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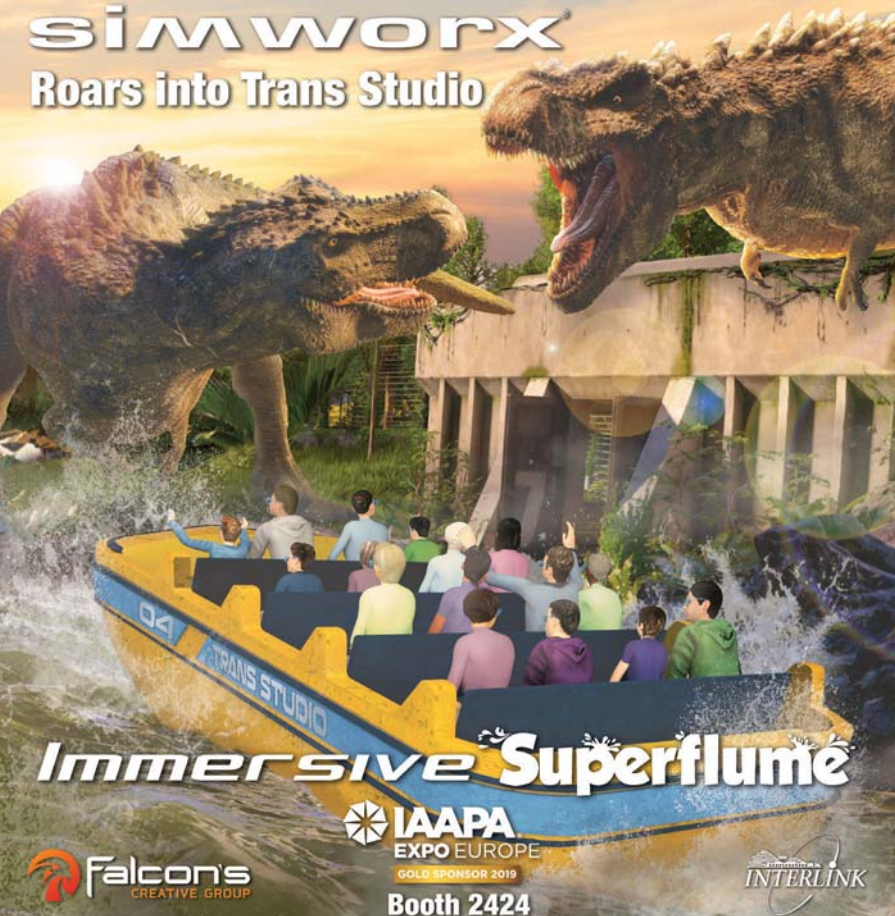
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VOL 24 3 2019

CIRCUS RONCALLI

Swapping animals
for holograms

EPIC UNIVERSE

Taking a closer
look at Universal's
newest theme
park venture

DOLLY PARTON

AM mystery shops
Dollywood's
new US\$37m
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DR TEDI ASHER

How neuroscience is reshaping the visitor experience

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Neuroscience

Market research has its place when it comes to understanding our visitors and their needs and levels of engagement, but using neuroscience we can take our understanding of visitor needs and responses to a whole new level

Our cover star this issue is Dr Tedi Asher, a neuroscientist working at the Peabody Essex Museum in Salem, Massachusetts in the US. Asher is believed to be the first neuroscientist to be based in a gallery or museum and her appointment heralds an exciting new direction in the development and management of visitor attractions.

Her brief is to deepen engagement among visitors to the museum using Dr Carl Marci's definition of engagement, which says: "Engagement occurs when attention is directed in a way that elicits an emotional response which leads to the formation of a memory."

How can we truly know what engages and motivates visitors? The question lies at the heart of all we do and surprisingly, given its importance, there has generally been little science directing investment and energies.

Visitor insight has typically deployed standard market research methodology to establish responses and preferences, which can be useful. Neuroscience, however, takes our understanding to a whole new level by looking at far more fundamental, deep-rooted visceral responses.

Instead of asking people how they feel, neuroscience looks at a person's physical response and understands how experiences light up different areas of the brain.

Asher is deploying gaze tracking glasses to understand what visitors are looking at and galvanic skin response – which measures sweat produced – to give a biometric measurement of emotional intensity, for example.

She's already sharing her learnings for the benefit of other attractions, including those revealed by an experiment undertaken at the museum using 'judgement prompts'.

This found that if visitors were given prompts, such as being asked if they were moved by a particular exhibit, they spent longer looking at it, had



© 2018 PEABODY ESSEX MUSEUM

Gaze tracking glasses are being used to understand preferences

Neuroscience doesn't just ask how people feel, it monitors deep-rooted visceral responses

a more intense emotional experience and reported higher levels of engagement and satisfaction.

Asher's work is impacting on all aspects of the museum's development and operation, including exhibition design and animation, retailing, marketing and wayfinding. We expect to see many more such appointments going forward, as the industry embraces the potential of this approach.

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On the cover: Dr Teri Asher

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Attractions People

“The aim was to create memorable moments that visitors could hang onto, really treasure and really associate with the Empire State Building”

Tom Hennes principal and founder, Thinc Design

“I went to the Empire State Building for the first time at the age of seven,” says Tom Hennes.

“I can remember building it out of wooden blocks before

I visited, looking down at the street from the observation deck. I remember almost everything about that visit. It's somewhere which holds a very dear place in my heart.”

Hennes, who has worked on museum and exhibition and museum design since the mid-90s, was handed the task of modernising the visitor experience at the Empire State Building in December 2016. His design firm Thinc led a collective of 13 different firms including Beneville Studios, IDEO and Squint/Opera on the project, which is part of a wider modernisation masterplan for the iconic landmark.

In addition to its views of New York, the Empire State Building now boasts a new entrance for its four million visitors each year, as well as a spectacular reimagining of its popular observatory experience.

“Going through the queue and getting up to the observation deck wasn't very pleasant for visitors,” says Hennes. “They loved the building and the view, so were still coming in droves but the journey up was less than optimal.

“From start to finish, we made the whole thing experiential. The aim was to create memorable moments that visitors



could hang onto, really treasure and really associate with the Empire State Building. It clearly had to involve its construction and its place in popular culture, but we wanted to look at life inside as well.”

Research showed that the majority of guests saw the building as a silhouette, which, as soon as they walked inside would ironically disappear. It's something Hennes was aware of and addressed during the development process.

“We introduced beautiful photography and add a 24-foot high realistic model to the new entrance that lights up at night,” he says. “It's set around a grand staircase that celebrates it and gives it a stage. The front end of the visitor experience really sets up the journey visitors go through, acknowledging the Empire State Building independent of the observatory itself.”

A pop culture icon

Among the galleries visitors can see a room showing the building in movies, commercials, TV shows video games and more. King Kong is also present, with his eyes peering menacingly through a set of 1930s windows, the gorilla's fingers break through. There's also a section showing famous visitors to the building and another showing a recreation of its original elevator cab and electrical control board which were installed in 1931.

The redevelopment and modernisation plan hasn't been purely cosmetic. It's also helped to improve visitor flow and even save money. “It brings the visitor experience in line with the quality of the rest of the building,” says Hennes. “It's also a highly efficient design in every way and it speaks to the efficiency of the building. We've reduced its energy costs by more than 40 per cent with some really smart changes. By moving the entrance from Fifth Avenue to 34th



Street, it gives a separate flow for the visitors to the observatory from the main entrance of the building, which improves the tenant experience as well as the visitor experience. Visitors still exit through the Fifth Avenue lobby, so they get to see it minus the congestion."

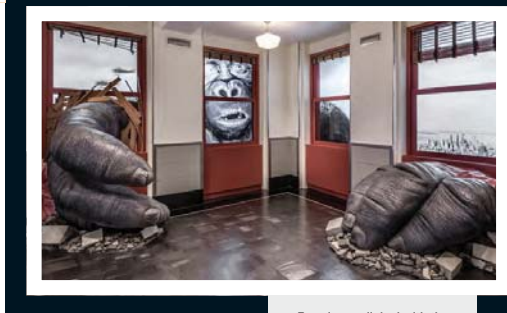
The redevelopment has come at a cost of US\$165m. The first phase – the relocation of the visitor entrance – was completed in August 2018. The second phase – the observatory – opened at the end of July this year. Phase three will be completed in September, with the reconstruction of the glassed-in 102nd-floor observation deck.

A project of love

More than just a project, the work carried out by Thinc on the building has real personal significance for Hennes: "Right after 9/11, I was down at Ground Zero one morning with a wheelbarrow, helping out, because like so many New Yorkers I just felt the need to somehow be part of that."

"At the time I was working on a tiny project inside the Empire State Building, so I travelled from Ground Zero covered in dust and went up to the Empire State Building. It was still closed because everybody was looking at new security measures to put in place."

"I got up to the 86th floor. It was completely empty and fog and clouds had closed around the building so I was



completely isolated up there. I can't quite describe the feeling but there it was standing there and there I was in it, alone, at a time when everything else was so strange and other-worldly and upside down. For me personally, coming back to it to do this project connected with that memory."

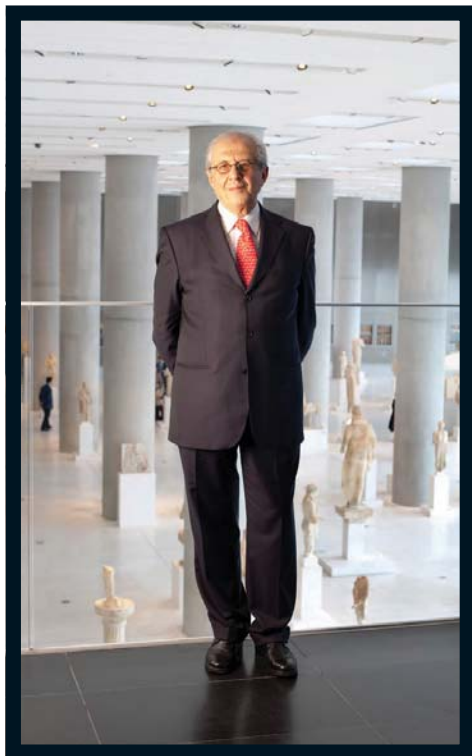
"At that time I had no idea we were also going to end up designing the 9/11 museum. Those feelings and those places are connected for me. One is a place of extraordinary tragedy and also revival that we spent eight years working in. The other is a beloved icon. I love seeing the building and knowing I'm working on it. It's been a project of love for everybody involved."

Experiences linked with the Empire State Building in popular culture are now a key part of the visitor experience



“Visitors can now have a unique experience in a fascinating environment, becoming familiar with the day to day life of the ancient Athenians”

Dimitrios Pandermalis president, Acropolis Museum



It wasn't a smooth start for Greece's Acropolis Museum. First touted in the early 2000s, some questioned whether or not the Greek gods themselves were trying to intervene in the €130m (US\$145m) development.

The museum, which sits on the archaeological site of the Acropolis of Athens, Greece, was built to house every artefact found on the rock and its slopes.

Initial plans were plagued by problems and delays, including disputes with architects and contractors, as well as complaints from local residents trying to protect historic buildings from demolition. When work was finally approved, an ancient urban development was discovered in the ground dug for foundations of the museum, immediately halting construction.

Turning the page

Rather than take this as a negative, however, the museum's leaders opted for a redesign so the building could be constructed on top of a series of columns, preserving the ancient site for future generations. Now, exactly a decade on from the opening, the dig has opened to the public for the first time.

"More than 4,000sq m (43,000sq ft) of the remains of the neighbourhood can now be seen at close quarters by visitors, who walk on metal ramps erected over the excavation," says the museum's president, Dimitrios Pandermalis. "Visitors can have a unique experience in a fascinating

Dimitrios Pandermalis has been president of the Acropolis Museum since its foundation a decade ago



The museum was built on columns to preserve an ancient Roman site found underneath the building

environment, becoming familiar with the day-to-day life of the ancient Athenians.”

Pandermalis, who has been with the museum since its foundation, has overseen the excavation project, which comprises houses, workshops, bathhouses and streets, dating from the late classical era in the 5th century BC, up to the early Byzantine period in the 12th century AD.

Opened to the public on 21 June this year, the ancient site has been excavated over a period of 13 years, with around 50,000 artefacts discovered during the process. The most representative findings of the excavation – such as a Roman-era copy of a 4th century BC marble bust of Aristotle – will soon be put on display inside the museum.

“The presentation of the ruins of the Ancient Athenian urban fabric that were revealed on the site has been optimally presented, with natural light reaching down to the architectural remains with the roads, houses, workshops and public baths,” says Pandermalis.

“We wanted to avoid a basement feeling and not to restrict these findings to a dark space that deprives them of their vitality. The entire excavation is the exhibit and our visitors are invited to explore throughout, giving them a strong sense of life in this ancient neighbourhood.”

Turning the page

According to Pandermalis, the introduction of the excavated site represents a new chapter in the museum’s history.



“Ten years have passed quickly, but they’ve left a strong mark on this new beginning for the Acropolis Museum,” he says. “For the first time we’re able to see how people lived in the shadow of the Acropolis and through the display of discoveries such as plates and toys, visitors will have a glimpse into the daily lives of ancient Greeks.”

Not only has work been done underneath the museum, but within the institution itself. Over the last decade, in order to offer a fuller appreciation of the exhibits, the museum has developed innovative digital representations of exhibits, discreetly presented next to the originals. It’s also introduced modern technologies to narrate the history of the Parthenon – the iconic temple that’s regarded as an enduring symbol of Ancient

Greece, Athenian democracy and Western civilisation. Not only that, but research carried out on newly-discovered artefacts is educating the museum’s ongoing programmes and exhibitions.

“Our museum conservators and the site’s archaeologists work closely together,” says Pandermalis. “This has led to the discovery of significant fragments that assist in the reconstitution of well-known museum exhibits.”

“In a number of cases, new displays have been introduced following research, correcting earlier exhibit mounts and interpretations. In 2011 we completely renewed the museum’s explanatory texts in the exhibition galleries, enriching each text panel with fuller historical, sociopolitical and archaeological information as a result.”



Former US President Barack Obama toured the Acropolis Museum on a closed-site visit in November 2016 on his last foreign trip during his term in office

Continuing to work with its archaeologists, the museum introduced the role of archaeologist host soon after opening. In these roles, qualified archaeologists with skills in communication convey accurate information to visitors, presenting gallery talks, school presentations and gallery-centred activities for children and families.

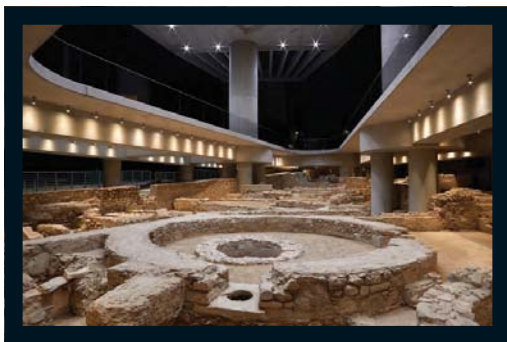
Entering the digital age

A large part of the work undertaken to digitise the museum's collections has been part of a broader program of multimedia projects supported by funding from the European Union.

"The project has involved a broad range of museum staff and is approaching finalisation, with the development of a new museum website and a large range of adult and children's digital applications, videos and games that communicate the museum and its exhibits both onsite in the museum and online on its new website," says Pandermalis.

Enduring appeal

Since its grand opening in 2009, 14.5 million people have visited the museum, travelling from locations around Greece and from destinations abroad.



"During the museum's first years of operation, which coincided with the economic crisis, the number of visitors reached one million," says Pandermalis. "In 2018 however, we received 1.8 million visitors, which is a significant increase."

Most of the museum's overseas visitors have come from the US. Of the millions to pass through its doors, one of the most notable was former US President Barack Obama, who on the last foreign trip of his term in office, toured the Acropolis in a closed-site visit in November 2016.

Marking the first official visit to Greece by a sitting US president since Bill Clinton, the hilltop complex said Obama, was a "monument to free thought, artistic expression and architectural prowess",

something echoed by its millions of visitors over the last decade and the International Council of Museums (ICOM), which has included it among the five most significant museums anywhere in the world.

The museum's anniversary was marked by a series of events in the lead up to the opening of the archaeological site. These included a lecture on Parthenon sculptures; a music concert by the Greek composer Stavros Xarchakos and an orchestra of eight renowned Greek soloists.

Aiming to shed light on the Acropolis restoration process, a temporary exhibition, titled *Chisel and Memory*, opened on 11 June and will remain open until 31 October.



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Gus Antorcha took over at SeaWorld in February 2019

“Capital investment is going to make Orlando an even bigger destination for tourism and vacations than it is today.”

Gus Antorcha CEO, SeaWorld

It's been almost plain sailing for SeaWorld's new head honcho. The former Carnival Cruise Lines COO, Gus Antorcha has helped the company climb out of murky waters, with what once looked like a sinking ship now starting to turn around several years of financial decline.

Appointed in February 2019, Antorcha has been SeaWorld CEO for just over half-a-year. While he admits there's still “plenty of work to do” on a number of fronts, he's confident in the direction the company is heading: “We've got an exceptional business model and we're focused on improving our execution with enhanced marketing and communications

initiatives, more effective pricing strategies and the introduction of new compelling rides, attractions and events in every one of our parks every year.”

A key investment area for SeaWorld is Orlando. Major developments in the area include Universal's Epic Worlds (see p44) and Disney's new Star Wars lands, both of which are expected to boost visitor numbers to the area significantly in the coming years. Antorcha believes these developments will be of great benefit to SeaWorld, with its offering helping the operator to stand out in a busy market.

“I'm encouraged by investment in Orlando and I think it will drive visitation into the market,” he says. “The amount of

capital investment – including what we're building and what the others are building in Orlando – is going to make the city an even bigger destination for tourism and vacations than it is today.

“We're a unique value proposition. We have our rollercoasters, our lands such as Sesame Street and our animals. Together, we provide a very compelling differentiated experience for families to come in and spend part of their vacation with us.”

SeaWorld recently reported strong growth in visitor numbers and operating income, reversing a multi-year decline stemming from controversy over captive cetaceans in its parks.

Visitor numbers for the first six months of 2019 were 9.8 million visitors – a 1.7 per cent rise year on year. Company earnings were US\$166.1m – a 34 per cent increase over the previous year. The company has set a target of delivering US\$475m to US\$500m of annual adjusted earnings before interest, tax, depreciation and amortisation by the end next year.

“We'll continue to push on the cost lever and it's very much becoming a way we think about an approach to business,” says Antorcha. “I came from one of the lowest cost operators in the cruise industry. Working with the team here, we're going to continue to find ways to become more efficient without impacting the guest experience. I'll be working closely with our in-house teams to make sure that we continue that focus and continue to drive cost out of our business.” ●



Investment into new attractions has helped SeaWorld turn a corner

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SINGAPORE

Zaha Hadid and Architect 61 begin work on New Science Centre in Singapore

Singapore-based design firm Architects 61 and Zaha Hadid Architects (ZHA) have started design development workshops for the New Science Centre in Singapore, which will replace the ageing Science Centre Singapore, first opened in 1977.

Slated for completion in 2025, the proposal for the new Science Centre capitalises on the centre's waterfront location.

The attraction will be integrated with Jurong Lake Gardens, becoming one of the major tourist attractions in the district, and is envisaged as a ground-breaking institution that will continue the centre's mission to bring science to life.



■ The New Science Centre is scheduled to open in 2025

"We're reimagining how a visit will inspire a lifelong appreciation of the importance of STEM, where science can transform the minds of millions," said Lim Tit Meng, CEO of Science Centre Singapore.

MORE: http://lei.sr/r48f_T



Science can transform the minds of millions

Lim Tit Meng

UK

National Space Centre begins work on 'reality lab' to attract new audiences



This new facility will be a great asset for students and young people

Kevin Harris

The UK's National Space Centre (NSC) in Leicester is building a new laboratory for the creation of virtual, augmented and mixed reality media, which it says will extend its capacity to deliver community engagement and attract new audiences.

The Extended Reality Laboratory (or XR Lab) has been funded by the Inspiring Science Fund – a partnership between the Department for Business, Energy and Industrial Strategy, UK Research and Innovation, and Wellcome.

The lab will be the base of the new NSC Creative Academy, giving young people the opportunity to work with industry experts to further their scientific interest, either recreationally or as part of their formal studies.

"This new facility will be a great asset for students and young people," said Kevin Harris, chair of the Leicestershire Enterprise Partnership (LEP), which is in part supporting the development financially.

MORE: http://lei.sr/V5d9N_T

UK

Eden Project North gets 2023 opening date



■ The Eden Project North plans were unveiled in 2018

Eden Project North – an £85m (US\$108m) marine-centred recreational complex and leisure attraction in Morecambe, UK, has been set an opening date of Q2 2023.

The development will see a series of mussel-shaped pavilions capable of housing a variety of environments, with the site combining indoor and outdoor experiences.

It's expected that once open the site will draw 760,000 visitors annually, though the site will be designed to accommodate up to a million.

The next stage of development will involve a public consultation later this year, with a plan to submit the application and environmental statement in Q2 2020.

The original Eden Project in Cornwall has welcomed more than 21 million visitors since it opened in 2001, contributing more than £2bn (US\$2.54bn) to the local economy. The concept is going global, with Eden Projects currently being worked on in China, Australia, Dubai and the US.

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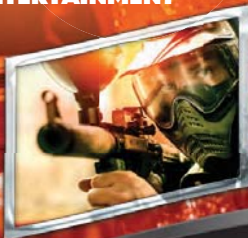
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Overseas expansion for Museum of Ice Cream

The Museum of Ice Cream (MOIC) has announced plans to open several new locations, both in the US and internationally over the next 18 months, starting with its first New York City flagship in Q4 2019.

