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VOL 21 2 2016

NEW OPENINGS

LA Broad

Los Angeles
modern art gallery
is a game-changer

Museum of Tomorrow

The future happens
now in Rio de Janeiro

Museumplein Limburg

Look down on earth
from an inverted
planetarium

JOHN DUFFEY

Six Flags journeys
into Asia

KAWS

Off-the-scale
art at Yorkshire
Sculpture Park



“ It's as though the entire population
of the US could afford a ticket to
Orlando and get there in 3½ hours ”

Bob Iger on Disney's first park in a decade

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THE MOUSE GOES EAST

After decades of hard graft, Disney Shanghai – the most expensive theme park ever built – is open. Tuned to Chinese sensibilities and with capacity to handle huge volumes of guests, the development has required sustained diplomacy at the highest level to bring it to fruition

When China began to open up to the West in the 90s, the world's major brands went calling, in search of the partnerships they needed to get their products in front of what – it was becoming clear – would be the biggest market in the world.

The Chinese were urbanising fast, growing a huge, affluent middle class and adjusting their communist ideology to fit the modern world – the potential opportunities were off the chart.

For some, moving into China was a straightforward process – retailers are nimble enough to get up and trading in no time. It wasn't long before Gucci, Prada and many other high-end brands were present in China's big cities. For Disney, however, massive infrastructure was needed for it to fulfil its ambitions, and that meant an unbelievably complex journey.

As Disney Shanghai opens for business, it's clear the creation of the resort has turned out to be a life's work for many in the team. Even more so because the opening of this phase is just the beginning of the journey.

In this issue of *Attractions Management* we celebrate the opening, with our supplement which starts on page 60.

Projects of this size are a long-term play when it comes to investment. Disney initiated its move into China more than two decades ago and has effectively missed the first boom years. Growth in the economy is slowing, but this won't matter when the appetite for the product is factored in. The demand is such that the resort will trade at capacity from the off.

And what capacity it is. The Shanghai International Tourism and Resorts Zone, within which the Disney resort sits, covers

25sq km (9.7 sq mi), with a core area of 7sq km (2.7sq mi), including 4sq km (1.5sq mi) for Phase One of the Shanghai Disney Resort. This leaves plenty of room for subsequent phases.

Disney is forecasting 12 million visitors in year one – we think this is conservative – growing to an eventual 30 million.

A generation ago, the average Chinese citizen lived a life of subsistence, with little to spend on leisure, but the new middle class is emerging so fast Disney CEO Bob Iger says the company has identified an 'income-qualified audience'

within a three-and-a-half hour travel radius of more than 300 million people. "It would be as though the whole population of the US could afford a ticket to Orlando and could get there within three-and-a-half hours," he said. Couple this with the fact that the one-child policy has been relaxed to two and it's clear the stars are aligning.

A final piece of information that proves the Chinese market has come of age is that peak ticket prices for Disney Shanghai are higher than both Tokyo Disney and Disney Hong Kong.

Disney learned hard, valuable lessons from Euro Disney – a projected which went through several rounds of wretched refinancing – so the business case for this new development is clearer. And there's more to come. The build-out will continue for years, with three parks the goal for Shanghai. This opening is just the beginning. Behind the scenes, the work continues.

Will Disney Mumbai follow? Disney Moscow? Maybe one day the final act of soft power will be to open in the former Soviet Union.

**So what will follow? Disney
Mumbai? Disney Moscow?
Maybe one day the final act
of soft power will be to open
in the former Soviet Union**

Liz Terry, editor. Twitter: @elizterry



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The Walt Disney Co

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“There are so many different elements at play when you view a work outdoors”

KAWS artist

Halfway through its four-month run, the KAWS exhibition at Yorkshire Sculpture Park (YSP) had already attracted more than 100,000 visitors, the rolling English countryside a surprising backdrop to the paths in his looming cartoon creations.

The New Jersey-born, Brooklyn-based artist – whose slouching, expressive, Mickey-esque sculptures have been seen in Hong Kong, London and Amsterdam in recent years – is presenting 20 works, including imposing sculptures cast in wood, bronze or fibreglass and a number of specifically commissioned canvases in his first UK exhibition.

“I was interested in having my larger sculptures in dialogue with each other and with the landscape,” KAWS told *Cool Hunting* in a recent interview. “There are so many different elements at play when you view a work outdoors and especially in a setting like Yorkshire Sculpture Park where the weather and sky can so drastically change from one hour to the next.”



KAWS briefly worked for Disney before starting his career as an independent artist; (left) FINAL DAYS, 2013



The collaboration with YSP came about after curator Claire Lilley worked with KAWS to exhibit the work *SMALL LIE* in Regent's Park, London in 2014.

“The way in which people responded to the sculpture in Regent's Park was very moving. That's when the conversation started about creating an exhibition at YSP” Lilley told *Attractions Management*.

“KAWS is an artist who is serious about art in the public realm and the notion of communicating with diverse audiences is very important to us, so in that sense he's a great match,” she says. “Some of the big outdoor sculptures had been seen in public spaces around the world, but they've never been seen like this – in such an intense

PHOTOS: JONNY WILDE / COURTESY THE ARTIST AND YSP



The wood sculpture SMALL LIE, 2013, is the largest in the exhibition, measuring 10 metres in height



Installation of the huge sculptures posed its own set of hurdles, with tonnes of concrete being poured for placements as far back as November, so it had time to set



(Top left) COMPANION (RESTING PLACE), 2013; Several cranes were needed to assemble the sculptures



group and in a landscape where a kind of dialogue can take place between them."

"It's interesting that people are getting the spectacle, scale and the sheer quality of the work, but they're also getting the deeper messages about adolescence and transitioning to adulthood, of feeling outside things, and hiding behind masks. Many of our visitors are moved by the sculptures and I have grown incredibly fond of them," Lilley says.

KAWS' works on display include 6-metre-high-plus (20-foot) wood sculptures like SMALL LIE, ALONG THE WAY and GOOD INTENTIONS, the fibreglass pink rabbit sculpture ACCOMPLICE and COMPANION (RESTING PLACE) with its peeled-back skin revealing neon organs inside.



Claire Lilley, director of programme at YSP

Installation of the huge sculptures posed its own set of hurdles, with tonnes of concrete being poured for placements as far back as November, so it had time to set.

"SMALL LIE, the largest of the sculptures, took around a week to install, basically starting with the feet and working upwards," says Lilley. "We used a number of cranes and a lot of trackway. Installing six large and quite complicated sculptures outdoors in January was quite a challenge – especially when you're trying to protect the grass around them. Afterwards, the landscape team moved in to re-turf and re-surface the road. It was hard work but great theatre as you can see from images posted on Instagram."

KAWS at YSP runs until 12 June 2016.



(Clockwise from top left): COMPANION
(PASSING THROUGH), 2010;
ACCOMPLICE, 2010; GOOD INTENTIONS,
2015; ALONG THE WAY, 2013





Chris Perry wrestles alligators on Epic Attractions

PHOTO COURTESY OF TRAVEL CHANNEL

“The scariest thing I did was being in the water with the alligators at Gatorland”

Chris Perry executive vice president of strategic partnerships, WhiteWater West

At the start of the year, WhiteWater West named waterpark veteran and TV host Chris Perry as the company's new executive vice president of strategic partnerships.

Anyone who's tuned into *Epic Attractions* on the Travel Channel will recognise the fearless host – whether he's harnessed to the top of Cedar Point's Millennium Force performing the safety checks, or freefalling on a 80kph (50mph) waterslide in Area 47.

Aside from his TV fame, Perry has worked in the waterpark sector for years, a passion he inherited from his father.

“My father ran aquatic facilities when I was young,” Perry says. “I grew up around the pool doing everything from picking up garbage, to cleaning toilets, to selling season passes until I eventually became old enough to become a lifeguard.”

His experience led him to Wild Wadi, where he stayed for 15 years, eight as general manager. He oversaw the waterpark and aquatic safety for a number of hotels around the world. While there, he led his team to several industry awards and oversaw the waterpark becoming ISO and Green Globe certified.

In his new job at the Canada-based waterpark supply and design firm, Perry is taking on a more strategic role, focusing on building relationships with existing clients and partners as well as finding new business avenues. He'll also be looking for ways WhiteWater can improve the service it provides to operators and the overall experience for guests.

“WhiteWater's vision is to ‘create play experiences that wow the world’,” Perry says. “The company really wants to be the best. Coming from many years as a

waterpark operator, I'm in an interesting position to help WhiteWater understand what clients want and what they need to do in order to deliver these ‘wow’ experiences. I'm only interested in being with a company at the leading edge, so WhiteWater is a perfect match for me.”

Although there are no current plans to produce a second season of *Epic Attractions*, Perry and the Travel Channel have been discussing possible collaborations in the future. We'll have to wait and see if it will be as hair-raising.

“The scariest thing I did for *Epic Attractions* was being in the water with the alligators at Gatorland in Orlando,” he says. “I was thigh-deep in water with the general manager and we were feeding the gators, with no real escape route if something happened. I think my producers were just as nervous as I was.”



Wanda Xishuangbanna International Theme Park, China



Happy Magic Watercube, China



BBC Worldwide TopGear Club, Prototype

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Jack Rouse Associates has worked on hundreds of themed design projects, including (clockwise from top left) Angry Birds Universe, the Children's Museum of Atlanta, the National Comedy Center and the Peoria Playhouse



“Always say yes, even if you don’t have a clue how you’re going to do it”

Keith James CEO, Jack Rouse Associates

K eith James was in Saltlake City airport when he got a phone call that made him break down and cry. But don’t worry – it was good news. Bob Ward was ringing to tell him he’d been awarded the themed entertainment industry’s most prestigious accolade, the Buzz Price Thea Award for a Lifetime of Distinguished Achievements.

Months later, on 2 April, 700 people attended the Thea Gala Awards ceremony at Disneyland Resort, Anaheim, where James picked up his award. For many, he’s one of the founding fathers of the modern themed entertainment industry.

James, CEO of Jack Rouse Associates and 45-year industry veteran, has worked with everyone from Coca-Cola to Jack Daniels, Ferrari to Hershey’s, Crayola to Lego, Warner Bros to Universal Studios and Six Flags – but he is nothing if not humble.

“I learned early on you need to surround yourself with good people, the best people you can.



Keith James,
winner of the Buzz
Price Thea Award

Receiving an award like this has always been the furthest thing from my mind because the success is due to all the thousands of people I have worked with – not me,” he says.

James was introduced to Jack Rouse in the 1970s. As well as teaching him to ride a motorbike, Rouse opened his eyes to the world of themed entertainment and the two went on to work together for TAFT Broadcasting.

“I just needed a summer job to pay for college, and that’s how this whole thing started,” James says. “Back then, there was hardly even an industry. It’s grown up beneath me and I’ve been very lucky to have the experiences and friendships that I have had.”

He returned to work with Rouse in 1992, becoming JRA’s owner in a 2008 buyout.

Most of his time now is spent travelling from site to site in countries across the globe. Nine and half million air miles later, James shares his best piece of advice: “Always say yes. Whatever you’re asked to do, say yes, even if you don’t have a clue how you’re going to do it. You can panic and figure it out later.”

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Energy exhibit comes to NEMO rooftop

Amsterdam's NEMO science centre has debuted its Energetica exhibition, turning its rooftop into an interactive, innovative experience to show visitors how to use the power of the elements to generate energy.

The unique exhibition, designed by multi-disciplinary creative agency NorthernLight and Berlin-based Archimedes Exhibitions, has turned the science centre's roof into an interactive playground, with solar chairs, solar fountains, water cascades, a rainbow maker and three innovative windmills among the interactives which respond to sun, wind and water. In addition to the new exhibition, the science centre also debuted its new rooftop restaurant.



■ Energetica explores the power of the elements

"The new Energetica exhibition is open to all people visiting the NEMO roof free of charge," said a statement. "This way the highest city square of Amsterdam, being part of the science museum, will even be more connected to science and technology."

NEMO's new rooftop space opened on 22 April. The bulk of funding for the €1m (\$1.1m, £781,000) project has come from BankGiro Lottery, with additional greenery funded by the Prince Bernhard Cultural Fund.

■ Details: http://lel.sr?a=X3C5_F_A

NASA grants \$14.5m for engagement project

NASA has gifted the Science Museum of Minnesota \$14.5m (£12.6m, £10m) to head a national project aimed at sparking interest in Earth, space and science.

The science centre will spearhead the Space and Earth Informal STEM Education (SEISE) project, which will seek to raise the capacity of museums and learning centres across the US to actively engage children in science, and to help NASA connect its resources with learners around the country in new and innovative ways.

The \$14.5m sum will be paid in instalments over a five-year period and is one of the largest amounts ever awarded to a science centre by NASA.



■ The \$14.5m sum will be paid over a five-year period

The space agency has had a working relationship with the museum since 2009, funding programmes related to climate change and for the SPACE exhibition, which premiered in Minnesota last year before embarking on a tour of science centres across the US.

"NASA's programmes are critical to our nation's future for space exploration and scientific learning," said Alison Rempel Brown, president of the Science Museum of Minnesota. "I look forward to a partnership inspiring people through engaging programmes."

■ Details: http://lel.sr?a=M9H5U_A

INDUSTRY OPINION

Biodiversity focus of Let it Grow campaign by Ecsite and zoos

Anna Omedes

In 2014, EAZA (European Association of Zoos and Aquariums), BGCI (Botanical Gardens Conservation International) and Ecsite joined forces at European level to engage audiences with biodiversity conservation. Together members of Ecsite, EAZA and BGCI reach and audience of 260 million visitors per year – and millions more via their digital presence.

The first action is the launch of Let it Grow – a joint, Europe-wide public engagement campaign to raise awareness about local biodiversity and encourage citizens' direct involvement in its protection. Running from spring 2016 until the end of 2017, Let it Grow has three aims.

It raises awareness of what biodiversity is and why having a full range of native species keeps ecosystems healthy for all forms of life including humans. Secondly, it encourages people to set up "wild spaces" on balconies, terraces, gardens and community spaces to give native species the chance to recover and thrive. Thirdly, it encourages biodiversity measurement events to build a better picture of the native species around us and how they are doing.

Members of Ecsite, EAZA and BGCI are getting involved at local level by informing visitors about their local biodiversity, involving them in hands-on activities and launching biodiversity measurement events.

At the Museum of Natural Sciences in Barcelona, we're helping local biodiversity to thrive in our gardens and running activities in collaboration with local partners. I encourage the wider attractions community to visit the website (www.letitgrow.eu), get in touch and get involved.

Anna Omedes, director, Natural Sciences Museum, Barcelona, Spain



Themed Index: Disney dominates while museums stutter

The world's top theme parks recorded tremendous growth in 2015, while visitor numbers to museums entered overall decline, according to the 2016 edition of the TEA/AECOM Themed Index Report.

The 10th edition of the Themed Index Report recorded a 7.2 per cent increase in attendance across the world's top 10 theme park groups, with the top 25 achieving more than 5 per cent growth year-on-year.

Disney is the dominant market leader, marking a 2.7 per cent increase in visitor numbers to 137.9 million people. Merlin finished a distant second, with visitor numbers increasing 0.2 per cent to 62.9 million people. Universal rounded off the big three, recording an impressive 11.8 per cent increase in visitor numbers, up to 44.8 million. Total attendance for theme park groups worldwide was 420.4 million, up from 382.8 million in 2014.

While things are looking rosy for the wider global attractions industry, museums appear to be in a phase of transition. The fourth year the report has tracked the performance of museums in its Museum Index, overall attendance saw a slight



PHOTO: VICTORIA AND ALBERT MUSEUM

■ London's V&A saw attendance rise thanks to a blockbuster Alexander McQueen exhibition

decrease, with numbers for the top 20 museums worldwide down 0.7 per cent to 106.5m – a drop of 800,000 people.

According to the report, attendance swings are largely tied to the presence or absence of significant exhibitions or major

events occurring in their host markets. For example, the Victoria & Albert Museum saw a dramatic rise in attendance due to its most popular exhibition ever, Alexander McQueen: Savage Beauty.

■ Details: <http://lei.sr?a=S6k5e>



PHOTO: PRESS ASSOCIATION

■ Guantánamo has a notorious reputation

Guantánamo Bay 'peace park' touted

A new scientific paper has suggested that the infamous Guantánamo Bay detention facility should be turned into a science lab and peace park in an effort to solidify US-Cuba relations and maintain Cuba's natural ecosystem.

The report in the journal *Science* says a park commemorating the history of the area combined with a research centre would give global recognition to Cuba's conservation efforts.

■ Details: http://lei.sr?a=C3H7_A

Antarctica to host floating biennale in 2017

An art exhibition is being planned for one of the world's most remote locations – Antarctica.

Due to launch 27 March 2017, the Antarctic Biennale will feature around 100 artists and scientists who will travel for 12 days on board the *Akademik Ioffe*, creating works for temporary installation in different locations around the South Pole.

Sailing from Argentina via the Falkland Islands, the list of artists on the expedition will be revealed in 2017. Ukrainian artist Alexander Ponomarev, who also hosted an Antarctic pavilion at the 15th Venice Biennale of Architecture in 2014, is commissioner of the event.

"The Antarctic is the last free continent," said



PHOTO: ANTARCTIC BIENNALE

■ Ukrainian artist Alexander Ponomarev leads the project

Ponomarev. "According to a 1959 international agreement, it belongs to no state and is intended purely as a place for creative activity in the interests of all mankind. It is a white continent – like a clean white sheet of paper upon which artists of different countries and different

nationalities will attempt to write new rules of co-operation."

After the biennale, the artworks will be used in a number of exhibitions in museums around Europe. Beyond the inaugural event, the Antarctic Biennale will set sail every two years.

■ Details: http://lei.sr?a=F7Z9V_A

Red Bull turns waterpark into skatepark

Dubai's Atlantis, The Palm drained its Aquaventure Waterpark in a marketing stunt that saw three pro skateboarders given an all-access pass as they used the selection of world-class dry slides to turn the waterpark into a skatepark.

Arranged in conjunction with Red Bull UAE, the pro skaters Milton Martinez, Alex Sorgente and Jan Hoffmann spent four days in January exploring the waterpark and what it had to offer.

The video, released in April, sees the three skateboarders riding down six storeys and 156 metres (512 feet) of twists and turns, plus a 14-metre (46-foot) wall on the temporarily dry Aquaconda waterslide, which was drained as part of regular waterpark maintenance.



■ Skaters got the chance to shred the waterpark in Dubai

"We are honoured the skaters and the team at Red Bull chose Atlantis, The Palm to film this stunt," said Serge Zaalof, president of Atlantis. "These skateboarders are extremely talented and clearly expressed their excitement to be here, and we look forward to working together

on what will be a successful relationship going forward."

So far, the footage has been seen on Red Bull's YouTube page more than 500,000 times. Atlantis' waterpark is the largest in the Middle East and Europe and is considered among the best in the world.

■ Details: http://t.ei.sr?a=8Sc6_A

INDUSTRY OPINION

Water attractions must see parents as safety partners

Aleatha Ezra

According to the WHO, 372,000 people drown each year, with those aged under five at greatest risk. Such stark statistics are a powerful reminder

of why the Chartered Institute for the Management of Sport and Physical Activity (CIMSPA) revised and released the *Parental and operator guidance for child supervision policies in swimming pools* in July 2014.

The document provides guidance for operators and parents on what constitutes a safe parent-to-child ratio when attending an aquatic venue. That is not to say that enforcing these guidelines does not create the occasional customer service issue. However, most operators find that implementing simple steps can alleviate a lot of frustration on the part of your guests. Consider the following:

- Determine the specific parent-to-child ratios that work at your facility. As the guidelines say, your attraction types might require a higher or lower ratio to be safe.

- Include the information on your website and in your social media posts and have easy-to-read signage available to guests when they first enter the venue.

- Train your staff to understand why parental supervision and ratios matter and how they can support you by educating guests when they see bad behaviours being displayed.

Parents want to enjoy time with their children at aquatic venues, and they also want everyone to go home safe and happy. By being up-front with parents on their role in keeping children safe, operators can ensure fewer kids fall victim to drowning. That's the ultimate goal for all who work in the water leisure industry.

Aleatha Ezra, director of park member development, WWA



Man gets jail sentence for deadly waterpark fire

Lu Chung-chi, the man responsible for organising a waterpark party that ended in a fatal explosion killing 15 people, has been jailed for four years and 10 months.

Receiving his sentence in court in Shilin, Taipei, Lu was found guilty of negligence. He did not attend the verdict. Some victims and their relatives told local press that they did not feel the sentence was long enough.

