efforts to halt illegal fishing and strengthening efforts to develop vaquita-safe fishing gear.

Great strides have been taken but we still have more work to do. Learn more at www.aza.org/aza-safe.

Jennifer Fields, communications coordinator, AZA



LA Zoo goes viral with prankster's animal 'facts'

Los Angeles Zoo has gained some unexpected free PR after a comedian's 'Animal Facts' stunt went viral, drawing the attention of hundreds of thousands of people from around the world.

Posted by the Obvious Plant Facebook page, which has a following of more than 46,000 people, its founder Jeff Wyasaki visited the California zoo, offering some fictional facts about the animals on display with a series of fake signs.

In a post that was shared thousands of times in a matter of days, Wyasaki posted an image that said "I left some fake animal facts at the LA Zoo", with a selection of professional-looking



■ Wyasaki's posts have been shared thousands of times

posters telling park visitors information like "If you give a tiny trombone to 76 ducklings, they will lead the most adorable parade you've ever seen" and "Never trust a bear. They are very sneaky. If you don't see our bear in its pen it means HE'S ESCAPED OMG HE'S RIGHT

BEHIND YOU DON'T TURN AROUND JUST RUN!!"

Attractions Management contacted the zoo for comment, who said "the fake signs were posted around the zoo on June 30 by a guest without our knowledge, but they were promptly taken down by zoo staff."

■ Details: http://lei.sr?a=02q8Z_A

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Pokémon Go success sends augmented reality mainstream

While 2016 has been hailed as the year of virtual reality, augmented reality could well take the crown thanks to the runaway success of Pokémon Go.

The game for smartphones – based on the popular Pokémon gaming series first released in 1996 on the Game Boy console – lets players catch Pokémon in AR, combining GPS with real-world exploration to create a first-of-its-kind experience acting as a trailblazer for AR gaming.

Since the game's launch on 6 July, Pokémon Go passed 100 million downloads and \$160m (£121.7m, €143.5m) in revenue, surpassing Twitter on active users and Facebook on engagement. In the space of two weeks the valuation of Nintendo more than doubled and the company briefly overtook rival Sony in terms of share value. That was before even launching in Japan, the home of Pokémon. The game is currently available in more than 30 countries thanks to a steady rollout across Europe and is generating around \$10m (£7.6m, €9m) a day from its pool of users through in-game purchases.



■ Special Pokémon Go days held by attractions are drawing visitors in their thousands

The game offers great potential in its current form for the attractions industry, with players actively seeking out heritage and cultural sites which double as the location for "Pokestops", areas where gamers can collect items to help them in their quest to "catch

em' all". Additionally, iconic locations such as Times Square and the Eiffel Tower have been touted as places where rare Pokémon will appear at certain times, driving gamers to attractions they might not otherwise visit.

■ Details: http://lei.sr7a-f6u8y_A



■ South Korea wants to be a leader in VR

Lotte develops VR for South Korea gov't

Lotte World – South Korea's largest indoor theme park – is set to lead a consortium of 12 companies tasked with developing a virtual reality (VR) theme park programme. The move is part of the Korean government's Virtual Reality Flagship Project – a scheme which covers a number of sectors with the aim of developing VR technologies ahead of international competitors.

■ Details: http://lei.sr7a-a6g8f_A

Magic Leap joining forces with Lucasfilm

Augmented reality startup Magic Leap has announced a strategic relationship with Lucasfilm, promising to deliver a "legacy of exploration and leadership" on the new platform for experiential storytelling.

Differing from market competitors in AR, such as Microsoft's HoloLens, which uses a stereoscopic technique to create the illusion of a three-dimensional image, Magic Leap's device uses its alternate mixed-reality lightfield to create a world where digital and physical seamlessly blend together.

The two companies released a proof-of-concept video, demonstrating Magic Leap's technology using a Lucasfilm-produced Star Wars scene, using the



■ Magic Leap demoed the tech using a scene from Star Wars

AR technology to bring characters C3PO and R2D2 into a real-world environment.

The two companies announced plans to open a research lab this month at the Lucasfilm San Francisco campus, combining their talents to create pioneering storytelling experiences in a mixed reality world.

"Lucasfilm has created some of the most iconic characters of our time. Ones that dare us to dream, unlock our imagination and excite us to go on a journey with them," said Magic Leap founder, president and CEO Rony Abovitz.

■ Details: http://lei.sr7a-m6d2N_A

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JOEL MANBY

SeaWorld is undergoing a major restructuring to restore its reputation and change visitor perceptions of the brand. Tom Anstey speaks exclusively to SeaWorld CEO Joel Manby about orcas, marine wildlife rescue – and a rescue operation for the company



It's been a tough few years for SeaWorld. Since the release of *Blackfish* in 2013, a documentary film (or, as SeaWorld argues, a propaganda film) about the killer whale Tilikum and the death of trainer Dawn Brancheau in 2010, visitor numbers and profits have plummeted.

The company took longer to react to the film than it should have and on 13 August 2014, SeaWorld Entertainment shed 33 per cent of its value overnight. Partner companies, such as STA Travel, Southwest Airlines, Alaska Air and Virgin America, began distancing themselves from the

marine park brand. The state of California began looking into legislation that would end performance-led orca shows and captive breeding of the mammals.

SeaWorld then took action, announcing the Blue World Project, a \$300m (£227m, €266m) investment in expanding orca habitats at three of its parks. But it wasn't enough to halt the declining fortunes.

Between 2012 and 2015, attendance at SeaWorld fell by 7.5 per cent, a drop of 1.84 million visitors. At SeaWorld Orlando attendance fell 10.8 per cent during this time, and at SeaWorld San Diego, by 20.6 per cent (see Tables 1 and 2 on page 42).

However, many of the problems that have plagued the SeaWorld brand are finally being addressed under the leadership of new CEO Joel Manby.

Manby has an exceptional reputation among industry peers for his work at Herschend Family Entertainment and gained public popularity during his time there due to his appearance on hit TV show *Undercover Boss*. The overwhelming response to the show led him to write the best-selling book *Love Works: Seven Timeless Principles for Effective Leaders*, challenging employers to allow integrity and faith to guide their decisions.



SeaWorld's new CEO Joel Manby has made radical changes to reverse the company's declining reputation, including ending its orca programme

Moving forward

When Manby took the reins from former boss Jim Atchison in April 2015, SeaWorld was boxed into a corner and the pressure was coming from all sides. Animal activists, public opinion and government legislators were causing company value to tumble, but Manby's appointment proved a turning point. He was decisive and proactive and ready to face up to the challenges, and under his guidance a battered and bloodied SeaWorld has so far come out swinging.

"As part of the interview process for the SeaWorld job, I had to share a thesis with the board about what I would want to focus



Our **good work** was drowned out. The **whale issue** was blocking people from being able to see the **truth** about us



on," says Manby. "First, I really wanted to understand the depth of the issue with the orcas. We'd certainly taken hits in the press and our sales results had suffered. I wanted to deal with that and then develop a strategy to move forward from that issue."

"Then, I wanted to make sure the truth about SeaWorld was getting out. I felt like it was a great company, but people really didn't know that. A lot of good work was being done, but it was drowned out by the whale issue. It was blocking people from being able to see the truth about us."

"Finally, I wanted to develop strategies for growth once we had dealt with the



SEAWORLD CARES

Under the SeaWorld Cares charter, several major points are addressed.

■ **Last generation of killer whales:** The company announced the orcas in its care will be the last generation of captive orca at SeaWorld as the breeding programme is terminated.

■ **Natural encounters:** Theatrical shows are being replaced by demonstrations that focus on the orcas' natural behaviour and research, education and care.

■ **Partnership with HSUS:** SeaWorld's partnership with the US Humane Society aims to protect oceans and marine mammals based on the two organisations' joint interest in wild animal and habitat conservation.

whale issue, whether those strategies be new parks and resorts or the expansion of our other brands. Those were the broad areas that I was very focused on."

'Ultimate paradox'

SeaWorld's strongest asset was also its greatest liability. Orcas were attracting some visitors, while driving others away.

In the 18 months since Manby took over, the company has undergone a dramatic restructuring, with new senior appointments and a fundamental change to its ethos. As well as announcing its critical decision to phase out orcas, SeaWorld started to rebuild by promoting itself as a company that creates "real" experiences and being a park that "cares".

"The biggest thing we're trying to change is not so much the in-park experience as people's perception of us," Manby says. "The parks are incredible, high-quality operations, but because of a variety of issues, including legislative efforts, public sentiment and documentaries, our reputation was declining. We had to try to

change the public's outlook and help people see us as the great company that we are."

"It's the ultimate paradox because the very thing that SeaWorld has built its brand around all these years – the orcas, rightly or wrongly – had become a significant problem. It was the reason some people were still visiting and at the



Educate, not dazzle: Manby says SeaWorld's "Cirque du Soleil-style" shows will be replaced with shows based on animals' natural behaviours

same time the reason other people were no longer visiting," Manby says.

Millennial voice

When SeaWorld first opened its doors 52 years ago, it was without killer whales. Those arrived later in 1965, but became, for many people, the stars of the show.

Table 1: Attendance at SeaWorld Entertainment parks

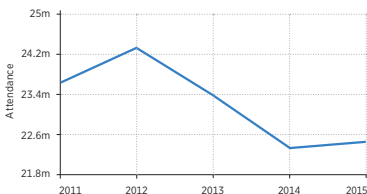
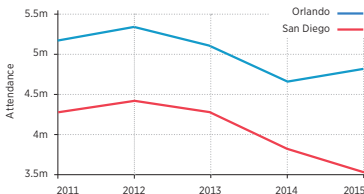


Table 2: Attendance at Orlando and San Diego



SOURCE: TEAMWORK THEME INDEX ATTENDANCE REPORTS



There's a focus on providing visitors meaningful and "real" experiences throughout the SeaWorld, Aquatica and Discovery Cove attractions brands



Manby was faced with a difficult choice – bring an end to SeaWorld's signature experience or risk alienating a growing number of people. As a result, the company ended its orca breeding programme in March this year, with its current generation of killer whales the last it will house. The traditional theatrical show would also be phased out, replaced with something "more natural".

"I did not think this was something we were going to have to do," Manby says. "I thought as long as we got the truth out about the company, it would prevail. However, the research and the data showed sentiment against the orca programme was quite pervasive – and the millennial generation showed even worse sentiment. Those are our future customers."

"Making this kind of decision would show people that we were trying to change, that we get it," Manby says. "We knew having animals this magnificent and this large in a captive environment was going to

be a tough sell for us over the long term. No, I didn't think we'd have to do it, but we listened to the public and the research. It was an incredibly difficult decision, I think the most difficult decision I've ever been involved with in business."

SeaWorld still has a long road ahead in terms of public perception. At the IAAPA Expo in Orlando, Florida, in November last year, Manby said that *Blackfish* had "put a lot of misinformation out there" and that he would be tackling it head on. As well as publishing a list of 69 examples of "misleading or inaccurate" content in the film, SeaWorld launched a series of new advertising campaigns, formed a partnership with the Humane Society and placed fresh emphasis on creating meaningful experiences for visitors. So, a year on, is SeaWorld over the worst?

"Public perception isn't perfect, but it's improving," says Manby. "It's going to be a constant effort for a while. We always will have detractors out there because,

BB

Anecdotes are very important. When we **change** someone's perception and then they tell their story, that's key for our **future success**

BB

frankly, that's how organisations like Peta raise money. But statistics are showing that when people take time to understand who we are they're very impressed. Anecdotes are also very important to us. When we change someone's perception and then they tell their story, that's key for us and our future success."

Educational approach

One of the main contributors to the negative public perception of SeaWorld has been the controversial orca performances. As part of the company's restructuring, the traditional show is being transformed into something designed to educate rather than dazzle.

"Today the shows are more in the style of Cirque du Soleil," Manby says. "The orcas are jumping in unison five at a time and they're trained to do things that some consumers see as unnatural. Our new orca encounter is more Discovery Channel, more educational. It shares the plight of whales in the wild, but it's still engaging."



The new orca show – launching initially at SeaWorld San Diego in 2017 – will make use of film productions behind the pool with a very large screen and nature-inspired setting. The killer whales will do demonstrations with their trainers showing what they do naturally in the wild, with the trainer explaining why they do it.

"We ran a pilot show and the audience scored it just 1 percentage point lower than the current show on entertainment value and rated it double the educational value. This is an evolution for us," he says.

"The millennial generation wants something that's fun and meaningful. Brands like Starbucks or Whole Foods are making the world better while also having a very attractive enterprise. I think it's the wave of the future and that's what SeaWorld is trying to accomplish."

Expanding and evolving

SeaWorld's millennial-friendly experience looks beyond orca and animal shows to add an expanded mix of attractions with new educational initiatives – the newly opened Bolliger & Mabillard rollercoaster in Orlando being a prime example.

"Mako is the highest-ranking ride in Florida with a 93 per cent positive rating, which is unbelievable," says Manby of the shark-themed hypercoaster, which reaches speeds of up to 73mph (118kph).