Set over three storeys and spanning nearly 25,000sq ft (7,620sq m), the New York attraction in Soho will have 13 new installations created by MOIC's team of in-house architects and designers. Highlights include a floating table of sweet treats, a three-storey slide, a hall of giant scoops, a giant Queen Beehive, and MOIC's largest-ever sprinkle pool. It will also feature a café and shop offering an exclusive menu and retail products.

"MOIC NYC is a dream that our team has been developing for three years," said co-founder and creative director, Maryellis Bunn. "More than 1.5 million guests have come through our various doors and given us so much input and inspiration. I want to continue to connect people and create moments of joy through ice cream. MOIC NYC will build upon Soho's artistic history and contribute to the neighbourhood's resurgence as a place for imagination and creativity."

The Museum of Ice Cream was first conceived in 2016. Its displays are very often made from brightly coloured ice cream or candy installations.

For more, see AM Q4 2018

MORE: http://lei.sr/A2k8N_T



■ MOIC is coming first to New York, then internationally in 2020



“

I want to continue to connect people and create moments of joy through ice cream

Maryellis Bunn

USA

NBA Experience opens doors at Disney Springs



“

I want to thank the Imagineering team for capturing the authentic NBA experience at this landmark destination

Adam Silver

The NBA Experience, an immersive and interactive new basketball attraction at Disney Springs in Florida, has celebrated its grand opening.

Developed by Walt Disney Imagineering in collaboration with the NBA, the 44,000sq ft (13,400sq m) two-floor environment has 13 different basketball-related activities for guests, including being selected in the NBA draft, making clutch shots and slam dunks, and interactive displays, films and trivia that help guests to learn more about the NBA and the WNBA. An adjacent store sells official NBA apparel, as well as Disney products designed specifically for the NBA Experience.



■ Many of NBA's past and present attended the opening

"I want to thank Bob Iger and the Walt Disney Imagineering team for capturing the authentic NBA experience at this landmark destination," said NBA commissioner, Adam Silver. "We're thrilled to share the excitement of NBA basketball with fans and Walt Disney World guests from around the world."

MORE: http://lei.sr/6r8S9_T

USA

The Avengers coming to Disneyland in 2020

This year's D23 fan event in Anaheim is the setting for a host of announcements in regards to Disney's parks, with a new Avengers attraction sitting at the top of the pile.

Set to open at Disney's California Adventure in 2020, the Avengers Campus will offer visitors the chance to suit up alongside superheroes such as *Spider-Man* as they explore the Marvel universe.

The campus features several attractions, including the Worldwide Engineering Brigade (WEB), which is Disney's first ride-through experience featuring *Spider-Man*. Here, guests can try out the Web Slinger vehicle, gaining a taste of the character's superpowers as they help him collect Spider-Bots that have run amok.

The Campus will also feature *Ant-Man and The Wasp's* Pym Test Kitchen eatery, as well as the Avengers Headquarters, which is set to open in phase two. On the ride, guests will be able to board a Quinjet and fly alongside the Avengers in an adventure to Wakanda.

Encounters with superheroes such as *Black Widow*, *Doctor Strange* and *Guardians of the Galaxy* will also await visitors as part of the development.

"This collection of unique addresses, each dedicated to a different discipline, have been brought together to champion the next generation of heroes," said Scot Drake, creative executive for the Marvel Global Portfolio at Disney Imagineering.

MORE: http://lei.sr/e6W9R_T



■ The Avengers Headquarters is a key address on the new campus



“

This collection has been brought together to champion the next generation of heroes

Scot Drake

GERMANY

Europa Park's Scandinavia area reopens one year from major fire



“

We've had a great desire for to rebuild this unique place as soon as possible

Roland Mack

Just over a year on from a major fire that destroyed a significant part of Germany's Europa Park, the operator is celebrating, after reopening its fire-damaged Scandinavian area.

The fire occurred on 29 May 2018, starting in a backstage storage area on the Pirates of Batavia water dark ride. The blaze grew, creating a huge plume of smoke that could be seen for miles. No one was hurt but the fire destroyed a large part of Europa Park's Scandinavia and Norway-themed areas.

Scandinavia is now reopened, with the Mack family officially relaunching the restored area – themed as an idyllic village with colourful wooden houses.



■ The Macks were on-hand to reopen Scandinavia

"We've had a great desire to rebuild this unique place as soon as possible," said Europa Park founder Roland Mack. "For more than 350,000 hours, at times more than 100 construction workers were busy day and night making the impossible possible."

MORE: http://lei.sr/r6P5m_T

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UK

Great Wolf expanding overseas as operator plans £200m waterpark for Oxfordshire, UK

US waterpark operator Great Wolf Resorts has announced plans to open its first venture overseas, with the Great Wolf Lodge coming to Oxfordshire, UK, in 2022.

Great Wolf, which currently boasts 18 locations across North America, has submitted a planning application for the venture, with construction on the £200m (US\$242.8m) venture scheduled to take place in 2020.

The proposed site is currently home to the Bicester Golf Course, half of which will be redeveloped to accommodate the 186,000sq m development.

According to the proposal, the resort will be anchored by an 8,800sq m



■ Great Wolf has chosen the UK for its first location outside the US

(95,000sq ft) indoor waterpark, with an adjoining 5,000sq m (54,000sq ft) adventure park featuring a high ropes course, climbing wall, miniature golf, bowling and an arcade. There will also be a 500-bedroom hotel set over four storeys.

MORE: http://lei.sr/Z8F5Y_T



The resort will be anchored by an 8,800sq m indoor waterpark, with an adjoining 5,000sq m adventure park

USA

New York's largest waterpark set for expansion after acquiring state funding



It's a win-win for everyone, most of all, for our guests

Katie Wojdyla

Construction started in September on new water slides at the Enchanted Forest Water Safari theme park in New York, US, with a funding contribution for the new rides having come from the state's economic development agency.

Empire State Development awarded US\$500,000 from its revitalisation initiative, which Enchanted Forest is using to add three new waterslides, as well as a re-engineering of water pumps and filtration equipment.

"It's a win-win for everyone, most of all, for our guests and for the region," said the park's vice president, Katie Wojdyla. "We've provided memories to guests since 1988 and we look forward to continuing that tradition with our new rides."

Funding from Empire State Development comes with the expectation that the improvements will generate significantly increased tourist activity in the region, with work to be completed by June 2020.

MORE: http://lei.sr/Z9q6F_T

INDUSTRY OPINION

Reinvestment leads to stability

Aleatha Ezra, WWA

At the end of every season, most operators feel the need to measure the success and health of their



business against other leisure entertainment businesses in their market and against the larger amusement and water leisure industry as a whole. This allows management to quantify whether certain increases or declines in attendance or revenue are linked to a larger trend that might not be within the control of the business.

According to PGAV Destinations latest *Voice of the Visitor: Outlook on the Attractions Industry* report, people are "travelling less frequently and returning to the same attractions less," driven by their desire to spend their dollars on a new experience where they can create new memories.

The most recent *TEA/AECOM Theme Index* (see p46), one of the strengths of the European leisure market is the longevity of so many of the most popular attractions. Of course, market maturity can run counter to the report, with waterparks and theme parks that have been around for a number of years losing their feeling of newness for the consumer.

This is where regular reinvestment comes into focus. Keeping abreast of these reports helps an operator plan for improvements or additions before the start of the next season to keep the business stable and growing.

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AUSTRALIA

AUS\$57.5m renovation for Australian Museum

A major renovation project that will expand touring exhibition halls and create several new facilities at the Australian Museum in Sydney saw the venue closed to the public on 19 August.

Project Discover has a budget of AUS\$57.5m (US\$38.9m), most of which has been provided by the New South Wales Government, leaving a balance of AUS\$7m (US\$4.7m) to be raised by the museum.

Designed by Cox Architects and Neeson Murcutt – which created the museum's award-winning Crystal Hall will repurpose existing storage space to give the museum 1,500sq m (4,900sq ft) of touring exhibition halls across two levels. Such capacity means that the museum

could host either one major exhibition or two smaller exhibitions simultaneously.

Further developments will see new education facilities, a new museum shop, a second café, an expanded members' lounge, improved circulation and wayfinding, including via a new central staircase, new escalators, and improved public amenities that cater for families and those with accessibility needs.

The work will be completed in time for the Australian Museum to host *Tutankhamun: Treasures of the Golden Pharaoh* in 2021. Sydney will be the fifth city to host the 150 artefacts from Tutankhamun's tomb, with the exhibition running for six months.

MORE: http://lei.sr/y3F6N_T



■ Artist's rendering of the expanded Crystal Hall entrance



The improvements will repurpose existing storage space to give the museum 1,500sq m of touring exhibition halls across two levels

UK

Museum of London reveals designs for Smithfield home



The new Museum of London will be a totally porous space available night and day

Sharon Ament

The Museum of London has revealed the designs for its new home in Smithfield Market, with the development scheme laying out a 24-hour culture hub in the heart of the British capital.

Described as one of the largest cultural projects in Europe, the design process has been led by Stanton Williams and Asif Kahn, with Julian Harrop Architects also involved.

Celebrating the existing architecture of the Westfield site, which is derelict and in desperate need of renovation and repair, the £262m (US\$330m) development will offer more exhibition space, with exhibits making use of the historic buildings both above and below the ground.



■ The move will create 5,000sq ft of additional space

"The new Museum of London will be a totally porous space available night and day to welcome all of London's visitors," said Sharon Ament, director of the Museum of London. "We'll tell the story of London and Londoners in some of the best examples of British architecture in the city."

MORE: http://lei.sr/c9y4D_T

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UK

Norwich Cathedral installs Helter-skelter

A 55-ft (16.8m) helter-skelter ride set up in the nave of Norwich Cathedral in England has offered visitors a new perspective on the historic building, say cathedral bosses.

The ride was a temporary installation and was built by Irvin Leisure as part of the Cathedral's 'Seeing It Differently' project. Through it, the church wants to open up conversations about faith.

A viewing platform at 40ft (12.2m) offered visitors the chance to look much more closely than would normally be possible at the near 600-year-old roof bosses, which are found at the points where the ribs of the cathedral roof join. The roof stands 69ft (21m) high.

"Climbing 50ft above the nave floor will help us see this

space differently, it will give us a new perspective," said the Rev Canon Bryant. "It's precisely because it's not what we usually do that it can speak to us, challenge us and invite us to see the space differently and to see ourselves and one another differently, even God differently."

"Can we, dare we, open ourselves up to approach familiar things differently, to see the world through other people's eyes and from their experiences? Can we allow ourselves to be searched by fresh understanding and insight?"

The cathedral has asked participants to share their experiences via social media, using the hashtag #SeeingItDifferently.

MORE: http://lei.sr/Z9e2d_T



■ The helter-skelter was originally built in 1947

“

Climbing 50ft above the nave floor will help us see this space differently, it will give us a new perspective

Rev Canon Bryant

BENIN

France funds €20m museum to house Benin's cultural treasures



“

The return of the objects will allow us to build make the royal palaces more economically sustainable

Gabin Djimass

A €20m (US\$22.4m, £18m) loan from the French Development Agency (FDA) is to be used in the construction of a new museum in Abomey, Benin, which will house objects of art and cultural heritage that are being restituted from France.

The museum to house the 26 artefacts will be situated at the Royal Palaces of the Kingdom of Dahomey – a Unesco World Heritage Site – and is due to open in 2021.

French President Emmanuel Macron pledged to return the items in November 2018, which are currently in the possession of Musée du quai Branly in the French capital of Paris. The collection includes a gold throne and various bronzes, which were taken from the



■ The Royal Palaces will be home to the museum

West African nation by French soldiers towards the end of the 19th century.

"The return of the objects will allow us to build a new museum and make the royal palaces more economically sustainable," said Gabin Djimass, tourism chief in Abomey.

MORE: http://lei.sr/a9y6E_T

USA

Vertical aquarium would be an iconic addition to San Diego waterfront

A 170,000sq ft (51,816sq m) vertical aquarium is one of the ideas being considered for a proposed 500ft-high (152m) observation tower at the centre of a development project in San Diego.

Seaport San Diego, a US\$2.4bn scheme that encompasses 70 acres along Harbor Drive, is currently in the initial planning stages with developers 1HWY1 and architects Bjarke Ingels Group (BIG).

The project and its environmental impact report, which is yet to be completed, must first be approved by the Port of San Diego, after which the Coastal Commission must also rubber-stamp the project.



■ The San Diego waterfront has been reimaged by the Bjarke Ingels Group

The tower's design is eye-catching: a cylindrical tower with an hourglass figure, centring around what appears to be a stack of spinning discs, evoking different images and impressions at varying elevations and vantage points.

MORE: http://lei.sr/h9vZz_T



Seaport San Diego is a US\$2.4bn scheme that encompasses 70 acres of land

MORE: http://lei.sr/S7z8Q_T

INDUSTRY OPINION

Emergency Preparedness

Janet Ho,
WAZA
Executive Office



In the face of the changing climate, with weather-related incidents increasing in frequency and intensity, zoos and aquariums need to be more prepared than ever to deal with natural disasters.

Many regional and national zoo and aquarium associations require their members to create extensive disaster preparedness plans, so that when disasters strike, they are prepared for any eventuality. When hurricanes Harvey, Irma and Maria brought widespread destruction in 2017, zoos and aquariums in the region were able to execute their well-honed emergency plans and ensure the safety of the animals in their care, as well as the safety of the staff.

Through careful planning, zoos and aquariums are able to anticipate and quickly react in an emergency, deciding on whether to stay and weather the storm, or evacuate the animals to a different location.

Moving animals from the eye of the storm can be incredibly complicated and often comes with grave risks. Staying means ensuring safe shelter, as well as back-up supplies and power generators for staff remaining with the animals.

During times of crisis, the wider zoological community has proven its resilience and adaptability, as well as sense of community, often coming to the aid of an afflicted facility.

NEW ZEALAND

2020 opening schedule announced for new jungle habitats at Auckland Zoo



The development includes new habitats for new species from the south-east Asian jungle

New Zealand's Auckland Zoo has revealed a timetable for opening each part of its new South East Asia Jungle Track project – a NZ\$58m (US\$39m) investment that's part of the zoo's wider 10-year, NZ\$150m (US\$100.9m) evolution programme.

The development includes new habitats for new species from the south-east Asian jungle, including a high canopy for orangutans, gibbons and other primates, lowlands for tigers and otters,

a swamp forest dome with a scientifically-engineered environment to mimic the hot and humid tropics, where the Sunda gharial (Asian crocodile) and a range of other reptiles and fish will live, and lake and wetlands with an extended climbing range for arboreal primates.

On a more functional level, a new 1,000sq m (3,280sq ft) café and function venue is being built, with views of the lake and its wetlands habitat.

MORE: http://lei.sr/S7z8Q_T

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TRENDS

Predicting the entertainment venue of the future

Entertainment venues need to undergo technological and design upgrades to prepare them for the experience-seeking consumer of 2040, according to research by Euromonitor International.

Commerce 2040 - Revolutionary Tech Will Boost Consumer Engagement outlines a vision for how consumers might live, work, shop and play in 20 years' time, exploring how technology could change the different consumer worlds of entertainment venues, home and retail.

Consumers are already moving towards demanding personalised experiences, and the report states that consumer expenditure on experiences is set to rise from US\$5.8tn to US\$8tn in 2030,

using leisure, recreation, travel and foodservice as a proxy.

The report also lists a number of "key features" that the entertainment venue of the future will have. These include biometric entry for season ticket holders, facial scanning of fans for tailored alerts, social media-worthy locations to make the experience exportable, food and drink delivery options to stationary fans, and AR layers that provide information on players and gamification options.

"Technological advances will further redefine what it means to live, work, shop and play for consumers in 2040," said Michelle Evans, global head of digital consumer research for Euromonitor.

MORE: http://lei.sr/K8r4q_T



■ AR and VR are on the rise, with big things predicted for the tech



Technological advances will redefine what it means to live, work, shop and play for consumers in 2040

Michelle Evans

ARTIFICIAL INTELLIGENCE

Microsoft adds cultural heritage to AI programme



We're bringing these efforts together in a more comprehensive programme that will explore and pursue new opportunities with institutions around the world

Brad Smith

Cultural heritage has become the latest focus for Microsoft in its 'AI for Good' portfolio – a five-year commitment to tackle some of society's biggest challenges.

Already included in the US\$125m programme are AI for Earth, AI for Accessibility and AI for Humanitarian Action.

AI for Cultural Heritage is the fourth pillar of the programme and follows on from a number of projects that Microsoft has been working on.

These have included using artificial intelligence to make the Metropolitan Museum of Art's Open Access collection accessible online, a new museum experience in France with mixed reality and AI paying homage to Mont-Saint-Michel.



■ Mont-Saint-Michel is the focus of an AI project

"We've realised that this work deserves more than a handful of projects," said Microsoft president Brad Smith. "That's why we're bringing these efforts together in a more comprehensive programme that will explore and pursue new opportunities with institutions around the world."

MORE: http://lei.sr/d9P4E_T

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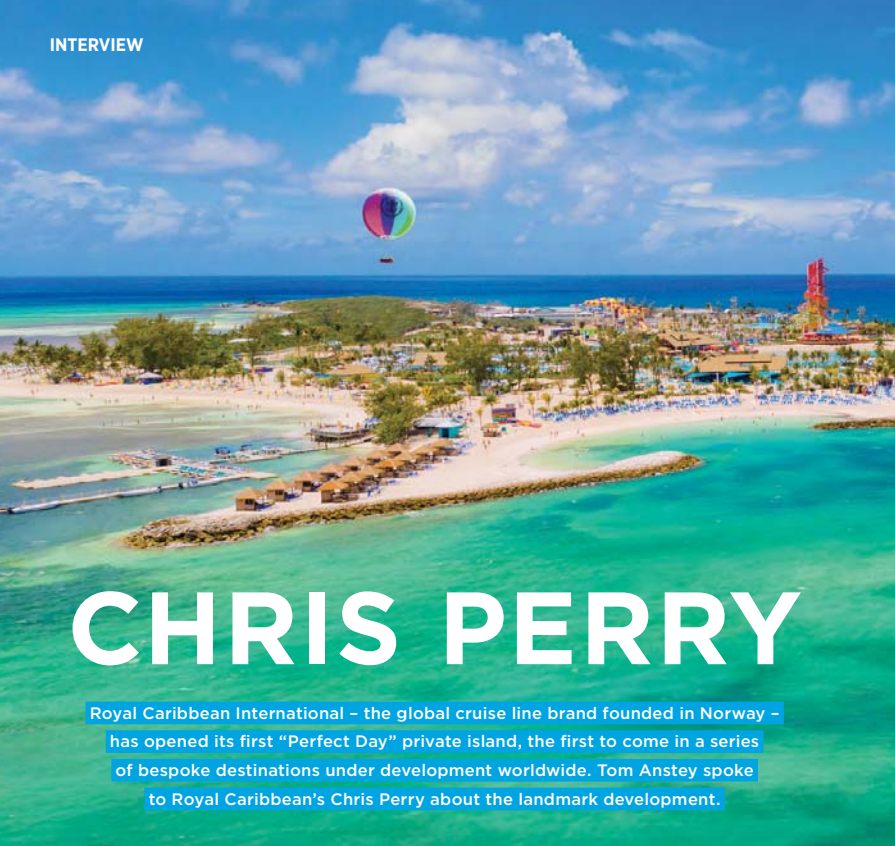
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CHRIS PERRY

Royal Caribbean International – the global cruise line brand founded in Norway – has opened its first “Perfect Day” private island, the first to come in a series of bespoke destinations under development worldwide. Tom Anstey spoke to Royal Caribbean’s Chris Perry about the landmark development.



A private island experience was something only the super-wealthy could ever experience. That was at least until the cruise industry got involved.

Nowadays cruise lines are in competition with each other to create exclusive experiences for their visitors and Royal Caribbean has stepped that up a level with significant investment on a brand new private island development offering a

Chris Perry, who recently joined Royal Caribbean, is a veteran of the waterpark industry

range of different experiences created to appeal to all of its customers.

“Pushing the envelope is in Royal Caribbean’s DNA,” says Chris Perry, who adds that today’s traveller, more now than ever, values memorable experiences – something Perfect Day at CocoCay has been tailor-made for.

Perry – a veteran of the waterpark industry – has spent his entire working life in trade, working all over the world as an operational consultant and serving on the IAAPA Board of Directors. Perry also hosted Travel Channel’s amusement series *Epic Attractions*, where he provided viewers with an “all-access, backstage pass to the world’s most epic attractions”.



Perfect Day at CocoCay is available exclusively for Royal Caribbean customers, with the island boasting activities for both adults and children alike



HURRICANE DORIAN

With winds of up to 295kmph (183mph) Hurricane Dorian devastated parts of the Bahamas, with 76,000 people left needing shelter and at least 50 dead.

In the storm's wake, Royal Caribbean is using its own vessels and finances to help the recovery effort, pledging US\$1m for disaster relief and matching public donations up to US\$500,000.

Using its ships, it's so far delivered "relief supplies and 20,000 daily meals to

the Bahamas", with plans to send further ships with "47,000 bottles of water, 362 generators, 250 tarps, 25,000 square feet of plywood, 55,400 diapers and 7,500lbs of pet food."

"Every one of our vessels in the Bahamas area, continues to provide assistance by delivering supplies, plus helping to evacuate children, elderly, or those needing immediate medical attention, to Nassau hospitals," said

Royal Caribbean is using its ships to bring supplies following Dorian

a statement from the company. "We want to make them feel as comfortable as possible." Coco Cay managed to avoid major damage from Dorian. Following clean up and repairs, the island reopened on 9 September.

Taking a new step in his career, Perry is Royal Caribbean's new vice president of private destinations, where he is overseeing hospitality and managerial operations, as well as providing input on the design and best practices for the landmark CocoCay development, touted as a gamechanger for the cruise sector.

Thrill-seeking

A US\$250m development, Royal Caribbean has transformed the former Little Stirrup Cay in the Berry Islands of the Bahamas into a vacationer's paradise.