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



■ More than 500 people were injured and 15 people died

"Most of the victims were very young and their wonderful lives were about to start. They had beautiful dreams to be realised," said a press statement provided by the court. "Because of the explosion, 15 of them lost their lives and most of the survivors suffer tremendous

physical and emotional pain and torment."

"Relatives of the deceased suddenly lost their family members and suffered irreparable and excruciating pain and regret," it said. "The explosion happened due to the negligence of the defendant."

■ Details: http://t.ei.sr?a=9B9j8_A



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PortAventura gears up for 2017 opening of Ferrari Land

A year since breaking ground on Europe's first Ferrari theme park, PortAventura has offered an update on the project, coinciding with the symbolic placement of the Ferrari shield on its record-breaking vertical accelerator launch coaster.

The 12-metre (40-foot) shield, which sits near the top of the 112-metre-high (368-foot) Intamin rollercoaster, can be seen for miles on a clear day at the resort on the eastern coast of Spain, near Barcelona.

The development is currently at the halfway point, with a projected opening date of April 2017.

"The structure for our yet-to-be-named rollercoaster is already finished," said PortAventura's Roca Pujol, giving *Attractions Management* a tour of the Ferrari Land site. "In June, we'll be bringing in three trains and, in July, we'll begin ride testing."

Ferrari has played an active role in the development, keeping an eye on the finer details of the €100m (£76m, \$109m) project, such as making sure the exact shade of Ferrari red has been used for the rollercoaster. The main street of Ferrari Land will be an Italian town, with



PHOTO: PORTAVENTURA

■ The Ferrari logo on the Intamin launch coaster can be seen for miles around

restaurants, retail, family rides and eight Ferrari simulators – six for adults and two for kids. Additionally, the main building opposite, which is the centrepiece of the park, will be the Ferrari Experience.

"The Ferrari Experience is being kept a complete secret," said Pujol. "What we can say is that it will be completely unique. It's going to be amazing."

■ Details: http://lei.sr?n=J2X6x_A



■ The billion-dollar park opens in 2018

Warner Bros to open Abu Dhabi park

A \$1bn (£882m, £698m) Warner Bros theme park on Abu Dhabi's Yas Island has been confirmed by the global entertainment company and developers Miral. A Warner Bros-branded hotel is also to be built on the site.

Slated to open in 2018, the park will include a wide range of Warner Bros' global IPs, including DC Comics characters like Batman, Superman and Wonder Woman.

■ Details: http://lei.sr?n=a4B2S_A

Merlin pleads guilty over Alton Towers crash

Alton Towers owner Merlin Entertainments pleaded guilty in court to breaking health and safety laws in relation to the Smiler rollercoaster crash that seriously injured five people, including two who underwent leg amputations.

In a hearing on 22 April, Merlin admitted breaching health and safety laws, meaning the firm will face an unlimited fine, expected to be in the millions of pounds, when it is sentenced at a later date.

The Smiler reopened for the first time in March, having been equipped with new safety features and technical improvements. Staff members have been given additional training.

The park has also adopted further protocols to the



PHOTO: MERLIN AND SAFETY EXECUTIVE

■ Sixteen people were injured in the accident at Alton Towers

manual override process so that a senior staff member has to authorise and action the decision. Additional surveillance cameras and additional staff inspection checks have also been put in place.

"We welcome the guilty plea entered by Merlin," said a statement from

the Health and Safety Executive. "Merlin has acknowledged that it failed in its legal duty to protect people on the Smiler ride.

"We hope this first milestone will help those affected to continue their recovery from this tragic incident."

■ Details: <http://lei.sr?n=a61D1T>

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Palestinian Museum opens its doors without any exhibits

Following the appointment of Dr Mahmoud Hawari as its new director, Israel's Palestinian Museum has opened its doors without any exhibits.

The \$60m, (€55m, £40m) project, which has the intention of creating an iconic building to act as a beacon of hope for the Palestinian people, was first mooted in 1999, but has been stalled multiple times due to political tensions in the region.

The building itself – a contemporary design by Heneghan Peng which sits on a series of terraces designed to echo the agricultural terraces of the region – is “symbolically critical”, according to Omar al-Qattan, the museum’s chair.

The museum’s inaugural exhibition, Never Part, which highlights artefacts of Palestinian refugees, was suspended after a disagreement between former director Jack Persekian and the museum’s board, which led to Persekian’s departure.

Al-Qattan said that Palestinians were “so in need of positive energy” that opening a museum completely void of an exhibits would still be worth the effort.



PHOTO: PALESTINIAN MUSEUM

■ The museum is void of exhibits, but its chair said the opening was “symbolically critical”

The building held its opening ceremony a few days after the 68th anniversary of what Palestinians refer to as Nakba – the 1948 Palestinian exodus.

The museum will be free-to-visit for the public starting 1 June, though what will

be available to see is still in question.

The museum is also launching the first of its satellite exhibitions on 25 May, with Seams: A Political History of Palestinian Embroidery coming to Beirut, Lebanon.

■ Details: http://lei.sr?m=2B6E_A



PHOTO: SFMOMA

■ Exhibition space has been tripled

SFMOMA's \$610m extension opens

Snøhetta's new building for the San Francisco Museum of Modern Art (SFMOMA) has opened its doors.

The international architecture studio has been working on the project for the last three years, adding a 10-storey extension to the museum's existing building, tripling exhibition space and allowing for more of SFMOMA's collection to be put on display at one time.

■ Details: http://lei.sr?m=y6Q7Y_A

Social media superstars shine spotlight on Paris

Paris has turned to social media to promote its attractions, calling on some of Instagram's most popular users to draw crowds to the French capital's top institutions.

In an effort to leverage the power of Instagram, Paris Musées, which manages 14 of the capital's municipal museums, commissioned 10 Instagrammers to re-create classic artworks in their own image.

Created by digital marketing agency Kindai, the effort is aimed at promoting Paris Musées' recently launched digital collection, with social media influencers from various art backgrounds putting their own spin on the works.



PHOTO: INSTAGRAM

■ Popular Instagrammers were asked to recreate Parisian works

The move follows from a 2014 study by Kindai that found that cultural institutions in France benefitted most from Instagram posts, accounting for about 53 per cent of related Instagrammer visits.

The recreated Instagrammer collection

will be put on display until 31 July at Paris' Gare Saint-Lazare train station. Paris Musées is also encouraging passersby to contribute their own versions of the classic works and to use the hashtag #ParallelesParisMusées.

■ Details: http://lei.sr?m=4M2u2_A

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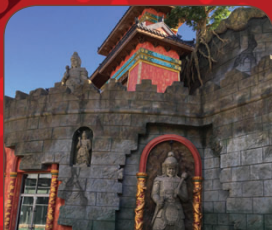


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Italy plans €1bn investment into its culture and heritage

After announcing plans in January to invest €300m (\$325m, £220m) to protect its most important heritage sites in need of restoration, Italy has earmarked €1bn (\$1.16bn, £790m) for cultural investments on projects across the country.

Italian culture minister Dario Franceschini called the plans, "the biggest patrimony intervention in Italy's history", adding that the funds would be divided between 33 projects across Italy.

Franceschini said the massive investment would provide "dreams, kept in drawers, which never had the necessary resources", adding that the plans were "proof that this government believes in culture driving growth", a trend not seen in recent years when many of Italy's historic cultural locations have been left in a poor or decaying state thanks to public spending cuts, corruption and bad management.

Among the investments, €40m (\$46m, £31.6m) will go towards the expansion of the world-famous Uffizi museum, with the plans including opening up a "secret" corridor connecting the museum to Florence's Palazzo Vecchio.



PHOTO: SHUTTERSTOCK.COM/BOBIS STROJUN

■ Pompeii will receive a €40m investment to perform essential maintenance

The famous ancient city of Pompeii will also receive a €40m investment, which will go on essential maintenance of the Roman-era walls and mosaics.

The UNESCO World Heritage Site of Herculaneum, located in the shadow of

Mount Vesuvius and destroyed with Pompeii in AD 79, will gain €10m (\$11.6m, £7.9m) for repairs and excavation. The site remains largely unexcavated with around 75 per cent of the site still to be investigated.

■ Details: http://lei.sr?n=h8MSR_A



PHOTO: SHUTTERSTOCK.COM/TINKA40709

■ Durbur Square was severely damaged

Work finally starts on Nepal's heritage sites

After significant delays Nepal's prime minister has said work is finally set to start on key heritage sites destroyed by last year's devastating earthquake.

Speaking at the 17th-century Anantapur temple, which was among the heritage sites damaged, Khadga Prasad Oli offered prayers and said that work would begin on rebuilding the temple in addition to three other sites in Kathmandu.

■ Details: http://lei.sr?n=9U4b6_A

Heritage can help Africa development: expert

A heritage expert has raised critical questions related to the management of heritage sites in Africa, suggesting a socio-economic approach to maximise sustainability.

Speaking on the first-ever African World Heritage Day in May, Pascall Taruvinga, chief heritage officer for the Robben Island Museum and World Heritage site in Cape Town, South Africa, said that while the number of world heritage sites in Africa is increasing, the relationship between conservation and socio-economic development at these sites has become a topical issue over the years.

Taruvinga said: "Socio-economic development often takes place either within or outside the boundaries of places inscribed as



PHOTO: SHUTTERSTOCK.COM/KEVIN KANUNBER

■ Robben Island: a socio-economic approach to conservation

world heritage sites, such as uranium extraction in Tanzania's Selous Game Reserve. But, world heritage hasn't been sufficiently harnessed for contributing to socio-economic development, especially in developing nations. Principles of sustainable development should be applied."

Using the socio-economic method of sustainability, Taruvinga said a paradox is created where heritage sites are expected to combat ever-decreasing government grants through sustainable development initiatives, while still upholding the "virtues" of conservation.

■ Details: http://lei.sr?n=u2z3b_A

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SeaWorld ends orca captivity programme

SeaWorld has announced that it is ending orca captivity at its parks.

The operator has been under immense pressure from animal rights groups ever since the release of *Blackfish*, which catalogues alleged mistreatment of killer whales and the death of three people as a result. Now SeaWorld says its ending its orca breeding programme effective immediately, with its current generation of whales its last.

"When we opened our doors more than 50 years ago, killer whales were feared and even hunted. Now, they are among the most beloved marine mammals on the planet thanks, in part, to SeaWorld," said a statement from the operator. "The killer whales in our care will



■ SeaWorld says the current generation of orcas will be its last

be the last at SeaWorld. We haven't taken a whale from the wild in nearly 40 years. Now, we're going further and will end our orca breeding programs as of today. We will protect and care for these whales – here at our parks – for the rest of their lives where

guests will continue to view and be inspired by them."

Additionally, SeaWorld has announced that its "more natural" orca show planned for its park in San Diego in 2017 will now be rolled out to its parks in San Antonio and Orlando in 2019.

■ Details: http://lei.sr?a=12M9e_A

INDUSTRY OPINION

AZA joins trafficking alliance to end illegal trade of wildlife

Jennifer Fields

AZA has been raising awareness of wildlife trafficking issues for decades. However, as the US Department of State estimates wildlife trafficking generates about \$10bn (£7bn, €9bn) in illegal profits for criminal syndicates, in addition to decimating wildlife populations, AZA zoos and aquariums are taking new steps to address this devastating problem.

In 2014, the White House released the *National Strategy for Combating Wildlife Trafficking* to halt the illegal trade of wildlife into the US. President Barack Obama called for a collaborative effort to reduce the supply and demand of these illegal products in the US – one of the world's largest markets – and announced the formation of the US Wildlife Trafficking Alliance (USWTA).

On World Wildlife Day, March 3, 2016, USWTA announced 16 new members, including AZA. AZA made a commitment to USWTA to mobilise its more than 230 accredited members and their 183 million annual visitors to help combat wildlife trafficking. This commitment includes working with USWTA to place a unified exhibit at multiple AZA-accredited zoos and aquariums; engaging AZA members on wildlife trafficking policy issues; creating the opportunity at AZA-accredited facilities for the public to donate unwanted ivory and other wildlife products for destruction and to get them out of circulation in the market and working with Discovery Communications and the Discovery VR platform to develop materials and virtual content to engage visitors through technology.

AZA encourages others to join us in this effort. For more information, please visit www.uswta.org.

Jennifer Fields,
communications coordinator, AZA



Detroit Zoo debuts \$30m penguin habitat

Detroit Zoo, in Detroit, Michigan, has debuted its \$30m (£27m, £21m) penguin habitat, with a state-of-the-art enclosure that offers a face-to-face encounter with the birds.

Home to 69 penguins – gentoos, macaronis, king and rockhoppers – the Polk Penguin Conservation Center, designed by the architectural team of Albert Kahn Associates and Jones & Jones Architects, features an underwater gallery and two acrylic tunnels for visitors to see the birds fly through the water.

Designed to simulate a penguin's native habitat, the 33,000sq ft (3,000sqm) enclosure – which resembles an iceberg above a 326,000-gallon pool – encourages the same kind



■ The state-of-the-art centre is home to 69 penguins

of behaviour as seen in the wild, including leaping in and out of the water, nesting and rearing young.

The attraction – named after its largest donor, the Polk Family Fund, which contributed \$10m (£8.8m, £7m) to the development – is the largest, most expensive project in the

zoo's 88-year history. The team of DeMaria and Wharton Smith were general contractors for the project, which took 18 months to build. The zoo's former penguinarium, now vacant, will be renovated to become a conservation centre for bats.

■ Details: http://lei.sr?a=a683Z_A



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UK's first virtual reality centre caters for special needs children

The first virtual reality centre in the UK – opening in Lincoln – will use tailor-made VR experiences to help stimulate children with special needs.

VR company Tension, which is introducing its historically-themed escape room and VR experience in June, is putting experiences for special needs kids at the heart of its operations, introducing “quiet times” for children to use the technology in a productive way.

“VR is a fantastic way of putting sensory input into children with learning difficulties such as autism or ADHD,” said Simon Adderley, managing director of Tension.

“During quiet times children with special needs can come into an environment that is much calmer, with less people about.

“They’ll be using VR tuned to their own condition. There’s been a lot of research done in VR and stimulus for special needs children. It’s been recognised that simulation especially is a fantastic way to help these kids interact better with the world.”

Using immersive 3D worlds as rehabilitation technology, studies have suggested VR can contribute “extremely”



■ Studies suggest VR can help children with learning disabilities

in enhancing the treatment, education and quality of life of children with disabilities.

“I have a daughter who is autistic, dyspraxic and has Aspergers, and it’s remarkable how calming and sociable kids become through using the VR,” said Adderley.

“We’ve been in touch with people working on this because they’d like to work with us on certain programmes. I don’t know where it’s going, but it’s certainly going to be an interesting journey.”

■ Details: http://lei.sr?m=D6Q7d_A



■ HoloLens shipped orders on 30 March

HoloLens goes on sale to developers

Microsoft has made its HoloLens developer kit available at a price of \$3,000 (£2,750, £2,150) ahead of the technology’s public release.

Shipped to qualified developers on 30 March, the technology will be used to create augmented reality (AR) apps, along with the additional components to enhance the technology further for its eventual commercial release.

■ Details: http://lei.sr?m=N5zSS_A

‘Jimmy’ offers evolution of telepresence robot

Disney’s research arm has developed a human-controlled robot capable of replicating precise actions, meaning the operator can bring its characters to life in ways never seen before.

Dubbed “Jimmy”, the Hybrid Hydrostatic Transmission and Human Safe Haptic Telepresence Robot offers bi-directional operation of every joint, meaning ultra-precise actions replicated through an air and water hydraulics system are possible when operated by a human.

For these operators, mounted stereo cameras stream live video visually immersing them in the robot’s physical workspace. To allow precise touch, hydrostatic transmission presents a counterforce





■ “Jimmy” is capable of replicating precise actions


the operator can feel between Jimmy and his external environment. The robot is so precise, the operator can put a thread through the eye of a needle.





The potential of Jimmy for Disney at its parks is huge. Though telepresence robots have existed for

sometime – theme parks notably using them to allow characters to naturally interact with people – this technological leap by Disney Research means that the technology can be taken much further than simple actions as with previous iterations.


■ Details: http://lei.sr?m=t2w7C_A






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JOHN DUFFEY

It's been smooth sailing for the Six Flags ship and its shareholders, but CEO John Duffey sees new opportunities on the horizon

Alice Davis, managing editor, Attractions Management

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round will soon break on the first Six Flags in Asia, as the thrill king of the US theme park industry staked its own claim to a piece of the

Far East pie. But Six Flags Haiyan, which will be part of \$4.6bn (£3.2bn, €4.1bn) tourism destination resort not far from Shanghai, is not just the company's first park in China, it's the first of many.

"Given the global strength of the Six Flags brand, we believe we have tremendous growth opportunity to partner with other firms that are interested in building Six Flags-branded theme parks in markets outside North America. Developing Six Flags parks in various parts of the world is part of our long-term growth strategy," says John Duffey, CEO of Six Flags.

The plan is to build multiple Six Flags in China in the next 10 years in partnership with real-estate developer Riverside Group, who will build and own



CEO John Duffey is overseeing Six Flags' expansion into China (below)

the parks and buy the license to operate them. A similar franchise model is also supporting upcoming parks in Dubai and Vietnam, sending a clear signal that Six Flags is committed to potentially unlimited expansion abroad.

GLOBAL GROWTH

"Developing internationally is a great growth opportunity for us. China is an excellent market and one that has the potential to support multiple Six Flags-branded parks. Dubai is an emerging entertainment destination with incredible potential and Vietnam is another exciting market where we believe the brand will be well-received. All of these markets have large populations with growing disposable incomes, strong economies and a void of entertainment similar to what Six Flags offers," says Duffey.

Asia remains underserved when it comes to high-quality attractions. China in particular has a still-expanding middle class



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China is an **excellent market** and one that has the **potential** to support **multiple** Six Flags-branded **parks**

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There's **growing interest** from other **countries** who **want** to be part of our **signature brand**

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with the disposable income and desire for these experiences. According to AECOM, already 700 million Chinese can afford to visit a theme park – a figure that's expected to reach 1 billion by 2020. And the abolition of the country's one-child policy this year (the law has been revised to allow two children) is also likely to boost attendance and in-park spending in the future.

However, while more than 60 theme parks are under construction in China, and Disney and Universal are joining the market, there are only an estimated 850 amusement attractions in total, serving a population of 1.38 billion people. Many of those attractions will be low-quality local parks, and of the top 25 most-visited theme parks in the world in 2014, only two of them were in mainland China. The country's leading operators by attendance – OCT Group (10 parks, including the Happy Valley chain), Chimelong Group (two parks), Songcheng Group (six parks) – clocked up 47 million visits in 2014, less than 0.5 per cent of the population.

THRILLS FOR CHINA

For Duffey, there's more than enough space in the market. The company's own psychographic research in China revealed people wanted more thrills and more record-breaking rides. As a highly profitable regional park operator – with 18 North American parks attracting 28 million



Fireball is new for 2016; The New Revolution Virtual Reality Coaster at Six Flags Magic Mountain (inset)

guests per year – it's the same qualities that make Six Flags successful at home that are attracting investors abroad.

"Six Flags is already a global brand, one of the most recognisable in the world," he says. "Our product offering is unique and appeals to a wide range of people and there is growing interest from other countries who want to be a part of our signature brand of thrills and innovation."

While closely following the Six Flags brand in its new destination parks – offering signature thrill rides and record-breaking rollercoasters, alongside family and kids' rides, water rides, concerts and shows – Duffey isn't saying they have to be replicas.

"We have an operating model that works and our international properties will follow that model, but these parks will also be tailored to their specific region. The theming, the shows, along with the food and retail offerings will reflect the customs and cultures of the local markets."

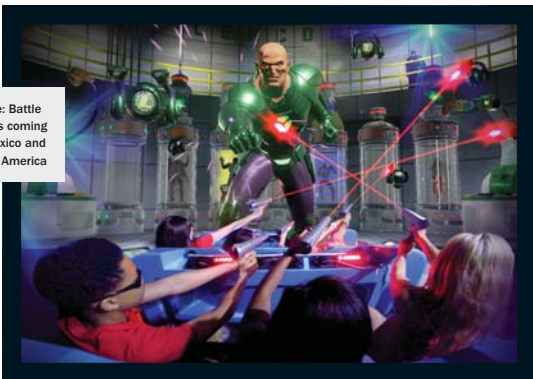
It's been a complete turnaround for the company, which in 2009 was delisted from the New York Stock Exchange. Six Flags had struggled through the 2000s, was forced to sell off its European assets and several US parks, but failed to make a dent in its \$2.4bn (£1.6bn, €2.2bn) of debt. Former CEO Jim Reid-Anderson took the reins in August 2010, steering the company to a remarkable recovery. He came up with a strategy to reinvest 9 per cent of revenue each year in brand new attractions, got rid of ticket discounts that were just too generous and streamlined operations to improve efficiency.