The ride emulates the speed, agility and feel of the shortfin mako shark, with a conservation aspect included in the queue line where AV elements explain the plight of sharks and the practice and repercussions

The new Mako, with theming by marine wildlife artist Guy Harvey, is the fastest coaster in Orlando

of shark finning. Guests can buy merchandise, with SeaWorld donating a portion of the proceeds to the Guy Harvey Ocean Foundation.

"It's the perfect example of our new strategy," says the CEO. "It's also the tallest, longest and fastest coaster in Orlando – and that's a tough challenge in this competitive market."

"Marine wildlife artist and conservationist Guy Harvey helped theme the coaster and painted a huge mural. People have a great time on the ride, but at the same time they learn about the problem and can play a role in helping to solve it. We want to motivate people to engage and stop things that harm animals in their habitats," he says.

Education will feature widely in upcoming ventures, where new approaches and ideas will shape a contemporary version of SeaWorld. Its first park in the Middle East will also be the first without orcas.

"We have moved to a definitive agreement stage, money has changed hands," says Manby, referring to the deal that's rumoured to be planned for either Dubai or Saudi Arabia. "Things are progressing and it will be the first SeaWorld attraction to not have a killer



whale facility. We're looking at really big ideas that will take the place of that.

"We're introducing a broader mix of entertainment across all of our parks. Instead of being built around large animal stadiums – dolphins, whales, sea lions – we're adding rides like Mako with an animal focus. We're looking into VR to create new experiences or go behind the scenes."

Rescue operations

Manby is keen to raise public awareness of SeaWorld's vast rescue operations.

"We're the largest rescue organisation in the US. Without our facilities, hundreds of dolphins and thousands of sea lions, manatees and birds would die every year."

When an animal is in need of help, the government contacts one of the organisations in the rescue network to bring it in. Once the animal has been rehabilitated, the state, local or federal agency decides whether it can be released – which, Manby says, is always the goal.

"If, though, an animal can't be released, the government tells us where it should go.



SeaWorld has been rescuing orphaned and ill sea lions, dolphins, turtles, birds and manatees for more than 50 years



BB Rescue alone is a reason for our facilities and our unbelievable zoological community to exist, not to mention species preservation 99

We may not keep them. The government might say it has to go to the Monterey Aquarium, for example. That's what a lot of people don't understand."

Without SeaWorld's theme parks, Manby says the rescue work would not be feasible as, although it's a government-run operation, "we do this on our own dime".

Educating about captivity

Manby is also keen to debunk the myths and the negative public opinion that surrounds the issue of animals in captivity, and calls on the attractions industry as a whole to work on its message.

"We all have to do a better job, SeaWorld included," he says. "There's a false notion out there – and I think it's a very dangerous one – that animals being under human care is always a bad thing. That's just not true. Rescue alone is a reason for our facilities and our unbelievable zoological community to exist, not to mention crucial species preservation for the future. Society needs to be educated to understand that better and then this notion that 'captivity is a bad thing' will pop its head up less and less."

"In San Diego, we rescued almost 1,000 sea lions last year, while some manatees

would be close to extinct in Florida if we weren't engaged with the local state and federal governments. That's the part that's maddening to me as an executive. I look at the good our people do and they aren't getting the credit they deserve."

The right call?

Florida as a whole is certainly facing some challenges – the arrival of the Zika virus; the Brexit referendum and the Brazilian recession slowing two key inbound markets; the arrival of Orlando 2.0 in the Middle East (see page 58) and the recent terrorist shooting that took place downtown – SeaWorld could be affected by these events.

However, recommendations from financial analysts say investors should be buying SeaWorld stock right now.

Although current data predicts a drop in earnings of 14.86 per cent for 2016, analysis from US-based stock analyst Zacks Investment Research forecasts an earnings increase of 12.47 per cent in 2017 over the previous year, with estimates further increasing to 34.78 per cent in 2018 and 44.50 per cent in 2019.

Asked if he felt he made the right choice bringing an end to SeaWorld's orca programme, Manby is certain.

"The data shows that we've made the right call," he says. "There's no decision like this where you're going to please everybody, but I think that as SeaWorld continues to evolve as a company, 50 years from now you're going to look back – hopefully a lot sooner than that – and say it was definitely the right choice." ●

RESCUE AND RETURN PROGRAMMES

■ SeaWorld has rescued over **28,000** animals over the past 50 years. SeaWorld San Diego has rescued **16,000** of those

■ SeaWorld & Busch Gardens Conservation Fund (SWBGCF) has given over **\$13m** to 1,000 projects worldwide

■ SeaWorld has pledged **\$10m** to fund research and conservation for wild orcas, and a further **\$50m** over the next five years to marine animal rescue

■ The non-profit Hubbs-SeaWorld Research Institute was founded in **1963**, with a commitment "to return to the sea some measure of the benefits derived from it"

■ In 2000, SeaWorld helped save **20,000** penguins and **700** orphaned penguin chicks affected by the Treasure oil spill in South Africa

■ SeaWorld rescued **15** sea lions displaced by Hurricane Katrina in 2005

■ More than **300** endangered sea turtles were rehabilitated after suffering the effects of record-breaking cold in 2010

■ After a mass stranding in Florida in 2012, SeaWorld Orlando rehabilitated **4** young pilot whales

■ SeaWorld experts have contributed to **1,000** published scientific studies

DIVERSIFY + UNIFY

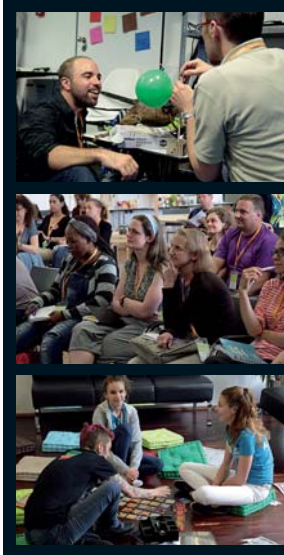
Ecsite Annual Conference 2016

Attendees at this year's Ecsite Annual Conference – held in Graz, Austria – heard how science centres can promote inclusion to help combat fear and ignorance, and how efforts are needed to make the community more diverse

Tom Anstey, journalist, Attractions Management



Austria's then-president Heinz Fischer and his wife, Margit, who's head of the ScienceCentre-Network, pose with staff at the conference



When the president of the host country's wife is one of the people responsible for an event, you expect something special. And that's exactly what 1,000 delegates were treated to at this year's Ecsite Annual Conference in Graz, Austria. A serious note was brought to proceedings, however, when the conference theme of "colours of cooperation" resonated through a stunned audience following a keynote address on diversity in the science centre community.

A PRESIDENTIAL ADDRESS

Austria's then-president Heinz Fischer opened the event, praising the work of the team that put the 9 to 11 June conference together under the supervision of his wife, Margit Fischer, president of the ScienceCenter-Network.

"This is the first time Ecsite has come to Austria," says the president. "Thanks to my wife, I know a little bit about the hard work that's been put in by the organisers to make this happen. There are many who are really devoted to the idea of Ecsite and to the idea of the ScienceCentre-Network."

Fischer praised science centres and museums worldwide, calling them an "essential extra layer" in the school system that marries young people with science.

"How long will it be before I am no longer the only black person in the room? That question has still not been answered. That is on your major to-do list"

"Science centres add to both our school and university system, bringing people closer to science, making it easy for them to understand and allowing them to gain pleasure from learning," he says. "Science centres also enable young people to build a personal relationship with science, technology and innovation."

EUROCENTRIC BIAS

The keynote address was certainly impactful, where a room full of mainly white Europeans did nothing but emphasise the serious issue of ongoing racial disparity in the science community.

Recounting her first Ecsite in 1995 – when just a handful of people attended the event – Dr Elizabeth Rasekoala highlighted the issue that science's Eurocentric model has been, and still is, excluding young black people from pursuing interests and potential careers in STEM subjects.

Dr Elizabeth Rasekoala (main picture, right) told the Ecsite Annual Conference in Graz, Austria, that science centres in Europe had failed to deliver a socially inclusive model

"We barely filled a room in King's College in London in 1995," says Rasekoala, who is president of the Pan-African Network for the Popularisation of Science and Technology (Gong). "Those were days full of excitement. I remember that conference and I remember asking myself two questions. First, I asked how long it would take before we had more women in the room – and it is good to see that the question has been answered well."

"The second question was how long it would be before I am no longer the only black person in the room. That question has still not been answered. That is on your major to-do list."

Rasekoala went on to share global science centre and science museum visitor statistics. She says one in every 1,900 people in Africa had visited such an institution and then compared that to the UK, where the figure was one in four. ▶



Barbara Streicher, of Austria's ScienceCentre-Network, addresses the audience at the Ecsite Annual Conference



President Fischer praised science centres and museums, calling them an "essential extra layer" in the school system



The conference includes a range of hands-on activities and workshops, including sessions on makerspaces, citizen science, facilitation, creating exhibitions, design thinking, big data and much more



► According to Rasekoala, the European education system tells a similar story.

"We see European STEM education welcoming graduates from developing countries, yet they cannot deliver the same progression for local students from those same backgrounds," she says. "I found myself as a postgraduate African student dealing with a perverse dichotomy of a university department that supported me and my aspirations and yet at a children's primary school, they are deemed to be underachieving black youths who can only excel in sports and music. You are living with this sort of schizophrenia in society. How do we explain that?"

She says European science centres had failed to deliver a socially inclusive model and that was having a trickle-down effect in Africa and creating a cycle of inequality that is being replicated around the world.

"Within the African context we can see the global footprint of these inequalities," Rasekoala says. "Somewhat ironically,

the contamination of this Eurocentric approach means that in Africa we have African scientists marginalised and so aware of being marginalised that when they go back home they perpetuate the same inequalities. It's like children who've been abused who grow up and become abusers. That's what we are creating: we are exporting Eurocentrism."

STANDING OVATION

Concluding her keynote by urging Ecsite and the network of global science centres to urgently address the issue, reshaping science to educate with a truly global approach that encourages all to take up science and STEM subjects, Rasekoala received a standing ovation from her peers.

When the following Q&A session occurred, not a single person raised their hand to ask a question for several minutes, telling the story of a room that didn't know how to address such a sensitive topic. The first person brave

enough to comment in front of their peers acknowledged it was still a challenging subject that needed to be addressed.

Speaking on the tackling the Eurocentric approach, Rasekoala added:

"What are the parameters that should be included in making these changes? It's up to you to work out," she says. "In my country we have a saying. This is a place where the dead bodies are buried and this is where we're going to have to dig them up if we want to make change."

FIGHT FEAR WITH INCLUSION

Elsewhere at the conference, Ecsite president Michiel Buchel addressed the delegates urging them to take a stand against fear and show Europe that inclusion can be far stronger a force than "looking for enemies that are often not really there."

"We represent Europe and progress, and we all know there is a cold, dark wind blowing through Europe right now," he says. "We need Europe and Europe needs us."



More than 50 exhibitors (right) attend the Business Bistro, Ecsite's commercial hub, with cutting-edge products and services



By 2020, Denmark will need more than 35,000 engineers and people with a master's degree in science

EMME Summer School is a training programme for science centre leaders (left); The maker movement continues to inspire the sector (right)



Buchel continued: "We're undergoing a rather difficult and sometimes uncertain phase. Immigration, refugees, terrorism – these things can make people scared, but as a truly European network we must represent its values. We can show that inclusion is so much better than looking for enemies that are often not really there."

Using the conference itself as an example of cooperation, Buchel noted that nearly half of the participants at the conference had also been actively involved in some way in creating the show's content. Buchel added that each member of Ecsite could use their sphere of influence to address some of the problems Europe is facing, using science as a catalyst to start a debate on those issues.

"We stand for solutions, for the belief that science and technology can help us and help people to tell the difference between fact and fiction," he says. "I think science can be and is a really strong weapon against ignorance and stupidity."

OUT OF THIS WORLD

Space was another theme at Ecsite, with Danish scientist Tina Ibsen calling for planetariums and science museums to harness the surging interest in space to draw young people into STEM careers.

Ibsen, head of science and outreach at Copenhagen's Tycho Brahe Planetarium, says it is essential for scientific institutions to encourage children to head towards a career in STEM as the need for skilled workers in the field increases.

"By 2020, Denmark will need more than 35,000 engineers and people with a master's degree in science," says Ibsen. "We're a small country of 5 million people so there is this problem of not enough kids going into STEM studies."

Ibsen detailed how Denmark tried to achieve this goal – using homegrown astronaut Andreas Mogensen as a spark to ignite youth interest in STEM. Mogensen, who was given a mission to the International Space Station (ISS)

in 2015, was at the centre of a project called 2015: Space Odyssey, named as an homage Stanley Kubrick's famous film.

"We don't have a space agency in Denmark, so we went ahead ourselves and used Mogensen as a way of engaging more kids in STEM careers," says Ibsen.

"We came together with 15 partners across Denmark – science centres, museums, universities and even the Danish version of the BBC – to create the largest outreach project ever to happen in Denmark. And we had five main focus areas – events, educational material, competitions, teacher training courses and general outreach," she says.