Royal Caribbean ships departing from New York, Maryland and Florida call at the private island, which features a major



The waterpark includes the tallest waterslide in North America

**CALLED THRILL WATERPARK, THE ISLAND'S CENTREPIECE
IS A TOWER MADE UP OF 13 SLIDES – THE MOST SLIDES
FOUND IN ANY WATERPARK IN THE CARIBBEAN**

waterpark as its anchor attraction. It represents something never seen on such scale for a private island destination, with the waterpark breaking records not only for the Bahamas but the entire continent.

Called Thrill Waterpark, the island's centrepiece is a tower made up of 13 slides – the most slides found in any

waterpark in the Caribbean. It's tallest slide – Daredevil's Peak – stands at 135ft (41.1m) and is the tallest in North America, taking riders through 764ft (232m) of translucent tubing.

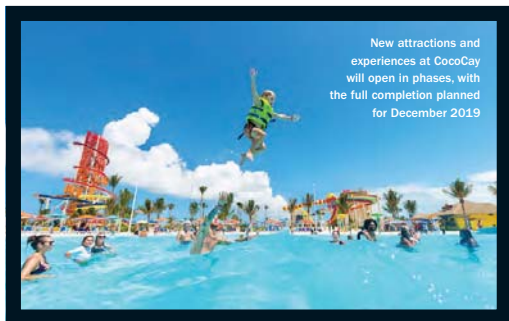
"The waterpark's development was a team effort, with Royal Caribbean president and CEO Michael Bayley heavily

involved alongside waterpark designers and developers Aquatic Design & Engineering (ADE) and WhiteWater West on the project," explains Perry.

"It's at the heart of Perfect Day at CocoCay and dares the most adrenaline-seeking travellers to test their limits out on two slide towers and 13 slides, as well as the Adventure Pool, our kid-friendly obstacle course on water, and the Caribbean's largest wave pool."

The main tower features a total of seven different slides, with the twin Dueling Demons, a duo of Manta Raycers, the vertical Screeching Serpent and the coiling Green Mamba all featured. The second smaller family tower also offers six multi-rider slides, including The Twister, a winding tube slide for two sharing a raft; The Slingshot, a zero-gravity slide for four; and the four-lane Splash Speedway racing slides. The waterpark also boasts the region's largest wave pool and a kid-friendly obstacle course.

Also on the 'thrill' side of the island, visitors can find Captain Jill's Galleon. A splash park aimed at children, the attraction features smaller slides,



New attractions and experiences at CocoCay will open in phases, with the full completion planned for December 2019

CRUISE ISLANDS

Half Moon Cay is named after its long, crescent-shaped beach

Only six cruise lines offer a private island experience to their guests. Of the eight currently in operation, five are in the Bahamas. Royal Caribbean operates two of these experiences – Labadee in Haiti and the newly-opened CocoCay, which is located in the Bahamas.

Each island operates as its own mini-city, with full-time inhabitants serving visitors and maintaining the island, and all featuring a power plant and water treatment facilities. The islands also feature leisure and amenities such as bars, restaurants, shopping, watersports, first-aid and even post offices.

■ CASTAWAY CAY, BAHAMAS Disney Cruise Line

Castaway Cay is Disney's private island. Reserved exclusively for the Disney Cruise Line, a variety of activities are on offer, including swimming, biking, volleyball and tetherball. Visitors can also explore the island via bike, while a tram service can also take visitors around the island. The island features a small water-play structure for kids, which sits in the lagoon just off of the family beach.

■ HALF MOON CAY, BAHAMAS Holland America Line

From Holland America, Half Moon Cay offers 2.8 sq mi (7.2sq km) of island paradise for its visitors, much of which has been designated a Wild Bird Preserve by the Bahamian National Trust. Opened in 1997, the island can accommodate up to 4,500 visitors a day and features a West Indies Village with shops and a straw market. Also included are a post office, chapel, ice cream shop and a bar. In 2004 it opened a small aqua park called Half Moon Lagoon, which was designed with children in mind.

■ GREAT STIRRUP CAY, BAHAMAS Norwegian

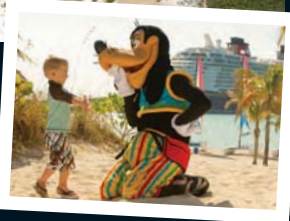
Norwegian Cruises was the very first to offer a private island experience to its passengers. Purchased in 1977, the island has undergone significant development, with features including a bar, water sports hut, market and a Dive-in Centre. The island is surrounded by an abundance of marine life.

■ HARVEST CAY, BELIZE Norwegian

Opened in 2016, Harvest Cay represents a partnership between Norwegian Cruises and the Belize government. Offering typical private island amenities, the attraction is a 303,000sq m (3.2 million sq ft) island featuring a large pool with a swim-up bar, salt-water lagoon for water sports and shore excursions.

■ PRINCESS CAYS, BAHAMAS Princess Cruises

Around 30 miles across the sea from the Bahamas' capital of Nassau, Princess Cays is actually a private resort covering around 40 acres on the southern portion of Eleuthera



Castaway Cay combines a private island getaway with a distinctly Disney visitor experience

Island, though the land is reserved exclusively for passengers on the Princess Cruise Line. There are a number of activities on offer, including snorkelling, aqua bikes, sailing lessons and kayaking for guests, with three bars and live music also on offer.

■ SIR BANU YAS ISLAND BEACH OASIS, ABU DHABI MSC Cruises

Relatively new to the market having only debuted in December 2016, a 1.5 mile-long stretch of land on the natural island of Sir Bani Yas has been transformed into a beach oasis destination, exclusively for MSC Cruises passengers.

■ LABADEE, HISPANIOLA Royal Caribbean

A port on the northern coast of Haiti, which with the Dominican Republic forms the island of Hispaniola, Labadee is a secluded spot surrounded by mountain slopes and exotic foliage that is an exclusive destination for Royal Caribbean customers.

The destination sits on a 1.05sq km (0.4sq mi) wooded peninsula and offers a range of activities including an inflatable Arawak Aqua Park complete with giant floating trampolines, waterslides and more.



Attractions at Labadee include the largest zip-line over water in the world

INTERVIEW

- interactive water cannons, rope features and a splash pad, all with a pirate theme.

More than 50ft (15m) overhead, two 1,600ft (487m) zip lines crisscross the island over Splashaway Bay. This is Royal Caribbean's largest aquapark and boasts the only splash water landing in the region.

The final offering for thrill-seekers is a giant helium balloon called Up, Up & Away. Once boarded, riders will ascend 450ft (137m) for a vantage point higher than anywhere else in all of The Bahamas.

Chill-seeking

Described as "the ultimate escape to relaxation", 'Chill Island' is the other half of the Coco Cay experience, with everything you would expect to be able to do in a tropical paradise on offer to visitors.

"Travellers can have everything from the white-sand beach and water activities, including wave running and snorkelling, to the largest freshwater pool in the Caribbean – Oasis Lagoon," says Perry. "Visitors can explore three distinct coves



Captain Jill's Galleon is an interactive play structure for kids

within Oasis Lagoon: the family-friendly area, the swim-up bar and three swim-up islands and the relaxation area."

For the beaches, private cabanas are also available to rent, complete with their own dedicated attendant and daybeds.

Connectivity is a big part of the offering, with WiFi available to visitors extending all the way from the ship to the entire island.

Running through the island are a number of F&B options, including dining at three restaurants and two fast food options.

Grand plans

While offering a memorable and relaxing experience, the capacity at CocoCay is large. Its port has been designed to

accommodate any of Royal Caribbean's vessels, which include the Oasis Class ship – the world's largest cruise liners.

The average capacity for a single day on the island is 6,500 people, though it can accommodate more than 10,000 when two ships are visiting at the same time – the equivalent of more than 3.6 million visitors each year. It's not stopping there either, with a second phase of development currently underway on the island.

"The majority of the reimaged island opened in May 2018," says Perry.

"South Beach, which will offer volleyball, beachside basketball, soccer and paddleboarding, and Coco Beach Club – an elevated island experience featuring The



Coco Cay is the first of a number of Perfect Day destinations under development by Royal Caribbean

THIS MODEL REDEFINES
PRIVATE ISLAND
DESTINATIONS IN THE
HOLIDAY INDUSTRY. OUR
COMBINATION OF THRILL
AND CHILL EXPERIENCES
MAKES IT STAND OUT

Bahamas' first overwater cabanas and a 2,600sq ft (241sq m) infinity pool – are scheduled to open in December 2019."

A private island unlike any other for cruise visitors, Royal Caribbean has already declared its intention to replicate its Perfect Day experiences, looking beyond the Bahamas to island destinations previously unexplored by the cruise industry. The operator has a host of locations lined up for the brand, with Perfect Day islands currently under development in Asia, Australia and the Caribbean.

"This was the first of our Perfect Day Island Collection," says Perry. "We look forward to announcing more in the future."



Redefining tourism

According to Perry, the Perfect Day collection will "redefine" the cruise industry, taking its reimagined private island model worldwide.

"We're making a bold promise with the name Perfect Day," he says. "This model redefines private island destinations in the holiday industry. Our combination of thrill and chill experiences makes it stand out, with our visitors able to create their ideal day on holiday – no matter what that may look like. Since the island opened in May 2019, our guests have said it's living up to its name. Perfect Day at CocoCay is already one of the top-rated destinations of our cruises to the Bahamas and Caribbean."

While the first to produce a new kind of private island destination, Royal Caribbean certainly won't be the last.

"Introducing a private destination that's a first of its kind in the cruise industry is the type of 'disruption' that moves an industry forward," he says. "Since we first revealed our plans for Perfect Day early in 2018, details about other cruise lines' private islands were also announced.

"CocoCay is an experience that's come to life exactly the way it was imagined. We offer unique, land-based attractions in the midst of a cruise experience. We're making waves by encouraging innovation and will attract more travellers to the cruise sector as a result." ●

UNDER DEVELOPMENT BAHAMAS

■ LIGHTHOUSE POINT

Disney Cruise Line

Disney has plans for an island destination set to rival Coco Cay.

Called Lighthouse Point, the property on Eleuthera will feature investment of up to US\$400m, with 4-5 ships expected to dock there each week.

The project has been scrutinised over possible environmental damage by a number of environmental organisations, but the local economic council voted to approve the deal in 2018, with Disney donating 0.76sq km (0.3sq m) of the 2.8sq km (1.1sq mi) property to be used as a national park.

■ THE BEACH CLUB AT BIMINI

Virgin Voyages

Sir Richard Branson's adults-only Virgin Voyages is taking a different approach to Coco Cay, with its highly anticipated Bimini Beach Club set to debut as the cruise line sets sail for its inaugural season in 2020.

Overlooking an expansive lagoon, Miami-based architects EOA have designed the new property, which places an emphasis on wellness in the days, with high energy in the evenings with pool and flotilla parties. The Beach Club has been designed to create a beach party atmosphere, replicating destinations such as Ibiza.

■ OCEAN CAY MARINE RESERVE

MSC Cruises

Around 65 miles from the coast of Miami, Florida, Ocean Cay offers seven beaches, each with its own atmosphere and a range of different experiences. Dining and spa treatments will also be available, while visitors can purchase local arts and crafts from its vendors. A 30m lighthouse doubles as a bar, with guests able to enjoy the views of the tropical island.

The island has an ecological focus and is surrounded by a 64sq mi (165sq km) marine reserve and four smaller cays. The first cruise to the island will set sail on 2 November.



TEA/AECOM THEME INDEX 2018

NEW HORIZONS

The TEA/AECOM Theme and Museum Index shows an outstanding year for theme parks, with the big players reaching a record 500 million visitors. With focused investment, new technology and tourism development, this only bodes well for the global attractions industry going forward



THEME PARKS

Marking a 5.4 per cent rise in global attendance across the world's top 10 theme park operators, 501.2 million people visited major theme parks across the globe in 2018, with the rise representing a visitor increase of 25.4 million visitors.

Now exceeding half-a-billion people, almost 7 per cent of the entire global population visited a theme park in 2018. An impressive figure in its own right, this statistic is even more astounding when coupled with the fact that five years ago the market capture for theme parks was 5 per cent. In those five years, attendance among the big players has risen by 124 million.

Of the top 10 operators, OCT Parks China had the largest visitor percentage increase compared to 2017, with a 15.1 per cent rise to 49.35 million visitors.

Disney remains king of the jungle, with its 157 million visitors for the year dwarfing second-placed Merlin, which welcomed 67

million visitors through 2018. Visitation at Disney increased by 4.9 per cent, while Merlin attendance rose by 1.5 per cent.

Disney's Magic Kingdom remains the world's most-attended theme park, with 20.86 million visitors marking a 2 per cent increase in attendance. Disney also occupies second through to fourth place on the list, with 11 of the top 25 theme parks in the world being Disney properties.

WATERPARKS

Attendance at major waterparks continues to grow, with nearly 31 million people visiting the top waterparks globally in 2018.

Waterpark attendance rose by 2.5 per cent last year, with 30.92 million people visiting one of the world's top 20 most attended waterparks.

Chimelong continues to be the most visited, with 2.74 million people coming through its gates in 2018 – a 1.9 per cent increase on a record-breaking 2017.

Much like its theme park division, Disney had a strong showing in the waterparks sector, with attendance rises of 5 per cent and 3 per cent respectively at Typhoon Lagoon and Blizzard Beach, with the two waterparks in Orlando, Florida, ranking second and third on the list with 2.27 million and 2 million visitors.

There were significant gains for three theme parks on the list – Volcano Bay, Theme Erding and Wuhu Fantawild. Volcano Bay in Orlando enjoyed the largest gains, with an additional 225,000 visitors enjoying the waterpark – a 15 per cent increase year-on-year to 1.725 million visitors. Germany's Thierpark Erding is Europe's most-visited waterpark, with a 13.6 per cent rise in visitors to 1.5 million people. Wuhu Fantawild in China also saw a major rise, with its 1.36 million visitors for the year representing a 13.3 per cent rise in guests.

Table 1: Theme Park Groups Worldwide

Rank & Group name	% Change	Attendance 2018	Attendance 2017
1 WALT DISNEY ATTRACTIONS	4.90%	157,311,000	150,014,000
2 MERLIN ENTERTAINMENTS GROUP	1.50%	67,000,000	66,000,000
3 UNIVERSAL PARKS AND RESORTS	1.20%	50,068,000	49,458,000
4 OCT PARKS CHINA	15.10%	49,350,000	42,880,000
5 FANTAWILD	9.30%	42,074,000	38,495,000
6 CHIMELONG GROUP	9.60%	34,007,000	31,031,000
7 SIX FLAGS INC.	5.30%	32,024,000	30,421,000
8 CEDAR FAIR ENTERTAINMENT COMPANY	0.70%	25,912,000	25,723,000
9 SEAWORLD PARKS & ENTERTAINMENT	8.80%	22,582,000	20,798,000
10 PARQUES REUNIDOS	1.50%	20,900,000	20,600,000
TOP 10 ATTENDANCE GROWTH 2017-18	5.4%	501,228,000	475,787,000

Source: TEA/AECOM 2018 Theme Index and Museum Index



More than 150 million people visited Disney's parks in 2018



The global report looks at the sector region by region

NOW EXCEEDING HALF-A-BILLION PEOPLE,
ALMOST 7 PER CENT OF THE ENTIRE GLOBAL
POPULATION VISITED A THEME PARK IN 2018



Disney After Hours is a special event featuring a villains stage show

North America and the EMEA regions showed particularly strong growth in attendance, with a 5.8 per cent increase in North America to 16.237 million visitors, while EMEA rose by 6.7 per cent to 10.275 million visitors.

MUSEUMS

Temporary exhibitions and geopolitical changes continue to serve as key attendance drivers for museums in Europe, which remains the global market leader for attendance in the sector.

According to the report, museum attendance globally is primarily being driven by temporary exhibitions, facility improvements or expansions, external market factors, and improvements to

Table 2: Top 20 Amusement/theme parks worldwide

Rank, Park & Location	% Change	Attendance 2018	Attendance 2017
1 MAGIC KINGDOM AT WALT DISNEY WORLD, LAKE BUENA VISTA, FL, U.S.	2.00%	20,859,000	20,450,000
2 DISNEYLAND PARK AT DISNEYLAND RESORT, ANAHEIM, CA, U.S.	2.00%	18,666,000	18,300,000
3 TOKYO DISNEYLAND AT TOKYO DISNEY RESORT, TOKYO, JAPAN	7.90%	17,907,000	16,600,000
4 TOKYO DISNEYSEA AT TOKYO DISNEY RESORT, TOKYO, JAPAN	8.50%	14,651,000	13,500,000
5 UNIVERSAL STUDIOS JAPAN, OSAKA, JAPAN	-4.30%	14,300,000	14,935,000
5 DISNEY'S ANIMAL KINGDOM THEME PARK, DISNEY WORLD RESORT, LAKE BUENA VISTA, U.S.	10.00%	13,750,000	12,500,000
7 EPCOT THEME PARK AT WALT DISNEY WORLD RESORT, LAKE BUENA VISTA, FL, U.S.	2.00%	12,444,000	12,200,000
8 SHANGHAI DISNEYLAND, SHANGHAI, CHINA	7.30%	11,800,000	11,000,000
9 DISNEY'S HOLLYWOOD STUDIOS AT WALT DISNEY WORLD RESORT, LAKE BUENA VISTA, FL, U.S.	5.00%	11,258,000	10,722,000
10 CHIMELONG OCEAN KINGDOM, HENGQIN, CHINA	10.60%	10,830,000	9,788,000
11 UNIVERSAL STUDIOS FLORIDA THEME PARK AT UNIVERSAL ORLANDO RESORT, FL, U.S.	5.00%	10,708,000	10,198,000
12 DISNEY CALIFORNIA ADVENTURE PARK AT DISNEYLAND RESORT, ANAHEIM, CA, U.S.	3.00%	9,861,000	9,574,000
13 DISNEYLAND PARK AT DISNEYLAND PARIS, MARNE-LA-VALLEE, FRANCE	1.90%	9,843,000	9,660,000
14 UNIVERSAL'S ISLANDS OF ADVENTURE THEME PARK, UNIVERSAL ORLANDO, FL, U.S.	2.50%	9,788,000	9,549,000
15 UNIVERSAL STUDIOS HOLLYWOOD, UNIVERSAL CITY, CA, U.S.	1.00%	9,147,000	9,056,000
16 HONG KONG DISNEYLAND, HONG KONG SAR	8.10%	6,700,000	6,200,000
17 LOTTE WORLD, SEOUL, SOUTH KOREA	-11.20%	5,960,000	6,714,000
18 NAGASHIMA SPA LAND, KUWANA, JAPAN	-0.20%	5,920,000	5,930,000
19 EVERLAND, GYEONGGI-DO, SOUTH KOREA	-7.30%	5,850,000	6,310,000
20 OCEAN PARK, HONG KONG SAR	0.00%	5,800,000	5,800,000
21 EUROPA PARK, RUST, GERMANY	0.40%	5,720,000	5,700,000
22 DE EFTELING, KAADSTHEUVEL, NETHERLANDS	4.20%	5,400,000	5,180,000
23 WALT DISNEY STUDIOS PARK AT DISNEYLAND PARIS, MARNE-LA-VALLEE, FRANCE	1.90%	5,298,000	5,200,000
24 TIVOLI GARDENS, COPENHAGEN, DENMARK	4.50%	4,850,000	4,640,000
25 CHIMELONG PARADISE, GUANGZHOU, CHINA	11.90%	4,680,000	4,181,000
TOP 25 TOTAL ATTENDANCE 2018		251,490,000	243,887,000
TOP 25 ATTENDANCE GROWTH 2017 - 18	3.3%	251,990,000	243,926,000

Source: TEA/AECOM 2018 Theme Index and Museum Index

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Chimelong continues to be the world's most visited waterpark

Table 3: Top 20 Waterparks Worldwide

Rank, Park & Location	% Change	Attendance 2018	Attendance 2017
1 CHIMELONG WATER PARK, GUANGZHOU, CHINA	1.90%	2,740,000	2,690,000
2 TYPHOON LAGOON WATER PARK, DISNEY WORLD RESORT, ORLANDO, FL, U.S.	5.00%	2,271,000	2,163,000
3 DISNEY'S BLIZZARD BEACH WATER PARK, DISNEY WORLD RESORT, ORLANDO, U.S.	3.00%	2,003,000	1,945,000
4 PARQUE AQUÁTICO THERMAS DOS LARANJAIS, OLIMPIA, BRAZIL	-1.80%	1,971,000	2,007,000
5 AQUAVENTURE ATLANTIS BAHAMAS WATERPARK, PARADISE ISLAND, BAHAMAS	0.00%	1,831,000	1,831,000
6 VOLCANO BAY WATER THEME PARK, UNIVERSAL ORLANDO RESORT, ORLANDO, US	15%	1,725,000	1,500,000
7 AQUATICA ORLANDO, ORLANDO, FL, U.S.	8.50%	1,556,000	1,434,000
8 THERME ERDING, ERDING, GERMANY	13.60%	1,500,000	1,320,000
9 HOT PARK RIO QUENTE, CALDAS NOVAS, BRAZIL	-3.20%	1,433,000	1,481,000
10 AQUAVENTURE WATER PARK, DUBAI, U.A.E.	3.50%	1,397,000	1,350,000
11 WUHU FANTAWILD WATER PARK, WUHU, CHINA	13.30%	1,360,000	1,200,000
12 KAIFENG YINJI WATER PARK, KAIFENG, CHINA	3.80%	1,350,000	1,300,000
13 SUNWAY LAGOON, KUALA LUMPUR, MALAYSIA	0.00%	1,300,000	1,300,000
14 AQUAPALACE, PRAGUE, CZECH REPUBLIC	6.00%	1,288,000	1,215,000
15 OCEAN WORLD, GANGWON-DO, SOUTH KOREA	-5%	1,264,000	1,330,000
16 SIAM PARK, SANTA CRUZ DE TENERIFE, SPAIN	0.10%	1,210,000	1,209,000
17 CARIBBEAN BAY, GYEONGGI-DO, SOUTH KOREA	-13%	1,200,000	1,380,000
18 SHENYANG ROYAL OCEAN PARK – WATER WORLD, FUSHUN, CHINA	0.00%	1,200,000	1,200,000
19 TROPICAL ISLANDS, KRAUSNICK, GERMANY	2.70%	1,200,000	1,168,000
20 WET 'N' WILD GOLD COAST, GOLD COAST, AUSTRALIA	-5.10%	1,120,000	1,180,000
TOP 20 ATTENDANCE GROWTH 2018		30,919,000	30,203,000
TOP 20 ATTENDANCE GROWTH 2017-18	2.5%	30,919,000	30,155,000

Source: TEA/AECOM 2018 Theme Index and Museum Index

► competitive museums in the same market, with social media and special events now also starting to have an impact.