Justice League: Battle for Metropolis is coming to Six Flags Mexico and Six Flags Great America

BB

Our **guest satisfaction** ratings are among the **highest** in our **history** and team **morale** is also **high**

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Duffey was Reid-Anderson's right-hand man during this time, serving as CFO from September 2010, until taking over as president and CEO in February this year. Prior to that, the two worked together at Dade Behring, leading it through debt restructuring before selling it to Siemens for \$7bn (£4.8bn, €6.2bn) in 2006. Now in charge of Six Flags, Duffey continues to follow the successful strategies that have seen \$2bn (£1.4bn, €1.8bn) returned to shareholders over the past six years.

"We had our sixth consecutive year of record performance in 2015 and the first quarter of 2016 was our 23rd record quarter out of the last 24 quarters," Duffey says. "Our guest satisfaction ratings are among the highest in our history. We are laser-focused on providing a world-class experience to our guests and delivering

new rides and attractions in every park every year. We have consistently been recognised globally by our guests and the industry as offering the best-in-class rides and attractions. Our line-up for 2016 is the best we've ever had."

The line-up for the season certainly is exciting. The US' first VR coaster experiences are rolling out across nine parks; last year's award-winning Justice League: Battle for Metropolis is coming to Six Flags Great America and Six Flags Mexico; a seven-storey loop coaster called Fireball is set to up the thrills at Six Flags New England and Six Flags St Louis; Six Flags America is adding Splashwater Falls, a giant interactive water playground; and Six Flags Over Georgia introduces the world's first DC Super Friends themed children's area – to name just a few.

"Strategic innovation is an important key to our success. We've been deliberate in our efforts to enhance the guest experience by offering innovative rides, attractions and services. Our capital strategy to have something new that we can effectively market at every park every year, as well as our season pass strategy, has contributed to significant growth in attendance."

TEAM MORALE

As regional parks rely heavily on return visitors, it's vital to offer season passes at carefully considered prices. Six Flags staff are trained to promote the season pass and membership options by helping customers see the value in them.

"Our pass base is up 24 per cent and we're seeing strong sales growth in our All Season Dining Pass," says Duffey. "Because we're investing in Fright Fest and Holiday in the Park, guests have multiple opportunities to visit our parks each year."

Lastly, Duffey says the company owes its successes to its staff and that it endeavours to keep them happy.

"We have some of the brightest minds in the industry on our team and their commitment is inspiring. We re-instated a number of employee benefits to reward and acknowledge their hard work, and as a result team morale has never been higher."

Six Flags serves the top 10 demographic markets in the US and Duffey says he does not anticipate building any new theme parks in the region. Instead, Six Flags at home is poised to enjoy further benefits of an innovative and well-run company in the marketplace. Abroad, Six Flags and its partners are set to charter new territories in the next chapter of its story. If it maintains its focus on innovation, guest experience and employee satisfaction, its journey into Asia should be a Great Adventure. ●



Six Flags Magic Mountain hosts its 25th annual Fright Fest this year

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How can attractions harness the power of VR?

VR technology offers seemingly endless possibilities across all the attractions sectors. But is it worth investing in a VR experience – and where should you start? We asked a panel of experts



The Void is inventing a new type of VR-based out-of-home attraction

The hugely immersive medium of VR is a natural companion to the experiential, visual and narrative world of attractions. The technology's applications for and within the industry are countless because, when it comes to storytelling, a VR experience really is like entering another world.

It's no wonder a number of theme park and museum operators have already brought the technology to their visitors. For example, Europa Park, Six Flags Magic

Mountain, Universal Japan and Alton Towers have reinvented veteran rollercoasters with the addition of a VR experience. London's Natural History Museum has collaborated with David Attenborough to offer on-site VR experiences, while The Void, which is expected to fully open in Lindon, Utah, this year is defining a whole new genre for the attractions industry, the Virtual Entertainment Centre (VEC).

While some big players are already adapting the technology to their needs, creating the top-quality experience

that people expect from out-of-home entertainment requires investment and the work of highly skilled technicians and creatives. It also poses challenges for operators in that it can be deemed too isolating an experience. It can also be awkward to implement on the ground with slow throughput and hygiene issues. However, the possibilities of content are infinite and when done well, a VR experience can boost revenues.

Is it time to embrace VR? Can it work for your attraction? We asked the experts.



VR coaster Galactica opened this season at Alton Towers, UK



What VR does is give us an exciting new way to further enhance and expand the stories we want to tell



PAUL MORETON

Creative director
Merlin Entertainments

The leisure and attraction sector has already entered an exciting new dimension with the arrival of VR. However, I don't think we should get too carried away. It's a great new tool for us to play with, but it's not the be all and end all for attraction development. Imagination and storytelling are still, and always will be, the vital ingredients for creating world-class attractions.

What VR does is give us an exciting new way to further enhance and expand the stories we want to tell and the worlds we want to create; and to engage and stimulate our guests' every sense – physical and psychological. However, this can only be

achieved through the creative mixing of new techniques and technologies like VR with more traditional ones. This approach will produce the groundbreaking attractions of the future – the ones that cannot be reproduced in someone's bedroom or a VR suite – ensuring attractions remain relevant and successful.

This is what we've been doing at Merlin Magic Making with the launch of two brand new groundbreaking attractions.

At Alton Towers, we've created one of the first rollercoasters fully dedicated to VR. Galactica is a breathtaking journey through space, where guests experience total immersion into an incredible story of space exploration. It's achieved through a combination of a specially created VR film delivered through individual



headsets, a coaster which recreates the feeling of flying and new theming.

In Derren Brown's Ghost Train at Thorpe Park, we've used VR in a very different way. Here, VR is just one element of a multi-million pound, multi-dimensional attraction – it's something that's never been seen before.

Again, we employ uniquely created VR footage, but this

works alongside grand illusion, live action, 4D effects and a very scary storyline where guests play a central role.

The public response to both these new attractions has been incredible – people love them.

It's clear, however, that it's not the VR, but the way we use it which is critical both to customer reaction and the long-term development and relevance of VR to the sector. Consumers' expectations are always rising and it won't be enough for the industry to make generic VR films, played in standard theatres. The public will expect much more.

In short, the future is very exciting but only if we continue to dream the impossible and then use VR, along with many other techniques, to bring it to life.



We are constantly challenged to think 'out of the headset'



STUART CUPIT

Technical Director

Initium VR

For the first time since the invention of motion pictures, we have a new channel of storytelling: VR. As with any new channel of art, the rules are being established, language being developed and devices being explored.

Recent developments in the medium mean nobody currently has all the answers. It's an exciting time for experimentation. Industry experts open to sharing information on their experiences of creating stories for VR, thus creating an accessible atmosphere of content creation dialogue.

VR is an ideal tool for visitor attractions because it provides multisensory environments. We are constantly challenged to think "out of the headset"

and explore ways that allow the user to interact with objects around them. Engaging additional senses through motion, touch/haptics, scent, taste, temperature and weather simulations adds to the sense of immersion, but the experience is only as good as the content, that is why the storytelling aspect is paramount to get "inside" and bring the production to life.

Technology has evolved in such a way that we can provide truly unique, fully immersive experiences that engage the senses to create memorable brand theatre, whereby the content doesn't break the spell and keeps the users in suspended belief mode.

VR can be a worthwhile investment for marketing attractions in that it is the ultimate interface to the digital world, with the ability to take you anywhere, anytime. We



can build fantastical imaginary worlds or put visitors in remote places – making them feel as though they're actually there.

Every experience should offer a new opportunity for social connection. Our world-first Topshop project opened up London Fashion Week to a wider audience, transmitting the catwalk show live from a front row seat in the Tate Modern's Turbine Hall to enthralled fashion-lovers sitting in the window of Topshop's flagship

store on Oxford Street. Five competition winners donned specially customised Oculus Rift headsets to experience the show as it happened.

To really get a great piece of VR theatre, we can use feelings that are natural to us as human beings to evoke a powerful response, like our 19th-century circus experience where the user was undertaking a daring stunt by jumping through rings of fire. The experience aimed to fully transport users into the circus atmosphere, engaging in our very real and natural emotions of fear and wonder.

These are but a few examples of how we have led the way for clients, helping to create more engaging consumer experiences and reinvestigate how content is delivered. The possibilities are almost overwhelming as they are endless. If you can imagine it, then we will be able to build it.

ED BARTON

CEO

Curiscope

Virtual and augmented reality open up a huge market of opportunity for the attractions industry. We've seen VR before, but with low latency, higher quality devices that cost a lot less, there are going to be exciting developments.

We created a VR experience that lets you dive with great white sharks. It's the second-most viewed VR experience in the world on a number of platforms, outperforming anything that's been released by Hollywood, proving there's



Imagine shrinking to the size of a blood cell and going on an adventure inside the body



demand for experiences that are not only exciting but also informative. Ultimately, an aquarium can offer a great white experience without having to keep one in captivity.

This creation of impossible experiences is where things get exciting. You no longer need to be constrained to the physicality of an environment or the time period.

To use the technologies most effectively, shoot for landmarks. Don't jump on them just because they're a buzzword; embrace them because they will fundamentally improve the visitor experience. We're in the early days of a tectonic shift in the computing industry, from an information economy to an experience economy. This is what the attraction industry does best and it must take the lead if it's to capitalise on the opportunity.

Imagine you no longer just look at an Apollo spaceship, but experience the mission; no longer just look at a volcano, but dive through it. Imagine shrinking to the size of a blood cell and going on an adventure inside the body.

There's never been a medium that's able to so effectively provide you with the feeling of presence in another location and that's ultimately what the attractions industry has always sought to emulate. Demand has never been higher and the technology is only getting better. This is the opportunity to be pioneers and provide real value and engagement at a level higher than ever before.



Curiscope's great white shark VR experience

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“ The experience can actually deliver higher visual fidelity than a multi-million pound dome installation ”

PAUL MOWBRAY

Director
NSC Creative

At NSC Creative, we started in the planetarium environment, where large fixed venues evolved into expansive digital canvases with the capability to transport audiences into a diverse range of topics. The themes are no longer constrained to astronomy now that the opto-mechanical star ball is collecting dust in the pit.

The 360° digital dome format is in a way a form of social VR. The dome allows people to have a shared immersive experience without the logistical challenges of HMDs. However, there are many venues that do not have the space or budget for a large dome and this is where the VR Planetarium or VR Theatre concept comes into play. At its most basic, it's a room full of spinny chairs with a VR headset for each guest. The investment for this is the cost of the smartphones and headphones, but the experience can actually deliver higher visual fidelity than a multi-million pound dome. This

is because VR natively supports stereoscopic 3D content and uses screens rather than projection, hugely increasing the contrast ratio and brightness.

If offering a passive experience like a pre-rendered movie it's important to try to synchronise the experience. Start with a short pre-show and briefing and ensure everyone's show begins and ends at the same time. Encourage guests to share their VR experience with others by offering a follow-on social space.

Our 8K 60fps 3D film *We Are Stars* is a cross-platform science documentary designed and optimised for both domes and HMDs. We maximise investment by opening up new formats, while exhibitors can add a 360° 3D experience for very little up-front cost.

A cheap option is Google Cardboard. We did a lesson about the moon as part of our relationship with the Google Lunar XPRIZE project. Each child has a Cardboard with a smartphone synched to the



Paul Mowbray, director at NSC Creative; (below) A full-dome 4K fisheye still taken from *We Are Stars*



“ True VR poses serious challenges, but the level of visitor engagement has the potential to be off the scale ”

teacher's tablet. By having the audience take the device off multiple times throughout the lesson to engage with each other and the teacher, it became a dynamic group event. This approach suits science centres and museums, who have the experts on-hand to give amazing insights and intimate tours of their areas of expertise.

At the high end of the VR spectrum are room-scale, fully interactive experiences enabled by solutions such as the HTC Vive, which tracks a

person's position to a sub-millimetre level, enabling unprecedented immersion into a virtual world. The current holy grail for this kind of experience is putting multiple people in the same physical space. Projects like *The Void* are already doing this and more attractions will roll out similar and equally compelling and transformative experiences. Making this form of VR – True VR – work technically, financially and operationally poses serious challenges, but the level of visitor engagement has the potential to be off the scale.

There's a massive buzz around VR, but research shows only a tiny percentage of the public have tried it. Therefore, there'll be a period of time where attractions can introduce VR and simply offer the wow factor that comes for free from everyone's first VR experience. As more people get it at home, venues will have to work harder with custom, high-end experiences that serve their mission and offer something unique. VR will be ubiquitous across attractions, but will come in waves as the content and guests' desires become more sophisticated. ●



There are techniques to make VR more social

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PHOTO: ELIZABETH HANNAELS



★ Eli and Edythe Broad (left); *Flag* by Jasper Johns, 1967 (top); the exterior of the Broad (bottom)

The Broad

Inviting a new conversation in Los Angeles



Philanthropists Eli and Edythe Broad debuted a sensational modern art museum in LA's cultural heart. It's their gift to the people – and there's plenty to love



PHOTO: IMAN BAKH

PHOTO: WAN/BAO



★ (Clockwise from left): An elevator takes visitors to the gallery space; Skylights provide filtered natural light in the third-floor exhibition spaces; *Michael Jackson and Bubbles* by Jeff Koons, 1988



Several times a week, Carmel – who lives downtown – purposely drives out of her way to check out the long line of people eager to gain entry to Los Angeles' most recent cultural sensation, The Broad modern art museum.

As a global centre for storytelling, LA is no stranger to the many long lines of residents and visitors, keen to pay ever-increasing sums to experience the stories created here. They come via films, TV, Disneyland and Universal Studios, as well as preeminent cultural venues such as the Walt Disney Concert Hall, the Hollywood Bowl and the Music Center.

The Broad is the newest pearl in a string of world-class architecture and arts organisations along Grand Avenue, where you'll find the Disney Concert Hall, the Museum of Contemporary Art (MOCA), Grand Park, Ahmanson Theatre, Mark Taper Forum, Dorothy Chandler Pavilion, LA Opera, LA Phil and more. But it turns the idea that you get what you pay for on its head. The Broad not only tells a stunning story of urban renewal, architecture and LA's premier position in the contemporary art world, it is also free to the public.

Yet, people are not lining up along the block – all day, six days a week – because



BRC Imagination Arts creative director Matthew Solari and vice president and executive producer Carmel Lewis report on their experience of LA's new museum

it's free. They're lining up because the collection amassed by Eli and Edythe Broad speaks to them. The museum is a true reflection of LA itself: cosmopolitan with a dose of grit, conveying casual sensibilities within beautiful surroundings and possessing undeniable star power. It demands to be seen and discussed. (And, for those who don't want to queue, the museum website offers timed tickets.)

Contemporary focus

When the Broads began to seriously collect art in the 1970s, they focused on the classics, targeting such artists as Vincent

van Gogh and Henri Matisse. They soon realised it's nearly impossible for private individuals to build an extensive collection of great artworks from past eras, so they turned their attention to contemporary and emerging artists – many based in LA – with whom they could build relationships.

In the ensuing decades, they assembled one of the most important collections of contemporary art in the world. They also acquired many post-World War II pieces that represent foundational undercurrents to more recent art.

Their patronage of living artists was a natural fit with their desire to share their collection with the broadest public audience possible. The Broad collection is now up to 2,000 works by around 200 artists and growing at a rate of approximately one new acquisition per week. Since 1984, the Broad Art Foundation has loaned works to over 500 museums, non-commercial art galleries and exhibition spaces worldwide.

Cultural centre

After building two Fortune 500 companies in two different industries, Eli Broad retired in 1999 to focus on his philanthropic work. Similar to the Chandlers, the Dohenys, and other families who built Los Angeles, Broad set his sights on his adopted city. (Eli and



★ (Clockwise from left): LA Broad director Joanne Heyler; the Broad's "womb-like" lobby; Artworks from 2000 to the present on the first floor



Controversial or not, the Broad is a stellar gift to the people of Los Angeles



Edythe originally hailed from Detroit).

The museum not only serves to store and exhibit the Broad collection, it also represents the most recent contribution toward the realisation of Eli Broad's work to remake Grand Avenue as a vibrant centre for LA culture and architecture.

Designed by architecture firm Diller Scofidio + Renfro in collaboration with Gensler, the 120,000sq ft (11,150sqm), \$140m (£97m, €123m) museum opened to the public in September 2015. It joins other cultural institutions on Grand Avenue – including the Arts Magnet High School, Disney Hall and MOCA – that have been greatly shaped by Broad's often-controversial patronage.

Controversial or not, the Broad is a stellar gift to the people of LA. It sits next to Disney Hall on a ridge, serving as the grounded, absorptive counterpart to the undulating waves of its shinier companion. Designed around the concept of the veil and the vault, the museum invites visitors into a conversation with the collection, its creators and stewards – and one another.

Visitor experience

This conversation plays out in surprising and intriguing ways throughout the visitor experience. The building itself lifts its skirt, beckoning visitors to enter beneath the raised honeycombed veil to a dim, sparse entry gallery that serves as the point of departure and return.

Here, visitors can orient themselves with the aid of a welcoming Visitor Services Associate (VSA). Positioned throughout the building, the friendly and approachable VSAs represent a sharp deviation from the traditional security guards in other museums. They help visitors navigate their experience and are trained to talk about the collection and the artists, revealing little-known details and engaging people with the art in deeper and unexpected ways. (During a recent visit, one exceptionally musical VSA softly sang African American spirituals at the threshold to a third-floor gallery, providing an exquisitely moving soundtrack to Kara Walker's devastating *African't*.)

Veil and vault

The Broad's interiors rightly exist to support and elevate the art, permitting the visitor to freely explore the 50,000sq ft (4,645sqm) of gallery space.

Although the ground floor contains several galleries, our instincts immediately drew us from the womb-like lobby onto the escalator. We climbed 105 feet (32 metres) through the constricted tube toward the light above, disembarking on the expansive, columnless third floor.

The inaugural installation, following a roughly chronological timeline, begins here with works from the 1950s through the early 2000s from such heavy hitters as Jasper Johns, Robert Rauschenberg, Cy Twombly, Roy Lichtenstein, Ed Ruscha, Andy Warhol, Jean-Michel Basquiat, Keith Haring, Barbara Kruger and Jeff Koons. The art is beautifully illuminated by the diffused light that filters through the 318 skylights above. The cell-like openings in the veil surrounding the outer gallery walls create artful backdrops to several of the collection pieces as well as glimpses of Disney Hall's reflective curves next door.

To reach the lower galleries, visitors can descend via a clear tubular elevator or the twisting staircase, which takes them past tall windows that invite a peek inside the 21,000sq ft (1,950sqm) collection storage area (the vault) on the second floor for an intriguing preview of what might be on display during their next visit.

Transformations

The inaugural installation's chronological progression continues on the first floor, with works from 2000 to the present. The flow on this floor does not work as well as in other areas of the museum; the elegant



★ *Untitled (Ferguson Police, August 13, 2014)* by Robert Longo, 2014

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Each person is allowed only 45 seconds to take in the glittering world of reflected light

sequence of compression and expansion elsewhere is replaced by a succession of tighter gallery spaces that often result in impassable clumps of people trying to find good viewing spots for works such as Robert Longo's powerful *Untitled* (Ferguson Police, August 13, 2014) or the intriguing, inside-out perspective of Tomas Struth's *Audience 4* (Galleria dell'Accademia), Florenz, 2004.

Fortunately, there's ample breathing room in the Takashi Murakami room, grounded by the artist's astonishing 82-foot-long (25-metre) reflection of the 2011 Tohoku earthquake and resulting tsunami, *In the Land of the Dead, Stepping on the Tail of a Rainbow*.

The greatest artistic accomplishment in the entire museum is perhaps the transformation that comes over visitors as they accept the Broad's invitation to the conversation. It's great fun to see the change in people's faces as they exit Yayoi Kusama's *Infinity Mirrored Room – The Souls of Millions of Light Years Away*. Each person (who has reserved a separate timed ticket) is allowed only 45 seconds to take in the glittering world of reflected light, but their expressions as they depart indicate those 45 seconds of wonder will stay with them.

Another transformative installation is Ragnar Kjartansson's *The Visitors*, a mesmerising nine-screen video piece. There is a voyeuristic pleasure in watching a naked man strum a guitar in the bathtub

and it's easy to spend an hour trying to take in each scene of individual musicians playing and singing in different tumble-down rooms of Rokeby mansion in upstate New York.

Engagement

The success of the conversation can be seen in how people are engaging with the collection. Although visitors can select a tour from a menu available through the free mobile app, very few people were doing so during a recent visit.