The effort proved a success, with more than 140,000 people in the country taking part in a number of events on 2 September 2015, the day Mogensen embarked on his mission to the ISS. As a result of the programme's success, Ibsen says these partners have continued to collaborate on new projects together. ●

Efteling – the Netherlands' oldest theme park – launched an €18m immersive steel dive coaster, Baron 1898, in 2015

“Attendance across the **top 10** operator groups increased by 7.2 per cent. The level of growth is strong and **encouraging** for the industry”



THEME & MUSEUM INDEX

The TEA/AECOM 2015 Theme Index signals healthy attendance growth at parks around the world, especially in Asia and North America

Jodie Lock and Margreet Papamichael, AECOM Economics

The TEA/AECOM Theme Index and Museum Index is a collaboration of the Themed Entertainment Association (TEA) and the Economics practice at AECOM. This calendar-year study of global attractions attendance is a free resource for park operators, land developers and the leisure industry. Top worldwide theme parks, amusement parks, waterparks, museums and theme park group operators are named and ranked by attendance and industry trends are identified. The global market is studied as a whole, and each of its main regions is also studied separately: the Americas, EMEA and Asia-Pacific. There is also a focus on waterparks and a table listing the top global chain operators in themed entertainment.

The big picture

The attractions industry witnessed another year of solid global growth in 2015. With aggregated attendance across

the top 10 operator groups increasing by 7.2 per cent during the course of 2015 to around 420 million visits, the level of growth seen this year is strong and encouraging for what is typically considered a well-established industry.

The shifting composition of the world's top theme park groups is largely driven by a combination of longstanding US operators, most notably Disney and Universal, and fast-emerging major Asian operators, such as OCT Parks China, Chimelong, Fantawild and Songcheng, who are rapidly climbing up the ranks.

European operator Merlin Entertainments is paying close attention to building up its portfolio of midway attractions. The launch of seven new such attractions in 2015 – including Shrek's Adventure in London and Sea Life in Auburn Hills, Michigan – ensured group numbers remained buoyant in second place despite the difficulties faced by their resort theme park arm following the devastating crash at Alton Towers last year.



Chimelong Guangzhou: the operator enjoyed a 26 per cent rise in attendance in 2015

FAST FACTS

Key figures from the TEA/AECOM 2015 Theme Index and Museum Index:

- 420 million visits to attractions run by the top 10 global theme park groups, up 7.2 per cent
- 236 million visits to the top 25 amusement/theme parks worldwide, up 5.4 per cent
- 146 million visits to the top 20 amusement/theme parks in North America, up 5.9 per cent
- 131 million visits to the top 20 amusement/theme parks in Asia-Pacific, up 6.9 per cent
- 107 million visits to the top 20 museums worldwide, down 0.7 per cent
- 74 million visits to the top 20 museums in Europe, Middle East and Africa, down 1.7 per cent
- 61 million visits to the top 20 amusement/theme parks in Europe, Middle East and Africa, up 2.8 per cent
- 58 million visits to the top 20 museums in Asia-Pacific, down 0.4 per cent
- 58 million visits to the top 20 museums in North America, up 2.6 per cent
- 29 million visits to the top 20 waterparks worldwide, up 3.7 per cent



Parque de Attracciones de Madrid (top) has seen attendance slip in the last 10 years, while visits to Disneyland Paris (right, below) have increased 16 per cent



“Disneyland Paris reported an attendance upswing for the first time since 2012”

Asia strengthens

Generally speaking, the geographic distribution of the world's top 25 parks has moved eastwards since 2005, with APAC capturing market share (+7%) to the detriment of both the US (-5%) and EMEA (-2%). Strong demographic fundamentals and a widespread operator focus on park additions and expansions in the APAC region point towards a continuation of this trend over the medium term.

Furthermore, a development focus on second-tier cities can be observed, although predominantly in China where there has been a notable shift in the development of new parks from primary seafront cities to inland cities in central and northwest China.

That said, Florida remains dominant as the world's leading theme park destination, home to no fewer than seven of the top 25 theme parks, with a combined attendance of more than 77 million visitors in 2015 – around one-third of aggregate attendance to the world's 25 most visited parks.

Europe's ups and downs

The European theme park market witnessed a second year of modest post-recession growth in 2015, with attendance

levels edging up 3.2 per cent following the 3.4 per cent increase in 2014. Visitation to EMEA's top 20 theme parks reached 61.2 million, up from 55.6 million in 2014.

Disneyland Paris enjoyed a rebound year, reporting an attendance upswing for the first time since 2012, underpinned by improvements to the economic climate in France and significant capital investments, including new IP-branded experiences revolving around Star Wars and Frozen.

Further, in marking its 40th anniversary in 2015, Europa Park posted an impressive 10 per cent increase in visitation, once again proving the family-owned attractions can move from strength to strength despite tough competition from dominant international operators.

Attendance levels at Alton Towers and Thorpe Park were severely suppressed in the aftermath of a tragic accident that occurred on the Smiler ride at the beginning of last year's peak season.

The decline in attendance at these two popular parks has impacted the overall picture for the region and to get a clearer view on what the sector may have looked like without this tragic incident, we assumed the average growth of the other Merlin parks for this year for these two parks, which would have resulted in growth for the EMEA's top 20 parks of 4.9 per cent instead of the reported 3.2 per cent. This not only highlights the impact of what happened, but also, most

importantly, that there is an underlying picture that is very healthy for the European market as a whole.

Decade of growth

In AECOM's 10 years of closely tracking attendance in the themed entertainment industry, we've seen marked improvements in attendance (despite a global recession), the adoption of exciting new technologies and the continued internationalisation of the industry. Attendance at major European theme parks has grown steadily during that time – predominantly organically rather than with the addition of new parks.

Europe represents a mature, relatively stable market, so growth prospects are stronger in Asia and the Middle East – which benefit from booming populations and increasing disposable incomes.

While 10 years ago European parks captured a 13 per cent share of global attendance, by 2015 this had slipped to 11 per cent as the larger APAC market came into its own.

The TEA/AECOM Theme Index's 10-year anniversary allows us to take a longer view back and we have assembled a table of information tracking attendance at the 24 European theme parks that are familiar within the Index. Assuming stable attendance for Slagharen this year and having combined attendance of the two parks in Marne-la-Vallée, France, the following picture emerges (see Table 1).

“Puy du Fou and Parque Warner achieved compound annual growth rates of 6 per cent”



Puy du Fou achieved attendance growth of 74 per cent in the past 10 years and average year-on-year growth of 6.3 per cent

There are some clear winners and losers in this picture (disregarding the Alton Towers results as we hope this year will have been an anomaly for them). We observe outstanding, solid performance over that time period from Puy du Fou and Parque Warner, both achieving compound annual growth rates (average year-on-year growth) of more than 6 per cent.

In the middle field, there are some great performances from Europa Park, De Efteling, Legoland Windsor, Legoland Billund, Futuroscope, Chessington and Gröna Lund, with growth rates reported of between 3 and 5 per cent.

The majority of the lesser performing parks seem to be in Southern Europe, where recovery from the latest recession has been slower, indeed, Mirabilandia and Parque de Atracciones have both slowly slipped from the top 20 over time. Who knows, they may be back soon?

Looking ahead

The UAE theme park business is seeing massive waves of investment in the lead up to Expo 2020. Mega developments, such as Dubai Parks & Resorts and IMG World of Adventure, are being launched with such huge ambition that some cautiously question their ability to deliver the attendance figures that have been forecast in this somewhat immature market.

However, the creation of an entertainment destination in a sunny climate may well

Table 1: Attendance at European amusement / theme parks over 10 years

Park	Location	2006	2010	2015	Growth 2006-15	CAGR
Disneyland + Studios	France	12,800,000	15,000,000	14,800,000	16.00%	1.60%
Tivoli Gardens	Denmark	4,396,000	3,696,000	4,733,000	8.00%	0.80%
Europa Park	Germany	3,950,000	4,250,000	5,500,000	39.00%	3.70%
Port Aventura	Spain	3,500,000	3,050,000	3,600,000	3.00%	0.30%
De Efteling	Netherlands	3,200,000	4,000,000	4,690,000	47.00%	4.30%
Gardaland	Italy	3,100,000	2,800,000	2,850,000	-8.00%	-0.90%
Liseberg	Sweden	2,950,000	2,900,000	3,100,000	5.00%	0.60%
Alton Towers	UK	2,400,000	2,750,000	1,925,000	-20.00%	-2.40%
Phantasialand	Germany	1,900,000	1,850,000	1,900,000	0.00%	0.00%
Parc Asterix	France	1,800,000	1,663,000	1,850,000	3.00%	0.30%
Thorpe Park	UK	1,700,000	1,850,000	1,850,000	9.00%	0.90%
Mirabilandia	Italy	1,700,000	1,505,000	1,369,000	-19.00%	-2.40%
Parque de Atracciones	Spain	1,500,000	1,347,000	1,250,000	-17.00%	-2.00%
Legoland Windsor	UK	1,480,000	1,900,000	2,250,000	52.00%	4.80%
Legoland Billund	Denmark	1,460,000	1,650,000	2,050,000	40.00%	3.80%
Dünnell	Netherlands	1,350,000	1,340,000	1,400,000	4.00%	0.40%
Futuroscope	France	1,350,000	1,825,000	1,800,000	33.00%	3.20%
Heide Park	Germany	1,200,000	1,350,000	1,525,000	27.00%	2.70%
Chessington	UK	1,100,000	1,200,000	1,640,000	49.00%	4.50%
Slagharen	Netherlands	1,400,000	1,464,000	1,037,000	-26.00%	-3.70%
Gröna Lund	Sweden	1,050,000	1,306,000	1,461,000	39.00%	3.70%
Puy du Fou	France	1,180,000	1,472,000	2,050,000	74.00%	6.30%
Parque Warner	Spain	900,000	1,193,000	1,641,000	82.00%	6.90%
		57,366,000	61,361,000	66,271,000	15.50%	1.60%

IP providers look for potential in attractions sub-markets. Here we see Mattel Play in Liverpool, UK



Table 2: Most attended amusement / theme parks worldwide

Rank	Park And Location	% Change	2015	2014
1	MAGIC KINGDOM at Walt Disney World, Lake Buena Vista, FL, U.S.	6.0%	20,492,000	19,332,000
2	DISNEYLAND, Anaheim, CA, U.S.	9.0%	18,278,000	16,769,000
3	TOKYO DISNEYLAND, Tokyo, Japan	-4.0%	16,600,000	17,300,000
4	UNIVERSAL STUDIOS JAPAN, Osaka, Japan	17.8%	13,900,000	11,800,000
5	TOKYO DISNEY SEA, Tokyo, Japan	-3.5%	13,600,000	14,100,000
6	EPCOT at Walt Disney World, Lake Buena Vista, FL, U.S.	3.0%	11,798,000	11,454,000
7	DISNEY'S ANIMAL KINGDOM at Walt Disney World, Lake Buena Vista, FL, U.S.	5.0%	10,922,000	10,402,000
8	DISNEY'S HOLLYWOOD STUDIOS at Walt Disney World, Lake Buena Vista, FL, U.S.	5.0%	10,828,000	10,312,000
9	DISNEYLAND PARK AT DISNEYLAND PARIS, Marne-la-Vallée, France	4.2%	10,360,000	9,940,000
10	UNIVERSAL STUDIOS at Universal Orlando, FL, U.S.	16.0%	9,585,000	8,263,000
11	DISNEY'S CA ADVENTURE, Anaheim, CA, U.S.	7.0%	9,383,000	8,769,000
12	ISLANDS OF ADVENTURE at Universal Orlando, FL, U.S.	8.0%	8,792,000	8,141,000
13	CHIMELONG OCEAN KINGDOM, Hengqin, China	36.0%	7,486,000	5,504,000

“We expect to see the transformation of attractions from passive to engaging adventures”

prove a success for the entire region. The industry's growth prospects in the Middle East are very much underpinned by ambitious tourism projections, in line with Dubai's mandate to attract 20 million visitors by 2020, coupled with a perceived lack of entertainment provision in the market, strong international accessibility, a developed tourism infrastructure and the presence of international landmarks. For now, we wait and see; however, it's clear the UAE wants to compete not just on a local or regional level, but on a global level.

Throughout the EMEA region we are seeing increasing interest in smaller themed attractions, such as FECs. This sub-market

of the industry is currently undergoing a period of significant growth, and interestingly it is doing so in mature markets such as the UK, France and Spain.

Retail partnerships

Attractions operators are tapping into secondary cities, working with retail operators to introduce leisure as a key diversifier to help mitigate the pressures on the sector caused by changing shopping behaviour. Retail is emerging as a leisure activity. Its merging with other leisure activities is a logical extension of the development of shopping destinations. IP providers are eyeing this market and the potential it holds.

Technological advancement is shaping the industry like never before. Augmented reality equips leisure developers with the ability to create virtual content within applications that blend in with the real world. A seamless guest experience, from sofa to rollercoaster, is already being adopted by some parks through the creation of dedicated mobile applications.

We can expect to see the transformation of attractions from passive amusements into engaging, immersive adventures, the development of VFX simulations of rides and more hi-tech, show-orientated experiences which are tied to seasonal events.