The Louvre in Paris, which was already the world's top-attended museum, had a record-breaking year with 10.2 million visitors in 2018. The result is a significant increase on its previous attendance record reported in 2012 when the institution welcomed 9.7 million visitors. The attendance figures are particularly substantial for the Louvre and Paris, with the result representing a recovery from the museum's 30 per cent downturn in 2017, a drop largely attributed to a plunge in tourism volumes during a time of unrest in the French capital.

The Natural History Museum in London also enjoyed a record year, with an attendance surge of 17.8 per cent to 5.2 million visitors. According to the report, attendance was driven by the opening of the museum's re-imagined main gallery – Hintze Hall – which features “Hope”, a 25-metre-long blue whale skeleton suspended from the ceiling. Other attendance boosters came from collaboration on events and products with leading IP such as Dippy the Dinosaur, the Roald Dahl Story Company and Lego. The museum also introduced a new 357-seat traditional performance theatre. ►

ANALYSIS

Table 4: Top 20 Museums Worldwide

Rank, Park & Location	% Change	Attendance 2017	Attendance 2016
1 LOUVRE, PARIS, FRANCE	25.90%	10,200,000	8,100,000
2 NATIONAL MUSEUM OF CHINA, BEIJING, CHINA	6.80%	8,610,000	8,063,000
3 THE METROPOLITAN MUSEUM OF ART, NEW YORK, NY, U.S.	5.10%	7,360,000	7,000,000
4 VATICAN MUSEUMS, VATICAN, VATICAN CITY	5.10%	6,756,000	6,427,000
5 NATIONAL AIR AND SPACE MUSEUM, WASHINGTON, DC, U.S.	-11.40%	6,200,000	7,000,000
6 BRITISH MUSEUM, LONDON, U.K.	3.80%	5,869,000	5,656,000
7 TATE MODERN, LONDON, U.K.	-1.30%	5,829,000	5,907,000
8 NATIONAL GALLERY, LONDON, U.K.	9.70%	5,736,000	5,229,000
9 NATURAL HISTORY MUSEUM, LONDON, U.K.	17.80%	5,226,000	4,435,000
10 AMERICAN MUSEUM OF NATURAL HISTORY, NEW YORK, NY, U.S.	0.00%	5,000,000	5,000,000
11 NATIONAL MUSEUM OF NATURAL HISTORY, WASHINGTON, DC, U.S.	-20.00%	4,800,000	6,000,000
12 NATIONAL GALLERY OF ART, WASHINGTON, DC, U.S.	-15.80%	4,404,000	5,232,000
13 CHINA SCIENCE TECHNOLOGY MUSEUM, BEIJING, CHINA	10.50%	4,400,000	3,983,000
14 STATE HERMITAGE, ST PETERSBURG, RUSSIA	1.80%	4,294,000	4,220,000
15 ZHEJIANG MUSEUM, HANGZHOU, CHINA	14.40%	4,200,000	3,670,000
16 VICTORIA & ALBERT MUSEUM, LONDON, U.K.	4.70%	3,968,000	3,790,000
17 REINA SOFIA, MADRID, SPAIN	0.00%	3,898,000	3,897,000
18 NATIONAL PALACE MUSEUM (TAIWAN), TAIPEI, TAIWAN	-13.00%	3,860,000	4,436,000
19 NATIONAL MUSEUM OF AMERICAN HISTORY, WASHINGTON, DC, U.S.	0.00%	3,800,000	3,800,000
20 NANJING MUSEUM, NANJING, CHINA	11.20%	3,670,000	3,300,000
TOP 25 ATTENDANCE GROWTH 2018		108,080,000	105,145,000
TOP 25 ATTENDANCE GROWTH 2017-18	0.2%	108,080,000	107,967,000

Source: TEA/AECOM 2018 Theme Index and Museum Index



The National Air and Space Museum was severely affected by the US government shutdown in 2018



TEMPORARY EXHIBITIONS AND GEOPOLITICAL CHANGES CONTINUE TO SERVE AS KEY ATTENDANCE DRIVERS FOR MUSEUMS IN EUROPE



► The Metropolitan Museum of Art in New York is North America's most visited museum, with an attendance rise of 5.1 per cent to 7.36 million visitors, taking the top spot for itself after drawing equal attendance in 2017 with Washington DC's National Air and Space Museum,

which experienced a significant decline primarily attributed to the month-long US government shutdown at the end of 2018, which majorly-affected the Smithsonian collection of museums.

Attendance for the top 20 museums worldwide was relatively flat, with 108.1

million combined visitors – an increase of 0.1 per cent on the previous year's figures.

OBSERVATION EXPERIENCES

For the first time in the report's history, the top 20 observation experiences worldwide have been tabled, with Tokyo's Skytree the most attended at 6.4 million visitors.

The London Eye – third on the list – ranks as the most-visited wheel experience. Part of the Merlin cluster of attractions on the British capital's South Bank, 3.9 million people took a ride on the attraction during the year.

For multi-use properties, New York's Empire State Building ranks top, with 3.805 million visitors taking in the iconic structure's views.

In Rio, Brazil, Christ the Redeemer is the only monument to make the top 20, with the world wonder welcoming 2.2 million visitors in 2018. Also in Rio, the Sugarloaf Cable Car – which moves between Praia Vermelha and the Sugarloaf Mountain – is the only designated ride to make the list, coming in 20th with 1.249 million riders. ►



London's Natural History Museum enjoyed a record year in attendance

PHOTO: SHUTTERSTOCK / BYBBA PHOTOGRAPHY

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JOHN ROBINETT

Senior vice president, economics, AECOM

What are the general trends you've seen coming out of this year's report?

I would say simultaneous globalisation and specialisation. The two trends are running parallel. Global operators are expanding aggressively through development and acquisition and are overlaying intellectual properties to supercharge their attendance. At the same time specialise attractions, such as observation attractions, pop up and immersive experiences, and indoor entertainment centres, are pioneering the mid-scale, mid-capital realm.

Theme parks continue to thrive. Why is this?

The biggest growth is IP-driven. Innovative experiences, rides and programming are also important drivers. The big players are in a position to command big IPs. They have full awareness of the power of these franchises and to what good, creative use of IP in a storytelling environment – using immersive technology – enables them to do.

What effect is Disney having on theme park attendance worldwide?

Disney accounts for almost a third of the attendance in the business, far above the nearest competitor. So they have a significant impact on the industry. They are masters of the IP conversion, drawing from an ever-increasing media library of potent



Robinett has over 30 years of experience in planning and development projects

action films. This, combined with their deep pockets and design excellence, has enabled them to drive attendance even at high price points in mature markets.

How is the waterpark sector faring?

Waterparks are one of the strong growth sectors of the business. The barriers to entry are lower than for theme parks. Modest development cost and price points enable them to go into smaller and lower-income markets than the larger attractions, and there are lots of hot places where people need to cool off!

When it comes to museums, what are the key points?

Museums are innovating and re-creating themselves, striving to stay relevant in an entertainment-saturated world, while staying true to their educational mission.

What do the observation experience results tell us?

Observation experiences run on healthy margins. So from an operational perspective, they are very enticing. However, the secret is to balance their income with, what can be substantial, development costs. Also, some markets are reaching the point of saturation where additional observation experiences will start eating into their competitors' business.

How are IPs driving attendance growth in North America?

The large operators and their mega media IPs are having a substantial impact on attendance, particularly where the big investment backs big IPs.

Why is attendance increasing in Latin America?

Like in many developing countries, a growing middle class has helped to make attractions more affordable, also the quality of the product has increased notably. Brian Sands in his article in the Index points out that Latin American operators are adept at catering to the specific and unique needs of their regional markets.

Despite heavy investment in the region, no Middle East theme parks made the top 20. Why is this?

While a lot of investment has occurred, it is all relatively new and it will take some time to grow into the markets, which are, at the end of the day, fairly modest in size. Jodie Lock goes into the details of this in our EMEA section in the Index.

What do you expect to see in next year's report?

More fun in more places. ●



IP and storytelling are two major drivers for theme park attendance



Z-MAX

Z- MAX

The full column rotation of the Z-MAX Tower provides thrill-seekers a sprawling visual perspective of the lands surrounding it while reaching heights of 56, 68, and 80m (183, 223, 262ft). Combining those stunning visuals with unique shoot and bounce movements represents another winning attraction!

THE BIG BANG

Universal is creating a whole new universe – an Epic Universe – revealing its plans for the single-largest theme park investment in its history



(Left to right) Tom Williams, Ron DeSantis, Jerry Demings and Brian Roberts

It's been rumoured for some time, but Universal has finally confirmed plans for a fourth gate in Orlando, officially unveiling its multi-billion-dollar Epic Universe theme park plan.

Announced at an official event at the Orange County Convention Center in Orlando, Epic Universe will be the latest addition to Florida's lucrative theme park sector and has been touted as "an entirely new level of experience that forever changes theme park entertainment."

"Our new park represents the single-largest investment Comcast has made in its theme park business and in Florida overall," said Brian Roberts, Comcast chair and CEO. "It reflects the tremendous excitement we have for the future of our theme park business and for our entire company's future in Florida."

While no specific details have been revealed about what IPs will feature (Nintendo is heavily rumoured to be included), Universal did confirm that the 3sq km (1.2sq mi) site will feature an entertainment centre, hotels, shops, restaurants and more. The development will nearly double Universal's total available space in central Florida.



The multi-billion dollar Epic Universe represents the largest ever theme park investment in all of Florida

When we label something as epic, we want that experience to live up to the promise that the word makes. Universal's Epic Universe will offer an entirely new level of experiences that will forever redefine theme park entertainment

"Epic is a word that gets tossed around a lot in today's day and age," said Mark Woodbury vice chair at, Universal Parks and Resorts and President of Universal Creative. "When we label something as epic, we want that experience to live up to the promise that the word makes."

"Universal's Epic Universe will offer an entirely new level of experiences that will forever redefine theme park entertainment. Guests will venture beyond their wildest imagination, travelling into beloved stories and through vibrant lands, with the journey as astounding as the destination."

Theme park design

"Our vision for Epic Universe is historic," said Tom Williams, chair and CEO for Universal Parks and Resorts. "A Universe is bigger than a World and it will build on everything we have done and become the most immersive and innovative theme park



The new site in Orlando sits to the south of Universal Studios and Islands of Adventure

we have ever created. It's an investment in our business, our industry, our team members and our community."

With Universal promising to change the game when it comes to immersive experiences with the new park, its design is the most important element. When asked about the process, Williams explained the company's approach: "There are three key ingredients," he said.

"The first is the environment, which hopefully people are familiar with. They want to be immersed in a world that they have become very affectionate with through books, movies and TV shows. They know it well and they want to be immersed in it."

"The second ingredient is characters. In this environment, there are characters hopefully that people of all ages and genders can identify with. We want our visitors to be part of this world along with the characters they love."



Nintendo is heavily rumored to be a part of Epic Universe

Epic Universe will bring a new level of entertainment and innovation to one of the state of Florida's most important industries

► “The final piece of the puzzle is storytelling. We want to tell a story in these worlds in new and different ways.”

Technology is also a key part of the design process, with the right technology in the right place taking an immersive experience and raising it up a level:

“We want to take it to a whole other level but we don’t do technology just for the sake of technology,” said Williams. “If technologies offer us an opportunity to tell a story in a way that really sucks you into a world and makes you feel like you’re part of it, that’s when we use it.”

“It’s about telling the story in the most effective way. You can see this as an example in the way we delivered Harry Potter and the Forbidden Journey or our brand new Hagrid ride” (see p90).

Laying the mousetrap

Joining Universal Studios Orlando, Islands of Adventure and Volcano Bay, a fourth Universal property will offer increased competition in Florida to Disney, which operates four theme parks, two waterparks and Disney Springs in the Orlando area.

To support longer stays and to draw a larger share of the 75 million people that

visit Orlando each year, Universal has significantly grown the hotel side of its business in Orlando, with the launch of its Aventura hotel on 16 August bringing its total rooms in Orlando up to 6,000 – two-and-a-half times more than just five years ago. Another hotel development from Universal opened in early July and another is set for March 2020, bringing total room count for Universal in Orlando to 9,000.

Improving Orlando

In addition to investment into the new park, Orange County mayor Jerry Demings revealed Universal would also be investing US\$160m in a 50/50 public-private partnership to extend Kirkman Road into the area where the new park will be located. Universal is also working to protect the wetlands on the property, which includes the Shingle Creek watershed connected to the Florida Everglades.

“The investment Universal is making in our community and the benefit all of us will see is substantial, benefitting nearly every segment of our economy – from tourism to high-tech,” he said. “The Kirkman extension will improve transportation through a busy and growing portion of our county

and open up the entire area for additional development – including an important expansion of our convention centre.”

Such a major investment is projected to have a huge effect on Orlando and the wider Florida economy, with the construction of the new park alone expected to contribute a total of US\$11.5bn in direct and indirect economic benefit.

At present, Universal contributes more than US\$302m in annual state and local taxes. This number will nearly double when the new park opens. Universal will also hire an additional 14,000 people, adding to the 25,000 it already employs in Florida.

“Epic Universe will bring a new level of entertainment and innovation to one of our state’s most important industries,” said Ron DeSantis, Florida’s governor.

“We look forward to Universal’s continued contribution to our state’s economic growth and development and we’re especially grateful for its partnership in improving Shingle Creek, which plays a critical role in serving the Everglades.”

Work has started on the development, with ground having already been broken. Universal is yet to reveal a timeline for the park’s opening. ●

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THE SHOW MUST GO ON

Public distaste for performing animals is spearheading change in the circus industry. German entertainer, Circus-Theater Roncalli, has embraced the zeitgeist and is leading the way, with a contemporary show featuring holograms instead of animals.

Kath Hudson reports

Spectral horses cantering in graceful circles, a giant goldfish hovering above the arena and an elephant doing a handstand have replaced dancing dogs and horses at Roncalli Circus.

The circus, founded in 1976 by Bernhard Paul, has invested some £400,000 (US\$500,000) in a holographic show, which was inspired by a performance at the 2018 Superbowl.

"Transporting animals on congested highways is an anachronism and not necessary," says Paul. "Many cities had invited us, but they also had no space for animals. I had the wish to make something new at the circus and when I saw Justin Timberlake performing with a hologram

of Prince during the Superbowl, I was so impressed with the technology that I wanted to have a go.

Not only would the idea offer a spectacular new draw for the circus, but it would completely change the way the business operated, doing away with live animals in exchange for holograms.

"Times change and so do opinions – the audience is our boss and when you feel the audience does not approve of something then you have to change it," says Paul. "As a circus director you have to listen to the audience, but also to your heart and to trust your own gut. I was sure and focused on giving our audience something new."

Public approval


Since 2016, Paul had been experimenting with other forms of entertainment, using the circus in a more poetic and modern way, using, for example, puppets and costumes for a very convincing polar bear routine.

To bring the holographic dream to fruition, he hired in the expertise of Markus Strobl as Circus Roncalli's chief digital officer and chief communication officer, to lead on the holographic project. Fifteen 3D software engineers spent two years creating the new show, *Storyteller*, which was premiered in Cologne, in March 2018, using Optoma laser projectors.

The first circus in the world to use holographic animals, it's a 360 degree, 3D show which has been received with positivity and excitement. To reflect the fact ▶



Bernhard Paul founded Roncalli Circus in 1976



Since 2018, the show has featured no live animals, turning instead to holographic projections



HOLOGRAM TECHNOLOGY

blueBOX, which has a background in blending holography and mixed reality, was in charge of developing Circus Roncalli's holographic ring, in cooperation with creative agency, Tag/Traum. It was a challenge to create a hologram with such enormous dimensions – 32m (105ft) by 5m (16.4ft) – with 360-degree visibility for the audience.

Eleven ZU850 laser projectors from Optoma were used, which boast superior colour performance and 360-degree projection capability, these were coupled with innovative MultiColor laser technology to create the experience.

"We needed a high contrast projector with great colours for the 3D effect and ZU850's 2,000,000:1 contrast is perfect for this project," says Birger Wunderlich from Bluebox. "We have been using Optoma projectors for six years and have consistently had a very positive experience in price, performance and reliability."

► that it's now less of a circus and more of a spectacle aligned with theatres, and so it's been rebranded to Circus-Theater Roncalli.

"After the announcement not to use any animals at our shows we received more than 20,000 emails and letters from all over the world, with 95 per cent positive feedback," says Paul. "The holographic show went viral on social media and received media coverage in 40 countries. In one year, the show had more than 600,000 visitors."

Animal free

Wild animals were only briefly used at Circus Roncalli, although horses and dogs played a large part for 30 years. However, Paul says that the show was always more focused on other acts. In a 2018 visitor survey, horses were bottom of the list of attractions, with only 2.7 per cent saying



Holograms offer visual experiences circus-goers of the past would not have been able to see

"WE STILL HAVE MANY IDEAS. WE WANT TO LEAD THE WAY OUTSIDE OF THE RING. FOR EXAMPLE, BEING THE FIRST CIRCUS TO GO PLASTIC-FREE"



The show stars a variety of real-life clowns and artists who incorporate the holographic animals into their performances

that is what they expected from a Roncalli show. Most popular were the clowns, followed by acrobats, poetic acts, nostalgic and historic circus wagons and live music.

According to Paul, money had nothing to do with the decision to stop using animals, however, it looks to have been a commercial success as well. After a hefty initial investment, the new technology means the circus is far more mobile and has greater flexibility to go to more locations, meaning it tours more widely.

There's also no longer animal upkeep to consider and the move has been hailed as a PR and social media triumph, which has led to global recognition and a boom in ticket sales.

The show will need to keep evolving to keep audiences interested, and the team will be continuing to look for new ways to use holography. Also continuing investment has to be made to make sure the technology is up to scratch with no glitches: "We're the pioneers and we still have many ideas," says Paul. "We want to lead the way outside of the ring. For example, being the first circus to go plastic-free."

Other applications?

Following this groundbreaking application of hologram technology, it will be interesting to see if the attractions industry will make greater use of the potential it offers.

For example, aquariums could use it to recreate the magic of sharks and whales, while museums could use it to bring giant predators or dinosaurs back to life.

Martin Zordan, interim CEO of WAZA says that while it's not the same as

CHANGING CIRCUSES

According to PETA – which has campaigned against using animals in circuses for many years – public demand for animal-free shows continues to grow, leading to more circuses moving towards animal-free productions.

Over the last 20 years, stricter regulation and changing public sentiment means that performing animals are becoming a thing of the past: 94 per cent of UK people supported a ban, which is already in place in 26 countries.

In May, the UK government announced the Wild Animals in Circuses Bill, which will make it illegal for circus operators in England to use wild animals from January 2020. Then environment secretary, Michael Gove, said: "Travelling circuses are no place for wild animals in the 21st century and I am pleased that this legislation will put an end to this practice for good."

seeing a real animal, VR technologies can offer a new and exciting way to engage audiences: "VR can also enhance the visitor experience by being a new way of engaging visitors with animals and conservation education and offering a more immersive experience," he explains.

"As technologies evolve, zoos and aquariums can use tech to bring people closer to the animals, as well as to show the audience things they would not normally see, such as behind-the-scenes care which takes place at zoos and aquariums, or a view of the animal's wild habitat." ●

Circus Roncalli says its focus is on clowns, acrobats and poetic acts



Tedli Asher, PhD,
is a neuroscience
researcher for
the Peabody
Essex Museum



BRAIN POWER

Two years ago Peabody Essex Museum made a groundbreaking move by appointing a neuroscientist to inform the way it displays art. Dr Tedi Asher speaks to Kath Hudson about what her research into gallery audiences has uncovered...

Always on the lookout for new ways to display artwork from across the globe, the Salem-based Peabody Essex Museum in Massachusetts, US, has been exploring neuroscience over the last few years.

Museum CEO, Dan Monroe, came up with the idea initially, based on the reasoning that if all experiences are a product of our brains, then a better understanding of them would allow them to create more compelling experiences in the gallery.

This led to the museum delving into the world of neuroscience and experimenting with new, and surprising, ways of increasing visitor engagement. For example, strong smelling jars of spices were used to complement the exhibition *Asia in Amsterdam: The Culture of Luxury in the Golden Age* in 2016, to stimulate the senses as an unexpected experience through smell has been shown to boost the brain. The exhibition explored how new trade routes between Asia and the Netherlands, in the 17th century impacted the art, and spices would have been commonly been traded alongside.

Landmark appointment

Later the same year, a generous grant from The Barr Foundation allowed PEM to truly commit to the concept and appoint the first neuroscientist based at an art gallery.

Dr Tedi Asher joined in 2017, having just completed a PhD in Biological and Biomedical Sciences, at Harvard Medical School. Asher was looking for an opportunity to communicate science to non-scientists in a creative way.