Instead, many were using their phones for selfies (anything by Koons and Robert Therrien's *Under the Table* were especially popular). Several were clustered in conversational pockets, talking about the nature of design, the nature of art, the creative process, collaboration and more.

While some visitors contemplated the pieces in silence, others approached the VSAs, who are trained to ask questions, supply context and, in a non-judgemental way, help people process their frequently powerful reactions to works with strong social and political themes.

This sense of new, non-stodgy museum behaviour makes sense when you examine the profile of visitors to the Broad. In surveys conducted between 1 December



★ *Infinity Mirrored Room – The Souls of Millions of Light Years Away* by Yayoi Kusama, 2013

2015 and 28 February 2016, of visiting adults, 71 per cent were 18-34 years old. Only 36 per cent identified as "White/Euro-American," with the vast majority aligning with ethnicities including Asian, Latino/Hispanic, Black/African-American, Native American, and various

extractions and combinations of those. The most frequent levels of annual household income were "Less than \$20,000" (17 per cent) and "\$100,000-199,999" (18 per cent) and the audience was largely local: 61 per cent from LA County and 21 per cent from California.

Value in experience

This demographic, particularly the millennial generation, is cited with leading the way toward an increased appreciation of experiences over the acquisition of things. The Broad's deconstructed store, featuring a select collection of curated books and decorative items may play to that, with a very small retail footprint compared to other cultural institutions. Our guess is that most visitors extend their experience not through museum swag, but through their photos, memories and continuing conversations.

As transplants to LA themselves, the Broads have given this city comprised largely of other transplants a significant gift that feels as if it could only exist here. They've also appointed a director who has her finger on the pulse of LA's population. Joanne Heyler, who has run the Broad Art Foundation for over 20 years, is credited with pushing the Broads towards more diversity in their collection. Her masterful choices in the Broad's exhibitions and programmes demonstrate how attuned she is to what it takes to build a true people's museum in the City of Angels. ●

★ *Rabbit* by Jeff Koons, 1986 (right); Nine-channel HD video projection *The Visitors* by Ragnar Kjartansson, 2012



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ADVENTURES IN THE WILD



IDEATTACK's new project in Hainan, China, introduces the storytelling elements of a theme park to the oceanarium concept. Founders Natasha Varnica and Dan Thomas explain



What is the project?

The project is a themed marine animal park with aquarium, envisioned as highly immersive, entertaining and experiential destination. Seaworld Adventure Park is a high-end themed environment with rides, a "lifestyle complex" with an original dining and retail offer, a vacation leisure park and educational and interactive animal exhibit.

Where is it?

Seaworld Adventure Park is a part of the Ocean Flower Island project, a 380-hectare (939-acre) mega-tourism zone on an artificial archipelago off Hainan, China.

What is your role on the project?

IDEATTACK is creator of all aspects of this complex project, including the architecture and masterplan of the park; ride and show design; planning and design of animal exhibits; planning and design of dining and retail content and the creation of the unique aquatic exhibit programme.

The team included marine-life specialists who selected the animal species for the park. Our job included aquatic engineering, sizing the animal exhibits, planning back-of-house animal care facilities and water, maintenance and utility considerations unique to aquatic park design.

ABOUT SEAWORLD ADVENTURE PARK

Operator: Evergrande Group
Size: 130,000sqm
Visitor capacity: 15,000 a day
Dwell time: 5 hours
Budget: \$240m
Opening: 2017

When does it open and how much is it costing?

It opens at the end of 2017. The cost is \$240m (£167m, €212m).

Who is the target audience?

Domestic and international tourists to Hainan Island.

Can you describe your design?

The park features four distinct zones: Boardwalk Zone, Polar World Zone, Deep Sea Fantasy Zone and Tropical World Zone. The inspiration for this project stems from this exotic location of Ocean Flower Island and its surroundings as well as deep sea exploration, South Pole and North Pole expeditions and wildlife conservation research.

What is the design's aim?

The goal was to make a new type of ocean park destination which combines a theme park and oceanarium with lifestyle and leisure qualities and experiences.

What themes are present?

Climate change issues, marine life preservation and ecological awareness topics are interwoven with the main themes and presented in a fun and exciting way as a part of the overall storyline.

What makes it different?

The park is conceived as a highly immersive, story-driven environment and not as a typical animal exhibit-based ocean park. As an immersive, entertaining and experiential destination it is closer to a theme park than a typical ocean park where emphasis is on aquatic exhibits and less on theme and storylines. Also, the lifestyle component, with customised retail and dining, is unique to this park.

What is the centrepiece?

There are several key points: the lake with its iconic tower, which is accessible from every part of the park; the Snow Mountain and Tropical Mountain and the 10,000sqm (108,000sq ft) indoor Grand Aquarium.



THE FOUR ZONES

The Boardwalk - Harbor Village

Visitors arrive on a long wooden deck with pier-like buildings surrounded by water. On the left is a polar environment with snow-covered mountains, icebergs and frozen ocean. On the right, green mountains covered with tropical plants and exotic rockwork. The Boardwalk contains several F&B outlets in its Fisherman's Village, a special effects show, a lighthouse, food carts and themed sitting areas. Performers add to the experience.

Polar World - Snow Empire

Polar World is a themed zone of the Seaworld Adventure Park dedicated to animals living in polar regions. The iconic Snow Mountain houses white whale and penguin exhibits, with the polar bear exhibit on its foothills. Other attractions include sea lions, walrus and seals, a 5D submarine ride, children's waterplay area and special events area.

Tropical World - South Sea Paradise

Tropical World is themed on warmer climates with lush tropical landscape. The manatee exhibit and jungle river aquarium are located here. Other key live animal attractions include the parrot show, touch pool and flamingo, turtle and crocodile exhibits. There are also rides, restaurants and a special event area for weddings and corporate parties. Visitors can also see monkey trainers, snake charmers, tribal dancers, musicians, fire eaters and acrobats.

Deep Ocean Fantasy - Empire of the Deep

Deep Ocean Fantasy World is the largest of four thematic zones. One of its key attractions is the indoor Grand Aquarium housing diverse ocean life exhibits. The other major attraction is high-capacity dolphin stadium. There is also a 4D theatre, carousel, and lighthouse.



IDEATACK's renderings show different zones and concepts within the \$240m Seaworld Adventure Park, including the Polar World zone (above) and the Tropical World zone (below). The Boardwalk connects the different areas of the park, which is centred around a magical lake



SHAPING TOMORROW

Brazil's Museum of Tomorrow, with its constantly updating digital collection, documents the successes and failures of the human race as it battles to halt the destruction of the planet

By Tom Anstey and Alice Davis, Attractions Management

Abraham Lincoln said that we "cannot escape the responsibility of tomorrow by evading it today". The newly built Museum of Tomorrow in Rio de Janeiro, Brazil, wants to impart the same wisdom.

The science and technology museum, which opened in December 2015, is as modern as they come. Its entire collection is digital, built around real-time scientific data collected from partner institutions around the world, communicated through multimedia, installations and games. Its mission is focused on the future, presenting the potential outcomes the planet is facing and what actions could result in a better tomorrow.

Even the building is a piece of a wider initiative to build the future. Located in Praça Mauá (Mauá Square) in a poor port in Rio, the \$100m (£69m, €88m) museum was designed by Spanish architect Santiago Calatrava as part of an extensive regeneration of the depressed area. Known as the Porto Maravilha project, the \$2bn (£1.4m, €1.8m) urban regeneration strategy aims to sustainably reintegrate the area with

the rest of the city by developing better transportation, residences, culture and leisure, ultimately increasing the local population from 28,000 to 100,000 by 2020.

New cultural attractions were central to the initiative, making Museum of Tomorrow the shining star of Mauá Square, in time for the upcoming Olympic Games.

The striking design of the 15,000sqm (161,500sq ft) museum features a 75-metre-long (246-foot) cantilevered roof that juts out over the sea to create the impression that it's floating. It's surrounded by water pools, gardens, green spaces and recreational areas.

For Eduardo Paes, the mayor of Rio, the museum has set an example for the city to follow. "The Museum of Tomorrow is a symbol of the redevelopment of the important Port of Rio and, since its construction, has inspired reflection on our hopes for the city to be more integrated and more generous with public spaces."

Attractions Management met chief curator Luiz Alberto Oliveira and audience development director Alexandre Fernandez to learn more about the first days of the Museum of Tomorrow.

The Museum of Tomorrow is a symbol of the redevelopment of the important Port of Rio

Tall screens in the main exhibition present continually updated data



Architect Santiago Calatrava designed a cantilever roof for the futuristic building

Luiz Alberto Oliveira

Chief curator, Museum of Tomorrow



How did the Museum of Tomorrow come about?

The proposal was to develop a museum that would have wide-reaching effects within its location. We wanted an architectural icon to help lead the process of renewal in the harbour area. Santiago Calatrava was commissioned to create an entirely new and original building specifically for Praça Mauá.

Can you give an overview of the museum?

It would be hard to find another museum like this in the world right now; it's really the first of its kind. At the Museum of Tomorrow, our aim is to probe the possible

future scenarios of the next five decades by considering past and current trends.

We're not a traditional museum that preserves a collection. We have an immaterial collection communicated through experiential exhibits. The idea is that through the sequence of concepts and experiences, the visitor becomes aware of the choices we all have in our hands today that will decide which future we will have.

The Museum of Tomorrow is described as an experiential museum. What does that mean?

The aim is not to just convey information or offer works to be contemplated by the visitor, but to engage the visitor – their senses, mind, heart and soul – in a series of experiences that affect a change in them.

How did you curate the content?

We assembled a group of experts and identified the science we wanted to present. We discussed how to build a narrative where the visitor would follow a journey that presented a range of different moments, perspectives and supporting evidence. We wanted to provide them with the means to work out different outcomes and build on our possible future scenarios. Science is about cause and effect and we want our visitors to engage with the idea that if they take certain actions today then certain future scenarios are favoured. We wanted them to experience cause and effect.

What role does technology play?

Technology is fundamental in an experiential museum that has no physical collection and traditional artefacts.



The science museum attracted 300,000 visitors in its first 100 days

SCIENCE MUSEUMS

Technology enables us to deliver our content because the museum is entirely digital – except for one single material piece, everything is digital.

All the museum's multimedia, audiovisual content is stored in a central system, which we call the Cerebrum. It also collects real-time data on climate and population from space agencies and organisations like the UN. We can manage each exhibit separately so if we receive a new report or new scientific findings then we can easily update the relevant content.

We also have a system that allows us to monitor the 'metabolism' of the building – we call it the Iris – which collects visitor data via a card that they can scan.

So the exhibits are based on data from institutions around the world?

Yes. We work with around 80 institutions, including Brazil's National Institute of Space Research (INPE), NASA, ESA, UNESCO and Massachusetts Institute of Technology (MIT).

You mentioned a single material artefact. What is that?

There are five main zones in the museum. In the Us zone, there's an oca, an indigenous "wisdom longhouse" where elders share information and wisdom with younger generations. The *tjurunga*, an object used by Australian aborigines to symbolise the passing on of knowledge, is central to this area. It's among the most ancient artefacts ever created and is the only physical object in the main exhibit.

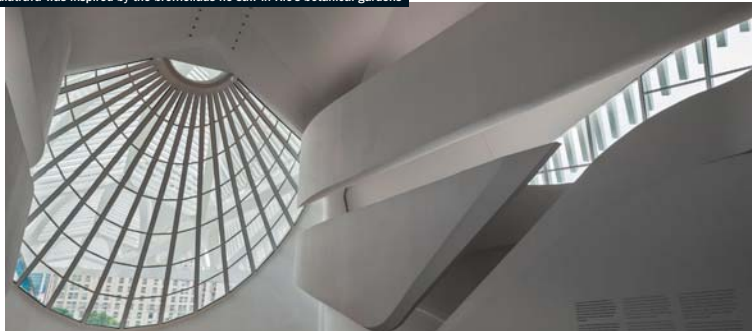


The *tjurunga* symbolises passing knowledge down to the next generation

It's among the most ancient artefacts ever created and is the only physical object in the main exhibit

The wooden longhouse is lit by over 1,000 bulbs, which switch on and off and change through the colours of sunrise to sunset in synch with soft music. This sensory experience was designed by architect Mônica Lobo, designer Muti Randolph and composer Lucas Marcier. The exhibit aims to communicate the

Calatrava was inspired by the bromeliads he saw in Rio's botanical gardens





DID YOU KNOW?

- Solar panels, which move in the direction of the sun, provide 9 per cent of the museum's power and water from the bay is used to cool the building
- The museum is aiming to get LEED Platinum certification, the highest status available
- The exhibition spaces were designed Ralph Appelbaum, who also worked on the Museum of the Portuguese Language
- The Activities of Tomorrow Laboratory holds a creative residency program for global innovators
- Santiago Calatrava's City of Arts and Sciences in Valencia, Spain, was a location for Disney's Tomorrowland
- Excavation for the Porto Maravilha project uncovered the site of Valongo Wharf, an international slave trade hub where about one million African slaves arrived



The museum sources data from partner institutions around the world

notion that it is always tomorrow since the sun is always rising somewhere in the world, and each dawn is different because every day is a new day.

Why was Santiago Calatrava chosen as architect?

It was the personal choice of the mayor of Rio de Janeiro. Calatrava was selected, I think, because of the impact that his work has and because he is a disciple of the late Brazilian architect Oscar Niemeyer.

Calatrava spent two months in Rio making sense of the place, looking at the historical and natural environment and getting to know the city. During his research, he went to the botanical gardens and saw a flower, the bromeliad, which is a very typical to this tropical ecosystem. The building's shape was inspired by the form of the bromeliad flower. Calatrava created more than 400 designs, sketches and paintings during this process.

Who funded the museum?

The museum cost about \$100m (£69m, €88m) and was funded by the City of Rio de Janeiro and the Roberto Marinho Foundation, with Banco Santander as master sponsor. It has BG Brasil as maintainer, providing about \$864,000 (£599,000, €756,000) per year, and the support of the State of Rio de Janeiro.

What is the Roberto Marinho Foundation and how does it assist in the development of the museum?

The Roberto Marinho Foundation is a private foundation associated with the largest media group in Brazil, Globo Group. It has a long tradition in education and heritage and for some time now it has been creating new kinds of museums, such as the Museum of the Portuguese



In the Cosmic Portal visitors are taken on a visual journey through galaxies

NAVE OF HEARTS:

The Museum of Tomorrow works in partnership with a network of institutions called NAVE (Advanced Education Centres). NAVE focuses on teaching technological and digital skills to students in impoverished areas, and has been identified as among the most innovative school programmes in the world by Microsoft. The first year is a technical vocational course while in the second students choose to specialise in coding, multimedia or game programming. www.oifuturo.org.br/en/education/nave/

Language and the Museum of Football, in São Paulo, the Palace of Frevo, in Recife, and the Museum of Art of Rio (MAR), which forms a cultural hub in Praça Mauá with the Museum of Tomorrow.

How do you keep the museum financially viable?

We receive funds from the city government and our aim is to run on 50 per cent government funding and 50 per cent raised through corporate funding, individual giving, memberships and private events.

THE FIVE CHAPTERS

The Museum of Tomorrow's main exhibition is structured into five narratives: Cosmos, Earth, Anthropocene, Tomorrow and Us. There are more than 60 experiences and exhibits, all available in Portuguese, Spanish and English

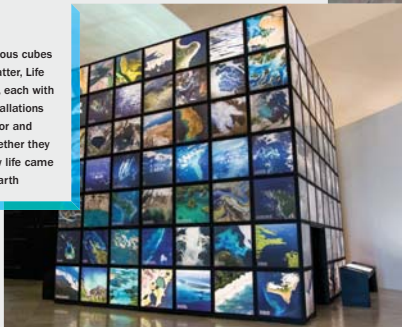


Cosmos

An eight-minute film by City of God director Fernando Meirelles and Ricardo Laganaro tells the story of universe inside an immersive 360° 9-projector dome

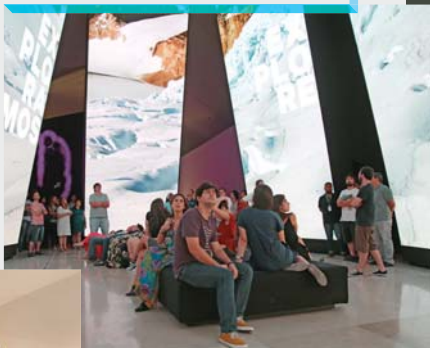
Earth

Three enormous cubes represent Matter, Life and Thought, each with different installations on the exterior and inside. Altogether they describe how life came to exist on Earth



Anthropocene

The central experience, told through six 10-metre (33-foot) digital totems, describes the effects of human activity on the planet in terms of climate change, destruction of nature and population growth, through impactful multimedia displays based on authentic images and real-time data



Us

In the last section, visitors are invited to engage with tomorrow, understanding that our actions alter the planet, for better – or worse



Tomorrow

Global trends are the topic of this exhibit, such as the ageing population, megacities, hyper-connectivity and sustainability



Alexandre Fernandez

Audience development director

Who is your target audience?

We believe that an eight-year-old and an 88-year-old are able to experience our content and exhibitions, so the publicity and media campaigns target everyone.

We also have ways of developing different audiences. We targeted those who live in the port region close to the museum with a specific membership programme before we opened. We invited them to visit the museum during the final stages of construction and we had about 2,000 members by the time the museum opened.

The port region is a poor region, where half the population earns less than \$400 (£277, €350) per month so it was a challenge to engage them, but they became very interested in the museum and it's become a place for them – a place for encounters, for leisure and so on.

How many visitors are you receiving?

We reached 300,000 visitors in under 100 days. At this rate, we'll probably have 1 million people within the first year.

What is the museum's capacity?

We can easily accommodate 6,000 people at a time, but to provide the best experience for the visitors we believe that 5,000 people per day is a healthy number.

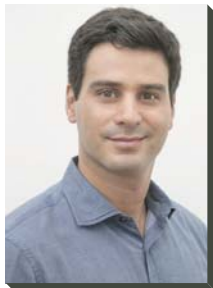
How are you encouraging repeat visits?

Our programme invites the public to investigate the past, understand the changes we can make in the present and explore and imagine possible futures. So the programmes we offer in the Activities of Tomorrow Laboratory and the Observatory of Tomorrow – which receives and processes information from our institutions – are designed to encourage those people to come back to the museum.

For example, on Tuesdays we monitor the vital signs of the Earth through workshops showing the dynamics of the oceans. We recently invited a scientist to talk about the Zika virus – a big health issue in Brazil right now. We also change our temporary exhibitions to keep people coming back.

What reaction has there been to the museum so far and do you have a feedback system in place?

The digital data the Iris gathers is feedback for us. We also conducted a survey in January in order to understand the visitor profile and their satisfaction rates. Ninety-eight per cent of people said that they had a great experience and they would recommend the museum. We found out that 98 per cent of visitors were coming with a



6 We monitor the vital signs of the Earth through workshops showing the dynamics of the oceans 9

family member or a friend and interestingly about 42 per cent of our visitors said they did not describe themselves as museum visitors. Most of them hadn't been to a museum in the past year and 10 per cent had never been to a museum before.

What future development plans do you have?

We are focused right now on our next temporary exhibitions, making sure that we have very good exhibitions for the next two years so. We just opened a second main temporary exhibition about Alberto Santos-Dumont, the Brazilian aviator. It will open until October, running at the museum during the Olympic period.

After that, we have an exhibition on Brazilian innovation – in the sense of dealing with the unexpected and improvising. It's something that goes deep into the culture and tradition, especially of the poor people of Brazil. It's also a paradigm for innovation in the most expensive and technical sense. It will be very interesting to combine these aspects.

We're also looking to forge partnerships with important institutions that will enable us to bring major exhibitions to Brazil. Perhaps at some time we can start exporting our exhibitions, too. ●

Interactive technology is key to challenging the visitors' own perceptions





EURO ATTRACTIONS SHOW 2016

EAS

**Euro
Attractions
Show**

EAS 2016

Location: Fira Gran Via
Convention Center, Barcelona
Dates:
Conference: 18-22 September
Trade Show: 20-22 September

This year, the Euro Attractions Show is coming to the Spanish city of Barcelona for the European industry event of the year

IAAPA proudly welcomes the world's leaders in amusement and entertainment to attend the Euro Attractions Show (EAS) 2016, centrally located in one of Europe's top travel destinations: Barcelona, Spain. More than 435 companies from 60 countries will exhibit new products and innovations across a dynamic, record-breaking 12,000sqm trade show floor. **EAS 2016 offers attendees the opportunity to grow, explore and connect through multiple channels:**

- Get an up-close look at the latest strides in amusement and entertainment technology.
- Meet with key players in the global attractions industry.
- Make central business decisions on the trade show floor.