Outlook



As geopolitical tensions mount in Europe, heightened by Brexit, we anticipate continued macroeconomic uncertainty over the next year and thus a likelihood of volatility in the industry over the short term. How this translates into tourism volumes, leisure spending and, ultimately, attendance at attractions remains to be seen.


Concerns around London trading and the pace of the Alton Towers' recovery are also weighing negatively on sentiment. However, we're still looking on the bright side, following two years of growth in the sector, the increased focus on, and proliferation of, smaller attraction concepts, and continued diversification across geographic markets among leading international IP providers and attraction operators.





Life is a rollercoaster! ●

Table 3: Top 10 theme park groups worldwide


Rank	Park And Location	% Change	2015	2014
1	WALT DISNEY ATTRACTIONS	2.7%	137,902,000	134,330,000
2	MERLIN ENTERTAINMENTS GROUP	0.2%	62,900,000	62,800,000
3	UNIVERSAL PARKS AND RESORTS	11.8%	44,884,000	40,152,000
4	OCT PARKS CHINA	7.8%	30,180,000	27,990,000
5	SIX FLAGS INC.	11.4%	28,557,000	25,638,000
6	CEDAR FAIR ENTERTAINMENT COMPANY	4.9%	24,448,000	23,305,000
7	CHIMELONG GROUP	26.4%	23,587,000	18,659,000
8	FANTAWILD (NEW)	77.4%	23,093,000	13,020,000
9	SEAWORLD PARKS & ENTERTAINMENT	0.3%	22,471,000	22,399,000
10	SONGCHENG WORLDWIDE	53.4%	22,338,000	14,560,000
TOP 10 TOTAL ATTENDANCE 2015		3.0%	420,360,000	382,853,000
TOP 10 TOTAL ATTENDANCE 2014		7.2%	392,039,000	






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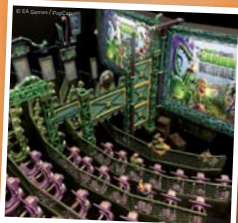
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LEGO Kingdom Quest
Dark ride feat. sets and media content
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Beautiful Horizons

EAS

Euro
Attractions
Show

The attractions industry is set to descend upon one of Europe's most inspiring cities – Barcelona. And if it's inspiration you're looking for, the Euro Attractions Show is the place



A visit to Barcelona in September is a surefire way to widen your professional horizons in the attractions world, as Europe's premier buying event and seminar programme arrives in Spain's second most populous city.

With more than 9,000 attendees coming to the Euro Attractions Show (EAS), it's set to be one of the busiest ever. In response, the organisers are promising 450 world-class exhibitors, a 12,000sqm (129,000 sq ft) trade show floor and a comprehensive education schedule based on what's happening in the industry right now.

EAS 2016 is being held at the Fira Gran Via Convention Center from 18 to 22 September, with certain elements being hosted at PortAventura World, southern Europe's leading theme park.

Who's going?

EAS always attracts strong interest from its base in central Europe, especially Spain, France, Italy, Germany and the Benelux region. The event is increasingly popular among companies from the Middle East and Africa, due in part to IAAPA European operations taking on the entire EMEA region. Interest from the Latin America area is noted because of the event being held in a Spanish-speaking country.

EAS 2016

Location: Fira Gran Via Convention Center, Barcelona, Spain

Dates:

Conference: 18-22 September

Trade Show: 20-22 September

What will I see?

On the exhibit floor – the largest in EAS history – buyers and decision makers can browse hundreds of different types of products and services. From rollercoasters and dark rides to family rides and water rides, from theming services to theatrical equipment and costume design, from POS and ticketing technology to food and beverage offerings and from resort and hotel development to waterpark design, attendees can find everything related to the leisure and attractions industry.

What can I learn?

The education programme covers lodging and resort development, dining experiences, intellectual property, pricing and yield management, edutainment possibilities, event organisation, revitalising attractions, developing VIP guest programmes and much more.

Who's speaking?

The list of speakers includes a range of industry leaders, company owners and attractions operators, including representatives from Disneyland Paris, Efteling, Europa Park and Leolandia.

■ **Fernando Aldecoa**, general manager at PortAventura World, is the star of this year's CEOs Talk roundtable

■ Ferrari's **Michele Pignatti Morano** is discussing the power of the Italian brand as a park concept

■ **Sandy Clark**, operations director at The View from the Shard, is talking about the benefits of VIP guest programmes

■ **Paul Chatelot**, director for safety, prevention and the environment at Disneyland Paris, is presenting on developing an emergency response plan

■ **Margreet Papamichael**, director economics, AECOM, is talking at a session on IPs in attractions

■ **Roland Klieve**, managing director at Bobbejaanland, is sharing his ideas on how to renew and revitalise existing attractions

■ **Chris Perry**, amusement executive at WhiteWater West, is giving a presentation making your park "epic"

■ **Søren Kragelund**, president at Fårup Sommerland, is talking about how to implement lodging facilities at an attraction

PortAventura theme park in Salou, Spain, is hosting part of the education programme

IAAPA

IAAPA Safety Institute

Taking place on 19 September at PortAventura World, the programme educates operators about the latest developments and best practices in ride safety standards, loss prevention, risk management, ride design and safety compliance and will also examine best practices in waterpark safety and operations.

IAAPA Institute for Attractions Management

This is a two-and-a-half day programme, from 18 to 20 September at PortAventura World, blends classroom instruction and case studies with field work in five core areas: finance, marketing, leadership, facility operations and safety, and revenue operations. The institute is designed for industry professionals with less than five years of management experience.

REGISTER NOW!

Registration is open for EAS 2016. Visit the website now to avoid disappointment. www.IAAPA.org/EAS

MORE INFORMATION ON EAS:

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

A range of networking and learning events is on offer for attendees

DESERT OPERATORS

Dubai is on the brink of a theme park revolution and the next few years will be critical in the development of the attractions market in the region. We talk to the movers and shakers

Tom Anstey, Journalist, Attractions Management

Things were looking bleak for Dubai in 2007. Money set to be invested in projects across the UAE suddenly disappeared as the global financial crisis hit. A number of theme park projects collapsed, with billions lost in investments.

But Dubai is bouncing back, presenting itself as "Orlando 2.0" in the run-up to its 2020 Expo. Research from PwC forecasts that theme park revenues in the UAE will increase up 78 per cent by 2019, to a predicted AED3bn (\$817m, £561m €724m).

The Orlando 2.0 concept centres around three major developments: IMG Worlds of Adventure, Dubai Parks and Resorts and Fox World Dubai.

Opening imminently, the colossal IMG Worlds of Adventure site will be the world's largest indoor theme park, while the multi-park Dubai Parks and Resorts continues to expand, recently announcing plans for a Six Flags park in addition to its Bollywood, Hollywood and Legoland theme parks which are opening in 2017.

The desert landscape heats up further with 20th Century Fox World, which comes to Dubai in 2018. And that's all in addition to the existing Ferrari World, which is also working on a major expansion.

With hotel occupancy growing and Dubai on target to attract 20 million tourists annually by 2020, the Dubai Tourism Authority sees the under-development theme parks as crucial to maintaining visitor numbers both up to and beyond the 2020 Expo.

However, with the financial crash casting a long shadow and the UAE facing uncertainties around the future of its main export – oil – is Orlando 2.0 a viable option that can take Dubai to the next level? *Attractions Management* talked to three theme park heads who are driving the renewed growth in the region.



Legoland will be part of the Dubai Parks and Resorts development





Greg Lombardo
Senior vice president of
location-based entertainment,
20th Century Fox World

How did 20th Century Fox World Dubai come about?

Four years ago, we announced our first park in Malaysia and doing that offered us a chance to look at the rest of the world and ask where else the concept could work. We decided Dubai has learned a lot from its past experiences and applied some very thoughtful strategy to the way it's going to enter and grow in this market.

What will the park be like?

The blueprint has a couple of key characteristics. Visitors walk through a movie screen and become fully immersed in the worlds of Fox film and television IPs. We're going to have fun with the entry sequence from location to location but that will be the narrative that people experience when they enter the park. Once you're inside, it's going to be clear that we're building lands around our brands. There will be multiple experiences wrapped with the individual brands. It's not going to be a studio park in the traditional sense.

What makes this attraction different?

We want to create a unique experience in every market, but that doesn't preclude the parks sharing some of our flagship brands. We're intent on creating a DNA for the park that is uniquely Fox. When visitors



Fox World is set to open two theme parks, one in Malaysia and one in Dubai

20TH CENTURY FOX DUBAI

PRICE: AED3.1bn (\$850m, €745m, £589m)

OPENING: 2018

SIZE: 4 million sq ft (371,612sqm)

KEY IPS: Ice Age, Rio, Planet of the Apes, The Simpsons, Titanic

F&B/HOSPITALITY/RETAIL: Fox-themed resort hotel

KEY GROUPS: Al Ahli Holding Group, 20th Century Fox, Rethink Leisure & Entertainment

PROJECTED ANNUAL VISITORS: 4 to 5 million

walk into the park, they'll know they're in a Fox World park. There will be variations in the way we treat IPs at each location. I want people to go to Dubai and then go to Malaysia and feel like they've had very different experiences, but still feel that they've visited a Fox World park.

Some IPs are no-brainers for a park of this type. Ice Age and Rio lend themselves wonderfully to a theme park. Titanic will be part of the parks. In the case of Dubai, we've announced the Simpsons and Sons of Anarchy – hopping on that motorcycle will translate into a very visceral experience. Alien would be a terrific brand to explore.

How is Dubai shaping up as a global destination?

Orlando is the golden goose. I think that's certainly the general consensus.

But if you look at the key hallmarks of Orlando, you've got the same in Dubai. In Orlando there are the big studio parks like Universal and Disney – the kings of the hill there – and then you've got operators like SeaWorld and Legoland. You've got critical mass with the big operators and they're all doing well. In Orlando, all ships rise on that tide and that's exactly what Dubai aspires to. Fox World, Dubai Parks and Resorts and IMG Worlds of Adventure are the destinations that are going to sustain that critical mass. I think Dubai has entered the next phase of its development.

What plans do you have going forward?

We are planning additional resorts outside the UAE. I think it's safe to say that Fox would be interested in certain markets if specific milestones are met.



Lennard Otto
General manager,
IMG Worlds of Adventure

How did IMG Worlds of Adventure come about?

The whole park was conceptualised by the owners, Ilyas and Mustafa Galadari. It was their vision. They acquired two strong brands in Marvel and Cartoon Network, and they wanted to build a dinosaur component of their own. Their passion for theme parks drove them to conceptualise the park.

What will the park be like?

The park is divided into four sections. Marvel is one of the strongest movie franchises, and in this zone we've put all the characters into a live setting. Then we have our Cartoon Network section. The network, part of the Turner Broadcasting Group, airs in more than 190 countries. The Lost Valley is where we created the dinosaur adventure, bringing a prehistoric environment to life.

What is the target audience?

We're expecting to attract about 50 per cent local residents and 50 per cent tourists. Our strength is that we've eliminated seasonality: the attraction offer is year-round and that makes it appealing in the hot weather. There's also a lack of activities like this for residents to do. With the mix of characters in the parks and the collection of rides and attractions, the key age bracket we are targeting is 18- to 35-year-olds.

What makes this attraction different?

Dubai is four hours away from one-third of the world's population, but there's nothing on this scale available for this market. Within an eight-hour flight radius you can reach two-thirds of the world's population. There's only a handful of attractions that can compete. It's an untapped market and new attractions will help inspire people to want to visit this region.

What plans do you have going forward?

The park is built to be future-proof. We've left room for expansion to add new attractions over the next five years. In terms of our business model, we're looking

to replicate this – on a larger scale – across the world. It's a highly replicable model because you can eliminate seasonality, which is such a key factor today.

What are your thoughts on Dubai as destination?

Dubai is following an Orlando 2.0 model and the competitive landscape is shaping up nicely. There are a lot of attractions opening. Dubai will eventually turn into an Orlando-style destination where theme parks are one of the main draws for tourists. There's no reason why it can't happen: Dubai has more hotel rooms than Orlando and the airport is twice as busy.

An exterior view illustrates the size of the IMG Worlds of Adventure, Dubai



IMG WORLDS OF ADVENTURE

PRICE: AED3.7bn (\$1bn, €877m, £693m)

OPENING: 15 August 2016

SIZE: 1.5 million sq ft (139,354sq m)

WHAT'S INCLUDED: Four themed areas based on Cartoon Network, Marvel, Lost Valley – Dinosaur Adventure and IMG Boulevard

KEY IPS: Adventure Time, The Powerpuff Girls, Ben 10, The Amazing World of Gumball, Iron Man, Spiderman, The Incredible Hulk, The Avengers

STANDOUT RIDES/EXPERIENCES: Avengers: Battle of Ultron, Avengers: Flight of the Quinjets, Ben 10 5D Hero Time, Adventure Time - The Ride of OOO with Finn & Jake, The Powerpuff Girls – Mojo Jojo's Robot Rampage!