"The role offered the opportunity to explore a whole different world," says Asher. "The larger idea behind the initiative is to allow neuroscience to inform many different aspects of the museum – how we market ourselves, the shop layout, wayfinding and so on, but the starting point was the exhibition design, so I was tasked to look into a few really broad topics, like emotion and memory."



© 2018 PEABODY ESSEX MUSEUM



Neuroscience is teaching the Peabody Essex Museum how its visitors are engaging with its exhibits

After diving into the existing literature, Asher concluded that PEM needed to carry out its own research and designed a study which could monitor attention, emotion and memory. Gaze tracking glasses were used to see where the respondents were looking; galvanic skin response – which measures sweat produced – was used for a biometric measurement of emotional intensity and exit surveys assessed memories.

"To establish what engages audiences, we borrowed Dr Carl Marci's definition of engagement," says Asher. "Engagement

occurs when attention is directed in a way that elicits an emotional response, which leads to the formation of a memory."

Proving theories

The hypothesis of the first study was to establish whether viewing goals help gallery audiences to engage.

"It's been shown repeatedly that the purpose with which you look at an image impacts how you move your eyes over it and therefore has the potential to impact your engagement," says Asher.



The initiative explores how museums present art and how that aligns with the way our brains work



© 2018 PEARCE & PEARCE

Asher is trying to establish how exhibitions should be optimally laid out, with the most interesting artwork at the beginning, when people are fresh, or at the end to sustain their attention

► The experiment was made up of four groups. One was tasked to look for something visual in the painting. Another group received judgment prompts asking them a question, such as if they were moved by the artwork. A third group received a historical fact as a prompt and the fourth were not given any prompts.

Fourteen volunteers were given viewing glasses and the galvanic skin response monitors and sent to look around a three-gallery exhibition, which had nine pieces of art relating to the experiment.

The research found that people who received a judgment prompt spent longer looking and had a more intense emotional experience than the people with the other prompts, or no prompt at all.

"This supported our hypothesis that the judgment prompt would be the most effective kind of prompt in facilitating engagement, because of the brain regions which are active when we have an emotionally moving aesthetic experience," says Asher. "Previous research has found that when people are moved by a piece of artwork their default mode network is 'de-repressed'. This network is active when people think introspectively, but suppressed when involved with external tasks. We attempted to induce this introspection using judgment prompts, which asked participants to relate themselves to the work of art they viewed. Based on

the results of this study, it appears that although prompts may not be essential for engagement, they do help to facilitate it."

Power of prompts

The research also measured how fast people moved through the three galleries, finding that they doubled their pace in the last one, from 60 feet per minute to almost 120. "This is consistent with other data which has shown that attention and dwell time decrease over the course of an exhibition," says Asher. "However, an interesting breakdown of the data showed that those who received the prompts

moved much more slowly through the galleries than those who didn't."

"This wasn't simply down to having to read the prompts – which only took up about 25 per cent of the time difference between the two groups – so there must have been something else going on, either cognitively or emotionally."

Now Asher is trying to establish how exhibitions should be optimally laid out – with the most interesting artwork at the beginning, when people are fresh, or at the end to sustain their attention.

During the exit survey, participants were asked to rate their experience in terms of enjoyment and emotion. When it came to enjoyment, the data showed there was no difference across the cohort whether they had a prompt or not, but the emotional experience threw up some interesting data.

"People in the no prompt group perceived themselves as having a more intense emotional experience than any of the prompted groups. But, this is the opposite of what the biometric data showed us," says Asher.

"Our data showed that people who were prompted, and particularly those who received a judgment prompt, spent longer and had a more emotionally intense experience relative to the no prompt group and yet the no prompt group perceived they were having a more emotional experience."



One of the largest private foundations in New England. Based in Boston, The Barr Foundation has assets of US\$1.6bn and has contributed more than \$834m to charitable causes since 1999. It works in partnership with non-profits, foundations, the public sector and civic and business leaders to elevate the arts and creative expression, advance solutions for climate changes and connect students to success in high school and beyond.



Neuroscientific study helps to inform exhibition design strategy at PEM

The reason behind this has yet to be determined: "One explanation is that the ratings might not be that accurate, because generally we are not practised at rating our level of emotional arousal. Another reason is that maybe having to flick through the packet and search for a prompt each time they stepped up to a piece of art might have dampened the intensity of emotional response."

Repeating research

Asher still has the results of another study – carried out last year – to review, so maybe this will give some further answers. A third study is also scheduled for the summer, with an expanded toolkit to include eye tracking glasses which show exactly where participants are looking, not just their field of view, as with the gaze tracking approach which we have used up until now.

"We're hoping to use that technology to understand how people are using labels – do they read them all the way through, or part way and then look at the art and return to the labels, or stop reading. There are many different permutations," says Asher.

The museum is also gearing up to start implementing the neuroscience findings in the context of an exhibition. "This research will incrementally start to inform how we design exhibitions. We're at the beginning of that process, but it will snowball," says Asher. "Not every label should have

Dr Tedi Asher's research highlights:

- Judgment prompts, such as 'how does this piece of art make you feel?' encourage greater engagement, as well as a more emotional response.
- People take longer looking at pieces of art when they receive prompts.
- Respondents who were prompted rated themselves as having a less emotional response than those without prompts.

Upcoming research will focus on:

- How to use prompts for optimal impact, including slowing people down
- How people use labels when looking at artwork.

a judgement prompt, but they could be incorporated into gallery text at key points, where we want the audience to pause and engage in an emotionally intense way with a piece of work and could be used as a strategy to encourage slow looking."

The art of interpretation

PEM will continue doing more and more research, which will be shared with the public and the museum community via a new website. Asher also hopes that more

scientists will come into and help grow this field, which is very different from working in a laboratory.

"One of the challenges for me, as a scientist, was that I was trained to interpret data very strictly, but in this role, I'm finding there is an art to interpreting the data. It requires some imagination and extrapolation about what a particular finding could mean in the context of an art exhibition, and it's taken a while to develop that mental framework," she says.

Monroe is confident PEM's latest direction and Asher's work will benefit both the museum and the wider sector. "PEM is committed to creating transformational and deeply impactful experiences of art, culture and other forms of creative expression," he says. "We're very excited to be the first art museum to employ a full-time neuroscientist as a means to help develop ways of designing experiences which are highly meaningful and relevant to visitors.

"Dr Asher's unique perspective and deep insight will enable us to make the process of art exploration and discovery especially rewarding, stimulating and fun. We also believe our groundbreaking collaboration with her may benefit the museum community at large." ●

THE FUTURE OF GUEST EXPERIENCES: *this time, it's personal*

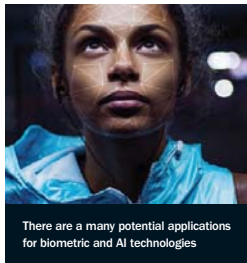
The future of attractions are always evolving but what do AI, machine learning and neural networks have to do with it? Experience designers Holovis are pioneering developments that not only extend and enhance the guest experience but that will also become imperative to safety, park performance and operations.

“**T**he desire for personalisation and unique guest experiences that drive ride and park repeatability have been at the top of the requirements list over the last few years,” says

Peter Cliff, creative director at Holovis.

“The evolution of real-time media and enhanced interactivity techniques have allowed guests to customise their experience, but we’re taking things one step further and achieving true personalisation where guests are in control and the same experience is never repeated twice.”

To deliver this, Holovis has developed a proprietary software ecosystem that connects all elements of a themed entertainment space to streamline operations, transform security and safety protocols and provide deeply personalised, intelligent entertainment experiences.



There are many potential applications for biometric and AI technologies

“Our interactive attractions are evolving to become much more intelligent by using advanced tracking technologies including our biometric and AI platforms. We take the techniques currently being developed by our data scientists and software teams for our enterprise and simulation divisions and apply them to create next-generation themed entertainment solutions that are pushing the boundaries,” explains Cliff.

New technologies

Holovis has developed a suite of software modules that leverage advanced computer vision and tracking technologies. These are fronted through the provision of guest experiences with personalised content that enhances their journey but also produce powerful data analytic visualisations and insights into park dynamics and operations on the backend.

The biometric tracking works by picking up attributes of the guest from their physical appearance and linking them to a user profile. The user is completely anonymised during this process, no data about an individual is saved and nothing can be reverse-engineered that could compromise personal information.

“We’ve prioritised the development of several different methods of tracking



Peter Cliff is creative director at Holovis



guests around a space that remove the complete reliance of a second screen, such as a mobile phone, digital signage networks or virtual reality,” says Cliff.

“Users are identified through a powerful attribute recognition engine, which drives guest experience through personalised outputs. These include gesture recognition, where the power is in the hands of guests to alter their surroundings without needing any other devices or technologies, just natural human interaction.

“They could, for example, cast a spell, make lights come on inside a building or make water come out of a fountain. When combined with the facial recognition, a user can’t perform that action until they have unlocked that power, so someone else can copy the gesture but it may not work for them if they haven’t also unlocked the feature. This adds to the illusion of magic.



Holovis uses gesture recognition for Justice League A Call For Heroes at Madame Tussauds attractions in Orlando and Sydney

Users are identified through a powerful attribute recognition engine,
which drives guest experience through personalised outputs

"The great thing about attribute recognition is it removes barriers to entry. Costly props enhanced with RFID are no longer the only way to take part.

"It's the object recognition module that allows guests to bring props into the narrative. Machine learning is used to identify common objects or those that can be purchased in gift shops and when detected incorporate them into the user's specific story. These can be standard items that don't need to be enhanced with any technological systems."

These tools can be utilised across a whole park or at a family entertainment centre, just in one themed zone, as part of the in-ride experience to personalise media scenes and in passive areas such as queue lines to elevate boredom.

Behind the scenes, the guest experience is a user-friendly face for what is actually a system that will become critical to park security and operations.

Spatial awareness

This real-time tracking intelligence of the way in which people are moving around the space combines with simulation data to deliver extensive insights into operations and security. This gives an accurate picture of proceedings and operators can choose to act on these for reasons such as improving the flow of guests, alleviating congestion and emergency situations.

When combined with the machine learning, analysis of the way guests typically move around a space, this identifies how crowds would move, should

disasters occur and how emergency response teams should function. When a new ride is added, a simulation can be run to see in real-time how this will affect the way in which people are moving around the space.

"Just as Machine Learning and AI are changing other industries, such as manufacturing, healthcare, finance and retail, they are also set to have just as great an impact on themed entertainment," says Cliff. "This goes much further than simply contributing to guest entertainment – a whole ecosystem can be designed around these tracking technologies that keep guests safe by delivering extensive insights into park operations and security. We're very excited to see these transformations occur."

CATCHING Butterflies



Dollywood
has unveiled
Wildwood
Grove, its

largest expansion ever.

Jane Kitchen visits the
US theme park to see
what it's all about...

Pigeon Forge, Tennessee – a once small town nestled in the US's Smoky Mountains – is a family-friendly leisure destination in and of itself. Its main street feels like a mini-Las Vegas for families – bright lights and signs advertising everything from bumper cars to treetop adventures and dinner theatres strangely themed around family feuds.

The town itself has about 6,200 permanent residents, but visitors boost the daily population to more than 50,000 – a fact that made itself abundantly clear in the amount of car traffic on the town's roads.

A gateway city to the nearby Smoky Mountains National Park, the area has exploded in recent years, due in large part to the popularity of Dollywood – a theme

park named after country singer Dolly Parton. It's wholesome American fun – the kind many families return to every year – and is particularly attractive to the millions of Americans who are within a day's drive.

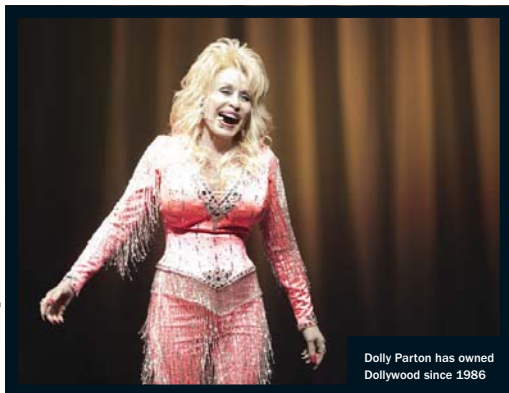
The Dollywood effect

Dollywood, which first opened in 1986, and hosts around 2.5m visitors annually, is Tennessee's number one ticketed attraction, so it's a big deal when a park of this nature opens its biggest expansion yet.

At US\$37m, Wildwood Grove represents Dollywood's largest-ever investment and is the first new area to be added to the park in more than a decade. The expansion has been inspired by Parton's childhood memories of growing up in the Smoky Mountains of Tennessee and features 11 new family-friendly experiences themed around wildlife and nature.

"When I was a little girl growing up in the hills of the Smoky Mountains, I'd often let my imagination just run away — something I still do now — dreaming these big dreams about what it'd be like to venture off with a family of bears into the woods or how fun it would be to hitch a ride with the butterflies and dragonflies," says Parton.

"All us kids would splash and play in the



Dolly Parton has owned
Dollywood since 1986





At US\$ 37m, Wildwood Grove represents Dollywood's largest-ever investment and is the first new area to be added to the park in more than a decade

The Vekoma-designed Dragonflyer mimics the flight of a Smoky Mountain dragonfly



► creeks and ponds around home and have these daydreams about the world around us, and that's what's so special about Wildwood Grove. We've been able to create a new area to allow families to experience those dreams we had when we were little."

The area neatly attaches to the existing park, and its themes slot in nicely with other Smoky Mountain-themed areas focusing on mining adventures and eagle rehabilitation. Park officials call it "the new standard for Dollywood," and president Craig Ross said the expansion will help make room for guests as the park continues to set new attendance records.

Magical design

Nearly US\$1m has been invested in Wildwood Grove's landscaping, with more than 400 trees and 2,300 shrubs creating a natural atmosphere, including plants like butterfly bushes, echinacea and black-eyed Susans that attract butterflies. The landscaping still feels quite new, but will become lush in just a few seasons. The theming is solid, with details like butterfly-shaped pretzels and a Wildwood Creek area, which offers pop jets and splashing pools, as well as the central Wildwood Tree, which includes 650 lighted butterflies that come to life each evening. Music is central to Dolly Parton and to Dollywood, with areas set aside for children to play "instruments" and piped in regional fiddle music helping to lift the atmosphere.

Rides are designed for the whole family, with a nice range of tame rides for the littlest children, including Black Bear Trail, a Metallbau Emmeln Pony Trek ride, and the Frogs & Fireflies, a hopping ride that races around a lily pad from Zamperla Jump



Accompanied by her husband and two children, Attractions Management's Jane Kitchen tried out the new expansion

While Wildwood Grove offers plenty for little kids, my two older ones didn't feel out of place and still had plenty to ride

Around. Stepping it up a notch, the Treetop Tower from Zamperla Samba Tower sits riders in giant acorns that spin around an oak tree before gently drifting back down.

The visitor experience

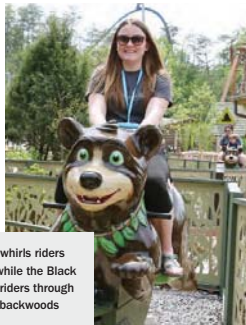
I visited with my husband and two children, aged 12 and 13. While Wildwood Grove offers plenty for little kids, my two older ones didn't feel out of place and still had plenty to ride. It's a nice detail and will

allow families with children that span different age ranges to comfortably spend a chunk of time at Wildwood Grove.

The kids first went for the Great Tree Swing, a 'leaf boat'-themed version of Zamperla's Galleon. As someone who suffers from motion sickness, this is my worst kind of nightmare, so they went on it alone, and I was able to witness the broad range of ages all enjoying the up-and-down thrills. Next, they took on



Treetop Tower whirls riders through the air, while the Black Bear Trail takes riders through the beautiful backwoods





Dolly Parton was on-hand for the launch of Wildwood Grove in May 2019

PHOTO: AFP/AMAGES

the Mad Mockingbird – from Larson Flying Scooter, and themed around Tennessee's state bird – which sees guests flying in a high-speed circle around a tall tree. This can be a gentle ride for younger children or risk-averse adults but can be amped up a notch, as the birds can be spun around different directions by moving a sail.

The area's signature ride, the Dragonflir, is Wildwood Grove's highlight. Billed as a family ride, the Vekoma 453m (1,486ft) suspended coaster delivers enough thrills for older kids and adults, and is a great introduction for younger children or the rollercoaster averse. My 12-year-old daughter is a rollercoaster junkie who wanted nothing more than to ride the Wild Eagle, a wing coaster that soars 21 stories above the park, which opened in 2012. But she was also excited about the Dragonflir and willing to wait in the long lines to try it.

On a sweltering day, the high-powered fans in the waiting area were a welcome necessity, and the fiddle music and bird sounds playing helped set the stage and make the time go by a bit faster. But the

WHAT'S THE SCORE?

Staff	7/10
Cleanliness	8/10
Experience	8/10
Value for money	9/10
Toilets	8/10
Overall experience	8/10

Dragonflir was where the only hitch in our visit occurred: after waiting 45 minutes, we reached the front of the line, only to find the ride had to be suspended for maintenance. No one could give us an idea of how long it would take or even if the Dragonflir would reopen that evening, but we were told we were welcome to continue waiting or check back later. It seems to me that there should be something park employees are empowered to do in this situation, particularly for guests in the very front who'd already waited in long lines – a card for the fast-pass lane on return, for instance. There were lots of disappointed

faces as people slowly gave up and peeled away, having wasted close to an hour of their park time in a line to nowhere.

Luckily, the ride did open again, and when we returned at the end of the day we were able to try it out. It took quite a long time to load – each harness was checked by a cheery employee who came around and said "Hands in the air! Now give me all your money!" – and there was enough time in those few minutes for my son and I to both feel a few butterflies in our stomachs. As the ride crept up the first steep hill and we hung suspended, we exchanged a quick nervous look, and then we shot down all at once, sweeping underground for a few seconds, before being flung out from one side to the other as we dipped and darted, skimming over the ground and up and down again, much like the chaotic flight of a dragonfly. The ride was mercifully short, but packed a real punch – my legs were wobbly as I walked away. As for my rollercoaster-averse son? He hated it, of course. But he also loved it – and isn't that the perfect first rollercoaster experience? ●

HERITAGE EXCELLENCE

Now in their 17th year, the Museums + Heritage Awards recognise innovators and leaders in the international museums, galleries and heritage attractions sectors. We take a look at winners from this year's awards

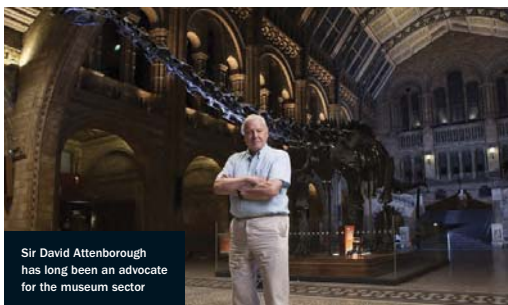


Special Recognition Award 2019

WINNER

Sir David Attenborough

Recognised for a lifetime of supporting museum and heritage projects, Sir David Attenborough was named winner of the Special Recognition Award. One of his most well-known museum projects was *Natural History Museum Alive* – a 2014 BAFTA-winning documentary which used CGI imagery to bring to life several of the extinct animal skeletons in the museum.



Sir David Attenborough has long been an advocate for the museum sector



“Museums are among my favourite places. I’ve been involved with them for most of my life, one way or another, and I have never known them actually not being under attack and underfunded. So, if I’ve contributed to one museum or any other museum in preserving those ideals that are so important to all of us, I’m very grateful indeed that you should think so.”

Sir David Attenborough

Permanent Exhibition of the Year

WINNER

SS Great Britain Trust –
Being Brunel

The £7.2m (US\$8.9m) museum explores the life of Isambard Kingdom Brunel, a man known as one of the greatest minds in the history of engineering, hailed as the “genius who built Britain”. The new attraction, designed by local firm Alec French Architects, is made up of six galleries, which sets out a collection of 150 Brunel artefacts – many never seen by the public – offering an insight into his life, family, interests and creative mind.



Being Brunel brings together the world's most significant collection of one of engineering's greatest minds

“By preserving Brunel's legacy in this way, the museum aims to show what the man-made, and what made the man, and we aim to inspire the innovators of the future.”

Matthew Tanner, chief executive, SS Great Britain Trust

HIGHLY COMMENDED: ■ National Maritime Museum – Endeavour Galleries Project

Temporary or Touring Exhibition of the Year

WINNER

Florence Nightingale Museum – Spanish Flu: Nursing During History's Deadliest Pandemic

The groundbreaking exhibition explores the scale of the 1918 Spanish Flu pandemic, which was exacerbated by large scale movement of troops at the end of the war which contributed to the rapid spread of the disease around the world, infecting more than half a billion people worldwide and killing 50–100 million, including 250,000 Britons.



The exhibition explores the scale of the 1918 pandemic

“This exhibition reflects on this largely forgotten historic event and showcases the important contribution of both nurses in hospitals and ordinary women at home, in caring for victims.”

Holly Carter-Chappell, collections officer at the Florence Nightingale Museum ►

HIGHLY COMMENDED: ■ National Museums Liverpool – China's First Emperor and the Terracotta Warriors ■ The Foundling Museum – Ladies of Quality & Distinction



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Jenny Waldman,
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Limited Budget Project of the Year

WINNER

Herschel Museum of Astronomy, Bath – Wonder Women of Space Exhibition

The Herschel Museum of Astronomy is dedicated to the many achievements of the Herschels, who were distinguished astronomers as well as talented musicians. The Wonder Women of Space exhibition ran for nine months in 2018 and cost just £980 (US\$1,215) to put on. An associated programme of activities included space-themed workshops, stargazing, school visits, talks and opportunities to meet international astronauts and scientists attracted visitors from all over the world, with the museum enjoying a 31 per cent increase in visitor numbers and a 68 per cent increase in followers on social media.