- Stay informed on the industry's best practices through seminars and demonstrations.

EAS 2016 offers a comprehensive conference programme that features more than 20 hours of education, including the IAAPA Institute for Attractions Managers, Lunch and Learn seminars and the Leadership Breakfast.

EAS 2016 will take place from 20 to 22 September in Barcelona's Fira Gran Via Convention Center, one of Europe's largest and most modern convention venues.

The conference portion of EAS 2016 will be located at both the Fira Gran Convention Center and at PortAventura, running from 18 to 22 September. Attendees are additionally invited to catch an exclusive glimpse of Ferrari Land, PortAventura's upcoming attraction.



The Leadership Breakfast is always a well-attended event

EAS in Numbers

- 9,000 attractions industry professionals
- 15+ education sessions
- 425+ exhibiting companies
- 21 hours of exhibit time
- 4 days of networking opportunities
- 1 IAAPA Safety Institute
- 1 IAAPA Institute for Attractions Managers

IAAPA EMEA

IAAPA has expanded the scope of its European regional office to now incorporate both the Middle East and Africa, forming a new entity known as IAAPA EMEA.

The expanded office monitors issues and advocates on behalf of the attractions industry for the Europe, Middle East and Africa regions, providing communications and media relations support, offering the latest knowledge and education on ride safety, industry data and best practices amongst members. The EMEA office is responsible for IAAPA's Euro Attractions Show (EAS).

IAAPA's European office in Brussels, Belgium, first opened its doors in 2001, undergoing a restructuring in 2007.

"Located within a three-hour time difference from the Middle East, our regional office is best equipped to service the Middle East and Africa regions," said Karen Stanley, senior vice president of IAAPA EMEA Operations. "We have a strong European presence in those regions, which contributes to the synergy between the Middle East, Africa and Europe, and our office is prepared to expand operations as IAAPA's new EMEA regional office. With explosive growth in the Middle East and the quickly emerging market in the continent of Africa, we look forward to playing a role in this exciting growth period for the attractions industry."

At EAS, attendees get an up-close look at the latest product innovations



PortAventura, southern Europe's leading theme park, is hosting parts of the EAS conference

IAAPA

The International Association of Amusement Parks and Attractions (IAAPA) is the premier trade association for the attractions industry worldwide.

Founded in 1918, IAAPA is the largest international trade association for permanently situated amusement facilities and attractions, and is dedicated to the preservation and prosperity of the attractions industry. The association's

global headquarters is in Alexandria, Virginia, United States and it maintains regional offices in Brussels, Hong Kong, Mexico City and Orlando.

Mission Statement

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

IAAPA hosts three trade shows on an annual basis:

- Asian Attractions Expo from June 14-16 in Shanghai, China
- Euro Attractions Expo from 20-22 September in Barcelona, Spain
- IAAPA Attractions Expo from 15-18 November in Orlando, USA

MORE INFORMATION ON EAS:

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



SHANGHAI DISNEYLAND

the best yet?

With billions of dollars of investment and a billion-strong audience, Shanghai Disneyland is set to be the most innovative and original park the Walt Disney Company has ever built



"Authentically Disney but distinctly Chinese." That's been the Disney line since the company announced plans to build a park and resort complex just outside the world's third most populated city.

"We're being careful to make the right statements in terms of not only being welcomed in China but also being correct culturally, instead of the opposite," said Disney CEO Bob Iger, who's overseen the development of the \$5.5bn (£3.7bn, €4.9bn) destination.

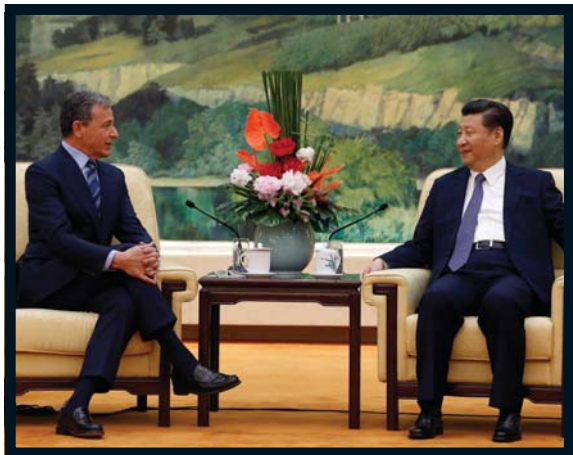
Situated in Pudong in a specially designated tourism zone, Shanghai Disney

◀ Tickets to Shanghai Disneyland's opening day sold out within hours

◀ It's as though the whole population of the United States could afford a ticket to Orlando and could get there within three-and-a-half hours,

Resort has five themed lands, two hotels, a retail and entertainment district and a metro station capable of delivering 20,000 people per hour to its door.

Iger has been involved in the project since the late 1990s, when then-chief Michael Eisner sent him looking for a site for the resort. Shanghai's government earmarked the Pudong location, but did not officially approve the project until 2009. Shanghai Disney Resort – a collaboration



Chinese President Xi Jinping, right, meets Walt Disney CEO Bob Iger on 5 May



Iger has spent 17 years on the project

PHOTOS: KIM KUNG-HOON/ALAMY; J. BERLINER/AP/PHOTOS ASSOCIATION/IMAGES

Fast Facts

- **330 million** income-qualified people within a 3.5hr travel radius
- Attendance predictions of up to **12 million** in the first year
- Future attendance predictions of over **30 million**
- The most expensive theme park resort ever, costing **\$5.5bn**
- Phase one of Shanghai Disney Resort is **3.9sq km (960 acres)**
- Once completed, the destination is estimated to measure **7sq km (1,730 acres)** and cost **\$15bn**
- A peak-time adult ticket costs **\$75**
- The park will employ **10,000** staff

between the state-owned Shanghai Shendi Group, with 57 per cent ownership, and the Walt Disney Company (43 per cent) – has been a long time coming.

Now, Iger is looking at an income qualified audience within a three-and-a-half hour travel radius – be that by metro, bus, high-speed rail or car – of more than 300 million people.

"It would be as though the whole population of the United States could afford a ticket to Orlando and could get there within three-and-a-half hours," said Iger.

The potential audience, coupled with the scale of the destination – not to mention the combination of established and newly created IPs, tried-and-tested and brand new park experiences, Chinese and global culture – makes the opening of the Shanghai resort a watershed moment for Disney, for China and for the global attractions industry.

"After 17 years of working on this project, I'm still awed by it. The scale, the detail, the sheer artistry; it's all breathtaking," Iger said. "Even though it has all of the Disney details, it's unlike any other destination we've ever created. We set out to build something truly extraordinary and we've succeeded in a way that far exceeds our most ambitious expectations."

QUOTES VIA SEEKINGALPHA.COM



Disney works with the local community

Disney VolunteERS have embarked on a number of initiatives in Pudong and Shanghai, helping at children's hospitals and schools. One project involved teaching children about the environment as part of last year's Earth Day celebrations.



It's really part of this 15 to 20-year vision. It's a long-term investment

What is Shanghai Shendi Group?

Shanghai Shendi Group is a state-owned company approved by Shanghai Municipal Government. It's responsible for collaborating with the Walt Disney Company on the investment, development and operation of Shanghai Disney Resort through three joint venture companies (Shanghai Lujiazui, Shanghai Radio, Film and Television Development and Jinjiang International Group).

Shanghai Shendi Group is also responsible for the development of the Shanghai International Tourism and Resorts Zone. It has a 57 per cent share in Shanghai Disney Resort and Disney has a 43 per cent share. There's a separate management company where Disney has a 70 per cent share and Shanghai Shendi Group has 30 per cent.

"Shanghai Disneyland is the 4sq km core area at the centre of the Shanghai International Tourism and Resorts Zone, but Shanghai Shendi Group is responsible for the entire 20sq km destination," says Christian Aaen of Entertainment + Culture Advisors (ECA). "That's important because that's what justifies the huge investment in the theme park. Shanghai Shendi Group will be developing supporting commercial, residential, retail and tourism real estate around it."

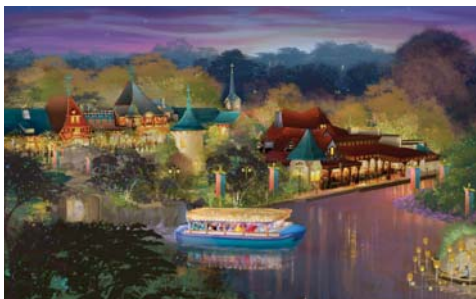
"Shanghai Shendi Group is about the larger economic impact: the construction jobs and the thousands of workers in the Disney parks and other businesses in that zone," he says. "That's how Shanghai Shendi Group and the Shanghai government are looking to monetise their investment over time. If tourists come to Shanghai because of Shanghai Disney and extend their stay by one or two days, that will have a significant impact on the hotels, restaurants and service industry. It's really part of this 15 to 20-year vision. It's a long-term investment."

What is Shanghai International Tourism and Resorts Zone?

Shanghai International Tourism and Resorts Zone is in the Pudong New Area in Shanghai. It has a total area of 25sq km (9.7 sq mi), and a core area of 7sq km (2.7sq mi), including 4sq km (1.5sq mi) for Phase One of Shanghai Disney Resort.

SHANGHAI DISNEYLAND at a glance

A brief guide to the first phase opening, Shanghai Disneyland



Disney's fairy tales inspire Fantasyland

■ Fantasyland

Fantasyland is the largest of the five zones and home to the Enchanted Storybook Castle. The magical area is inspired by Disney's animated fairy tales, old and new. Running through Fantasyland, Voyage to the Crystal Grotto is an enchanted boat ride that leads to the castle and an AV water fountain display.

Look out for: Seven Dwarfs Mine Train, Peter Pan's Flight, Alice in Wonderland Maze, Frozen: A Singalong Celebration



Adventure Isle, a new and original world from Disney

■ Adventure Isle

Unique to Shanghai Disneyland, Adventure Isle is an ancient lost world of jungles, rumbling mountains and strange animals. The theming is based on a story of a group of adventurous explorers who discover a mysterious island civilisation, with brand new original characters and storytelling.

Look out for: Roaring Mountain, Tarzan: Camp Discovery, Call of the Jungle, Soaring Over the Horizon

■ Tomorrowland

The all-new Tomorrowland, like the original Disneyland, is inspired by the future. Technology and science are central to presenting a bright vision for the planet. As well as cutting-edge attractions, the Star Wars Launch Bay will immerse guests in the world of Disney's Lucasfilm IP.

Look out for: TRON Lightcycle Power Run, Buzz Lightyear Planet Rescue, Stitch Encounter, Jet Packs



Tomorrowland transports guests to a sci-fi future



Pirates are everywhere in Treasure Cove

■ Treasure Cove

Disney's first ever pirate-themed land has been created especially for Shanghai Disneyland. The designers have worked to convey the rowdy world of the high seas with humour and mischief. Wild and noisy, Treasure Cove features colourful characters, giant ships and an acrobatic stunt show.

Look out for: Pirates of the Caribbean: Battle for the Sunken Treasure, Eye of the Storm: Captain Jack's Stunt Spectacular



Disney characters representing the animals of the Zodiac



Gardens of Imagination: Chinese Zodiac meets Disney

■ Gardens of Imagination

At the centre of the resort's themed lands, seven landscaped gardens make up the Gardens of Imagination, a place of whimsy and fantasy. Inspired by the Chinese garden with a network of bridges and trails, guests can find Zodiac-inspired characters in the Garden of the Twelve Friends, musical delights in the Melody Garden and photo opportunities with their favourite characters.

Look out for: Fantasia Carousel, Dumbo the Flying Elephant, Mickey's Storybook Express

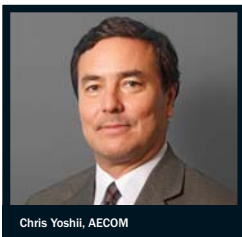
PIONEERING PRICING

Disney's innovative pricing strategy is a first for the country and its set to educate the market, says AECOM's Chris Yoshii

Shanghai Disney Resort includes a number of firsts for theme parks in China. Online ticket sales began 28 March and ticket sales were brisk. Online tickets are being sold for specific dates which is a first for theme parks in China.

Furthermore, Shanghai Disney is breaking new ground in offering a two tier ticket price system for peak and non-peak days. Peak day tickets sell for RMB499 (\$75) and include the park opening period, weekends and holidays. Non-peak tickets sell for RMB370 (US\$56) for adults which is a significant price differential and intended to entice people to non-peak periods.

When compared to other theme parks and amusement attractions in Shanghai, Disney is priced well above the average, at double the local competitive price. While the Disney product offering and quality is well above others in Shanghai, it's a bold move. Also of interest is that



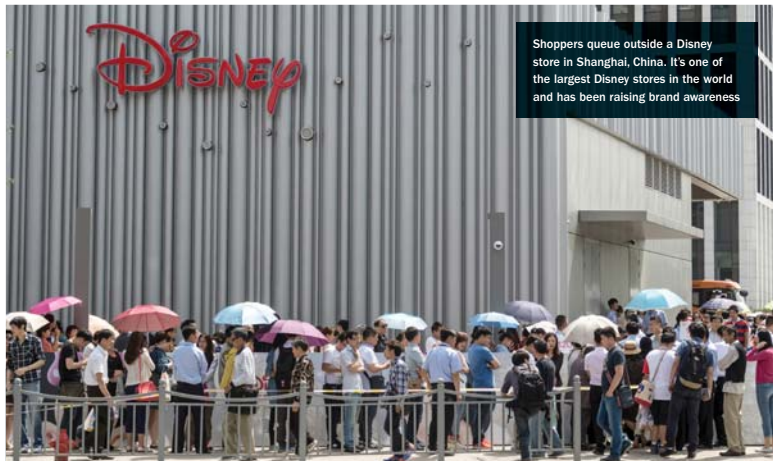
Chris Yoshii, AECOM

“The fact that a park in China would attract a higher price than Japan or Hong Kong is a stunning statement of the strength and depth of the market,”

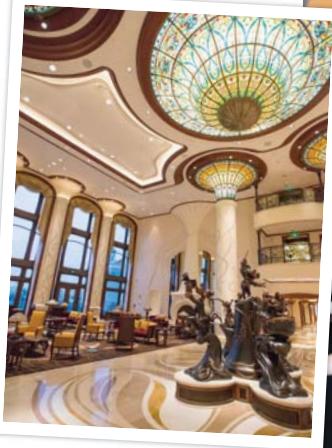
Shanghai Disney off-peak and peak price straddles the prices at Tokyo Disneyland and Hong Kong Disneyland (see Table 1). To some extent Tokyo Disneyland pricing appears low due to the low exchange rate of the Japanese yen. Nonetheless, the fact that a park in China would attract a higher price than Japan or Hong Kong is a stunning statement of the strength and depth of the market.

Date-specific tickets

With the exception of a few waterparks, variable pricing is not common in Asia. Samsung Everland's Caribbean Bay in South Korea and Chimelong Waterpark in Guangzhou offer reduced price shoulder season tickets, which makes sense given the relatively short operating seasons and very high peak demand for waterparks. By starting out of the gate with a variable pricing system, Disney is educating the market and setting a new standard.



Shoppers queue outside a Disney store in Shanghai, China. It's one of the largest Disney stores in the world and has been raising brand awareness



▲ The Shanghai Disneyland Hotel has 420 rooms and is decorated in an art deco style

Issuing date-specific tickets is also a first and is meant to avoid the problems that plagued Hong Kong Disneyland's opening period when large amounts of undated tickets were sold and beyond-capacity crowds showed up during the spring festival. However, unwary customers are bound to show up on the wrong date and people will want to change dates due to schedule changes or weather forecasts. Chinese travellers are quick to voice their opinions through their ubiquitous social media channels so handling these inevitable difficulties will be a challenge.

Expansion plans

Disney is building an entire resort complete with two hotels, a retail, dining and entertainment district and park lands. The 420-room Shanghai Disneyland Hotel



Cast are pictured rehearsing the musical *The Lion King*, which is being performed in Mandarin

has an art deco motif while the 800 room Toy Story hotel is family oriented. The retail dining and entertainment area, Disneytown, has a wide range of offerings. The headline for the entertainment will be a 1,200 seat Walt Disney Grand Theatre showcasing *The Lion King* in Mandarin.

Furthermore, Disney is already planning expansions with notable capital budget increases to accommodate increased capacity. Behind the scenes, furious work will continue as the crews create more Disney magic.

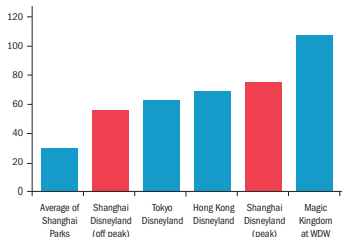
The opening of Shanghai Disney is a watershed event in China's theme park industry. We're often asked how local parks will be impacted and respond. History tells us parks that are proactive

and differentiated from Disney can not only survive but thrive. A case in point is Ocean Park in Hong Kong which, upon learning of Hong Kong Disney coming to town, began a comprehensive and aggressive \$700m (£480m, €623m) investment programme to upgrade facilities and add capacity. Ocean Park has also been able to slowly increase prices while staying under the Disney price level. The results have been spectacular with attendance doubling in 10 years, while Hong Kong Disney also thrived. Instead of splitting the pie, the pie grew much larger.

All in all, the themed entertainment industry is invigorated by Shanghai Disney. While there'll be unanticipated challenges and complaints, it's a major event for Asia and an indication of more to come.

Chris Yoshii is president of the TEA's Asia Pacific Board and head of business development at AECOM.
www.aecom.com

Table 1: Adult Headline Price in USD



“Castle Park” is the nickname given to the archetypal Disney theme park: a hub and spoke layout with a fairytale castle at its centre and radiating lands themed around

adventure, fantasy and tomorrow.

Pioneered with Disneyland in 1955, it was followed by the Magic Kingdom in 1971, Tokyo Disneyland in 1983, Disneyland Paris in 1992 and Hong Kong Disneyland in 2005. With each iteration, Disney's designers have reinvented the model to varying degrees, incorporating new attractions, adapting the content to suit local demographics, honing the attraction mix with duplicates (“lifts”) of successful attractions and even altering the themes and stories being presented.

That desire for creative innovation is evident, more than ever, in Shanghai Disneyland, which has pushed forward the model in innovative ways, not content to rest on the formula established by previous parks. Of its 25 attractions (putting aside gardens, shows and Meet & Greets), only eight are lifts from other parks. The usual stalwarts of It's a Small World, the Haunted Mansion, Big Thunder Mountain Railroad and Space Mountain aren't included at all (yet), in favour of original experiences.

Instead, Disney IP takes pole position, primarily based around the oldest and newest properties, the inbetween years having gone largely unseen in China (a situation Disney's media networks are trying to address). Of the 25 attractions, 19 are based on Disney IPs, with a focus on the biggest franchises: Star Wars, Pirates of the Caribbean, Marvel, Disney Princesses, Frozen and Winnie the Pooh.

THE NEXT-GENERATION CASTLE PARK

Themed design expert David Younger asks how the castle-park model has progressed with the opening of Shanghai Disneyland



David Younger, academic and author

Mickey Avenue

With turn-of-the-century Americana holding little cultural value in China, the traditional entrance of Main Street has been replaced

by Mickey Avenue, a combination of Buena Vista Street from Disney California Adventure's successful 2012 reimagining and Mickey's Toontown from Disneyland, a Los Angeles-styled street where classic Disney characters live, work and play. Even the Disneyland Railroad has been dropped, with trains purportedly lacking the same romance that they inspire in the west.

The traditional technique of funnelling guests through a retail corridor has been reinvigorated with a dedicated exit gate, separate from the park entrance, routing guests through the resort's retail and entertainment district, Disneytown. Rather than being a single street layout like Main Street, the buildings of Mickey Avenue have been opened out to encircle the park's hub, which has been considerably expanded into



Mickey Avenue replaces Disney's traditional Main Street area, drawing on Buena Vista Street and Mickey's Toontown

“Disney IP takes pole position, primarily based around the oldest and newest properties”



Shanghai Disneyland
boasts the biggest Disney
castle – and that holds
huge marketing potential

the Gardens of Imagination, offering wide-open rural spaces as a respite for Shanghai's urban population, punctuated with a Dumbo the Flying Elephant lift and a Fantasia Carousel.