F&B/HOSPITALITY/RETAIL: 25 retail outlets and 28 F&B outlets on IMG Boulevard

KEY GROUPS: Ilyas and Mustafa Galadari Group

TICKET PRICE: Adults AED300 (\$82, €72, £57), Kids AED250 (\$68, €60, £47)

CAPACITY: 20,000 people per day



Motiongate theme park at Dubai Parks and Resorts features Hollywood studios DreamWorks Animation, Sony Pictures and Lionsgate



Matthew Priddy
Chief technical officer,
Dubai Parks and Resorts

How did Dubai Parks and Resorts come about?

The plan for the theme park destination stemmed from Dubai's mission for the 2020 Expo and its desire to bring in 20

million visitors annually. In support of that, we realised that providing a destination resort able to cater to all age groups was essential. There's Legoland for young people; Bollywood, which has a huge fanbase within six hours of here, and Motiongate for the older audience. There's a hotel, retail and dining area called Riverland. It's the vision of Dubai Parks and Resorts CEO Raed al Nuaimi.

What will the park be like?

Legoland is its own brand and everyone has a level of expectation about what Merlin will deliver. Motiongate is the Hollywood-based theme park, which has DreamWorks, Sony, Smurfs and Lionsgate areas.

The Lionsgate land is based around the Hunger Games franchise and features a launch coaster themed as the bullet train from District 13. The Sony area features IPs like Ghostbusters, Hotel Transylvania and Zombieland and the DreamWorks area includes Shrek, King Fu Panda and How to Train Your Dragon.

Bollywood is going to be rich, colourful, playful, musical – all those good things. A Bollywood-themed attraction has never been done before. The attractions are based on iconic films from Bollywood from

the last 50 years, motion-based, media-based attractions using some of the industry's biggest films. We think these are going to be a huge draw. There's also a Bollywood theatre which visitors can enjoy in the evenings.

Riverland is the F&B zone and it's a walk through time. At the start, visitors experience a centuries-old architectural style. As they progress from one end to the other the style gets more up to date. The end is a high-energy citywalk area, with neon lights and contemporary graphics.

What makes this attraction different?

There were a couple of factors in selecting Dubai for the resort. The infrastructure was one of them. With the hotels and great airline services, the ability for us to absorb high numbers of guests is essentially already there. In addition, there really aren't any multi-day mega-resorts like this in the region. I guess the closest would be EuroDisney, but in terms of the Orlando effect, there's nothing like it within a six to 10 hour radius by air.

Dubai is all about world records and world firsts. We're going to accomplish our own record, which is building three theme parks and a mega-resort all at one time, ►

- whereas similar resorts around the world have grown over time. That's going to be a huge achievement for us. At the moment we're also in a position where we are very confident that this is all going to happen on time and on budget.

What plans do you have going forward?

Right now we're focused on the opening, but there is a built-in expansion capacity within each park just like any smart developer would have in any other destination. We're expecting there'll be higher demand than capacity so we'll probably introduce some form of capacity management programme. So expansion is not on our radar, but there are plans in place should we want to grow.

How do you feel about the theme park boom in Dubai?

A second Orlando is a possibility. There are numerous parks and developments in the region. We don't consider them competition, but complementary. Orlando is a destination city for theme parks and I think that's going to happen in Dubai. I can think of half-a-dozen theme park projects under development in the area, not to mention the 2020 Expo.

It's important that this region diversifies its economy. Dubai has its real estate, to some extent its oil, but it's going to become a tourist entertainment destination. We think that that will be very sustainable.



Legoland Water Park is aimed at families with children aged two to 12



An aerial rendering shows the different areas that make up Dubai Parks and Resorts

DUBAI PARKS AND RESORTS

PRICE: AED13.2bn (\$3.6bn, €3.2bn, £2.5bn)

OPENING: 31 October 2016 (Six Flags Q4 2019)

SIZE: 25 million sq ft (2,322,576sqm)

WHAT'S INCLUDED: Legoland Dubai, Legoland Dubai Water Park, Motiongate Dubai, Bollywood Park Dubai, Riverland, Six Flags Dubai. 85 shows, rides and attractions

KEY IPS: Smurfs, Hunger Games, Kung Fu Panda, How to Train Your Dragon, Madagascar, Shrek, Ghostbusters, Lego, Zindagi Na Milegi Dobara

F&B/HOSPITALITY/RETAIL: A range of shops and F&B across all parks. Also includes Lapita Hotel, a Polynesian themed family resort, and Riverland

KEY GROUPS: Meeras Holding, Merlin Entertainment, Mack, Gerstlauer, ETF, Zamperla, S&M, Dynamic Attractions, Holovis, Simworx, P&P Projects

TICKET PRICE: Annual Pass AED2,495 (\$679, €596, £471)

PROJECTED ANNUAL VISITORS: 5.5 million



Dubai Parks and Resorts
will feature the first theme
park in the world dedicated
to all things Bollywood

P&P Projects is overseeing the realisation of Smurfs Village, one of the major zones of Motiongate theme park at Dubai Parks & Resorts. The themed zone based on the famous Belgian cartoon creation – an enchanting mushroom-house town full of the lovable little blue creatures – is set to be one of the highlights of the development.

Tell us about Smurfs Village.

Stefan: We're working on Smurfs Village at Motiongate Dubai, the first Smurfs-inspired theme park zone in the region and the largest of its kind in the world. P&P Projects is responsible for the design and build of scenery in the outdoor area as well as working specifically on certain attractions.

Ifat: P&P has created numerous Smurf figures, both animated and static, that will be positioned throughout the themed zone.

What attractions will there be?

Stefan: There are five immersive attractions within the zone. There's a family coaster, Smurf Village Express, which takes guests soaring above the enchanted Smurf-themed land. We're doing the theming for the rollercoaster. Then there's a family-focused dark ride, Smurfs Studio Tours, and we're working on all show sets for that, including the queue area. It's all in keeping with the style of the movie, *Smurfs: The Lost Village*, which comes out in 2017. In the attraction, visitors see how the Smurfs make movies and they become the stars of the show.

Ifat: There's also a live animated interactive show at the Playhouse, the outdoor Woodland Play Park play zone and the Smurfberry Factory soft play area. You'll be able to see Smurfs walking around and interact with them, or even eat with them in the café.



The Smurfs were created as a series of comic characters by Belgian artist Peyo in 1958

TRUE BLUE

We catch up with P&P Projects to get the lowdown on the Smurfs zone they're creating in Dubai



Marketing manager Ifat Caspi and project manager Stefan van der Putten

Do you enjoy working with big IPs?

Ifat: Yes, of course! The Smurfs IP is really popular again and it's good timing with the new film coming out. We've enjoyed working on many other IPs, including various Disney properties, Star Wars for Madame Tussauds, Ice Age for Movie Park Germany and Arthur in the Minimoys Kingdom for Europa Park.

Stefan: Well-known IPs are the symbolic

children of the companies or people who create them, so it is a challenge to translate the IP and surrounding world into something tangible with an authentic visual language.

Ifat: Yes, you mustn't underestimate how much is involved in translating an IP world into 3D and telling the story in the best way.

Stefan: The key is not only understanding what the IP holder and the operator want to accomplish, but also understanding the IP itself – the characters and world they live in. You have to empathise with all aspects. With this project, we're at the point where we can tell what each Smurf is thinking.

Ifat: We have turned blue here!

Stefan: We know how they feel, how they act, how they react to each other and that's what we aim to convey through the décor and the figures. You have to capture their personality. We work to capture all aspects of the IP, not just the visual language. ●



An overview of Motiongate, where Smurfs Village is located; A rendering depicts the mushroom-like houses that characterise the zone

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Disney Delights



AMONG THE FRENZY OF THE OPENING OF SHANGHAI DISNEYLAND, THE PRESIDENT ELECT OF THE TEA, DAVID WILLRICH, BRAVED THE CROWDS - AND DODGED UMBRELLAS - TO FILE THIS REPORT

As IAAPA's Asian Attractions Expo took place during the same week as the opening of Disney's new theme park in Shanghai, China, the majority of show attendees were determined to visit the new attraction during their time in China - and tickets were like gold dust.

Tickets for the park are only available via the website so we had gone online to get tickets. However, as the website was not

working properly - probably overloaded - it took all day to buy four tickets individually.

Arriving in an Uber taxi also caused a problem. We were not allowed into the taxi drop-off zone and ended up getting out of the car on a traffic island just before the taxi filter. Disney needs to sort this out.

We set off to the turnstiles as directed by our confirmation email. The first logjam was security; no order at all and people pushing from all directions. In reality it

was not as bad as it looked and we were soon through and lined up for the entrance turnstiles.

It had seemed like a good idea that all you had to do was present your email confirmation and ID at the turnstile to be admitted to the park. However, the process was very slow, not helped by the fact that the staff had to type in a 20-character order number, as there were no bar codes.

First impressions

After 45 minutes, we were finally in the park. As you enter, the view is different from the other parks many of us are familiar with, but there's enough in common to know that you are indeed in a Disney property.

Disney has declared the park had to be "authentically Disney, distinctly Chinese". While die-hard Disneyland and Magic Kingdom fans may not be so convinced, in my view the park does its best to bridge the cultural differences - though I'm not sure about all the changes.

Visitors take a selfie on Mickey Avenue (left); The Shanghai Disneyland Band performs multiple times every day



PHOTO: TODD ANDERSON

The Storytellers Statue, depicting Walt Disney and Mickey, is a lift from Buena Vista Street at Disneyland California



PIRATES OF THE CARIBBEAN AT SHANGHAI DISNEYLAND HAS REPLACED THE SPIDERMAN RIDE AT ISLANDS OF ADVENTURE UNIVERSAL ORLANDO AS MY FAVOURITE

The park represents a major rethink of its predecessors and takes advantage of the latest in technology and theming materials.

Entering, you're aware that things have changed, seeing a very big and different castle ahead of you. Enchanted Storybook Castle, Disney's largest to date, makes for impressive viewing. It's well designed and themed and apparently a lot of research has been done to ensure it fits comfortably with Chinese culture, though I confess it's not my favourite Disney castle.

Main Street does not exist. In fact, you're in Mickey Avenue, a wide avenue with no pavements/sidewalks that's much shorter than the familiar Main Street. There are enough hints that it's a Disney park, but the façades here lean more towards Toontown than Main Street.

Mickey Avenue opens into wide plazas bordering Gardens of Imagination. This is a decision point for which rides you're going to target and which direction you set off.

Treasure hunting

There's no point relying on your knowledge of other Disney parks you've visited; this one has its own layout. We had done a bit of homework and listened to people that had worked on the project or already

LOCATION

Shanghai Disneyland is located at Shanghai Disney Resort in Pudong New Area, Shanghai, China. The park is accessible by the Shanghai Metro rail service (the park has a dedicated stop at the end of Line 11), by the local Pudong Bus Line numbers 50/51/52, by car and taxi.

OPENING HOURS

June to August: Monday to Thursday 9:00 to 21:00, Friday to Sunday 8:00 to 22:00.

September: Monday to Friday 10:00 to 19:00, weekends 9:00 to 21:00

ADMISSION PRICES

Off peak one-day tickets cost RMB370 (\$55) for an adult and RMB280 (\$42) for a child or senior (over 65). Two-day tickets cost RMB700 (\$105) for an adult and RMB530 (\$79) for a child or senior. Peak day tickets cost RMB499 (\$75) for an adult and RMB375 (\$56) for a child or senior. Two-day tickets cost RMB950 (\$142) for an adult and RMB710 (\$106) for a child or senior.



With its Toontown-style façades, Mickey Avenue is far wider than the traditional Main Street to hold larger crowds

made a visit. Top of everyone's list was Pirates of the Caribbean: Battle for the Sunken Treasure, followed by TRON Lightcycle Power Run and Soaring Over the Horizon, so our plan was to start with these three attractions, in that order.

Arriving in Treasure Cove, we were on the water-based Pirates dark ride within



► 10 minutes of entering the queue line. Two things strike you in the first few scenes of the heavily updated hi-tech ride: the scale of the attraction and the speed and movement of the boats. It's an instant surprise that adds considerable excitement.

The ride is totally immersive and the shipwrecks you're floating through feel full-size, matched in scale by the projection.

I've probably said too much and I have no wish to spoil the impact the attraction has the first time you ride it. We returned to the queue to experience the ride once more, and again only had a 10-minute wait.

The ride gets better each time, as is the case with many theme park rides at the top of the game, and it's now replaced the Spiderman ride at Islands of Adventure, Universal Orlando as my favourite. Great use is made of projection and, pleasingly, it's not 3D so there are no glasses to wear.

Exploring the zones

TRON was next. Tomorrowland is on the opposite side of the park and our walk via Adventure Isle and Gardens of Imagination confirmed the zones were themed to the very high quality expected of Disney. The queue for the ride was over an hour, our group threshold was 30 to 40 minutes, so we took a FastPass for early afternoon.

Tomorrowland is a complete and very necessary redesign that really works. Good architecture and use of level changes really make the zone come alive. Add the music track and you have a great feeling of suspense and optimism for the future.