The exhibition celebrates female role models in space and engineering



“We’re over the moon at this level of recognition and can’t thank the judges enough for seeing how hard we worked on this exhibition. We’re a charity with no external funding and couldn’t have run this project without the £1,000 grant from our local authority. Incredible female space scientists, past and present, inspire us with their genius.”

Dr Amy Frost, senior curator, Bath Preservation Trust

HIGHLY COMMENDED: ■ The Novium Museum – Chichester Roman Week 2018

The International Project of the Year – more than £1m

WINNER

The Costume Institute at The Metropolitan Museum of Art – Heavenly Bodies: Fashion and the Catholic Imagination



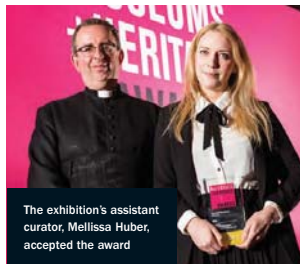
Ties between fashion and the Catholic church are examined in the exhibition

Organised by the museum’s Costume Institute in collaboration with the Department of Medieval Art, Heavenly Bodies: Fashion and the Catholic Imagination explores how the religion’s imagery and symbolism have impacted contemporary haute-couture and ready-to-wear designs.



“The exhibition situates costumes alongside religious artworks to provide an interpretive context for fashion’s engagement in Catholicism.”

Andrew Bolton, chief curator, Metropolitan Museum of Art’s Costume Institute



The exhibition’s assistant curator, Mellissa Huber, accepted the award

SHORTLISTED: ■ Haley Sharpe Design Ltd – Museum at the Gateway Arch redevelopment, St Louis; ■ The Commonwealth Government of Australia – Sir John Monash Centre; ■ National Library of Ireland – Seamus Heaney: Listen Now Again; ■ Royal Alberta Museum – Royal Alberta Museum Renewal

► MUSEUMS

The International Project of the Year – less than £1m

WINNER

Australian National Maritime Museum – Gapu-Monuk Saltwater: Journey to Sea Country

Gapu-Monuk Saltwater: Journey to Sea Country tells the story of the Yolnu people of North-East Arnhem Land, their fight for recognition of Indigenous land and sea rights and the Blue Mud Bay legal case. Visitors see a host of vibrant images including ancestral beings, ancient mariners, symbolic icons and a host of spiritual creatures including snakes, crocodiles, fish, turtles and birds, all set against traditional sacred designs representing fresh, tidal and saltwater.



Gapu (water), monuk (salt), describes Saltwater in the Yolnu matha language



“We’re really proud that the exhibition was completely led by the Indigenous community – the curation, design, the marketing agency and video producers were all Indigenous.”

Beau James, co-curator, manager Indigenous Programs, Australian National Maritime Museum

HIGHLY COMMENDED: ■ Fries Museum /XPEX Experience Experts – Escher Op Reis / Escher's Journey

Innovation of the Year

WINNER

14-18 NOW and Imperial War Museums – They Shall Not Grow Old

Co-commissioned by 14-18 NOW and Imperial War Museums (IWM), in October 2018, Sir Peter Jackson debuted a new film using original footage from IWM's archive alongside BBC and IWM interviews with servicemen who fought in World War One.

Called *They Shall Not Grow Old*, the footage featured has been colourised, converted to 3D and transformed with modern production techniques.



They Shall Not Grow Old was created using original footage of World War I from IWM's archives



“This documentary is special on every level – it is an arresting and gripping way to humanise and honour those who served so bravely during WWI by using actual footage shot at the time and narrated with the voices of the soldiers who experienced it.”

Carolyn Blackwood, president and chief content officer, New Line Cinema

HIGHLY COMMENDED: ■ Scottish Submarine Trust – Inside Out – Scottish Submarine Centre

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► MUSEUMS

Restoration or Conservation Project of the Year

WINNER

Old Royal Naval College – Painted Hall Project

The Painted Hall at the Old Royal Naval College in Greenwich, London, reopened on 23 March 2019 after a two year National Lottery Funded conservation project, which brought its magnificent painted interior back to life.



HIGHLY COMMENDED: ■ Austin-Smith: Lord on behalf of Historic Royal Palaces – Kew Gardens Great Pagoda ■ Donald Insall Associates on behalf of Royal Botanic Gardens Kew – Temperate House Precinct Project

The Painted Hall has been referred to as the 'Sistine Chapel of the UK'



"Our new visitor experience will, we believe, bring delight and stimulate curiosity for many more visitors and be a place for locals to enjoy again and again."

Angela McConville, CEO, Old Royal Naval College

Educational Initiative of the Year

WINNER

Leeds Museums & Galleries – Leeds Curriculum

Focusing specifically on primary schools, the Leeds Curriculum offers one opportunity to redress the balance of the curriculum in schools which face increasing pressure from national policy changes to move away from arts education.

HIGHLY COMMENDED:
■ London Transport Museum – Battle Bus
■ Royal Air Force Museum – STAAR – Summer Time Advanced Aerospace Residency

"So much hard work has gone into developing and designing the Leeds Curriculum from everyone involved and I'm delighted that children across the city now have access to a wealth of resources which will help them to discover more about their home."

Kate Fellows, lifelong learning manager, Leeds Museums and Galleries



Leeds Curriculum is a one-stop resource for primary school teachers across the region

Partnership of the Year

WINNER

Natural History Museum, Dorset County Museum and Birmingham Museum and Art Gallery, Ulster Museum in Belfast – Dippy on Tour, a natural history adventure

“Not only has he broken visitor number records at every venue, but Dippy has also had a huge social and economic impact, benefiting the surrounding communities.”



Sir Michael Dixon, director, Natural History Museum

HIGHLY COMMENDED: ■ Oxford University Gardens, Libraries & Museums – Multaka-Oxford



'Dippy' has been touring the UK

Never before put on public display outside of London, the Natural History Museum's iconic 26-metre-long Diplodocus cast, "Dippy", is travelling the UK until late 2020 on a nationwide tour.

Marketing Campaign of the Year

WINNER

The Museum of English Rural Life – Look at this Absolute Unit

Using meme culture and a collection of farmyard animals, the Museum of English Rural Life has soared into the upper echelons of the social media stratosphere. Its launch point was the day it tweeted out an image of Exmoor Horn aged ram along with the caption "look at this absolute unit", receiving hundreds of thousands of shares online (for more, see the Q2 2019 edition of *Attractions Management*).



“We've had a big boost in visitor numbers. We get visitors from the US, New Zealand, Canada and Europe coming into Reading to visit the museum when they otherwise wouldn't have, all because we shared a photo on Twitter.”

Adam Koszary, formerly MERL, now social media manager, Tesla

HIGHLY COMMENDED: ■ The McManus: Dundee's Art Gallery & Museum, Leisure & Culture Dundee – Bash Street's Back at The McMenace

Shops of the Year

WINNER (t/o over £500k)

BALTIC Shop, BALTIC Centre for Contemporary Art – Shop Refurbishment

Opened in 2006, shop at the Baltic Centre for Contemporary Art underwent a transformation in 2018 with a new interior in the same location to coincide with the Great Exhibition of the North. The revamped store offers a range of Baltic souvenirs and North East England-themed gifts.

SHORTLISTED: ■ Lumsden Design for V&A Dundee – V&A Dundee Shop ■ Japan House London – The Shop at Japan House London ■ RAF Museum – RAF Centenary Programme ■ National Museums Liverpool – China's First Emperor and the Terracotta Warriors exhibition shop at World Museum

WINNER (t/o under £500k)

Florence Nightingale Museum – Retail Transformation

The new store aims to offer a unique retail experience with its Florence Nightingale and nursing inspired product ranges, including the introduction of new lines and rare one-off items. The judging panel described the work as a “visionary and inspirational transformation”.



SHORTLISTED:

■ Royal Museums Greenwich Photography Shop
■ Aerospace Bristol Gift Shop



Volunteer of the Year Award – Individual

WINNER

The D-Day Story, Portsmouth Museums – John Jenkins

John Jenkins MBE was a young man when he landed on Gold Beach on June 8 1944 during the D-Day landings. Now 99 and walking with a stick, Jenkins

acts as a volunteer for the D-Day Story in Portsmouth, UK, which completed a £5m (US\$6.1m) Lottery-funded refurbishment in March 2018.

“You never forget your comrades because you’re all in it together. It’s right that the courage and sacrifice of so many are being honoured 75 years on. We must never forget.”

John Jenkins

HIGHLY COMMENDED: ■ National Museums Liverpool – Carl Clee ‘Our Bee Man’ ■ Pickering Beck Isle Museum – Gordon Clitheroe

Volunteers of the Year Award – Team

WINNER

History of Science Museum and Pitt Rivers Museums, University of Oxford Museums – Multaka-Oxford Volunteer Team

Multaka-Oxford aims to create volunteer opportunities and to use museums and collections as a ‘meeting point’ for bringing people together. The Arabic for ‘meeting point’, the Multaka scheme gives refugees from countries including Syria and Iraq volunteer jobs as museum tour guides in Oxford.

“The project not only offers practical support such as on-the-job training but also personal support such as providing a sense of inclusion.”

Nicola Bird, project manager



Multaka-Oxford is being delivered jointly by the Pitt Rivers Museum and the History of Science Museum



HIGHLY COMMENDED: ■ National Museums Liverpool – Merseyside Maritime Museum Liverpool Women’s History Group

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A MUSEUM IN MOTION

The Australian Centre for the Moving Image is undergoing an AUS\$40m renewal, which has been designed to increase interactivity and engagement, as well as enable the centre to evolve with its subject matter. Steph Eaves talks to CEO Katrina Sedgwick about the plans

“How do you create a permanent exhibition that tells the story of the moving image? It's very different from creating an exhibition about, say, dinosaurs – they are what they are and they're not evolving any more! In our space, the reality is our subject is always changing.”

Katrina Sedgwick is director and CEO of the Australian Centre for the Moving Image (ACMI) – an institution taking inspiration from its title as it undergoes a AUS\$40m (US\$27.2m) redevelopment designed to put in motion a process of evolution that will continue long after its completion.

“We have the opportunity to transform the museum into one that is able to constantly change and respond to the rapidly evolving environment of moving image and technology,” says Sedgwick.

“But how do we future-proof our exhibition? The volume of content and the rapid shifts in technology, plus the expectations of audiences that they're going to see these shifts reflected in any story about the moving image, makes this our biggest challenge.

“We've got money to spend on it now, but how do we make it ready and able to evolve with the content? These are questions we had to ask ourselves. So we designed an exhibition of which we expect around 30 per cent to change, in an ongoing way.”

MORE THAN FILM

Situated in Melbourne, Australia, ACMI's scope is wide. Although its cinemas host an array of international and national film festivals and special screenings, the centre is focused on much more than just film.

“We're Australia's national museum of film, television, video games, digital culture and art. I think the traditional notion of a moving image museum is that it's about cinema, but we're far broader than that.



Katrina Sedgwick has worked as director and CEO of ACMI since 2015

“ACMI reflects the moving image as a part of our lives – right across art, culture, work and education. Our remit is to span this series of platforms and content that's evolved over 130 years.”

This broad remit has, in the 17 years since it opened, attracted a wide audience, with more than 14.7 million visitors coming through its doors since 2002, and 1.5 million people attending last year, making it the most visited museum of moving image in the world. Despite this popularity, however, Sedgwick knew that it was time for the centre to upgrade its offering.

A NATIONAL TREASURE

“The centre was already very successful, but we knew that there was a lot more potential. This significant investment from the Victorian State Government is going

to see us increase our visitation to up to two million visitors a year, enabling us to double our education visits, and increase participation in ways that couldn't have been imagined a decade ago,” says Sedgwick.

The centrepiece of the old museum was its free permanent exhibition – *Screen Worlds: The Story of Film, Television and Digital Culture* – which was opened by actress Cate Blanchett in 2009.

“That exhibition, which celebrated the evolution of the moving image from the late 1800s to the present day, opened just as the iPhone arrived in Australia, and clearly a lot has changed since then,” Sedgwick laughs. “After ten years it was time for a change, so we're going to completely redo this free experience for our visitors. We had nearly 700,000 visitors through Screen Worlds during ▶



ACMI will reopen in mid-2020 after undergoing a complete transformation



PHOTO: RENEE STAMMIS PHOTOGRAPHY



PHOTO: RENEE STAMMIS PHOTOGRAPHY



This investment is going to see us increase our visitation to up to two million visitors a year, enabling us to double our education visits, and increase participation in ways that couldn't have been imagined a decade ago



Gandel Philanthropy is supporting the construction of two education studios at ACMI



Among its exhibits, ACMI showcases the world's most influential video game designers

We're making some changes that will better connect the building and enable much more of a conversation

► the last year of its operation, so it's a hugely influential and accessible exhibition for people of all ages. Within that, half of the visits were by tourists, both domestic and international, so it's a big attractor.

"Being able to completely recreate this exhibition is a huge thing for us, and we'll continue to tell the past, present and future of moving image through a very interactive, immersive and participatory exhibition, where you'll be able to engage and create."

CONNECTION AND COHESION

In addition to updating old attractions, the project will also completely remodel the space. The centre sits within Melbourne's Federation Square complex, in a building originally designed to be a shopping centre. Split over four levels, ACMI was lacking the kind of flow it needed to tell a coherent story.

"We're making some changes that will better connect the building and enable much more of a conversation, from the cinemas right through to the major temporary exhibition and permanent exhibition spaces," explains Sedgwick.

"Interestingly, some of the changes that we're bringing in – for example, creating a living staircase between the two major levels – was something that actually existed in the original Federation Square designs.

"So it's been a really positive experience working with BKK, a fantastic Melbourne-based architectural firm, and also collaborating with some of the original architects from LAB architecture studio to ensure that what we're doing respects that original architectural vision, while still looking at how we can create a really holistic museum experience for visitors.

IMMERSED IN MOTION

Within this newly opened-up space, Sedgwick says the museum will become much more immersive and interactive, encouraging visitors to share their experience and continue learning after they leave.

"We're creating a technology experience that allows our audiences to come into the building and use a special device to collect everything that they're interested in and everything that they've created – from the stories they've discovered to the objects

ACMI ON TOUR

Although the centre is being redeveloped in ACMI's home, the museum creates its own exhibitions, which tour all over the world.

Dreamworks Animation

Featuring 400 unique items from the archives and highlighting beloved family favourites Shrek, Madagascar, Kung Fu Panda, How to Train Your Dragon and Trolls, visitors can explore and engage with the studio's creative approach to the art of animation. See how characters and narratives transform from sketch to screen.

Game Masters

A highly interactive video game exhibition, showcasing the world's most influential video game designers. From the arcade era to the latest console, PC, mobile and tablet game technology, this exhibition takes visitors behind the scenes, showcasing how video games are made as well as their makers.

Wonderland

The first ever large-scale immersive exhibition to celebrate the timeless stories of Lewis Carroll and Alice's adventures on screen and in popular culture. This interactive experience also charts the evolution of special effects from pre-cinema and silent films, to animation, puppetry, live action and CGI.



ACMI's Lightwell event space can also host temporary exhibitions

PHOTO: JESSAMOND

they're interested in – and when they get home they'll be able to explore more deeply that material through their own web page.

"We're really interested in how we can empower our visitors to be able to curate their own experience within the stories that we've chosen to tell."

In designing these new ways of allowing audiences to interact with the museum, the team took inspiration from the past work of its chief experience officer.

"Seb Chan was head of digital with one of the Smithsonian Institution Museums; the Cooper Hewitt, which is a museum of art and design in New York. He led the same sort of digital transformation there, at what is a very traditional object-based design museum, over a four year restoration and renovation process. He's now applying that experience to our museum," says Sedgwick.

READY FOR THE FUTURE

But even with the most impressive technologies, the museum needs to be able to adapt to the ever-changing subject matter. The team is working to future-proof the centre as much as possible, through collaborations and the museum's design.

"We're working with a fantastic Australian animation and VA effects firm called Animal Logic. They make the Lego movies and they've just made Peter Rabbit, so they're a really big global company. Our collaboration with them means that when their new films are coming out, we'll be able to immediately incorporate them into our exhibit – showing the details of how they're made.

"This is just part of how we'll shift and change the content and how we evolve our post-visit experience. It's something that

we've spent a lot of time working through so that it will constantly evolve and grow.

"We're going to have a really fun section that will include a series of responsive screens, so that, when something new comes out that's been impactful or talked about, we'll be able to have that in our exhibition as it's happening."

LOOKING AHEAD

With the redeveloped centre set to open in mid-2020, Sedgwick is excited to engage more people, more deeply.

"The 21st century offers so many creative opportunities through the tools that are now available to us: to digitise our

collections and give visitors a chance to have a much more active engagement with the experience," she says.

"This is where the museum sector is going: enabling things that have been hidden away in a white glove environment to be presented to audiences in a way that allows them to get their hands on it, play with it, share it, use it and explore it.

"I believe ACMI is at the forefront of this, and I hope this redevelopment will not only help us to become one of the major tourist attractions in Australia, but also to maintain a global reputation as being a really exciting creator of audience experience and exhibition making and programming." ●

ACMI'S UPGRADES INCLUDE:

A RECONFIGURED SPACE

- Cinemas presenting the very best of screen culture from Australia and around the world
- A dramatic transformation of the building
- A 'living staircase' and new spaces to sit and relax
- A contemporary café and bar with new interior
- A revitalised shop devoted to art and culture

NEW EVENT SPACES

- A new exhibition to illuminate ACMI's history
- A new permanent gallery that takes audiences on an immersive journey into the past, present and future of the moving image

PLAYABLE AND INTERACTIVE EXPERIENCES

- Key moments of the moving image will come to life through interactive experiences that let visitors animate shadows, craft optical toys, experiment with time, assemble film scenes and create soundscapes in a custom Foley studio.

MEDIA PRESERVATION LAB

STATE-OF-THE-ART EDUCATION SPACES

- The Gandel Digital Future Labs are two new spaces where students and teachers can access the technology and creative tools to create their own moving image works.

THE DARK SIDE



To varying degrees, humans have historically been fascinated by death, drawn to the macabre and enjoy being scared, all of which is helping to fuel dark tourism. Kath Hudson finds out what it's all about...

You don't have to visit a war zone or a former concentration camp to be a dark tourist.

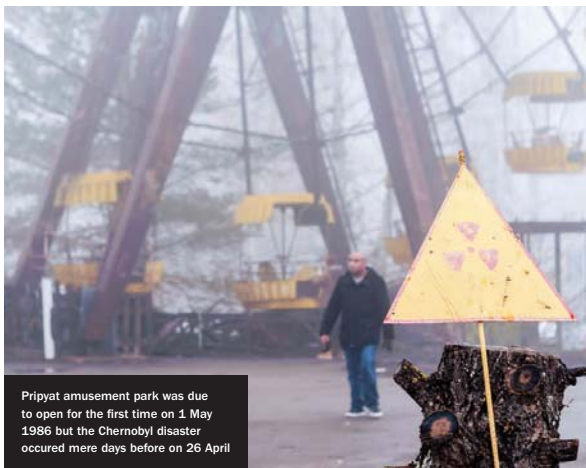
Everyone has a bit of a dark tourist in them: who wouldn't visit Pompeii if they were going to Naples or seek out Berlin Wall remnants during a visit to the city?

This type of travel is growing exponentially and encompasses everything from war museums and memorials, to places where both man-made and natural disasters have taken place, creating an unlikely link between trauma and tourism.

The dark tourist

Before the 9/11 tragedy, the World Trade Centre's observation deck drew around 1.8 million visitors annually. This number has doubled since it has become the Ground Zero memorial. The notorious Polish concentration camp, Auschwitz, has seen also visits rise from 500,000 people in 2001, to 1.5 million in 2014.

"There's definitely a crossover between dark tourism and heritage tourism, but we're seeing an explosion of niche



Pripyat amusement park was due to open for the first time on 1 May 1986 but the Chernobyl disaster occurred mere days before on 26 April



Visitors to the Chernobyl exclusion zone must carry a Geiger counter at all times

CHERNOBYL

In April 1986 one of the biggest nuclear disasters in history happened in Chernobyl. The explosion was caused during an overnight test of the reactor's emergency water cooling system. Steam built up and blew through the reactor's 1,000-ton lid, exposing the core to oxygen which caused the graphite rods, used to control reactions, to catch fire and spark a second explosion.

The initial disaster killed around 30 people, but thousands more contracted serious health problems or suffered premature deaths, including decades of ongoing problems including birth defects. An exclusion zone of 30km (18.6m) around the plant was set up. The 116,000 people living in the area were forced to evacuate. More people from surrounding villages left shortly after.

Although it is now illegal to live inside the exclusion zone, around 150 people have continued to stay there, mainly farming ancestral lands.

At the time, scientists predicted that the exclusion zone around the power plant would not be fully safe for human habitation for another 20,000 years. Radiation levels in soil, trees, plants and animals in and around the exclusion zone have been monitored ever since. Ukrainian authorities deemed the exclusion zone was safe to visit for short amounts of time in 2011 – 25 years on from the disaster.

The Ukrainian Institute of Agricultural Radiology says there is no longer a risk of radiation in the atmosphere, but in some areas, soil contamination could pose a threat to health. The team recently

found dangerous levels of radioactive caesium-137 in cow's milk produced outside of the exclusion zone.

With more than three decades without human interference, the exclusion zone has been taken over by nature, with the thriving wildlife one of the main draws for visiting tourists.

Despite the dangers of radiation, people are now starting to settle close to the exclusion zone. The property is cheap and many people are fleeing war, which they feel is a much more serious and immediate threat.



Chernobyl is considered the worst nuclear disaster in history

markets in tourism and dark tourism is one of those," says Andrew Fry, a lecturer researching the subject at the University of Plymouth. "Everyone's motives are different. Some tourists may have a curiosity about the unusual and death, some are attracted to horror. For others, it can be voyeuristic or a desire for empathy with the victims of atrocity and suffering.