Enchanted Storybook Castle

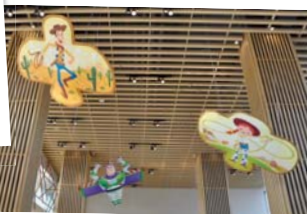
At its furthest edge rises the Enchanted Storybook Castle, which in addition to being the world's largest Disney castle, addresses three key issues that have recurred in previous castle iterations:

1. The notion of pay-off. For decades, guests have been drawn to the Disney castle eager to see what's inside, only to be overwhelmed on finding just one or two non-attraction units within. The Enchanted Storybook Castle reinvents that with vastly larger interior spaces, featuring no less than five facilities: a next-generation walkthrough attraction, a restaurant, character Meet & Greet spaces, a makeover studio and the finale to the attraction Voyage to the Crystal Grotto.
2. The incorporation of the Disney Princess franchise. The multi-billion-dollar media brand was created in the early 2000s by unifying the Disney princess characters into a single identity. Rather than dedicating the castle to a single princess as with Sleeping Beauty Castle in Disneyland or Cinderella Castle in the Magic Kingdom, the Enchanted Storybook Castle becomes home to all 11 Disney princesses, with seasonally-themed interiors based around Tiana, Merida, Rapunzel and Elsa, the Once Upon a Time Adventure attraction retelling the story of Snow White and Meet & Greet spaces.
3. The popularity of night-time spectacles. With growing attendance, park hubs around



Mulan, from a 1998 Disney film based on the Chinese legend of Fa Mulan

Details are tailored to a Chinese audience, such as Toy Story decorations inspired by traditional Chinese kite craftsmanship



the world have been faced with the issue of severe overcrowding for the nightly shows that backdrop the castles. Numerous strategies have been attempted to address this over-saturation. In addition to the expensive addition of multiple performances in an evening, Disneyland has attempted to lure guests to other areas of the park by providing supplemental entertainment, while in the Magic Kingdom, the hub itself was almost double in size. Shanghai Disneyland's night-time spectacular, Ignite the Dream, incorporates a tiered viewing amphitheatre, a vastly enlarged hub and Mickey Avenue restaurants facing the castle for firework-serenaded dining. This vastly increased viewing area is able to entertain far more guests per showing.

Fantasyland to Treasure Cove

Beyond the castle, Fantasyland combines proven hits like Peter Pan's Flight, The Many Adventures of Winnie the Pooh and



Thrill coaster: TRON Lightcycle Power Run is part of the futuristic Tomorrowland zone

the Seven Dwarfs Mine Train with brand new content. For example, the Alice in Wonderland Maze takes its IP inspiration from Tim Burton's 2010 film, not the 1951 Disney cartoon, due to its familiarity (and its 2016 sequel) with Chinese movie-goers.

Tomorrowland takes its inspiration from real-world architectural futurism present in contemporary World's Fairs, particularly the 2010 Shanghai World Expo which would have inspired project stakeholders when the park's design began. Replacing the classic Space Mountain attraction is the brand new TRON Lightcycle Power Run, which based on the 2010 film *TRON Legacy*, which failed to launch a franchise for Disney but provides exceptional art design for a themed attraction.

Adventureland is reinvented as Adventure Isle, centred on Roaring Rapids, a rethemed ride system lift of Grizzly River Run from Disney California Adventure. The towering Roaring Mountain features hiking trails and rope courses across the façade in the Camp Discovery playground attraction.

“The film *TRON Legacy* failed to launch a franchise for Disney but provides exceptional art design for a themed attraction”

Tarzan: Call of the Jungle combines the Phil Collins music of the 1999 Disney animated feature *Tarzan* with the local talent of Chinese acrobatics and dance. A lift of Soaring Over the World replaces the original California-based film with one featuring global icons (including the Great Wall).

In place of Frontierland, dropped because of the decreased prevalence of westerns in cinema and the subsequent unfamiliarity Asian guests have with the theme, comes Treasure Cove, Disney's first pirate-themed land, based entirely around the *Pirates of the Caribbean* film franchise. Original attractions including the Explorer Canoes and Siren's Revenge playground support attractions like Eye of the Storm: Captain Jack's Stunt Spectacular, drawing directly from the characters of the movies.

Reapplying successful templates from the past fifty years, shadows of Disneyland's experientially rich New Orleans Square can be seen reinvented in the

twisting streets of Treasure Cove's Voodoo Alley and Barbossa's Bounty Restaurant.

Battle for the Sunken Treasure

Of Disney's classic E Ticket attractions, only one makes an appearance in Shanghai, but *Pirates of the Caribbean: Battle for the Sunken Treasure* competes more with the technological wizardry of Harry Potter and the Forbidden Journey and Transformers: The Ride than the 1969 animatronic-filled boat ride that inspired the film franchise.

We need to wait before we know the level of Shanghai Disneyland's financial success, but its creative success is already evident. Putting aside the blueprints of existing parks, the designers crafted a new destination that mixes the established strengths of the castle park model with the newest ideas in themed entertainment. It should be praised not only for delivering a scale of park unprecedented in China, but for the creative ambition that went into its design irrespective of its location.

David Younger is the author of *Theme Park Design & The Art of Themed Entertainment*, which is out now. www.ThemeParkDesignBook.com



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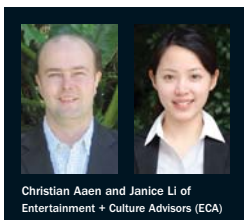
What impact will Shanghai Disney have?

Disney's debut in mainland China will send ripple effects through the market and transform the industry, say ECA's Christian Aaen and Janice Li

The opening of Shanghai Disney Resort heralds a new era in the development of the Chinese theme park industry. Phase one alone, Shanghai Disneyland theme park, represents a \$4.8bn investment, making it the most expensive theme park ever built. The figure is more than \$5.5bn when hotels and retail/dining and entertainment (RDE) are included.

Shanghai is positioned in the Yangtze River Delta (YRD), one of the most populous and affluent regions of China. Shanghai has a population of 24 million people, but there are more than 125 million in the wider YRD region and an even greater number when considering the extensive high-speed rail (HSR) network. It's a very large market and a great location for Shanghai Disney and other upcoming projects there.

Furthermore, approximately 70 to 80 per cent of the urban population can afford to pay a high ticket price for a world-class theme park. And as China continues to grow at a significant rate by international



Christian Aaen and Janice Li of
Entertainment + Culture Advisors (ECA)

There'll be double-digit attendance growth expected in the overall industry

standards (6 to 7 per cent), the middle-income group is still expanding rapidly. That's very positive for the cultural tourism, leisure and theme park industries.

TRANSFORMATIVE IMPACT

Taking that into account, Shanghai Shendi Group originally expected 7 to 8 million visitors in the first year, an estimate that has since increased to 10 to 12 million range. The market scale is on par with Tokyo Disney, where two parks attract more than 30 million visitors annually – (a number that has been built over 30 years). Disney is expecting to achieve that over time with up to three parks in Shanghai.

Shanghai Disney, along with Universal Studios Beijing in 2020, marks the next generation of branded theme parks. These investments have a combined value of more than \$8bn in theme parks alone and will have a transformative impact.

The industry will move from smaller, mid-size and regional parks into the destination park category. Right now, Shanghai, Beijing and Guangzhou are the top tier markets for these major theme park destination hubs.

DOUBLE-DIGIT GROWTH

As Universal Studios Beijing reinforces the impact of Shanghai Disney in terms of the next stage of development, double-digit attendance growth is expected in the overall industry.

With the rapid development of the economy and the continued urbanisation of the country (approaching 60 per cent of the population now live in cities and urban areas), there's further potential for the tourism industry outside the top tier cities.

In terms of other impacts, Shanghai Disney Resort will lead to industry expansion in China. It's educating the market, and that will have a complementary effect on the industry. It's providing a high price point and product leadership, which is positive for other parks as well as existing leading domestic operators – though these

◀ Shanghai has a population of 24 million people and most can afford a Disney ticket





When all phases of Shanghai Disney Resort are complete, it could attract up to 30 million visitors annually

operators must raise their game if they're to compete. For international operators such as Merlin (with Legoland Shanghai planned) and others, we'll see the "tent pole effect" as Disney sets a high price point that other parks price up against. Further impacts will be a rise in standards in service and operations, more new projects and increased interest in the tourism industry.

CREATING A DESTINATION

Overall, we think Shanghai Disney will help create an important theme park destination hub in Shanghai and the greater YRD region. Multiple parks enhance the drawing power of all of them, as we've seen in Florida and California where there are also multiple parks and operators.

As this happens, parks will do more to become self-contained destination parks. Wanda Group has a big project outside Shanghai in Wuxi, one of the upcoming Wanda Culture Tourism City projects, which will be driven by Chinese storylines, content and culture. It's a significant investment in a self-contained destination with a major theme park, indoor waterpark, big show, large-scale retail mall and flagship hotels. That's one of the key trends we're seeing across the industry – creating a destination. For example,

Shanghai Disney is going to educate the market and that will have a highly complementary effect on the industry,

Legoland Parks are adding waterparks and hotels to be more self-contained. Driving overnight visitation is very important and encourages year-round operation.

Helping the trend, domestic tourism is growing rapidly. The Chinese are making more weekend trips to nearby cities by high-speed train. More people have cars and are driving to scenic areas and national parks. The success of Chimelong Ocean Kingdom in Zhuhai, near Macau, has shown the Chinese are interested in multi-day stays.

INVESTMENT AND OUTLOOK

In terms of return on investment, it's about the long-term economic impact the destination will have on the tourism and service industry and the creation of a major attractions hub for Shanghai and the YRD.

Shanghai Shendi Group and Shanghai's government will derive value and monetise their investment through this larger cultural tourism and mixed-use leisure and

commercial destination. The International Tourism and Resorts Zone will be positioned as a world-class tourism destination, which includes themed entertainment attractions; hotels/resorts, sightseeing, shopping (including premium factory outlets) and restaurants; meeting, incentive, conference and exhibition (MICE) industry; mixed-use commercial, educational, creative and industry innovation business parks and other supporting industries.

Shanghai Disney has the highest ticket price in China and will achieve the strongest visitor per capita expenditure. In a few years, Universal Studios Beijing will reinforce "Chapter 2" of the industry's development towards large-scale destination parks. Leading up to 2020, Shanghai Disney will help generate significant double-digit attendance growth and boost the cultural tourism industry in China. ●

ECA provides independent analysis, strategy and feasibility studies for the attractions industry. Clients include Universal Studios Beijing, LEGOLAND Shanghai, DreamWorks Animation, CITIC Trust, Huayi Brothers and Wanda. www.entertainmentandculture.com



SPACE IN

Columbus Earth Theatre
is an inverted planetarium,
offering a view of the
planet from above

NEW OPENING

INVERSION



A new contemporary museum district in the Netherlands – focusing on innovation and technology – stemmed from a meeting with three astronauts

Alice Davis, managing editor, Attractions Management



A sunken square with café and visitor centre unites the Museumplein district

PHOTO: BENDE WIT

Where once there stood a single museum, dedicated to a Dutch mining region, there now stand three striking, geometric structures – a trio of modern attractions that together tell the story of humans and the planet.

Museumplein Limburg is in Kerkrade, a border town in the Netherlands's most southern state. It's made up of the Continium Discovery Centre – a science and technology museum, the Columbus Earth Theatre – the world's first "inverted planetarium" and the Cube design museum.

The museum district has come a long way in a short time. The original attraction, Industrien, was a museum about Limburg's industrial heritage, but by the time Hans Gubbels joined as director in 2004, visitor numbers were falling dramatically.

"We decided to change the direction of the museum to tell the whole story of the influence of science and technology on the daily lives of our visitors," says Gubbels. "That approach worked and visitor numbers started to rise again."

This led to the opening of a new wing to host temporary exhibitions, an overhaul of the permanent display and a name change.

"We chose Continium as it refers to the continuous development of our world and lives due to the continuous development of science and technology," Gubbels says.

The museum was soon hitting attendance rates of 120,000 a year, with visitors spending an average of 4.5 hours at the attraction. However, it was time for a new strategy, one that would attract new audience groups, encourage repeat visitors and increase dwell times.

In 2014, Gubbels commissioned two new attractions on the square in front of Continium Discovery Centre. Although Gubbels and his team had no reference point of whether a project like this would work, it was felt the potential benefits made it a safe enough bet. The €21m (\$24m, £17m) development was completed in October 2015.

"It was clear for us that the benefits – target group diversification, multiple ticket sales and the ability to market the two newcomers as state-of-the-art institutions – ruled out the risk that it would be difficult to open up the markets for the new institutions. We always look to other types of industry and in consumer marketing it's quite normal and successful to diversify brands for special target groups. Why would this be different for museums?"

"We love to go off the beaten track, and by creating a museum square with three entities we have turned the location into a cultural hot spot," he says.

The three attractions at ground level represent a cube, a sphere and a beam, belying a 7,500sqm (81,000sq ft) network below ground level, expanded from the original museum's design, that connects each element of Museumplein Limburg. This red concrete landscape includes a central visitor entrance, a restaurant, a patio and two tunnels that connect to the new attractions, as well as Europe's first National Geographic 3D theatre. The architecture was carried out by Rotterdam-based Shift, whose youthful, industrial, urban aesthetic works



We love to go off the beaten track, and by creating a museum square with three entities we have turned the location into a cultural hot spot

HANS GUBBELS / DIRECTOR / MUSEUMPLEIN LIMBURG



Rotterdam architects
Shift designed Cube and
Columbus Earth Theatre

to connect the attraction's past with its progressive philosophy for the future.

"The three interconnected buildings each tell a different side to the oldest story in the world: that of the relationship between mankind and the Earth we are living on. Shift's idea for an ensemble of elementary shapes referring to the content of the buildings and the way they connected the buildings won them the assignment," Gubbels says.

COLUMBUS EARTH THEATRE

At the heart of Gubbels' reinvention of this Kerkraade visitor attraction is a conversation he had at a dinner party during his tenure as Ecsite president.

"I was lucky enough to be sitting at a table with three astronauts," he says. "They all explained how seeing Earth from space was a life-changing experience for them. Seeing that view made them realise how vulnerable our planet is and how we should take great care of it. I was struck by this and thought how valuable it would be if more people could have this experience. Would it stimulate them to take better care of the planet?"

Gubbels patented the idea of an inverse large-screen theatre. Looking down at the Earth from space rather than up at space from the Earth, the experience mirrors that of a regular planetarium. Inside its spherical home, the screen is inverted below ground level, while the audience is positioned around the upper edge of the dome. It recreates what's known as the overview effect – a cognitive shift in awareness that some astronauts have reported experiencing during spaceflight.

Designing and installing the inverted screen wasn't easy, however. The projection screen had to be adapted from

a spherical prototype to a cylindrical shape to allow omnidirectional viewing. Overhead projection also presented challenges.

Working with Lagotronics and Barco, the installation was custom-built – a process that involved a trip to the US to seek the advice of Doug Trumbull, a special effects legend, known as the inventor of the Showscan film process, as well as for his work on films *2001: A Space Odyssey*, *Star Trek: The Motion Picture* and *Blade Runner*.

Visitors to Columbus Earth Theatre begin with a short pre-show experience before moving into the main auditorium. Standing on two levels of glass-floored balconies around the circumference of the 13-metres-deep (43-feet) dome, they watch the film play out below them, "as if they are floating above the Earth."

"The aim is to give our visitors the ultimate immersive experience of how beautiful and fragile Earth is, how we live together with our planet, how we use resources and how that affects the Earth and how we protect her," Gubbels says. "We want to bring emotion into the reality that we need to look after the planet, so visitors really start to care about the future."

"Using data sets from both NASA and ESA we see our planet at a global scale," he says. "But we also are experimenting with data visualisation supporting urban development in our local region, which has given valuable insight to decision makers and citizens in connecting geographically scattered projects. We are looking at more ways to use the unique projection for gaming applications and data visualisation." ▶



Museumplein Limburg
diversified its offering
to attract more visitors



A view of the restaurant and the entrance to the National Geographic 3D theatre, which is the first in Europe



CUBE DESIGN MUSEUM

Cube is, indeed, a cube, measuring 21x21x21 metres (69x69x69 feet) and shrouded in a curtain of shimmering steel. Inside, the design is functional, allowing curators to programme the vertical space with a great degree of flexibility. The aim for Cube is to make it an internationally recognised design institute in the coming three years. To make that happen, it's collaborating with the prestigious German Red Dot Award, the Design Museum in London and Cooper Hewitt, Smithsonian Design Museum in New York.

"Cube focuses on a global audience interested in the design process and designing for human ambitions. It's a more museological institution than the other two attractions. The exhibitions presented here are more static," says Gubbels.

"However, Cube also functions as a permanent laboratory where students and designers can co-create together with the audience. It focuses on education, business and the world of designers. The design laboratories offer the possibility for visitors to play an active role in the design processes the students and designers are working on and to interact with them."

CONTINIUM DISCOVERY CENTRE

Continium, then, has a new lease of life as it reopened after a year's closure for renovations. Filled with interactive exhibits – from racing against robots to using old telephones – the STEM-focused museum is a hit with families and schools.

The new beam-shaped building serves as a covered walkway connecting the existing attraction with the rest of the attractions

and the train station, offering views of Museumplein to commuters, passers by and visitors. The Shift-designed reinvention of the public space embeds the trio of attractions deeper into the heart of the Kerkrade community. The facility is open to all, and Gubbels hopes its message – played out in the Columbus theatre from an astronaut's point of view – will get through.

"In all three attractions, creating awareness for a sustainable future is

important. Columbus shows this very directly by showing the effects on our planet," he says. "But we believe that science, innovative technologies and design are the keys to saving our planet. We need new solutions to the problems we face and science can help us. We want to stimulate our audiences to think for themselves about the consequences of their choices and about which new developments to embrace and which to deny." ●

MUSEUMPLEIN LIMBURG: AT A GLANCE

Attractions: Continium, Columbus, Cube

Total cost: €21m

Sponsor: Province of Limburg

Total size: 14,000sqm

Target audience: Continium/families with children aged 6 to 14, Columbus/aged 8 to 80, Cube/16+

Dwell time: Continium (4.5h), Columbus (1h), Cube (2.5h)

Building sustainability: Solar panels and underground energy storage

Extra revenue streams: Conferences, parties, corporate events in Cube. Presentations and conferences in National Geographic 3D Theatre in Columbus



A cross-section shows the sphere, beam and cube structures that make up Museumplein Limburg



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POLIN: 40 AND FABULOUS

Polin's patented technologies, extensive R&D and creative flair have made it one of the world's leading waterpark design and manufacturing companies.

Director of marketing and communications Sohret Pakis tells the story

How has Polin developed in recent years?

Polin is one of the world leaders in the design, engineering, manufacturing and installation of waterparks, waterslides and waterplay attractions. To date, Polin Waterparks has designed and installed more than 2,500 waterparks in 100 countries around the world. We are a growing company in terms of numbers, plant capacity, turnover, number of projects, number of countries, awards and brand awareness.

We've worked with a wide variety of clients, installing the first waterparks in many countries and award-winning rides at parks with world-renowned reputations.

Which projects stand out?

Cartoon Network Amazone in Thailand was a game-changing project for us. Polin themed each and every waterslide in the internationally branded water theme park and received the WWA Leading Edge Award.

King Cobra is a great example of a themed waterslide that's a game-changing concept in the industry. It has won many awards, including Best Waterslide in Europe in 2012, 2013, 2014 and 2015.



■ Polin's marketing director Sohret Pakis

What projects should we look out for?

We have many installations opening in 2016, including Amaazia Waterpark in Surat, India; Paradis des Zibanes in Biskra, Algeria; Mega Fun Waterpark in Anji, China; Blueland Waterpark in Chittagong Port, Bangladesh; Harmony of the Seas Cruise Waterpark and many more.

What is your signature product?

In terms of technologies, RTM closed-moulding manufacturing (Resin Transfer

Molding) has been pioneered by Polin since 2006. The technique has many advantages, not only creating the best-looking slides with a perfectly smooth and shiny finish on both sides, but also producing stronger, lighter slides in less time and with less waste. Today the industry is heading toward closed-moulding as the leading technology displaces the conventional or traditional methods. Plus, we offer our patented NLE, SPE, and translucent rides in RTM.

Our newest signature rides are especially exciting. These new offerings present unparalleled design, intense rider experiences and creative theming. King Cobra is the first waterslide to offer a theme built into its fiberglass design. And it doesn't have to be based on a cobra – we're creating a dragon-themed version for a project in China and a ship-themed one for a project in Indonesia.

Polin offers combo and hybrid options, with multiple slide experiences in one ride.

What is the latest development from Polin R&D?

We've created seven new design options that can be customised for each specific



■ Polin worked on Cartoon Network Amazone, Bang Saray, Thailand



■ Polin designed Santorini Water Fantasy in Phetchaburi, Thailand



■ Agua Magica in Sevilla, Spain, was designed and supplied by Polin

project. The options are Graffiti, Mosaic, Triangulated, Wood 'n Slide, Reflection, Honeycomb and Slide 'n Roll. With this array of different effects, we believe a new level of waterpark design is possible.