Our focus moved to Soaring Over the Horizon. However, it was now over two hours wait and already having one active FastPass we could not add another. The queue peaked at almost four hours, so we didn't

Shipwreck Shore (above) is an interactive waterplay area at Treasure Cove; The Pirates of the Caribbean ride is in the same zone

get to see the new film which was shot for Shanghai and, I believe, will also be rolled out in the US parks.

We visited the Star Wars Launch Bay, a walk-through exhibit housing models and props from the movies and offering character photo opportunities. The advantage of a short wait time on Buzz Lightyear was eagerly taken: we found the ride feels the same as its US predecessors.

Voyage of discovery

Moving on, we arrived in Fantasyland, which had enough hints from other parks to ensure you knew where you were. New for Shanghai are the castle-based attractions, but they had prohibitive wait times, so instead we joined the short queue for the Voyage of the Crystal Grotto boat ride.

The Grotto boats seem familiar because they're basically a rework of the Jungle Cruise boats in the US parks. However, this ride doesn't seem to come with a cheesy script and gags – this based on observation, not an ability to understand Chinese!

This is very much a ride for small children who are really into the Disney tales. It's well done and brings a few of them to life within their own scenes, with the emphasis being on Asian stories like Mulan. The boats go inside the castle for a dark-ride element which makes effective use of projection-mapping effects.



Afterwards, we found somewhere to eat – and there was no shortage of choice. The food outlets serve predominantly Asian cuisine and the menus are themed to suit their respective lands. We ate in a self-service restaurant and the food was good quality. It was very clean and tables were cleared as fast as people finished, with good attention paid to floor areas too.

TRONwards and upwards

Our turn arrived to ride TRON and, whatever your views of the movie, the ride is a must. The new coaster effectively replaces Spaceship Earth at Epcot.

Sitting on a TRON-style motorbike in a proper riding position, the safety restraint comes down on your back and holds you in place. The acceleration is phenomenal at the start of the ride as you go into a climb followed by a typical rapid coaster ride, with dynamic theming in the indoor area.

The pre-ride experience is good too, in keeping with the work Disney has been doing on enhancing the waiting experience at all their rides and parks. TRON Lightcycle Power Run is dynamic, exciting and quite a step forward from Spaceship Earth. ►



Ignite the Dream - A Nighttime Spectacular of Magic and Light (left), the evening show that transforms the castle



A character parade in Shanghai Disneyland; the clock tower near the entrance (left); and Adventure Isle (right)



The Alice in Wonderland Maze, part of Fantasyland, is themed to director Tim Burton's interpretation of the classic story (left)



Riding on two-wheeled TRON Lightcycles, guests enter into a game world of lights, projection and effects



IT WAS RUMOURED THAT THE PARK WAS ABOVE CAPACITY FOR PRESSURE TESTING, BUT OTHER THAN CRAZY WAIT TIMES FOR SOME OF THE RIDES, IT FELT COMFORTABLE

► It was time to ensure we had seen as much as we could, with a walk back through Fantasyland and into Treasure Cove. Another new attraction is the pirate stunt show, Eye of the Storm: Captain Jack's Stunt Spectacular. In summary, it fully justified the use of the word spectacular.

Umbrella menace

Without exception, the park is themed to Disney's high standards. Looking closely at the buildings and paved areas, you see the latest materials and techniques are used.

The general circulation areas and paths are far wider than in other parks. Despite it being rumoured that the park was above intended capacity for pressure testing, other than seeing crazy wait times for some of the rides, the park still felt comfortable. We weren't standing shoulder to shoulder (or waist, in my case) with other guests.

WHAT'S THE SCORE?

Staff	8/10
Cleanliness	10/10
Experience	8/10
Value for money	7/10
Overall experience	8/10

On the subject of height differences, I must mention my biggest issue with Chinese crowds was the umbrellas. They went up as soon as there was direct sunshine, as many Chinese people aim to avoid tanning and to me they are as much of a menace as selfie sticks (which are, thankfully, not allowed in the park).

My expectations for general guest behaviour were quite low, using Disneyland Paris as the barometer, where some of the local youths have no concept of queuing at all and push their way through the lines.

In Shanghai, although we did have some people push past us, in all cases they were genuinely catching up with their group.

Happy faces

I was amused by the places that groups chose to sit down and explore their picnic bags or even play cards. Other than that, queues were orderly and it was nice seeing so many happy faces, even if most were glued to the mobile device in their hand.

Walking around the park, I kept thinking there was something missing. Eventually, the penny dropped: it was colour. In the US parks, the planting is always very colourful, reminiscent of the idealised country garden pictures you would see on a box of chocolates. The planting here seemed nowhere near as vibrant.

By evening we were exhausted and decided not to stay for the end of day show. When it comes to value for money, if the attendance level we witnessed is to be typical, a one-day visit is very limiting on what you can do, particularly if you're not experienced at playing the theme park game. A two-day visit is definitely advisable and be tactical when using the FastPass and visiting the low throughput attractions.

My verdict? Spot on the money: authentically Disney, distinctly Chinese. ●

David Willrich established global AV firm DJW in 1986 and has worked on some of the most exciting projects in the industry. He is president elect of the Themed Entertainment Association (TEA)

Umbrellas go up as the sun comes out as visitors enjoy the first Disney park in mainland China



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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

Benchmarking

In part three of our series, David Camp of D&J International Consulting looks at how to gauge your attraction's success and how to work out market penetration rates

Attraction operators often wonder how well they are doing and while large attractions groups or large municipal departments can examine key performance indicators across a number of locations and types of operations to establish this, individually-operated attractions do not have that opportunity.

For most, the only option is to look at one year's performance against a previous year and while this is useful, it doesn't help them understand what they could do better and who they can learn from.

This is where benchmarking and learning from others is important. But unfortunately, although this can be an effective way to improve performance, operators can be reluctant to share information with competitors to enable this to happen.

However, there are publicly available sources of data which can be used instead and some of the most useful can

be accessed through trade and industry associations across the attractions sector.

Organisations such as the International Association of Amusement Parks and Attractions (IAAPA), the International Council of Museums (ICOM), World Association of Zoos and Aquariums (WAZA), World Waterpark Association (WWA) and the Association of Science-Technology Centers (ASTC) organise conferences and events, produce reports and publications, and provide training programmes and advice.

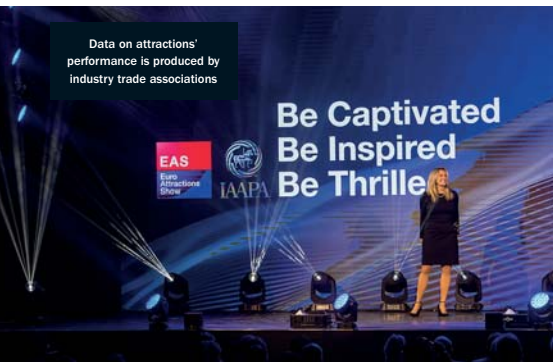
These international organisations often have regional groups that focus on a country or area. In addition, there are large numbers of national or area-specific organisations and associations that can provide useful data sources.

Another important source of information is the trade press. It's a lot easier to search for articles and information online today than it was in the past; indeed, the Internet has transformed research. However, with almost 1 billion websites, a lot of time can be spent searching fruitlessly. There's no guarantee that information posted is accurate or up to date, so it's important to double and triple-check such data.

Interpreting data

Many attractions and operators produce annual reports that are available via their websites. Museums, zoos and aquariums are the most likely to publish reports along with some of the large attraction operators such as Disney, Merlin, Six Flags and Compagnie des Alpes. These reports can provide valuable understanding of sources of revenues, operating cost ratios and profitability. We will look at these aspects of financial reporting later in this series.

There is also data available through government statistics departments, tourist organisations and regional authorities.



Zoos like San Diego Zoo in San Diego, California, publish their financial reports every year



“Identical attractions in different locations report very different numbers – KidZania gets 900k visits a year in Tokyo and 225k in Lisbon”



In the UK, VisitEngland undertakes annual surveys among attractions and publishes an annual survey of attendance. In the US, visitation data is available online for all of the 412 National Parks Service operations and a range of data on museums across Europe is collated by the European Group on Museum Statistics.

But gathering information is only part of the story. Unless it's evaluated, understood and lessons are taken from it, then the data has no value. This is particularly true with visitor attendance figures, where similar attractions in different locations can attract very different volumes of people.

The KidZania brand is a prime example of this. There are now 24 KidZania attractions around the world, all providing similar role-playing experiences to under-14s. The attractions follow a standard design template, within a 5,000 to

10,000sqm (53,800 to 107,600sq ft) space located inside a retail mall; however, they achieve very different attendance volumes. The most popular is in Tokyo, attracting around 900,000 visits each year. By contrast, the Lisbon KidZania attracts only a quarter of this volume.

The reason for these variances lies in the size and make-up of their respective catchment markets. There are 23 million people living within the one-hour catchment market for Tokyo and almost 3 million of these are under 15. Lisbon's total one-hour market is just over 3 million people with half a million of these being under 15.

Applying a simple ratio would suggest that Tokyo should be able to attract five or six times as many visits as Lisbon, but Tokyo is operating at capacity for many days of the year, so this limits the total numbers the attraction can accommodate.

Having an identical footprint globally means KidZania franchises have a limiting capacity in busy locations

Market penetration

An examination of the available markets and catchment areas is critical to understanding the potential of an attraction. When doing feasibility studies, we typically consider four segments: residents living within a one hour drive time; residents living between one and two hours away; domestic tourists staying in locations within one hour; and international tourists staying within one hour of the site. Where appropriate we would also assess any on-site accommodation users, such as those staying at a theme park hotel or camp site. ▶



Every location for a Merlin midway, like this Lego Discovery Centre in Osaka, Japan, meets a strict set of criteria

- Having determined the size of the market, the next step is to evaluate the mix of visitors. This information should be available through guest survey research and applying these ratios to the annual attendance leads to calculations of the mix of visits. Dividing the attendance by the size of the segments reveals market penetration rates as shown in Table 1 (right).

Most attractions achieve their highest penetration rates among the 0-1 hour resident market. However, there are examples where tourists are dominant. At the Guinness Storehouse in Dublin, over 90 per cent of visits are from international tourists, which gives a market penetration of over 25 per cent in this segment.

In Table 2 (right), we provide typical market penetration rate ranges for different attraction types. Entertainment attractions (theme parks, waterparks, brand centres, indoor attractions) have the highest overall market penetration rates. Cultural attractions such as museums and historic properties have more modest penetration rates, although they're important in cities with strong tourist markets.

The ranges provide indications for the bulk of the market, but there are always attractions that achieve significantly higher penetration rates within particular segments – such as Guinness Storehouse.

Size matters

Important factors impacting these penetration rates are the competitive environment and size of the market segments. Cities like New York, Paris and

Table 1 : Example market penetration rate calculations

	VISITOR MIX	ATTENDANCE	MARKET SIZE	PEN. RATE
0-1hr resident	50%	125,000	1,500,000	8.3%
1-2hr resident	35%	87,500	2,000,000	4.4%
Domestic tourist	12%	30,000	1,000,000	3.0%
International tourist	3%	7,500	500,000	1.5%
TOTAL	100%	250,000	5,000,000	5.0%

Table 2 : Penetration rates for attraction types

	CULTURE	WILDLIFE	ENTERTAINMENT
0-1hr resident	2-7%	6-15%	6-20%
1-2hr resident	1-4%	1-8%	2-7%
Domestic tourist	1-7%	2-11%	2-12%
International tourist	2-14%	2-7%	1-10%
TOTAL	2-7%	3-9%	3-11%

London have very popular attractions, but because of the size of the catchment and range of offers available, penetration rates are often relatively modest. By comparison, attractions in smaller markets such as the Guggenheim in Bilbao, Spain, and the Eden Project in Cornwall, UK, can achieve stronger penetration rates.

Understanding the available markets and an attraction's ability to penetrate these is critical to success. When Merlin's development team is considering locations for midway attractions (SeaLife, Madame Tussauds, Lego Discovery Centre and

the Dungeons), the first thing they do is evaluate the size and nature of the market against their internal planning criteria.

Merlin knows the size and nature of the market which is required for their attractions to work and if a potential location doesn't meet the criteria, then it isn't considered. For Merlin and other operators, sound market research provides the foundation of their success. ●

Get in touch with David Camp
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Theme park rides are the creative
pinnacle of immersive storytelling.
So let's give them the media they deserve,
say Gavin and Jason Fox from Framestore

MEDIA FRENZY



Framestore's Gavin and Jason Fox are working on a top-secret dark ride

About the authors

Framestore, an Oscar-winning creative solutions company was set up in 1986 to "use technology to create the most extraordinary images possible". Twin brothers (and theme park fans) Gavin and Jason Fox joined the company as creative directors in 2014, working on films like *Gravity* – and currently on a top-secret dark ride



From integrated projection mapping through to cutting-edge mixed reality experiences, media is a key ingredient in creating the next generation of theme park rides.

For some reason, media in rides isn't always given the same level of artistic importance as the movie or story the ride is based on. We believe rides could be even more incredible if more time was spent crafting the scripting, acting and CGI at the creative stage.