"However, more recently, we're seeing that tourists want an authentic experience and for those who are seeking authenticity, their motivations include seeking the truth in pursuit of knowledge and social responsibilities, such as not being forgotten or making the same mistakes."

David Farrier, a journalist from New Zealand, filmed the Netflix series *Dark Tourist*, to explore the subject. The eight-episode series took him to ghost towns deserted after disasters, a radioactive lake in Kazakhstan and Japan's 'suicide forest'. Farrier said part of the appeal was to challenge his fears and preconceptions while offering escapism and satisfying his curiosity. His trips, he said, made him realise how good he has it at home. ▶



The Band-e Amir National Park in central Afghanistan

“Everything is how people had left it and the tragedy is palpable. The empty streets and houses have a spooky, eerie atmosphere”

► Nuclear tours

Chernobyl, the Ukrainian site of the 1986 nuclear disaster is one site which is currently experiencing massive growth in popularity, thanks partly to the eponymous HBO series, which tells the story behind the horrific tragedy.

The former nuclear power station has been open to the public since 2011 and this year, tour operators predict visits will more than double to 150,000 people.

Despite visitors having to carry a Geiger counter to check radiation levels as they explore the site, Ukrainian President, Volodymyr Zelensky wants to “shake the dark tourist association” of Chernobyl and for the site to be recognised as a legitimate tourist attraction. Subsequently, the President has announced plans to implement an electronic ticketing system, relax restrictions for filming inside the exclusion zone and build safe walking trails in and around the area.

Rik Brinks, co-founder of tour operator, Culture Road, takes intrepid travellers to “places your mother wouldn’t want you to visit,” has noticed a spike in interest.

“Interest in visits to Chernobyl is up by 30 per cent,” he says. “The HBO series on Chernobyl has had a big impact, as has Dark Tourist. People want to visit because it’s an interesting place. They like the

whole story and the mystery. It’s intriguing and feels like stepping back in time to the Soviet era. Everything is how people had left it and the tragedy is palpable. The empty streets and houses have a spooky, eerie atmosphere.”

Although visitors need to make the call on whether they are comfortable with the site’s radiation levels, Chernobyl, on the whole, is no longer deemed dangerous and isn’t difficult to visit politically, or logistically, unlike some of the other places which Culture Road visits, including Afghanistan and North Korea, which are widely regarded as two of the hardest countries in the world to access. Anyone wanting to visit needs to use a tour operator to sort out tickets, visas, logistics, accommodation and travel.

Border crossing

The Beijing-based, Koryo Tours, was founded as a result of interest in travel to North Korea, and takes around 1800 visitors to the closed-off country each year: “Prior to a visit, you might imagine that it’s full of government spies, but although it’s tightly controlled, the government is unconcerned about the tourism industry as it’s so small,” says Koryo Tours general manager, Simon Cockerell. “If you like certainty and

accurate answers then it’s not the place to go. If you can embrace the complex and confusing, you might enjoy it. The tours appeal to a variety of people – open-minded and worldly travellers. Most go as part of a wider tour, but we’ve taken people who fly half the way around the world for two days in North Korea.

“People have very low expectations, and find it’s less monotone than they think it will be. North Koreans have no real first-hand experience of the outside world, as the news is biased propaganda. I like the fact that we can present an alternative to that, albeit with a small number of people, in a brief way.”

Brinks agrees that even the edgiest of destinations are frequently surprising: “Very often places are not as you would expect. North Korea has a hot climate and is full of nice people just getting on with their lives and Afghanistan is really beautiful and full of friendly people.”

Going forward, it looks likely that dark tourism will continue to grow, with a continual proliferation of experiences. Brinks believes there is plenty of scope for this niche and is currently working on tours to other edgy locations, such as Haiti and Angola. Fry predicts the trend will continue, with more specific categories to be recognised, such as dark heritage tourism.

DARK TOURISM SITES AROUND THE WORLD

Andrew Fry has collated a list of attractions or sites deemed to fall under the banner of dark tourism. These include:

■ ENTERTAINMENT-BASED ATTRACTIONS

The London Dungeon, UK
Dracula's Castle – Bran Castle, Transylvania, Romania

■ WAR AND CONFLICT SITES

Belchite, Saragoga, Spain
Gallipoli Campaign, Turkey
Arlington National Cemetery, Virginia, USA
Battle of Waterloo, Waterloo, Belgium
Battle of Hastings, Hastings, UK
Battle of Falkirk, Falkirk, UK

■ HOLOCAUST SITES

Auschwitz concentration camp, Poland
Anne Frank House, Prinsengracht, Amsterdam, Netherlands

■ INCARCERATION/PRISON SITES

Hoa Lo Prison, Hanoi, Vietnam
Alcatraz Federal Penitentiary, San Francisco, US
Robben Island Prison, Cape Town, South Africa
Missouri State Penitentiary, Jefferson City Missouri, US

■ GENOCIDE SITES

Kigali Genocide, Memorial Centre, Rwanda
Museum of Genocide Victims, Vilnius, Lithuania
Tuol Sleng Museum, Phnom Penh, Cambodia

■ SLAVERY AND ATLANTIC TRADE SITES

House of Slaves, Dakar, Senegal
Kunta Kinteh Island, Gambia
Badagry Slave Museum, Badagry, Nigeria

■ CONTEMPORARY CONFLICT ZONES/DANGEROUS PLACES

Syria, Iraq, Afghanistan

■ SITES OF NATURAL DEVASTATION AND DISASTER

Pompeii, Naples, Italy
Mount Merapi, Java, Indonesia
The eruption of Eyjafjallajökull, Iceland

■ BURIAL SITES/CEMETERIES

Chapel of Bones, Évora, Portugal
Sedlec Ossuary, Siedec, Czech Republic
Paris Catacombs, Paris, France
Père – Lachaise, Paris, France



The secretive nation of North Korea is a draw to dark tourists



The macabre Chapel of Bones is a popular tourist destination in Portugal

■ PLANTATION SITES

Laura Plantation, Louisiana, US
Nottoway Plantation, White Castle, US
Oak Alley Plantation, Louisiana, US

■ SITES OF MASS OR INDIVIDUAL MURDER

Jack the Ripper Tours, London, UK
Helter Skelter Tour, Las Angeles, US
Jeffrey Dahmer Tour, Milwaukee, US

■ COMMUNISM AND ITS LEGACY

Soviet War Memorial, Budapest, Hungary
Museum of Communism, Prague, Czech Republic
Memorial of the Victims of Communism and of the Resistance, Sighetu Marmatiei, Romania

■ TERRORISM SITES

Ground Zero - The National September 11 Memorial, New York, US
Oklahoma City National Memorial & Museum, Oklahoma, US
Pan Am Flight 103, Lockerbie, UK

■ MAN-MADE DISASTERS

Chernobyl Disaster, Pripjat, Ukraine
Titanic Belfast, Belfast, Northern Ireland
Hiroshima Peace Memorial Park, Hiroshima, Japan

■ SUICIDE

The Suicide Forest, Mount Fuji, Japan

■ DEATH SITES OF FAMOUS PEOPLE

Princess Diana, Alma Bridge, Paris, France
JFK Assassination, Dallas, Texas, US
John Lennon, New York City, US

■ GHOST TOURS

Hothell, Porto, Portugal
Island of the Dolls, Mexico City, Mexico
Leap Castle, Coolderry County Offaly, Ireland
Bodmin Jail, Bodmin, UK

■ WITCH TRIAL SITES

Salem Witch Museum, Massachusetts, US
Old Town Hall, Salem, Massachusetts, US
Pendle Hill, Lancashire, UK



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LOOKING BEYOND THE THRILL

WhiteWater thinks outside the box to create memorable,
immersive experiences that go beyond the thrill

When Hagrid's Magical Creatures Motorbike Adventure opened at The Wizarding World of Harry Potter, the rollercoaster garnered rave reviews from industry veterans who were used to riding ever bigger, taller, and scarier rides. They were thrilled to experience a ride that went above and beyond superlatives and theming, which, in The Wizarding World of Harry Potter, is an incredible feat indeed. Dubbed a "story coaster" by Universal Studios – emphasising the focus on the

storyline and journey that riders take – this ride is not so much a rollercoaster as it is an experience. From the get-go, riders are drawn into the story within an intricate setting, immersive visuals, and thrilling twists and turns. It's been lauded as the best ride in the entire park, and not because it's the tallest or fastest, but the most immersive one of them all.

The success of Hagrid's Magical Creatures Motorbike Adventure follows a trend in recent years, which is seeing the industry move towards not only adding theming and more narratives to their rides

but also offering an additional dimension that enhances the experience riders get. In short, bigger, taller, and faster isn't synonymous with "better" anymore. What makes a ride truly memorable is the unique experience that a guest had being on it.

How tech can add to the experience

At WhiteWater, we've sought to think outside the box to create experiences that go beyond the thrill, so guests can look forward to an experience that they'll remember for years to come.

With the leaps in technology in the past few decades, we've been able to create our latest product, Vantage, which benefits both the operator and park guests. It used to be that park operators would build rides that they think guests would enjoy, and guests would visit and pick the rides that looked most fun to them. Now, with Vantage, operators can actually see how well a ride is performing at any time, figure out exactly who enjoys them, and deploy their resources accordingly. This enables them to deliver more tailored, personalised experiences to their guests while using relevant data to make strategic decisions.

Guests, on the other hand, can create their own in-park experiences with customisable themes and playlists while on attractions, share memorable moments on social media instantly, earn points for park perks, locate their friends, find out which attractions have shorter queue lines, and much more. Vantage offers a rare win-win





The Over/Under raft ride at Wuxi Sunac Water World

scenario for both operator and guest by creating an additional layer of immersion and interactivity for both parties.

Putting pretty to use

AquaLucent has long been an integral part of our slides, but far from being just pretty it can also be designed to create an enhanced experience for guests. Because of the shapes and colours we can create with AquaLucent, it can be used in so many unique ways to alter a rider's perception. One of our newest installations, Infinity Racers at Schlitterbahn Galveston Island – which is two AquaTube mat racers side-by-side – features vertical dashes of multi-coloured AquaLucent on one slide that, when riders go down, make them feel like they are travelling through space. On the other slide, we installed AquaLucent rings instead, making it seem as though riders are going through a portal into deep space. It's a surreal experience that elevates the ride.

It's all about interactivity

With families and friends visiting parks to spend quality time with each other, we try to focus on interactivity. This is reflected in one of our rides, Raft Battle, on which guests can engage in epic water battles either with occupants of another raft or as spectators watching from the sidelines.

Slides can also be gamified, as can be seen in the newly installed Over/Under Slideboarding raft ride at Wuxi Sunac Water World at the Wuxi Resort in China.



“With Vantage, operators can actually see how well a ride is performing at any time to figure out exactly who enjoys them”

A first-of-its-kind fusion waterslide, the Over/Under is the world's first interactive multi-player gaming waterslide. Featuring WhiteWater's first installations of Team Slideboarding and Double Exit Manta, the attraction challenges teams to work together in order to score enough points to be rewarded with a thrilling victory lap and avoid the shame of the losers' exit.

The Selector raft ride at Guangzhou Sunac Water World allows guests to select unique slide paths and combinations. The ride gives guests control over which combinations of four paths they want to go down. Each path was designed to provide

a different ride experience, encouraging repeat rides by enabling guests to experience each of the four combinations.

Groups of up to six riders vote on which path they want to try out because each path offers a different combination of thrilling, high-speed sections with more relaxed, less intense sections.

Looking beyond traditional superlatives is the way of the future – after all, one can only be the biggest, tallest, and longest for a short time before being eclipsed. Creating a memorable ride experience that someone treasures eternally, however, is something that stands the test of time. ●

The Hagrid-themed 'story coaster' takes on a journey through the Forbidden Forest

MONSTERS, MYTHS AND MOTORBIKES

We take a look at some of the biggest ride openings for visitor attractions worldwide

HAGRID'S MAGICAL CREATURES MOTORBIKE ADVENTURE

Universal's Islands of Adventure

Orlando, Florida, US

Combining a world-class rollercoaster, and immersive storytelling, the new Hagrid ride at Universal Islands of Adventure takes visitors into the world of Harry Potter on a journey to encounter its animal inhabitants.

Called Hagrid's Magical Creatures Motorbike Adventure, the Intamin-manufactured steel coaster replaces B&M's duelling Dragon Challenge coasters, which were closed in September 2017 to make room for the new ride.

Described as a "story coaster" by Universal, the experience starts with Hagrid taking a Care of Magical Creatures class, while Arthur Weasley tinkers with Hagrid's flying motorbike. Hagrid's boardhound Fang accidentally release Cornish pixies, which start to wreak havoc.

Riders travel up to 50mph (80kmph), encountering Fluffy the three-headed dog, Cornish pixies, Devil's Snare, a Centaur

and a Blast-Ended Skrewt along the 1,540m (5,053ft) track – the longest rollercoaster in Florida.

With seven launches, the ride includes more than any other in the world. It's also the second coaster in the United States to feature a free-fall vertical drop at 17ft (5.2m). A signature feature of the track is a "spike" that sends guests 65ft (20m) into the air before gravity sends them falling backwards down the track.

Each motorbike-themed train has built-in speakers that provide theming for the ride, with a score inspired by music composed by John Williams for the Harry Potter films.

According to Alan Gilmore – art director for the Harry Potter films and for the Wizarding World of Harry Potter at Universal – To create the Forbidden Forest, more than 1,000 trees were planted as part of the ride's theming.

INTAMIN



The stars of the Harry Potter movies were on-hand for the launch of the new Hagrid rollercoaster



JURASSIC WORLD - THE RIDE

Universal Studios Hollywood

Los Angeles, California, US

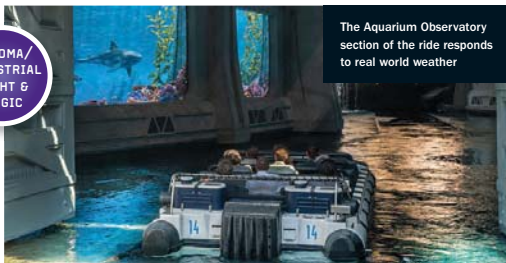
VEKOMA/
INDUSTRIAL
LIGHT &
MAGIC

Revamped and reimaged, Universal's popular Jurassic Park thrill ride has undergone a full rebranding and retheming as Jurassic World – The Ride.

Inspired by the new *Jurassic World* films, the Vekoma-manufactured ride, which first opened in 1996, now features Chris Pratt, Bryce Dallas Howard and BD Wong, who reprise their roles as Owen Grady, Claire Dearing and Dr Henry Wu.

The water ride includes an underwater encounter with the Mosasaurus, docile dinosaurs such as the Stegosaurus and Parasaurorophus and predatory dinosaurs such as Dilophosaurus and Velociraptor.

Following a battle between a Tyrannosaurus Rex and the Indominus Rex,



The Aquarium Observatory section of the ride responds to real world weather

riders are dropped 84ft (25.6m) for a big splash to conclude the experience.

Industrial Light & Magic – a division of Lucasfilm – collaborated with the design team at Universal Studios Hollywood to create a digital version of Mosasaurus and

its environment for the ride. The giant sea monster is part of the Aquarium Observatory section – an area that responds to real-world weather. Motion parallax technology shifts the rider's perspective as the dinosaur swims around its virtual tank.

STEEL CURTAIN

Kennywood

West Mifflin, Pennsylvania, US

S&S SANSEI

A new record-breaking ride dedicated to American Football team the Pittsburgh Steelers has come to Kennywood in Pennsylvania, US.

Named after the legendary Steelers defensive line from the 1970s, the Steel Curtain is the signature attraction for Steelers Country – a new

area of the park which features football-themed games, food and merchandise.

Reaching speeds of up to 75mph (121kmph) with nine inversions, Steel Curtain breaks multiple records, including the most inversions of any ride in North America and the highest inversion of any rollercoaster in the world at 197ft (60m). It's also the tallest rollercoaster in the state.

With a black and gold track designed to look like a football, the S&S-designed,

1220m (4,000ft) long attraction anchors Steelers Country. A group of Pittsburgh Steelers players past and present, including star defensive end Cam Heyward and Mike Wagner and John Banaszak were in attendance for the ride's opening.

"A great deal of time and effort has been put into the design, engineering and construction of this terrific ride that we are confident will be worth the wait," said S&S Worldwide President Tim Timco. "It's a tremendous addition to this celebrated amusement park."

Steelers player Cam Heyward was one of the first to ride Steel Curtain



NUI LUA

Rainbow MagicLand

Valmontone RM, Italy

Highly themed and spurring fire, a volcanic log flume ride has taken its inaugural plunge at Italy's Rainbow MagicLand amusement park.

The new aquatic attraction – manufactured by French company Reverchon – is set inside a 1,250sq m (13,400sq ft) lake, with a 320m (1,050ft)

REVERCHON

track and two slides with an 8m (26ft) and a 12m (40ft) drop. The ride features eight boats and is centred around a volcano 18m (60ft) high. During the ride, guests enter the volcano, which is enriched with special effects including nebulized water and red and orange lighting for lava, as well as simulated flame effects. The volcano's crater breathes fire, also using smoke machines to simulate periodic volcanic eruptions.

The development is part of larger plans to revive the attraction, which was acquired by Pillarstone Italy in December 2018 – an equity turnaround firm sponsored by KKR. Larger plans include a €40m (US\$45m) investment into the park over the next four years. More than €8m (US\$9m) has already been invested in 2019 so far.

Brescia-based Panel System provided theming for the new attraction, with the set made from sprayed concrete and supported by metal structures.



The ride features two drops and comes complete with a fiery smoking volcano

DUELLING DRAGONS

Guangzhou Sunac Land

Huadu, Guangzhou, Guangdong, China

INTAMIN

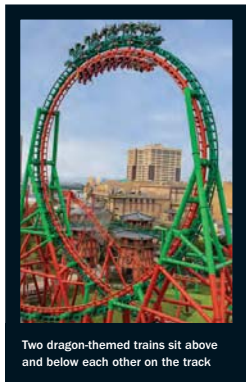
A new rollercoaster from Intamin has made its debut at Guangzhou Sunac Land in China, with the new dragon-themed addition seeing a suspended and sit-down train duel with each other through the course of the ride.

Utilising Intamin's LSM drive system, both trains are simultaneously launched forward into a loop before being stalled part way up by gravity and moving backwards. Passing back through the LSM section, the trains are launched backwards into a 50m-high vertical spike, before again being stopped by gravity and then launching again through the LSM at 100kmph. The suspended train passes on the outside of the loop, while the sit-down

train simultaneously passes through the inside of the loop. Both trains then go through several inversions, with five 'near-miss' situations with the other train.

The sit-down track is 790m (2,591ft) while the suspended layout covers 830m (2,720ft). The travelled distance, however, is 980m (3,215m) and 1030m (3,380ft) respectively as a result of the forward-backwards-forward launch of the ride.

In addition to an integrated water-cooling system for the LSM drives the coaster also features the newest design for Intamin's trains, with the manufacturer saying the ergonomically shaped seats, ensure the highest safety and maximum comfort.



Two dragon-themed trains sit above and below each other on the track

FURY

Bobbejaanland

Kasterlee, Belgium

GERSTLAUER

Belgian theme park Bobbejaanland has made its largest-ever investment, opening a new themed area featuring a brand new rollercoaster.

Manufactured by Gerstlauer, Fury is a launch coaster standing at 43m high and stretching 600m. The ride reaches speeds of up to 106.6kmph (66.2mph), making it the fastest coaster in the Benelux region.

The track features four inversions, starting and finishing with a dead-end track for the rollercoaster train to stop on and then roll back in the other direction. The spikes are attached via a switch so that after rolling back, the train goes up a different stretch of track from the one it came down on, meaning the operator can work with several trains at the same time, increasing visitor capacity.

The model is a custom version of Gerstlauer's Infinity Coaster, with the open design of the train characterising the ride.

The ride is the signature attraction of Land of Legends – the new addition to the park. Covering 20,000sq m (218,000sq ft), the area is a "mystical, mythical world, heavily influenced by popular video games". The park's existing Typhoon coaster, also a Gerstlauer ride, has been rethemed, with the track painted an icy blue colour and the ride getting a new starting point in the central area of the new land.

The Netherlands-based Leisure Expert Group handled theming for the land, working alongside contractors Themebuilders and 2Create, with Bobbejaanland's project team. ▶



Land of Legends represents the biggest investment in the history of Bobbejaanland



TAIGA

Linnanmäki

Helsinki, Finland

INTAMIN

The fastest LSM Double Launch Coaster on the northern hemisphere, Taiga is the newest addition to Finland's oldest theme park – Linnanmäki.

Passing through four other rides in the park, the ride's 52m (170ft) peak can be seen from across the city of Helsinki - changing the city skyline. More than 1,000m (3,280ft) in length, Taiga reaches speeds of up to 106kmph (65.8mph), with four inversions over the course of the ride.

The ride's two trains are themed like eagles (the experience is designed to mimic the flight of an eagle) and can seat 16 passengers each, offering an hourly capacity of 860 passengers.

Taiga is Linnanmäki's biggest roller coaster project ever



RUNAWAY TRAM

Morey's Piers

North Wildwood, New Jersey, US

ZIERER

Seaside amusement park Morey's Piers has celebrated its 50th anniversary with the launch of its latest attraction – the Zierer-manufactured Runaway Tram.

A US\$4m investment, the family-friendly coaster had its train and station custom-designed by attractions specialists JRA to honour the boardwalk's iconic tram cars.

Originally debuted at the 1929 New York World's Fair, the Wildwood Sightseer Tramcar debuted on the boardwalk in 1949, carrying an estimated 20 million people over its entire lifetime.

On the new ride, visitors climb 12.2m (40ft) before travelling across 281m



(922ft) of track, reaching speeds of up to 30mph (48.2kmph).

To make room for the ride, Morey's has removed seven rides and completely reconfigured its Surfside Pier area.