What is your USP?

I believe it is our maintained focus on three important principles that shapes our approach in everything we do. These three principles are innovation, quality and technology. Each and every step we have taken throughout the past 40 years has benefited our operation because everything is shaped around these.

We have also set three technology targets as primary objectives for the next few years. The first is to be the technology leader among waterslide suppliers. To support this effort, we have stepped up our investment in technology over the past couple of years. Specifically, we have invested in composites manufacturing technologies, simulation and computer-aided design and development, material technology (such as surfacing materials, nonslip surfaces and coatings on soft surfaces, splash pads, and special effects) and technology-integrated products.

How would you sum up Polin's 40 years of success?

Polin has perfected hundreds of exclusive and successful projects all around the world: outdoor parks, indoor parks and hotel/resort packages. Polin has worked on Europe's largest waterpark, Europe's largest indoor waterpark, the Middle East's largest waterpark, and award-winning waterparks in Iran, Russia, Turkey, Vietnam, Ukraine, Greece, Czech Republic and many more.

Some were immense projects with 50 waterslides and many kids' play attractions; some were smaller parks with fewer attractions. Some were themed, and some were not. Many were parks with world-renowned reputations, and others were local venues. Some were indoor, and some were outdoor. We have been fortunate to work with a wide variety of clients, installing our signature rides or creating specially designed rides.

Here at Polin, we've been proud to work with clients who are open to our ideas and who have allowed us to collaborate on some fabulous projects. Polin is 40 years old, and look forward to the next 40 years in the industry. ●

POLIN TIMELINE

- 1976** Polin founded in Istanbul to make GRP (fibreglass) products
- 1980s** Polin produces waterslides for customers in Turkey, Germany and Austria
- 1992** Polin products gain German TUV certification
- 1996** Polin completes first waterpark in Russia
- 1999** Polin joins WWA and EWA
- 2001** Polin completes Aquarena in Budapest
- 2003** Polin begins to export to the US, completes Hurgada in Egypt and Aquacity in Turkey
- 2006** Polin began RTM (Resin Transfer Molding) production
- 2006** Polin completes waterparks in
- 2007** 2007 Ukraine, Syria, Vietnam, Greece, Czech Republic and the Middle East
- 2007** Polin introduces a new translucent RTM waterslide technology
- 2009** Polin introduces the NLE and SPE systems
- 2010** Polin patents King Cobra waterslide
- 2014** Polin moves to new facility, the largest waterslide manufacturing plant in the world
- 2015** Polin becomes exclusive global distributor for American Wave Machines and WOW Wave Ball

TAKING THE PLUNGE

Waterpark suppliers have to be innovative and constantly develop their product offer to be successful. We dive into the world of waterpark R&D to find out more



Sean Hinton explains WhiteWater's new open-concept play structure

‘CRAFTED FROM A CHILD'S PERSPECTIVE TO ENCOURAGE INTERACTION AND MAXIMISE FUN’

Sean Hinton

President, Waterpark & Attractions Divisions
WhiteWater
Innovation: APX AquaPlay

At WhiteWater we're always working on innovations. Many of them have to stay under wraps at the moment, but one thing I can tell you about is the leaps forward we've made in designing attractions that keep families in waterparks longer. After all, that's the goal of pretty much every waterpark operator. We want to provide those key stakeholders with products that help them achieve their business goals.

APX, the next generation of our AquaPlay product, is an innovation which has reimaged a waterpark classic. Every waterpark needs an interactive waterplay structure for children. With AquaPlay APX,

we're introducing to the industry new ways for families to interact together with an open-concept play structure and a variety of brand new interactives.

The play structure has five unique zones, each of various thrill and skill levels for guests of a variety of ages. There are 80 interactive elements on a single structure, including water elements with action and reaction events to teach cause and effect.

APX provides an engaging experience full of interactive elements that entice, challenge and reward guests. Our "playologists" – waterpark design veterans who are also qualified child psychologists – designed APX specifically to support childhood development by exercising skills that contribute to coordination, understanding cause and effect and creating proud moments of achievement.

WhiteWater's playologists have carefully crafted APX from the perspective of a

child in order to encourage interaction and maximise fun. The system is designed using the philosophies of play and interaction to increase play value and boost the staying power of the structure.

Elsewhere at WhiteWater, Slideboarding has initiated a conversation about gaming and technology within a waterpark. You'll see more of this integration in our products in the future, with games designed into other products – potentially with the ability to interact with guests beyond their time at the park. It's just the tip of the iceberg and the potential is extraordinary.

We're also making some exciting modifications to existing products and reimagining other spaces within our range. Everything we create is centred on the guest experience and how we can help our customer's parks enhance that. Even safety can be innovative and sexy, but you'll have to wait to find out more.

UNPRECEDENTED SLIDE PATHS THAT PREVIOUSLY WERE ONLY POSSIBLE ON ROLLERCOASTERS



Adrian Duke and Skyturtle are taking waterslide experiences to a new level

Adrian Duke

CEO

Skyturtle Technologies
Innovation: Skycaliber

Our most notable innovation is the Skycaliber, a patented world-record-breaking slide. This 100-foot (30-metre) slide has a 45-foot (14-metre) true vertical drop that heads straight into an inverted loop. It uses an ISO 13849 Safety System, an integrated spray system and an innovative conveyor system that ensures every rider – inside a single-occupancy capsule-style raft – gets around the loop.

Skycaliber is the first waterslide in the world where riders free fall and go upside down safely. Due to the patented innovations we've developed, riders reach faster speeds, spin freely within the flume and safely slide through unprecedented slide paths that previously were only possible on rollercoasters. Other "looping" waterslides on the market have a high downtime when riders do not make it through the loop and issues with friction burns. Our innovative design means there's

no skin contact with the fibreglass, so we ensure a burn-free guarantee.

PATENTED RAFT

The patented closed cell foam raft allows riders to rotate 360° within the slide.

With quick load times and a rollercoaster-inspired restraint system and perforated airflow screen, safety and experience are second to none.

We've been working on development of this concept for several years and gone through many stages of engineering, design and manufacturing. We focused on making the ride as thrilling as possible while maintaining the highest level of safety and operational efficiency. Once we successfully achieved that, we worked on modifications and improvements to the raft to improve the manufacturing processes and usability for both rider and operator. We've added mounts for GoPro cameras, increased its comfort, improved the door and latch mechanism to increase the loading and unloading time, improved the airflow and reduced the overall weight.

There are always challenges when developing innovative products, but one of the major barriers we face in this industry is developing methods of integrating technology and electronics into a water environment. Developing and testing an innovative new product but an outdoor or indoor waterpark is a particularly challenging space.

Riders reach speeds of up to 50mph on the Skycaliber slide



The slide features a 14-metre vertical drop

RECORD BREAKER

Coming to Cowabunga Bay in Las Vegas this summer is our patented Water Jet Propulsion Mat Racer technology, which harnesses the power of water through a computer controlled ISO 13849 safety system to launch mat racer riders uphill with 20 pounds of thrust. We also have a line of new interactive waterpark products hitting the market this year.

We want to break the world record for the tallest waterslide with a 200-foot-plus-tall (61-metre) version of the Skycaliber that has a variety of slide paths that have never been attempted on a waterslide before. The sky's the limit with Skycaliber.

‘A UNIQUE DESIGN
THAT BRINGS THE
ADRENALINE RUSH
OF COMPETITION TO
THE WATERPARK’

Sohret Pakis

Director of Marketing & Communications, Polin Innovation: Space Race

One of our newest innovations is Space Race, an eight-person bowl slide with a design that brings the adrenaline rush of competition to the waterpark. The ride's geometry is similar to other bowl slides, but Space Race pits two four-rider family rafts against each other. The rafts enter the bowl from opposite directions at a speed of more than 43kph (27mph) and the special design allows the racing teams to see each other as they career around the bowl. Riders lean, bend and tilt to gain the advantage over their opponents. The first opens at Tetusa Oasis Waterpark in Izmir, Turkey, in June.

At Polin, investing in new technologies is always on the agenda and that helps us make a difference in terms of theming and storytelling. Our Fusion waterslides are always popular since they offer different ride experiences in one. Clients love the flexibility they offer. We are also investing in gaming technologies – but, that is all I can say for the moment.

Lastly, we've set a new standard for waterslide manufacturing with a material technology innovation that turns waterslides into works of art, with both interior and exterior designs embedded



Polin's first Space Race opens at Tetusa Oasis in Turkey in June



Sohret Pakis explains Polin's innovations

into the production of the slides. Inspired by the look of mosaic, graffiti, natural wood and metal, the new slide material brings endless possibilities.



‘WE ARE ABLE TO
THEME THESE PLAY
STRUCTURES WITH
ANY STORY OR THEME
THE CLIENT WANTS’

Alejandro Mestas

Commercial Director
Fibrart
Innovation: Mat Racer



Alejandro Mestas on customised slides

We've been developing our Mat Racer slides. We have the typical open, straight multi-lane Mat Racer, but have also developed new designs for different clients. For example, Oasis Waterpark in Isla de Maipo, Chile, asked us for a four-lane Mat Racer that started with

two straight enclosed lanes on the sides and two straight open lanes in the centre. Halfway down the slide, the enclosed lanes open and the slide turns into a straight four-lane racer. Splashway Waterpark in Sheridan, Texas, asked us for a four-lane Mat Racer that was one-third covered.

In 2015, we did a different design at Raging Waters Waterpark in San Jose, California. Two lanes start enclosed and curve away from the centre of the ride, while the other two lanes start open and straight. The lanes take turns to curve and twist. One of our designers decided to name it the SnakeRacer, so we added four snake heads, one to each lane, and used different colours for the slides. We patented a totally new Mat Racer design.

We have also been working with new non-corrosive materials to create our children's play structures. This means almost no maintenance is required. We're able to manufacture our play structures with any story or theme the client wants.

As far as challenges go, meeting all the different standards in the industry is an important one. Sometimes it's necessary to design two models of the same ride to meet different measures in the US and EU.

**LEAFY FLORA, ZANY
FAUNA, TROPICAL
TREES, CATERPILLARS,
BUTTERFLIES, MONKEYS
AND BIRDS**

Wyeth Tracy

President

Empex Watertoys

Innovation: Aquatropica

Our latest development is Aquatropica, a new line of interactive water features with a tropical theme. The new features are leafy flora and zany fauna with tropical trees and flowers, caterpillars and butterflies, bugs and snails, monkeys and birds – all intended to provide an exciting and unique water playground for kids up to the age of 12. Interactive Aquatropica waterplay structures with slides are also available to create a dynamic, tropical-

themed centrepiece.

Aquatropica structures have lots of advantages. They're fabricated from composite and speciality plastics offering a lifetime corrosion warranty. Unlike metal products, no elaborate foundations are necessary so the construction costs are lower. Low electrical and low heat conductivity are major benefits of our materials should they come into contact with lightning or hot sun. Empex is now able to manufacture a 20-foot (6-metre) structural

fibreglass pipe which allows us to increase the size and the mass of the structures, helping the vibrant colours stand out even more. We are also constantly increasing the interactive component of our water features. It is important to empower the kids to make water work in various ways – thus not only fun but also educational.

In terms of challenges, the biggest one is managing to create products that are innovative without crossing the price resistance barrier.



Aquatropica is vibrant, tropical-themed water structure range from Empex Watertoys



Wyeth Tracy says it's important to make waterplay educational

**INNOVATION IS CREATIVITY LEVERAGED WITH
STRONG MARKET RESEARCH AND DEVELOPMENT**

Shanley Hutchinson

Marketing & Communications Manager, Waterplay Solutions

Innovation: Big Top Soaker



Shanley Hutchinson discusses designing for a global market

Our newest product is the Big Top Soaker – an exciting feature to complete our Cirque aquatic play collection. This larger-than-life dumping bucket brings extra anticipation and visual excitement to a head-to-toe splash experience.

The transparent AquaLume bucket allows light to illuminate the water as it fills and tips out a show-stopping splash for waterplayers below. With a whimsical aesthetic and tall curving legs, it's an eye-catching addition to any play space.

For us, as a global company, one of the biggest challenges

in product innovation is balancing our designs to the needs of different continents and countries. To meet this challenge it takes a lot of research and planning and there are many moving parts in that process. Innovation is creativity leveraged with strong market research and development.

We continue to raise the bar in play value, collaboration, and interaction. In the coming year we're taking our design philosophy to new heights in terms of evolution and innovation. We're excited for people to see what's next.



Big Top Soaker is part of the Cirque waterplay collection



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

Cultural attractions, such as Blenheim Palace in the UK, are popular with all ages

THE ATTRACTIONS BUSINESS

how are you perceived?

In the second of an eight-part series by David Camp of D&J International Consulting, we look at how you see your audience and how your audience sees you

There's a wide range of types and categories of attractions. They're all similar in that they compete for people's leisure time, but there are significant differences in appeal, audiences and performance across the different attraction segments.

Generally, we can classify an attraction into one of three broad categories: culture, nature or entertainment.

These are typically how customers see attractions and consider their visits. If a family decides on a cultural activity, they will select from a range of museums, historic properties, science centres or monuments in their target area.

I've lost count of the number of times I have heard "this is a unique attraction". While it is undoubtedly true that every attraction is different – even rollout attractions such as SeaLife Centres, KidZanias or Disneyland parks that have the same genetic origins all have variations – potential customers rarely perceive the variations between historic houses, regional museums or country parks.

A clear message

While all attractions want to stand out in the market, it's also useful to be easily categorised or understood by the market. A tourist visiting an information centre is greeted with a baffling array of attractions and activities brochures. Having a clear, simple message is important in grabbing attention. The same is true for websites, listings, posters and other media.

With some 250,000 attractions on offer around the world, potential customers need to quickly and easily understand what they may see at your attraction. If they can't do that then they will not visit. The average length of time people spend viewing a Web page is 15 seconds; not much time to get people's interest. In an information centre, people may spend longer, but they will only see the top third of a three-fold A4 brochure on a stand.

The Earth Centre in the UK and Bioscope in France are two attractions that failed where customer confusion was a major factor. People didn't understand the offers and so chose to visit other attractions.





Who is your visitor?

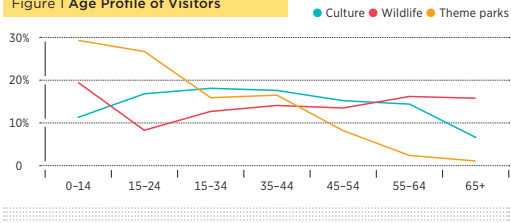
In addition to having a clear message and image it is important for attractions to understand their audience. There are distinct differences in visitor profiles to different types of attractions.

We've grouped attractions into three broad categories for analysis through this series. Cultural attractions include museums, historic properties and heritage centres. Wildlife attractions encompass zoos, aquariums, parks, gardens and natural attractions. Entertainment attractions cover theme parks, waterparks, waxworks, observation towers and brand centres.

As a general rule, cultural attractions attract a more even age profile of visitors than the other types. Wildlife attractions appeal across all ages and entertainment attractions favour younger audiences, as shown in the chart (see Figure 1).

While it's possible to extend or expand an audience this does not always work as expected. In 2009, London Zoo started opening in the summer evenings under an adult-only programme called Zoo Lates. The event proved very popular with the under-35

Figure 1 Age Profile of Visitors



market and attracted up to 6,000 visitors on each evening. However, noisy, alcohol-fuelled millennials can get boisterous and after five seasons the zoo management team decided that the disruption to the animals outweighed the £800,000 (\$1.1m, £1m) annual revenue the events generated. Zoo Lates has been replaced with the more family-friendly Sunset Safari programme.

Seasonal patterns

Another important factor regarding audience profile is the impact that this

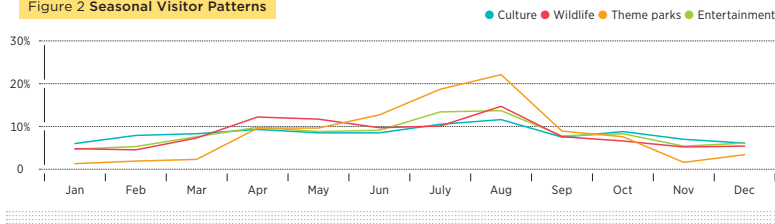
has on the seasonal patterns of visits. School holidays, work patterns and weather all impact visitation and while adjustments can be made through events, promotions and targeted marketing it is difficult, and expensive, to significantly change people's behaviour patterns.

Attractions in cities generally benefit from a more even pattern of visitation than those in rural or coastal areas. An example of this is the Tate Modern in London, which receives 9-11 per cent of its annual visitors during August, while the ▶

**“Europa Park’s
busiest day came during
their Halloween event”**

Europa Park in Germany
has hosted its annual
Horror Nights since 2007

Figure 2 Seasonal Visitor Patterns



- ▶ Tate St Ives in Cornwall peaks at 16-18 per cent of annual visitors in August. Similar patterns are seen at theme parks where those targeting a local or regional resident market attract around 20 per cent of visits during a July or August peak month, while those in tourist areas may see in excess of 30 per cent of their yearly visits during a single peak month.

The chart shows the typical seasonal patterns for different types of northern hemisphere attractions (see Figure 2).

Most indoor attractions are open year-round, while outdoor attractions are generally only open for part of the year. However, this doesn't mean that year-round attractions get more visitors than those that are open for part of the year, or that they make more money.

In 1995, Futuroscope in Poitiers, France, expanded its opening season by 50 per cent (from eight months to year-round opening) but their attendance

only rose by 12 per cent. This led to an increase in revenues; however, there was a greater increase in operating costs resulting in a significant drop in operating profits. This meant that there was no money available for reinvestment and as a consequence visitor volumes plummeted from 2.8 million in 1995 to a low of 500,000 in 2003. It has since recovered, with support and investment from current owner Compagnie des Alpes.

Special events

Two developments in recent years have served to extend seasonality and grow theme park visits: Halloween and Christmas opening. The important thing about these events is that the offer is different at these times than for the rest of the year. In addition, as they are only run for a short period, they encourage people to revisit the parks for these events. At some parks these events have been able

to increase attendance by up to 20 per cent over levels before the special events.

These events have become significant at parks such as Germany's Europa Park and PortAventura in Salou, Spain. Many other parks have followed suit. Indeed, last year Europa Park's busiest day came during their Halloween event and the number of visitors during October is now as great as it is in July. But these have taken a number of years and substantial investment to develop to this level.

Events can be used to impact attendance at other attractions too; they just need to be carefully planned, executed and marketed to be worthwhile. The key to success is understanding the target audience and their behaviour patterns and working with them, not against them. ●

Get in touch with David Camp
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THE LONG GAME

Safari park Longleat is undertaking a decade-long upgrade that starts by going back to its roots. CEO Bob Montgomery explains

Alice Davis, managing editor, Attractions Management

Why did you decide to redevelop Longleat, the safari and adventure park?

We approached architecture and design firm Forrec following a period of substantial growth here at Longleat. Attendance has increased more than 25 per cent over the past couple of years and that has started to have an impact on infrastructure and the guest experience. Forrec has created a 10-year masterplan to address parking lots, toilets, restaurant and retail capacity, transportation, entry points and wayfinding.

We'll work with Forrec on a strategy to phase in the upgrades, so I don't have an

overall budget figure for the masterplan. We might spend £2m to £3m (\$2.9m to \$4.3m, €2.5m to €3.8m) some years, but we don't plan to do that every year.

How did you achieve this growth in attendance?

We are doing a lot of things better. We've introduced a Chinese-style lantern festival that has been a big boon to our business. In 2015, our figures were up every month. We've built a stronger team, we're marketing better, we're gathering better data that allows us to be more targeted.

Our guest scores are higher than they've ever been. We measure that pretty rigorously using the Net Promoter Score methodology, which is the strongest indicator we have that the guests' intention to come back is really high.

The percentage of visitors who would recommend us to a friend is up in the 90s – those are world-class guest scores.

I wish I could tell you that we're doing something clever, but it's the fundamentals.