Last year, we attended the IAAPA Expo in Orlando, Florida, and met many theme park and attractions owners and IP developers. We enjoyed a wonderful reception, but were surprised to hear a recurring question. They asked us why Framestore – the Oscar-winning creative solutions company we work for – would want to "come down to our level". This suggests an undeserved lack of self-esteem within the theme park community.



Director Alfonso Cuarón (bottom) and actors Sandra Bullock and George Clooney work with unique rigs and light boxes built by the Framestore team

From our discussions, there was a feeling that the theme park industry undervalues itself as an art form; holding movies as a pinnacle of creativity that their experience must follow, but rarely exceed. But, from our perspective, working in film and trying to move an audience emotionally via a screen at the end of the room is never going to be as visceral as fully immersing someone in the action and technology of a ride. Rides are the most exhilarating storytelling medium there is.



At the cutting edge

Rides and immersive shows have the capacity to generate genuinely immersive experiences that are not restrained by a screen; they're interacting with all the senses, not just sight and sound. Rather than making films look real, theme parks create opportunities to make experiences feel real. And that's so much more powerful.

Rides are a hotbed of cutting-edge engineering that offer multiple playful

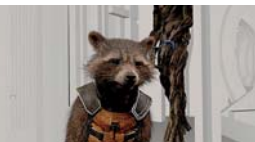
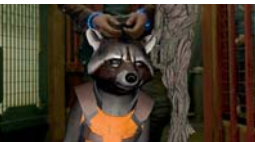


Gravity

Aside from the faces, almost every element of *Gravity* is CGI. The Earth, stars, space shuttles, space station, the space debris and space suits were all created by visual effects artists at Framestore

Guardians of the Galaxy

Framestore created the character Rocket Raccoon as well as the city of Knowhere, one of the most complex CGI environments ever made



Rides are the pinnacle of creative entertainment and we couldn't be more excited to be involved

elements. Mechanics, physical building, progressive set design, robotics – the list goes on. When combined, these elements harness the potential to emotionally and physically move humans in all sorts of fundamental and earth-moving ways.

Audiences on a ride are more engaged than those in a cinema because they're being told a story in a more dramatically heightened way. When people come off a ride, they're dizzy, shaken up and thrilled. They've often travelled across oceans and then queued for hours for the privilege of a five-minute experience. It's hard to find that level of dedication to a film.

Consumer expectations

It's clear to us that rides are the pinnacle of creative entertainment and we couldn't be more excited to be involved. Creating Oscar-winning visual effects for films like *Gravity* has given us a world-class understanding of how to visualise a story and bring it to life on screen. But we want to take this even further by plugging our learnings into the more visceral ways of experiencing a story.

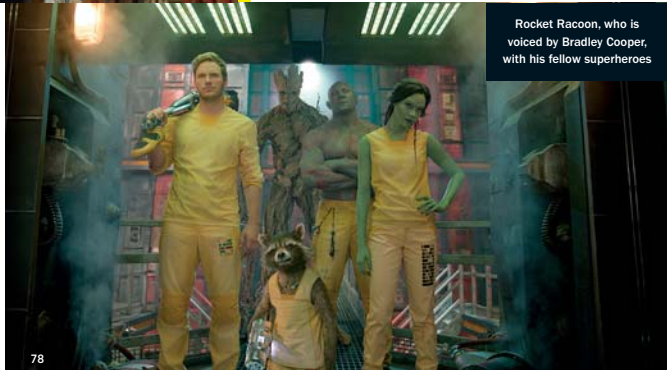
And it's not just us who feel this way. Framestore is a global company

that employs hundreds of creatives and technologists. Our CEO travels the world giving company-wide presentations and each time he reveals some of our work on dark ride projects, we get a surge of interest from employees wanting to join our department. Why? Because they agree that rides are a fresh, creative playground; a place where you can not just make that superhero look real, you can make people believe they're real.

It's no coincidence that our entry into the theme park industry comes at a time when that world is experiencing a step change in what consumers expect from the experiences on offer. Not so long ago, people were wowed by simply putting media content into the context of a ride. Physically and seamlessly moving within a content environment was enough to create a feeling of awe. But this approach is now prolific – and its novelty is waning.

As technology develops, consumer expectations simultaneously increase. So audiences now expect and demand better quality from media-based attractions. It now has to be better acted, better written and better directed: and in nothing less

Rocket Raccoon, who is
voiced by Bradley Cooper,
with his fellow superheroes





Framestore used new and old expedition footage to create CG shots for Everest

than the Hollywood-level fidelity they are used to seeing these worlds portrayed in.

Real emotions

The relationship between Hollywood and the theme park industry has been around for decades, with some of the world's most successful rides being based on famous movie franchises. However, the symbiosis between Hollywood and theme parks runs even deeper than this obvious connection.

When Framestore created the groundbreaking visual effects for *Gravity*, the team designed and built unique rigs and light boxes that made actors Sandra Bullock and George Clooney feel as though they were floating through space. This not only aided the visual effects, but also helped to get a real emotional reaction from the actors' experiences.

In doing this, we inadvertently created a one-person theme park ride and by heading in this more experiential direction, we've been amassing ride-relevant experience as part of our film work.

It's exciting to be re-appropriating and exploiting these skills for a bigger audience than just Bullock and Clooney.

Having said that, we realise we don't yet know it all – far from it. And for this reason we're collaborating with ride specialists to help us transition our filmic skills.

These experts are helping us understand the complexity of ride vehicle movement, identify where the balance lies between feeling sick and feeling elated and integrate our digital media into the rides' real physical environments.

In return, we're sharing our film visual effects expertise and the knowledge we've



Framestore delivered 760 final shots for the film *Paddington*

Paddington

Framestore spent a long time developing the right look for *Paddington* in order to create a photoreal character that was anatomically detailed but simple enough to maintain the emotional connection people have with the well-loved bear

gained in other non-traditional projects we've completed – including VR, large-screen installations and theatre direction. We hope that by combining these with our collaborators' skills and knowledge, we can enhance the quality of the media-based attractions we're doing for our clients.

So, in response to the question of why we want to "come down" to the level of the attractions industry, we're not coming down at all, we're aiming to contribute to raising the level through effective collaborations. And we're extremely excited to be doing it. ●

IMAGE CONSCIOUS

In this multimedia round-up, an illuminated park boosts local tourism and a Rolling Stones retrospective hits the right notes



The world of the Rolling Stones is brought to life in Exhibitionism – a show spread over nine galleries

SATISFACTION GUARANTEED

EXHIBITIONISM

London, UK
Electrosonic

Electrosonic has created the AV for the touring exhibition on the life and times of the Rolling Stones, which is currently on show at London's Saatchi Gallery.

Exhibitionism, which documents the British band's 50-year history, is staged over two floors and nine galleries, each using innovative interactive and cinematic technologies. Electrosonic's brief included the provision of almost 70 screens and cutting-edge projection and audio systems.

Various technologies were employed to aid the immersion of guests into the wild

and wonderful world of the Stones. In one gallery, a display of 50 LCD screens envelops guests in film footage from the band's history and images from concerts and

newspapers. Elsewhere, LED walls create a impactful backdrop for an array of clothes, costumes and other artefacts.

Other highlights include a 2.5-metre (8-foot) sculpture of the band's iconic lips logo. Created by Paragon Creative, five projectors are used to transform the model under an ever-changing display of colours and images. In the Recording Gallery, where visitors experiment with recordings at interactive listening stations, is brought to life with floor-to-ceiling projections.

The exhibition finale is a walkthrough of a backstage reconstruction before stepping



The Exhibitionism tour is scheduled to stop in 11 cities worldwide, including New York, Los Angeles and Tokyo

out into a 3D experience that puts guests in the crowd at a Hyde Park performance of "(I Can't Get No) Satisfaction".

Panasonic, 7thSense, Harkness Hall, JoeCo and Behringer all supplied Exhibitionism, while London-based Fray Studio produced the video content. It was produced by Australian company International Entertainment Consulting.

ENCHANTED NATURE

LUMINA PROJECTS

Coaticook, Quebec Moment Factory

Moment Factory is the multimedia studio behind three illuminated night walks in Quebec, Canada, which are turning everyday parks into magical forests to delight visitors.

The first to open was Foresta Lumina at Parc de la Gorge de Coaticook in 2014, and the goal was to help the region boost its prominence as a tourist destination.

This summer, Anima Lumina and Nova Lumina have also opened. The first – a night walk at the zoo – explores animal life in the grounds of Zoo sauvage de St-Felicien. The second – a night walk by the sea – is located in Chandler, Gaspésie.

Each experience takes place after nightfall, when visitors discover an enchanted trail winding up to 2km (1.2 miles) and meet characters inspired by the area's myths and legends, who draw them into an immersive adventure.

The scenography, combining projections and lighting and video mapping on natural elements, is accompanied by an original soundtrack. The Moment Factory team has custom-made each experience and the multimedia installations are seamlessly integrated into the surroundings, creating a sense of magic.

Since Foresta Lumina opened, tourism to the area has increased dramatically. The location attracted more than 145,000 visitors in 2015, a traffic increase of 1,800 per cent.



Visitors to the Parc de la Gorge in Quebec, Canada enter a magical world created by seamless multimedia



FERRARI WORLD

FLYING ACES

Abu Dhabi, UAE
Holovis Media

Holovis Media has provided the pre-show experience for the new Flying Aces rollercoaster at Ferrari World in Abu Dhabi – a ride inspired by the story of the Ferrari logo.

As the story goes, Francesco Baracca, a WWI pilot and Italian hero, used to paint a *cavallino rampante* (prancing horse) symbol

on his planes. One day Baracca's mother told Enzo Ferrari to paint the same symbol on his cars, to bring him luck. Holovis tells the story in a 45-minute queue line pre-show, featuring 29 different story zones.

The UK media-based attractions company was charged with setting the scene as people queue for the Intamin coaster, which is the steepest in the world, and boasts the highest and biggest loop.

To tell the story of the *cavallino rampante*, Holovis used projection mapping, holographic figures and audio illusions in an area themed like an Italian airfield. A 100sqm (1,076sq ft) sky mural provides

the backdrop to the visual display that, like a "moving painting", shows the Flying Aces squadron in the air. Windows feature specially embedded display technology to create the illusion of a world beyond.

"This spectacular attraction features the thrill of a traditional e-ticket coaster, but also puts people at the heart of a compelling story, thanks to the immersive storytelling in the pre-show," says Stuart Hetherington, CEO of Holovis. "Incorporating our AV design and installation capabilities, the final experience achieves the highest possible levels of seamless integration."

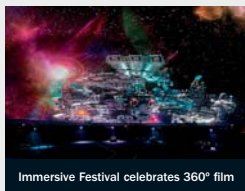
FESTIVAL ATMOSPHERE

IMMERSIVE FESTIVAL

Madrid, Spain
Christie

Christie has provided the projection for a fully immersive 360° dome at a festival in Madrid, Spain.

The dome was a highlight of the Immersive Festival 2016, held at the Universidad Complutense de Madrid (UCM) in May – a free festival directed at all parties interested in fulldome, virtual reality or 360° film.



Immersive Festival celebrates 360° film

As technology partner to the inaugural festival, Christie fitted out the university's 21-metre (69-foot) dome with six 3DLP projectors to deliver 3K resolution projections with over 12 million pixels.

"The festival wanted to use state-of-the-

art technology for the projections, so we knew we wanted Christie on our side," says Diego DeAnna of festival organiser NewMedia Creative Technology Studio. "This 360° projection system is so complex that only Christie can guarantee us the reliability, sturdiness, brightness and quality we were looking for."

Marcos Fernández, Christie director for Spain and Portugal, says: "Our 3DLP projectors played a core role at this unique and fascinating festival. The Christie J Series was built to withstand the rigours and stress suffered by rental equipment. There is no other projector in the 20,000 lumens range than can deliver the rich saturated colours of the J Series in such a compact casing."

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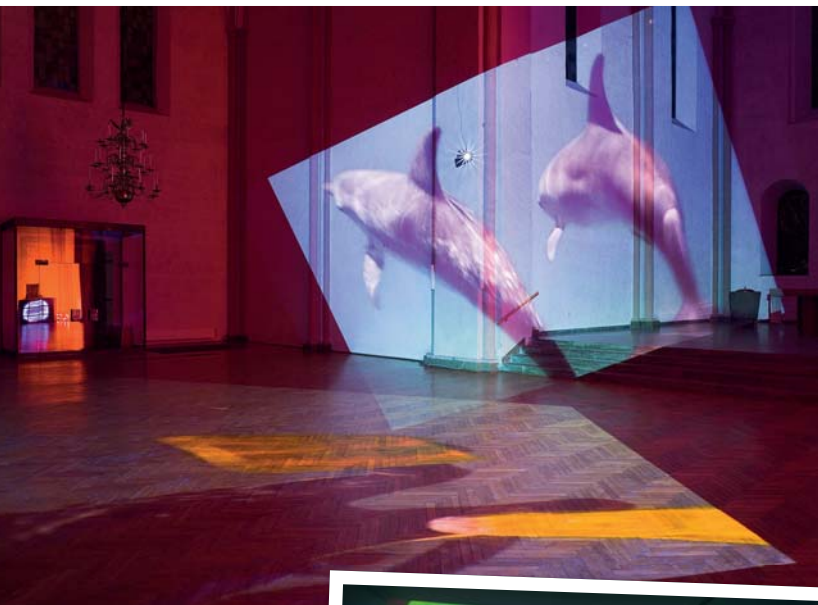
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PROJECTING EMOTIONS

DIANA THATER: THE SYMPATHETIC IMAGINATION

Los Angeles, California
Sony

No fewer than 35 Sony 3LCD laser and lamp-based projectors were used in an art exhibition at the Los Angeles County Museum of Art (LACMA) in California earlier this year.