The new ride is a variation of Zierer's "Force" family coaster model and cost the park US\$4m

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IT'S GOOD TO TALK

Home to the world-revered Peppa Pig World and welcoming more than one million visitors every year, Paultons Park was voted TripAdvisor's number one UK amusement park for the fourth year running in 2019. Head of HR, Darren Vann explains how they keep it ticking with precision

The family-run theme park had been looking at how it communicated with its 640 staff for some time. Employees work across 11 different departments from the more obvious catering, retail and park operations to engineering, grounds and gardens and livestock; the park, originally a country park and bird gardens, first opened in 1983 and still boasts impressive themed gardens with exotic birds and animals, which were a feature of the original estate.

With most staff not desk-based, easy and effective communication was a challenge and Paultons Park explored a range of methods to appeal to its diverse workforce with no particular joy, until two years ago, when the company partnered



■ Darren Vann, head of HR at Paultons Park

with smartphone-driven workforce management platform, OurPeople.

Traditionally the park had communicated with staff through email, notice boards, screens in staff rooms and its extranet, but as Vann explains: "OurPeople has improved the way we engage with staff. It's given us a more immediate means of communication, particularly

as the app is phone-based and the majority of our staff aren't sat at a desk with constant access to a computer.

"As a seasonal business, only 120 of the 640 staff are permanent team members, but they all perform extremely diverse roles and work different patterns. Most don't have access to IT as part of their role. In fact, less than 10 per cent of our overall staff have their own email account, which



The OurPeople app helps visitor attractions such as Paultons Park run smoothly behind the scenes

About OurPeople

OurPeople is a smartphone-driven workforce management platform. Content is delivered to team members via cards, which can be anything from simple text or images, to quizzes, video or training and event invitations. Staff simply tap to interact.

Paultons Park also uses the app as a diary and an

educational tool, enabling staff to enlist on education programmes, including surveys and quizzes, as well as search and view operating procedure manuals and action plans.

Real-time reporting means management can see which team members have read and engaged with content at the touch of a button.



■ OurPeople is an easy-to-use workforce management app

was proving a challenge when trying to find a communication method that would engage everyone. We needed something that would work easily on the go.

"OurPeople grabbed our attention because it's more than just a messenger app. We're able to post files, such as rotas or policies and procedures, as well as being able to message staff in small groups or individually and send broadcasts to larger groups of staff, such as internal vacancies, events and surveys.

"The fact we can send targeted messages to specific staff is a real bonus. We can make sure people only receive relevant content rather than bombarding them with messages that don't apply to their role."

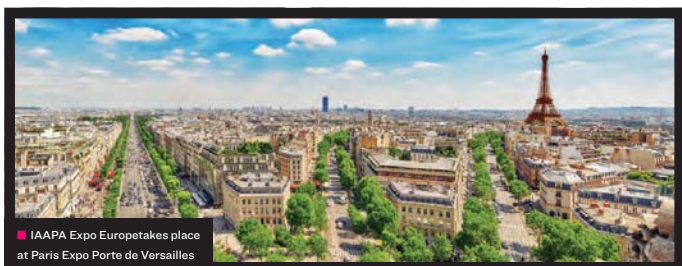


"THE FACT WE CAN SEND TARGETED MESSAGES TO SPECIFIC STAFF IS A REAL BONUS. WE CAN MAKE SURE PEOPLE ONLY RECEIVE RELEVANT CONTENT RATHER THAN BOMBARDING THEM WITH MESSAGES THAT DON'T APPLY TO THEIR ROLE"

Staff at Paultons Park are truly engaging with the App, with an impressive 83 per cent on average of broadcasts 'seen'. Since January 2019, Paultons has sent 158 'cards' to staff, such as team briefing notes, schedules, cover requests, special offers and job vacancies, which have received almost 17,000 swipes from staff that have engaged with them. The 115 files Paultons Park has been uploaded have been downloaded more than 10,500 times.

"OurPeople has been extremely helpful when it comes to bad weather too," continues Vann. "As the OurPeople console is web-based we can log in to the app from outside the office and send messages before people start work and hopefully before they even leave for work. In these situations it also helps us to be clear about who we would like at work, if possible, and who isn't required, by being able to send targeted messages." ●


OurPeople
CONTACT
hello@ourpeople.com
020 3322 6561
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SHUTTERSTOCK X.F.

IAAPA EXPO EUROPE 2019

**Europe's premium event for the visitor attractions industry
has a new name - and will be the largest ever in 2019**

The Euro Attractions Show has been rebranded as IAAPA Expo Europe ahead of this year's event. With the name change, the show has grown further and the 2019 edition will be the largest in its history.



"IAAPA Expo Europe brings the whole attractions family together"

Andreas Andersen, IAAPA immediate past chair

Scaling up

Held in the French capital Paris, IAAPA Expo Europe 2019 will be an all-encompassing event for the continent's leisure and attractions industry professionals. Those in attendance will include operators, suppliers, manufacturers, investors, developers – and anyone wishing to engage with the global amusement community.

This year's event is expected to attract more than 15,000 participants – of which around 9,000 will be buyers. In total, more than 600 companies from 100 countries will be represented at the expo.

With 17,500sq m (188,000sq ft) of exhibition space, IAAPA Expo Europe will feature the largest show floor in its history.

"As one of the most visited cities worldwide, Paris is central to the attractions industry, offering an impressive collection of innovative parks, museums, and cultural sites," says Jakob Wahl, executive director and VP of IAAPA EMEA.

"This diverse market welcomes global attractions professionals for IAAPA Expo Europe for several days of buying, learning and networking. We want to offer attractions professionals the chance



■ Industry professionals from around the world take part in networking sessions during the show

EXHIBIT HALL HOURS

Tuesday, 17 September 10:00–18:00
Wednesday, 18 September 10:00–18:00
Thursday, 19 September 10:00–16:00



■ Puy du Fou president Nicolas de Villiers will speak at the event

KEYNOTES AND EVENTS

Leadership breakfast

- Nicolas de Villiers, president, Puy du Fou

Future Feature: The Future of Disneyland Paris

- Daniel Delcourt, chief operating officer, Disneyland Paris
- David Wilson, Walt Disney Imagineering site leader of Disneyland Paris

Lunch and Learn: What's next for the French attractions industry

- Laurent Bruloy, président, Looping Group
- Benoit Chang, CEO, EuropaCity
- François Fassier, director, leisure division at Compagnie des Alpes

Lunch and Learn: Eye on the Middle East and Africa attractions industry

- Bill Ernest, CEO, SEVEN
- Sabine Lehmann, executive director, Attractions Africa
- Bianca Sammut, general manager, Ferrari World Abu Dhabi

... and many more

to be a part of the excitement and join their peers to discover more about the innovations and opportunities that will help them generate more revenue – and create memorable guest experiences."

Educational Excellence

The event will offer 15 educational sessions, covering a wide range of important topics – from operations and creating guest experiences to communications and design.

Adding to these, there will be nine in-depth learning experiences. The

specialty programme includes the IAAPA Institute for Attractions Managers at Disneyland Paris; a one-day waterpark forum; and a IAAPA Safety Institute session at Parc Astérix.

As always, networking will play a key part at the event. This year, there will be six key networking events, during which Expo attendees can mix with their peers in a more informal setting.

To find out more – and to book, visit:
laapa.org/expos/laapa-expo-europe



EXHIBITOR NEWS

► Huss Park Attractions

Booth: 1219

Huss Park Attractions is a market leader in the design, development, manufacture and sale of amusement rides for theme and amusement parks. The company has just announced that it's installed two major attractions – the Top Spin Suspended and the Giant Frisbee 40, at the new Magic Mountain Park park in India. Top Spin Suspended is from the company's classic range and is one of the most successful attractions ever built by Huss. Giant Frisbee 40 is from the caters for up to 40 riders at one time and takes riders 43m (141ft) in the air. For more information, visit the Huss booth.

Technical Park

Booth: 1232

Technical Park is presenting several new projects at IAAPA Europe this year. Its global tour begins in Gran Canaria where the company has opened a new family coaster, with another under construction

in Italy. In addition, the new Aerobat model "Rush Flight" been unveiled, while the company is also showing a new concept for the existing Sidecar ride, with a new "van" gondola designed in the farm theme instead of the motorbikes. A flume ride was part of a recent opening in France and finally, its re-engineered Loop Fighter pendulum ride is coming soon to the UAE.

Gateway Ticketing Systems

Booth: 1521

For more than 30 years, Gateway Ticketing Systems has provided attractions, tours, theme parks, waterparks, zoos, aquariums, museums and historic sites in Europe with ticketing and admission control solutions created to increase revenue, increase attendance, improve the guest experience and improve the bottom line. Gateway is offering its Galaxy product suite that extends well beyond a traditional ticketing solution, with its Galaxy Connect cloud-based platform connecting attractions to third-party distributors.



Triotech will be showcasing 'The Flyer - San Francisco' at the show

Triotech

Booth: 1624

Triotech creates attractions such as interactive dark rides, interactive theatres, 4D theatres, VR experiences, flying theatres, walkthroughs and dark coasters. It also offers integrated turnkey solutions including content developed in its own studio in Montreal, Canada. This year marks a milestone for Triotech, which is celebrating its 20th anniversary. Visit Triotech's booth to learn more on 'The Flyer - San Francisco' and breakthrough interactive dark rides such as Nirjago The Ride and Ghostbusters.

Vekoma

Booth: 1630

Vekoma Rides is one of the largest rollercoaster manufacturers in the world, with all of its services delivered under one roof. In 2019 alone, the company has almost 20 coasters opening globally. A recent example is the Hyper Space Warp, which opened in July at Fantawild Oriental Heritage Changsha in China. The sit-down thrill coaster includes six airtime hills, three inversions and two underground tunnels. For more, visit the Vekoma booth.

Zamperla

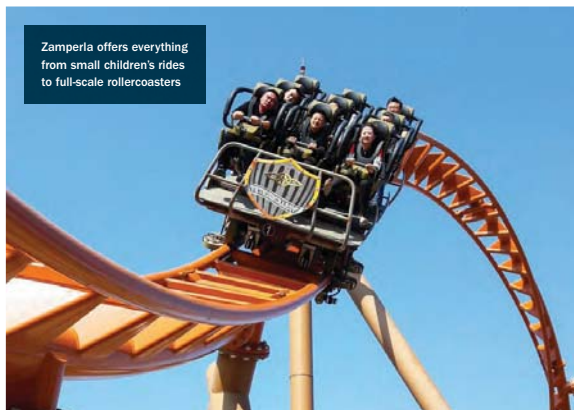
Booth: 1930

Zamperla is synonymous with creative designs and cutting edge technology – from early design concepts to finished products and ranging from small children's rides to the most extreme and sophisticated rollercoaster rides. This capacity has led to long-standing collaborations with some of the biggest names in the industry, such as Disney, Universal, Six Flags and Warner Bros.

Intamin

Booth: 2227

Intamin's LSM Double Launch Coaster Taiga successfully started operation at Linnanmäki in Finland recently (see p85). With a top speed of 106kmph, four inversions and a layout



Zamperla offers everything from small children's rides to full-scale rollercoasters

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Dark Rides

Interactive Systems

Show Experiences

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SHOW PREVIEW

- full of surprises, this new ride coaster is designed to get the heart racing. Intamin also recently launched its Dueling Dragons LSM Triple Launch Coaster at Guangzhou Sunac Land in China (see p83). The ride features a layout in which two trains are duelling each other with several thrilling near-miss elements.

Simworx

Booth: 2424

Simworx – a leader in the supply of dynamic motion simulation attractions and 4D cinemas for entertainment, education and corporate markets worldwide – is promoting its extensive range of media-based attractions at IAAPA Europe. Recently debuting the world's first Immersive Superflume and soon to be followed by the first installation of their Mini Flying Theatre, Simworx is quickly adding to its growing global portfolio.

OpenAire

Booth: 2637

OpenAire has been designing and manufacturing beautiful, high-quality, retractable roof structures and skylights for 30 years. Headquartered in Oakville, Ontario, OpenAire is approaching 1,000 projects throughout North America, Europe, and the Middle East. OpenAire's newest waterpark, opening in 2021, will be part of

the 2.1sq km (0.81sq mi) OWA resort destination on the Gulf Coast in Foley, Alabama.

Garmendale

Booth: 3121

Garmendale was founded in 1980 and specialises in the design, development and delivery of rides and services to theme parks. The company has been keeping tight-lipped about a major new project, which will be revealed to the world at IAAPA Expo Europe.

Clip 'n Climb

Booth: 3133

Visitors will get the chance to be the first to try out the new cutting-edge software from Clip 'n Climb – Clip 'n Score. Developed over a period of two years, the technology has been designed to embrace the industry trends of gamification and connectivity. The system allows climbers

to challenge themselves by gaining scores dependent upon agility, courage and difficulty. Using the new system uses contactless technology, with climbers able to track their scores as well as their climbing height and speed. Climbers can play individually, or in teams, and compete against each other. To learn more, visit the Clip 'n Climb booth.

Lagotronics

Booth: 3730

Lagotronics will be showing its wide range of interactive experiences and projects, all including the "show-factor". From interactive dark rides for theme parks to immersive interactive experiences for FECs, museums and experience centres, Lagotronics provides turn-key solutions to suit the client's needs. From interactive Dark Rides, outdoor rides and VR & AR projects, to a wide range



Jora Vision has a number of projects in the pipeline

of show experiences, its latest project is the interactive Farm Fair Dark Ride at Nagashima Spa Land in Japan. Another recent project is Tekzone – an FEC in Kuwait – where Lagotronics has delivered audiovisual and lighting shows, as well as a themed GameChanger interactive game ride, which is also coming to Shimao's Smurfs theme park in Shanghai.

Jora Vision

Booth: 4130

Immersive experience creator Jora Vision will showcase a number of its latest projects for theme parks, museums, FECs and tourist attractions, such as a cultural experience in "Hameau Duboeuf", an update on the new "Snorri Touren" dark ride at Europa Park in Germany and the recently opened interactive dark ride Popcorn Revenge in Walibi Belgium, created in collaboration with Alterface. The company will also reveal a couple of other projects within Europe and Asia. ●



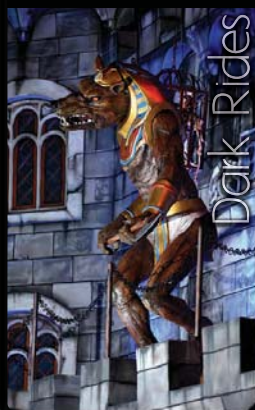
Simworx will be promoting its range of media-based attractions



Lagotronics creates turn-key solutions for anything from dark rides to museum experiences



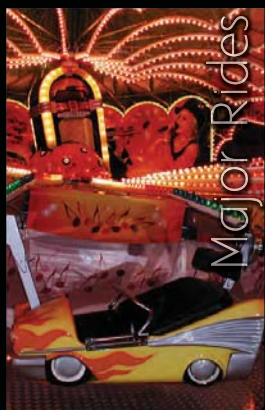
Venetian Carousels



Dark Rides



Bumper Cars



Major Rides

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● Mona Lisa: Beyond the Glass is a part of a retrospective of da Vinci's work, commemorating the 500 years since his death

The Louvre's **Dominique de Font-Réaulx** invites visitors to 'discover an extraordinary masterpiece', with new Mona Lisa VR experience

The Louvre in Paris, France, is set to open its first virtual reality experience later this year.

Scheduled to open on 24 October and run until 24 February 2020, the experience, called *Mona Lisa: Beyond the Glass*, is billed as an 'immersive experience of a masterpiece' and enables viewers to experience the iconic painting as never before.

Part of a retrospective exhibition commemorating the 500th anniversary of Leonardo Da Vinci's death, the VR experience uses an HTC Vive Headset to show visitors

details in the painting previously invisible to the naked eye. It also provides insight into the painting techniques Da Vinci would have used and the identity of his sitter, who is widely believed to be Lisa del Giocondo, an Italian noblewoman.

The experience was developed by French VR studio Emissive, which worked closely with the curatorial team at the Louvre and with HTC Vive Arts. Visitors are brought face-to-face with The Mona Lisa in VR, with the experience digitally removing the crowds before drawing them into the painting and flying them through its mountainous



● Dominique de Font-Réaulx,
director of Mediation and Cultural
Programming at the Louvre

landscape. An extended version of the experience is available for download via HTC's Viveport platform.

"The public will be able to discover an immersive experience of an extraordinary masterpiece," says Dominique de Font-Réaulx, director of Mediation and Cultural Programming at the Louvre. "This collaboration will allow visitors to meet and learn more about the Mona Lisa herself, beyond the legends that have accompanied her for more than 500 years."

ATTRACTIONS-KIT KEYWORD

HTC VIVE ARTS

Marcon's **Mark O'Connor** leading visitor experience project at Whitby Abbey

Marcon, a fit-out specialist based in Northern Ireland, has been appointed by English Heritage to complete a site-wide interpretation scheme at Whitby Abbey in North Yorkshire.

The Abbey is an iconic landmark that inspired the setting for Bram Stoker's *Dracula*, as well as providing

inspiration for other literary icons including Lewis Carroll, JWM Turner and Caedmon.

Working closely with London-based design firm Drinkall Dean, Marcon will be responsible for completing the detail development, manufacture and delivery of the museum's visitor centre, which will include graphics, AV



● The overhauled museum occupies the upper level of Cholmley House



● Sensory discovery has become a key element of the museum



● Mark O'Connor, director, Marcon

hardware and the co-ordination of all work packages.

"The sheer variety of projects within the heritage fit-out sector makes it a challenge and really enjoyable industry to work in," says Mark O'Connor, director of Marcon. "Securing our first project with English Heritage is a significant milestone."

ATTRACTIONS-KIT KEYWORD

MARCON

Ubisoft's **Beyond Medusa's Gate** experience to revolutionise location-based entertainment, says **Benedikt Grindle**

Ubisoft Blue Byte, a subsidiary of French gaming company Ubisoft, has developed a new location-based virtual reality escape room experience, which its MD, Benedikt Grindle, says will "revolutionise the location-based entertainment industry".

Called *Beyond Medusa's Gate*, the escape room launched at locations across the US and Europe earlier this year and builds on the success of the brand's *Escape the Lost Pyramid* experience.

"The level of immersion in *Beyond Medusa's Gate* is astonishing and will make players feel like they are truly in the game," said Grindle.

"Our goal is to revolutionise the location-based entertainment industry and bring VR to a mainstream audience."

The adventure begins with players choosing from one of six customisable avatars before they are "transported" to Ancient Greece, where they find themselves in a coastal cave on the Aegean sea with



● *Beyond Medusa's Gate* is set in Ancient Greece

the legendary ship of the Argonauts. Players then have 60 minutes to escape the cave, using a combination of teamwork and problem-solving.

"Ubisoft is tapping into two popular and growing entertainment trends – combining escape rooms

and location-based VR in a highly immersive, one-of-a-kind experiences," said Cyril Voiron, executive producer for Ubisoft's *Escape Games*.

ATTRACTIONS-KIT KEYWORD

UBISOFT



● Benedikt Grindle, managing director, Ubisoft Blue Byte

WhiteWater's Geoff Chutter announces exclusive partnership with Wiegand-Maelzer

WhiteWater West has announced a new agreement with partner Wiegand-Maelzer that will give the company exclusive license rights to, and become the exclusive manufacturer and distributor of, the German supplier's award-winning SlideWheel attraction.

Inspired by the iconic Ferris Wheel, the rotating waterslide

was designed to create a unique experience for visitors.

Already installed at Chimelong Paradise in Guangzhou, China, the attraction is made up of a number of intertwined water slides that rotate on a wheel, offering dynamic motion such as backwards sliding, strong G-forces and pendulum movements.

The ride has already won multiple awards including the IAAPA Impact Award, a Brass Ring Award, a Thea Award and the World Waterpark Association's Leading Edge Award.

"We're immensely excited about the SlideWheel which, with its iconic design and one-of-a-kind ride experience, will be an unmissable attraction at water parks around the world," said Geoff Chutter, president and CEO of WhiteWater.



● SlideWheel combines three diverse riding experiences into one ride



● Geoff Chutter, WhiteWater

In related news, Rainer Maelzer – who was part of the original team that created the SlideWheel – has joined WhiteWater as a consultant. Maelzer has a wealth of knowledge and expertise in the waterpark industry, gleaned from his 12-year tenure as CEO of Wiegand-Maelzer.

ATTRACTIONS-KIT KEYWORD

WHITEWATER

Jan Goetgeluk introduces the Virtuix VR Arena

Virtuix, developer of both the Omni VR treadmill and the VR Arena e-sports attraction, has installed its first VR Arena at Pinballz – a family entertainment centre in Austin, Texas.

Developed in partnership with turnkey attraction specialist Funovation, the VR Arena consists

of four omni motion platforms, which enable players to move around inside a simulation and staging area, which can accommodate up to 20 players per hour. A social sharing station also enables players to share their gameplay videos.

"The launch of VR Arena is a big milestone for our company," says Jan Goetgeluk, founder and CEO of Virtuix. "The initial reactions and orders since our unveiling have been overwhelming. Our main focus now is to fulfil our order backlog and, ultimately, we aim to install a VR Arena at every FEC, trampoline park, bowling centre and large entertainment venue in the US and elsewhere."

The VR Arena offers weekly and monthly e-sports tournaments organised by Virtuix, Funovation,



● Omni VR allows a free roam experience in a small footprint

HP and HTC. On offer for entrants is an annual prize pool worth more than US\$50,000, with the company planning to install a total of 20 systems around the US by the end of 2019.

"Virtuix's VR attraction has been a big draw for our guests, especially those in the gaming

community," says Pinballz owner Darren Spohn. "Revenues and player numbers have so far exceeded our expectations. VR Arena is off to a great start."

ATTRACTIONS-KIT KEYWORD

VIRTUUX



● Jan Goetgeluk, CEO Virtuix

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