We strengthened our leadership teams and increased our staff rates. We also set up a profit-sharing scheme for staff. It makes

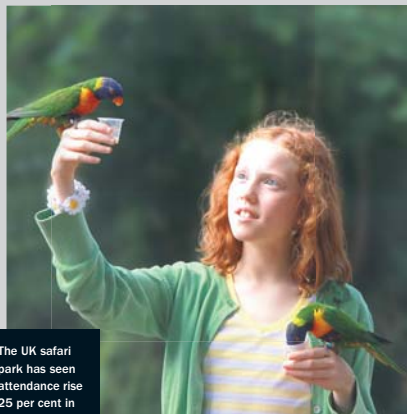
The percentage of visitors who would recommend us to a friend is up in the 90s – those are world-class guest scores



Bob Montgomery previously worked at Herschend's Wild Adventures in America



PHOTO: SHUTTERSTOCK



The UK safari park has seen attendance rise 25 per cent in recent years



SHUTTERSTOCK

About Longleat

The park is located in in Warminster, Wiltshire, UK. It features an extensive safari park and 20 attractions, including Penguin Island, The Jungle Cruise, Monkey Temple and Longleat House, an Elizabethan stately home. The safari opened in 1966, the first in the UK, and celebrates its 50th birthday this year. Longleat is home to BBC's *Animal Park* TV series, which returns this summer.



PHOTO: SHUTTERSTOCK

Visitors to the Wiltshire attraction can see lions, tigers, lorikeets, monkeys, giraffes, penguins and more





The Festival of Light helped us to establish that we can be an event centre, not just a safari park

One extraordinary artwork at the Festival of Light is a 50-metre-long floating dragon

a difference when staff buy into what we're doing and are proud of the product.

Aside from infrastructure, what other changes are planned?

Authenticity is one of our core values. It was increasingly difficult to marry a safari theme with our desire to be sympathetic to the site's heritage. We started to think differently about theming. Our lions are on green grass surrounded by oak trees, so why not be more honest about that.

So you'd like to tell a story that is closer to Longleat's history?

Yes, a story that's grounded in an authentic base. There have been exotic animals throughout Longleat House's 400-year history. It was a menagerie. People gave exotic creatures as gifts. In the archives, we have letters written by the owner begging not to be gifted any more tigers.

We have this real tradition and animals are part of his eclectic collection that ties together the house, the exhibits and the attractions. We love this idea and it will be a differentiator in terms of the way we think. It's also a new way of thinking about what attractions we want to introduce, how we change the look and feel of the park or how we repurpose existing attractions.

What challenges did you face?

As Longleat is a heritage-status property, including the safari park, buildings and 900-acre (364-hectare) grounds, Forre's blueprint has considered – from the start



– potential planning issues, which pose a significant challenge for us. It should make it easier to gain the approval of Historic England, Natural England and other bodies.

What can we look forward to in the near future?

We have some great animal additions coming next year. We like the idea of mixed exhibits; for example, wolves and bears live really well together. Multi-animal habitats add depth and richness to the experience.

We're about to open a 9,000sq ft (836sqm) freestanding building called The Longhouse. It's a multi-use building for temporary exhibits, theatrical productions and catered events. It allows us to bring in unique programming all year long without having to go through the hoops of planning consent and approvals that used to take so long – and that's a tool for us to do more event-based activities.

How are you celebrating the 50th anniversary?

We are having an African summer with performers, dancers and acrobats, as well as an evening parade.

This year sees the introduction of our hot air balloon festival. Over a three-day period more than 50 hot air balloons will be drifting over the estate between sunrise and sunset. We also have an outdoor concert headlined by Sir Elton John in June, the first music concert held at the attraction since the Rolling Stones played in the 1960s.

Aren't there rumours you could host Glastonbury Festival in 2018?

We have sold all 15,000 tickets for the Elton John concert, but there's a big difference between doing this and doing a music festival. It's a step for us: if we can do a show like that once or twice a year, that'll maybe open up other options for us.

What other events have been successful?

The Festival of Light began in 2014 as a Christmas festival combined with a Chinese lantern festival, with thousands of lanterns. It was hugely successful. We repeated it in 2015 and achieved growth of 20 per cent and the best guest scores we've ever had.

The Festival of Light helped us to establish that we can be an event centre, not just a safari park. By expanding our events we see great results: our Christmas period was as strong as our summer.

For 2016, we're partnering Beatrix Potter for the lantern festival. It's the author's 150th birthday and our 50th – two quintessential British brands. Our light display is going to be Peter Rabbit and Mr McGregor's Garden, with installations up to 60 feet (18 metres) tall. ●

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ARCTIC EXTREMES & THEMED ENTERTAINMENT

Professional development for the TEA's Europe & Middle East Division took place in the Arctic Circle from 24 to 26 February, in Rovaniemi in Lapland, Finland. This was a SATE (Story + Architecture + Technology = Experience) Academy Day event – a destination gathering specially tailored for professional enrichment within the attractions industry. SATE Academy Days were first developed by the TEA EME Division and have started to catch on throughout the association

Paul Kent, Electrosonic TEA EME Division President



With the aim of holding events in as many different countries as possible, the EME Division of TEA pursued

connections with Finnish members to put together a first-rate programme over two packed days in Rovaniemi, the capital of Lapland – and the home of Santa Claus.

For those who arrived the night before, things kicked off with a visit to the Arktikum Museum, guided by the managing director Hannele Koskineni. This was followed by a trip to the Pilke Science Centre under the auspices of the exhibition manager Heikki Hepoaho.

The nation celebrates its centenary in 2017 and the museum puts the history of Finland and Rovaniemi into context.

SUSTAINABILITY IS KEY

There's a huge focus on sustainability in Finland, with forestry being top of the list in Lapland. One of the event's sponsors, Lappset, runs a business which is very dependent on local timber, as we saw first-hand. In all cases, there's an emphasis on zero waste. Every last shaving is used.

We collected the rest of the group from the airport – and many were surprised

to be met by Elf Candy, our host, as they landed on the evening flight. We set off into the Lappish forest to explore Santa Claus Secret Forest of Joulukka.

Apart from meeting Santa Claus and visiting his command bunker, members of the group also tried their hand at ice sculpting, with ice and lessons supplied by Taavi Heikkilä from Frozen Innovations – the constructors of the Arctic SnowHotel that we visited the following day.

After that we relaxed in the Finnish way with a traditional smoke sauna, hot tubs and lake swimming. Our hosts for the evening were Ilkka Länkinen and Katja Ikäheimo Länkinen. Their hospitality was without bounds.

The visit overlapped with the Arctic Design Week conference – particularly its main seminar on 25 February, during which the keynote presentation, Designing for Extremes, was given by Keith James of JRA. Keith, a past president of TEA, received a lifetime achievement award at the TEA's Thea Awards in April (see our report on page 18).

Arctic Design Week is aimed at the many industries and universities in the area. Following the keynote, a mix of speakers from the Scandinavian design community were among the slate of presenters, including several TEA members. They included Matt Barton (7th Sense), Stephen Richards (Paragon Creative), Nick Farmer (Farmer Attraction Development) and Johan Granholm (Lappset Creative). Julius Oforsagd was responsible for organising the event and inviting TEA to participate.

The group went to the Lappset factory for a tour of the facility and then onto the Santa Park to connect with our 'inner elves'. Some also went on to Rovaniemi's Arctic SnowHotel for a dinner and a tour of what is a truly unique experience. Some of the braver souls also stayed in the hotel.

TEA EME Division is indebted to the event sponsors: Electrosonic, Lappset Creative and SantaPark, and in particular to Asko Alanen from Lappset. Without his cooperation and support this event would have not been the success it was.



Elf Candy was a surprise host for the tour of Lapland's attractions



PHOTOS: EME TEA, NEWARK/PA/USA



The TEA EME Division's SATE Academy event in Lapland, Finland, was themed around Arctic design and included trips to Santa Claus' secret forest of Joulukka, the Arctic SnowHotel, SantaPark and a dip in an ice-cold lake

Matt Barton, 7th Sense TEA Member



Another excellent TEA event started with a greeting by Elf Candy who took us to the magical Joulukka.

What followed was an unusual TEA mixer involving ice carving, reindeer radar, meeting Santa Claus and enjoying an excellent meal and some fine company with traditional Finnish after-dinner relaxation (and invigoration for some of the braver among us by way of an ice lake dip).

What amazed and impressed me about both Joulukka and our trip the following day to SantaPark was the total commitment from the staff to ensure that even though we were on a "backstage tour" we felt truly immersed in the experience. I don't think anyone could prevent their inner child from making an appearance during the event.

David Willrich, DJ Willrich Ltd TEA International Board



Other than the fact that it would be cold, very cold, in Rovaniemi, I had no real idea of what to expect from our SATE

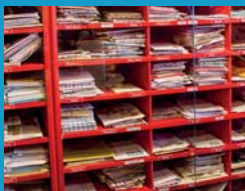
Academy day in Lapland. With a clean memory card in the camera, thermals and warm clothing packed, we set off for what turned out to be an excellent experience in all aspects.

And no visit to Lapland would be complete without a visit to the main man and discovering your "inner elf" and an opportunity to be "elf taught".

Elf Candy did a great job of introducing us to the workings of life in the magical world of Santa

Claus. SantaPark, owned and run very enthusiastically by Ilkka and Katja Länkinen brings to life what all of us imagined as children a visit to the North Pole would be like. We are all used to the high standards set by Disney and Universal, but I love it when we visit a much smaller park – invariably very hands-on, owner-run – that hits and sometimes surpasses those standards.

Katja does not hide her passion for what they do: yes they are running an attraction that has to make money, but the focus is on quality and they clearly understand what they can and can't do in order to meet visitor expectations. Where else in the world would you get dozens of TEA members wearing elf hats and icing cookies?



Santa Claus, Lapland's most famous resident, is a major draw in Arctic tourism. When the TEA members took a behind-the-scenes tour of SantaPark, most of them found their "inner elf"

" THIS EVENT REPRESENTED EXACTLY WHAT SATE ACADEMY DAYS ARE MEANT TO BE: AN OPPORTUNITY TO LEARN MORE ABOUT OUR INDUSTRY, NETWORK WITH COLLEAGUES AND EXPERIENCE NEW PLACES "

Traci Klainer Polimeni, Luce Group
TEA International Board



Spending time in the winter wonderland of Rovaniemi, I found Finland better than I could ever have imagined. This was my first time

venturing into this part of the world and in the company of the EME Division, it was a perfect introduction.

Lappset Creative was a wonderful host and sponsor. We met reindeer, elves and Santa Claus. We drank beer, wine and, yes, vodka from ice shot glasses in an ice

bar. We participated in the Arctic Design Week with some of our own TEA members presenting. And of course, we saw snow, snow and more snow.

This event represented exactly what SATE Academy Days are meant to be: an opportunity to learn more about our industry, network with colleagues and experience new places. As TEA is an international association, I hope sharing my thoughts on this trip encourages all members to look outside their regions and to explore new areas of our membership and the world.

Keith James, Jack Rouse Associates
Former TEA President



The TEA certainly showed well at this event, and we trust everyone was pleased with the results.

It was good to see the Lappset facilities. We had heard a great deal about them, and now having actually seen their operation, we are greatly impressed with the company.

And Katja should be extremely proud! The places that we visited, and the things that we were able to see and do, will go down as highlights in our history in this industry. My wife Patti and I had a wonderful time, and it appeared as if everyone was having just as good a time.

They have created something quite special there at the Arctic Circle: bringing Santa Claus – one of the world's most famous and most important legends to life and making it even better than we all thought possible is quite a feat.

I can only repeat my thanks to everyone involved for making the week so memorable. And to Katja and her staff (elves, guardians, princesses, and everyone else) – well done! ●



Ifat Caspi, P&P Projects
TEA Member

The experience was unique and inspiring. Within the space of two days we experienced, in a variety of ways, the exceptional nature, culture and the extremely nice people at Rovaniemi. The hospitality was great. The Arctic Design Week conference was also inspiring, and it taught me that our industry is full

of "designs for extremes". We were all captivated by the magic of such an amazing place. The event communicated that we all need to aspire to achieve the high quality, meaningful stories that make our industry what it is.

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NEXT STEPS

This year's MuseumNext European conference in Dublin, Ireland, was one of its most successful yet.

Tom Anstey was there for AM



Drawing museum delegates and officials from all over the world since 2009, the MuseumNext event shines a light on the future of museums and how today's museums are adapting to an ever-changing climate.

One of the highlights of this year's event in Dublin was a talk by James Davis from the Google Cultural Institute. When the Institute opened its doors in 2001, its goal was to make important cultural material available and accessible to everyone and to digitally preserve it to educate and inspire future generations.

Davis addressed a packed Mansion House to talk about the Institute's growth, the new products it has launched, such as Google Cardboard, and offered a glimpse at what they have in store next.



James Davis, Google Cultural Institute

I think digital culture is heading to much bigger audiences

increase because of people having access to cultural organisations all around the world and as a result I think and hope that physical attendance will increase," he says.

"It's something we've begun to see anecdotally. If you get a larger audience interested in this topic – for example, introducing people to a particular museum for the very first time – some of them are going to go to that museum when they weren't beforehand simply because they hadn't heard of it. That's the direction that the Google Cultural Institute is going."

Following his talk, Davis told *Attractions Management* that the Institute is just at the start of its journey. As accessibility increases, he says, so will interest in arts and culture.

"I think digital culture is heading to much bigger audiences," Davis says. "One of the compelling reasons to have digital cultural experiences is that if you're interested in something the other side of the world, that might be an obstacle for you going to see it. However if it's available directly from your pocket, then it's extremely accessible to you."

"We're absolutely convinced that the global audience for culture will

Second Livestock

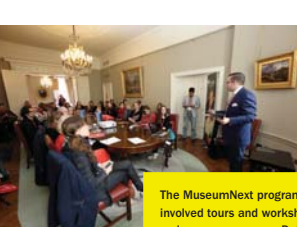
Google has developed many interesting technologies, but it has never created anything as outlandish as VR for chickens. It's a concept that Michael John Gorman believes can spark interest in science and start a debate within a museum setting.

Speaking at MuseumNext on his last day as CEO of Science Gallery International, Gorman detailed several unique concepts from the institution, which he says can open up conversation at the boundaries between science and art. The VR chicken project, known as Second Livestock, was the most intriguing.



Michael John Gorman, Science Gallery

ALL PHOTOS: MUSEUMNEXT



The MuseumNext programme involved tours and workshops in various venues across Dublin



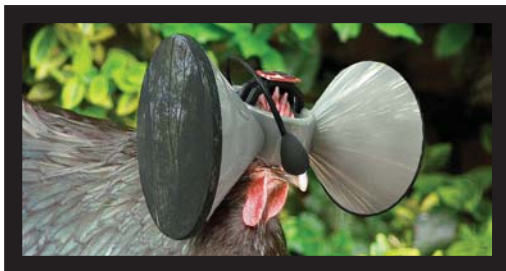
Speakers represented Burning Man, Tate Modern, Kids in Museums, MoMA and many more

"I think it's a wonderful example of a project that provokes you and makes you think about what kind of future we want to live in," says Gorman. "The idea is that battery chickens or battery hens could feel like free range chickens in VR. It's great because it brings you into that space of conversation about what kind of world and what kind of industry we want to have. It's a conversation provocation."

Non-museums

The conference concluded with a roundtable discussion about issues that affect the museum sector today. One topic was non-museums – brand houses such as the new Louis Vuitton Foundation in Paris, for example – moving into the museum space.

The panel – made up of National Museums Directors' Council policy



The idea is that battery chickens could feel like free range chickens in VR



Shannon Darrough from MoMA's digital media team

and projects manager Katie Childs; Fiona Ross, founding director EPIC Ireland; Ngairé Blankenberg, who acts as European director and principal consultant at Lord Cultural Resources; and Shannon Darrough, who leads the Department of Digital Media at New York's Museum of Modern Art – discussed how the sector should react to brand homes effectively stepping on its territory.

"We're all competing for people's attention on that Saturday afternoon," says Darrough. "As more and more people enter this field there's more and more stuff to take up our time. I think it's something we all have to

learn, support and embrace. It will be challenging though. At MoMA, we're lucky enough to be a museum that has such a great collection and reputation, but for other places it could be tough."

MuseumNext returns later this year when the event comes to New York on 14-15 November with two days of curated presentations on the theme of Transformation. The event then goes to Australia for the first time in February 2017, with museums and galleries from around the world coming together to highlight best practice, discuss the latest trends and think about what's next for museums. ●

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ASIAN

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Dates: 13-16 June 2016

Who's there: More than 350 exhibitors and 8,000 attendees

What's on: 11 education sessions

On-site tickets: \$100



Vekoma's latest UK rollercoaster

Vekoma

Vekoma is presenting two new thrill coasters set to launch this year and next. Both custom-designed, Space Warp will open at Energylandia in Poland in 2016 and Fire Storm will open at Vinpearl Thu Thiem in Vietnam in 2017. Vekoma has also installed two family coasters at Paulton's Park in the UK, a Boomerang and a Suspended Family Coaster. **Booth #1350**



The Walking Dead-inspired dark ride

Sally

Sally will present, in partnership with AMC and Striker Entertainment, the Walking Dead: Battle For Survival, a long-awaited immersive dark ride based on the award-winning television series. This dark ride features interactivity, multi-DOF ride vehicles, media-based scenes, highly immersive theming with ultra-realistic sets, scenery and animation and 4D special effects, including real fire, wind and fog. Sally is also presenting VOLCANIKUS! 4-D, an original IP. The all-new interactive dark ride journeys into the fiery depths of Inferno Island, where guests do battle with prehistoric beasts, evil statues, huge carnivorous plants, living lava warriors and other fantastic elements. **Booth #1550**

Gateway

Gateway is debuting its new product, Galaxy Connect, a cloud-based platform that connects attractions suppliers with third-party distributors to enable selling of live tickets to attractions anywhere in the world. It's integrated with LvMama, TongCheng and CTrip, three of the leading travel service providers in China. **Booth #1536**

Huss

Several prestigious Huss projects will be highlighted at AAE Shanghai, including the opening of the world-first Hybrid Condor in Tivoli Gardens, Denmark and Huss Ride Classics at Romon U-Park in Ningbo, China. Huss is also unveiling a new project, the film-based ride attraction Movie Base XS with an extremely small footprint, leading to a minimised overall investment. The new Movie Base XS is an evolution of the existing Movie Base Classic attraction, a 4D dynamic motion simulator. **Booth #1641**



Condor at Tivoli Gardens

Holovis

Holovis Attractions invites attendees to step inside a mixed reality world of VR, AR and real-time media on Booth 3313. Using its Mixed Reality (MR) design capabilities, the company will be showcasing its ability to transform any passive experience, such as queue lines, pre-shows or even the attractions structures themselves into extended experiences, gamifying every element and connecting them through park-wide apps, introducing a whole new level to the guest experience. **Booth #3313**



Augmented reality at the Holovis booth



Seaworld Adventure Park, China

IdeAttack

IdeAttack is presenting its 13-hectare (32-acre) Seaworld Adventure Park project, part of the Ocean Flower Island project, a mega-tourism zone on an artificial archipelago located off the north coast of Hainan, China. It features four distinct zones:

Boardwalk, Polar World, Deep Sea Fantasy and Tropical World. The park is designed as a highly immersive, entertaining and experiential destination combining themed environments with rides, lifestyle and leisure park elements and animal exhibits.

Booth #1144



Singha at Siam Park, Tenerife

ProSlide

ProSlide is presenting Singha at Siam Park in Tenerife, Spain, a new slide that incorporates ProSlide's FlyingSAUCER features into its RocketBLAST water coaster, with patented water jet and boat design. The four-person RocketBLAST water coaster marries technologies from ProSlide LIM coasters with turbine technology to take water propulsion to a new level. The water coasters allow 100 per cent steeper hills than traditional blast coasters, 50 per cent more capacity and 60 per cent more efficiency.

Booth #1402

Forrec

EVPs Anthony Van Dam and Cale Heit will be on hand to talk about Forrec's latest built project, Wanda Xishuangbanna in China. Another hot topic for Forrec is their branded attraction work for popular TV show Top Gear and three other BBC Worldwide properties. Collaborations with IP-holders like Sanrio (Hello Kitty) is a Forrec specialty.

Booth #1250



Forrec is working with Top Gear

Sanderson Group

Sanderson Group is an international thematic design and construction corporation with proven experience delivering world-renowned attractions and destinations since 1989. Sanderson Group offers its clients full turn-key solutions covering every stage of project development including conceptual design, masterplanning, feasibility and market analysis, construction documents, construction and operations.

Booth #1301

See nWave's latest 4D film



nWave

For over 20 years, nWave has been a market leader in the production and distribution of high quality and innovative content, including 4D/3D attraction films, 3D/2D ride simulation films, and 3D/2D educational documentaries for giant screen IMAX theatres and digital 3D cinemas.

Booth #1530

International Play Company

FEC Builders is a new division at International Play Company. The FEC Builders team changes the way a design is approached, inspiring new branded attractions and bringing new levels of creativity to each project. International Play Company has developed numerous edutainment facilities and independent environments for entertainment facilities. The company's educational turn-key attractions are suited to science centres, zoos and museums among other environments.

Booth #1705

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