When US video artist Diana Thater brought her large-scale multimedia artworks to the gallery, high-brightness projectors were needed for the various installations. Versatility was key as the different galleries and the artworks themselves varied in size.

Sony's VPL-FHZ55 and VPL-FHZ700L laser models were used, plus 20 VPL-FX30 lamp-based units were required for the artist's earlier works. According to Sony there were a number of reasons why its projectors were suitable for the project, including the availability of interchangeable lenses and their ability to cope with Thater's works, many of which demand extreme throw ratios.



"For more than two decades, Diana Thater has been creating groundbreaking installations that push the boundaries of how moving images are displayed," says Christine Kim, exhibition curator at LACMA.

"It was clear early on that we needed appropriate square footage for these large-scale works," says Kim. "Likewise, we needed to have all the options and capabilities to best display the artist's brilliance. In terms of presentation, it's imperative to find the most appropriate

The exhibit used top-of-the-range laser projectors, but required lamp-based units to display the artist's earlier works

equipment to exhibit works as they are intended by the artist. That's always an exciting challenge."

The Sympathetic Imagination will move to Illinois to the Museum of Contemporary Art Chicago, where it will be on view from October 2016 to January 2017. ●



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The World Waterpark Association Show
returns to the good-time city of
New Orleans, Louisiana, from 11 to 14 October.
Top suppliers share their trade show news

LET THE **GOOD TIMES** ROLL

WHITEWATER WEST

The Blast Racer by WhiteWater West sends riders racing side-by-side uphill – and the idea was inspired by riding a Master Blaster with a foam mat facing head-first. The Blast Racer is compact, perfect to fill a narrow area of land and very visually appealing, adding a burst of colour in a two to eight-lane configuration, depending on the park's capacity demands and the desired throughput. Riders challenge each other to see who is the **fastest**, providing a completely different experience with a competitive edge, which encourages repeat rides and **longer days at the waterpark**. The world's first Blast Racer debuted at Yinji Xinmi Waterpark in China in June 2016.

■ attractions-kit.net keyword: WhiteWater

WhiteWater West's
Blast Racer at Yinji
Xinmi Waterpark



Interactive waterplay, where an action creates a response, is central to modern splash parks



EMPEX

EmpeX Watertoys will present creative water features that are interactive and educational at the same time, teaching kids about water flow, pressure, trajectory and more. Children using EmpeX products learn through **pedalling, turning** handwheels and **cranking** pumps and levers, creating different results and thus enriching the play process. **Interactive waterplay** – or having a user's input create a variable output or response from a water feature – is of prime importance in splash parks.

■ attractions-kit.net keyword: **EmpeX**

OPENAIRE

Visit OpenAire's booth at the WWA Show to find out about a range of installations, including **WaTiki Waterpark** and Kalahari Pocono Mountains. Thanks to an OpenAire double-sloped retractable roof, WaTiki Waterpark in Rapid City, South Dakota, has long been an all-seasons family destination that provides a natural atmosphere whatever the weather. WaTiki has since installed a **retractable roof** on its restaurant and another to create an additional seating area. Meanwhile, OpenAire created a system of skylights and enclosures for **Kalahari Pocono Mountains**, Pennsylvania, which is currently being expanded. The attraction is set to become the largest indoor waterpark under one roof in the US.

■ attractions-kit.net keyword: **OpenAire**



ProSlide's FlyingSAUCER is a major new ride feature at Beech Bend Splash Lagoon, Kentucky

PROSLIDE

ProSlide is presenting its latest installation, **Spinning Out**, a "tower of thrills" combining four of the company's iconic slide experiences. The custom complex, which opened in July at Beech Bend Splash Lagoon in Bowling Green, Kentucky, is centred around a 17-metre (55-foot) tower and boasts a throughput of up to 1,620 riders per hour. The first is Cyclone Saucers, with three FlyingSAUCER

features tilted on a 15 per cent gradient for a **maximum dropping sensation**. The other slides are Tidal Wave (ProSlide PIPElineWAVE), where riders surge up a wall and **hang weightless** before rocketing back down, Riptide (ProSlide TORNADO 24) which splits into two separate funnels, and Polynesian Plunge (CannonBOWL 40), which drops riders into a swirling bowl.

■ attractions-kit.net keyword: **ProSlide**

POLIN

Visit Polin's booth to find out about a number of new installations. Royal Caribbean has unveiled a thrilling waterpark aboard its *Harmony of the Seas* cruise liner, featuring three signature rides by Polin. Together creating the "perfect storm", the three slides Cyclone, Typhoon and Supercell are based on Polin's popular **Aquatube** and **Space Hole** designs. Cyclone and Typhoon form the ship's signature attraction, The Ultimate Abyss. Riders travel through a network of enclosed tubes, alternating between transparent and dark sections, before dropping 30 metres (100 feet) and exiting to the deck. Supercell features a giant basin and open bowl design, where riders are swept up by the centrifugal force passing through the central hole and exiting below. Polin is also presenting the competitive **Space Race** experience installed at Oasis Waterpark in Izmir and the brand new Land of Legends Waterpark in Antalya – both in Turkey.

■ attractions-kit.net keyword: **Polin**



Polin's "perfect storm" of slides is open aboard the *Harmony of the Seas* cruise



More than **425 exhibitors** will be at **Euro Attractions Show**

at Fira Gran Via in Barcelona – we look at what's new

EAS
**Euro
Attractions
Show**
Location: Fira Gran Via Convention Centre, Barcelona, Spain

Dates: 20-22 September 2016

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

What's on: 15 education sessions and four days of networking

On-site tickets: €69 (expo only)


Interactive shooters by Lagotronics

Lagotronics

Lagotronics Projects is demonstrating its latest developments in the field of interactive ride technology, with a new range of hand shooters and cannon that includes swipe control and gesture control shooters. The company is also presenting three examples of 3D games that can be integrated into dark rides. Show visitors can try out the game *Beach Fun*.
Booth #821



Augmented reality at the Holovis booth

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 with a rapid onboarding process.

Booth #1605

International Play Company

IPLAYCO is exhibiting new play attractions such as the Turbo Tube Dual lane slide. This exclusive patent-pending slide is a great addition to new and existing projects and can be attached as a standalone play feature or incorporated into an existing location or attraction. New My Town Edutainment offerings will be displayed, as well as IPLAYCO's Junior Jumpers activity for younger guests in trampoline parks.

Booth #1154


My Town by IPLAYCO

Holovis

Holovis is presenting its real time, mixed-reality Extended Experiences, a specialist software designed to eliminate queue line boredom, connect different attractions within a theme park and help bring parks or FECs to life in people's hands through their mobile devices. EAS visitors can test a variety of original IPs from Holovis, including its augmented reality game *Zombiez* and the hugely successful mobile app game, *Battle for Cedar Point*, developed by Holovis and launched in 2016 for Cedar Fair.

Booth #1448

Jora Vision Europe

Jora Vision Europe is working on the design and production of an escape room for its client Aerokart. Named Winspace, it's themed like a space research centre. Participants endure physical and mental tests to help Winspace decide who is capable of a secret mission. Teams experience different journeys determined by their own choices. This enables a very high capacity of up to 36 people for the escape room.

Booth #1818

The escape room is opening in Paris



Attraktion!

Attraktion! is presenting its Playoke Dance System where children, teenagers and adults can dance along to pop music with CGI live dancing clips and the opportunity to measure individual performance and compete against other players. Moreover, visitors can explore a new immersive scale model of the Joint Dome Ride Theatre from the company's joint product with Intamin on Intamin's booth.

Booth #1454



Taron at Phantasialand, Germany

Intamin

Intamin's year began with the opening of the Flying Aces Wing Coaster at Ferrari World in Abu Dhabi, followed by three signature rides (Mega Coaster, Gyro Drop and Flying Island) supplied to Wanda Nanchang. In June, the record-breaking LSM Multi Launch Coaster, Taron, opened

at Phantasialand in Germany, featuring Intamin's most powerful LSM drive and new trains for maximum comfort and a smoother ride. Plus, a Water Coaster is opening at Lands of Legends in Turkey as well as another LSM Coaster, namely the Vertical Ring Coaster at Wanda Hefei. **Booth #1122**



Walking Dead: Battle for Survival

Sally

In addition to a wide variety of turnkey dark ride packages, Sally is displaying two new dark ride concepts, The Walking Dead: Battle For Survival and Volcanikus. The Walking Dead transforms the TV show into an immersive dark ride that features interactivity, multi-DOF motion-based ride vehicles, media-based scenes, highly immersive theming and 4D special effects. Meanwhile, the great god of fire, Volcanikus, has awakened and its up to riders to calm his wrath in this original dark ride story concept. **Booth #1233**



Find out about the latest coasters

Vekoma

Visit Vekoma's booth to find out about the custom-designed Space Warp launch coaster which has opened at Energylandia in Poland. Vekoma has also installed a Boomerang and a Suspended Family Coaster at Paulton's Park in the UK, while Fire Storm will open at Vinpearl Thu Thiem Vietnam in 2017. **Booth #1418**

Haystack Dryers

Haystack Dryers are designed to dry wet guests after a water ride at theme parks and waterparks. Sited in resorts all over the world, they raise a new revenue stream and increase guest satisfaction, leaving the visitor feeling drier and more comfortable. Recent additions include cashless payments (RFID and contactless card) as well as a new hotel and resort initiative to reduce poolside towel use and associated laundry costs. **Booth #2207**



WindstarZ family ride

Antonio Zamperla

Zamperla's WindstarZ made a big impact at its appearance at IAAPA 2015 in Orlando. Visitors to EAS will also have the chance to find out more about the aerodynamic family ride which recreates the feeling of flying and gives each rider the ability to control their two-person gondola flight. **Booth #1401**

Alterface Projects

This year the Belgium-based company Alterface Projects is celebrating 15 years of expertise in interactivity, which started with gesture-based attractions and culminated in new "visitor-centric" interactive rides. At EAS, the company will be demonstrating its know-how and the power of its Salto interactive show control system, which has been deployed in many award-winning rides. There is also going to be a special focus on Alterface's modified spinning theatre following its worldwide launch five years ago. **Booth #842**



A rendering shows Land of Legends

Jack Rouse Associates

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, waterpark and family

entertainment centre. The first phase of development, Aqua World, has recently opened and features an aquarium, a dolphinarium and a waterpark featuring 72 slides. Jack Rouse Associates provided master planning and concept design for Land of Legends.

Booth #1121



Machinarum, new from nWave

nWave

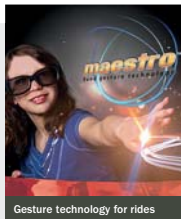
nWave is presenting at EAS in Barcelona and attendees are invited to immerse themselves in the 3D/4D theatre at the nWave booth. On the new ride simulation film *Machinarum* 2D/3D, produced by N-Gon Visuals and distributed exclusively by nWave Pictures Distribution, you'll experience hot steam, menacing machines and a giant out-of-control robot. It's a dangerous mix that might overwhelm even the most seasoned adventurer. Can the mad professor shut the robot down before it's too late?

Booth #1151

Triotech

Triotech's Maestro hand gesture technology is revolutionising the way interactivity is experienced in dark rides. Gone are the gun-like devices – guests can now interact with the story by using hand gestures. Maestro is already being deployed in NINJAGO The Ride at Merlin's Legoland parks. Visitors can experience it for themselves at Triotech's booth at EAS.

Booth #1111, #1014



Gesture technology for rides

Interlink

Interlink is announcing details of a new themed water coaster. The ride has a 300-metre (984-foot) long track running through trees and culminating in a simulated water flume splash. It uses eight four-seater vehicles with a hovercraft theme. Interlink is also announcing a revamped version of its popular Super Flume Ride, which is set to incorporate immersive VR technology to produce an exciting "world first" ride design.

Booth #1500

Deltrain goes electric



Deltrain

Portuguese manufacturer Deltrain is unveiling a new electric version of its tourist trains, reflecting the company's commitment to the environment. The electric train climbs up to 15 per cent with zero emissions. Deltrain has a range of classic and urban tourist trains to meet customer needs.

Booth #312

Brunswick Bowling

Visit Brunswick Bowling's booth to learn about bowling centre development and modernisation. According to Brunswick, UK-based Mansfield Superbowl's business is up 70 per cent after a renovation that included Brunswick Sync scoring and management system; 14 Transform Ocean lanes and 14 Silver Alumetal X ColorFull lanes; new gutters with Pinball Wizard Bumper System; ball returns with capping; and Lightworx lighting. Bowling Vision handled sales and installation.

Booth #2201



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